

Possessive Structures as Evidence for DP in West Greenlandic

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1 Introduction

The goal of this paper is to provide evidence for the existence of a DP projection in the West Greenlandic branch of Inuit. West Greenlandic (WG) does not have articles, which are typically the assumed occupants of the D-layer. The absence of articles has led to cases supporting NP-only structures in WG (Sadock 2003), the Inuktitut branch of Inuit (Compton 2004; Johns 2007, 2009), and articleless languages in general (Bošković 2008, 2012). I argue against these previous accounts, first by discussing the negative implications of a DP-less structure and then by introducing a possessive structure with a DP-layer that can account for the WG data. My argument proceeds as follows: in Section 2 I introduce the relevant WG data for nominals and possessives; in Section 3 I discuss the implications of a DP-less structure; in Section 4 I propose a DP structure to account for WG possessives; I conclude in Section 5.

2 Nominals and Possessives in West Greenlandic

2.1 Order of Elements

As a polysynthetic language (Fortescue 1984; Mithun 1999; Sadock 2003) WG has a fixed word-internal morpheme order in the nominal domain. The noun root appears in the leftmost position and is followed by adjectival modifiers, number marking, and structural case¹:

(1) *iluliar-sua-q...*
ice.berg-big-SG.ABS
'(the) giant iceberg...'
(Sommer, Berthelsen, & Holm 2005b:9)

(2) *qajar-pa-ssui-t...*
kayak-group-big-PL.ERG
'the big mob(PL) of kayak men...'
(Sommer, Berthelsen, & Holm 2005a:12)

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¹ Abbreviations: SG (Singular), PL (Plural), 1 (1st Person), 2 (2nd Person), 3 (3rd Person), F (Feminine), iF (Interpretable feature), uF (Uninterpretable feature), ABS (Absolutive), ERG (Ergative), INS (Instrumental), DAT (Dative), NOM (Nominative), ABL (Ablative), INE (Inessive), POSS (Possessive), ANTIP (Antipassive), PFV (Perfective), INTR (Intransitive), TR (Transitive), IND (Indicative), FUT (Future), W (Weak inflection)

2.3 The Possessive Agreement Paradigm

Possessive morphemes, exemplified in (5) and (6), tend to be fused, which can mask the agreement patterns described above. However, outside of the 3rd person singular agreement shown in (5) it is possible to distinguish person and number agreement for the possessor and possessum. Take, for example, a selection of the agreement paradigm for possessed nouns appearing in the absolutive case (like the example in (5)):

(7) Table 1: Absolutive Morphology for Possessives

Possessor	Singular Possessum	Plural Possessum
1 st SG	- <u>ga</u>	- <u>kka</u>
1 st PL	-(<u>r</u>)put	- <u>yut</u>
2 nd PL	-(<u>r</u>)si	-__si
3 rd SG	- <u>a</u> __	- <u>i</u> __
3 rd PL	- <u>at</u>	- <u>i</u> /at

(Fortescue 1984:207)

Bolded, underlined portions indicate the differences between singular and plural possessed nouns. Empty underlines indicate that no overt morphology is present.

The pattern in Table 1 can be seen in example (8). In (8b), the possessive morpheme is realized as *-ma* (1SG.SG) rather than *-ga* as predicted in Table 1 due to WG assimilation properties.

- (8) a. issi = eye (root)
 b. issima = my eye (SG. possessum)
 c. issika = my eyes (PL. possessum) ("Greenlandic to English Dictionary" n.d.)

Given the pattern seen here, I suggest that, contrary to the agreement ordering suggested by glossing patterns in WG texts, number marking of the possessum precedes possessor agreement on possessed nouns.

2.4 Possessive Agreement Patterns in WG: Evidence from Hungarian

The possessive agreement pattern I suggest in Section 2.3 is not uncommon; Hungarian, for example, exhibits the same type of possessive agreement as WG **and** the relative order of the relevant morphemes is the same as the order I suggest for WG. In the following examples, the

referentiality (a semantic feature normally inherent to D) might be handled in a little *n* projection, à la Marantz (2000). However, he has to posit Q(uantifier) and Dem(onstrative) heads above this projection to account for the occurrence of these elements. The possible structural contrast between (12a) and (13a) is represented as (12b) and (13b), respectively:

- (12) a. iluliar-sua-q...
 ice.berg-big-SG.ABS
 ‘(the) giant iceberg...’ (Sommer et al. 2005b:9)
- b. [_{NP} iluliar-sua-q]
- (13) a. qimmi-t qaqurtu-t taakku
 dog-PL white-PL those(PL)
 ‘those white dogs’ (cf. Fortescue 1984:118)
- b. [_{DemP} [_{NP} qimmi-t qaqurtu-t] taakku]

I do not oppose the existence of a DemP projection for demonstratives; in fact, I adopt Brugè’s (2002) analysis of a low DemP following the strong argument that a D-head is not needed for this purpose.

Under a Bošković-style approach, modifiers of the noun (including demonstratives, adjectives, and possessives) are either adjuncts or multiple specifiers of NP. In either approach, the number of allowable NP-specifiers needs to be relatively unconstrained, but these specifiers/adjuncts need to be ordered with respect to each other. An unlimited-specifier approach has a hard time explaining these ordering restrictions.

As I will show in Section 4, adopting a What-You-See-Is-What-You-Get approach to DPs need not be adopted at the expense crosslinguistic uniformity. In the following section, I point out an issue with the NP-analysis of WG noun phrases.

3.2 Morphosyntax of Possessive Constructions

Compton (2004) does not suggest an analysis of possessive constructions in Inuktitut, leaving a hole in his argument for a no-D analysis of Inuit. On the other hand, Bošković-style approaches support an analysis of possessors in Serbo-Croatian whereby possessors and demonstratives are analyzed as adjectival elements, based on factors such as possessors exhibiting concord with the head noun/possessum:

- (14) student-ov-a knjig-a
 student-POSS-NOM.F.SG book-NOM.F.SG
 ‘a/the book of the student’ (Zlatic 2000:180)

- (15) mam-in-og brata-a
 mom-POSS-GEN.M.SG brother-GEN.M.SG
 ‘of the mother’s brother’ (Zlatic 2000:179)

The examples in (14) and (15) differentiate Serbo-Croatian possessives from WG in two ways: (i) as shown in (5) above, it is **not** the case that possessors show concord in WG⁶ and (ii) though a POSS marker is present, it occurs on the possessor rather than the possessum as in WG (example (11)). An analysis of WG possessors as adjectival modifiers cannot be upheld in the absence of the indicative concord marking and the difference in POSS marking.

In the next section I present an account of possessives that can account for the data as given in the preceding sections. I show that without a DP projection, possessor marking and the ordering of the possessive morphemes as shown in Section 2.3 remains problematic.

4 A DP Analysis of WG Possessives

4.1 Basic WG DPs

I propose that the structure of a basic noun phrase in WG has three projections: NP, NumP (independently motivated by Ritter 1991 and others), and DP. Each head is associated with a distinct set of interpretable features; interpretable (iP)⁷ and uninterpretable number (uNum) on N, interpretable number (iNum) and uninterpretable person (uP) on Num, and uninterpretable definiteness (uDef)⁸, person, and number on D.

For a DP such as (16), the derivation proceeds as in (17). In (17a) the N and Num heads merge with their given (un)interpretable features; the interpretable instances of features value the uninterpretable ones via feature-sharing (Frampton and Guttman 2006; Pesetsky and Torrego 2007)⁹. At the merge of D in (17b) the number and person value their uninterpretable instances once more. In (17c) uDef is valued as indefinite as default:

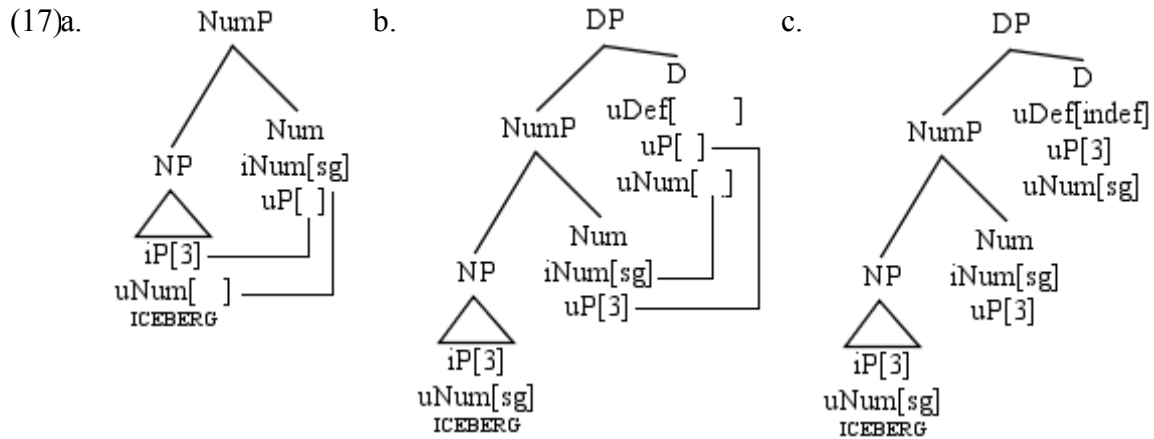
- (16) iluliar-q...
 ice.berg-SG.ABS
 ‘(an) iceberg...’ (cf. Sommer et al. 2005a:5)

⁶ See also Norris (2014) for an account of Estonian that disproves such an analysis of possessors.

⁷ There exist arguments for person being a feature of D rather than N (Abney 1987; Carstens 2000, 2001; Danon 2011; Postal 1969); I argue that person appears in N, following Pereltsvaig’s (2007) argument for Russian (an articleless language) that pronouns (inherently linked to person) merge in N and may raise to D.

⁸ I suggest definiteness is uninterpretable on D because it may be valued by DP-internal factors (e.g. demonstratives) and DP-external factors (e.g. focus/topicalization). DP-external valuation can be the result of the DP’s location in larger syntactic structure (CP or vP), much like Diesing’s (1992) for German scrambling and Biskup (2006, 2009) for Czech scrambling.

⁹ The structures presented here are also compatible with a Multiple Agree approach (Hiraiwa 2001) and Concord (Carstens 2000, 2001).



With this basic structure in place I move to possessive DPs.

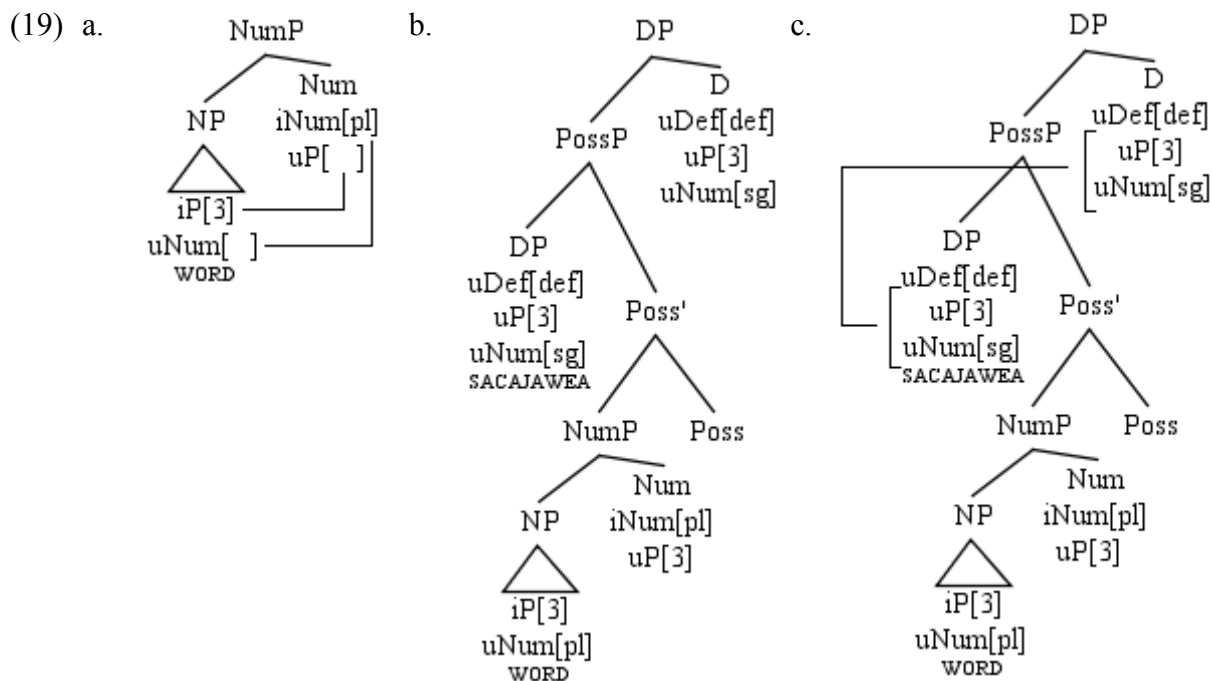
4.2 WG Possessive DP Structure – Initial Analysis

In order to account for the possessive data, I suggest that there is a PossP projection within the possessive DP immediately below DP (Anderson 1983-84; Longobardi 1994; Ritter 1991; Siloni 1997). It is in the specifier of the PossP projection that the possessor merges and receives its possessive (ergative) case. I assume inherent assignment of ergative case in this position based on parallels between possessors and ergative subjects in WG (Aldridge 2008 and references therein; Fortescue 1995).

An initial possessive structure (to be revised) for the example in (18) is derived in (19). In (19a), we see the merge and feature-sharing of NP and NumP as shown in Section 4.1. The PossP projection is merged in (19b), its specifier being the merge site of the possessor. Finally, in (19c), the D head merges and probes for the closest person and number features available (those of the possessor DP):

- (18) **Sacajawea-p** **uqasiq-isa** Naya Nuki aliagi-tsagtitqipa-at
Sacajawea-SG.ERG **word-3SG.PL.ERG** N.Nuki be.sad.about-IND.TR-3PL.3SG¹⁰
‘Sacajawea’s words made Naya Nuki feel very sad.’ (Thomasma 2007:22)

¹⁰ Verbal gloss has been simplified.



The feature-sharing of the possessor DP with D allows for the observed morphological representation of possessive agreement: we now have an explanation for why possessor features appear on the possessum. Additionally, the ordering of features that appear in the possessive morpheme can be explained: the number of the possessed noun precedes the person and number of the possessor.

What remains is an explanation of why the possessor does not trigger verbal agreement; for example, what causes the features of the possessed nominal rather than the possessor in (18) to agree with the verbal complex (underlined in (18))? In the next section I discuss existing explanations of agreement and propose an account for WG.

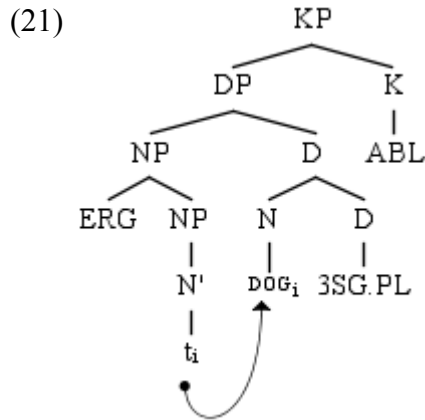
4.3 Accounting for Verbal Agreement

4.3.1 Previous Approaches

Historically, there appear to be two types possibilities explaining verbal agreement with a possessed noun in a language showing WG-style agreement: head movement and/or a DP-internal agreement projection. The former has been assumed for WG (Bittner and Hale 1996), while the latter has been suggested for Hungarian (Den Dikken 1999).

Bittner and Hale (1996) propose an account of WG whereby possessors and possessed nouns are part of a nominal small clause; the possessor is the subject and the possessum is the head of the small clause. Spec-head agreement takes place, allowing both the features of the possessor and the possessed noun to appear on the head noun. The head moves out of the small clause and incorporates into D:

- (20) Juuna-p — qimmi-i-nit
 [[Juuna-ERG t_i] dog-3SG.PL]-ABL
 ‘from Juuna’s dogs’



Unfortunately the possessor-possesum features are bundled into one indistinct group on D, obscuring the features specific to the head noun (which is required for verbal agreement).

For a few reasons, Bittner and Hale’s account is not ideal. First, the assignment of ergative case is dependent upon a syntactic relation rather than being inherent to a head, indicating that under this approach ergative is a structural rather than an inherent case (contra the account presented here)¹¹. Second, though Spec-head agreement can account for the morphology, the mechanism by which the bundled features on D can produce correct case assignment and verbal agreement is unclear.

Den Dikken (1999) also suggests a small-clause approach to possessives but for Hungarian rather than WG. For Den Dikken, the possessed noun is the head of the small clause (as in Bittner and Hale) but the possessor originates inside the PP complement to the head:

- (22) [_{SC} POSSESSUM [_{PP} P_{dat} POSSESSOR]] (Den Dikken 1999:153)

In order to derive the Hungarian order of possessor preceding possessed noun, the possessor undergoes Predicate Inversion:

- (23) a. [_{DP} D [_{SC} POSSESSUM [_{PP} P_{dat} POSSESSOR]]]
 b. [_{DP} D [_{FP} [_{PP} P_∅ POSSESSOR]_i F [_{SC} POSSESSUM t_i]]] (cf. Den Dikken 1999:154)

Agreement of the possessor with the possessum proceeds by the Spec-head agreement of a resumptive pronoun in SpecFP with the possessum. Possesum agreement with the verb obtains via D.

¹¹ There are, of course, arguments that ergative *is* in fact a structural case, eg. Coon and Salanova (2009).

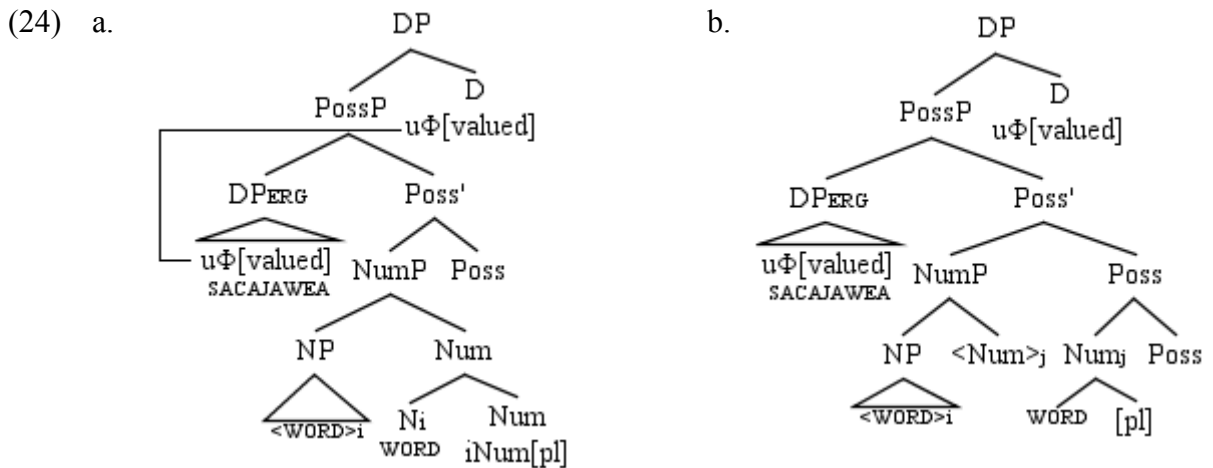
My proposed construction has an observable parallel to Den Dikken's construction. First, his FP/AgrP is in the same location as my proposed PossP, and the possessor (PP for Den Dikken) is located in its specifier, like my ergative possessor. The primary differences lie in (i) the fact that my possessor does not originate low in the structure as the predicate inside the small clause and (ii) the fact that I do not posit Spec-head agreement.¹²

In the next section I make use of observations from both Bittner and Hale (1996) and Den Dikken (1999) to suggest a mechanism by which possessives may agree with the verb while maintaining the integrity of the structure proposed in Section 4.2.

4.3.2 Applying Previous Accounts

Following the insights of Bittner and Hale (1996), here I test the possibility of using head-movement to explain WG possessive constructions.

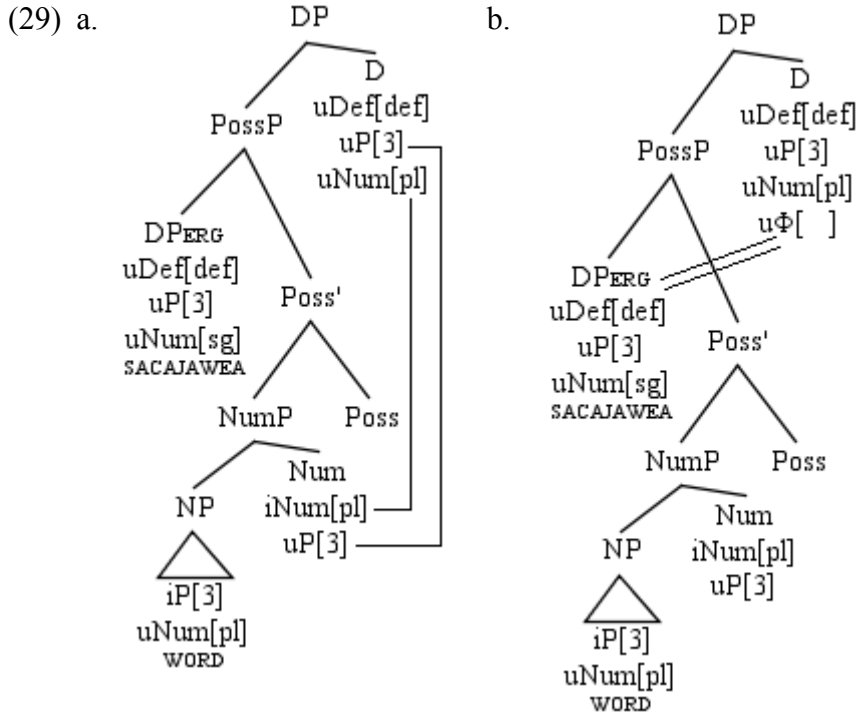
Given the structure in (19c) above, we can make use of head movement to derive the correct ordering of the features on D. First, the head noun moves from N to Num (24a); the complex head then moves from Num to Poss (24b) and then the whole complex from Poss to D (24c).¹³



¹² Den Dikken must also make use of a resumptive pronoun strategy to account for a split between Nominative/Dative possessor number agreement. Since WG does not show such a split, I do not require such an account.

¹³ I use $u\Phi[valued]$ as a shorthand reference to the features shared between the possessor DP and D-head.

The structure in (29) is a revision of the one in (19). (29a) shows the agreement of the possessum features with the features of D, while (29b) shows the probing mechanism (equivalent to standard Agree) selecting the features of the DP in PossP (indicated by double-lines):



This post feature-sharing probing mechanism explains the morphosyntactic patterns discussed in Section 2.3 as well as the absence of possessor agreement on modifiers. What remains is D’s motivation to probe for possessor features.

The answer to this question may lie in the verbal domain. An approach to possessor agreement that is separate from concord/feature-sharing helps to capture the well-known parallel between possessors and subjects. Given this parallelism, possessive DPs can be considered ‘transitive’ in a sense, requiring D to probe for two sets of features. Devising such a mechanism for D would require careful comparison of DP and verbal agreement phenomena and is beyond the scope of this paper. Given the argument so far, however, such an agreement mechanism is not an unreasonable assumption.

Before concluding, I must address one final question: why does the possessor appear in the SpecPossP rather than SpecDP? Though there does not appear to be a pressing reason to have SpecDP available (e.g. for purposes of extraction – it does not seem to be the case that DP-internal elements can precede the possessor), I suggest that leaving this specifier available might explain the allowance of, for example, ‘appositional’ modifiers of the noun phrase. In the example in (30), the noun *qisuk* ‘wood’ could reside in SpecDP, modifying the entire possessive construction:

- (30) qisuk savi-up ipu-ssa-a
 wood knife-ERG shaft-FUT-3SG.SG
 ‘(a piece of) wood for the shaft of a knife’ (Fortescue 1984:115)

Qisuk ‘wood’ is unmarked (or arguably marked with default 3rd singular absolutive, but nothing leads Fortescue to believe this is the case) but still clearly related to the possessive construction.

In this section I have presented an account of WG possessives that allows the observed possessor agreement to appear on the possessum while not inhibiting possessum agreement with the verbal complex. Though the precise mechanism of the former type of agreement is not immediately apparent, it does appear to be the case that two distinct mechanisms exist – even if only to delay the agreement of the possessor with D.

5 Conclusion

In the preceding sections I have argued for an account of the West Greenlandic possessive noun phrase that supports the existence of a DP projection in the language. I first demonstrated how a DP account of WG can explain the appearance of possessor agreement on possessive morphemes (attached to the possessum). Then I discussed how previous accounts of possessor agreement are not quite compatible with the current theoretical assumptions. Finally, I made use of the observation that two types of agreement are necessary to account for possessive agreement in the nominal domain. By separating feature-sharing and possessor agreement, we are able to account for possessive DP agreement with the verbal domain.

Possessive agreement is just one argument for the existence of DP in West Greenlandic; however, as I have shown, the agreement patterns shown in West Greenlandic possessives are difficult to explain with an NP-only structure.

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