

Kannada through the lens of the NP/DP parameter

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ABSTRACT

Bošković's (2008, 2012) NP/DP parameter suggests that languages with definite articles are DP languages and languages without definite articles are NP languages. However, more recent literature on the topic demonstrates that some article-less languages may be DP languages (see, e.g., Syed and Simpson 2017 on Bangla; Dees 2020 on Dholuo). This paper explores Kannada, an article-less Dravidian language, based on a number of Bošković's NP/DP-divide generalizations. The results demonstrate that Kannada patterns like the NP languages from Bošković (2008, 2012). It is then illustrated that Kannada may lack certain movements within the nominal domain that have been associated with other article-less languages which have been proposed as DP languages. These results provide necessary details for better understanding what the NP/DP 'divide' looks like cross-linguistically.

1 Introduction

Since Abney (1987) and Fukui & Speas (1986), it has been widely assumed that DP, at the very least, exists in languages with determiners. This assumption has led to three major camps of thought regarding DP level of structure: DP is universal (i.e. Bowers 1991; Longobardi 1994; Li 1998, 1999; Progovac 1998; Bašić 2004; Simpson 2005; Watanabe 2006; Park 2008; a.o.); DP is not present in article-less languages (i.e. Fukui 1988; Cover 1992; Chierchia 1998; Cheng & Sybesma 1999; Willim 2000; Baker 2003, 2005; Bošković 2008, 2012; Despić 2011; Talić 2015, a.o.); and there is no DP (i.e. Bruening 2020). In this paper, I focus primarily on the camp in which it is assumed that DP is not present in article-less languages.

Specifically, I explore Kannada, an article-less Dravidian language, from the perspective of Bošković's (2008, 2012) parameter. Kannada does not have a definite article, as is illustrated by the ambiguity between definite and indefinite interpretations of the bare noun, *ma:wannu* 'mango.ACC' in (1).

- (1) ra:da ma:w-annu ko|eda ſeniwa:ra tinda|u
Rada mango-ACC last Saturday eat.3SG.F.PAST
'Rada ate a/the mango last Saturday'

Bošković's (2008, 2012) NP/DP parameter proposes that languages with (definite) articles are DP languages, whereas languages without (definite) articles are NP languages. However, in more recent literature on the topic, it has been argued that Bošković's NP/DP divide is not as simple as a two-way divide. Some article-less languages appear to pattern like DP languages and present evidence for a DP projection in the nominal domain (see, e.g., Syed & Simpson 2017 on Bangla; Dees 2020 on Dholuo). For these languages, it has been argued that phrasal and/or head movement can also trigger the need for a DP projection in a language. Therefore, I seek to find out whether Kannada patterns like the article-less languages Bošković (2008, 2012) discusses or whether it is more similar to article-less Bangla and/or Dholuo.

The data for this study comes from one native-speaker consultant who identifies Kannada as their dominant language. The results of this study, indicate that Kannada patterns like the article-less languages in Bošković (2008, 2012). I suggest that the reason Kannada doesn't pattern like Bangla or Dholuo is due to the fact that phrasal movement and/or nominal head movement doesn't occur in Kannada. I demonstrate that the Kannada nominal modifier order is compatible with such an analysis.

This paper is structured as follows: Section 2 provides an overview of the relevant literature on Bošković's (2008, 2012) NP/DP parameter. Section 3 tests Kannada data against Bošković's (2008, 2012) NP/DP-divide generalizations, demonstrating that Kannada patterns like the article-less languages discussed in this work. Section 4 investigates the nominal modifier order of Kannada, leading to the proposal that Kannada is not a DP language. Section 5 provides concluding remarks and directions for future research.

2 The NP/DP parameter

As previously mentioned, Bošković (2008, 2012) proposes an NP/DP parameter in which it is argued that some languages project DP in the nominal domain (i.e. English) and others do not (i.e. Bosnian-Croatian-Serbian). Accordingly, Bošković argues that the presence of overt definite articles is what triggers this parameter setting. Thus, languages with overt definite articles are DP languages and languages without overt definite articles are NP languages. Additionally, Bošković (2008, 2012) posits a set of generalizations associated with the presence/absence of definite articles, which he suggests corresponds to the NP/DP divide.

While Bošković's (2008, 2012) NP/DP typology remains borne out in a significant number of languages, recent literature on the topic of the NP/DP parameter suggests that it is too restrictive. More specifically, some authors have argued there is a split amongst DP languages. Talić (2017), for example, argues that there is a three-way distinction of languages: Article-less languages, affixal article languages, and non-affixal article languages. Oda (2022) further argues that a three-way distinction is also too restrictive, and offers that the NP/DP divide is more of a "fine-grained scale". On the other end of the parameter, authors have argued that some article-less languages are DP languages. For example, Syed & Simpson (2017) argues that Bangla (Indo-Aryan), which lacks a definite article is a DP language. They propose that phrasal movement, and possibly head movement can act as a trigger for the NP/DP parameter (an overview of this analysis is provided in section 2.2). Dees (2020) similarly argues that Dholuo (Nilo-Saharan), which is an article-less language, projects DP. This study proposes that head movement can act as a trigger for the NP/DP parameter (an overview of this analysis is provided in section 2.3).

In what follows, I provide an overview of a set of Bošković's (2008, 2012) generalizations that are relevant to the study (section 2.1), an overview of Syed & Simpson's (2017) analysis of Bangla (section 2.2), and an overview of Dees' (2020) analysis of Dholuo (section 2.3).

2.1 Bošković's (2008, 2012) generalizations

As previously mentioned, Bošković (2008, 2012) posits a set of generalizations associated with the presence/absence of a (definite) article in a given language. Crucially, Bošković

takes this as support for the NP/DP parameter. In this section, I provide an overview of a subset of these generalizations that are associated with Syed & Simpson (2017), Dees (2020), and the current analysis of Kannada.

2.1.1 Negative raising generalization

Bošković (2008, 2012) posits a negative-raising generalization, in which languages without (definite) articles disallow negative raising (i.e. strict negative polarity item licensing under negative raising) and languages with (definite) articles allow it. Negative raising is understood as negation being interpreted in the matrix or embedded clause of sentences like *John does not believe Mark is smart*, as is illustrated in (2).

- (2) a. [John does **not** believe [Mark is smart]]
 b. [John believe [Mark is **not** smart]]

As Bošković (2008, 2012) notes, we cannot rely solely on interpretation to diagnose whether negative raising is present in a language. Instead, drawing from Lakhoff (1969), Horn (1978), and Gajewski (2007), we can confirm the embedded clause option in (2b) using strict clause-mater negative polarity items (NPIs).

Strict NPIs require negation, as is demonstrated in the grammaticality of sentences like (3a-b) and the ungrammaticality of sentences like (3c-d).

- (3) a. John didn't leave **until yesterday**
 b. John hasn't visited her **in at least two years**
 c. *John left **until yesterday**
 d. *John has visited her **in at least two years** (Bošković 2008: 106)

In (3a-b), the strict NPI is licensed by negation, whereas in (3c-d) there is no negation to license the strict NPI resulting in ungrammatical sentences. Furthermore, long distance licensing of strict NPIs is not allowed. This is demonstrated in (4) with a non-negative-raising verb *claim* in the matrix clause.

- (4) a. *[John didn't claim [that Mary would leave [NPI **until tomorrow**]]]
 b. *[John doesn't claim [that Mary visited him [NPI **in at least two years**]]]
 (Bošković 2008: 106)

In (4), since *claim* is a non-negative raising verb, negation must originate in the matrix clause (as opposed to raising from the embedded clause). Thus, due to the ungrammaticality of (4a-b), it is concluded that long-distance licensing of NPIs is disallowed. However, with attitude predicates like *believe*, it appears NPIs can occur in the embedded clause despite negation being in the matrix clause (5).

- (5) a. [John didn't believe [that Mary would leave [NPI **until tomorrow**]]]
 b. [John doesn't believe [that Mary has visited him [NPI **in at least two days**]]]
 (Bošković 2008: 106)

Since long-distance licensing is disallowed, as is demonstrated in (4), Bošković & Gajewski (2011) argues that (5a-b) are not instances of long-distance licensing. Instead, the licensing of the NPIs in (5a-b) occurs in the embedded clause and negation raises out of the embedded clause into the matrix clause.

Bošković (2008, 2012) highlights that negative raising is disallowed in article-less languages such as Bosnian-Croatian-Serbian, Slovenian, Polish, Russian, Turkish, Korean, Japanese, and Chinese. However, it is allowed in article languages such as English, German, French, Portuguese, Romanian, Bulgarian, and Spanish.

The rationale for connecting negative raising to the presence/absence of (definite) articles comes from Bošković & Gajewski (2011), in which it is argued that there is a similarity in interpretation of definite plurals and negative-raising predicates (NRPs). This similarity is the Excluded Middle (see Bartsch 1973; Horn 1989; Gajewski 2007). Based on this similarity Bošković & Gajewski (2011) propose that while attitude predicates are typically analyzed as quantifiers over worlds (6a), some (such as NRPs like *believe*) may also take part in distributive plural predication and denote sums of worlds (6b).

- (6) a. $\text{all}(\text{BELa}) = \lambda p. \text{BELa} \subseteq p$
 b. $\text{the}(\text{BELa}) = \text{the sum of a's belief worlds}$ (Bošković & Gajewski 2011)

Distributive plural predication is triggered when an attitude predicate is constructed with a definite article, as in (6b). Bošković & Gajewski (2011) suggest that because of the Excluded Middle, these types of attitude predicates create statements that are true if the modal base is a subset of the embedded proposition, but false if the modal base is separate from the embedded proposition. Because of this, they argue that when this type of attitude predicate is negated the negation is interpreted as if it is in the embedded clause. And from this, Bošković & Gajewski (2011) propose that attitude verbs which select the distributive definite plural semantics are NRPs, while those that select universal quantification are not NRPs. They further argue that, in languages like English, which allow negative raising, the NRP *believe* involves the definite determiner. Therefore, the presence of D is responsible for the presence of negative raising in a language.

2.1.2 Sequence of Tense generalization

Bošković (2012) posits a sequence of Tense generalization, in which sequence of Tense (SOT) is only found in languages with (definite) articles. SOT is observed in languages like English where sentences in which a past-tensed clause is embedded under a past-tensed attitude predicate have two possible readings: The non-past/simultaneous reading and the anteriority reading, as is illustrated in (7).

- (7) *John thought that Mark was ill.*
Non-past/simultaneous reading: John thought, “Mark is ill”
Anteriority reading: John thought, “Mark was ill”

Bošković (2012) argues that languages without (definite) articles do not have SOT, this is exemplified with Bosnian-Croatian-Serbian in (8) and (9).

- (8) Jovan je vjerovao da je Marija bolesna

- Jovan is believe that is Marija ill
 ‘John believed that Mary is ill’ (non-past/simultaneous) (Bošković 2012: 214)
- (9) Jovan je vjerovao da je Marija bila bolesna
 Jovan is believe that is Marija been ill
 ‘John believed that Mary was ill’ (anteriority) (Bošković 2012: 214)

The only way to obtain a non-past/simultaneous reading in Bosnian-Croatian-Serbian is with a present under past construction, as in (8). A past under past construction only has an anteriority reading in Bosnian-Croatian-Serbian, as in (9). It is also important to note that some languages with definite articles (e.g., Hebrew) do not have SOT, hence the one-way generalization.

The rationale for connecting SOT and the presence/absence stems from the concept of parallelism across domains (i.e. Abney 1987; Chomsky 2005; Bošković 2008, 2012; Todorović 2016; Talić 2015, 2017). In this case, the generalization relies on parallelism across the nominal and clausal domains. Specifically, if a language projects DP (a definite article) it should project TP (Tense morphology). SOT fits into this story when considering Stowell (1993, 1995a,b) and Kusumoto (2005). Under these approaches to SOT, the past tense morpheme receives its value from a higher anteriority operator PAST located in T. For the anteriority reading of an English sentence like (7), there are PAST operators in both the matrix and the embedded T, so the past tense morphemes receive their anteriority values from two different operators, locating each event at distinct points in the past, hence the anteriority reading. This is represented in (10).

- (10) [**PAST** John believe-**past** [that **PAST** Mark be-**past** sick]]

For the simultaneous reading, the PAST operator is only present in the matrix T. Both past tense morphemes, in this case, receive their value from the same operator, locating each event at the same point in the past, hence the non-past/simultaneous reading. This is represented in (11).

- (11) [**PAST** John believe-**past** [that Mark be-**past** sick]]

Assuming parallelism across the nominal and clausal domains, an NP (article-less) language would lack TP. As Bošković (2012) describes, due to the lack of TP in these languages, the operator PAST is not available. Therefore, NP languages cannot have a past tense morpheme like that in (10) and (11), which introduces variables and is licensed by PAST. Instead of a past tense morpheme, these languages have elements that carry a lexically specified meaning and add to temporal interpretations by saturating the time argument slot of the predicate. Since these elements are not variables, when they are embedded in the complement of an attitude predicate that is anchored with the past tense, it is not possible for them to be quantified-in by an intentional verb. Hence, for NP languages like Bosnian-Croatian-Serbian, the simultaneous reading is unavailable for past-under-past, as in (9).

2.1.3 Adnominal genitives generalization

Bošković (2008, 2012) posits an adnominal genitives generalization in which languages without (definite) articles don't allow transitive nominals with two genitives. Willim (2000) demonstrates that article languages such as English, Arabic, Dutch, German (12a), and Catalan (12b) allow two nominal genitive arguments (both external and internal arguments can be genitive, where the genitive is realized via a clitic/suffix or a dummy P).

- (12) a. Hannibals Eroberung Roms (German)
 Hannibal-GEN conquest Rome-GEN
 'Hannibal's conquest of Rome'
- b. l'avaluació de la comissió dels resultats (Catalan)
 The evaluations of the committee of the results
 'The committee's evaluation of the results'
- (Bošković 2012: 186)

Bošković (2012) notes that the same holds for Portuguese, Basque, French, Greek, Hebrew, Icelandic, Macedonian, Bulgarian, Spanish, Welsh, Maltese, Maori, Samoan, Swedish; all of which are article languages. Willim (2000) demonstrates, on the other hand, that languages without (definite) articles such as Polish (13a), Czech (13b), Russian, and Latin disallow lexical genitives. Bošković (2008, 2012) also notes that Ukrainian, Chinese, Quechua, and Turkish (which lack a definite article) also don't allow adnominal genitives.

- (13) a. *odkrycie Ameriyki Kolumba (Polish)
 discovery America-GEN Columbus-GEN
 'Columbus' discovery of America'
- b. *zničení Říma barbarů (Czech)
 destruction Rome-GEN barbarians-GEN
 'The barbarian's destruction of Rome'

Instead, in languages without (definite) articles the external argument is often realized via a PP headed by an adposition analogous to English *by* or inherent oblique Case.

- (14) a. odkrycie Ameriyki przez Kolumba (Polish)
 discovery America-GEN by Columbus
 'The discovery of America by Columbus'
- b. zničení Říma barbary (Czech)
 destruction Rome-GEN barbarians-INSTR
 'The destruction of Rome by the barbarians'

2.1.4 Superlative majority reading

Bošković (2008, 2012) posits a majority superlative reading generalization in which only languages with a definite article allow the superlative majority reading. Živanović (2008), for example, notes that English, German, Hungarian, Romanian, Macedonian, and Bulgarian [languages with (definite) articles] have a superlative majority reading; and Slovenian, Czech, Polish, Bosnian-Croatian-Serbian, Chinese, Turkish, and Punjabi [languages without (definite) articles] do not allow the superlative majority reading.

For instance, an English sentence like *most people drink beer* has a plurality reading in which ‘more than half the people drink beer’ in addition to a superlative majority reading in which ‘more people drink beer than any other drink’. While English has both of these readings, Slovenian (article-less language) only has the plurality reading.

- (15) Največ ljudi pije pivo (Slovenian)
 Most people drink beer
 ‘More people drink beer than any other beverage’ (Plurality reading, PR)
 ‘*More than half the people drink beer’ (Majority reading, MR)
 (Bošković 2008: 106)

2.1.5 Inverse scope generalization

Bošković (2012) posits an inverse scope generalization, in which inverse scope readings are only available in languages with (definite) articles. Consider the English sentence *someone love everyone* in (16).

- (16) Someone loves everyone
Narrow scope: One person that loves all the people
Wide (inverse) scope: Everyone is loved by someone

As is illustrated in (16), both the narrow scope reading and the inverse scope reading are available in English. Bošković (2012) presents that the inverse scope reading is available in English, Spanish, Brazilian Portuguese, Macedonian, and Hebrew. However, it is not available in languages such as German, Basque, Dutch, Icelandic, Bulgarian, Welsh, Romanian, Japanese, Korean, Turkish, Persian, Hindi, Bangla, Chinese, Russian, Polish, Slovenian, Ukrainian, and Bosnian-Croatian-Serbian.

2.1.6 Exhaustivity presupposition

Bošković (2012) posits that possessors may induce exhaustivity presupposition only in DP languages. Partee (2006) observes that the English possessor in the phrase *Zhangsan’s three sweaters* presupposes that Zhangsan has exactly three sweaters. Whereas, the possessor in Chinese (17) does not exhibit any such exhaustivity presupposition.

- (17) Zhangsan de [san jian maoxianyi]
 Zhangsan DE_{POSS} three CL sweater
 ‘Zhangsan’s three sweater’ (Bošković 2012: 191)

Bošković (2012) notes that Russian, Bosnia-Croatian-Serbian, Turkish, Japanese, Korean, Hindi, Bangla, Malayalam, and Maghi all pattern like Chinese (and Partee notes the same for Russian), whereas Spanish, Brazilian Portuguese, Italian, Basque, Hebrew, Dutch, and Arabic pattern like English.

2.2 Bangla and the NP/DP parameter

Bangla, an Indo-Aryan language, does not have a definite article. However, as Syed & Simpson (2017) notes, Bangla demonstrates word-order alternations that are associated

Non-negative raising predicates, like *dekhi* ‘see’, however, block the licensing of strict NPIs in lower clauses.

- (22) *ami **dekhi-ni** je ram kal parti-te **kono**
 I see-NEG that Ram yesterday party-at **any**
khabar kheyechhe
food eat.PRES.PERF (Syed & Simpson 2017: 6)

Therefore, Syed & Simpson (2017) argues that (21) is an instance of negative raising, rather than long-distance licensing. In this way, Bangla patterns like languages with (definite) articles following Bošković (2008, 2012).

2.2.2 Superlative majority reading in Bangla

According to Syed & Simpson (2017) Bangla also has the superlative majority reading. For example (23) has both the relative reading and the majority reading.

- (23) beši-r-bhag lok kal parti-te beer khelo
 most people yesterday party-at beer drink-PAST
PR: ‘more people drank beer than any other beverage at the party yesterday’
MR: ‘more than half the people drank beer at the party’ (Syed & Simpson 2017: 7)

In this way, Bangla patterns like languages with (definite) articles following Bošković (2008, 2012).

2.2.3 Adnominal Genitives in Bangla

Finally, Syed & Simpson also demonstrate that Bangla permits transitive nominals with two genitives. This is illustrated in (24) and (25) in which there are two genitive arguments in each example.

- (24) ram-er kukur-er bheeti
 Ram-GEN dog-GEN fear
 ‘Ram’s fear of dogs’ (Syed & Simpson 2017: 8)

- (25) feluda-r badšahi angti-r rohosyo somadhan
 Feluda-GEN royal ring-GEN mystery solution
 ‘The solution of the mystery of the royal ring by Feluda’ (Syed & Simpson 2017: 8)

In this way, Bangla patterns like languages with (definite) articles following Bošković (2008, 2012).

2.3 Dholuo and the NP/DP parameter

As Dees (2020) demonstrates, Dholuo does not have articles. This is illustrated with the use of bare nouns for unique entities in (26) and the use of bare noun *mpira* ‘ball’ for both the indefinite and definite in (27).

- (26) a. a-neno **tjiej**
 1SG-see **sun**
 ‘I see the sun’
 b. n-a-neno **ker**
 PST-1SG-see **president**
 ‘I saw the president’

- (27) auma n-o-gwejo n-a **mpira** to n-a-gwejo **mpira**
 Auma PST-PFV-kick to-1SG **ball** and PST-1SG-kick **ball**
 ‘Auma kicked a ball to me and I kicked the ball back’

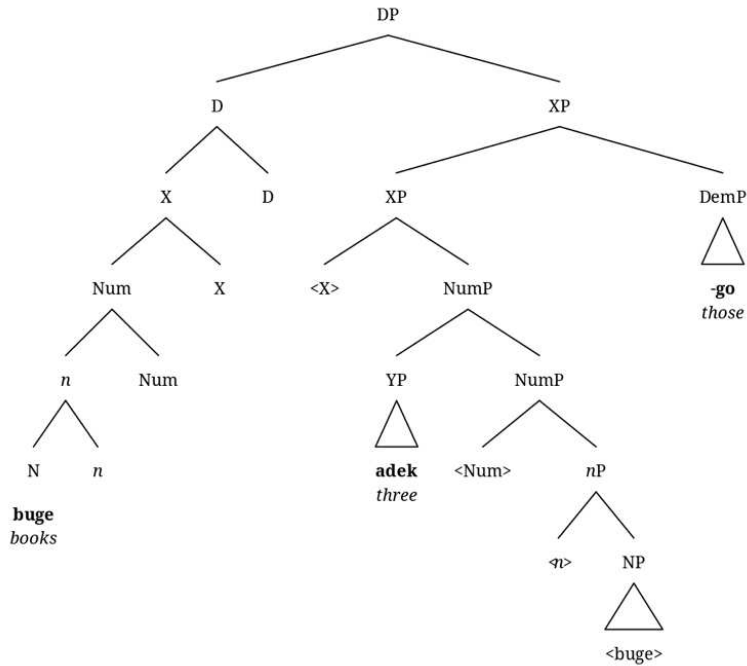
Dees (2020) argues that the order of nominal modifiers in Dholuo is indicative of N-to-D movement (cf. Carstens 1991, 1993, 2008). All modifiers are post-nominal, and the order of elements is N > Num > Dem. Adjectives are set aside in this analysis, as Dees (2020) argues they are relative clauses.

- (28) **bug-e** **adek-go** gin ei sanduk (N < Num < Dem)
 book-PL **three-those** are in box
 ‘Those three books are in the box’

Following Carstens (2008), Dees proposes the following structure for Dholuo nominals¹:

¹ [DP
 [D
 [X
 [Num
 [*n*
 [N
 buge\
 books
]
 [*n*]
]
 [Num]
]
 [X]
]
 [D]
]
 [XP
 [XP
 [<X>]
 [NumP
 [YP
 ^**adek**\
]

(29)



In (28), the demonstrative is adjoined to right edge of XP, accounting for the surface-level order. Num (YP) is an adjunct to NumP, and seems to always be adjoined to the left in Dholuo. Finally, Head movement of the noun occurs cyclically, moving to the left edge of the DP. For this reason, as it is hinted at in Syed & Simpson (2017), Dees (2020) argues that N-to-D movement can also trigger the NP/DP parameter.

In addition to this N-to-D movement analysis, Dees (2020) demonstrates that, like Bangla, Dholuo patterns like languages with (definite) articles following Bošković's (2008, 2012) generalizations. Specifically, Dees (2020) highlights the negative raising and sequence of Tense generalizations. A more recent investigation of Dholuo demonstrates that it also patterns like languages with (definite) articles following several other generalizations from Bošković (2008, 2012), as is demonstrated in Table 1.

```
*three*
]
[NumP
  [<Num>]
  [*n*P
    [<*n*>]
    [NP ^\<buge>]
  ]
]
]
]
]
[DemP ^\-*go**\
  *those*]
]
]
```

	Neg Raising	Sequence of Tense	Superlative Majority	Inverse Scope	Exhaustivity Presupposition
Dholuo	Y	Y	Y	Y	Y
English (DP)	Y	Y	Y	Y	Y
BCS (NP)	N	N	N	N	N

Table 1. A comparison of Dholuo, English (DP-language), Bosnian-Croatian-Serbian (NP-language) using six of Bošković's (2008, 2012) generalizations.

Following the data exemplifying N-to-D movement in Dholuo and the evidence that Dholuo patterns like languages with (definite) articles following Bošković (2008, 2012), Dees (2020) argues that Dholuo is a DP language.

3 Kannada and the NP/DP generalizations

As previously mentioned, Kannada does not have a (definite) article. This is demonstrated in (30) where the indefinite use of *ma:wu* 'mango' and *papajawannu* 'papaya.ACC' occurs with the numeral *undu* 'one' and the definite use is article-less (only accusative marked).

- (30) ra:da **undu** **ma:wu** mattu **papajawannu** karidisida|u.
Rada **one** **mango** and **papaya.ACC** buy.3SG.F.PAST
awa|a maga|u **ma:wannu** tinda|u maga **papajawannu**
3SG.F.GEN daughter **mango.ACC** eat.3SG.F.PAST son **papaya.ACC**
tinda
eat.3SG.M.PAST
'Rada bought a mango and a papaya. Her daughter ate the mango and her son ate the papaya'

Bare nouns are also used for unique readings. In (31a), the sentence 'the moon is beautiful' uses the bare noun *tʃendra* 'moon'. Likewise, in (31b), the sentence 'the sun rises in the morning' uses the bare noun *surija* 'sun'.

- (31) a. tʃendra sundarawa:gide
moon beautiful
'The moon is beautiful'
b. surija be|aginadzawa udajawa:gutade
sun morning.in rises
'The sun rises in the morning'

Following Bošković's (2008, 2012) generalizations, Kannada should pattern like other languages without (definite) articles. However, as was demonstrated with Bangla and Dholuo, this is not always the case. Thus, in what follows, I test Kannada against a set of Bošković's (2008, 2012) NP/DP-divide generalizations. The results demonstrate that Kannada patterns like the languages without (definite) articles in Bošković (2008, 2012) and, thus, unlike Bangla and Dholuo.

3.1 Negative raising in Kannada

Like the article-less languages in Bošković (2008, 2012), Kannada does not have negative raising. This is demonstrated using the NPI *nanejawregu* ‘until yesterday’, which requires negation (i.e. strict NPI).

- (32) a. ra:da **nanejawregu** horada[-**ella**
 Rada **until.yesterday** leave.3SG.F.PAST-NEG
 ‘Rada didn’t leave until yesterday’
 b. *ra:da **nanejawregu** horata[u
 Rada **until.yesterday** leave.3SG.F.PAST

The grammaticality of (32a), and the ungrammaticality of (32b), demonstrates that *nanejawregu* ‘until yesterday’ is a strict NPI. Furthermore, licensing of a strict NPI in and embedded clause when negation is in the matrix clause is disallowed for all attitude predicates. In (33), when the phrase *he:liko[[al-ella* ‘didn’t claim’ is in the matrix clause and the strict NPI, *naljaveregu* ‘until tomorrow’, is in the embedded clause, the sentence is ungrammatical. The same is true if *namba[-illa* ‘didn’t believe’ is in the matrix clause (34).

- (33) *ra:ma **naljaveregu** horaduta:nendu ra:da
 Rama **until.tomorrow** leave.3SG.M.FUT Rada
 he:liko[[al-ella
 claim.3SG.F.PAST-NEG
 (34) *ra:ma **naljaveregu** horaduta:nendu ra:da
 Rama **until.tomorrow** leave.3SG.M.FUT Rada
 namba[-illa
 believe.3SG.F.PAST-NEG

Additionally, a sentence like (35) only has a reading in which negation is interpreted in the matrix clause. The reading in which the matrix clause is in the embedded clause is completely out.

- (35) ra:ma horaduta:nendu ra:da namba[-illa
 Rama leave.3SG.M.FUT Rada believe.3SG.F.PAST-NEG
 Reading A: ‘Rada didn’t hold the belief that that Rama left’
 Reading B: ‘*Rada held the belief that Rama didn’t leave’

Thus, like the article-less languages in Bošković (2008, 2012), and unlike article-less Bangla (Syed & Simpson 2017) and Dholuo (Dees 2020), Kannada does not have negative raising.

3.2 Adnominal genitives in Kannada

Kannada also does not have adnominal genitives, patterning like the article-less languages in Bošković (2012). In (36), the use of transitive nominals with two genitives is disallowed in Kannada.

- (36) *nagara-**da** na:ʃa mahile-**da**
 city-GEN destruction woman-GEN
 ‘The woman’s destruction of the city’

Instead, just as Bošković (2012) highlights for other article-less languages, the external argument is realized via a PP headed by a post-position *inda* ‘from’, as is demonstrated in (37).

- (37) mahil-**inda** nagara-da na:ʃa
 woman-**from** city-GEN destruction
 ‘The destruction of the city from the woman’

Again, Kannada patterns like the article-less languages in Bošković (2012), and unlike article-less Bangla (Syed & Simpson 2017) and Dholuo (Dees 2020).

3.3 Superlative majority reading in Kannada

Kannada does not have a superlative majority reading, again, patterning like the article-less languages in Bošković (2008, 2012). To determine this, the context in (38) was provided to my consultant.

- (38) Context: Five students attend a gathering. Student 1 drank lemonade, student 2
 Drank lemonade and wine, student 3 drank beer and wine, student 4 drank beer
 and wine, and student 5 drank beer and wine.

When presented with a statement that would induce the plurality reading (39), my consultant claimed the statement was true within the context of (38). However, when my consultant was presented with a statement that would induce the majority reading (40), they claimed this was false within the context of (38).

- (39) bahalʃtu vidjarti-gaʃu wain koɖjuttare
 most student-PL wine drink.3PL
 ‘Most people drink wine’
- (40) *bahalʃtu vidjarti-gaʃu bir koɖjuttare
 most student-PL wine drink.3PL
 ‘Most people drink beer’

Based on these results, it is concluded that Kannada patterns like the article-less languages in Bošković (2008, 2012), and unlike article-less Bangla (Syed & Simpson 2017) and Dholuo (Dees 2020).

3.4 Inverse scope reading in Kannada

Inverse scope readings are also unavailable in Kannada. A sentence like (41), which is in the unmarked SOV order, only has the narrow scope reading.

- (41) jaro jalar-annu pridisutarre
 someone everyone-ACC loves
Narrow scope: ‘Someone love everyone’
Wide (inverse) scope: ‘*Everyone is loved by someone’

In Kannada the only way to get the inverse scope reading is to change the word order. Thus, it is concluded that Kannada patterns like the article-less languages in Bošković (2012), and unlike Bangla (Syed & Simpson 2017) and Dholuo (Dees 2020).

3.5 Exhaustivity presupposition in Kannada

Possessor’s do not induce an exhaustivity presupposition in Kannada either. A sentence like (42) cannot possibly mean Rada has exactly three sweaters.

- (42) ra:da-|a moru sweter-ga|u
 Rada-GEN three sweater-PL
 ‘Rada’s three sweaters’

This final test, is consistent with the rest of the tests, further illustrating that Kannada patterns like the article-less languages in Bošković (2012).

4 Kannada nominal modifiers

In section 3, I have established that, unlike Bangla (i.e. Syed & Simpson 2017) and Dholuo (i.e. Dees 2020), Kannada patterns like an article-less language following Bošković’s (2008, 2012) generalizations. In Syed & Simpson (2017), Bangla is argued to pattern like languages with (definite) articles due to phrasal movement higher in the nominal domain causing a DP projection. Similarly, Dees (2020) argues that Dholuo patterns like languages with (definite) articles due to N raising to D, thus DP being projected in the nominal domain. Both of these arguments are based on the idea that certain positional patterns in the nominal domain can trigger the NP/DP parameter. For this reason, I explore patterns in the Kannada nominal domain, specifically nominal modifier ordering, to see if there is reason to believe DP is projected in the language.

Kannada is consistently head-final. The Kannada nominal domain presents a strict prenominal ordering of modifiers (Dem > Num > Adj > N). This order is illustrated in (43). In (44), moving the noun changes the interpretation of the sentence. For example, in (44a), the nominal modifier (Adj) *kempu* ‘red’ can only modify the noun it precedes, thus the interpretation of the sentence changes from (43) ‘those two big red books are in the box’ to ‘those two big books are in the red box’.

- (43) a: eraḍu doḍḍa kempu pustaka-ga|u *pettige-jallive*
 those two big red book-PL *box-in*
 ‘Those two big red books are in the box’

- (44) a. **a:** **eraḍu** **doḍḍa** **pustaka-gaḷu** *kempu* *pettige-jallive*
those **two** **big** **book-PL** *red* *box-in*
‘Those two big books are in the red box’
- b. **a:** **eraḍu** **pustaka-gaḷu** *doḍḍa* *kempu* *pettige-jallive*
those **two** **book-PL** *big* *red* *box-in*
‘Those two book are in the big red box’
- c. **a:** **pustaka-gaḷu** *eraḍu* *doḍḍa* *kempu* *pettige-jallive*
those **book-PL** *two* *big* *red* *box-in*
‘those book are in two big red boxes’/‘*those two red books are in the box’
- d. **pustaka-gaḷu** *a:* *eraḍu* *doḍḍa* *kempu* *pettige-jallive*
book-PL *those* *two* *big* *red* *box-in*
‘the books are in those two big red boxes’/‘*those two big red books are in the box’

Assuming a universal merge order of Dem > Num > Adj > N (i.e. Cinque 2000, 2005; Carstens 2008), the data in (42) and (43) is not incompatible with the idea that nouns remain low in Kannada.

Kannada nouns remaining low could provide an explanation for the fact that Kannada doesn’t pattern like Bangla (i.e. Syed & Simpson) or Dholuo (i.e. Dees 2020), and instead patterns like the article-less languages from Bošković (2008, 2012). In this case, Kannada both lacks a (definite) article and/or phrasal/head movement to trigger a DP projection. Thus, I conclude that Kannada is an NP language, whereas languages like Bangla and Dholuo are DP languages.

5 Conclusions

In this paper, I have demonstrated that Kannada patterns like the article-less (NP) languages from Bošković (2008, 2012). Following more recent work on article-less languages that demonstrates some project DP, it is crucial to investigate why some article-less languages would project DP whereas others may not. I propose that NP languages like Kannada differ from other article-less languages like Bangla (i.e. Syed & Simpson 2017) and Dholuo (i.e. Dees 2020) in that Kannada does not have phrasal or head movement in the nominal domain that would trigger a DP projection. This argument is still preliminary, however. While the nominal modifier order in Kannada is not inconsistent with the idea that there is no phrasal or head movement in the nominal domain, it is not certain that this is the case. Therefore, a deeper dive into the nominal domain of Kannada is necessary for future research on this topic.

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References

- Abney, Steven. 1987. *The English noun phrase in its sentential aspect*. Cambridge, MA: Massachusetts Institute of Technology dissertation.
- Baker, Mark. 2003. *Lexical categories*. Cambridge University Press.
<https://doi.org/10.1017/CBO9780511615047>
- Bartsch, Renate. 1973. 'Negative transportation' gibt es nicht. *Linguistische Berichte* 27. 1-7.
- Bašić, Monika. 2004. *Nominal subtractions and the structure of NPs in Serbian and English*. Tromsø: University of Tromsø MA thesis.
<https://hdl.handle.net/10037/238>
- Bhattacharya, Tanmoy. 1999. *The structure of the Bangla DP*. London: University of London dissertation.
- Bošković, Željko. 2005. On the locality of left branch extraction and the structure of NP. *Studia Linguistica* 59(1), 1-45. <https://doi.org/10.1111/j.1467-9582.2005.00118.x>
- Bošković, Željko. 2008. What will you have, DP or NP? *Proceedings of the Northeast Linguistic Society* 37(1), 101-114. Amherst, MA: GLSA Publications.
- Bošković, Željko. 2012. On NPs and clauses. In G. Grewendorf & T.E. Zimmerman, eds., *Discourse and grammar: From sentence types to lexical categories*, 179-242. Boston, MA: DeGruyter Mouton. <https://doi.org/10.1515/9781614511601.179>
- Bošković, Željko. & Jon Gajewski. 2011. Semantic correlates of the DP/NP parameter. *Proceedings of the Northeast Linguistic Society* 39(1), 121-134. Amherst, Ma: GLSA Publications.
- Bowers, John. 1991. The syntax and semantics of nominals. In *Cornell University Working Papers in Linguistics* 10: 1-30. (Proceedings of the First Semantics and Linguistic Theory Conference.) Department of Modern Languages and Linguistics, Cornell University, Ithaca, NY.
- Bruening, B., (2020) "The head of the nominal is N, not D: N-to-D Movement, Hybrid Agreement, and conventionalized expressions", *Glossa: a journal of general linguistics* 5(1): 15. <https://doi.org/10.5334/gjgl.1031>
- Carstens, Vicki. 1991. *The morphology and syntax of determiner phrases in Kiswahili*. Los Angeles, CA: University of California dissertation.
- Carstens, Vicki. 1993. On nominal morphology and DP structure. In Sam Mchombo (ed.), *Theoretical aspects of Bantu grammar*. 151-182. Stanford, CA: Stanford University Press.
- Carstens, Vicki. 2008. DP in Bantu and Romance. In C. De Cat & K. Demuth, eds., *The Bantu- Romance connection: A comparative investigation of verbal agreement, DPs, and information structure*. 131-166. Amsterdam: John Benjamins.
<https://doi.org/10.1075/la.131.10car>
- Chacón, Dustin. 2012. Head movement in the Bangla DP. *Journal of South Asian Linguistics* 4, 3-24.
- Cheng, Lisa Lai-Shen. & Rita Sybesma. 1999. Bare and not-so-bare nouns and the structure of np. *Linguistic Inquiry* 30, 509-542.
<https://doi.org/10.1162/002438999554192>
- Chierchia, Gennaro. 1998. Reference to kinds across languages. *Natural Language Semantics* 6, 339-405. <https://doi.org/10.1023/A:1008324218506>

- Chomsky, Noam. 2005. Three factors in the language design. *Linguistic Inquiry* 36, 1-22. <https://doi.org/10.1162/0024389052993655>
- Cinque, Guglielmo. 2005. On Deriving Greenberg's Universal 20. *Linguistic Inquiry* 36(3), 315-332. <https://doi.org/10.1162/0024389054396917>
- Dasgupta, Probal. 1983. The Bangla classifier /Ta/, its penumbra, and definiteness. *Indian Linguistics* 44. 11–26.
- Dayal, Veneeta. 2012. Bangla classifiers: Mediating between kinds and objects. *Rivista di Linguistica* 24(2). 195–226.
- Dees, Joshua. 2020. Dholuo: Evidence of negative raising and sequence of Tense in an article-less language. Presentation at the Annual Meeting of the Linguistic Society.
- Despić, Miloje. 2011. *Syntax in the absence of determiner phrase*. Storrs, Connecticut: University of Connecticut dissertation. <https://www.proquest.com/docview/905841026>
- Fukui, Naoki. 1988. Deriving the differences between English and Japanese. *English Linguistics* 5, 249–270. <https://doi.org/10.9793/elsj1984.5.249>
- Fukui, Naoki & Margaret Speas. 1986. Specifiers and projection. *MIT Working Papers in Linguistics* 8, 128-172.
- Gajewski, Jon. 2007. Neg-raising and polarity. *Linguistics and Philosophy* 30, 289-328. <https://doi.org/10.1007/s10988-007-9020-z>
- Horn, L. 1978. Remarks on neg-raising. *Syntax and Semantics* 9, 129-220.
- Kusumoto, K. 2005. On the Quantification over Times in Natural Language. *Natural Language Semantics* 13, 317–357. <https://doi.org/10.1007/s11050-005-4537-6>
- Lakoff, R. 1969. A syntactic argument for negative transportation. *Proceedings of Chicago Linguistics Society* 5, 140-147.
- Li, A. 1998. Argument determiner and number phrases. *Linguistic Inquiry* 29, 693–702.
- Li, A. 1999. Plurality in a classifier language. *Journal of East Asian Linguistics* 8, 75–99. <https://doi.org/10.1162/ling.1998.29.4.693>
- Longobardi, G. 1994. Reference and proper names. *Linguistic Inquiry* 25, 609-665.
- Park, S. 2008. *Functional categories: The syntax of dp and DegP*. Los Angeles, California: University of Southern California dissertation.
- Progovac, L. 1998. Determiner Phrase in a language without determiners. *Journal of Linguistics* 34, 165-179. <https://doi.org/10.1017/S0022226797006865>
- Simpson, Andrew. 2005. Classifiers and dp structure in southeast Asian languages. In R. Kayne & G. Cinque, eds., *Handbook of comparative syntax*. 806–838. Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780195136517.013.0018>
- Stowell, Tim. 1993. *Syntax of tense*. Los Angeles, California: University of California MS thesis.
- Stowell, Tim. 1995a. The Phrase Structure of Tense. In J. Rooryck & L. Zaring, eds., *Phrase Structure and the Lexicon*. 277-291. Dordrecht: Kluwer. https://doi.org/10.1007/978-94-015-8617-7_10
- Stowell, Tim. 1995b. What is the meaning of the present and past tenses? In P.M. Bertinetto, V. Bianchi, J. Higginbotham, & M. Squartini, eds., *Temporal Reference: Aspect and Actionality Vol. 1: Semantic and Syntactic Perspectives*. 381-396. Rosenberg and Sellier.

- Syed, Saurov. & Andrew Simpson. 2017. On the DP/NP status of nominal projections in Bangla: Consequences for the theory of phases. *Glossa: A Journal of General Linguistics* 2(1), 1- 24. <https://doi.org/10.5334/gjgl.186>
- Talić, Aida. 2015. Adverb extraction, specificity, and structural parallelism. *Canadian Journal of Linguistics* 60, 417-445. <https://www.muse.jhu.edu/article/618397>
- Talić, Aida. 2017. Long-form and short-form prenominal adjectives are not reduced relative clauses in Bosnian/Croatian/Serbian. *Linguistic Inquiry* 48(1), 194-212. https://doi.org/10.1162/LING_a_00241
- Todorović, Neda. 2016. *On the presence/absence of TP: Syntactic Properties and Temporal Interpretation*. Storrs, Connecticut: University of Connecticut dissertation.
- Watanabe, Akira. 2006. Functional projections of nominals in Japanese: Syntax of classifiers. *Natural Language and Linguistic Theory* 24, 241–306. <https://doi.org/10.1007/s11049-005-3042-4>
- Willim, Ewa. 2000. On the grammar of Polish nominals. In R. Martin, D. Michaels & J. Uriagereka, eds., *Step by step*. 319-346. MIT Press.