

Co-occurrence of non-article determiners: a window on articulation and bundling in DP structure

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1. Introduction

The distribution of DETERMINERS, elements within nominal expressions that contribute to REFERENCE, has played a central role in theories of nominal syntax. Among determiners, a significant literature has focused on the properties of indefinite and definite ARTICLES, leading to many advances of syntactic theory regarding the structure of nominal phrases (Abney 1987; Longobardi 1994; Giusti 2002; Alexiadou 2014; among many others). Articles, however, are not the only kind of determiners. In this paper, we examine the patterning of NON-ARTICLE DETERMINERS, specifically POSSESSORS, DEMONSTRATIVES, ADPOSITIONAL PRONOUNS, and ADPOSITIONAL PROPER NAMES. Although several works have studied the placement of non-article determiners in relation to head nouns and articles (Delsing 1998; Schoorlemmer 1998; Haspelmath 1999; Panagiotidis 2000; Brugè 2002; Allen 2008; Giusti 2015; among others), this paper explores a less-discussed aspect of variation in nominal syntax: the co-occurrence of non-article determiners within a single nominal expression. We show, by presenting data from a number of languages from different families, that languages vary in both the number and permitted combinations of non-article determiners within a nominal phrase. Cross-linguistic variation in these co-occurrence patterns provide a window on the functional structure of nominal expressions, and the nature of parametric variation in nominal syntax.

We first demonstrate that current theories of nominal syntax, which commonly posit a single D(eterminer) Phrase projection to host determiners (articles and non-article alike), are unable to generate the attested determiner co-occurrence patterns. Specifically, although a single DP structure can account for certain co-occurrence patterns between articles and other determiners, they cannot generate co-occurrence among non-article determiners. These patterns thus indicate that languages are not restricted to a single DP projection that hosts all determiners. Rather, some languages distribute features of nominal reference across a more articulated series of projections, a conclusion supported by recent work showing that the semantic subcomponents of “definiteness” are in some languages distributed across multiple syntactic positions in the nominal extended projection (cf. Julien 2005; Syed 2016, 2017; Cheng et al. 2017).

The paper then aims to answer the following question: is a fully articulated series of functional projections present in every language? We show that cross-linguistic variation in determiner co-occurrence restrictions cannot be captured in a principled manner if this is the case. We propose, in short, that languages share a universal, hierarchically arranged inventory of features, but vary in how those features are BUNDLED on functional projections (cf. Giorgi and Pianesi 1997; Bobaljik and Thráinsson 1998; Cowper 2005; Höhn 2017; B. Hsu 2017; among others). We focus on the following syntactic features of nominal reference, with definitions based on Lyons (1999).¹

- (1) PERSON: the participants of an event relative to the speaker and addressee.
- (2) DEIXIS: a spatial or temporal location relative to the speaker.
- (3) IDENTIFIABILITY: the speaker knows or is in a position to work out the referent of the noun phrase.

¹ As discussed in more detail by Lyons (1999), identifiability corresponds to the the notion of familiarity (Heim 1982), while inclusiveness subsumes the notion of uniqueness/maximality (Kadmon 1990).

- (4) INCLUSIVENESS: reference to the totality of the objects or mass in the context which satisfy the description.
- (5) POSSESSION: an asymmetric relation between the referent of the head noun phrase and another entity.

This inventory of features is universal, but the number of projections these features are mapped to varies cross-linguistically. Abstractly, given a hierarchical ordering of features $[X] > [Y]$, a language can either instantiate $[X]$ and $[Y]$ in a single projection, or instantiate $[X]$ in a projection that dominates the projection containing $[Y]$. We propose that two non-article determiners can co-occur in a language only if the features that they instantiate are found in distinct projections. We propose, based on their attested ordering restrictions, that the feature hierarchy in (6) is universal, whereas the distribution of [POSSESSION] varies cross-linguistically:

- (6) [PERSON] > [DEIXIS] > [IDENTIFIABILITY] > [INCLUSIVENESS]

Although the hierarchy of features and how they are bundled in a projection can account for co-occurrence restrictions in which determiners compete to fill a single structural position, the question remains how one can account for patterns where determiner co-occurrence is restricted even when those determiners seem to occupy different projections in the nominal domain. To account for such patterns, we suggest that non-article determiners must be licensed by agreement with a functional head (akin to current approaches to abstract case), which we formalize as the DETERMINER LICENSING CONDITION. In sum, we argue that the range of attested co-occurrence patterns and restrictions are predicted by the interaction of three factors: (a) a universal hierarchy of features, (b) parametric variation in the bundling of these features on functional projections, and (c) the licensing of determiners via agreement with corresponding functional heads.

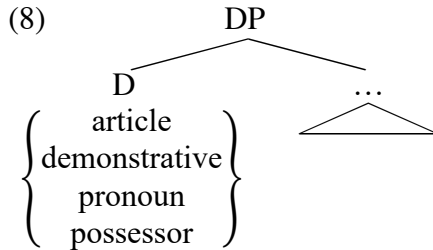
The paper is organized as follows. Section 2 presents a current view of DP structure and the types of determiner co-occurrence patterns that it predicts. Section 3 presents attested patterns of co-occurrence among non-article determiners as evidence for both a hierarchical organization of nominal features and a feature-bundling parameter in their realization. Section 4 examines evidence for the movement of demonstratives and possessors, and argues that determiners are licensed by agreement. Section 5 concludes the paper.

2. Determiners and the DP hypothesis

The DP hypothesis, which posits that nominal expressions are headed by a functional D(eterminer) Phrase (Abney 1987; Szabolcsi 1994; Longobardi 1994), has produced many insights into nominal syntax and semantics. This paper revisits two key claims of the standard DP hypothesis: first, that the DP projection is the surface position of articles and other determiners, and second, that it is the single structural position in which the referent(s) or the index of a nominal expression is specified (Longobardi 1994; Giusti 2015; Jenks 2018).

Following previous works, we assume that co-occurrence restrictions between two determiners arise when those determiners compete to fill a unique position. However, languages can vary in whether certain combinations of determiners are permitted; explaining the source of this variation is a significant challenge for current theories of nominal syntax, as we will now illustrate. For example, English determiners cannot co-occur in a prenominal position; this complementary distribution can initially be taken to indicate that these determiners compete to fill a unique D(eterminer) head position (8).

- (7) a. *the these people (article + demonstrative)
 b. *my these people (possessor + demonstrative)
 c. *we these people (pronoun + demonstrative)
 d. *my them people (possessor + pronoun)



Prior works have shown, however, that such a structure incorrectly undergenerates a number of attested patterns. These works have typically focused on cases in which certain non-article determiners either can or must occur with an article (Delsing 1998, Haspelmath 1999, Vangsnes 1999, Allen 2008, Giusti 2015). For example, demonstratives must occur with a definite article in Hungarian, adpositional pronouns must occur with an article in Spanish, and Lappräsk requires possessors to occur with articles:²

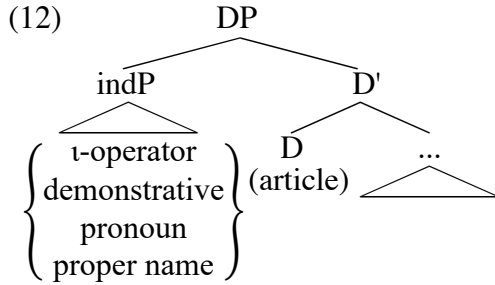
- (9) ez a fiú demonstrative + article (*Hungarian*: Giusti 2015)
 this the boy

- (10) vosotros los profesores pronoun + article (*Spanish*: Giusti 2015)
 you the professors

- (11) mett the stór hús-e possessor + article (*Lappräsk*: Vangsnes 1999)
 my the big house-DEF

While such co-occurrence patterns suggest a structural difference between articles and non-article determiners, they remain compatible with a non-articulated DP structure with some additional claims. As a concrete example, we consider Giusti's (2015) approach to nominal structure, based in part on a cross-linguistic study of the distribution of determiners. In brief, articles correspond to heads within the extended projection, while non-article determiners are specifiers. Demonstratives, pronouns, and proper names are classified as INDEXICAL EXPRESSIONS (denoting "person, reference, or deixis"). Furthermore, although indexical items can potentially be first Merged at different stages of the derivation, they must ultimately move to the highest specifier position of the full nominal expression (cf. Longobardi 1994, Jenks 2018). Finally, Giusti argues that indefinite and definite articles do not themselves contribute to reference, but are simply pronunciations of functional heads within the nominal expression. This proposed DP structure is shown in (12).

² Even English, in which determiner co-occurrence is otherwise restricted, permits some combinations of adpositional pronouns and articles (ex. *we the people*), though speakers disagree about the productivity of such structures.



With these assumptions in place, cross-linguistic variation in the co-occurrence of articles with other determiners can be explained in terms of parameters on the pronunciation of functional projections; Each functional projection in a language is specified as to whether it requires the pronunciation of its head, its specifier, or both positions (cf. Vangsnes 1999; Giusti 2002; Julien 2005; Alexiadou et al. 2007). For example, complementary distribution between articles and demonstratives (ex. Italian) is generated by the OR parameter setting for demonstratives, while obligatory co-occurrence (ex. Hungarian) is generated by the BOTH setting.³

(13) *Italian: OR parameter with demonstratives*

- | | | |
|----------------------------------|----------------------------|--|
| a. queste ragazze
these girls | b. le ragazze
the girls | c. *queste le ragazze
these the girls |
|----------------------------------|----------------------------|--|

(14) *Hungarian: BOTH parameter with demonstratives*

- | | |
|-----------------------------|------------------------|
| a. ez a fiú
this the boy | b. *ez fiú
this boy |
|-----------------------------|------------------------|

In the remainder of this paper, we will largely leave aside the status of definite and indefinite articles, and focus on syntactic properties of non-article determiners, which pattern differently in key ways. The crucial prediction of Giusti's approach is that co-occurrence among non-article determiners (demonstratives, adpositional pronouns, proper names) within a single nominal expression should not be possible, as each of these are indexical items that compete to fill the highest nominal specifier position.⁴ In the next section, we present several co-occurrence patterns with non-article determiners that falsify this prediction. On the basis of these patterns, we argue that a number of features commonly subsumed under "reference" or "indexicality" are in some languages distributed across separate functional projections, in an articulated DP structure.

3. Co-occurrence of non-article determiners

3.1. Proper names + (pronouns) + demonstratives

In previous works, restrictions against the co-occurrence of demonstratives and adpositional pronouns (pronouns occurring with a co-referential common noun within the same nominal expression) have been taken to argue that these elements occupy the same structural position. For example, Giusti (2015) takes the language sample in (15) to propose that nominal expressions

³ Under the assumption that specifiers must precede heads, a more articulated structure is required for cases where an article precedes the other determiner (ex. Italian *il mio libro* 'the my book'). In such structures, the non-article determiner must be the specifier of a projection below DP.

⁴ Giusti (2015) notes that co-occurrence between possessors and other non-article determiners is not excluded by this reasoning, because possessors bear a referential index distinct from that of the full nominal expression. As discussed in Section 4, however, accounting for restrictions on co-occurrence between possessors and other determiners creates new complications for her proposed parameter system.

admit at most one indP. On the basis of the same restriction in Greek, Choi (2014) posits that demonstratives and adpositional pronouns are generated in the same functional projection.

- (15) a. *noi questi ragazzi *Italian*
 b. *nosotros estos chicos *Spanish*
 c. *noi acești băieți *Romanian*
 d. *we these boys *English*

As noted in the typological study of Höhn (2017), however, pronoun-demonstrative co-occurrence is attested in a wide range of languages outside of the Indo-European family.

- (16) dana ben eu age (*Amele*; Höhn 2017, after Roberts 1987)
 man big that 3.PL
 ‘Those leaders (big men)’
- (17) niya dathin-a dank-a (*Kayardild*; Höhn 2017, after Evans 1995)
 3.SG.NOM that-NOM man-NOM
 ‘Him, that man’
- (18) ahy vehivavy io (*Malagasy*; Paul and Travis *to appear*)
 1SG.ACC woman DEM
 ‘I this woman’

In addition, Höhn argues that attested variation in the relative order of pronouns, demonstratives, and nouns provides evidence for a universal hierarchical relationship between pronouns and demonstratives. Under the assumption that pronouns and demonstratives correspond to functional heads, the attested orders (*Pron – Dem – N*, *N – Dem – Pron*, *Pron – N – Dem*) are consistent with the cross-linguistically robust Final-over-Final Condition⁵ (Biberauer, Holmberg, and Roberts 2014; Sheehan et al. 2017) only if the functional projection for pronouns dominates the projection hosting demonstratives.⁶

Here, we consider a somewhat more complex pattern in Mandarin Chinese, first discussed by Huang et al. (2009), which provides additional evidence for a distinct PersP projection, and shows that ADPOSITIONAL PROPER NAMES can shed further light on nominal structure. Like Kayardild, Mandarin permits pronouns, demonstratives, and head nouns to occur in a fixed *Pron – Dem – N* order (19). In addition, however, demonstratives can be preceded by a proper name (20), or by both a proper name and an adpositional pronoun in that order (21). It is relevant that both proximal (*zhe*) and distal (*na*) demonstratives remain their deictic contrasts in the presence of proper names and third-person pronouns.⁷ Some discussion of “bleached” demonstratives that do not express deixis is given in Section 4.

- (19) ni-men zhexie haizi (*pronoun + demonstrative*)
 2-PL these boys
 ‘You these boys’

⁵ In brief, the Final-over-Final Condition is a prohibition against a head-final projection αP that immediately dominates a head-initial projection βP within the same extended projection: $*[\beta P [\alpha P \alpha [\gamma P \dots] \beta]]$.

⁶ While our analysis of Mandarin provides supporting evidence that adpositional pronouns are heads, we will have to leave aside the question of whether demonstratives are uniformly phrasal (Brugè 2002), or if they can be heads (Kouneli 2019).

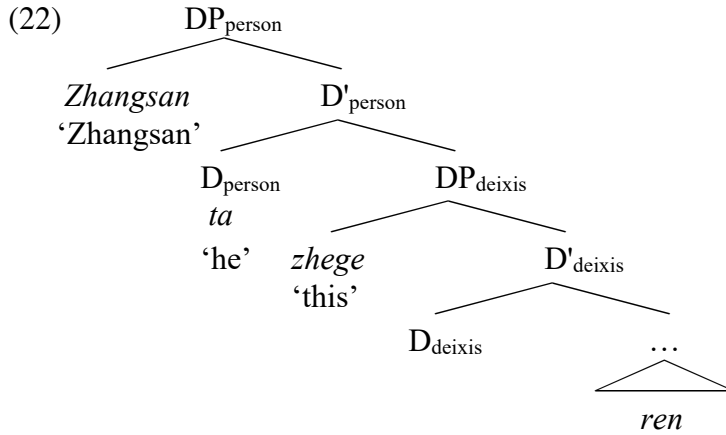
⁷ First- and second- person pronouns appear to occur only with proximal demonstratives (cf. *?wo nage ren* ‘I that man’, *?nimen naxie haizi* ‘you those children’), suggesting a type of obligatory concord between person and deixis features.

- (20) Lisi nage tiancai (proper name + demonstrative)
 Lisi that genius
 ‘That genius Lisi’

- (21) Zhangsan ta zhege ren (proper name + pronoun + demonstrative)
 Zhangsan 3 this person
 ‘This person Zhangsan’

Huang et al. (2009) argue that proper name + pronoun sequences realize the specifier and head of the highest nominal projection. Specifically, they note that in the presence of a proper name, only the pronoun can be suffixed with plural marker *–men*, argued by Li (1999) to appear only on head positions. We can thus conclude that demonstratives instantiate a lower projection than pronouns or proper names.⁸

We propose that in languages with pronoun-demonstrative co-occurrence, the syntactic features of [PERSON] and [DEIXIS] are realized in separate nominal functional projections. Abstracting away from the category labels of proper names and demonstratives (which we assume to be specifiers, cf. Brugè 2002), the proposed structure for Mandarin (21) is shown in (22) below.



3.2. Possessors + demonstratives

Languages also vary in whether possessors can co-occur with demonstratives. Several examples of possessor-demonstrative co-occurrence are given below. Note that this co-occurrence pattern is attested both in languages without articles (ex. Mandarin, Bangla) and those with articles (ex. Fongbe, German, Malax Swedish), indicating that its availability reflects an independent parameter on nominal structure.

- (23) amar oi lal boi (Bangla; Syed 2017)
 my that red book
 ‘That red book of mine’

⁸ Huang et al. (2009; 316) posit a single DP projection to account for these patterns: proper names occur in Spec, DP; demonstratives are D heads to which pronouns head-adjoin. The key empirical drawback to this structure is that it predicts the availability of both *Dem – Pron – N* and *Pron – Dem – N* orders cross-linguistically, under the assumption that the linearization of complex heads is variable.

- (24) Wangwu zhexie hao xiaohai (Mandarin)
Wangwu these good children
‘These good children of Wangwu’s’
- (25) àsón nyè tòn éló ó lé (Fongbe; Lefebvre 2013)
crab 1.SG GEN DEM DEF PL
‘these/those crabs of mine’
- (26) dieses unser Land (German; Plank 1992)
this our country
‘This country of ours’
- (27) men anje hest-i (Malax Swedish; Vangsnes 1999)
my this horse-DEF
‘This horse of mine’

In this subsection, we first discuss evidence that possessors in these structures cannot be analyzed by adjectives, and further argue that possessors in these co-occurrence patterns occupy distinct functional projections from demonstratives. We return to the attested variability in the relative ordering of possessors with other determiners in Section 3.4.

Co-occurrence between possessors and other determiners in languages like Italian has been taken to argue that possessors can in some languages have the same syntactic status as adjectives (Lyons 1986; Giorgi and Longobardi 1991). However, such an analysis is not possible for all of these co-occurrence patterns, based on morphological and distributional differences. For example, Plank (1992) demonstrates that the agreement paradigm on possessors in German resembles that of other determiners, but differs from that of adjectives. In Mandarin, possessors and adjectives have a different distribution; true possessors (not marked with ‘modification’ or ‘relativizing’ *de*) must precede demonstratives, while adjectives must follow them (Y.-Y. Hsu 2013). The reverse orders are ungrammatical (28).

- (28) a. *hao zhexie xiaohai b. *zhexie Wangwu xiaohai
good these children these Wangwu children

There is further evidence that the distribution of possessors depends on the distribution of a corresponding [POSSESSION] feature, and cannot simply follow from structural restrictions on genitive case-licensing. This is illustrated in Bangla, which permits DP-internal arguments (possessors, agent, or themes) with genitive case. While the placement of agent genitives is relatively unconstrained relative to demonstratives and numerals, the possessor reading is only available in a pre-demonstrative position (Syed 2017), suggesting that [POSSESSION] is uniquely associated with a position higher than demonstratives.

- (29) Sanyal-er oi du To chobi
Sanyal-GEN that two CL picture
✓ Agent reading: ‘those two portraits painted by Sanyal’
✓ Possessor reading: ‘those two portraits owned by Sanyal’
- (30) oi Sanyal-er du To chobi
that Sanyal-GEN two CL picture
✓ Agent reading: ‘those two portraits painted by Sanyal’
* Possessor reading: ‘those two portraits owned by Sanyal’

- (31) oi du To Sanyal-er chobi
 that two CL Sanyal-GEN picture
 ✓ Agent reading: ‘those two portraits painted by Sanyal’
 * Possessor reading: ‘those two portraits owned by Sanyal’

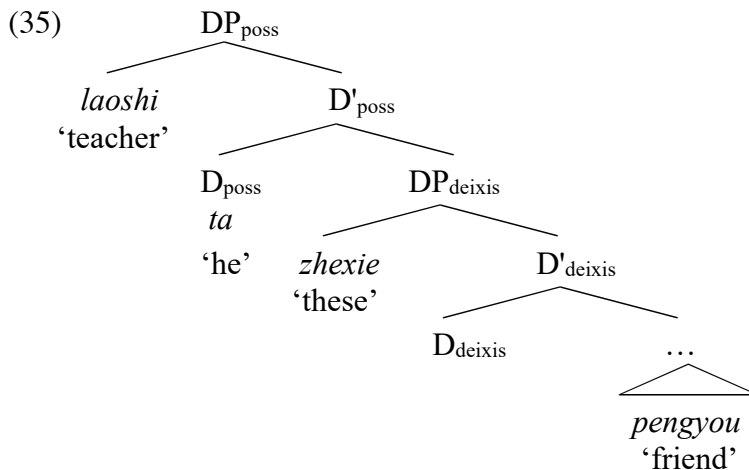
Further evidence that possessors occupy a dedicated functional projection is found in possessor-linker constructions, in which both a non-pronominal possessor and a co-referent ‘linker’ pronoun precede the head noun possessee (32). In the Germanic languages that allow this structure, the pronoun inflects for case assigned to the full nominal expression, while case on the non-pronominal possessor is fixed (accusative or dative, depending on dialect). The agreement patterns support a specifier-head structure for the possessor-linker sequence (Delsing 1998; Strunk 2004).

- (32) De’n Jung sien Vadder (*Low Saxon*: Strunk 2004)
 the.M.SG.ACC boy.M.SG.ACC his.M.SG.NOM father.M.SG.NOM
 ‘the boy’s father’

While the pattern appears to have eluded attention in previous works on Mandarin, the language allows a similar possessor-linker structure. Of key interest is the fact that the possessor and linker pronoun can precede demonstratives (34). Note that in these structures, the pronoun shows plural agreement with the preceding non-pronominal possessor, rather than the head noun.

- (33) wo renshi [laoshi ta pengyou]
 I know teacher 3 friend
 ‘I know the teacher’s friend’
- (34) a. wo renshi [laoshi ta zhexie pengyou]
 I know teacher 3 this.PL friend
 ‘I know these friends of the teacher’s’
- b. wo renshi [laoshi ta-men zhexie pengyou]
 I know teacher 3-PL this.PL friend
 ‘I know these friends of the teachers’

Assuming that the possessor-linker sequence in Mandarin also corresponds to a specifier-head structure, we conclude that possession is realized in a projection that above the projection realizing deixis (35).



Note that the structure resembles that of the proper noun-pronoun construction in (12), suggesting that the two patterns have a non-trivial structural similarity. We return to this observation in Section 3.5.

3.3. Components of definiteness: demonstratives and inclusiveness

A recent line of research has questioned the long-held assumptions that “definiteness” has (i) a single semantic characterization, and (ii) is expressed in a single projection of nominal phrase structure. Specifically, it has been shown that languages can use different morphemes or structures to distinguish “strong” definites, which refer to known entities in the discourse context, from “weak” definites, which refer to the maximum set of entities satisfying a domain restriction (Schwarz 2009; Syed 2016, 2017; Cheng et al. 2017; Jenks 2018; among others). Here, we adopt Lyons’ (1999) terminology, and refer to “strong” definites as marking *identifiability*, and “weak” definites as markers of *inclusiveness*, using the following working definitions, repeated from (3), (4):

- (36) IDENTIFIABILITY
The speaker knows or is in a position to work out the referent of the noun phrase.
- (37) INCLUSIVENESS
Reference to the totality of the objects or mass in the context which satisfy the description.

In particular, Julien (2005), Syed (2016, 2017) and Cheng et al. (2017) argue that identifiability and inclusiveness can be marked in two distinct projections. Here, we present data from Bangla to show that determiners marking deixis and possession can be marked in a distinct projection from inclusiveness.

Consider the following contrast in Bangla, as discussed by Syed (2016, 2017). Nominal expressions with *numeral-classifier-adjective-noun* order receive an indefinite interpretation (38). Preposing of the adjective-noun sequence to the left of the numeral and classifier (39) has been noted to create a type of “definite” reading, though its exact characterization has been debated (Bhattacharya 1999; Chacón 2012; Dayal 2012; Syed 2017).

- (38) du To lal boi (“indefinite”)
two CL red book
‘two red books’
- (39) [lal boi]_i du To t_i (“definite”)
red book two CL
‘the two red books’

Syed (2016, 2017) argues that an articulated DP structure is necessary to explain the observation that demonstratives are compatible with both the non-preposed order (40) and the preposed order (41). Given the intuition that demonstratives themselves introduce a definite interpretation, it appears that preposing and demonstratives indicate two different types of definiteness.

- (40) oi du To [lal boi] (“definite”)
that two CL red book
‘those two red books’
- (41) oi [lal boi]_i du To t_i (“definite”)
that red book two CL
‘those two red books’

Specifically, a straightforward analysis is available if the two semantic components of “definiteness,” identifiability and inclusiveness, are realized in separate functional projections in Bangla. Demonstratives occupy a relatively high functional projection that instantiates the features of deixis and identifiability. Preposing of the adjective-noun sequence is generated by movement to the specifier of a lower functional projection that instantiates inclusiveness. This is shown in (42) below.

- (42) [DP_{deix/iden} oi [DP_{inc} [lal boi]_i [NumP du To t_i]]]
 that red book two CL
 ‘Those two red books’ (*inclusive*)

The semantic compositionality of this structure is illustrated by Dayal (2012) with the following example in the context of a flower shop. The preposed order (43b) suggests that there are *only two types* of red flowers (e.g. roses and carnations), a clear reading of inclusiveness. However, no such implication holds for (43c) – the speaker may be picking out roses and carnations from a larger set of red flowers.⁹

- (43) a. kon phul Ta Sundor?
 which flower CL beautiful
 ‘Which of the flowers are beautiful?’
 b. oi lal phul du To (*inclusive*)
 that red flower two CL
 c. oi du To lal phul (*non-inclusive*)
 that two CL red flower
 ‘Those two red flowers.’

Lastly, we note that it is possible in Bangla for a possessor to precede both the demonstrative and preposed adjective-noun sequence (44). We thus have evidence for the presence of three functional projections in the Bangla DP-domain.¹⁰

- (44) amar oi [lal boi]_i du To [~~lal boi~~]_i
 my that red book two CL
 ‘These two red books of mine’ (*inclusive*)

- (45) [DP_{poss} amar [DP_{deix/iden} oi [DP_{inc} [lal boi]_i [NumP du To t_i]]]]
 my that red book two CL
 ‘Those two red books of mine’ (*inclusive*)

3.4 Possessors, identifiability, and inclusiveness

Certain hierarchical relations among co-occurring determiners appear to be universal. Recall Höhn’s (2017) argument that when they occur, adpositional pronouns are always in a higher

⁹ Dayal specifically proposes that preposing indicates maximality, which is equivalent to inclusiveness in Lyons’ (1999) terminology. The approach is framed contra Bhattacharya (1999), who posits a difference between a deictic reading in (40) and a specific reading in (41). For more detailed discussion, we refer the reader to Dayal (2012) for an alternative account of the pattern in a single DP structure, and to Syed (2017), who offers an explanation of Bhattacharya’s intuition about a deictic reading.

¹⁰ This projection is labelled as QP in Syed (2016, 2017).

position that demonstratives. Although the data are comparably sparse, we have not observed any patterns to suggest that identifiability or inclusiveness are realized in a hierarchically higher position than either deixis or person, or for the realization of inclusiveness above identifiability.¹¹ In sum, all of the attested patterns are consistent with the following hierarchy of nominal features:

- (46) [PERSON]>[DEIXIS]>[IDENTIFIABILITY]>[INCLUSIVENESS]

On the other hand, the relative ordering of possessors with other elements within nominal expressions is considerably more variable. As one illustration, compare the attested ordering relations between adpositional pronouns and demonstratives versus possessors and demonstratives. For instance, although languages with prenominal possessors and prenominal demonstratives can exhibit either *Poss – Dem – N* (ex. Bangla) or *Dem – Poss – N* (ex. German) orders, the only prenominal ordering of adpositional pronouns and demonstratives is *Pron – Dem – N* (cf. **Dem – Pron – N*). It thus appears that languages vary in the hierarchical realization of possession relative to other features of reference.

While it is beyond the scope of this paper to provide a full explanation for the special status of possession and its relative freedom of placement, variation in the features with which [POSS] is bundled can account for variation in whether possession structures imply other features of definiteness. As notably discussed in Lyons (1999: 130-134) and Cheng et al. (2017), languages vary in whether adnominal possessors require definite interpretations, and possessive structures within a language can similarly differ. For example, prenominal possessors in English require a definite interpretation of the full nominal expression, while postnominal possessors are compatible with either a definite or indefinite reading (47). A similar pattern is observed in Spanish (48).

- (47) a. my book (obligatorily definite)
b. a/the book of mine (optionally definite)
- (48) a. mia casa (obligatorily definite)
my.FEM house
b. una/la casa mía (optionally definite)
a.FEM/the.FEM house my.FEM

As noted by Lyons (1999: 134), such patterns suggest the possession relation itself is not restricted to definite DPs. Rather, the association of possession with definiteness arises only when possessors are structurally realized in a D position of some kind: “possessives are never lexically specified as [+def]. The definiteness ... is the consequence of the possessive being in Det position rather than the other way round.” In terms of our analysis, we propose that the prenominal determiner position in English and Spanish has a feature bundle that includes the hierarchically contiguous features [POSS], [DEIX], [IDEN]. While the exact nature of the postnominal possessor position in these languages is beyond the scope of our paper (for some approaches see Schoorlemmer 1998; Larson 2014), we assume that it is a position below the DP domain that is not associated with these features.

In this context, it is useful to note the following distinction between Spanish and Portuguese. Unlike Spanish, Portuguese allows prenominal possessors to co-occur with definite articles and demonstratives, and further allows possessors to co-occur with an indefinite article (Lyons 1999).

- (49) a. a nossa casa
the.FEM our.FEM house
‘our house’

¹¹ Cheng et al. (2017) similarly argue for a universal [IDEN] > [INCL] hierarchy, based on a different set of patterns.

- b. esta nossa casa
 this .FEM our.FEM house
 ‘this house of ours’
- c. uma nossa casa
 a.FEM our.FEM house
 ‘a house of ours’

We suggest that the difference between Spanish and Portuguese lies in the features with which [POSS] is bundled. In Spanish, [POSS] is bundled on a head that also includes [IDEN] and [DEIX] whereas Portuguese realizes [POSS] in a lower projection, though we do not yet know which other features are associated with this position. While our discussion remains speculative, variation in whether [POSS] is bundled with [INCL] may potentially account for variation in whether possessors are associated with inclusivity readings (Partee 2006; Cheng et al. 2017).

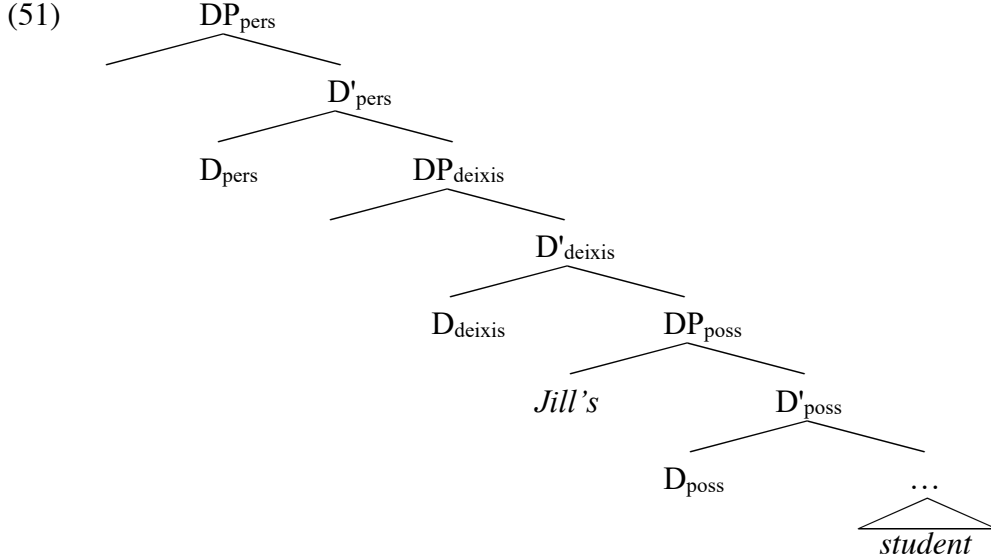
To summarize the main generalizations of this section thus far, it is clear that for certain pairs of features related to nominal reference, some languages can instantiate them on separate projections, while others cannot. Furthermore, determiner co-occurrence is subject to hierarchical ordering restrictions, some of which appear to be universal. In the next subsection, we address the question of which parameters determine cross-linguistic variation in permitted types of determiner co-occurrence, and argue that languages vary in the number of projections that are used to instantiate a universal set of features related to nominal reference.

3.5 Variation in nominal functional structure

On the one hand, the claim that languages have a single DP projection to express all features related to nominal reference clearly does not provide enough structure to account for the attested determiner co-occurrence patterns. On the other hand, if a fully articulated series of projections is present in every language, co-occurrence restrictions cannot be captured in a principled manner. To illustrate the issue, consider how one would account for the restriction against co-occurrence of pre-nominal possessors and other determiners in English (50).

- (50) a. *these my people (demonstrative + possessor)
 b. *them my people (pronoun + possessor)

Suppose for instance that all nominal expressions contain distinct PersonP, DeixP, and PossP projections, as in (51). In the absence of other restrictions, one expects each projection to be able to be filled by a determiner, incorrectly predicting grammatical co-occurrence between possessors, demonstratives, and/or adpositional pronouns in English.



To address this issue, Giusti (2015) suggests that the parameters on the pronunciation of a given functional projection can make reference to other projections. For example, it could be specified that in English both the head and specifier of DeixP must be null if PossP is filled, ruling out demonstrative+possessor co-occurrence. The first issue with this approach is that it requires a proliferation of similar ad hoc statements to rule out other possible combinations of determiners such as adpositional pronouns and demonstratives. The more fundamental problem is that it is an overly indirect way of accounting for the generalization that English allows at most one pronominal determiner.

Here, we will pursue the idea that the source of cross-linguistic variation in determiner co-occurrence lies in the *number of projections* that a language uses to instantiate functional features related to nominal reference. Specifically, we adopt the claim that languages share a universal inventory of features, but differ in how those features are distributed across functional projections (Giorgi and Pianesi 1997; Bobaljik and Thráinsson 1998; Cowper 2005; Höhn 2017; B. Hsu 2017; among others). Two determiners can co-occur in a language only if the features that they instantiate are found in distinct projections. We propose that all languages share the following feature hierarchy.¹²

- (52) *(Partial) hierarchy of upper nominal functional features:*
 [PERSON]>[DEIXIS]>[IDENTIFIABILITY]>[INCLUSIVENESS]

We illustrate this approach with determiner co-occurrence patterns in Mandarin and Bangla. Recall from Sections 3.1 and 3.2 that in Mandarin, a demonstrative can be preceded by a possessor or by a proper name. We take this to indicate that [DEIX] can be realized in a separate projection from both [POSS] and [PERS]. Recall that both proper names and non-pronominal possessors can be followed by a co-referent pronoun. This creates potential ambiguity for sequences like (53) and (54), in which the initial proper noun can be interpreted either as a possessor or as co-referential with the head noun.

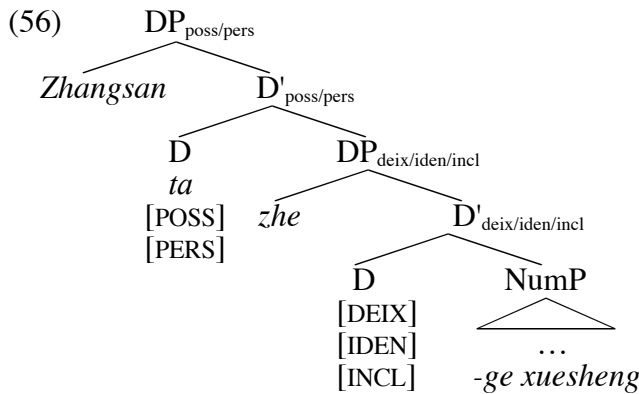
¹² In a similar vein, Larson (1991/2014) proposes that the hierarchy of projections within a nominal expression must reflect a hierarchy of thematic roles akin to those that determine VP structure. Unlike our proposal, however, Larson does not claim that all features related to nominal reference are present within each nominal expression.

- (53) Zhangsan_i ta_i zhe-ge xuesheng_i
 Zhangsan 3 this-CL student
 ‘This student Zhangsan’
- (54) Zhangsan_j ta_j zhe-ge xuesheng_i
 Zhangsan 3 this-CL student
 ‘This student of Zhangsan’s’

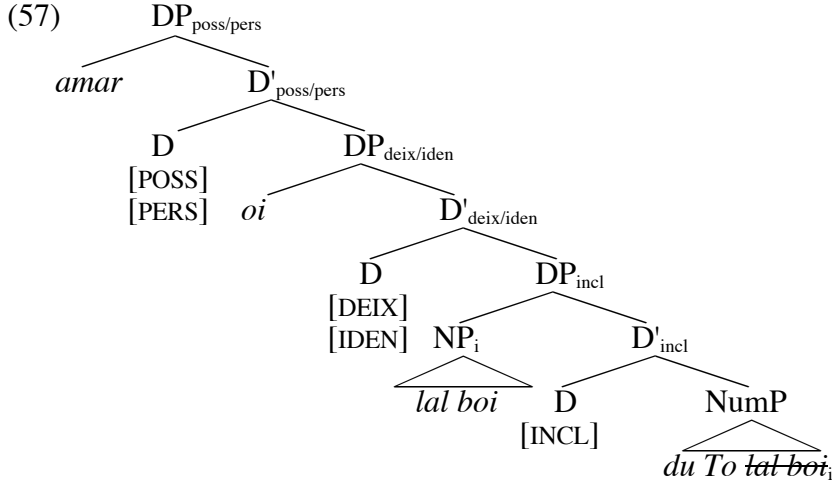
Note, however, that it is not possible for a possessor to co-occur with an adpositional name or pronoun (co-referential with the head noun), even in what appears to be a contextually appropriate context. Example (55) presents hypothetical example of attempted co-occurrence of a possessor preceding an adpositional name and pronoun. The reverse order (55b) in which an adpositional proper name precedes the possessor is likewise ungrammatical.

- (55) a. *Lisi_j Zhangsan_i ta_i zhe-ge xuesheng_i
 Lisi Zhangsan he this-CL student
Intended: ‘This student of Lisi’s, Zhangsan’
- b. *Lisi_i Zhangsan_j ta_j zhe-ge xuesheng_i
 Lisi Zhangsan he this-CL student
Intended: ‘Lisi, this student of Zhangsan’s’

We thus propose that [POSS] and [PERS] are bundled on a single head in Mandarin. As we further argue and formalize in Section 4, only one feature per head is able to license a corresponding determiner. Demonstratives, which instantiate [DEIX], are realized in a lower projection that also includes [IDEN] and [INCL]. This is illustrated in (56), which predicts co-occurrence in (53)-(54) but not in (55).



Next, we turn to Bangla, which permits a somewhat more articulated structure. Recall that while demonstratives signal deixis and identifiability, inclusiveness is marked separately by NP movement to a post-demonstrative position. We propose that demonstratives occupy a projection that includes both [DEIX] and [IDEN] features. This dominates the projection that includes [INCL], which attracts the *adjective + noun* constituent to mark inclusiveness. The hierarchically highest nominal features, [POSS] and [PERS], are realized in the highest projection, which hosts possessors.



Although co-occurrence patterns among non-article determiners have received relatively little attention in nominal syntax, we have shown that they are highly informative about nominal functional structure and its cross-linguistic variation. Specifically, they provide new evidence that the subcomponents of reference and indexicality can be realized in separate functional projections (Schwarz 2009; Cheng et al. 2017), and shed further light on the hierarchical distribution of their corresponding formal features.

4. The Determiner Licensing Condition

4.1 Non-local co-occurrence restrictions

In the previous section, we have shown that ordering restrictions among co-occurring non-article determiners provide new evidence that features related to nominal reference are hierarchically organized. Furthermore, variation in the number of non-article determiners that can co-occur results from different degrees to which these features are bundled on functional heads. Thus far, we have only considered restrictions on LOCAL CO-OCCURRENCE, in which determiners compete to fill a single structural position. In this section, we extend our account to NON-LOCAL CO-OCCURRENCE restrictions: cases in which determiner co-occurrence is restricted even when those determiners seem to occupy different positions within an articulated DP. We will argue that these patterns are predicted by the interaction of head bundling with a feature licensing condition that requires non-article determiners to Agree with a functional head.

The relevant pattern can be illustrated with the possible placement and co-occurrence of demonstratives and adpositional pronouns in Greek (Panagiotidis 2000; Alexiadou et al. 2007; Choi 2014). Demonstratives can occur in three positions: pre-article, post-nominal, or immediate pre-nominal position (when an adjective is present). These positions affect the interpretation of the demonstrative: in the terminology of Choi (2014), pre-article demonstratives carry a diectic contrastive reading, whereas the two lower demonstrative positions yield only an anaphoric interpretation. In terms of our proposed hierarchy of features, pre-article demonstratives realize a projection containing [DEIXIS], whereas the lower demonstrative positions realize [IDENTIFIABILITY] only.

- (58) a. **aftos** o neos andras
 this the young man
 ‘this young man’
- b. o andras **aftos**
 the man this
 ‘this man’
- c. o neos **aftos** andras
 the young this man
 ‘this young man’ (Choi 2014, ex. 1 pp. 25-26)

The distribution of adpositional pronouns is relatively restricted in comparison with demonstratives. When present, adpositional pronouns can only occur in the pre-article position.

- (59) **emis/esis** i expni glossologi
 We/you the smart linguists
 ‘We/you smart linguists’ (ex. 5 p 28)

- (60) *i **emis/esis** expni glossologi
 *i expni **emis/esis** glossologi
 *i expni glossologi **emis/esis** (ex. 6 pp. 28-28)

Thus far, the distribution of demonstratives and adpositional pronouns is compatible with a number of previous proposals in nominal syntax, particularly the claims that demonstratives are first-Merged in a low projection relatively close to NP (Brugè 2002), while pronouns are Merged at or near the top of the nominal extended projection (Höhn 2017).

Now consider the restrictions on their co-occurrence. First, it is not possible for adpositional pronouns and demonstratives to both appear in a pre-article position, regardless of their relative order (61). This again is explained if they compete to fill the specifier of a single (bundled) projection above the position of the article. It is surprising, however, that co-occurrence remains ungrammatical even with the demonstrative in a post-article position (62), an available demonstrative position in the absence of a pronoun.

- (61) a. ***emis/esis** **afti/eki** i glossologi
 We/you these/those the linguists
- b. ***afti/eki** **emis/esis** i glossologi
 these/those we/you the linguists (Ex. 9, p. 29)
- (62) a. ***emis/esis** o andras **aftos/ekini**
 we/you the man these/those
- b. ***emis/esis** o neos **aftos/ekini** andras
 we/you the young these/those man (ex. 10, p. 29)

An explanation of this restriction in terms of semantic incompatibility is implausible. Specifically, there is no reason to suspect a meaning-based incompatibility between the marking of both person features and identifiability on a single nominal expression. Recall that adpositional pronouns and identifiability-marking demonstratives readily co-occur in Mandarin Chinese (ex. *nimen zhexie pengyou* ‘lit. you these friends’) and a number of languages documented by Höhn (2017). Rather, we claim that the co-occurrence restriction arises because both demonstratives and pronouns must be licensed by agreement with a functional head. In languages like Greek, the two determiners compete to be licensed by a single functional head. In languages that permit demonstrative-pronoun co-occurrence, each determiner is licensed by agreement with a distinct functional head. The details of this proposal are presented in the next section.

4.2 Determiner licensing via agreement

Our proposal builds on a number of recent works. First, it has been argued that certain types of features, such as phi-features and abstract case features, must be licensed during the syntactic derivation by participating in Agree relation with a head that contains a corresponding probe (Béjar and Rezac 2009; Kalin 2019). Second, Erlewine (2018) proposes that heads are limited to having one licensing probe feature. Taken together, these claims predict that if non-article determiners must also be licensed by Agree, the number of heads in the nominal structure determines the number of determiners that can be licensed, regardless of whether the determiner licensed by a given probe is located in that projection’s specifier, or in a lower projection.

We propose that all non-article determiners have a type of a feature that must be licensed by agreement. We will call these *[R]-features*. All [R] features must be licensed during the derivation by Agree with a functional head that contains a corresponding probe [PROBE:R], very much akin to recent analyses of abstract case and phi-feature licensing in the inflectional and clausal domains (Béjar and Rezac 2009; Kalin 2019). We refer to this requirement as the Determiner Licensing Condition (based on the Person Licensing Condition of Béjar and Rezac 2009).

(63) *Determiner Licensing Condition*

A [R] feature must be licensed by Agree with a [PROBE:R].

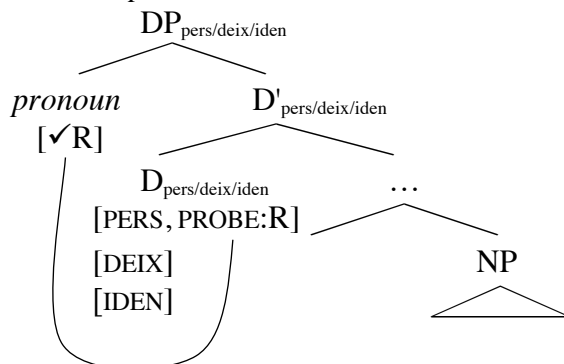
Here, we assume that each functional head contains at most one determiner-licensing [PROBE:R] (cf. Erlewine 2018), which must be associated with a feature of the same head (e.g. [PERS, PROBE:R]). We further assume that [PROBE:R] may compel phrasal movement of its goal, but this can be dependent on which other feature it is associated (B. Hsu 2017). The number of bundled projections thus determines the number of [R] features licensed within a DP. Our approach expands on several previous proposals about determiner licensing. For example, Longobardi (1994) proposes that the single D head has a [\pm R] feature that must be checked by agreement, while Brugè (2002) proposes that demonstratives have a [+REF] feature that must be checked by agreement with D. Here, we extend Brugè’s insight to other parts of the determiner system: *all* non-article determiners carry such a feature that requires licensing via agreement.

We propose that the pre-article position in Greek realizes a projection whose head includes the features [PERS], [DEIXIS], and [IDENTIFIABILITY]. This bundled $D_{\text{pers/deix/iden}}$ head contains a single [PROBE:] feature, which can be associated with any one of those features in a given derivation. Furthermore, we assume that this head can attract at most one phrasal specifier. We propose that pronouns are first Merged in the specifier of this highest projection, while demonstratives enter

the derivation as adjuncts to NP. As we will illustrate below, whether a pronoun or a demonstrative is licensed in a given nominal expression depends on which feature is associated with [PROBE:R]. Finally, the interpretation of demonstratives is dependent on whether it is licensed by agreement with [IDEN, PROBE:R] or [DEIX, PROBE:R].

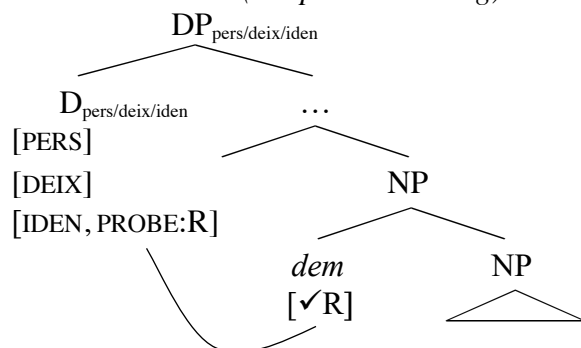
In nominal expressions that contain an adpositional pronoun, the pronoun is Merged in Spec,DP_{pers/deix/iden}, and its [R] feature is licensed by agreement with [PERS, PROBE:R]. In this and subsequent diagrams, [R] features licensed via Agree will be marked as [✓R], non-licensed ones marked as [●R].

(64) *Initial pronoun*



All demonstratives are first adjoined to NP, and must be eventually licensed by agreement with a [PROBE:R] feature on D_{pers/deix/iden}. The post-article demonstrative order (59c) is generated by a derivation in which the demonstrative is licensed by agreement with [IDEN, PROBE:R], which results in the anaphoric reading of the demonstrative. This agreement licenses the [R] feature of the demonstrative, but does not compel its movement to Spec, DP_{pers/deix/iden}.¹³

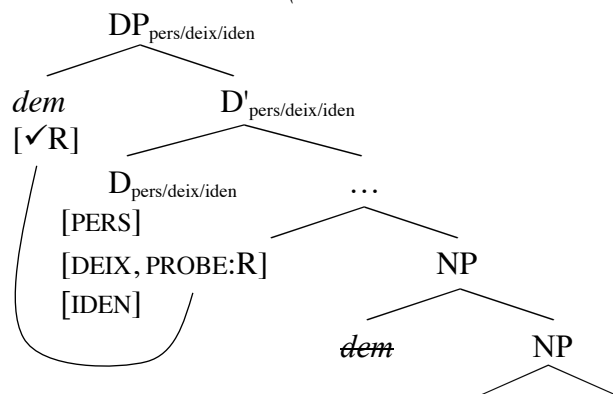
(65) *Lower demonstrative (anaphoric reading)*



¹³ As it is not fully clear whether there are semantic differences between immediately pre-nominal and post-nominal demonstrative placement (Alexiadou et al. 2007, 121), we will propose two tentative analyses for how post-nominal demonstrative order is generated. Assuming that there are no semantic differences between the two orders, the ordering flexibility can be attributed to the flexible linearization of NP adjuncts. Alternatively, if the orders differ in their information structure characteristics, the word order variation may result from optional movement of N/NP to a DP-internal TopicP or FocusP.

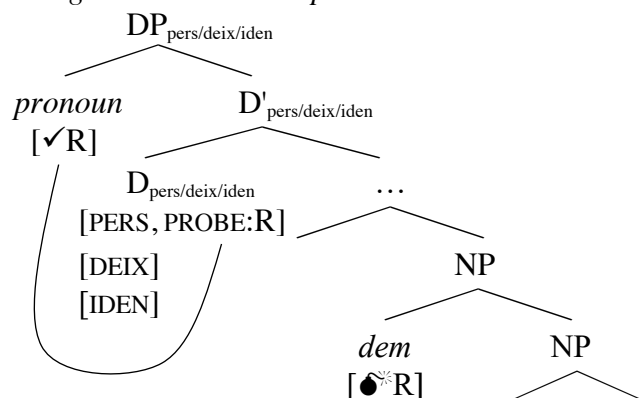
In nominal expressions with an initial demonstrative, [PROBE:R] is associated with [DEIX]. Consequently, agreement with the demonstrative results in the deictic contrastive reading. In addition, [DEIX, PROBE:R] compels agreement of the demonstrative to Spec, $DP_{pers/deix/iden}$, accounting for the obligatory pre-nominal placement of deictic demonstratives.

(66) *Initial demonstrative (deictic contrastive reading)*



Crucially, it is not possible for both a demonstrative and adpositional pronoun to be licensed by agreement, even if they occur in different positions. For instance, if $[PERS, PROBE:R]$ agrees with an adpositional pronoun, it cannot also agree with a low demonstrative. The unlicensed $[R]$ feature on the demonstrative then causes the derivation to crash.

(67) *Ungrammatical attempt at co-occurrence*



In summary, the Determiner Licensing Condition, in conjunction with the restriction of one [PROBE:R] feature per head, successfully accounts for patterns of non-local determiner co-occurrence restrictions.

5 Conclusion

In this paper, we have shown that cross-linguistic variation in attested co-occurrence patterns among non-article determiners can provide key insights into nominal syntax. First, we have argued that languages vary in the degree of articulation of the nominal extended projection. This accounts for the fact that languages differ in the number of non-article determiners that can co-occur within a DP. Second, we have claimed that the attested patterns provide new evidence for universal hierarchical relations among features related to nominal reference. For certain pairs of features, e.g. [PERS]>[DEIX], determiners that instantiate one feature are always higher in the nominal structure than determiners that instantiate the second one. Other pairs of features are more variable: in particular, [POSSESSION] varies significantly in its structural positions, both within and across languages. Finally, the existence of non-local co-occurrence restrictions suggests that the licensing of determiners requires agreement with a functional head.

Non-article determiner co-occurrence is not currently well-documented in many languages, perhaps due in large part to the ungrammaticality of these structures in the main languages spoken by researchers. We thus encourage researchers to search for them in future investigations of nominal syntax. We conclude the paper by noting several remaining empirical questions that we hope can be resolved in future work.

Additional data is needed to identify the limits on head-bundling. Our proposal on variation predicts that for any given pair of features, there should be a language that can instantiate them in separate projections. Some of these predictions remain to be confirmed; for example, we predict that some languages should allow adpositional pronouns (associated with [PERS]) and possessors (associated with [POSS]) to co-occur. We do not know if such patterns are attested. Similarly, we have not observed language patterns in which demonstratives do not also entail identifiability readings.

Finally, further investigation of determiner co-occurrence patterns may help to more clearly identify factors that underlie the paths and featural triggers of possessor movement, and variation in the placement of possessors more broadly. Looking further afield, we similarly hope to identify whether there are connections between degrees of articulation and patterns of DP-internal movement (Horrocks and Stavrou 1987) or extraction out of DP (Szabolcsi 1994; Gavruseva 2000). For example, if grammars are subject to an anti-locality restriction that requires phrasal movements to cross more than one projection (Abels 2003; Grohmann 2003; Erlewine 2016), greater degrees of bundling are predicted to result in greater restrictions on DP-internal movement.

References

- ABELS, KLAUS. 2003. Successive cyclicity, anti-locality, and adposition stranding. Ph.D dissertation, University of Connecticut.
- ABNEY, STEVEN. 1987. The English Noun Phrase in its Sentential Aspect. Ph.D dissertation, Massachusetts Institute of Technology.
- ALEXIADOU, ARTEMIS. 2014. *Multiple determiners and the structure of DPs*. Amsterdam/Philadelphia: John Benjamins.
- ALEXIADOU, ARTEMIS.; LILIANE HAEGEMAN.; and MELITA STAVROU. 2007. *Noun phrase in the generative perspective*. Berlin: Walter de Gruyter.
- ALLEN, CYNTHIA. 2008. *Genitives in early English: typology and evidence*. Oxford: Oxford University Press.
- BÉJAR, SUSANA.; and MILAN REZAC. 2009. Cyclic Agree. *Linguistic Inquiry* 40.35–73.
- BHATTACHARYA, TANMOY. 1999. The structure of the Bangla DP. University of London.
- BIBERAUER, THERESA.; ANDERS HOLMBERG.; and IAN ROBERTS. 2014. A syntactic universal and its consequences. *Linguistic Inquiry* 45.169–225. doi:10.1162/ling.
- BOBALJIK, JONATHAN DAVID.; and HÖSKULDUR THRAÍNSSON. 1998. Two heads aren't always

- better than one. *Syntax* 1.37–71.
- BRUGÈ, LAURA. 2002. The positions of demonstratives in the extended nominal projection. *Functional structure in DP and IP: The cartography of syntactic structures, Volume 1*, ed. by Guglielmo Cinque, 15–53. Oxford: Oxford University Press.
- CHACÓN, DUSTIN. 2012. Head movement in the Bangla DP. *Journal of South Asian Linguistics* 4.3–24.
- CHENG, LISA LAI-SHEN.; CAROLINE HEYCOCK.; and ROBERTO ZAMPARELLI. 2017. Two levels for definiteness. *Proceedings of GLOW in Asia XI*, ed. by Michael Yoshitaka Erlewine, 79–93. Cambridge, MA: MIT Working Papers in Linguistics.
- CHOI, JAEHOON. 2014. Pronoun-noun constructions and the syntax of DP. Ph.D dissertation, University of Arizona.
- COWPER, ELIZABETH. 2005. The geometry of interpretable features: Infl in English and Spanish. *Language* 81.10–46.
- DAYAL, VENEETA. 2012. What can South Asian languages tell us about classifier systems? *Paper presented at FASAL 2, MIT*.
- DELSING, LARS-OLOF. 1998. Possession in Germanic. *Possessors, Predicates and Movement in the Determiner Phrase*, ed. by Artemis Alexiadou and Chris Wilder, 87–108. Amsterdam/Philadelphia: John Benjamins.
- ERLEWINE, MICHAEL YOSHITAKA. 2016. Anti-locality and optimality in Kaqchikel Agent Focus. *Natural Language & Linguistic Theory* 34.429–479.
- ERLEWINE, MICHAEL YOSHITAKA. 2018. Extraction and licensing in Toba Batak. *Language* 94.662–697.
- EVANS, NICHOLAS D. 1995. *A grammar of Kayardild*. Berlin: Mouton de Gruyter.
- GAVRUSEVA, ELENA. 2000. On the syntax of possessor extraction. *Lingua* 110.743–772.
- GIORGI, ALESSANDRA.; and GIUSEPPE LONGOBARDI. 1991. *The syntax of noun phrases: configurations, parameters, and empty categories*. Cambridge: Cambridge University Press.
- GIORGI, ALESSANDRA.; and FABIO PIANESI. 1997. *Tense and aspect: from semantics to morphosyntax*. New York: Oxford University Press.
- GIUSTI, GIULIANA. 2002. The functional structure of noun phrases: A bare phrase structure approach. *Functional structure in DP and IP: The cartography of syntactic structures, Volume 1*, ed. by Guglielmo Cinque, 54–90. Oxford: Oxford University Press.
- GIUSTI, GIULIANA. 2015. *Nominal syntax at the interfaces: A comparative analysis of languages with articles*. Newcastle upon Tyne: Cambridge Scholars Publishing.
- GROHMANN, KLEANTHES K. 2003. *Prolific domains: On the anti-locality of movement dependencies*. Amsterdam: John Benjamins.
- HASPELMATH, MARTIN. 1999. Explaining article-possessor complementarity: economic motivation in noun phrase syntax. *Language* 75.227–243.
- HEIM, IRENE. 1982. The semantics of definite and indefinite Noun Phrases. Ph.D dissertation, University of Massachusetts Amherst.
- HÖHN, GEORG F. K. 2017. Non-possessive person in the nominal domain. Ph.D dissertation, University of Cambridge.
- HORROCKS, GEOFFREY.; and MELITA STAVROU. 1987. Bounding theory and Greek syntax : evidence for wh-movement in NP. *Journal of Linguistics* 23.79–108.
- HSU, BRIAN. 2017. Verb second and its deviations: An argument for Feature Scattering in the left periphery. *Glossa: a journal of general linguistics* 2.35. 1–3. doi:10.1016/0025-326X(78)90261-8.

- HSU, YU-YIN. 2012. Projections above NP in Mandarin. *Indiana University Working Papers in Linguistics* 12.1–23.
- HSU, YU-YIN. 2013. The interaction of information structure and syntactic representation in Chinese. Ph.D dissertation, Indiana University.
- HUANG, C.-T. JAMES.; Y.-H. AUDREY LI.; and YAFEI LI. 2009. *The syntax of Chinese*. Cambridge: Cambridge University Press.
- JENKS, PETER. 2018. Articulated definiteness without articles. *Linguistic Inquiry* 49: 501–536.
- JULIEN, MARIT. 2005. *Nominal phrases from a Scandinavian perspective*. Amsterdam: John Benjamins.
- KADMON, NIRIT. 1990. Uniqueness. *Linguistics and Philosophy* 13.273–324.
- KALIN, LAURA. 2019. Nominal licensing is driven by valued (phi-) features. *Nordlyd* 43.15–29.
- LARSON, RICHARD K. 2014. *On shell structure*. New York: Routledge.
- LEFEBVRE, CLAIRE. 2013. A comparison of the nominal structures of Saramaccan, Fongbe and English with reference to Haitian Creole: implications for a relabelling-based account of creole genesis. *Lingua* 129. Elsevier B.V.32–66. doi:10.1016/j.lingua.2012.03.011. <http://dx.doi.org/10.1016/j.lingua.2012.03.011>.
- LI, YEN-HUI AUDREY. 1999. Plurality in a classifier language. *Journal of East Asian Linguistics* 8.75–99.
- LONGOBARDI, GIUSEPPE. 1994. Reference and proper names : A theory of N-movement in syntax and logical form. *Linguistic Inquiry* 25.609–665.
- LYONS, CHRISTOPHER. 1986. The syntax of English genitive constructions. *Journal of Linguistics* 22.123–143.
- LYONS, CHRISTOPHER. 1999. *Definiteness*. Cambridge: Cambridge University Press.
- PANAGIOTIDIS, PHOEVS. 2000. Demonstrative determiners and operators: The case of Greek. *Lingua* 110.717–742. doi:10.1016/S0024-3841(00)00014-0.
- PARTEE, BARBARA H. 2006. A note on Mandarin possessives, demonstratives, and definiteness. *Drawing the Boundaries of Meaning: Neo-Gricean studies in pragmatics and semantics in honor of Laurence R. Horn*, ed. by Betty J. Birner and Gregory Ward, 263–280. Amsterdam/Philadelphia: John Benjamins.
- PAUL, ILEANA.; and LISA DEMENA TRAVIS. To appear. Augmented pronoun constructions in Malagasy across time and space. To appear in *Proceedings of the 54th Annual Meeting of the Chicago Linguistic Society*.
- PLANK, FRANS. 1992. Possessives and the distinction between determiners and modifiers (with special reference to German). *Journal of Linguistics* 28.453–468. doi:10.1017/S0022226700015292.
- PYLKKÄNEN, LIINA. 2002. Introducing arguments. Massachusetts Institute of Technology. doi:10.7551/mitpress/9780262162548.001.0001.
- ROBERTS, JOHN R. 1987. *Amele*. London: Croom Helm.
- SCHOORLEMMER, MAAIKE. 1998. Possessors, articles and definiteness. *Possessors, Predicates and Movement in the Determiner Phrase*, ed. by Artemis Alexiadou and Chris Wilder, 55–86. Amsterdam/Philadelphia: John Benjamins.
- SCHWARZ, FLORIAN. 2009. Two types of definites in natural language. Ph.D dissertation, University of Massachusetts Amherst.
- SHEEHAN, MICHELLE.; THERESA BIBERAUER.; IAN ROBERTS.; and ANDERS HOLMBERG. 2017. *The Final-over-Final Condition: a syntactic universal*. Cambridge, MA: MIT Press.
- STRUNK, JAN. 2004. Possessive constructions in Modern Low Saxon. MA thesis, Stanford

- University.
- SYED, SAUROV. 2016. Decomposing definiteness: arguments for a split D-domain in Bangla. *Proceedings of the 33rd West Coast Conference on Formal Linguistics*, ed. by Kyeong-min Kim, Pocholo Umbal, Trevor Block, Queenie Chan, Tanie Cheng, Kelli Finney, Mara Katz, Sophie Nickel-Thompson, and Lisa Shorten, 390–397. Somerville, MA: Cascadilla Proceedings Project.
- SYED, SAUROV. 2017. The structure of noun phrases in Bengali: What it tells us about phases and the universality of DPs. Ph.D dissertation, University of Southern California.
- SZABOLCSI, ANNA. 1994. The Noun Phrase. *The syntactic structure of Hungarian*, ed. by F. Kiefer and K. Kiss, 179–274. New York: Academic Press.
- VANGSNES, ØYSTEIN ALEXANDER. 1999. The identification of functional architecture. Ph.D dissertation, University of Bergen.