

NOMINAL STRUCTURE IN HINDI-URDU

हिंदी-उर्दू में संज्ञा की संरचना

Hashmita Agarwal

April 2019

Senior Honours Thesis

Department of Linguistics, New York University

Advisor: Prof. Stephanie Harves

Second reader: Prof. Lucas Champollion

TABLE OF CONTENTS

Abstract	3
1 Introduction and Claims	4
1.1 Definiteness and bare nominals in Hindi-Urdu	6
2 No articles = No DP?	9
2.1 Bošković's NP/DP generalisations	10
2.2 Predictions made for Hindi-Urdu by Bošković's NP/DP generalisations	31
2.3 Summarising Bošković	32
3 Definiteness in the Hindi-Urdu Nominal	35
3.1 What is <i>-ko</i> doing on direct objects?	35
3.2 <i>ko</i> -marking and The Definiteness Scale	43
3.3 Definite Interpretations of Hindi-Urdu nominals	48
4 Functional projections in the Hindi-Urdu Nominal and Evidence for D°	59
4.1 D° in transitive genitives	59
4.2 Focus movement within the Hindi-Urdu DP	61
4.3 A new Hindi-Urdu nominal	66
5 Conclusion and open questions	67
Abbreviations used	69
References	69

Abstract

Since Abney (1987), nominals are commonly thought to be DPs crosslinguistically. Bošković, in a series of papers (2005; 2008a; 2008b; 2009; 2012; 2014), has proposed that languages that lack overt determiners also lack the DP layer in their nominals. In this thesis, I argue against Bošković's claim that no (in)definite articles means no DP in relation to Hindi-Urdu, a language that lacks articles. I claim that nominals in Hindi-Urdu pattern like those in English and other languages with overt determiners with regard to their syntactic properties—suggesting that D° must be present. I show that while the Hindi-Urdu bare nominal is felicitous in the same contexts that English definites are, purely semantic accounts of (in)definiteness are insufficient to account for various definiteness-marking strategies—like *ko*-marking—in the Hindi-Urdu morphosyntax. Finally, I propose a $D > Dem > (Focus) > Q > Num > Adj > N$ structure for the Hindi-Urdu nominal, based on the need for D° in transitive genitives, and definiteness-related blocking effects in DP and DemP during nominal-internal focus movement. I conclude that the lack of articles in Hindi-Urdu fails to translate to the lack of DP, and that definiteness in Hindi-Urdu must be accounted for in the morphosyntax.

1. Introduction and Claims

Hindi-Urdu has no definite or indefinite article. Nevertheless, bare nominals in Hindi-Urdu may act as arguments in a sentence, and receive definite or indefinite interpretations.

- (1) लड़की किताब पढ़ रही है।
ləɽki kɪtəb¹ pəɽʰ rəʃi ɦɛ
girl book read PROG Be.PRES
 ‘The girl is reading a/the book’

In (1), the subject *ləɽki* ‘girl’ is a bare nominal argument that receives a necessarily definite interpretation, while the object *kɪtəb* ‘book’ is also a bare nominal argument, but one that may receive a definite or indefinite interpretation. Due to the ability of a bare nominal argument in Hindi-Urdu to be interpreted definitely or indefinitely, Hindi-Urdu nominals have been argued to be ambiguous (Mohanan 1994) between definites and indefinites. The syntax and semantics literature on the structure of nominals in languages without articles, like Hindi-Urdu, is often concerned with the differences between languages with and without articles with regard to (i) functional projections within the nominal in syntax, and (ii) nominal interpretation in semantics.

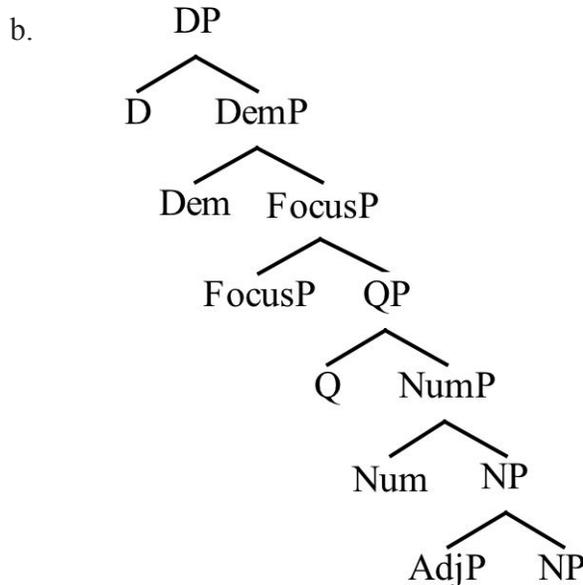
The presence of a (covert) DP in languages without overt articles has been argued both for (Franks and Pereltsvaig 2004; Pereltsvaig 2006; Pereltsvaig and Lyutikova 2015) and against (Bošković 2008a; Bošković 2008b; Bošković and Gajewski 2011, Bošković 2012). Additionally, the relationship between the structure of a nominal and its interpretation as definite or indefinite in a language that lacks determiners has also been explored with regard to Hindi-Urdu (Dayal 2004, Dayal 2018), Turkish (Ergelen 2018), and Lithuanian (Gillon 2015a, Gillon 2015b).

¹ Throughout this thesis, [t] and [d] represent coronal stops in Hindi-Urdu that are more dental than alveolar. More precisely, they are laminal denti-alveolar. I have omitted the ‘ ɽ ’ diacritic in transcribing these stops since they are not true dentals. It also bears noting that Hindi-Urdu has a phonemic contrast between the denti-alveolar plosives [t] and [d], and the retroflex plosives [ʈ] and [ɖ].

Hindi-Urdu—with its ‘ambiguously interpreted’ argumental bare nominals as shown in (1)—provides a suitable testing ground for looking into the possible structures and linked interpretations of bare nouns in languages without articles.

In this thesis, I examine the structure of the Hindi-Urdu DP, and its interpretation as (in)definite. In Sections 2 and 3, I survey the syntactic and semantic literature on nominal structure and interpretation—crucially Bošković (2008a; 2012), Bhatt & Anagnostopoulou (1996), Dayal (2004; 2018)—and apply it to Hindi-Urdu. Keeping in mind Kayne’s (1994) Antisymmetric approach,² Rizzi’s (1997) proposal for information structure in the clausal left periphery, and Aboh’s (2004) proposal for information structure in the nominal left periphery, I propose the following neutral order of elements, and structure for the Hindi-Urdu nominal in (2) in Section 4. Section 5 will conclude that Hindi-Urdu has a DP-layer, and that definiteness needs to be encoded for in the morphosyntax instead of considering it a purely semantic notion.

(2) a. D > Dem > (Focus) > Q > Num > Adj > N



² I follow Antisymmetry in that all my structures have a Specifier-Head-Complement order, and branching and movement are only leftward.

My arguments for the structure in (2) come from the varying behaviour of each functional projection with respect to possible word orders and extraction out of the nominal. In particular, I argue that DP and DemP do not allow lower inter-nominal positions to be extracted out of or fronted within the nominal during information structure-based movement. I also argue that the Hindi-Urdu nominal may project a FocusP between DemP and QP, and that focused elements may move to the specifiers of this projection.³ These arguments are supported by applying Bošković's (2008a, 2008b, 2012) NP/DP tests to Hindi-Urdu, which show it to pattern with DP languages rather than NP languages—suggesting that the robust definiteness marking strategies in the syntax can indicate the presence of D° or D°-like projections.⁴

1.1 Definiteness and bare nominals in Hindi-Urdu

The most widely-accepted analysis of the phenomenon of definiteness in semantics began with treating the English definite and indefinite articles as ‘two primitive building blocks of linguistic structure with fixed and distinct meanings’ that encode definiteness and indefiniteness respectively (Heim 2011:996). Since the works of Abney (1987), these (in)definite determiners have been analysed as D heads that take NPs as their complement. The meanings of the abstract features realised by *the* and *a* have been hotly contested since Frege's and Russell's times, and have given rise to a definite-indefinite contrast in contemporary formal semantics.

Abbott (2004) claims that several syntactic-semantic properties may be involved in ‘expressing the essence of definiteness’, namely uniqueness, familiarity, strength and specificity.

³ The argument for FocusP includes that clause that these projections may not occur above DP or DemP, because it is impossible to have topicalised or focused constituents that have moved past a demonstrative in DemP, or a possessive in Spec,DP.

⁴ Definiteness-marking by means other than (in)definite articles, that is. Examples of these strategies include focus movement within the nominal, word order, topicalisation etc.

While a perfect definition of the notion of definiteness is yet to be established, semanticists agree that there are semantic (and pragmatic) contrasts between sentences with definite nominals and those with indefinite nominals. According to Heim (2011), definite nominals differ from indefinite nominals with respect to semantic type, uniqueness, and presuppositionality in the standard approach to their semantics.⁵ In the aforementioned approach, definite nominals carry existence and uniqueness presuppositions that indefinites do not. Additionally, definites can denote functions of type $\langle et, \langle et, t \rangle \rangle$ (like other generalised quantifiers such as *every*, *no*) or of type $\langle \langle et \rangle, e \rangle$, while indefinites can only be of the generalised quantifier type.⁶

An immediate challenge to the standard approach's correspondence between a lexicalised (in)definite article and the semantic features encoded by it is the existence of languages without articles. Although articles formed the basis for both Frege and Russell's notions of definiteness, a fair number of languages like Russian, Korean, Lithuanian, Nahuatl, Hindi-Urdu (and most Indo-Aryan languages) lack definite as well as indefinite articles. In fact, nearly half of the 620 languages surveyed by Dryer (2013a) lack a specialised definite article/affix like *the*, and over 75% of the 534 languages surveyed by Dryer (2013b) have no specialised indefinite article/affix like *a*.⁷

Despite their lack of articles, these languages can still have nominals that are interpreted as either definite or indefinite. Considering the lack of articles and possibilities of interpretation, how different are the structures of nominals in the absence of articles? Given that (in)definite

⁵ Heim (2011) explains this 'standard approach' in her article—it involves a Fregean semantics for definites, and an existential Russellian semantics of indefinites.

⁶ Note that this is Heim's (2011) description of Fregean and Russellian approaches to definites and indefinites, rather than her own theory of (in)definites. In fact, in Heim's (1982) theory, she argues against the claim that indefinites can only be of type $\langle et, \langle et, t \rangle \rangle$.

⁷ Languages without 'specialised' definite and indefinite articles/affixes include those that use demonstratives as definite articles and the numeral 'one' as the indefinite article.

determiners are traditionally housed in the D layer, do languages without articles have a null D? Do nouns obligatorily move to D? Or do languages without articles lack this layer altogether? One prevailing view in the generative tradition is that at least some nominals in all languages project DPs—like proper nouns and pronouns. However, some have argued that the lack of DP follows from the lack of articles in a language (Bošković 2008a, 2008b, 2012; Despić 2011; Willim 2000).

If the no-DP claim is true, how do these languages without articles account for the differences in the denotations of definite and indefinite nominals without having lexical counterparts of (in)definite articles? Common lexical definiteness-marking strategies may include using the equivalent of demonstratives like *this/that* in place of *the*, or using the unstressed numeral *one* in place of *a*. The nominal may also be left bare (such as ‘dog’ as opposed to ‘*the* dog’ or ‘*a* dog’); these strategies vary cross-linguistically. Hindi-Urdu is an example of a language where all of the aforementioned strategies to separate definites from indefinites may be implemented.

The puzzle regarding Hindi-Urdu nominal structure is not only whether there is a D layer in the nominal, but also what other functional projections may be present in the nominal structure. As for bare noun interpretation, the relevant question is that if bare nominals can be used in Hindi-Urdu where something of the form *the N* or *a N* may be used in English, is the Hindi-Urdu bare nominal definite or indefinite (or something else)? Additionally, does nominal interpretation follow from syntactic structure and operations, or must they be independently defensible? I will argue for the presence for D° in the Hindi nominal, based on morphosyntactically encoded definiteness-related blocking effects in DemP and DP, in the

following sections. I will also argue for a $D > \text{Dem} > (\text{Focus}) > Q > \text{Num} > \text{Adj} > N$ order of projections within the nominal.

2. No articles = No DP?

Recall that Hindi-Urdu—much like Japanese, Russian, Serbo-Croatian, Mandarin etc.—lacks lexical definite and indefinite articles like *the* and *a* in English. Researchers like Bošković (2008a; 2008b), Bošković and Gajewski (2011), Bošković and Şener (2014) consider the absence of articles to correlate with the absence of DPs in the language. In other words, they think that nominals in languages without articles fundamentally differ in structure in that nominals in languages without articles are NPs, and those with articles are DPs. Others such as Pereltsvaig (2006), Pereltsvaig and Lyutikova (2015) think that at least some nominals in languages without articles are smaller than DPs, and that other nominals are DPs.

The viability of the strong version of Bošković’s (2008) hypothesis—that all languages without articles have no DPs—has already been questioned in the literature by researchers working on different languages without articles (e.g. Gillon 2015, Norris 2018, Jeong 2016). However, some researchers think a weaker version of his NP/DP typology stating that *some* languages without articles do not have DPs is borne out well by patterns in many of these languages (Simpson and Syed 2017, Syed 2015). Nevertheless, within the generative tradition, one of the dominant views about nominal structure crosslinguistically is that all languages have DPs. It follows from Chomsky’s (2001:2) *Uniformity Principle*⁸ in Derivation by Phase that if languages with articles have DPs, then languages that lack them should have DPs too.

⁸ The *Uniformity Principle* (Chomsky 2001:2) is:

In the absence of compelling evidence to the contrary, assume language to be uniform, with variety restricted to easily detectable properties of utterances.

If Bošković is right, Hindi-Urdu should come out as an NP language according to the NP/DP parameter. However—as multiple researchers have shown for other languages without articles, such as Tatar (Pereltsvaig and Lyutikova 2015), Uzbek (Türker 2019), Bangla (Simpson and Syed 2017), Estonian (Norris 2018), and Lithuanian (Gillon 2015)—Hindi-Urdu vacillates between an ‘NP language’ and ‘DP language’ depending on the generalisation. Like Syed (2015) has suggested for Bangla, robust definiteness-marking patterns through strategies other than determiners, associated with a specific position in nominal structure, can trigger the development of DP structure in languages without articles. The section below will detail Bošković’s NP/DP generalisations and show that multiple testable criteria ‘incorrectly’ classify Hindi-Urdu as a DP language.

2.1 Bošković’s NP/DP generalisations

(a)-(u) below are generalisations proposed by Bošković (2005; 2008; 2012) about the differing behaviour of nominals in languages with and without articles, in order to argue for a fundamental difference in their nominal structures.

- a. Only languages without articles may allow left-branch extraction (LBE) out of NPs. (LBE is not allowed in Hindi-Urdu.)
- b. Only languages without articles may allow adjunct extraction from NPs. (Adjunct extraction is allowed in Hindi-Urdu.)
- c. Only languages without articles may allow scrambling. (Hindi-Urdu allows some kinds of scrambling, usually with semantic effects.)
- d. Multiple *wh*-fronting languages without articles do not show superiority effects. (Will not be tested, Hindi-Urdu is a *wh*-in-situ language.)⁹
- e. Only languages without articles may allow clitic doubling. (Hindi-Urdu does not have pronominal clitics.)

⁹ Hindi-Urdu optionally allows *wh*-fronting without superiority effects during topicalisation or focus movement, but it is not obligatory. Crucially, Hindi-Urdu does not require multiple *wh*-elements in the same sentence to be fronted, unlike in Slavic.

- f. Head-internal relatives display island sensitivity in languages without articles. (Hindi-Urdu has no head internal relatives.)
- g. Number morphology may not be obligatory only in NPs of languages without articles. (Hindi-Urdu has obligatory number morphology.)
- h. Polysynthetic languages have no articles. (Hindi-Urdu is not a polysynthetic language.)
- i. Only languages without articles allow the majority reading of MOST. (Hindi-Urdu only allows the majority reading.)
- j. Languages without articles disallow neg-raising, those with articles allow it. (Hindi-Urdu allows neg-raising.)
- k. Negative constituents must be marked for focus in languages without articles. (Hindi-Urdu negative constituents are not focused.)
- l. Only languages without articles may allow subject reflexives. (Hindi-Urdu does not allow subject reflexives.)
- m. The negative concord reading must be absent with multiple complex negative constituents only in negative concord languages with articles. (Hindi-Urdu is not a negative concord language.)
- n. Elements undergoing focus movement are subject to a verb adjacency requirement only in languages with articles. (Hindi-Urdu prefers focused constituents to be verb-adjacent.)
- o. Radical pro-drop may be possible only in languages without articles. (Hindi-Urdu allows radical pro-drop.)
- p. Inverse scope for S-O is unavailable in languages without articles. (Inverse scope is available in Hindi-Urdu.)
- q. Possessors may induce an exhaustivity presupposition only in languages with articles. (No exhaustivity presupposition is induced in Hindi-Urdu possessors.)
- r. The phenomenon of sequence of tenses is found only in languages with articles. (A sequence of tense-like phenomenon may be found in Hindi-Urdu.)
- s. Second position clitic systems are found only in languages without articles. (Hindi-Urdu has no pronominal clitics.)
- t. Obligatory numeral classifier systems are found only in languages without articles. (Hindi-Urdu has no numeral classifiers).

- u. Languages without articles don't allow transitive nominals with two genitives.
(Hindi-Urdu allows adnominal genitives.)

While generalisations like d, e, f, h, m, s, and t are untestable in Hindi-Urdu due to it lacking those properties, the rest of the NP/DP generalisations are tested on Hindi-Urdu in what follows.

- a. *Only languages without articles may allow left-branch extraction out of NPs.*

Bošković (2008a) explains that languages vary regarding whether they allow left branch extraction (henceforth LBE), which refers to the ability to extract and front the leftmost elements from the nominal domain, like the demonstrative *that* in (3a). He shows that in Slavic only languages without articles like Russian, Polish, Czech allow LBE. Bulgarian and Macedonian, the only Slavic languages with articles, do not allow LBE. (3a) and (3b) below show that Serbo-Croatian—a language that lacks articles—allows LBE, but Bulgarian does not.

- (3) a. Ta_i je $vidio$ [_{NP} t_i $kola$]
 that is seen car
 'That car, he saw' (Serbo-Croatian, Bošković 2005:3)

- b. * $Novata_i$ $prodade$ $Petko$ [_{DP} t_i $kola$].
 new-the sold Petko car
 'The new car, Petko sold.' (Bulgarian, Bošković 2005:4)

Bošković ties the permissibility of LBE to the lack of D° in Serbo-Croatian, and hence to the lack of articles. He claims that languages like Bulgarian do not allow LBE because it is blocked by D°, which is present owing to the presence of articles. However, in (4a) and (4b), we see that LBE is not permitted in Hindi-Urdu, despite it being a language without articles.

- (4) a. मैंने [_{DP} मीठे आम] खाए।
 $mɛː-ne$ [_{DP} $miːtʰe$ $aːm$] $kʰaːje$
 I-ERG sweet.Pl mango.Pl eat.PERF
 'I ate sweet mangoes'

- b. * मीठे मैंने [DP t_i आम] खाए।
 *miːtʰe_i mɛː-ne [DP t_i aːm] kʰaːje
 sweet I-ERG mango eat.PERF
 ‘*Sweet, I ate mangoes’

It is clear from (4b) that Bošković’s correlation of the possibility of LBE with the lack of D° and lack of articles does not hold for Hindi-Urdu. It must be noted, however, that many of Bošković’s generalisations—including the one above—are unidirectional, which is to say that Hindi-Urdu not allowing LBE would not necessarily challenge its status as an NP language, according to him.

b. Only languages without articles may allow adjunct extraction from NPs.

To show that languages with articles do not allow adjunct extraction, Bošković cites Chomsky’s (1986) example from English, repeated as (5) and (6) below.¹⁰

- (5) Peter met [_{NP} girls from this city]
 (6) */?From which city_i did Peter meet [_{NP} girls t_i] ?

Hindi-Urdu would not permit adjunct extraction in this particular case, given that it uses a possessive construction like ‘this city’s girls’ rather than ‘girls from this city’. However, different examples from Hindi-Urdu, such as (7) and (8) below, show that adjunct extraction might be possible in Hindi-Urdu.

- (7) मैंने इस विषय पर किताब पढ़ी।
 mɛː-ne [DP [Is uɪʃəj pər] kɪtəb] pəɽʰi
 I-ERG **this topic on** book read.PERF
 ‘I read a book on this topic’

¹⁰ Some native speakers of American English found the sentence in (6) marginally acceptable. I will not be pursuing an explanation of the availability of adjunct extraction in English for some speakers.

(8) किस विषय पर तुमने किताब पढ़ी ?

[kɪs ʋɪʃaj pəɾ]_i tʊm-ne [_{DP} t_i kɪtab] pəɾʰi?

which topic on 2.sg-ERG book read.PERF

‘On which topic did you read a book?’¹¹

While the aforementioned examples show the possibility of extracting out of adjuncts in Hindi-Urdu, it is unclear if the lack of articles is truly responsible for allowing LBE or adjunct extraction. Syed and Simpson (2017, henceforth S&S 2017), who assume that DPs are phases, show that Bošković’s generalisations (a) and (b) are based on the premise that the DP immediately dominates NP. Bošković’s (2005) argument for adjunct extraction being banned in languages without articles is as follows. If DPs are phases, then anything extracted from the DP must first move to Spec,DP, given the *Phase Impenetrability Condition* in Chomsky (2001). If the order of elements within the nominal is [_{DP} D [_{NP} AdjP [_{NP} N]]], then moving the AdjP to Spec,DP would violate anti-locality, since a phrasal boundary is not crossed.

S&S (2017) argue against Bošković (2005), showing that if any functional projections like NumP, QP, FocusP etc. are posited between DP and NP, then anti-locality would not be violated. Then, something other than the size of the nominal may be responsible for tests like LBE and Adjunct Extraction being impossible in English and other DP languages. In either case, the fact that Hindi-Urdu seems to allow Adjunct Extraction but not LBE seems in itself to show that arguing on the basis of anti-locality may not be fruitful in predicting the structure of the Hindi-Urdu nominal.

¹¹ This English gloss of the example given in (8) is also grammatical. The case of English potentially allowing adjunct extraction in two examples, (6) and (8), will not be pursued, but it is clearly a problem for Bošković’s NP/DP parameter.

c. Only languages without articles may allow scrambling.

In order to claim that only languages without articles allow scrambling, Bošković (2004) starts by adopting a restrictive definition of scrambling to prevent including DP languages known for scrambling, such as German. The sort of scrambling he describes is long distance scrambling outside finite clauses that is semantically vacuous (according to him), like in Japanese (Bošković 2009). While Bošković’s sense of scrambling manages to account for a DP language having behaviour similar to scrambling, it again creates issues for languages like Hindi-Urdu (and Bangla, as Simpson and Syed 2017 show). Hindi-Urdu and Bangla both have short distance scrambling as shown below in (10), and long distance scrambling like in (11). In Hindi-Urdu, both these kinds of scrambling are more akin to German in that semantic effects are inevitable.

- (9) राम ने कहा कि सीता ने **महंगी किताब को** खरीदा।
raːm-ne kəha [_{CP} *ki siːta-ne* [_{DP} *mɛhɛŋgi kɪtab-ko*] *kʰarida.*]
 Ram-ERG said that Sita-ERG **expensive book-ACC** bought.PERF
 ‘Ram said that Sita bought the expensive book’

- (10) राम ने कहा कि **महंगी किताब को** सीता ने खरीदा।
raːm-ne kəha [_{CP} *ki* [_{DP} *mɛhɛŋgi kɪtab-ko_i*] *siːta-ne t_i kʰarida.*]
 Ram-ERG said that **expensive book-ACC** Sita-ERG bought.PERF
 ‘Ram said that Sita bought the expensive book’

- (11) ? **महंगी किताब को** राम ने कहा कि सीता ने खरीदा।
 ?[_{DP} *mɛhɛŋgi kɪtab-ko_i*] *raːm-ne kəha* [_{CP} *ki siːta-ne t_i kʰarida.*]
expensive book-ACC Ram-ERG said that Sita-ERG bought.PERF
 ‘The expensive book, Ram said that Sita bought (it).’

(9) above shows the basic unscrambled order of a Hindi-Urdu sentence. (10) shows short-distance scrambling, which is permitted, but there may be a contrastive reading, indicating semantic effects. For example, (10) may be used to clarify that it is SITA, not Anita, who saw the expensive book. Similarly, while some speakers find (11) unacceptable, those who accept it do so only in the case of a contrastive reading where ‘expensive book’ could be contrasted with

‘cheap magazine’. The Japanese sort of scrambling, which Bošković claims is semantically vacuous, is not possible in (10) or (11). Given that (9), (10), and (11) do not have the same meaning, (10) and (11) may be better analysed as information structure-related movement, rather than the long-distance scrambling that Bošković talks about.¹² Since Hindi-Urdu lacks long distance scrambling outside finite clauses that is semantically vacuous, this generalisation about scrambling in languages without articles cannot apply to it.

g. Number morphology may not be obligatory only in NPs of languages without articles.

Bošković (2012) makes this generalisation based on a posited correlation between obligatory number morphology and the availability of articles, without going into much detail. He classifies Hindi-Urdu as an NP language with no obligatory number morphology according to this generalisation without giving examples. However, the Hindi-Urdu translation in (13) of his Japanese sentence, repeated below in (12), does not have the desired plural interpretation in the absence of number morphology.

(12) *susumu-ga hon-o yonda.*
 Susumu-NOM book-ACC bought
 ‘Susumu bought a/the book/books.’ (Japanese)

(13) सुसुमू ने (एक) किताब (को) खरीदा।
susumu-ne (ek) kItab(-ko) k^harida
 Susumu-ERG (one) **book**(-ACC) bought.PERF
 ‘Susumu bought a specific / (the) book.’
 Not available: ‘Susumu bought (the) books.’ (Hindi-Urdu)

In order to receive the desired plural interpretation, the nominal ‘book’ in (13) would have to be affixed with the plural marker *-ē* or *-ō*,¹³ showing that Hindi-Urdu has obligatory number

¹² Bhatt (2003) claims that scrambling can be either object shift, topicalisation, or rightward movement, depending on the order of arguments with respect to the verb.

¹³ The choice in plural marker depends on whether the nominal is morphologically marked for case.

morphology. Nonetheless, Bošković's (2012) system allows for NP languages with obligatory number morphology (just not DP languages with optional number morphology), so Hindi-Urdu could still be an NP language under this diagnostic.

i. Only languages with articles allow the majority reading of MOST.

For Hindi-Urdu, Bošković & Gajewski's (2011) generalisation above would predict that it does not allow the majority reading of MOST.¹⁴ B&G take MOST to be the morphological superlative -EST of a quantity expression MANY (2011). They state that MOST is cross-linguistically associated with either the majority reading or relative reading. According to B&G, the majority reading of MOST, 'more than half', is obtained when -EST undergoes Quantifier Raising (henceforth QR) to a nominal-internal site via NP adjunction. The relative reading, 'more than any contextually relevant alternative', is obtained when -EST undergoes QR to a higher position outside the nominal domain. B&G further assume that NP is an argumental category in languages without articles, so adjunction to it should be banned, and -EST must raise to an external site—making only the relative reading possible in these languages.

B&G give an example from Slovenian to show that MOST only allows the relative reading in one language without articles. However, when the same sentence is translated to Hindi-Urdu, as in (14) below, it has a majority reading unlike what they predict for languages without articles.

(14) सब से ज़्यादा / ज़्यादातर लोग बीयर पीते हैं।

səb-se-zja:da / zja:datər lo:g bi:jər pi:te hẽ.

all-than-more / most people beer drink be.PRES

'Most people drink beer'='More than half the people drink beer'

Less natural reading: 'More people drink beer than any other beverage.'

¹⁴ Or that it only allows the relative reading of MOST.

It is worth noting that in a sentence like (14), a relative reading may be forced, but it requires ‘beer’ to be focused, which B&G say is the case in German and English too. According to B&G’s logic, the availability of a majority reading in Hindi-Urdu is a problem for this generalisation. The majority reading of MOST in the Hindi-Urdu sentence in (14) suggests that NP adjunction is permitted, so Hindi-Urdu must be a DP language. In the availability of majority and relative readings of MOST, Hindi-Urdu patterns exactly like English and German, suggesting yet another rift in Bošković’s NP/DP classification.

j. Languages without articles disallow neg-raising, those with articles allow it.

Neg(ative)-raising involves a negative marker in a matrix clause negating the embedded clause. The neg-raising generalisation above predicts Hindi-Urdu to be a DP language. According to B&G, the best diagnostic to test neg-raising is the long distance licensing of strict Negative Polarity Items (NPIs),¹⁵ which they claim is allowed in DP languages like English with a verb like *believe*, but not in NP languages like Serbo-Croatian. Consider the Serbo-Croatian examples in (15a-c) below.

(15) a. *Marija ju je posjetila **najmanje dvije godine**.

‘Mary visited her **in at least two years**.’

b. Marija je nije posjetila **najmanje dvije godine**.

‘Mary has not visited her **in at least two years**.’

c. *Ivan ne vjeruje [da ju je Marija posjetila **najmanje dvije godine**.]

‘Ivan does not believe [that Mary has visited her **in at least two years**.]’

(Serbo-Croatian, Bošković & Gajewski 2011:7-8)

(15a-b) show that *in at least two years* is a strict NPI in Serbo-Croatian, and (15c) shows that the NPI cannot be licensed in neg-raising contexts. However, Hindi-Urdu seems to allow neg-raising

¹⁵ Negative polarity items are words/phrases such as ‘anything’, ‘ever’ and ‘in ages’, that are only licensed in negative (or free choice) contexts. For more on NPIs, see Giannakidou (2011).

with the strict NPI *ek b^{hi}*: ‘even ONE’, where *ONE* necessarily receives a focus interpretation.

Consider the examples shown in (16a-c) below:

(16) a. *कमरे में एक भी लड़का है।

**kəmre-mē ek b^{hi}: ləɽka hɛ:*
 room-LOC **ONE even** boy be.PRES.sg
 ‘*There’s even ONE boy in the room.’

b. कमरे में एक भी लड़का नहीं है।

kəmre-mē ek b^{hi}: ləɽka nahī hɛ:
 room-LOC **ONE even** boy Neg be.PRES.sg
 ‘There isn’t even ONE boy in the room.’

c. [इवान नहीं मानता है [_{CP} कि कमरे में एक भी लड़का है]]।

[*iʋan nahī ma:nta: hɛ:* [_{CP}*ki kəmre-mē ek b^{hi}: ləɽka hɛ:*]]
 Ivan Neg believe be.PRES.sg that room-LOC **ONE even** boy be.PRES.sg.
 ‘Ivan doesn’t believe that there’s even ONE boy in the room.’

(16a-b) assert the status of *ek b^{hi}*: as a strict NPI in Hindi-Urdu, because it is only licensed under negation in (16b), and is impossible in the affirmative context in (16a). (16c) confirms that a negative marker in the matrix clause can negate the embedded clause, given that the strict NPI in the embedded clause is licensed. Thus, (16a-c) show that the lack of articles fails to prevent the construction of neg-raising predicates, unlike what B&G hypothesise based on Serbo-Croatian. Once again, Bošković’s NP/DP parameter undesirably makes Hindi-Urdu and languages with articles pattern alike, and predicts that Hindi-Urdu has DPs.

k. Negative constituents must be marked for focus in languages that lack articles.

Bošković (2012) states that in languages lacking articles, negative constituents like ‘nobody’ must have overt focus morphology in the form of focus markers like *even*, *also*, or *too*. To illustrate this generalisation, he gives an example of the structure of ‘no one’ and ‘anyone’ in Serbo-Croatian, repeated in (17a-b) below.

- (17) a. *n* + *i* + *ko* b. *i* + *ko*
 Neg + even + who even + who
 ‘No one’ ‘Anyone’
- (Bošković 2012:9)

Negative constituents in Hindi-Urdu, much like in Serbo-Croatian, are also morphologically complex. Similar to Serbo-Croatian, negative constituents in Hindi-Urdu are also expressed through NPIs licensed in the semantic scope of sentential negation.¹⁶ They are made up of what Lahiri (1998) has called a ‘syntactically frozen’ existential weak predicate like *ek* (‘one’), *koi:* (‘some’), *zəra:* (‘a little’), and the particle *b^{hi:}*. Lahiri (1998) glosses *b^{hi:}* in focused NPI contexts as *even*, and as *also* in other non-focused contexts. Crucially, NPIs formed using *b^{hi:}_{even}* are always focused in Hindi-Urdu, as (18a) shows, but other DPs that precede *b^{hi:}_{also}* do not receive a focus interpretation, as (18b) shows.¹⁷ Additionally, the negative constituent, in the form of the sentential negation morpheme *nəhĩ*, is not marked for focus:

- (18) a. **कोई (भी) नहीं** आया। b. **राम भी** आया।
KOI:-b^{hi:} *nəhĩ* *a:ja:* *ra:m-b^{hi:}* *a:ja:*
SOMEONE-(even) Neg come.PERF **Ram-also** come.PERF
 ‘ANYONE didn’t come=No one came’ ‘Ram also came’

While Hindi-Urdu does allow a morpheme corresponding to *even* to form some negative constituents, (18b) shows that it is unclear if that morpheme, *b^{hi:}*, is indeed a focus marker because it does not always necessitate a focused interpretation on the preceding DP. Additionally, the morpheme *b^{hi:}_{even}*, like in the negative constituent in (18a), is frequently omitted in colloquial speech, making the necessity of focus morphology in Hindi-Urdu negative constituents even more dubious.

¹⁶ Negation in Hindi-Urdu can license NPIs without linearly preceding them. That is, in the surface word order, negation can (and does) appear after the NPI.

¹⁷ *Also* is focus-sensitive in English, but Lahiri (1998) has claimed that the nominals that *b^{hi:}_{also}* follows are not focused. For me, as a native speaker of Hindi, the focusing of *ra:m* in (17b) leads to the interpretation ‘Even RAM came’, and the focused DP is the only difference between the interpretation of *b^{hi:}* as *also* or *even*. Clearly, there must be some difference in the focus sensitivity of *also* crosslinguistically.

Considering the differing structures and behaviour of negative constituents in Hindi-Urdu and Serbo-Croatian, it is unclear if these languages without articles pattern alike with regard to this generalisation. While focus is necessary for NPI-licensing with $b^{ti}_{:even}$ in Hindi-Urdu, $b^{ti}_{:even}$ itself is not necessary in the expression of negative constituents. Another problem with this generalisation is that Bošković (2012) fails to explain how the presence of a focus particle in negative constituents is related to the presence/absence of articles, or to nominal structure. The possibility of focus morphology in negative constituents, or constituents licensed by negation, could then be posited as a property common to many languages that lack articles, but it is still unclear what role the purported lack of DP plays here.

1. Only languages without articles may allow subject reflexives (Hindi-Urdu does not have subject reflexives).

Bošković (2012) proposes that languages that NP languages, rather than DP languages, also lack a TP projection. He notes a generalisation by Despić (2011) that subject reflexive constructions are allowed only in languages that lack articles and also lack TP, citing Korean, Thai, and Tamil as examples. The reasoning behind this generalisation is as follows. According to Chomsky (2008), the binding domain for anaphors is closed by a TP that is dominated by (and gets its ϕ -features from) a CP. Despić (2011) draws parallels between DPs and CPs, and claims that CPs can only be phases and binding domains if they dominate TP. Similarly, he also claims that DP can only be a phase if it dominates PossP.

Many languages do not allow anaphors in subject position because of Condition A violations that arise from the anaphor being free, so Despić (2011) claims that in the case a language does allow subject anaphors, it is because of the lack of TP—which prevents CP from being a phase. If the TP/CP pair is absent, the binding domain for anaphors is not closed, and

they may be allowed in subject position. Despić's (2011) argument will not be fleshed out here, but it is clear from the ungrammaticality of an anaphor in the subject position in (19) that his argument does not apply to Hindi-Urdu.

- (19) टीना सोचती है कि वह / *खुद / *अपने आप निकलेगी।
 [tina socti hε [CP ki υo / *xʊd / *əpne-a:p nɪkleɡi]
 Tina think.f be.PRES.sg that 3.sg oneself 3.sg-self leave
 'Tina thinks that she/*herself/*herself will leave.'

Thus, the presence or absence of DP/TP in Hindi-Urdu cannot be predicted based on this generalisation, which is also unidirectional. Despić (2011)'s subject anaphor test would divide DP-less, TP-less languages without articles into two different categories; those that allow subject reflexives and those that disallow them. Hindi-Urdu would fall in the second category, if Despić (2011) and Bošković (2012) are right, and this test would be inconclusive.

n. Elements undergoing focus movement are subject to a verb-adjacency requirement only in languages with articles.

Bošković (2012) suggests this generalisation based on the presence of focus movement and verb-adjacency requirements for focused constituents in languages like Bulgarian, Basque, Hungarian, and Spanish. He gives contrastive focus examples from Bulgarian (has definite and indefinite determiners) and Serbo-Croatian (lacks definite and indefinite determiners) to show that the former requires the focused element to be verb-adjacent, while the latter does not.

The Hindi-Urdu examples in (20a-c) show that classifying Hindi-Urdu—a language that permits many word orders—into either a DP or NP language according to this generalisation would be difficult. The canonical order of a ditransitive in Hindi-Urdu is *S IO DO V*. However, in the case of focus, especially contrastive focus, the natural position for a focused argument in

Hindi-Urdu is always the left of the verb. (20a) shows that a direct object can appear next to the verb when focused, (20b) shows the same for the direct object, and (20c) for the subject.

(20) a. सीमा ने राहुल को मिठाई दी, दवाई नहीं।

si:ma-ne rahul-ko [mɪtʰa:i]_F di: , dāvai nāhī
 Sima-ERG Rahul-DAT **sweets** give.PERF **medicine** Neg
 ‘Sima gave SWEETS to Rahul, not medicine’.

b. सीमा ने मिठाई राहुल को दी, यश को नहीं।

si:ma-ne mɪtʰa:i [rahul-ko]_F di: , jəʃ-ko nāhī.
 Sima-ERG sweets **Rahul-DAT** give.PERF **Yash-DAT** Neg
 ‘Sima gave sweets to RAHUL, not (to) Yash’

c. राहुल को मिठाई सीमा ने दी, गीता ने नहीं।

rahul-ko mɪtʰa:i [si:ma-ne]_F di: , gita-ne nāhī.
 Rahul-DAT sweets **Sima-ERG** give.PERF **Gita-ERG** Neg
 ‘SIMA gave sweets to Rahul, not Gita’

However, Hindi-Urdu may allow focused constituents to stay in their original unmarked order. While the verb-adjacent position for focused constituents is strongly preferred, the IO in (20b) and Subject in (20c) may also receive focus interpretations with the canonical *S IO DO V* order. These in-situ focused nominals are possible only when none of the arguments are too heavy, so the distance between the focused element and its contrasted alternative is not too long. If any of the arguments are too heavy, the focused constituent is required to be verb-adjacent. It is safe to say that in the case of contrastive focus, speakers strongly prefer focused elements to be verb-adjacent. (21) below shows that in the case of multiple arguments being contrastively focused, the focused arguments (*S* and *IO*) stack up closer to the verb than the non-focused ones (*DO*) while also maintaining the *S IO DO V* order as far as possible.

(21) मिठाई सीमा ने राहुल को दी, यश ने अनिता को नहीं।

mɪtʰa:i [si:ma-ne]_F [rahul-ko]_F di: , jəʃ-ne ənita:-ko nāhī
 sweets **Sima-ERG Rahul-DAT** give.PERF **Yash-ERG Anita-DAT** Neg
 ‘SIMA gave sweets to RAHUL, not Yash to Anita’.

Like in generalisation (k), it is unclear how exactly the presence of DP in nominal structure is related to verb-adjacency requirements of focus movement in this generalisation. Since Bošković (2012) does not pursue an explanation of the same, it is unclear what one should make of Hindi-Urdu's strong verb-adjacency preference, but not requirement in all cases, for focused constituents. Based on how Bošković (2012) has framed this generalisation, Hindi-Urdu should still pattern as a DP language, given that at least some (heavy) nominals are required to be verb-adjacent when they are focused.

o. Radical pro-drop may be possible only in languages without articles. (Hindi-Urdu allows radical pro-drop.)

Bošković defines radical pro-drop as 'productive argumental pro-drop of both subjects and objects in the absence of rich verbal agreement', and claims that it is only possible in languages without articles (2012:10). According to him, radical pro-drop is different from the kind licensed by rich verbal morphology, as in Spanish where the verb is inflected for person and number, and only subjects can be dropped. By Bošković's definition, Hindi-Urdu is a radical pro-drop language because it allows subjects and objects of any person, grammatical gender, and number to be dropped, even when there is default masculine singular agreement morphology on the verb.

¹⁸ Radical pro-drop in Hindi-Urdu is most often seen in answers to yes–no questions, as seen in the question-answer pair in (22a-b), although it is possible in many contexts where discourse referents have already been established.

¹⁸ In Hindi-Urdu, verb agreement can occur with subjects or direct objects. Butt (2001) states the agreement pattern is as follows:

- If the subject is nominative, the verb agrees with it.
- If the object is nominative (and subject is non-nominative), then the verb agrees with the object.
- If both the subject and object are non-nominative, then the verb resorts to 'default' masculine singular agreement.

- (22) a. तुमने / उसने / हमने / उन्होंने प्रीया को गेंद दे दिया?
tʊm-ne / ʊs-ne / hʌm-ne / ʊnhõne prija-ko gẽd de dija: ?
 2.sg-ERG 3.sg-ERG 1.pl.ERG 3.pl-ERG Priya-DAT ball **give give.PERF**
 ‘Did you / (s)he / we / they give Priya the ball?’

- b. हाँ, दे दिया
hã, de dija:
 yes **give give.PERF**
 ‘Yes, (I/she/we/they) gave (it) (to her)’

(22a) and (22b) show that a subject of any person and number¹⁹ can be dropped, including when the verb does not agree with the subject or object. Hindi-Urdu does pattern with NP languages with regard to this generalisation, but Bošković (2012) again remains silent about how the presence or absence of D^0 in the nominal structure can license radical pro-drop.

Any possible explanation of the relationship between D^0 and radical pro-drop would also have to take into account that even languages like English may marginally allow radical pro-drop, like in the case of answers to yes–no questions. Consider the context and question-answer pair in (23) from a real-life linguistic exchange below.²⁰

- (23) a. ‘So did you email your boss back?’
 b. ‘Nah, never responded.’

If Bošković (2012) is right about only languages without articles allowing pro-drop, then the possibility of (22b) in English—however contextually limited it may be—would require an explanation. The ability to pro-drop in both, Hindi-Urdu and English, in at least some contexts, makes the possibility of any relationship between the presence of D^0 and unavailability of pro-drop even more uncertain.

¹⁹ And gender, which is not morphologically marked in Hindi-Urdu pronouns.

²⁰ This exchange happened on iMessage, so it indubitably raises many questions about the productivity of radical pro-drop in English, and about the differences in (informal) written and spoken language. However, the ability of the second interlocutor to respond with all arguments dropped in even one medium and/or register should be significant here.

p. Inverse scope for S-O is unavailable in languages without articles.

According to Bošković (2012), the inverse scope reading of (24) in (24b)—where *hər* (‘every’) scopes over *kIsi*: (‘some’)—is not allowed in the canonical word order for many languages.

- (24) **किसी विद्यार्थी को हर किताब मिली।**
kIsi: uIdʰja:rti:-ko hər kItab mIli:
Some student-DAT every book meet.PERF
 ‘Some student received every book’ ($\exists > \forall, ?\forall > \exists$)
- a. $\exists > \forall$: $\exists x$ [Student(x) \wedge $\forall y$ [Book(y) \rightarrow Receive(y, x)]] (Surface scope)
 ‘There is a student that received every single book’
- b. $? \forall > \exists$: $\forall y$ [Book(y) \rightarrow $\exists x$ [Student(x) \wedge Receive(y, x)]] (Inverse scope)
 ‘For every book, there is a student such that she received it’

To rephrase, in a Hindi-Urdu sentence when the word order is *S O V* as expected, Bošković would say that the subject quantifier necessarily has to scope over the object quantifier. Based on his claim about only surface scope being available in several languages like Persian, Turkish, Korean, and Bangla, Bošković (2012) says that inverse scope is impossible in any language that lacks articles. In Hindi-Urdu, the surface scope reading in (24a) is undoubtedly the most natural reading, and for some speakers, the only available reading. However, many (monolingual) speakers of Bombay Hindi did report the kind of scope ambiguity seen in the English translation of (24) for Hindi too, while acknowledging that (24a) is the more natural reading. Perhaps the availability of many word orders in Hindi-Urdu to express the same proposition has to do with the ability of some speakers to allow an inverse scope reading like in (24b). The judgments of the speakers who allow the reading in (24b) parallel those of English speakers, who generally also consider the natural reading to be (24a), but claim (24b) to be acceptable in context.

The speakers who do allow (24b) in Hindi-Urdu challenge Bošković’s (2012) claim that inverse scope is entirely unavailable in languages without articles. Furthermore, the connection

between the unavailability of scope and absence of D^0 is unclear in this case too. Native speakers of some Indo-Aryan languages without articles—namely Sindhi and Marwari—did not allow inverse scope readings of the equivalents of (24b) whatsoever, while speakers of Marathi and Gujarati did. These varying results about the permissibility of inverse scope readings in different Indo-Aryan languages and dialects, all of which lack articles, suggests that there must be something other than nominal structure at play here.

q. Possessors may induce an exhaustivity presupposition only in languages with articles.

Bošković's (2012) claim that possessors may induce an exhaustivity presupposition only in languages with articles is illustrated in (25a-c) below.

(25) a. Ram's three tunics

b. राम के तीन कुर्ते।

ra:m-ke ti:n kʊrte

Ram-GEN.pl three tunic.pl

'Three tunics of Ram's'

c. राम के तीनो कुर्ते...

ra:m-ke ti:n-o kʊrte

Ram-GEN.pl three-PRONOM tunic.pl

'Ram's three tunics'

According to Bošković, (25a) presupposes that Ram has exactly three tunics. However, the Hindi-Urdu nominal in (25b), in and of itself, has no such exhaustivity presupposition. In other words, (25b) in Hindi-Urdu allows for Ram to have tunics other than the three at issue, and roughly translates to 'Three tunics of Ram's', which also lacks the exhaustivity presupposition unlike (25a). Based on the differences in interpretation between (25a) and (25b), Bošković (2012) claims that only possessors in languages with articles are able to introduce the presuppositions 'Ram has at least three tunics' and 'Ram has no more than three tunics'. While

(25b) would surely allow a case where Ram had exactly three tunics, it does not presuppose it, and allows Ram to have more than three. Lyons (1999) suggests that the DP projection is the locus for such exhaustivity presuppositions, strengthening Bošković's argument for only languages with articles having them. However, in (24c), when the pronominaliser *-o* or *-no* is suffixed to 'three', the exhaustivity presupposition is induced in Hindi-Urdu as well, just like in English.

Perhaps (25c) is an unfaithful translation of the English sentence in (25a), since it requires adding the extra pronominaliser morpheme. In that case, Hindi-Urdu unambiguously comes out as an NP language, according to this generalisation (and this generalisation only). It is also possible that the nominal in (25b) is smaller than a DP, but larger than a NP, and that DP-hood is conferred to the nominal in (25c). Alternatively, it could be the case that some other projection is the locus for exhaustivity presuppositions in languages without articles, since the pronominaliser that triggers the exhaustivity presupposition seems to be in a lower nominal-internal position than DP.

r. The phenomenon of sequence of tenses is found only in languages with articles.

Consider the examples in (26a-d):

(26) a. John believed that Mary was ill. (Non-past reading, anteriority reading)

b. जौन मानता था की मैरी बीमार थी।

John believe be.PAST.sg that Mary ill **be.PAST.sg.f**
 'John believed that Mary was ill'

(Anteriority reading: the time of Mary's illness precedes the time that John held the belief)

c. John believed that Mary is ill. (Double access reading only)

d. जौन मानता था की मैरी बीमार है।

John believe be.PAST.sg that Mary ill **be.PRES.sg.**
 'John believed that Mary is ill'

(Non-past reading: the time of Mary’s illness overlaps with the time that John held the belief)
 In (26a), there are two readings. The first, non-past reading²¹ is that John, at a particular moment in the past, held a belief that ‘Mary is ill’ in that moment. The second reading of (26a) is the anteriority reading, which suggests that John, at some point in the past, held the belief ‘Mary was ill’ at some time before he formulated that belief. (26c), on the other hand, does not have two readings. It can only have a double access reading, meaning that the time of Mary’s illness includes the time that John has held the belief about Mary’s illness, and the time of (26c) being uttered. (26a) and (26c) show a Sequence-of-Tense pattern, which Bošković (2012) claims is impossible in languages without articles. The Hindi-Urdu sentences (26b), and (26d), at first glance, seem to have only the anteriority and non-past readings respectively, like Bošković (2012) says is the case for the Serbo-Croatian equivalents.

However, with an additional context introduced, (26b) seems to allow both, the non-past and anteriority readings. The context and two interpretations of (26b) are given below in (26e).

[Context: Someone rephrases what John said about his initial reaction to Mary being ill, and his reaction to Mary’s good health now].

(26) e. **जॉन मानता था कि मैरी बीमार थी,** [पर वह जानता था कि वह जल्दी ठीक हो जाएगी।]

ʃɔn ma:nta: tʰa: ki mɛ:ri bɪma:r tʰi:...

John believe be.PAST.sg that Mary ill be.PAST.sg.f

...[*pər ʋo ʃa:nta tʰa: ki ʋo ʃəldi: tʰi:k ho ʃa:egɪ*]

but 3.sg. know be.PAST.sg that 3.sg quickly well be go.FUT.f

‘John believed that Mary was ill, [but he knew she would be well in no time.]’

(Non-past reading or anteriority reading)

It is clear from (26e)—set up in a context—that the interpretation of (26b) is not as straightforward as it initially seems.²² In Hindi-Urdu, (26e) can be interpreted as having a

²¹ See Sharvit (2003) for more on the differences between the anteriority, non-past, and double effect readings.

²² It could be the case that *but* in both (26a) and (26b) also plays a role in the availability of different readings than in (25b) and (25d). Either way, all

non-past reading, or anteriority reading, just like (26a). Then, it must be the case that Hindi-Urdu exhibits the kind of Sequence-of-Tense phenomenon that Bošković (2012) says is absent in languages without articles. He takes the alleged absence of Sequence-of-Tense in languages without articles to show the interaction between nominal-level and clause-level behaviour, in order to try and posit a lack of TP in NP languages too. However, the availability of Sequence-of-Tense-like phenomena in Hindi-Urdu—along with the DP-like behaviour of the Hindi-Urdu nominal according to many of Bošković’s 2008a; 2012 generalisations—disallows such a no-DP and no-TP parallel for Hindi-Urdu.

u. Languages without articles do not allow transitive nominals with two genitives

According to Bošković (2008a), languages without articles do not permit two lexical genitives to occur in any word order. He bases this generalisation on Willim’s (2000) claim that Polish, a language that lacks articles, does not allow a nominal complex with two genitives in which neither is introduced by a preposition. Bošković claims that other languages without articles like Czech, Russian, and Serbo-Croatian do not allow such a construction either, but Hindi-Urdu seems to have no such restrictions, as the construction in (27)—translated from Willim’s (2000) Polish example—illustrates:

- (27) कोलम्बस का अमेरिका का अन्वेषण
kolambās-ka əmrika-ka ənveʃəŋ
 Columbus-GEN.m.sg_i America-GEN.m.sg_i discovery.m_i
 ‘Columbus’s America’s discovery’ = ‘Columbus’s discovery of America’

The aforementioned example shows that Hindi-Urdu allows a ‘transitive nominal’ with two genitives, where neither argument needs to be introduced by a preposition that has semantic content²³. Willim’s (2000) argument for the lack of a DP-layer in Polish is that the language

²³ As opposed to a dummy preposition.

allows only one argument to be licensed and identified within the NP projection, while languages like German and Arabic allow two arguments. If the ability to license and identify two genitive arguments is indeed tied to the presence of D^0 , then the possibility of two genitive arguments in Hindi-Urdu should show that it has D^0 .²⁴ I will return to the question of how transitive genitives in Hindi-Urdu show the possibility of D in Section 3.

In the table that follows, I summarise the predictions that Bošković's generalisations make for Hindi-Urdu.

2.2 Predictions made for Hindi-Urdu by Bošković's NP/DP generalisations²⁵

Generalisation	NP languages	DP languages	Hindi-Urdu
<i>i. The majority reading of MOST is allowed</i>	no	yes	yes
<i>j. Neg-raising is allowed</i>	no	yes	yes
<i>k. Negative constituents must be marked for focus</i>	yes	no	no
<i>p. Inverse scope allowed</i>	no	yes	yes
<i>r. Sequence-of-tense allowed</i>	no	yes	yes
<i>u. Transitive nominals with two genitives allowed</i>	no	yes	yes

Generalisation	NP languages	DP languages	Hindi-Urdu
<i>o. Radical pro-drop allowed</i>	yes	no	yes
<i>q. Exhaustivity presuppositions for possessors</i>	no	yes	no

²⁴ Another possibility is that allowing two transitive genitives has nothing to do with the presence or absence of D.

²⁵ The format for these tables is adopted from Gillon and Armoskaite's (2015b) work on Bošković's NP/DP generalisations in relation to Lithuanian and other languages without articles.

Table 2.2.3: Unidirectional generalisations that do not make any predictions about nominal structure in Hindi-Urdu²⁶

Generalisation	NP languages	DP languages	Hindi-Urdu
<i>a. Left-branch extraction allowed</i>	yes	no	no
<i>b. Adjunct extraction allowed</i>	yes	no	no
<i>c. Long-distance scrambling outside finite clauses allowed</i>	yes	no	no
<i>g. Number morphology not obligatory</i>	yes	no	no
<i>l. Subject reflexives allowed</i>	yes	no	no
<i>n. Focused constituents must be verb-adjacent</i>	no	yes	yes or no

2.3. Summarising Bošković

So far, we have seen that Hindi-Urdu patterns with DP languages in most respects, exceptions being its ability to have radical pro-drop and the lack of exhaustivity presuppositions in possessors. As I have already noted in the section above, some of these generalisations are unidirectional. The manner in which Bošković (2008a; 2012) frames these particular generalisations allows the possibility of certain properties, like LBE and Non-obligatory number morphology, to appear only in NP languages, but not all NP languages. Consequently, such generalisations fail to make any predictions about Hindi-Urdu as an ‘NP language’ or ‘DP language’ because in most cases of a unidirectional generalisation, Hindi-Urdu patterns with languages with articles.

²⁶ I have omitted the entirely untestable generalisations here, and have focused only on the generalisations that are testable, but do not readily predict Hindi-Urdu to be an NP or DP language.

In the generalisations with properties that only DP languages can have, such as inverse scope or the majority reading of MOST, Hindi-Urdu patterns with languages with articles again. Overall, applying Bošković's NP/DP generalisations to Hindi-Urdu either shows that Hindi-Urdu must be a DP language because the generalisations make it out to be so despite its lack of articles, or that there are issues with an NP/DP typology based purely on overt determiners. In either case, these generalisations fail to show that the Hindi-Urdu nominal may not project D° .

Syed and Simpson (2017) discuss Bangla in relation to Bošković's NP/DP parameter and claim that languages that have relatively free word order and movement-related definiteness-marking strategies may be able to project D° , even when overt determiners are absent. They provide examples to illustrate that definiteness marking in the language is not restricted to determiner heads. Instead, it involves specific positions within the nominal, and requires phrasal movement to specifiers of new functional projections above NP but below DP. That is to say, the Bangla nominal allows a rich left periphery and probably patterns like DP languages with overt articles that have functional structure above the noun head for that reason. I will discuss the left periphery and movement within the Hindi-Urdu nominal in Section 4.

Bangla, Hindi-Urdu, and many other Indo-Iranian languages, are famous for their scrambling tendencies and the lack of a rigid word order. The movement of DPs, especially to different preverbal positions, is used by native speakers as a way of marking the discourse prominence of the fronted element—suggesting that the oft-assumed 'freer word order' might not always be immune to changes in interpretation (so, not so free after all). Deviations from the stylistically neutral *S IO DO V* order regularly result in the topicalisation and focusing of certain constituents.

Testing for the presence of a null D° in the Hindi-Urdu nominal can be difficult, since there is little consensus in the literature about the elements that could be housed in D or Spec,DP in the language. Additionally, there are no strong accounts about the null D being syntactically licensed in Hindi-Urdu, or of obligatory $N \rightarrow D$ movement. In short, lexicalised (in)definite articles that may encode [\pm definite], [\pm specific], or [\pm referential] are housed in D languages with articles, so it is unclear what features D might have in the absence of overt lexicalised articles. Additionally, linguists do not agree on what the defining feature of D is. While it has been proposed (and often taken for granted) that definiteness is simply what defines D (Lyons 1999), others have argued that D instead encodes domain restriction (Gillon 2015) or referentiality (Pereltsvaig 2006).

What is clear, though, is that many languages without articles like Bangla and Hindi-Urdu do employ grammaticalised²⁷ strategies like differential ‘Accusative’-marking of discourse-prominent direct objects, marked word orders, and phrasal focus movement within the nominal and at the clause level, to encode definiteness. These grammaticalised strategies supplement lexical indefiniteness marking by *ek*—the unstressed numeral ‘one’— or existential quantifiers like *koi*: (‘some’), and definiteness marking via demonstratives that inflect for number and case.

In the following section, I will detail some of the grammaticalised definiteness-marking strategies employed in Hindi-Urdu. Then, I will discuss the notion of definiteness and the interpretation of bare nominals as (in)definite in Hindi-Urdu.

²⁷ I say ‘grammaticalised’ in the sense of definiteness existing in the syntax through object-marking or movement or features, rather than definiteness being a purely semantic notion. I do not mean ‘grammaticalised’ as it used in historical linguistics, where grammaticalisation is a particular process of lexical morphemes changing to function morphemes over time.

3. Definiteness and Bare Nominal Interpretation

3.1 What is *-ko* doing on direct objects?

Many linguists of the generative tradition, such as Longobardi (1994) and Giusti (1997) subscribe to the view that D° is a universal category that is relevant to the semantic interpretation of a nominal is (in)definite. In other words, they think that D° encodes definiteness. By this logic, if definiteness has a morphosyntactic component in Hindi-Urdu, it must be the case that nominals can be DPs in the language. This subsection concerns the distribution of the Accusative-looking morpheme *-ko* that appears on direct objects, which seems to act like a morphological definiteness marker in Hindi-Urdu.²⁸

Bhatt and Anagnostopoulou (1996, henceforth B&A) propose that in order to be interpreted as specific, direct objects in Hindi-Urdu must be morphologically marked with *-ko*, and they must move out of the VP. They argue that specificity always involves both, *-ko* marking and overt movement to a VP-external site. B&A explain that in Hindi-Urdu double object constructions (henceforth DOC), the indirect object is obligatorily morphologically case-marked by the Dative postposition *-ko*, which is not the same as the Accusative *-ko* that appears only on certain direct objects²⁹. Unlike the obligatory Dative *-ko*, Accusative *-ko* has different constraints based on the semantic properties of the argument it attaches to. Namely, animate proper names must be obligatorily *ko*-marked. With other potentially referential objects, *ko*-marking correlates

²⁸ Mahajan (2017) has argued that *-ko* marking on direct objects is Differential Object Marking, and not a result of receiving structural Accusative Case. Differential object marking is a common phenomenon involving the overt marking of a set of ‘prominent’ direct objects. Mahajan claims that DOM objects, when structurally licensed, receives Nominative Case in perfectives, and Accusative Case in imperfectives. Since my goal in this section is to talk about how differential *-ko* marking relates to definiteness, I will not pursue the issue of Licensing in detail here. Mahajan’s analysis is not incompatible with my analysis of *-ko* here. I refer to the *-ko* that appears on direct objects as Accusative *-ko* throughout because that’s what it has been called in the literature, but remain neutral on whether *-ko* is an Accusative postposition or some other kind of differential object marker, and focus on its relation to the notions of definiteness and specificity instead.

²⁹ The dative *-ko* is illegal rather than obligatory when the indirect object is a place, rather than an animate object. This property of dative *-ko* is briefly addressed in the examples in (29), but will not be discussed in detail here.

with a specific reading for B&A. Direct objects that are clearly non-referential may not take *-ko*.

30

B&A adopt Diesing's (1992) view³¹ about structural conditions on specificity to argue that to receive a specific interpretation, direct objects must not only be *ko*-marked, but they must also overtly scramble out of the VP before Spellout. To exemplify this proposal, they give evidence from DOCs with predicates like 'send'. Recall that in Hindi-Urdu, the base order for the DOC is *S IO DO V*. B&A explain that in case the DO is *ko*-marked, it would be expected to obligatorily scramble out of the VP, resulting in the order *S DO IO V*. Their prediction is borne out, as seen in the obligatory object shift demonstrated in the minimally different sentences (28a-c) below.

- (28) a. राम ने अनीता को चिट्ठी भेजी।
ra:m-ne [_{VP} *anita-ko* *cɪʈʰi:* *bʰeʃi:*]
 Ram-ERG Anita-DAT **letter.f** send.PERF.f
 'Ram sent a letter to Anita' (*specific, non-specific)
- b. *राम ने अनिता को चिट्ठी को भेजा।
 **ra:m-ne* [_{VP} *anita-ko* *cɪʈʰi:-ko* *bʰeʃa:*]
 Ram-ERG Anita-DAT **letter.f-ACC** send.PERF
 'Ram sent the letter to Anita' (*specific, *non-specific)
- c. राम ने चिट्ठी को अनीता को भेजा।
ra:m-ne *cɪʈʰi:-ko* [_{VP} *anita-ko* *t_i* *bʰeʃa:*]
 Ram-ERG **letter.f-ACC** Anita-DAT send.PERF
 'Ram sent the letter to Anita' (specific, *non-specific)

(Bhatt and Anagnostopoulou 1996)

³⁰ Mohanan (1995) and Dayal (2011) have argued that non-referential DOs are (pseudo-)incorporated in Hindi-Urdu.

³¹ Diesing's (1992) proposal is that the clause is divided into two parts at LF. Material inside the VP is mapped to the nuclear scope, where it undergoes existential closure and receives an existential interpretation. Material outside the VP is mapped to the restrictive clause and receives a quantificational or presuppositional reading. Thus, if a direct object has to be interpreted as specific, Diesing would say that it would have to move out of the VP either overtly or at LF. B&A's proposal is that such specificity-driven movement in Hindi-Urdu must be overt.

According to B&A, the movement of a *ko*-marked DO outside of the VP is ‘specificity-driven scrambling’, which they consider a type of *A*-movement³² based on scrambling diagnostics applied to *ko*-marked DOs. B&A find that *ko*-marked DOs are not subject to Weak Crossover violations & Condition C violations, and do not permit reconstruction for anaphor binding, as would be predicted for *A*-movement. They do not discuss how specificity actually drives scrambling in Hindi-Urdu, leaving open the possibility that some functional projection (henceforth FP) outside the VP has a specificity feature driving the movement, or that specificity is encoded through Case-licensing in an Agr projection outside the VP.

Based on their claims that specificity-driven scrambling of *ko*-marked DOs in Hindi-Urdu is a type of overt *A*-movement, B&A predict that these DOs scramble to a specifier of some XP above the VP. Even in cases where a *ko*-marked DO moves to the sentence-initial position³³, they claim the DO first moves to a specifier of XP (an *A*-site) before moving to an *A*'-site—explaining how the subject position can be skipped by the *ko*-marked DO without violating the Minimal Link Condition.³⁴

To complicate their movement-based approach of specificity *ko*-marking in Hindi-Urdu, B&A also attempt to unite the Dative *-ko* with the Accusative *-ko* by claiming that they are both licensed by movement. Consider the following examples in (29a-c), where the indirect object denotes a place, rather than a person or other animate object.

- (29) a. जौन ने चिट्ठी पेरिस भेजी।
 ʃɔn-ne [vp ciʈʰi: peɾis bʰeʃi:]
 John-ERG letter.f. Paris send-PERF.f
 ‘John sent the letter to Paris’

³² As opposed to *A*'-movement.

³³ B&A propose that the sentence-initial position is an *A*'-site.

³⁴ Their idea is that the *A*-(or mixed) subject position can be skipped without violating the MLC, since the *ko*-marked nominal moves to an *A*'-site after already moving to the intermediate Spec XP *A*-site—so an *A*-position may be skipped during movement to an *A*'-position.

b. * जौन ने पैरिस को चिट्ठी भेजा।

**ʃɔn-ne pɛrɪs-ko [VP cɪt̪ʰi: bʱeʃa:]*

John-ERG Paris-DAT **letter.f** send-PERF.f

‘John sent the letter to Paris’

c. * जौन ने पैरिस को चिट्ठी को भेजा।

**ʃɔn-ne pɛrɪs-ko cɪt̪ʰi:-ko bʱeʃa:*

John-ERG Paris-DAT **letter-ACC.f** send-PERF

‘John sent the letter to Paris’

Note that the restrictions on locative indirect objects are different than those on animate direct objects, in that *-ko* marking is obligatory in the latter case, and disallowed in the former. B&A observe that environments where Dative shift is blocked in English,³⁵ like in the ungrammatical sentence ‘**John sent Paris the letter*’, is exactly where *S DO IO V* word order is found in Hindi-Urdu as in (29a), and *S IO DO V* would actually be ungrammatical as in (29b). It is worth nothing here that a *ko*-marked DO like in (29c), whether inside the VP or scrambled out, would also result in ungrammaticality. B&A’s claim here is that sentences like (27a) are actually derived from sentences like (29a), and thus they are able to unify the Dative and Accusative *-ko*, based on movement.

However, B&A do acknowledge the differences in the landing sites for the two kinds of *ko*-marked DPs. The subject-IO medial landing site where the Accusative *ko*-marked DP is licensed seems to be special in that it cannot be skipped by a *ko*-marked IO undergoing movement, whereas a *ko*-marked DO may skip the site occupied by the IO, as in (30a) and (30b).

(30) a. * जौन ने लीला को चिट्ठी को भेजा।

**ʃɔn-ne li:la:-ko cɪt̪ʰi:-ko bʱeʃa:*

John-ERG Lila-DAT **letter-ACC** send-PERF

‘John sent the letter to Lila’

³⁵ i.e., when the IO is inanimate

b. जौन ने चिट्ठी को लीला को भेजा।

ʃən-ne $cI\text{t}^{\text{h}:i}\text{-ko}$ $li:la\text{-ko}$ $b^{\text{h}}e\text{ʃa:}$
 John-ERG **letter-ACC** Lila-DAT send-PERF
 ‘John sent the letter to Lila’

While B&A’s unified treatment of *-ko* in Hindi-Urdu is favourable in terms of its ability to relate the distribution of the morpheme to semantic properties of arguments, such as animacy and specificity, it does not entirely account for the optionality and discourse-driven behaviour of Accusative *-ko* in the case of inanimate DPs. Consider the near-minimal pairs (31) and (27c), repeated here.³⁶

(31) राम ने चिट्ठी अनिता को भेजी।

$ra:m\text{-ne}$ $cI\text{t}^{\text{h}:i}\text{-ko}$ [_{VP} $\text{ʌnita}\text{-ko}$ t_i $b^{\text{h}}e\text{ʃi:}$]
 Ram-ERG **letter.f** Anita-DAT send.PERF.f
 ‘Ram sent a (specific) letter to Anita’

(27) c. राम ने चिट्ठी को अनीता को भेजा।

$ra:m\text{-ne}$ $cI\text{t}^{\text{h}:i}\text{-ko}$ [_{VP} $\text{ʌnita}\text{-ko}$ t_i $b^{\text{h}}e\text{ʃa:}$]
 Ram-ERG **letter.f-ACC** Anita-DAT send.PERF
 ‘Ram sent the letter to Anita’

Either (31) or (27c) may be uttered following a sentence like ‘Ram was writing an important letter about taxes’, where the specificity of the letter is already established. This is to say, both the non-*ko*-marked DO like in (31), and the *ko*-marked DO in (27c) may receive a specific interpretation. This fact is in violation of B&A’s proposal, which states that in order to be interpreted as specific the DO needs *both*, morphological marking *and* movement.

In order to save their proposal, B&A might say that sentences like (31) have a different *unshifted* order than sentences like (27c).³⁷ (31), then would have a similar structure to sentences

³⁶ It must be noted that a sentence like (31) with an animate DO like ‘child’, instead of the inanimate DO ‘letter’, would be ungrammatical. In other words, the ability of the DO to forego morphological marking only applies to inanimate DOs. Additionally, the word order in (10) is most likely to be used in cases of contrastive focus, such as ‘Ram sent a (specific) letter to ANITA, not LILA’, and is not completely unmarked but is possible.

³⁷ That is, *S DO IO V*

like (29a) that have an inanimate, non-*ko*-marked IO. However, if they adopt this approach, they would have to explain the differences in case-marking of the IO in (31) and (29a). While the IO in (31) has to necessarily be *ko*-marked, the IO in (29b) must obligatorily receive no case marking. B&A could also say that morphological case marking, unlike movement out of the VP, is not in fact a necessary condition for a specific interpretation in the case of inanimate DOs. But then, they would have to explain why *-ko* is indeed a specificity marker like they say, rather than an animacy marker, given that *-ko* may never be omitted on an animate DO, as shown in (32) below.

- (32) राम ने बच्चे (*को) अनिता को भेजा।
ra:m-ne bəc:e(-ko) [VP anita-ko t_i b^heʃa:]*
 Ram-ERG **child.m-ACC** Anita-DAT send.PERF
 ‘Ram sent the child to Anita’

Let us assume that B&A are right, and also that specificity-driven scrambling is due to Case-licensing in an Agr position outside the VP. If the aforementioned is the case, then (32) would be a good argument for syntactic Case-licensing to be different from morphological case-marking, since the morphologically non-*ko*-marked DO in (31) would move to an AgrO outside the VP to be licensed syntactically. However, it would be unclear how the VP-internal DO in (27a) would then be licensed, if it is licensed at all.³⁸

If we assume instead that specificity-driven scrambling is motivated by a specificity feature on some XP, the disparities in licensing between unmarked VP-internal and VP-external DOs can be avoided. Then, one would have to ask which XP outside the VP has the specificity feature encoded in its head that drives the movement of different kinds of DOs, including the non-*ko*-marked inanimate DO in (31), and the obligatorily *ko*-marked animate DO in (32).

³⁸ It has been argued that in Hindi-Urdu the VP-internal non-specific DO is always pseudo-incorporated, and/or need not be licensed at all. e.g. Dayal (2011), Kalin (2018)

Alternatively, we could say that B&A's proposal is on the right track about the movement of specific DOs outside the VP à la Diesing, but that *ko*-marking is not a necessary condition for a specific interpretation. I propose that a DP can receive a specific interpretation simply by moving out of the VP without *-ko* marking, but if *-ko* marking is present on a bare nominal that has moved out, it is necessarily interpreted as definite. Perhaps it would then be plausible to theorise that—at least when not headed by an indefinite determiner like 'ek' (meaning 'one')—DOs that are *ko*-marked are definite rather than specific.³⁹ Such a theory could bring out the essential differences between (31) and (27c), where the DOs have moved out of the VP and receive a specific interpretation in both cases. The difference between the *ko*-marked DO in (27c) and the unmarked DO in (31) is that the former is definite, while the latter is a specific indefinite in Enç's (1991) terms.

It is worth noting that DOs that move out of the VP in Hindi-Urdu invariably seem to align with topicality in that they are presuppositional, and in that they represent information that can easily be accommodated, which is true of both specific and definite DPs. Both the *ko*-marked DO in (27c) and the unmarked DO in (31) are presuppositional and represent accommodatable information, but only the *ko*-marked DO in (27c) is unambiguously definite. Additionally, the letter in question has to have already been introduced into the discourse in (27c), while (31) is more likely to be used in the case of referring to a specific letter from a set of already-introduced letters.

³⁹ Labelling *-ko* as a definiteness marker on a bare nominal has the advantage of explaining why non-specific definites with attributive uses—like *the man* in 'They will never find the man that will please them' (Prince 1981)—could be *ko*-marked in Hindi-Urdu. However, one would then need to provide an account for how these objects get *ko*-marked in-situ in double object constructions without ungrammaticality, given that *S IO-ko DO-ko V* is ungrammatical as (27b) shows. Perhaps *-ko* is able to have presupposition-cancelling abilities when the nominal it attaches to fails to refer. I leave this question open.

One reason to analyse *-ko* as a definiteness marker is that in discourse anaphora (see (41) for an example), a classic context for testing definite interpretations of nominals, only the *ko*-marked definite nominal in (27c), and not the unmarked nominal in (31), would be felicitous. Also in support of analysing *ko*-marked DOs as definite is that the non-optionality of Accusative *-ko* correlates with how individuated or identifiable—and thus definite—the DP in question is.⁴⁰ For example, the obligatorily *ko*-marked nominal *child* in (32) is more individuated than the ‘optionally’ *ko*-marked *letter* in (31), because a person being referred to likely has a richer set of properties that distinguish them from other potential referents than a letter does.

The agreement patterns observed in (31) and (27c) raise questions about whether the specific direct object in (31) has moved out of the VP at all. In (27c), the verb has ‘default’ masculine singular agreement, as is expected when all the arguments are non-nominative. In (31), the verb agrees with the direct object, just like it did when the direct object was in-situ in (27a). A *ko*-marked DP in Hindi-Urdu may never agree with a verb, suggesting that object agreement must take place while the direct object is still in the VP. It is unclear how the DO, which should have moved out of the VP to receive a specific interpretation according to B&A, can still induce object agreement. One way out of this problem would be to suggest that object agreement targets some position outside the VP, but this position would have to be different than the Agr they posit for specificity-driven scrambling. In this case, two separate positions would be reserved for *ko*-marking and object agreement, which are in complementary distribution.

To conclude this subsection, out of the two conditions B&A propose for specific object interpretation in Hindi-Urdu, the one on specific DPs needing to move out of the VP by Spellout

⁴⁰ Individuation in the sense of having some property that distinguishes the referent from other potential referents in the discourse. For an analysis connecting individuation and definiteness, see Birner and Ward (1998).

seems to be more sound than the one on morphological marking. While the Accusative case marker in Turkish (Enç 1991) and Persian (Hosseini Fatemi 2014) has been successfully analysed as a marker of specificity, the Accusative-seeming affix *-ko* in Hindi-Urdu is perhaps better analysed as a sort of definiteness marker that appears on discourse-prominent, identifiable direct objects.⁴¹ Thus, *-ko*-marking, shows a grammaticalised definiteness-marking strategy in a language that lacks articles, indicating that D° should be present.

3.2 *ko*-marking and The Definiteness Scale

Aissen (2003), based on her crosslinguistic analysis of differential object marking, claims that direct objects higher in the Animacy hierarchy in (33a) and Definiteness hierarchy in (33b) are more likely to be differentially marked.

(33) a. *Animacy hierarchy*

Human > Animate > Inanimate

b. *Definiteness hierarchy*

Proper name > Definite > Specific indefinite > Non-specific-indefinite > Non-specific indefinite

DP (34d)

DP (34c)

NumP (34b)

NP (34a)

Her predictions are borne out with regard to *ko*-marking in Hindi-Urdu, as each of the examples in (34) show. In fact, Aissen's (2003) Definiteness hierarchy can account for the scale-like varying degrees of definiteness observed in the minimally different sentences in (34).

(34) a. मीना बच्चा संभाल रही है।

mi:na bəc:a: səmbʰa:l rəhi: hɛ

Mina **child** handle PROG be.PRES.sg.

‘Mina is looking after (care-taking) a child/children’

(Non-specific incorporated reading, number of children taken care of is unspecified)

⁴¹ Except when unstressed numeral *ek* proceeds the *ko*-marked nominal to make it necessarily definite, as discussed earlier.

b. मीना एक बच्चा संभाल रही है।

mi:na ek b̄ac:a: s̄amb̄h̄a:l r̄ahi: h̄ε

Mina **one child** handle PROG be.PRES.sg.

‘Mina is looking after a (nonspecific) child’

(Non-specific reading; there’s exactly one child Mina is looking after, not two or zero or forty)

c. मीना एक बच्चे को संभाल रही है।

mi:na ek b̄ac:e-ko s̄amb̄h̄a:l r̄ahi: h̄ε

Mina **one child-ACC** handle PROG be.PRES.sg.

‘Mina is looking after a certain child’

(Specific indefinite reading)

d. मीना बच्चे को संभाल रही है।

mi:na b̄ac:e-ko s̄amb̄h̄a:l r̄ahi: h̄ε

Mina **child-ACC** handle PROG be.PRES.sg.

‘Mina is looking after the child’

(Definite reading)

In (34a), the direct object has no case marking or determiner. It may have a number-neutral interpretation such that the number of children being taken care of is not specified, and a plurality of children is possible. On Aissen’s (2003) scale, (34a) would correspond to the lowest ranking non-specific indefinite NP, suggesting that it is ‘the most indefinite’. In (34b), the direct object is preceded by the numeral ‘one’, suggesting that Mina is taking care of exactly one child (rather than a greater or fewer number of children), but it is unspecified who that child is. Still, this nominal is number-specified unlike the DO in (34a), so (34b) has a relatively ‘more definite’ interpretation.

(34c) shows a DO that is both *ko*-marked and preceded by the unstressed numeral one. Its interpretation is that of a specific indefinite, where the speaker might have a particular individual in mind that may not be identifiable to the hearer. However, the hearer would know that there is an individual the speaker has in mind. If this individual were already introduced in

Another factor uniting specific indefinites and definites in Hindi-Urdu is the ability of both of them to be topicalised to varying degrees, while topicalisation is absolutely ungrammatical in the case of non-specific indefinites. Consider the example in (36).

- (36) * **बच्चा** / * **एक बच्चा** / %**एक बच्चे को** / **बच्चे को** मीना संभाल रही है।
 [*b̄ac:a:/*ek b̄ac:a:/%ek b̄ac:e-ko/ b̄ac:e-ko]_i mi:na t_i s̄amb̄a:l r̄ahi: h̄ε
child one child one child-ACC child-ACC Mina handle PROG be.PRES.sg.
 ‘?A particular child/The child, Mina is looking after him.’

(36) above shows that the DO in (34a) and (34b) absolutely cannot be topicalised. Native speakers have varying judgments about the ability of the DO in (34c) to topicalise, but they all claimed that it was better than the prior two cases. (34c) seems more acceptable when used to refer back to a part of an already introduced set of discourse referents.⁴⁵ For example, (34c) may be used to follow up a sentence like ‘Several kids entered the room’, where ‘child’ in (34c) would be used to refer to one of the children who entered the room. The definite DO from (34d) can freely be topicalised. To summarise, indefinite non-specific DOs cannot be topicalised, while specific indefinite DOs can to varying degrees.

Topics usually consist of old information that has been previously introduced into the discourse, so it follows that non-specific indefinite DOs—known to introduce new referents into the discourse—cannot be topicalised. Necessarily Definite DOs do not seem to have the same restrictions on topicalisation, since definites represent information that has already been introduced into the discourse.

Additionally, a DO of the kind in (34a) and (34b) can never be coordinated with a DO of the type in (34c) and (34d), as shown in (37) below.

⁴⁵ This is Enç’s (1991) partitive specificity test. She claims that nominals used to refer back to a part of an already introduced set are specific, but indefinite. Dayal (2004;2018) uses partitive specificity as a diagnostic for an indefinite nominal, and concludes that Hindi-Urdu bare nominals may not be used to refer back to a part of an already introduced set, so they must be indefinite. This point is discussed in Section 3.3.

- (37) *मीना बच्चे को और एक गुड़िया संभाल रही है
 *mi:na bəc:e-ko or ek guɽija səmbʰa:l rəhi: hɛ
 Mina child-ACC and one doll handle PROG be.PRES.sg.
 ‘Mina is looking after the child and a doll.’

(37) shows that a *ko*-marked DP can never be coordinated with a non-*ko*-marked DP, suggesting they might be of different semantic types, given that only elements of the same semantic type may be coordinated or contrasted. In the proposed structures in (35), (35a) and (35b) are of type $\langle e, t \rangle$, while (35c) and (35d) are of type e , so their inability to coordinate follows. Also evident from the lack of coordination between a *ko*-marked DP with a non-*ko*-marked DP in (37) is that the nominals are unable to undergo type-lifting in any way that would make coordination possible.⁴⁶

In this subsection, I have discussed ways in which (in)definiteness is grammaticalised in Hindi-Urdu, particularly through differential *ko*-marking. I have proposed that *-ko* is best analysed as a definiteness marker on Hindi-Urdu bare nominals because of its affinity for discourse prominent, identifiable direct objects. I have proposed that non-*ko*-marked nominals have a different structure than *ko*-marked nominals, and that Hindi-Urdu nominals need to project structure above NumP in order to receive be interpreted as specific and/or definite. The next subsection will survey previous semantic analyses of definiteness and bare nominal interpretation in languages without articles, and evaluate them in light of our findings about definiteness in the syntax in Sections 2 and 3.

⁴⁶ Type-lifting refers to operations that allow a simple, lower-type expression (e.g. type e) to ‘lift’ to a higher semantic type (e.g. type $\langle\langle e, t \rangle, t \rangle$) when compositionally combining expressions requires it. Recall that only nominals of the same semantic type may be coordinated, since *and* is a function that takes a function of a particular type, and returns a function from that type to the very same type. So, if *and* takes a function of type $\langle e, t \rangle$, it would return a function of type $\langle\langle e, t \rangle, \langle e, t \rangle\rangle$. Type-lifting would allow the DP *John* to lift from type e to type $\langle\langle e, t \rangle, t \rangle$, so that it can combine with the type $\langle\langle e, t \rangle, t \rangle$ quantificational expression *every girl* in *John and every girl*. For more on type-lifting, see Partee (1986).

3.3 Definite Interpretations of Hindi-Urdu nominals

Heim (2011)—based on her pragmatic strengthening analysis of indefinites in English—proposes that bare nominals in languages like Hindi-Urdu are always indefinite. According to her analysis, an English sentence with a definite bare nominal entails and is semantically stronger than the corresponding indefinite sentence. For example, (38a) below entails (38b), and (38a) is semantically stronger than (38b).

- (38) a. [[The professor joined our discussion]]
 = [ix.x is a professor] joined our discussion
- b. [[A professor joined our discussion]]
 = \exists x.x is a professor and x joined our discussion

Whenever (38a) a is true, (38b) is true as well—but not the other way around. However, replacing *the* with *a* often leads to infelicity, as seen in (39):

- (39) The car was fine after:
- a. The horn was replaced
- b. #A horn was replaced.

Given that every car has a single unique horn, (39b) seems infelicitous. Heim argues that the speaker's choice of the semantically weaker indefinite article *a* in (39b) has an inference that the speaker cannot presuppose the existence and uniqueness of the nominal *horn*. She posits a conversational implicature-generating Horn scale of competing alternatives for English articles, where *the* > *a*. According to Heim, if a speaker who abides by Grice's maxim of quantity chooses to utter (39b), they do so because they believe the stronger alternative (39a) to be untrue.

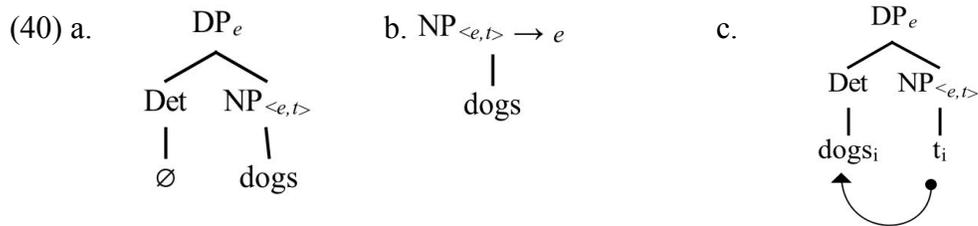
If Heim's analysis is applied to Hindi-Urdu nominals, the immediate consequence would be the lack of a Horn scale of competing alternatives for articles, given that there are no definite or indefinite articles in the language. If there is no Horn scale for articles in Hindi-Urdu, there are no non-uniqueness conversational implicatures triggered by any articles. Bare nominals in

Hindi-Urdu would then be semantically equivalent to English indefinites, but would have a wider range of felicitous uses because they would not compete with definites, and thus would not induce the same implicatures.

Whether the interpretation of a standardly indefinite Hindi-Urdu bare NP corresponds to the interpretation of the English definite or indefinite DP is merely a question of pragmatics under Heim's analysis. For example the Hindi-Urdu bare nominal *pradhjapək*—glossed as 'professor'—could replace either the definite nominal 'The professor' in (39a) or the indefinite nominal 'a professor' in (39b). Context and world knowledge of the speaker would determine whether a sentence containing *pradhjapək* has a (39a)-like definite or (39b)-like indefinite interpretation. In other words, the abstract features that *a* and *the* realise in English are never semantically encoded in Hindi-Urdu bare nominals under Heim's pragmatic strengthening approach.

Heim's analysis would not be compatible with the structures proposed in (35), where the (in)definiteness of a nominal follows from the functional projections within the nominal, so it must be encoded for semantically and cannot be purely pragmatic. A problem for Heim's analysis of bare nominal interpretation is that except in the case of incorporated direct objects, bare nominals are overwhelmingly interpreted as definite if not marked by *ek* 'one' or an indefinite quantifier like *koi* 'some'. In other words, if Hindi-Urdu bare nominals are defaultly indefinite, an account would have to be provided as to why native speakers of Hindi-Urdu are much more likely to interpret bare nominals as definite in context—despite both definite and indefinite interpretations being available in many cases.

Contrary to Heim’s (2011) pragmatic analysis about the status of bare nominals in Hindi-Urdu as indefinite, Dayal (2004, 2018) presents semantic diagnostics to show that bare nominals in Hindi-Urdu pattern like English definites, so they cannot be indefinite.



Dayal (2004) argues that bare nominals in languages like Hindi-Urdu are ambiguous between definites and kind terms, and do not freely receive an indefinite interpretation.⁴⁷ Dayal (2004) posits three possibilities for the structure of bare nouns in Hindi-Urdu. (40a) and (40c) involve a DP structure with a null determiner and N→D movement respectively, while (40b) assumes no D°. According to her, the neo-Carlsonian approach she adopts treats bare nominals as syntactic NPs, so her preference for the structure of the bare nominal is (40b). Dayal goes on to say that her analysis is however not incompatible with the presence of a universal DP like in (40a) and (40c). Her main concern with selecting (40a) and (40c) are that DP-hood of the bare nominal does not explain the restriction of bare nominals in Hindi-Urdu to definite, kind, and indefinite readings.

For Dayal, covert Type-shifts are ultimately responsible for interpretation, where an NP of type $\langle e,t \rangle$ might shift to the argumental type $\langle e \rangle$ (or $\langle \langle e,t \rangle t \rangle$), as in (40b)⁴⁸. Her idea of Type-shifting comes from Partee (1986), according to whom type-shifting operations can ‘map

⁴⁷ An example of a *kind term* is ‘Dogs’ in the sentence ‘Dogs are mammals’, where the bare plural is used to make a claim about the mammalhood of dogs as a species, rather than that of a subset of individual dogs. A bare singular or plural NP can be a kind term in Hindi-Urdu.

⁴⁸ A strong syntactic approach would assume silent structure (so, a null D like in (40a)) to account for interpretation, and type-shifting would be disallowed since it has no syntactic encoding.

NP-meanings onto other meanings for those same NPs' (Partee 1986:121). In other words, a nominal can correspond to several semantic types and be interpreted as an individual, predicate, and/or generalised quantifier. Unlike type-lifting, type-shifting is not limited to just lower types changing to higher types, but instead involves turning a nominal of type $\langle e, t \rangle$ (NP-like) to one of type $\langle e \rangle$ or $\langle \langle e, t \rangle, t \rangle$ (DP-like).

Dayal also takes into account Chierchia's (1998) Ranking and Blocking principles in her theory of Hindi bare nominals. According to the Blocking principle, type-shifting like in (40b) is a 'last resort'. In other words, if a type-shifting operator is already lexicalised in a language (like *the*, *a* in English), the lexical counterpart must be used, and type-shifting is not allowed. For this reason, Hindi-Urdu would use type-shifters to convert a nominal of type $\langle e, t \rangle$ to $\langle e \rangle$ or $\langle \langle e, t \rangle, t \rangle$ where English simply uses *the* or *a*.

Dayal's theory involves making bare nominal interpretation a purely semantic operation rather than one that follows from the syntax, so it creates a problem for the different structures posited for nominals with varying levels of (in)definiteness in (35). Recall that according to Bošković (2008a; 2008b; 2012), the presence or absence of articles in a language correlates with its nominals being DPs or NPs. A consequence of this analysis for languages without articles would be that bare nominals in the language are invariably type $\langle e, t \rangle$ NPs, and would have to necessarily covertly type-shift in order to receive an argumental interpretation. Given that Dayal's analysis posits exactly this consequence, her view about bare nominals as definites or kinds is compatible with Bošković's claim of 'no DP' in languages like Hindi-Urdu. She adds that it is possible to encode type-shifting into the meaning of the null determiner in (40a), or in the $N \rightarrow D$ movement in (40c), but that there is not enough evidence to motivate these approaches.

In addition to positing bare nominals as ambiguous between definites and kinds, Dayal provides evidence to challenge the claim that bare nominals are usually indefinite by using diagnostics to show that (i) bare nominals in Hindi-Urdu are definite (ii) bare nominals in Hindi-Urdu are not indefinite. The logic behind her tests is to see if bare nominals in Hindi-Urdu are felicitous in contexts where only definite or only indefinite nominals can be used in English. For example, according to Dayal's *Anaphoricity* test, English uses a definite DP in discourse anaphora, so if a Hindi-Urdu bare nominal can be licensed in discourse anaphora, it is definite. Consider the examples in (41).

(41) a. **A boy and a girl** came into the room. **The girl** sat down.

b. **A boy and a girl** came into the room. **#A girl** sat down.

c. एक लड़का और एक लड़की कमरे में आए। लड़की बैठ गयी।

ek larka: or ek larki: kamre-me a:je. larki: beṭh gaji:

one boy and **one girl** room-LOC come.PERF **girl** sit go.PAST.f

'A boy and a girl came into the room. The/#A girl sat down.

It is clear from the English examples in (41a-b) that a definite is needed in the second sentence when referring back to a discourse referent introduced in the first sentence, and that an indefinite would be infelicitous. In the Hindi-Urdu example in (41c), the bare nominal is felicitous, so it must be the case that it is definite. Thus, the Hindi-Urdu bare nominal *larki:* in (41c) acts like the English definite nominal *the girl* in (41a), rather than the indefinite *a girl* in (41b).

Another test that Dayal uses to diagnose the definiteness of a bare nominal is *Homogeneity*. This test helps separate definites and proper names from demonstratives and indefinites. The idea is that the definites and proper names cannot be repeated twice in the same clause because they are thought to refer to the same individual, while demonstratives and indefinites can. Consider the examples in (42a-e) below.

- (42) a. **A** dog is sleeping and **a** dog is barking.
 b. **That** dog is sleeping and **that** dog is barking.
 c. #**Fido** is sleeping and **Fido** is barking
 d. #**The dog** is sleeping and **the dog** is barking.

e. # कुत्ता सो रहा है और कुत्ता भौंक रहा है।

#kʊtːa: so: rəha hɛ, or kʊtːa: bʰɔ̃k rəha hɛ:

Dog sleep-PROG be.PRES.sg and **dog** bark-PROG be.PRES.sg

'#The dog is sleeping and the dog is barking.'

(42a-b) show that it is possible to use indefinites and demonstratives that precede the same nominal *dog* in the same sentence, because they are simply thought to pick out different referents in each case. (42c-d) show that repeating proper names and definite descriptions in the same sentence is infelicitous because a single referent is thought to be picked out, and incompatible properties of that referent cannot be predicated. In this case, the same dog cannot be sleeping and barking at the same time, so (42c-d) are infelicitous. (42e) shows that when a Hindi-Urdu bare nominal is used in the same contexts as the previous examples, it is also infelicitous like (42c-d). Once again, the Hindi-Urdu bare nominal patterns like English definites (and proper names) with respect to *Homogeneity*.

So far, we have seen how Dayal's *Anaphoricity* and *Homogeneity* tests predict the Hindi-Urdu bare nominal to be definite. Now, we will explore Dayal's *Partitive Specificity*, *Referential Specificity*, and *Scope Interaction* tests to show that the Hindi-Urdu bare nominal is not indefinite, and not ambiguous between definite and indefinite.

Partitive Specificity refers to the need to use an indefinite nominal to refer back to a part of an already mentioned set. Consider the examples (43a-b), where a larger set of referents is introduced in the first sentence, and a part of the set is referred to in the second sentence.

- (43) a. There were several children in the room. #**The/A boy and #the/a girl** were playing cards.
 b. कमरे में कई बच्चे थे। #**लड़का और लड़की** ताश खेल रहे थे।
kəmre mē kai: bəc:e tʰe: . #ləɾka ɔr ləɾki ta:ʃ xel rəhe tʰe:.
 room-LOC several kids be.PAST.pl **boy and girl** cards play-PROG be.PAST.pl
 'There were several children in the room. #The boy and girl were playing cards.'

It is clear from the example in (43a) that only the indefinites *a boy* and *a girl* could be used to refer back to a part of the set of *several children* introduced in the first sentence. Using the definites *the boy* and *the girl* in (43a) is infelicitous, just like using bare nominals in the Hindi-Urdu example in (43b) is. In order for the bolded nominals in (43b) to be felicitous, they must be preceded by *ek*, the unstressed numeral one that acts like an indefiniteness marker. (43) shows again that Hindi-Urdu bare nominals pattern with English definites, so it must be the case that they are definite.

Dayal's *Referential Specificity* test works as follows. If the intended referent is familiar to the hearer, the speaker would use a definite description with *the* rather than a specific indefinite. Whereas if the intended referent is not familiar to the hearer, and is not already introduced in the discourse, the speaker would have to use an indefinite, as illustrated in (44a).

- (44) a. If a tall, black-haired girl comes, tell her to wait. (Specific indefinite)
 b. If the tall, black-haired girl comes, tell her to wait. (Definite)
 c. अगर लंबी, काले बाल वाली लड़की आए, उसको बोलना कि रुके।
əgər ləmbi:, ka:le ba:l-ua:li ləɾki: a:je, ʊs-ko bolna: ki rʊke.
 if **tall black hair-one girl** come her-ACC tell that wait.SUBJUNCT
 'If the/#a tall, black-haired girl comes, tell her to wait. (Definite, *specific indefinite)

(44a-b) show that the speaker's choice of *a tall, black-haired girl* (specific indefinite) rather than *the tall, black-haired girl* (definite) is based on whether the girl in question has already been introduced in the discourse, and consequently on whether the hearer is familiar with the referent. The definite example in (44b) may only be uttered when the *tall, black-haired girl* has previously

been mentioned in the discourse. Similarly, the Hindi-Urdu example in (44c) may also only be uttered when the referent has already been introduced in the discourse, suggesting that the bare nominal *lambi:, ka:le ba:l-ua:li larki* ‘tall, black haired girl’ patterns with the English definite in (44b), rather than the specific indefinite in (44a). In order to receive a specific indefinite interpretation like in (44a), the bare nominal must again be preceded by *ek*, the unstressed numeral one. Thus, Dayal’s *Referential Specificity* test also predicts the Hindi-Urdu bare nominal to be definite.

The last diagnostic that Dayal proposes to show the non-indefiniteness of Hindi-Urdu nominals is that of *Scope Interaction*. Consider the examples in (45).

(45) a. Every girl wrote every solution to **a problem**.

(Every girl > \exists problem > every solution; specific indefinite)

b. हर लड़की ने **समस्या का** हर सुझाव लिखा।

hər lərki:-ne səməsja:-ka hər sʊʒʱaʊ lɪxɑ:

every girl-ERG **problem-GEN** every suggestion_write.PERF

‘Every girl wrote every solution to the/a problem.’

(definite, *specific indefinite)

c. हर लड़की ने **किसी एक समस्या का** हर सुझाव लिखा।

hər lərki:-ne ek / kɪsi:-ek səməsja:-ka hər sʊʒʱaʊ lɪxɑ:

every girl-ERG **one/some-one problem-GEN** every suggestion write.PERF

‘Every girl wrote every solution to one/some problem’

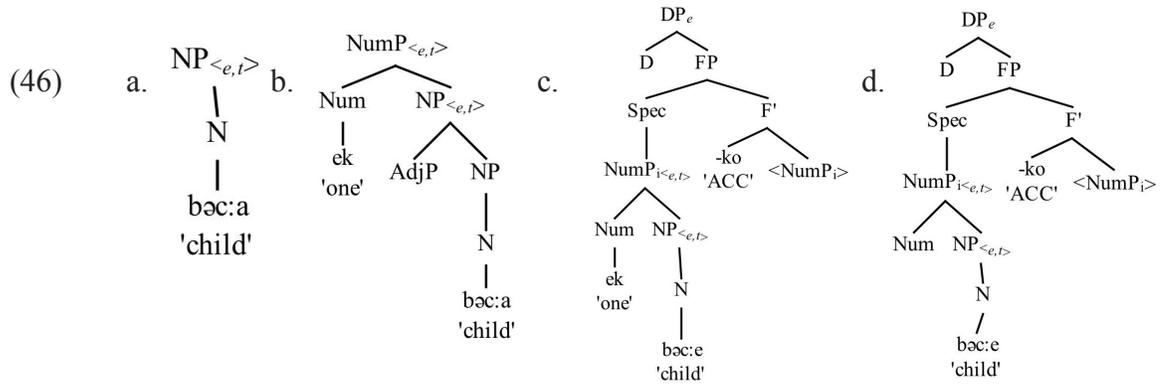
(*definite, specific indefinite)

In (45a), *a problem* is interpreted as a specific indefinite, according to Dayal (2018). The intermediate scope reading of (45a) (Every girl > \exists problem > every solution) allows for each student to be working with a different problem. (45b) shows that the intermediate scope reading not available for the bare nominal *səməsja* ‘problem’, which can only be interpreted definitely. (45c) shows that the Hindi-Urdu nominal needs an overt marker of indefiniteness (*kɪsi:-)ek* ‘(some)-one’ to get the relevant indefinite specific reading, where the choice of topic can vary

with the student. Thus, Dayal's *Scope Interaction* test also predicts Hindi-Urdu bare nominals to be definite, rather than indefinite or ambiguous.

All of Dayal's (2018) tests for the definiteness of bare nominals have shown so far that the Hindi-Urdu nominal patterns with English definites, suggesting that the Hindi-Urdu (non-incorporated) bare nominal is indeed definite like she claims. Recall that while a Dayalian semantics for bare nominals in Hindi-Urdu can be made compatible with a DP analysis of languages without articles, Dayal herself prefers an NP analysis with type-shifting. Her semantic theory does not aim to follow from the syntax, and is unconcerned with the relationship between nominal structure and semantic type, given that type-shifting is post-syntactic. The lack of correspondence between syntax and semantics in Dayalian type-shifting is undoubtedly an issue for the proposed structures in (35), but it also raises questions about what triggers type-shifting in the Minimalist framework if it is not accounted for at all through a null element in syntax or through LF movement. Perhaps a question for further research would be to see if there is any evidence for type shifting in the head of some FP in the nominal, or in $N \rightarrow D$ movement like Longobardi (1994) has proposed for Italian.

Recall from (37) in Section 2.3 that a DOM *ko*-marked nominal may never be coordinated with an unmarked nominal. Their inability to coordinate or be contrasted hints towards unmarked and *ko*-marked nominals being of different semantic types, which should follow from the structures in (35), repeated as (46) on the next page.



(46a) shows that nominals without *ko*-marking in the direct object position project smaller structures of type $\langle e,t \rangle$, while *ko*-marked bare nominals like in (35d) are type e arguments. If Dayal is right about her type-shifting theory not being syntactically represented at all, it is puzzling why one of the two nominals that cannot be coordinated simply cannot type-shift and match the semantic type of the other.

In addition, the grammaticalised definiteness-marking strategies discussed in Section 3—like DOM, scrambling, information structure-based movement, and/or marked word orders—suggests that analysing definiteness as a purely lexico-semantic property would be inadequate. That definiteness in Hindi-Urdu nominals can manifest itself through movement, morphological marking, and/or changes in information structure suggests that it should be accounted for through features or operations in the morphosyntax, and cannot be left entirely to semantics and/or pragmatics.

In this section, I have explored the various ways that (in)definiteness is encoded in the Hindi-Urdu nominal syntactically and semantically. In the syntax, definiteness marking on discourse prominent bare direct objects takes the form of *-ko*, a differential object marking

morpheme that has traditionally been analysed as the Accusative case marker.⁴⁹ Additionally, that only *ko*-marked, non-incorporated animate direct objects may topicalise suggests that only definite DP structures that are identifiable due to having been previously introduced into the discourse allow topicalisation⁵⁰.

I have also surveyed the semantic literature of bare nominal interpretation to see if the Hindi-Urdu bare nominal corresponds to *the N* or *a N* in English, and found that bare nominals have prominently been analysed as standardly indefinite (Heim 2011), or standardly ambiguous between definites and kinds but not indefinites (Dayal 2004; 2018). I have evaluated both of these proposals in light of the findings on grammaticalised definiteness, and argued that both need to be supplemented with explanations for the differing syntactic behaviour of definites and indefinites in Hindi-Urdu. In particular, I suggest that providing a syntactic locus for Dayal's type-shifting principles might help explain idiosyncrasies in nominals, such as the inability to coordinate *ko*-marked and unmarked direct objects.

In the next section, I probe deeper into the structure of the Hindi-Urdu bare nominal, given that definite and indefinite bare nominals seem to be of different sizes and types, and have a differing syntactic distribution.

⁴⁹ It bears noting that links between Accusative case marking and definiteness in Hindi-Urdu have been proposed before, see Singh (1994), Enç (1991) for a relevant analysis.

⁵⁰ Again, specific indefinites may also be topicalised, but only the case of partitive specificity.

4. Functional projections in the Hindi-Urdu DP and Evidence for D°

This section deals with nominal structure in Hindi-Urdu, specifically in relation to the presence or absence of D°, and the functional projections that may appear in the left periphery of the nominal domain. In Section 2, it was concluded from applying Bošković's NP/DP generalisations to Hindi-Urdu that there are serious doubts about the inability of the Hindi-Urdu nominal to have a DP projection. Not only did Hindi-Urdu pattern with so-called 'DP languages' in many regards, but the logic of some generalisations like (i), (j) and (u) actually predicted that it does have D°. In section 3, it was shown that the presence of *-ko* on a bare nominal overwhelmingly leads to definite interpretations, and that only a *-ko* marked bare nominal (rather than unmarked smaller indefinite nominals) may topicalise. Additionally, the need for definiteness to be encoded in the syntax through features or movement was highlighted.

In this section, I explore other possible evidence there might be for D° in the Hindi-Urdu nominal through the structure of transitive genitives in (26), DP-internal focus movement, and structural restrictions on extracting out of the nominal. Then, I propose a structure for the Hindi-Urdu DP, including functional projections in its left periphery.

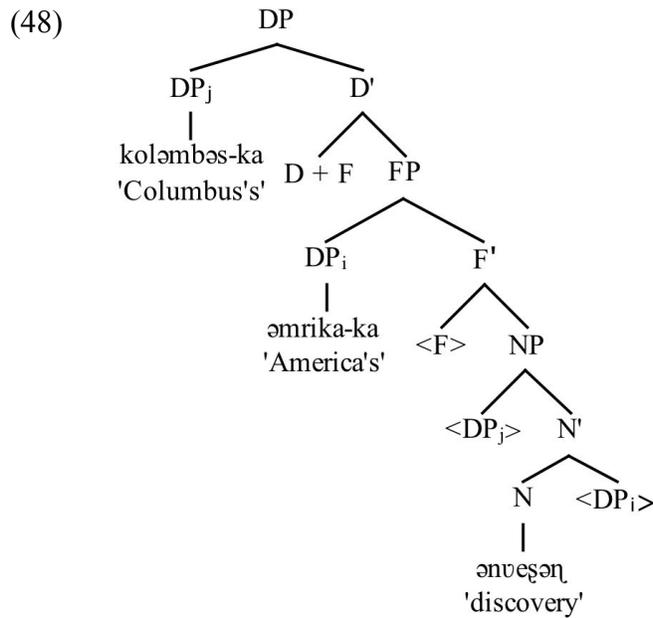
4.1 D° in transitive genitives

Recall example (26a) from Section 2, repeated below as (47), with agreement indices.

- (47) कोलम्बुस_z का_{AGRx} अमेरिका_y का_{AGRx} अन्वेषण_x
kolambās_z-ka_{AGRx} amrika_y-ka_{AGRx} anveṣaṇ_x
 Columbus-GEN.m.sg America-GEN.m.sg discovery.m
 'Columbus's America's discovery'='Columbus's discovery of America'

In (26a), the Genitive marker *-ka* in both its instances does not agree with the nominal it is affixed to. Instead, the case marker agrees with the unmarked nominal *anveṣaṇ*, which is

ultimately c-commanded (and linearly preceded) by both the case-marked nouns. This claim can be confirmed by replacing the unmarked, grammatically masculine noun *ənuʃəŋ* with the grammatically feminine *bərba:di:* ‘devastation’. The masculine Genitive case marker *-ka* would obligatorily have to change to the grammatically feminine *-ki* on both nouns that it is affixed to, resulting in the phrase ‘*koləmbəs-ki əmrīka-ki bərba:di:*’. While an explanation for the Agreement pattern observed above is beyond the scope of this thesis, an interesting observation is that *-ka* seems to act like a Determiner in that it agrees with some N to its right.⁵¹ Consider the proposed structure for (47) in (48) below.



In the structure above, *-ka* agrees with the unmarked N in both instances, much like the way determiners agree with the nouns they precede in several languages, such as Spanish, French, German, and Greek to name a few. Unlike prepositions and postpositions, and unlike other case markers in Hindi-Urdu, *-ka* is declinable. In (48), both the Genitive arguments move to the

⁵¹ I am not considering the Scandinavian-type definite markers that occur to the right of the N here. See Leu (2008) for an analysis of definite marking in languages with nominals that vary in the position of definiteness marking in the presence/absence of adjectival modifiers.

Specifier of either DP or some FP in order to be licensed. If this structure is correct, the licensing heads in Hindi-Urdu would be T, D, and whatever F licenses in the complement of N when it moves to Spec,FP. It would also show evidence for D° in Hindi-Urdu in at least one kind of nominal, since one of the nominals has to move to Spec,DP to get Case.⁵² Without a D° head in the nominal, it is unclear how this type of structure—especially with even more than two genitive arguments—could be possible within one phasal nominal complex.

4.2. Focus movement within the Hindi-Urdu DP

(48a-d) below show what kind of Focus movement can and cannot be licensed within the nominal. (48a) shows a stylistically neutral order of prenominal elements with respect to the head noun. They appear in a Genitive > Dem > Num > Adj > N order.

(48) a. मेरी ये छह सफ़ेद किताबें

meri je c^{he} sʌfe:d kIta:bẽ
 1.sg-GEN DEM.prox six **white** book.pl
 ‘These six white books of mine’

b. मेरी ये सफ़ेद वाली छह किताबें

meri je [sʌfe:d-ʋa:li] c^{he} t_i kIta:bẽ
 1.sg-GEN DEM.prox **WHITE-one.pl.f**⁵³ six book.pl
 ‘These six WHITE books of mine’

⁵² I do not attempt to explain how both the Genitive nominals inherit ϕ -features from N here. It is possible to analyse the morphological case marking on the Genitives as a *Last Resort* in order to become ‘visible’ for θ -marking, a la Chomsky 1995. The Nominative Case in Hindi-Urdu is not overtly marked, so the head noun does not have the requirements that the Genitives do. It is also possible to break down *ka* (and its feminine and plural forms *ki* and *ke*) into different morphemes; namely the Genitive(-like) marker *-k* and Agreement marker *-a/-i/-e* for masculine/neuter singular, feminine (singular and plural), and masculine/neuter plural respectively. If such an analysis is to be pursued, one would assume that the Genitive marker is housed in Spec,DP, and thus prevents the genitives from inheriting Nominative Case from the head N. However, ϕ -features can still be inherited from the head N, as seen through the agreement morphology.

⁵³The morpheme *ʋa:la/i* is polysemous, and can correspond to the English nominaliser suffix *-er*, to ‘one’ in ‘the red one’, to ‘about to’ in ‘I am about to do it’, and as an occupational + relational marker. When suffixed to an adjective, *ʋa:la* has the ‘one’ interpretation, and causes the adjective to be focused. It can also attach to nouns and verbs.

- c. * सफ़ेद वाली मेरी ये छह किताबें
 [səfe:d-ua:li] meri je c^{be} t_i kIta:bẽ
 WHITE-one.pl.f 1.sg-GEN DEM.prox six book.pl
 ‘*WHITE ones, these six books of mine’
- d. * मेरी सफ़ेद वाली ये छह किताबें
 *meri [səfe:d-ua:li] je c^{be} t_i kIta:bẽ
 1.sg-GEN WHITE-one.pl.f DEM.prox six book.pl
 ‘*My WHITE ones, these six books’

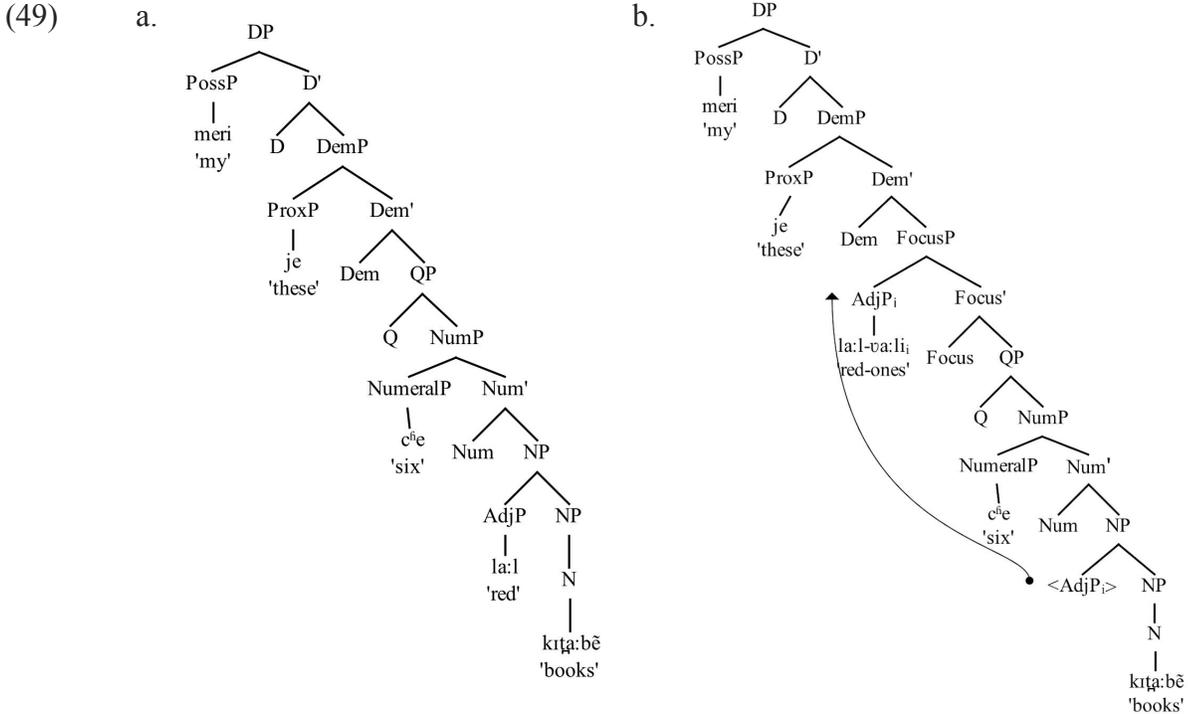
(48b-d) reflect cases of movement and affixation with an agentive nominaliser morpheme *-ua:la/i*, which results in obligatory Focus on the prenominal element it attaches to, and allows the element to move past some lower XPs within the nominal.⁵⁴ In the grammatical cases in (48a) and (48b), the Genitive argument stays phrase-initial, and any deviation from this position results in ungrammaticality as (48c) shows. Moreover, (48d) shows that even when the Genitive is phrase-initial, ungrammaticality can result from a fronted AdjP crossing the demonstrative and sitting in a position between what is presumably DP and DemP.

The availability of only some positions to the affixed AdjP, and the obligatory focus interpretation it receives suggests that the AdjP has undergone some information structure-related movement. I propose that the AdjP has moved to the specifier of a FocusP headed by *-ua:la/i* that admits a Focus interpretation to something in its specifier.

The structure for the neutral order in (48a), and focused adjective order in (48b) is given in (49a) and (49b) below, respectively. In these structures, each of the prenominal elements is

⁵⁴ Affixing *-ua:la/i* to a noun does not always result in Focus interpretation given that the morpheme has various meanings, but in this case Focus is obligatory on the nominal *-ua:la/i* affixes to. It may be possible to analyse *-ua:la/i* as a focus morpheme parallel to the nominal-internal focus marker Aboh (2004) posits for Gungbe, but the data suggests that they have a different distribution, and are projected between different heads in the nominal.

generated in the Specifier of its own phrase. Focus movement involves the movement of a whole phrase, AdjP in this case, to the specifier of FocusP⁵⁵.



Given that the element that *-ua:la/i* is affixed to may never cross a DemP or Genitive DP, it is sound to say that these Dems and Possessives have blocking effects, and that FocusP has to be projected below them. Consider the examples in (50a-c) below.

- (50) a. राम ने मेरी हरी कवर वाली किताब को फाड़ डाला।
ra:m-ne me:ri həri kəʋər-ua:li kɪtab-ko fa:ʈ ɖa:la
 Ram-ERG 1.sg-GEN **green.f cover-one** book-ACC tear put.PERF
 ‘Ram tore off my book with the green cover.’

- b. * राम ने हरी कवर वाली मेरी किताब को फाड़ डाला।
ra:m-ne [həri kəʋər-ua:li]_i me:ri t_i kɪtab-ko fa:ʈ ɖa:la
 Ram-ERG **green cover-one** 1.sg-GEN book-ACC tear put.PERF
 ‘Ram tore off my book with the green cover.’

⁵⁵ We may conjecture that the Hindi-Urdu nominal can also project TopicP, especially considering rich topicalisation-related scrambling at the clause level, and morphological topic marking often appears on old information.

- c. मेरी हरी कवर वाली किताब को राम ने फाड़ डाला।
 [me:ri həri kəvər-va:li kɪtəb-ko]_i ra:m-ne t_i fa:ɽ ɖa:lə
 1.sg-GEN green.f cover-one book-ACC Ram-ERG tear put.PERF
 ‘My book with the green cover, Ram tore (it) off.’

(Not available in a, b, or c: ‘Ram tore off a book of mine with a green cover.’)

(50) shows that similar blocking effects are found at the clausal level, where parts of the DP below DemP cannot be independently extracted and moved to the clausal left periphery as in (50b), but the whole DP may move to be topicalised as in (50c). (50c) also shows that information structure in the left periphery can occur at both the clausal and nominal levels, and that their blocking effects do not interact.

The interesting observation here is that demonstratives and possessive determiners are usually analysed as definites (Abbott 2004), and it seems like those are precisely what block movement. The grouping of possessives and demonstratives on one hand, and numerals and generalised quantifiers on the other could then be attributed to the differences in syntactic behaviour of definites and indefinites—especially with regard to whether or not they allow other phrases to move past them.

Giusti (1996) and Bernstein (1997) have argued that D is the left periphery of the nominal domain, just like C is that of the clausal domain (Rizzi 1997), and that D is able to house nominal-internal information structure-related functional projections. I have claimed that focus interpretation can be encoded by movement to a nominal-internal Spec,FocusP in Hindi-Urdu. If Giusti and Bernstein are indeed correct, and FocusP does rely on the presence of D° in the left-periphery, it must be the case that D° is projected.

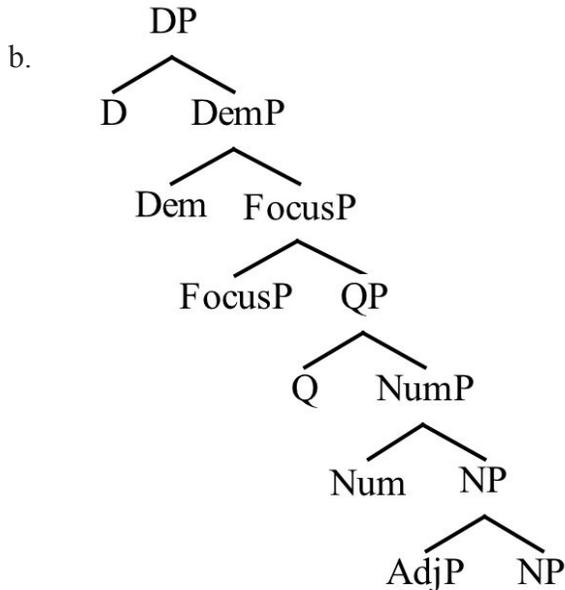
In summary, 4.1 and 4.2 have shown that the Hindi-Urdu nominal behaves like a DP in many ways, particularly with regard to the inability to extract or have nominal-internal focus

movement out of possessive or demonstrative phrases, as seen in examples (48) and (49). Additionally, Hindi-Urdu allows two (or more) lexical genitives in the same nominal phrase, such that the genitive marker *-ka* on each of the genitives agrees in gender and number with the head noun. The agreement of all genitive markers with N can be paralleled with the agreement of determiners with the nouns they precede in languages with articles. For these reasons, I argue that the Hindi-Urdu nominal must be able to project D. However, I do not argue that all nominals in Hindi-Urdu are DPs (e.g. (46)), due to the existence of (pseudo-)incorporated, number-unspecified and otherwise small(er) nominals like NPs and NumPs.

4.3 A new Hindi-Urdu nominal:

Section 2 showed that Hindi-Urdu nominals pattern with those in languages with articles, indicating either that Bošković's criteria are inconclusive, or that nominals in Hindi-Urdu must be DPs. In this section, I have presented evidence to show that at least some nominals in Hindi-Urdu can be DPs, including transitive genitives and possessive phrases. I suggest that definiteness encoded into DP and DemP is responsible for the blocking effects above QP within the nominal. Based on the structures in (45), I also suggest that all *ko*-marked nominals must be DPs, and that definites and specific indefinites in Hindi-Urdu are structurally different from non-specific indefinites. Keeping these findings in mind, I posit the structure and order of projections in (46) for the Hindi-Urdu nominal.

(46) a. D > Dem > (Focus) > Q > Num > Adj > N



5. Conclusion

In this thesis, I have explored the structure and interpretation of nominals in Hindi-Urdu, with a special focus on bare nominals and differentially *ko*-marked direct objects. I have proposed that nominals in Hindi-Urdu must be able to project D in order to account for the determiner-like behaviour of D^o-elements such as possessives in Hindi-Urdu. Support for a DP layer in Hindi-Urdu also comes from Hindi-Urdu patterning with languages with overt articles and DPs, with respect to different syntactic and semantic phenomena, as seen in Section 2.

I have also argued that the various syntactic definiteness-marking strategies in Hindi-Urdu, such as *ko*-marking and the ability to topicalise, help establish that the notion of definiteness cannot independently be tackled in the semantics, and must be accounted for in the nominal structure and through syntactic operations. I have shown that minimally different nominals in the same position in a sentence can project different structures that correlate with their interpretation as (in)definite and/or (non)specific.

On the semantics side, I have surveyed previous semantic analyses of definiteness and bare nominal interpretation in languages without articles, in particular Heim (2011) and Dayal (2004; 2018). I have argued that while Dayal's type-shifting analysis accounts for the puzzle of default bare nominal interpretation in Hindi-Urdu, it fails to explain the inability to coordinate DOM *ko*-marked and unmarked nominals, as these have the same structure under her analysis and can type-shift freely. Additionally, Dayal's analysis is unable to account for the fact that definiteness in Hindi-Urdu nominals can manifest itself through movement, morphological marking, and/or changes in information structure, all of which involve changes in interpretation.

I have argued that the Hindi-Urdu nominal acts like a DP with respect to the inability to extract and front certain parts of heavy DPs. In addition, Hindi-Urdu allows transitive genitives where the genitive marking on both arguments agrees with the head N, much like determiners do with the NPs they head in many languages. Hindi-Urdu nominals—much like clauses—may have information structure in the left periphery, which needs D° . In the case of Hindi-Urdu, I suggested that discourse-related functional projections like FocusP occur in positions lower than DemP and DP, due to the definiteness-related blocking effects that possessives in D° , and Dems have on movement and extraction within and outside of nominals that they head. Lastly, I have proposed a structure for the Hindi-Urdu nominal with its various functional projections that could account for focus movement, and the different sizes of *ko*-marked and unmarked nominals.

At this point, many questions about nominal structure and interpretation in Hindi-Urdu—and more generally in other languages without articles—remain open. For example, what is the exact semantics of *-ko*? How can its behaviour be clearly delineated? Is it indeed a definiteness marker, or does it just happen to show up on all (or most) definite bare nominals? As for interpretation, the concern about the necessity of encoding type-shifting into the syntax is worth restating. In particular, evidence for type-shifting in a null D° in the nominal, or in $N \rightarrow D$ movement, might be revelatory. Additionally, a crosslinguistic investigation into the features encoded by D and the essence of definiteness⁵⁶ would help clearly characterise what properties of a nominal could be tested for and how.

⁵⁶ E.g. familiarity, uniqueness, identifiability etc.

Abbreviations used

1	First person	m	Masculine
2	Second person	Neg	Negation
3	Third person	NOM	Nominative case
ACC	Accusative case	PERF	Perfective aspect
DAT	Dative case	pl	Plural
DEM	Demonstrative determiner	PRES	Present tense
ERG	Ergative case	PROG	Progressive aspect
f	Feminine	PRONOM	Pronominaliser
FUT	Future tense	prox	Proximal
GEN	Genitive case	sg	Singular
LOC	Locative case	SUBJUNCT	Subjunctive mood

References

- Abbott, Barbara. 2004. Definiteness and indefiniteness. *The handbook of pragmatics*: 122-149.
- Abney, Steven. P. 1987. *The English noun phrase in its sentential aspect*. Doctoral dissertation, Massachusetts Institute of Technology.
- Aboh, Enoch. 2004. Topic and focus within D. *Linguistics in the Netherlands*, 21(1), 1-12.
- Aboh, Enoch., Corver, N., Dyakonova, M., & van Koppen, M. 2010. DP-internal information structure: Some introductory remarks. *Lingua*, 120.
- Aissen, Judith 2003. Differential Object Marking: Iconicity vs. Economy. *Natural Language and Linguistic Theory* 21, 435-483.
- Bernstein, Judy. 1997. Demonstratives and reinforcers in Romance and Germanic languages. *Lingua*. 102. 87-113. 10.1016/S0024-3841(96)00046-0.
- Bhatt, Rajesh, and Elena Anagnostopoulou. 1996. Object shift and specificity: Evidence from ko-phrases in Hindi-Urdu. *Papers from the 32nd Regional Meeting of the Chicago Linguistics Society*, Chicago Linguistics Society, Chicago, 1122.
- Bhatt, Rajesh. 2003. Lecture handouts: Topics in the syntax of modern Indo-Aryan languages. MIT.

- Birner, Betty J., and Ward, G. 1998. *Information status and noncanonical word order in English*. Vol. 40. John Benjamins Publishing.
- Bošković, Željko. 2005. On the locality of left branch extraction and the structure of NP. *Studia Linguistica*, 59 (1), pp.1-45.
- Bošković, Željko. 2008a. What will you have, DP or NP?, In *Proceedings of the North East Linguistic Society* 37. GLSA, University of Massachusetts, Amherst. 101-114.
- Bošković, Željko. 2008b. The NP/DP analysis and Slovenian. In *Proceedings of the University of Novi Sad Workshop on Generative Syntax* 1. 53-73.
- Bošković, Željko. 2009. Scrambling. In *The Slavic Languages*, ed. by T. Berger, K. Gutschmidt, S. Kempgen, and P. Kosta. Berlin: Mouton de Gruyter
- Bošković, Željko. and Jon Gajewski. 2011. Semantic correlates of the NP/DP parameter. *Proceedings of NELS*. Vol. 39.
- Bošković, Željko. 2012. On NPs and Clauses. In *Discourse and grammar: From sentence types to lexical categories*, ed by G. Grewendorf and T. E. Zimmermann, 179-242.
- Bošković, Željko. & Şener, S. 2014. The Turkish NP. In *Crosslinguistic studies on noun phrase structure and reference*.102-140.
- Butt, Miriam. 2001. Case, agreement, pronoun incorporation and pro-drop in South Asian languages. In *Workshop on the Role of Agreement in Argument Structure*, Utrecht University. Available at <http://ling.uni-konstanz.de/pages/home/butt/utrecht01-hnd2.Pdf>.
- Carlson, Greg N. 1977. *Reference to kinds in English*. Doctoral dissertation, University of Massachusetts.
- Chierchia, Gennaro. 1998. Reference to kinds across language. *Natural language semantics* 6.4: 339-405.
- Chomsky, Noam. 1986. *Barriers* 13. MIT press.
- Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, Massachusetts: The MIT Press.
- Chomsky, Noam. 2008. On phases. *Current Studies in Linguistics Series*, 45, 133.
- Cinque, Guglielmo. 2005. Deriving Greenberg's Universal 20 and its exceptions. *Linguistic inquiry* 36.3. 315-332.
- Dayal, Veneeta. 1992. The singular-plural distinction in Hindi-Urdu generics. In *SALT 2: Proceedings from the 2nd Conference on Semantics and Linguistic Theory*, ed. Chris Barker and David Dowty, 39-58. Columbus, OH: Ohio State University Press.
- Dayal, Veneeta. 2004. Number marking and (in)definiteness in kind terms. *Linguistics and Philosophy* 27. 393-450.
- Dayal, Veneeta. 2011. Hindi-Urdu pseudo-incorporation. *Natural Language & Linguistic Theory* 29(1). 123-167.
- Dayal, Veneeta. 2017. Determining (In)definiteness in the Absence of Articles. *Proceedings of TripleA* 3. 85-99.

- Dayal, Veneeta. 2018. Determining (In)definiteness in the Absence of Articles. In Ghanshyam Sharma & Rajesh Bhatt (eds.), *Trends in Hindi Linguistics*: De Gruyter Mouton.
- Despić, Miloje. 2011. *Syntax in the absence of determiner phrase*. Doctoral dissertation, University of Connecticut.
- Diesing, Molly. 1992. *Indefinites*. MIT press.
- Dryer, Matthew S. 2013a. Definite articles. In *The world atlas of language structures online*, ed. Matthew S. Dryer and Martin Haspelmath. Leipzig: Max Planck Institute for Evolutionary Anthropology. URL <http://wals.info/chapter/37>.
- Dryer, Matthew S. 2013b. Indefinite articles. In *The world atlas of language structures online*, ed. Matthew S. Dryer and Martin Haspelmath. Leipzig: Max Planck Institute for Evolutionary Anthropology. URL <http://wals.info/chapter/38>.
- Enç, Mürvet. 1991. The semantics of specificity. *Linguistic inquiry*: 1-25.
- Ergelen, Özlem. 2018. Information structure inside Turkish noun phrases. Paper presented at *Workshop on Altaic Formal Linguistics 14*, MIT.
- Franks, Steven, and Asya Pereltsvaig. 2004. Functional categories in the nominal domain. *Proceedings of FASL 12*.
- Frege, Gottlob. 1892. Über sinn und bedeutung. *Zeitschrift für Philosophie und philosophische Kritik* 100.1: 25-50.
- Giannakidou, Anastasia. 2011. Negative and positive polarity items: licensing, compositionality and variation. In *Semantics: An international handbook of natural language meaning*. Berlin: de Gruyter.
- Gillon, Carrie. 2015a. Investigating D in languages with and without articles. *Methodology in Semantic Fieldwork*. 175-205.
- Gillon, Carrie, and Solveiga Armoskaite. 2015b. The illusion of the NP/DP divide: evidence from Lithuanian. *Linguistic Variation* 15:1. 69-115.
- Giusti, Giuliana. 1996. Is There a FocusP and a TopicP in the Noun Phrase Structure?. *University of Venice Working Papers in Linguistics*. 6.
- Giusti, Giuliana, 1997. The categorial status of determiners. In Haegeman, Liliane MV, ed. *The new comparative syntax*. London: Longman, 1997.
- Heim, Irene. 2011. Definiteness and indefiniteness. In: Claudia Maienborn, Klaus von Heusinger & Paul Portner (eds.), *Semantics: An International Handbook of Natural Language Meaning 2*, De Gruyter Mouton.

- Hosseini Fatemi, Maryam. 2014. *The semantics of the Persian object marker-râ*. Doctoral dissertation, Carleton University.
- Kalin, Laura. M. 2014. *Aspect and argument licensing in Neo-Aramaic*. Doctoral dissertation, University of California at Los Angeles.
- Kalin, Laura. 2018. Licensing and Differential Object Marking: The View from Neo-Aramaic. *Syntax* 21.2: 112-159.
- Kayne, Richard. 1994. *The antisymmetry of syntax* (No. 25). Mit Press.
- Lahiri, Utpal. 1998. Focus and negative polarity in Hindi-Urdu. *Natural language semantics*, 6(1), 57-123.
- Leu, Thomas. 2008. The internal syntax of determiners. *GAGL: Groninger Arbeiten zur germanistischen Linguistik*, (47), 1-224.
- Longobardi, Giuseppe. 1994. Reference and proper names: A theory of N-movement in syntax and logical form. *Linguistic inquiry*, 609-665.
- Lyons, Christopher. 1999. *Definiteness*. Cambridge University Press.
- Lyutikova, Ekaterina, and Asya Pereltsvaig. 2015. The Tatar DP. *Canadian Journal of Linguistics/Revue canadienne de linguistique* 60.3: 289-325.
- Mahajan, Anoop. 1990. *The A/A-bar distinction and movement theory*. Doctoral dissertation, Massachusetts Institute of Technology.
- Mahajan, Anoop. 1992. The specificity condition and the CED. *Linguistic Inquiry*, 510-516.
- Mahajan, Anoop. 1994. Toward a unified theory of scrambling. *Studies on scrambling: Movement and non-movement approaches to free word-order phenomena*, 301-330.
- Mahajan, Anoop. 2017. Accusative and Ergative in Hindi-Urdu. In *The Oxford Handbook of Ergativity*. : Oxford University Press.
- Mohanan, Tara. 1995. Wordhood and lexicality: Noun incorporation in Hindi-Urdu. *Natural Language & Linguistic Theory* 13.1: 75-134.
- Partee, Barbara. 1986. Noun phrase interpretation and type-shifting principles. In: Jeroen Groenendijk, Dick de Jong, and Martin Stokhof (eds.), *Studies in Discourse Representation Theory and the Theory of Generalized Quantifiers*: 115–143. Dordrecht: Foris.
- Pereltsvaig, Asya. 2006. Small nominals. *Natural Language & Linguistic Theory* 24.2:433.
- Prince, Ellen F. 1981. On the Inferencing of Indefinite-this NPs. In A. Joshi, B. Webber and I. Sag (eds.) *Elements of discourse understanding*. Cambridge University Press. 231-250.

- Rizzi, Luigi, 1997. The fine structure of the left periphery. In *Elements of grammar*, 281-337. Springer, Dordrecht.
- Rizzi, Luigi, & Cinque, Guglielmo. 2016. Functional categories and syntactic theory. *Annual Review of Linguistics*, 2, 139-163.
- Russell, Bertrand. 1919. Descriptions. *Introduction to mathematical philosophy*: 167-80.
- Sharvit, Yael. 2003. Embedded Tense and Universal Grammar. *Linguistic Inquiry*, 34(4), 669-681. Retrieved from <http://www.jstor.org/stable/4179257>
- Syed, Saurov. 2015. Focus-Movement within the Bangla DP. *Proceedings of WCCF 32*.
- Syed, Saurov, and 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: 68.
- Singh, Mona. 1994. Thematic roles, word order, and definiteness. *Theoretical Perspectives on Word Order in South Asian Languages*, CSLI, Stanford, CA, 217-235.
- Von Stechow, Klaus, & Kornfilt, J. 2005. The case of the direct object in Turkish: Semantics, syntax and morphology. *Turkic languages*, 9, 3-44.
- Willim, Eva. 2000. On the grammar of Polish nominals. In *Step by step*, ed. R. Martin, D. Michaels, and J. Uriagereka, 319-346. Cambridge: MIT Press.