Grammatical functions in the (Old English) Noun Phrase

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Abstract

Noun phrase grammatical functions and the internal syntax of the noun phrase more generally have taken a back seat in Lexical Functional Grammar compared to work on grammatical functions in the verbal domain, and there remains no consensus as to the number and nature of grammatical functions postulated within the nominal domain. Outstanding issues include the validity and appeal of using traditionally verbal grammatical functions within the noun phrase, the characteristics of some distinctly nominal grammatical functions, and the diagnostic criteria used to identify grammatical functions in the noun phrase. This paper explores questions surrounding the identity and characteristics of noun-phrase internal grammatical functions, using newly collected empirical data from Old English to highlight the successes and pitfalls of previous accounts. The paper also makes tentative suggestions for two grammatical functions for the Old English noun phrase: a primary unrestricted function POSS, accounting for low valency in the noun phrase and instantiated not only by possessors but also by prepositional phrases and clausal complements, and a highly marginal oblique grammatical function.

1 Introduction

Work in Lexical Functional Grammar (LFG) on the grammatical functions (GFs) within the noun phrase (Markantonatou 1995; Sadler 2000; Laczkó 2000; Falk 2001; Kelling 2003; Chisarik & Payne 2003) has been relatively limited in comparison to work on GFs at the level of the clause and on argument mapping in the verb phrase. There is no consensus as to the number and identity of nominal GFs, nor as to whether nominal GFs are a distinct set from verbal GFs. This article assesses work on nominal GFs within LFG in light of new corpus data on action nominal constructions (ANCs) from Old English. The Old English data gives evidence for various phenomena which previous proposals do, and do not, account for, like reduced valency and diversity in surface forms. Building on and altering pre-existing formulations for nominal GFs in LFG, a tentative proposal is made for two GFs in the Old English noun phrase, a modified POSS no longer associated with possessor constructions, and OBL. Although POSS alone, with properties to match low valency in the noun phrase, is sufficient for most Old English ANCs, the presence of multiple arguments in some ANCs requires two GFs to be posited.

The Old English data support the preference in existing studies (Markantonatou 1995; Sadler 2000; Falk 2001) for a subject-like GF within the noun phrase. However, the Old English data also lead to a rejection of the commonly-encountered association (Sadler 2000:97–99; Laczkó 2000:218; Dalrymple, Lowe & Mycock 2019:35) between the nominal GF POSS and morphosyntactic markers of possession, and the reliance on prepositional phrases at c-structure to identify OBL$_\theta$ (Kelling 2003).

This paper begins with a review of pre-existing proposals for nominal GFs from different studies in the LFG, and a brief introduction to the Old English material. Four sections of empirically-grounded analysis follow, addressing different patterns of how arguments are realised in Old English ANCs. These sections use the prevalence of possessor forms in the Old English data set, low valency in the noun phrase, the marginal presence of non-possessor forms, and finally patterns of co-occurrence as the basis for comparison with and criticism of previous theoretical suggestions. Section 8 briefly considers the arguments for and against distinguishing POSS from SUBJ

2 Previous work on noun phrase grammatical functions

As a general characterisation, work in LFG on nominal GFs dates to the turn of the millennium, and focuses on nominal GFs in the context of argument structure and argument-structural inheritance in deverbal nominalisation (Falk 2001; Kelling 2003). As such, in common with work on nominal syntax beyond LFG (Grimshaw 1990), the focus is on ANCs, event-denoting noun phrases, rather than on the canonical noun phrase, without eventive semantics. For the purposes of this article, following Comrie & Thomson (1985:358), an ANC is defined as noun phrase headed by a derived eventive nominal, 'with one or more reflexes of a proposition or a predicate', and containing one or more "reflex(es)" or expressions of the participants in this proposition.

(1)   the enemy's destruction of the city

(2)   my horse's winning of the race was no surprise

Laczkó (2000) and Falk (2001) focus exclusively on ANCs, addressing argument mapping in Hungarian and Hebrew ANCs respectively. Markantonatou (1995) and Kelling (2003) focus on psych-verb ANCs in Modern Greek and French respectively, namely ANCs with nominal heads derived from psychological predicates.[1]

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[1](3) is Markantonatou's (1995) (54).

(3) o   misos tis   Marias   yia ton Yiani epi tosa   hronia ine
    the hatred the-GEN Maria-GEN for the Yianis for so-many years is
    paralogo
    unreasonable
    Maria's hate for Yianis for so many years is unreasonable

Sadler (2000) and Chisarik & Payne (2003) are exceptions; both studies consider the full gamut of noun phrases in Welsh, present-day English, and Hungarian.

Much of the scholarship mentioned thus far (Markantonatou 1995; Laczkó 2000; Sadler 2000; Falk 2001) adopts a nominal GF, POSS. POSS is consistently understood as being available only in the noun phrase, not in the clause (Laczkó 2000; Dalrymple, Lowe & Mycock 2019:35). In addition, all proposals for POSS work with an understanding that the grammatical function is [-o(bjective)] and [-r(estricted)] (Markantonatou 1995:283; Sadler 2000:97; Laczkó 2000:211). POSS has a close connection to possessors: the GF has been elucidated with explicit reference both to the morphosyntactic sense of possessors and to the semantic role of possessors (Sadler 2000:97-101), with examples like (4) used to identify the grammatical function. (4) shows both a semantic role of canonical possession— ownership— and a morphosyntactic possessor— the clitic *s* (Dalrymple, Lowe & Mycock 2019:35).[2]

(4)   Chris' book

POSS, understood as [-o, -r], is featurally identical to SUBJ. The exact nature of the relationship between POSS and SUBJ has been an important point of debate. Positions range from the total separation of POSS from SUBJ (Laczkó) to the eradication of POSS in favour of SUBJ (Chisarik & Payne 2003:185). Ambivalence on the question is evident in Markantonatou (1995:284), where reference is made to an unrestricted function. Others view POSS as a nominally oriented subset of a single function SUBJ: Sadler (2000:97) describes POSS as "SUBJective and discourse-oriented". A similar view of POSS as a kind of subtype of SUBJ is also evident in Falk (2001:96). In Falk's analysis, POSS and SUBJ are distinct attributes at f-structure, although since SUBJ and POSS share a single f-structure as their value, POSS has the role of a nominal 'proxy' for SUBJ, part of the SUBJ grammatical function.

The number of other GFs postulated for the noun phrase alongside POSS varies (none, one, two, or more). Several studies (Laczkó 2000:212; Falk 2001) suggest that OBL_θ can appear alongside POSS in the noun phrase, for instance in

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[2](4) is Dalrymple, Lowe & Mycock's (2019) (67).

so-called "passive" ANCs which feature a realisation of the agent argument by an oblique, as seen with passive verbs. Markantonatou (1995:283,287) finds that Modern Greek deverbal psych nominals can contain only a single instantiation of the [-r] function POSS/SUBJ, but unlimited instantiations of OBL_θ. Kelling's proposal (2003:175) for psychological ANCs in French takes a rather different approach; in these noun phrases, Kelling determines that OBL is the sole GF, taking the part filled by POSS in other studies. Multiple instantiations of OBL, specified by form (OBL_{de}, OBL_{pour}) can co-occur in the French psych noun phrase.

Aside from OBL_θ and POSS, one other GF has been proposed for the noun phrase: the entirely novel ADNOM postulated by Chisarik & Payne (2003:185–186). ADNOM is proposed to account for a small group of typologically unusual languages, including present-day English and Hungarian, in which there are two default possessor constructions in variation (i.e. two default markers of adnominal dependency which can both mark possessor semantic relations). As well as being restricted in its applicability to the languages of the world, there are difficulties with the the reliance in Chisarik & Payne (2003) on an ad-hoc feature [±d(iscourse oriented)] to distinguish ADNOM ([-d]) from POSS/SUBJ ([+d]).

There is no common consensus as to how many GFs might be needed within the noun phrase and whether or not, and how, these GFs might differ from those assumed for the verbal domain.

3   Old English Action Nominal Constructions

In line with the prevailing trend in work on nominal GFs (Markantonatou 1995; Falk 2001; Kelling 2003), the empirical focus in this study is not on noun phrases generally, but rather on a specific set of noun phrases: ANCs. It is assumed that eventive nouns, which head ANCs can take arguments, just as can verbal predicates. According to Needham & Toivonen's criteria for argumenthood (2011:404–405), an argument is any participant necessary for the event described by the predicate but also specific to the predicate in question. Since this definition is formulated in essentially semantic terms of events and participants, it is as appropriate for nouns denoting events as it is for verbal predicates; a criterion referring to the specificity of a participant to an event can be applied equally well to nominal predicates. The adnominal dependents in the ANC to which this paper makes reference are therefore assumed to be arguments.

Old English ANCs are headed by deverbal nominal predicates in *-ung* and -

ness. [3] Old English ANCs resemble canonical noun phrases in their external syntactic distribution. Aside from the eventive semantics of the head nouns, there are no grounds for adopting a mixed category analysis along the lines of that used for present-day English gerunds or seen in Bresnan & Mugane (2006). All Old English examples are drawn from the York-Toronto-Helsinki Parsed Corpus of Old English Prose (2003) (henceforth, *YCOE*) and are referred to with *YCOE* token IDs.

(5) se   apostol   Paulus   spræc   be
    DET.NOM.SG apostle-NOM.SG Paul-NOM.SG speak.PST.3SG PREP

    ðære   getimbrunge   **þære**   **geleaffullan**
    DET.DAT.SG building-DAT.SG DET.GEN.SG faithful-GEN.SG

    gelaðunge
    congregation-GEN.SG

    Paul the apostle spoke about the construction of the faithful congregation

    (cocathom2, ÆCHom_II,_45:342.223.7667)

(6) ic   cyðe   eow   ætforan eallum
    1SG.NOM make-known-1SG.NPST. 2PL.DAT PREP   all-DAT.SG

    folce   **eower**   unrihtwisan
    people-DAT.SG 2PL.POSS.ACC.SG unrighteous-ACC.SG

    ehtnysse   **ofer ða**   **cristenan**
    persecution-ACC.SG PREP DET.ACC.PL christian-ACC.PL

    I must make known to you, in front of all the people, your unrighteous persecution of the Christians

    (coaelive, ÆLS_[Sebastian]:451.1485)

Old English ANCs were retrieved from *YCOE*, a 1.5 million word corpus with part of speech annotation. ANCs were identified in the corpus as those noun phrases headed by a deverbative noun with eventive semantics and including some realisation of at least one argument of the nominal eventive predicate. The noun phrases were retrieved from the corpus by way of head morphology and syntactic structure. All noun phrases headed by a noun suffixed with *-ung* or *-ness* and containing some adnominal dependent were retrieved using *CorpusSearch2* (Randall 2003).[4] Noun phrases were annotated automatically

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[3]Although present-day English *-ness* only denotes abstract qualities, it can form nouns with eventive semantics in Old English; present-day English *-ing* forms verbal and nominal gerunds, as well as deverbal nouns, but in Old English there are no gerunds like this; verbal participles are not formally identical with deverbal suffixed nouns.

[4]The corpus was interrogated for noun phrases headed by nouns containing the strings U-N-G, I-N-G, Y-N-G, U-N-C-G, I-N-C-G, Y-N-C-G, N-E-S, N-I-S, N-Y-S, N-Æ-S, and N-U-S.

(using *CorpusSearch2*), and manually for the semantic relation between head and dependent, the type of dependent and its position relative to the head noun. The resulting data set consists of 3472 noun phrases. Null hypothesis statistical testing and binomial and multinomial logistic regressions were carried out using *R* (*R* Core Team 2021).

Old English ANCs mostly include a single genitive case marked noun phrase (henceforth "genitive noun phrase") as a realisation of an argument of the nominal predicate (5).[5]

> (7) þa   he   in   æghwæðerum mynstre
>   CONJ 3SG.NOM.MASC PREP either-DAT.SG monastery-DAT.SG
>   Hilde   þære   abbudissan   geornlice **his**
>   Hilde-GEN DET.GEN.SG abbess-GEN.SG eagerly   3SG.GEN.MASC
>   leornunge   ætfealh
>   learning-ACC.SG adhere.PST.3SG
>   *when he was in either monastery of the abbess Hilde, he eagerly stuck to his learning* (cobede, Bede_4:24.334.30.3363)

As well as argument-realising genitive noun phrases, Old English ANCs also include prepositional phrases (8) and clausal complements (9) as forms of argument realisation.[6]

> (8) ond æfter Cristes   upastignesse   heo
>   and PREP Christ-GEN.SG ascension-OBLIQ.SG 3SG.NOM.FEM
>   wæs   on   swa micelre   longunge   **æfter**
>   be.PST.3SG PREP so   great-OBLIQ.SG desire-OBLIQ.SG PREP
>   **him**
>   3SG.DAT.MASC
>   *and following Christ's ascension she was in a state of great desire for him*
>   (comart3, Mart_5_[Kotzor]:Jy22,A.16.1232)

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[5] In Old English, unlike in present-day English, there is only a single marker of adnominal dependency, the morphological genitive, *of* at this stage in the history of English remains a lexical preposition (Allen 2008:72–73).

[6] To avoid confusion with the GF OBL$_\theta$, indeterminate accusative/dative/genitive case marking in Old English is glossed as OBLIQ.

(9) þam   deofle   wæs   micel   twynung
DET.DAT.SG devil-DAT.SG be.PST.3SG great.NOM.SG doubt.NOM.SG

hwæt Crist   wære
COMP Christ.NOM.SG be.SUBJ.3SG

there was in the devil great doubt what Christ was

(cocathom1, ÆCHom_I,_11:267.37.2013)

Old English ANCs can also contain multiple means of argument realisation, as in (10).

(10) þurh **Godes**   foresceawunge   **þæt heo   symle**
PREP God-GEN.SG foresight-OBLIQ.SG COMP 3SG.NOM.FEM ever

on   anre   stowe   ne wunige
PREP one.OBLIQ.SG place-OBLIQ.SG NEG dwell-SUBJ.3SG

through God's prediction that she would never dwell in a single place

(cotempo, ÆTemp:4.42.165)

Table 1 details of numbers of adnominal dependents realising arguments in the ANCs of the data set.

NUMBER OF ARGUMENT-REALISING ADNOMINAL DEPENDENT(S) IN THE ANC	NUMBER OF OBSERVATIONS
one adnominal dependent	3443
two adnominal dependents	29
more than two adnominal dependents	0
TOTAL	3472

Table 2 shows the distribution of types of adnominal dependents realising arguments in the data set.

TYPE(S) OF ARGUMENT-REALISING ADNOMINAL DEPENDENT(S) IN THE ANC	NUMBER OF OBSERVATIONS
one genitive case noun phrase	3379
one prepositional phrase	47
one clausal complement	17
one genitive case noun phrase + one prepositional phrase	25
one genitive case noun phrase + one clausal complement	3
other combination	1
TOTAL	3472

4 Genitive noun phrases in the ANC

In the data set of Old English ANCs, the great majority of observations (97%, *n*= 3379) include as the sole argument-realising adnominal dependent a genitive noun phrase.

(11) þurh **ðæs** **apostoles** mungunge þe ðus
PREP DET.GEN.SG apostle-GEN.SG admonishing-OBLIQ.SG REL thus
cwæþ
say.PST.3SG
through the apostle's admonishing, who spoke thus
(cobenrul, BenR:28.52.18.648)

Genitive noun phrase arguments in the ANC are identical in terms of morphological form to genitive possessor noun phrases in non-ANC noun phrases. Two canonical possessors (*hire*, *Zacharian*) and a genitive argument of the eventive noun *bodung* are illustrated in (12).

(12) Maria ferde æfter þæs **engles**
Mary.NOM.SG go.PST.3SG PREP DET.GEN.SG angel-GEN.SG
bodunge to **hire**
instructing-OBLIQ.SG PREP 3SG.POSS.FEM.OBLIQ
magan Elisabeð. Seo
kinswoman.OBLIQ.SG Elizabeth.OBLIQ.SG REL.3SG.FEM.NOM
wæs **Zacharian** wif
be.PST.3SG Zachariah-GEN.SG wife.NOM.SG
Mary went, after the instruction of the angel, to her kinswoman Elizabeth, who was the wife of Zachariah
(cocathom1, ÆCHom_I,_13:286.160.2492)

Genitive noun phrases in ANCs, which realise some argument of the eventive head noun, are also found to show behaviour similar to that established for genitive noun phrases in non-ANC noun phrases in previous studies of Old English nominal syntax. Both Koike (2006:50) and Allen (2008:114) find from their corpus-based studies that GENITIVE—HEAD (seen in *hire magan* and *Zacharian wif* in (12)) is the preferred order across the period 750–1100CE. Quantitative investigation finds that this general preference for pre-head genitive noun phrases is observed also in the ANCs. According to a chi-square goodness of fit test, pre-head position for adnominal argument-realising genitives is highly significantly more frequent than post-head position (χ^2 =982.22 *df* =1, $p_{\text{two-tailed}} < 0.0001$).

Table 3 details of numbers of pre-head and post-head genitives realising arguments in the ANCs of the data set.

ORDER OF HEAD AND GENITIVE DEPENDENT	NUMBER OF OBSERVATIONS
genitive—head	2651
head—genitive	756
TOTAL	3407

The most common adnominal dependent in an Old English ANC resembles a canonical Old English possessor both in its form and in its interactions with the head noun. In respect of the long-standing connection in the literature between POSS and possessor constructions POSS would seem to be an appropriate GF to handle Old English ANCs like (5). However, the close association between POSS and possessor constructions is highly problematic. In the verbal domain, although in a given language there will be some association(s) between surface forms and GFs, the proposal for or creation of a GFs is not based in language-specific surface forms (barring functions like OBL$_{on}$ for expressions like *rely on*). This is not an objection to the GF POSS in itself, but rather to the reliance on possessor forms to motivate and define POSS. We need to consider the characterisation of POSS in other ways, and it is to this which we now turn.

5   Number of arguments in the ANC and valency

Quite regardless of any connection to possessor forms, Sadler's (2000:97) proposal for POSS featurally identifies it as [-r(estricted), -o(bjective)], hence, in featural terms, identical to SUBJ. Setting aside for the moment the issue of whether distinct syntactic categories need distinct GFs, what is important about the association of POSS and SUBJ is the comment it makes on the hierarchy, interdependencies and competitiveness of GFs. As Findlay (2020:137) notes, although other GFs are in competition for argument slots, SUBJ stands outside of these competitions and dependencies at the top of the GF hierarchy. SUBJ is not reliant on other GFs, in for instance the way that the presence of OBJ requires SUBJ. Consequently, SUBJ can be the sole GF instantiated in a given context. Identifying POSS with SUBJ similarly implies that POSS can be the sole GF instantiated in a given noun phrase. This is bourne out in the specific analyses provided by Sadler (2000:99–100) for Welsh noun phrases, and those of Markantonatou (1995:287) and Chisarik & Payne (2003:187,189).

99% (*n*= 3443) of ANCs in the data set feature only a single adnominal dependent, realising a single argument of the nominal head. A single argument

is the norm even when, at a conceptual level, the event denoted by the head involves two or three participants. This is evident in (5), where the event of building conceptually requires both builder and thing built but only the latter is expressed; in (8), where only the thing desired is expressed although a state of longing requires a desirer too; in (13) a confessing agent, what is confessed, and a person who receives the confession are conceptually necessary but only the latter is expressed.

(13) to   Gode   gecyrran nellað   þurh
      PREP god-DAT.SG turn-INF NEG-WANT-NPST.PL PREP

      soðe   andetnesse   **mæssepreosta**
      true-OBLIQ.SG confession-OBLIQ.SG priest-GEN.PL

      they do not want to turn to God through true confession to priests

      (coverhom, HomS_4_[ScraggVerc_9]:18.1248)

The verbs from which the eventive nominalisations derive may be monotransitive or ditransitive, but the overwhelming preference is nevertheless for only a single argument within the noun phrase.

There is substantial evidence to indicate that reduction in valency is a pervasive characteristic of the Old English ANC. 57% of those deverbal nominal heads deemed to have multiple arguments with them take part in a variation as to which argument is realised within the ANC. That is to say that for these heads some ANCs in the data set show one of their arguments realised, whilst other observations show a different argument realised within the noun phrase. Such variation, demonstrated in (14) and (15) implies that the distribution of particular arguments appearing in ANCs is not reflective of a particularly strong limitation on which arguments roles are preferentially realised in the ANC— for instance, it is not that arguments corresponding to objects in the noun phrase are favoured. If there is argument realisation in the ANC, the prevailing tendency is for only one argument realised per noun phrase.[7]

(14) ac ic   **his**   giomrunga   gehyrde
      but 1SG.NOM 3SG.GEN.MASC lamentation-OBLIQ.SG hear-PST.1SG

      but I heard his lamentation

      (coverhom, HomS_40.3_[ScraggVerc_10]:134.1466)

(15) on   ðisum   dagum   we   forlætað   on
      PREP DEM.DAT.PL day-DAT.PL 1PL.NOM relinquish-NPST.3PL PREP

      urum   repsum   Gloria patri for
      1PL.POSS.DAT.PL response-DAT.PL Gloria patri PREP

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[7]Only around a fifth of noun phrases headed by deverbatives in the corpus appear with any form of argument realisation.

geomerunge	þære	halgan	ðrowunge

lamentation-OBLIQ.SG DET.GEN.SG holy-GEN.SG suffering-GEN.SG

on these days, we put aside the Glory Be *in our liturgical responses, because of the lamenting of the Holy Passion*

(cocathom2, ÆCHom_II,_13:127.8.2776)

A second piece of evidence for reduced valency in the ANC comes from the importance of the lexical identity of the head as a factor in the realisation or non-realisation of different arguments in the ANC. Binary logistic regression modelling was used to identify which of a range of predictors (for instance, weight, animacy, event class of predicate), and interactions of such predictors, gives the highest chance of correctly predicting whether it is the subject-like or object-like argument of a monotransitive or ditransitive nominal predicate which is realised in a particular noun phrase. Models including different predictors and their interactions were compared for success, where success equates to better-than-chance correct prediction of which argument appears in a noun phrase. This statistical analysis indicates that by far the most successful model with a single predictor is one with the predictor lexical identity of the head noun in an ANC (whether the head noun is the lexeme TIMBRUNG, 'building', or EHTNESS, 'persecution', or some other lexeme): Nagelkerke's $R^2 = 0.604$, $C = 0.916$.[8] The impact of lexical identity on argument variation indicates that a reduction in valency is common to all deverbative heads; it is being nominal which gives these deverbative predicates reduced valency, whilst the specific identity of the noun determines which argument preferentially gets realised in the ANC.

ANCs generally exhibit reduced valency. The GF SUBJ (or a noun phrase equivalent POSS) is most appropriate to capture this reduced valency, since SUBJ can be the only GF instantiated in a given context. As the highest GF in a hierarchy based on markedness, SUBJ is not dependent on any other GF for instantiation nor does it compete with other GFs in mapping. These properties make SUBJ a good match for the behaviour of arguments in the Old English ANC; there is no need to posit a dependent GF lower in the hierarchy which participates in competition with other GFs. That said SUBJ is not always the only GF in a given context, nor does the presence of SUBJ preclude the instantiation of other GFs. Although SUBJ is the most appropriate to account for low valency, it does not guarantee or motivate this property of the ANC: in other words, SUBJ is descriptively adequate but offers no explanatory gain. Accounting for the arguments in ANCs with SUBJ/POSS in this way has an advantage

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[8]To avoid false reporting of the impact of the head's lexical identity, the data-set which was used to test the impact of the predictor "head lexeme" included only those observations headed by nouns with frequency ≥ 6, 102 heads, 2342 ANCs.

over previous proposals since it requires no reference to form in general nor to possessor constructions specifically.

6 Prepositions in the ANC

In the Old English data, not only are genitive noun phrases observed as the sole means of argument realisation (5, 7, 11, 13) , this is also true of prepositional phrases which likewise can appear as the only form of argument realisation in an ANC (8, 16).

(16) nu   hæbbe   we   ða   alysednysse   **þurh**
      now   have.NPST 1PL.NOM DET.ACC.SG   salvation-ACC.SG PREP

      ðone   **leofan**   **Drihten**
      DET.ACC.SG   beloved-ACC.SG   God.ACC.SG

      now we have salvation through the beloved Lord God

      (coaelhom, ÆHom_6:262.1005)

It is true that prepositional phrases are in a considerable minority as sole means of argument realisation in the data set, compared with genitive noun phrases. However, ANCs resembling (8) and (16) are not rare or marginal in the data set (*n*= 47). These ANCs illustrate a wide range of prepositional heads drawn from different semantic fields, which have varying core and extended uses and occur with different degrees of frequency in the Old English corpus.[9] Importantly for the identification of a [-r] GF, there is no restriction on the semantic roles of the arguments realised by prepositional phrases in the ANC: prepositional phrases as the sole means of argument realisation realise agents, experiencers, themes, patients, and stimuli.

Clausal complements can also occur as the sole means of argument realisation in the ANC (9), and represent an even smaller minority (*n*=17). These clausal complements do not evidence semantic unrestrictedness, only realising the stimuli, and themes of speech act predicates and predicates of mental consideration. In addition, clausal complements as the sole means of realising arguments are only observed with a small set of nominal heads, whose corresponding verbal predicates also take clausal arguments. For these reasons, clausal complements as the only means of argument realisation in the ANC are assumed to instantiate OBL$_\theta$ and are not considered further.

POSS ought to be appropriate for the prepositional phrase arguments in the 47 ANCs like (16). There is no semantic restrictiveness evident as to which arguments can be realised by prepositional phrases, and no sense in which these

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[9]These prepositions are all understood as lexical prepositions, in contrast to the functional status of present-day English *of*.

prepositional phrases are dependent on the instantiation of another GF. POSS or SUBJ would be an appropriate GF to descriptively account for low valency in the ANC, seen in (8) and (16) just as in (13) and other ANCs with single genitive noun phrase arguments. Nevertheless, the prepositional phrase realisation of arguments causes problems under the commonly-found view of POSS which draws a close association between semantic possession, morphosyntactic possessors and the nominal grammatical function (Sadler 2000:97; Dalrymple, Lowe & Mycock 2019:35). Prepositions like *æfter* and *þurh* are not possessors in Old English (although of course, prepositions can be possessors, as in French, and can therefore presumably instantiate POSS in French). The solution presented by Old English ANC examples like (8) and (16) is to disassociate POSS from possessor constructions, taking POSS seriously as a GF divorced from a particular surface form. The claim is therefore that a prepositional phrase, headed by a lexical preposition can instantiate POSS. More to the point, a form which is not a possessor construction, and is not used to mark any possessive semantic relations, can instantiate POSS. POSS can remain as a [-o, -r] GF, since these featural specifications allow a descriptive account of low valency in the ANC. However, POSS is divorced from possessor forms.

7 Multiple dependents in the ANC

In a small number of instances, there are multiple argument-realising dependents in the ANC (*n*= 28).

(17) þu   goda   cyning   ne   understentst
     2SG.NOM good.NOM.SG king.NOM.SG NEG understand.NPST.2SG
     þu   **þysra**   **twegra**   **manna**   gereonunge
     2SG.NOM DEM.GEN.PL two-GEN.PL man-GEN.PL plotting-ACC.SG
     ongean me
     PREP   1SG.OBLIQ

     do you, good king, not understand these men's plotting against me?

     (cocathom1, ÆCHom_I,_26:396.226.5159)

298

(18) he   cydde   syððan   **his**
3SG.NOM.MASC make-known-PST.3SG afterwards 3SG.GEN.MASC

facenfullan   syrewunge   **hu   he**   **embe**
deceitful-ACC.SG plotting-ACC.SG COMP 3SG.NOM.MASC ADV

wolde
wish-PST.3SG

but afterwards he made known his plotting how he would act on the matter

(cocathom1, ÆCHom_I,_5:219.79.963)

These ANCs indicate the need for two distinct nominal GFs. A single nominal GF cannot account for the distinct realisations of two different arguments; specifically POSS can account for only one of the two arguments in (17) and (18). Moreover, the fact that these ANCs constitute a minority in the data set indicates that a second nominal GF has the status of an optional extra in the Old English noun phrase, being subordinate in frequency and range of use to POSS.

From the LFG literature, there emerge two possibilities for a second nominal GF to accompany POSS (however POSS is understood). The first is Chisarik & Payne's (2003) ADNOM, the second the more recognisable OBL$_\theta$. ADNOM (Chisarik & Payne 2003) has already been put aside for the Old English ANC on the grounds that Old English has only a single possessive construction unlike PDE. It remains only to observe that the prepositions in ANCs with multiple arguments realised, including the preposition *of* (which means 'out of' in this period), are lexical prepositions. The remaining possibility for a second GF is, on the basis of pre-existing proposals OBL$_\theta$. In Falk (2001:97), Laczkó (2000:212), and Markantonatou (1995:289), OBL$_\theta$ is employed in the same way as would be appropriate for the Old English noun phrase: to account for the 'optional' or less-frequently observed extra argument in the ANC, although for Markantonatou (1995:289), and Falk (2001:97) there is an association between OBL$_\theta$ and agentive prepositions resembling the agents in passive verb phrases which is not applicable in the Old English data set.

In the present data set, ANCs with two adnominal dependents are a tiny minority (*n*= 28). OBL$_\theta$ only needs to be invoked in a small number of instances where POSS alone is insufficient to account for realisation of multiple arguments. In the standard understanding, OBL$_\theta$ is featurally specified as [+r(estricted), -o(bjective)], and is characterised by way of optionality and semantic restrictiveness. Both these characteristics are a good fit with the Old English data: two arguments realised in the ANC is a rarity, meeting the criterion of optionality.

There is also evidence to meet the criterion of semantic restrictedness. In ANCs like (17) and (18) with two realised arguments, the genitive noun phrase is always a realisation of the argument with the greater number of proto-agent entailments (adopting Dowty's 1991 proto-roles rather than thematic roles). The prepositional phrase or clausal complement in turn realises the argument with the greater number of proto-patient entailments. Insofar as these prepositional phrases (and clausal complements) realise arguments with proto-patient entailments, corresponding to the object or indirect object of the verb phrase, there is a semantic or thematic restriction operative in the Old English data which dovetails appropriately with our expectations of the semantic restrictiveness of OBL$_\theta$. Note that this is only true if the prepositional phrase appears alongside another realised argument; when prepositional phrases appear as sole means of argument realisation there is no similar semantic constraint, as is evident from examples with agentive prepositions like (16). (19) demonstrates the pattern whereby a genitive and another adnominal dependent realise subject-like and object-like arguments respectively.

(19) se   God   þonne þe is   ure
      DET.NOM.SG God.NOM.SG then   REL be.NPST.3SG 1PL.GEN

      ealra   gemæne   gefylle   mildelice
      all-GEN.SG in common fulfil-NPST.3SG graciously

      eowre   gewilnunge   **to** **his**
      2PL.POSS.ACC.SG desire-ACC.SG PREP 3SG.GEN.MASC

      wuldre   7   **to** **haligre**   **lare**
      glory-OBLIQ.SG and PREP holy-OBLIQ.SG teaching-OBLIQ.SG

      eowres   **lifes**
      2PL.POSS.GEN.SG life-GEN.SG

      God, then, who belongs to us all in common, graciously fulfils your
      desire for his glory and for holy teaching for your life

      (cochdrul, ChrodR_1:79.6.946)

In (19), it is the desirer, with semantic entailments like volition, animacy, and instigation, of a proto-agent, which is realised by a genitive noun phrase, whilst the *to*-phrases realise the thing desired, with the semantic entailments of the proto-patient, like inanimacy, abstractedness, and non-volition. Semantic restrictedness is evident in the pattern, visible in (19), (17), and (18), whereby two arguments realised in the ANC have a hierarchical relationship, genitives realising higher arguments and prepositional phrases and clausal complements restricted to realising lower arguments. The analysis of (19) is therefore that the *to*-phrases instantiate OBL$_\theta$, whilst *eowre* instantiates POSS. It is assumed that the least marked argument, the experiencing desirer maps to POSS, being like SUBJ the most prominent GF free of dependencies on other GFs. There is

a descriptive association with possessor form only insofar as most ANCs with two arguments realised feature a combination of a genitive and either a prepositional phrase or a clausal complement; the hierarchical relationship between these forms (genitive realises the higher argument) falls out exclusively from the [-r, -o] status of POSS and the [+r] status of OBL$_\theta$.

There are two dimensions to OBL$_\theta$ which have a particular prominence in the literature on nominal GFs. The first is the notion of semantic restrictiveness, already considered for the Old English ANC. The second is an association with prepositional phrases, parallel to the frequently-seen association of POSS and possessor constructions. Kelling (2003) is the most conspicuous proponent of the view that a prepositional phrase within an ANC represents an instantiation of OBL$_\theta$. OBL$_\theta$ is selected by Kelling (2003:175) as the relevant GF for French psych nominal ANCs, on the grounds that the experiencer and stimulus participants are expressed by prepositional phrase headed by *de*, *a*, and less frequently *pour*. *a* and *de* are generally considered functional prepositions, and might therefore contradict the [+r] status of OBL$_\theta$. These prepositions mark various arguments of psych nominal ANCs, as well as arguments in other French ANCs, also contradicting the restricted status OBL$_\theta$. With these contradictions between the properties of OBL$_\theta$ and the relevant French prepositions in mind, it seems that it is precisely the prepositional nature of the argument realisation, in other words, a question of form, which motivates the proposal for OBL$_\theta$.

Prepositional phrases have so far played a prominent, albeit not exclusive, role in the discussion of OBL$_\theta$ as a nominal GF for the Old English ANC. However, the close connection between OBL$_\theta$ and prepositional phrases in the pre-existing LFG literature (Kelling 2003) proves problematic in the face of variation of form in the Old English data. Prepositional phrases vary with clausal complements as an additional means of argument realisation alongside a genitive noun phrase (18). The conclusion that neither POSS nor OBL$_\theta$ is bound by an association to a particular morphosyntactic form, contrary to the perspectives expressed in Sadler (2000:97), Falk (2001:96), and Kelling (2003) leads to the prediction that any combination of two adnominal dependents ought to be a possibility in the Old English ANC. This prediction holds: there is one noun phrase in the data set observed with two prepositional phrases dependent on the same deverbal head. The working analysis is that the higher argument, realised with a *betwux*-phrase maps to POSS whilst the lower argument, realised with a *be*-phrase maps to OBL$_\theta$.

(20) þa   wearð   micel   twynung   **betwux**
      then become.PST.3SG great.NOM.SG doubt.NOM.SG PREP

þære	burhware	*be*	*ðære*	*cyrcan*
DET.DAT.SG	community-DAT.SG	PREP	DET.DAT.SG	church-DAT.SG

hwæðer	hi	ineodon	oððe	hi		halgian
COMP	3PL.NOM	enter-PST.PL	or	3SG.ACC.FEM		hallow-INF

sceoldon
should-PST.PL

then there arose a great doubt amongst the community concerning the church, whether they ought to go in or hallow it

(cocathom1, ÆCHom_I,_34:467.71.6734)

8   The question of syntactic categories and GFs

Some previous studies have sought a segregation of POSS and SUBJ, others the identity of the two GFs. This section briefly reviews the evidence from Old English ANCs for each position.

ANCs in Old English consistently display a tendency towards monovalency in spite of the transitivity of the base verb from which an eventive nominal is derived. The lexical identity of the nominal predicate strongly influences which argument gets realised in the ANC. These are properties peculiar to the noun phrase. Reduction in valency must therefore be viewed as a characteristic differentiating noun phrase argument structure from argument structure at the level of the clause. Such a consideration might be used to support the view that different syntactic categories require different GFs. As we have seen, either SUBJ or its noun phrase equivalent POSS can descriptively account for low valency in the ANC, neither dependent for instantiation on any other GF; it is not possible to adjudicate between SUBJ and POSS on these grounds since both GFs are appropriate for low valency in the ANC. Neither as it stands offers a motivation for low valency.[10]

POSS is sometimes argued to be distinct from SUBJ on the grounds that there is greater diversity of semantic relations operative between a nominal head and adnominal dependents, than between a verbal head and its subject. This is the argument made by Sadler (2000:97), where non-ANC noun phrases are included in the analysis to demonstrate that POSS incorporates canonical possession, and kinship. The present investigation must reject the conclusion that POSS is more diverse than SUBJ, on the grounds that an association between

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[10]To differentiate SUBJ from POSS and to motivate low valency in the ANC, an additional characterisation would need to be made of POSS, circumscribing the instantiation of other GFs alongside POSS, something which is not a characterisation of SUBJ. But it would also be possible to handle this elsewhere in the LFG architecture, i.e. at s-structure or a-structure.

POSS and possessors, which do indeed mark a great range of semantic relations in the non-ANC noun phrase, is not accepted. Accordingly, the range of semantic relations available to possessors has nothing to do with the semantic unrestrictedness of POSS. It is true that the genitive noun phrase arguments in ANCs closely resemble genitives beyond the ANC in Old English, which mark a wide raft of semantic relations (kinship, ownership, part-wholes). For the arguments in the ANC, however, there is no evidence for a notable diversity of semantic roles which would support POSS distinct from SUBJ. The working conclusion drawn is that there does not need to be a GF POSS distinct from SUBJ to account for the Old English ANC: the reduced valency of ANCs can be described by either GF, but not explained by way of POSS as it is currently understood. Likewise there is no evidence from the Old English data set for a greater degree of semantic unrestrictedness to motivate a distinct POSS.

9 Concluding remarks

We are in a position to make certain positive and negative claims about nominal GFs in light of the newly collected Old English evidence. In the first instance, suggestions for a GF POSS/SUBJ successfully account for the low valency of nominal predicates, at least in descriptive terms. However, the association between POSS and possessor forms does not hold for a minority of the Old English data; rather possessors and non-possessors (prepositional phrases and clausal complements) alike are able to instantiate a semantically unrestricted GF POSS. A very small number of Old English ANCs require a second GF. Evidence in favour of OBL_θ comes from the rarity of noun phrases with two realised arguments and the semantic restrictions evident when two arguments co-occur. As with the relationship between POSS and possessors, an assumption that a given form, specifically a prepositional phrase, is closely associated with OBL_θ is challenged by the variation observed in the data set between different forms of argument realisation, in other words between prepositional phrases and clausal complements. The Old English data speaks against a GF POSS distinct from SUBJ, since the arguments for different degrees of semantic unrestrictedness demarcating the two GFs are founded on the association between POSS and possessors, rejected here. Moreover, the particular valency characteristics of ANCs can be reflected elsewhere than through a distinct nominal GF. The assessment given for the nominal GFs in the Old English noun phrase is similar to the proposals of Markantonatou (1995) for Modern Greek and Laczkó (2000) for Hungarian, insofar as a combination of a semantically unrestricted function POSSSUBJ and an infrequently instantiated, semantically more restricted function OBL_θ are used to account for all relevant noun phrases. However, the proposal for Old English is detached from formal

realisation and both POSS/SUBJ and OBL$_\theta$ are freed from associations with possessors and prepositional phrases respectively. In this way, the account of nominal GFs falls into line with discussions of GFs at the level of the clause, where associations between GFs and specific form have had less dominance in the literature.

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