

INDEFINITE ARTICLE AND THE SCALE OF THE NP/DP-LANGUAGE DISTINCTION *

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1. Introduction

The main objective of this paper is to reconsider Bošković's (2008, 2012) typological claim on the correlation between articles and the structure of nominal phrases. Bošković establishes a number of cross-linguistic generalizations regarding languages with and without definite articles, some of which are given in (1) (see Bošković 2012 for more generalizations).¹ To illustrate (1a), English, which has a definite article, disallows adjunct extraction out of a nominal phrase, as shown in (2a), whereas Serbo-Croatian, which lacks a definite article, allows it, as shown in (2b). (Note that these are one-way correlations.)

- (1) a. Only languages without definite articles may allow adjunct extraction out of a nominal phrase.
- b. Only languages without definite articles may allow Left Branch Extraction of an adjective out of a nominal phrase.²
- c. Only languages with definite articles allow the majority superlative reading.
- (2) a. *[From which city]_i did Peter meet [girls t_i]?
b. [Iz kojeg grada]_i je Ivan sreo [djevojke t_i]?
from which city is Ivan met girls (Serbo-Croatian, Bošković 2008)

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¹ See also Fukui (1986), Corver (1990), Zlatić (1997), Cheng and Sybesma (1999), Lyons (1999), Willim (2000), Baker (2003), Marelj (2011), Cheng (2013), Runić (2014a,b), Kang (2014), Bošković and Hsieh (2013), Bošković and Şener (2014), Zanon (2015) among others for related discussions of at least some languages without definite articles.

² See also Uriagereka (1988) and Corver (1990).

Bošković offers deductions of some of his generalizations by proposing that languages with definite articles have DP in the nominal domain, whereas languages without definite articles lack DP (see below for technical details). The former type of languages are referred to as DP-languages, and the latter as NP-languages. Remarkably, Bošković's NP/DP-language distinction has a two-way cut; whether a language has a definite article correlates with whether DP projects in the language.

Crucially, for Bošković, what matters for the NP/DP-language distinction is the presence/absence of *definite articles*. In particular, Bošković (2009) shows that Slovenian, which has an indefinite article but lacks a definite article, behaves similarly to NP-languages such as Serbo-Croatian, which has neither. (3) shows that Slovenian allows adjunct extraction out of a nominal phrase, on a par with Serbo-Croatian (2).

- (3) [Iz katerega mesta]_i je srečal [(eno) punco t_i]?
 from which city (he) is met a girl (Slovenian: Bošković 2009)

He thus concludes that indefinite articles are irrelevant to the NP/DP-language distinction. To the best of my knowledge, this view has been taken for granted in the literature of the NP/DP-language distinction (see, e.g., Talić 2015, 2017, Oda 2021).

In this paper, however, I argue that indefinite articles do matter for the NP/DP-language distinction. Specifically, I establish a novel cross-linguistic generalization regarding a correlation between possibility of adjunct extraction out of an indefinite nominal phrase and obligatoriness of indefinite articles. I also introduce Tomioka's (2003) generalization regarding null arguments with the so-called sloppy reading, which involves the same typological classification as the one above and is shown to be confirmed by more languages. I take this as indicating that DP can be absent in indefinite nominal phrases in the relevant languages. This in turn means that the NP/DP-language distinction is not a two-way cut (i.e., whether a language has a definite article or not correlates with whether it has DP or not) as proposed by Bošković, but is a more fine-grained "scale" from a canonical DP-language, where DP always projects, to a canonical NP-language, where DP is always absent, as Oda (2022, 2023a) argues. Furthermore, I discuss relevance of the degree of grammaticalization of indefinite articles to projection of DP in indefinite nominal phrases, suggesting that External Pair-Merge in the sense of Epstein et al. (2016) plays a role. In a bigger picture, this study offers a more fine-grained view of typology and grammaticalization from the perspective of minimalism.

This paper is organized as follows. Section 2 shows that adjunct extraction out of a nominal phrase and null objects that allow the so-called sloppy reading are possible only in languages that allow omission of the indefinite article, arguing that the indefinite article does matter for the NP/DP-language distinction. Section 3 discusses degrees of grammaticalization from the minimalist perspective, suggesting that the indefinite articles in the relevant languages need not project their own functional projection in the middle of grammaticalization. Section 4 concludes the paper.

2. Relevance of Indefinite Articles to the NP/DP-language Distinction

2.1. Adjunct Extraction out of a Nominal Phrase

This subsection reconsiders relevance of indefinite articles to adjunct extraction out of a nominal phrase. Bošković's (2008, 2012) generalization and the relevant examples are repeated in (4) and (5) from (1a) and (2), respectively.

(4) Only languages without definite articles may allow adjunct extraction out of a nominal phrase.

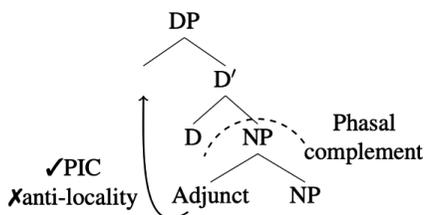
(5) a. *[From which city]_i did Peter meet [girls t_i]?

b. [Iz kojeg grada]_i je Ivan sreo [djevojke t_i]?

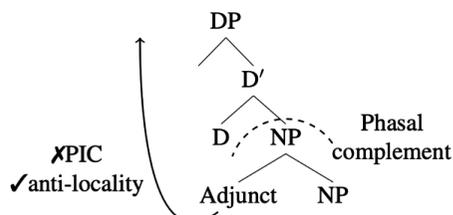
From which city is Ivan met girls (Serbo-Croatian: Bošković 2008)

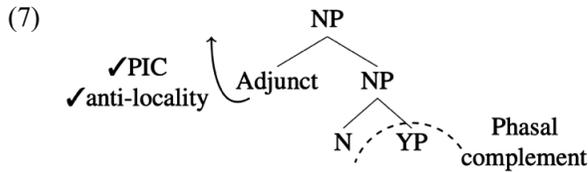
Bošković (2008, 2012, 2013) proposes to deduce (4) by assuming that DP projects above NP in languages with definite articles, whereas DP is absent in article-less languages. More specifically, Bošković proposes that the extraction in question is blocked by the interaction of the Phase Impenetrability Condition (PIC) and the anti-locality condition. The PIC essentially states that only the edge of a phase is accessible to further syntactic operations upon completion of the phase, hence movement out of a complement of a phase head is disallowed (Chomsky 2000). As for the anti-locality condition, Bošković (2013) proposes that movement has to cross at least one full phrase, not a segment. In addition, Bošković (2013, 2014) proposes that the highest projection in the extended projections of a lexical category counts as a phase. Thus, in languages with definite articles, DP projects above NP and constitutes a phase, whereas in article-less languages, DP is absent and hence NP is a phase. Given these, in languages with definite articles, where DP projects above NP, extraction of an adjunct which is adjoined to NP either has to violate the anti-locality condition to obey the PIC if it moves to Spec,DP since it crosses just a segment, not a full phrase, as schematized in (6a), or has to violate the PIC to satisfy the anti-locality condition if the adjunct moves directly out of DP, as shown in (6b). In contrast, in article-less languages, where the DP phase is absent (and NP is a phase), an adjunct can undergo movement without violating the PIC or the anti-locality condition, as illustrated in (7).

(6) a.



b.





Note that Bošković's generalization has a two-way distinction, i.e., whether a language has a definite article or not correlates with whether DP projects in the language. It is then expected that languages with definite articles never allow adjunct extraction out of a nominal phrase, as in English. Interestingly, however, Dubinsky and Tasseva-Kurktchieva (2014) observe that Bulgarian, which has affixal definite articles, allows the relevant extraction in the absence of the definite article. In (8a) and (8c), the definite article is present and the relevant extraction is disallowed, while the extraction in question is allowed in the absence of the definite article, as shown in (8b) and (8d).

- (8) a. *[Ot koj universitet]_i sreštna-ha [nyakolko-to studenti t_i]?
 from which university met-they several-the students

'From which university did they meet several students?'

- b. [Ot koj universitet]_i sreštna-ha [nyakolko studenti t_i]?
 from which university met-they several students

'From which university did they meet several students?'

- c. *[Ot koj universitet]_i sreštna-ha [nejni-to studenti t_i]?
 from which university met-they her-the students

'From which university did they meet her students?'

- d. [Ot koj universitet]_i sreštna-ha [nejni studenti t_i]?
 from which university met-they her students

'From which university did they meet her students?'

(Bulgarian: Dubinsky and Tasseva-Kurktchieva 2014)

Appealing to Bošković's deduction of (4) mentioned above, Dubinsky and Tasseva-Kurktchieva (2014) and Talić (2017) argue that DP is absent in Bulgarian when the affixal definite article is absent (see Dubinsky and Tasseva-Kurktchieva 2014 and Talić 2017 for more discussions). Talić then argues that DP may be absent in affixal article languages in the absence of the definite article. This can be extended to Egyptian Arabic, which has prefixal definite articles. As shown in (9a), extraction of an adjunct out of a nominal phrase is possible in the absence of the definite article. (9b) is the configuration in which the definite article is present,

and (9c) shows that the extraction in question out of the definite nominal phrase is banned.

- (9) a. [min ʔanhī balad]_i ʔinta ʔabil-t [banāt t_i]?
 from which country you met-2.SG.M girls
- b. ʔinta ʔabil-t [ʔil-banāt [ʔillī [min ʔanhī balad]]]?
 you met-2.SG.M the-girls C from which country
- c. *[min ʔanhī balad]_i ʔinta ʔabil-t [ʔil-banāt [ʔillī t_i]]?
 from which country you met-2.SG.M the-girls C
 (Egyptian Arabic: Soltan 2020)

Crucially, however, Greek and Spanish, in which the definite articles are not affixal, allow the extraction in question in the case of indefinite nominal phrases, as shown in (10b) and (11b), although the extraction is disallowed in the presence of the definite article, as seen in (10a) and (11a).

- (10) a. *[Apo pia poli]_i ghnorise [ta koritsia t_i] o Petros?
 from who city met.3SG the girls the Petros
 ‘Petros met the girls from which city?’
- b. [Apo pia poli]_i ghnorise [koritsia t_i] o Petros?
 from who city met.3SG girls the Petros
 ‘Petros met girls from which city?’ (Greek: Alexopoulou and Folli 2019)
- (11) a. *¿[De qué estantería]_i leyó María [los libros t_i]?
 of which shelf read Maria the books
 ‘From which shelf did Maria read the books?’
- b. ¿[De qué estantería]_i leyó María [libros t_i]?
 of which shelf read Maria books
 ‘From which shelf did Maria read books?’ (Spanish: Gabriel Martínez Vera, p.c.)

It thus seems that (the nature of) the definite article is not the only factor relevant to the possibility of the extraction in question.

A question that naturally arises here is, then, what is common across the languages introduced above. I suggest that what is crucial is the availability of bare singular count nouns in argument positions. Interestingly, Bulgarian, Greek, Spanish, and Egyptian Arabic allow bare singular in argument positions (Egyptian Arabic does not have an indefinite article in the

first place).

- (12) Marija kupi **kniga**.
 Maria bought book

‘Maria bought a book.’ (Bulgarian: Tasseva-Kurktchieva and Dubinsky 2018)

- (13) I Maria vrike **dada** gia ta pedhia.
 the Maria found nanny for the children

‘Maria found a nanny for the children.’ (Greek: Alexopoulou and Folli 2019)

- (14) Comprará **coche**.
 buy.FUT car

‘(S)he will buy a car.’ (Spanish: Espinal 2010)

- (15) Mona laʔ-it **kitāb**.
 Mona found-3SG.F book

‘Mona found a book.’ (Egyptian Arabic: adapted from Soltan 2020)

In contrast with the languages mentioned above, English and Italian, which do not allow bare singulars in an argument position (i.e., an indefinite article is obligatory), as illustrated in (16) and (17), disallow adjunct extraction out of an indefinite nominal phrase, as shown in (18) and (19).^{3,4}

³ Interestingly, Italian allows adjunct extraction out of a nominal phrase in the *presence* of a definite article, as seen in (i). See section 3 for an analysis of this.

- (i) [Di che scaffale]_i Gianni ha letto [i libri t_i]?
 of which shelf Gianni has read the books

⁴ Italian actually allows bare singular nouns in a predicative position, as shown in (i) (see Swart et al. 2007 for more languages).

- (i) Gianni è medico.
 Gianni is doctor

‘Gianni is a doctor.’ (Longobardi 1994: 618)

Although a full investigation of the irrelevance of predicative nominals for the properties discussed here is left for future research, the availability of the bare singular predicative nominal might be attributable to the nature of the “predicative phrase”. den Dikken (2006) proposes that predication is mediated by an abstract functional element Relator, which he argues is often realized as a preposition in English (e.g.,

(16) Mary found ***(a)** babysitter for the children.

(17) Maria ha trovato ***(una)** baby-sitter per i bambini.
 Maria has found a babysitter for the children

‘Maria found a babysitter for the children.’ (Italian: Alexopoulou and Folli 2019)

(18) ***[From which city]_i did Peter meet [girls t_i]? (= (2a))**

(19) ***[Di che scaffale]_i Gianni ha già letto [libri t_i]?
 of which shelf Gianni has already read books**

‘From which shelf did Gianni read books?’

(Italian: Bošković 2005, attributed to Giuliana Giusti)

Based on this, I propose the following typological generalization (note that this is a one-way correlation):

(20) Languages that allow adjunct extraction out of an indefinite nominal phrase allow bare singular count nouns in an argument position.

Note that Slovenian, which Bošković (2009) shows behaves like Serbo-Croatian in the relevant respect, has an indefinite article but allows bare singular arguments (see (3)), and hence falls under (20). Likewise, languages without indefinite articles that Bošković (2008, 2012) examines fall under this.

From the perspective of indefinite articles, availability of bare singular means non-obligatoriness of indefinite articles. (20) can thus be paraphrased as follows:

as, for). It is worth mentioning here that Oda (2022:ch.6) proposes, building on Grimshaw (2000) and Zanon (2020), that P can be the highest functional element of the extended projections in the nominal domain instead of D, and hence D can be omitted in the presence of PP in certain languages such as Romanian. Interestingly, both the Italian predicational nominal and the Romanian PP require an overt article in the presence of an adjective (see Longobardi 1994 and Mardale 2006, respectively). It may then not be unreasonable to hypothesize that Relator in the relevant case has prepositional nature in some sense, whereby D can be omitted in predicative nominal phrases in Italian. Another possibility is that R is a “chameleon” functional item that can be the highest functional element of the extended projections in any lexical domain including the nominal domain. It is worth noting here that Heycock and Zamparelli (2003) observe that bare singular is allowed in coordinate structures in languages such as Italian. Interestingly, Zoerner (1995) and Oda (2021) suggest that the head of the coordinate structure (Conj) is a sort of “chameleon” element that lacks inherent categorial specification and inherits the categorial status from the conjuncts. Thus, it would not be unnatural to conjecture that “chameleon” elements in general may have the potential to be a functional element in a lexical domain.

- (21) Indefinite articles are not obligatory in languages that allow adjunct extraction out of an indefinite nominal phrase.

Given that the presence of DP blocks the extraction in question as discussed above, it is implied that DP does not project in indefinite nominal phrases in (8)-(11), where the extraction is allowed. It then follows that the (non-)obligatoriness of indefinite articles is relevant to the presence/absence of the DP layer, *contra* Bošković's (2009) argument noted above, hence relevant to the NP/DP-language distinction.

This in turn means that the presence/absence of the definite article does not straightforwardly correlate with the presence/absence of DP in a language, unlike the standard view of the NP/DP-language distinction since Bošković (2008). I take this as indicating that the NP/DP-language distinction is not a categorical two-way cut as Bošković (2008, 2012) originally proposed, but a more fine-grained distinction. In particular, it is a "scale" from a canonical DP-language, where DP always projects above NP, to a canonical NP-language, where DP is always absent, and Bulgarian, Greek, Spanish, and Egyptian Arabic are non-canonical DP-languages somewhere in the middle of the scale (see also Oda 2022, 2023a for arguments for the scale-hood of the NP/DP-language distinction from the perspective of definite articles). Thus, I conclude that indefinite articles do matter for the NP/DP-language distinction, which should be regarded as a fine-grained scale rather than a categorical two-way cut.

2.2. Null Indefinite Objects

Another domain in which we observe the relevant language classification is null indefinite objects. It is well-known that null arguments in Japanese allow the so-called sloppy reading. In (22b), the null argument is indicated by the underline and intended to refer to the embedded subject *zibun-no teian* 'self's proposal' in (22a), where *zibun* 'self' refers to Mary. Under the strict reading of the null argument, its referent is strictly identical to that of the antecedent, namely, Mary's proposal. In contrast, under the sloppy reading, the referent is John's proposal, i.e., not strictly identical to that of the antecedent. This property of null arguments in Japanese is contrasted with that of null subjects in Italian and Spanish, which only allow the strict reading, as shown in (23).

- (22) a. Mary-wa [zibun-no teian-ga saiyo-sare-ru-to] omotteiru.
 Mary-TOP self-GEN proposal-NOM accept-PASS-PRES-C] think

‘Mary thinks that her proposal will be accepted.’

- b. John-mo [__ saiyo-sare-ru-to] omotteiru.
 John-also accept-PASS-PRES-C think

‘Lit. John also thinks that __ (= {Mary's/John's} proposal) will be accepted.’

- (23) a. Maria cree [que su propuesta será aceptada].
 Maria believes that her proposal will.be accepted

‘Maria believes that her proposal will be accepted’

- b. Juan también cree [quepro __ será aceptada].
 Juan too believes that will.be accepted

‘Lit. Juan also believes that __ (= {Maria’s/*Juan’s} proposal) will be accepted.’

(Adapted from Oku 1998)

In the literature, there have been a number of works that investigate what property of a language correlates with which type of null arguments the language allows.⁵ What is relevant for the current purpose is that Cheng (2013) establishes the generalization that the Japanese-type null arguments are possible only in languages that lack definite articles, i.e., only in NP-languages in Bošković’s sense (see also Bošković 2012, 2018 and Runić 2014a,b). Cheng bases his generalization on Japanese, Korean, Turkish, and American Sign Language. See also Takahashi (2013) for Malayalam, Sato (2015) for Javanese, and Sato and Karimi (2016) for Persian, all of which lack definite articles and allow the Japanese-type null arguments. Interestingly, however, it has been observed that null objects of the Japanese-type are allowed in languages that have definite articles (i.e., DP-languages in Bošković’s classification). In particular, based on Japanese, Korean, Mandarin Chinese, Thai, Hindi, Turkish, Brazilian Portuguese, and Greek, Tomioka (2003) suggests the following generalization (note that this is a one-way correlation):

- (24) All languages which allow discourse pro-drop allow (robust) bare NP arguments including bare singular arguments. (Adapted from Tomioka 2003: 336)

As shown in (25), the null object in Greek allows the sloppy reading, which is contrasted with the overt pronoun, which only allows the strict reading (see also Dimitriadis 1994, Giannakidou and Merchant 1997, Panagiotidis 2002, and Tsimpli and Papadopoulou 2006). Brazilian Portuguese exhibits the same pattern, as seen in (26) (see Cyrino and Espinal 2015 and Nomoto 2013 for the availability of bare singulars in Brazilian Portuguese).

- (25) a. O Napoleodas epline pjata ke i Nafsika skupise __.
 the Napoleodas washed.3SG dishes and the Nafsika dried.3SG

‘Napleodas washed dishes and Nafsika also dried ones.’ (sloppy reading)

⁵ For instance, Saito (2007) establishes the generalization that the Japanese-type null argument is available only in languages that lack subject-verb (or ϕ -feature) agreement (see also Takahashi 2013, Sato 2014, 2015, Sato and Karimi 2016 among others for relevant discussions).

- b. O Napoleodas epline pjatai ke i Nafsika ta_i skupise.
 the Napoleodas washed.3SG dishes and the Nafsika them.CL dried.3SG

‘Napleodas washed dishes and Nafsika dried them.’ (strict reading)
 (Greek: adapted from Alexopoulou and Folli 2019: 477)

- (26) a. Ontem o João pôs o anel no cofre, mas Pedro guardou __ na gaveta.
 yesterday the João put the ring in-the safe but Pedro kept in-the drawer
 ‘Yesterday João put the ring in the safe, but Pedro kept __ in the drawer.’(strict/sloppy)

- b. Ontem o João pôs o anel_i no cofre, mas Pedro guardou **ele_i** na gaveta.
 yesterday the João put the ring in-the safe but Pedro kept it in-the drawer

‘Yesterday João put the ring in the safe, but Pedro kept it in the drawer.’(strict/*sloppy)
 (Brazilian Portuguese: Cyrino and Lopes 2016: 491)

Tomioka’s generalization is indeed further confirmed by Egyptian Arabic, Spanish, and Singlish, all of which allow bare singular arguments (for bare singular arguments in Singlish, see Nomoto 2013); see (27)-(29).⁶

⁶ An apparent counterexample to (24) is Standard Basque, which allows null objects with the sloppy reading, as shown in (i), but disallows bare nouns in the argument positions (unlike the Souletin variety, which allows bare nouns; Etxeberria 2014).

- (i) a. Jon-ek liburu-a astiro irakurri du.
 Jon-ERG book-the slowly read AUX
 ‘Jon read a book slowly.’

- b. Miren-ek ere __ irakurri du.
 Miren-ERG also read AUX
 ‘Miren read [a book], too.’ (sloppy reading) (Basque: Takahashi 2007)

Hualde and Ortiz de Urbina (2003: 122) note that “[the indefinite article *bat*] is used much less freely than the indefinite articles of English and other western European languages”. In fact, in (ia), the indefinite specific nominal *liburu-a* ‘a book’ is not accompanied by *bat* but by the definite article *-a*. Hualde and Ortiz de Urbina also note that “[a]mong some younger speakers, there is a tendency to extend the use of *bat* to calque the much broader use of the Spanish article *un(a)*”. All this can be taken as indicating that *bat* is at an intermediate stage of grammaticalization into an indefinite article. In section 3, I suggest that what is crucial for the relevant generalizations is the degree of grammaticalization of the indefinite articles, and hence Basque would not be problematic for the proposal in this paper.

- (27) a. Mona laʔ-it kitāb wi Huda kamān laʔ-it ____.
 Monda found-3.SG.F book and Huda also found-3.SG.F

‘Mona found a book, and Huda found [a book] too.’ (sloppy reading)

- b. Mona laʔ-it ʔil-kitāb; wi Huda kamān laʔ-it-u.
 Monda found-3.SG.F the-book and Huda also found-3.SG.F-it

Intended: ‘Mona found the book, and Huda found it too.’ (strict reading)
 (Egyptian Arabic: Soltan 2020: 206)

- (28) a. ¿Compraste cafe? Sí, compre ____.
 you.bought coffee yes I.bought

‘Did you buy coffee?’ ‘Yes, I bought (some).’

- b. ¿Compraste el libro? Sí, lo=compre / *compre ____.
 you.bought the book yes it=I.bought I.bought

‘Did you buy the book?’ ‘Yes, I bought it.’ (Spanish: Clements 2006: 134)

- (29) a. David likes his school.

b. John likes ____ (strict/sloppy)

c. John likes it. (strict/*sloppy) (Singlish: Sato 2014: 370)

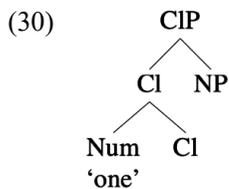
Thus, the (non-)obligatoriness of the indefinite article (i.e., the availability of bare singular arguments) correlates with the availability of null arguments of the Japanese type. I take this as another piece of evidence that the NP/DP-language distinction is not a categorical two-way cut that simply correlates with the presence/absence of the definite article, but is a scale from a canonical DP-language to a canonical NP-language, for which the presence/absence and the nature of the indefinite article matter.

3. Non-Projection of DP and Degree of Grammaticalization

An important question that arises from the above discussion is why the languages that allow bare singulars in argument positions allow absence of DP in indefinite nominal phrases in general. More specifically, how does the (non-)obligatoriness of the indefinite article affect the (non-)obligatory presence of DP in the plural nominal phrases, even though (in most cases) the indefinite article does not occur in plural nominal phrases? Tomioka (2003: 336) raises essentially the same question from a different angle; “[a]lthough all Discourse Pro-drop

languages seem to allow bare NP arguments, not all bare NP languages are Discourse Pro-drop. For instance, English permits bare plurals and bare mass nouns but have no null pronouns even when the antecedents are bare plurals or mass nouns. Why?"

I propose that this is related to the degree of grammaticalization of the indefinite article. The non-obligatoriness of the indefinite article in the relevant languages can be taken as indicating that the indefinite article is not fully grammaticalized, unlike those in English and Italian (see below for more on the correlation between the degree of grammaticalization and non-obligatoriness). Interestingly in this context, Wang (2019) proposes, based on a number of languages such as Chinese varieties and Slovenian, that at an intermediate stage of grammaticalization into an indefinite article, the numeral ‘one’ undergoes head-adjunction to a nominal head via base-generation (External Pair-Merge in the sense of Epstein et al. 2016) without projecting its own functional projection. The relevant structure in Mandarin Chinese is schematized in (30), where ‘one’ is part of the complex head and does not project its own projection.



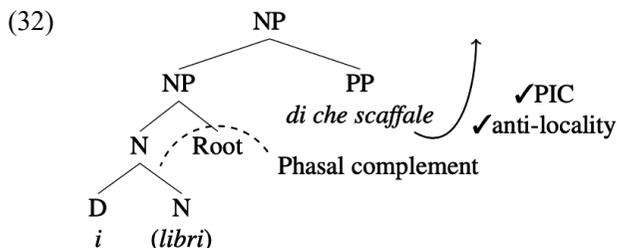
Oda (2022, 2023a) also proposes that the definite article in Italian can be Externally Pair-Merged with a nominal head without projecting DP. This is supported by the observation that adjunct extraction out of a nominal phrase is allowed (only) in the presence of the definite article in Italian, as shown in (31) (repeated from footnote 3), whose structure is schematized in (32) (see Oda 2022, 2023a for more empirical arguments). Oda also suggests, building on Wang (2019), that definite articles adjoin to a nominal head without projecting DP at an intermediate stage of grammaticalization into definite articles (see also Li and Oda 2023 for an analysis of grammaticalization of the parenthetical *I mean* in the same spirit).⁷

(31) [Di che scaffale]; Gianni ha letto [i libri ti]?
 of which shelf Gianni has read the books

Lit. ‘From which shelf did Gianni read the books?’

⁷ Revising van Gelderen’s (2011) grammaticalization cycle (or “path”), Wang (2019) and Li and Oda (2023) propose the following cycle of grammaticalization with respect to the structural position of an element, where the relevant indefinite articles and parenthetical *I mean* are located at the Complex Head stage:

(i) Adjunct > Specifier > Complex Head > Independent Head > Affix



In fact, Greek allows the extraction in question even in the presence of the indefinite article, as shown in (33), which can be taken as indicating that DP does not project in the presence of the indefinite article in Greek. This makes sense under Wang’s proposal; the indefinite article in Greek is not fully grammaticalized and can head-adjoin to N without projecting DP (see also Slovenian (4), where the extraction is allowed whether the indefinite article is present or not).

- (33) [Apo pia poli]_i ghnorise [ena koritsi t_i] o Petros?
 from which city met.3SG a girl the Petros

‘Petros met a girl from which city?’

How, then, does the intermediate grammaticalization status of the indefinite article relate to the absence of DP in plural and mass indefinite nominals? Here I suggest two possibilities. The first possibility is that the syntactic nature of the indefinite article is generalized to null Ds in the plural and mass indefinite nominal phrases, as per Roberts’s (2007) Input Generalization, which is a third-factor principle that requires a learner to generalize a parameter value to all relevant heads (see also Boeckx 2011). Specifically, if the indefinite article is not fully grammaticalized and can adjoin to a nominal head without projecting DP, the null D in all other indefinite nominal phrases can also adjoin to a nominal head via External Pair-Merge, without projecting DP. Thus, in such languages, the relevant extraction is (in principle) allowed in the indefinite nominal phrases. In contrast, if the indefinite article is fully grammaticalized and always projects DP, the null D in all other indefinite nominal phrases must also project DP, which gives rise to the impossibility of the extraction in question. The second possibility is that no null D for indefinite nominal phrases is postulated (i.e., acquired) if the “indefinite article” is not obligatory, as per Roberts and Roussou’s (2003) Feature Economy, which is a third-factor principle that requires a learner to postulate as few features as possible. In other words, the non-obligatoriness of the presence of a functional projection by an overt lexical item signals that a functional projection is not necessary in the absence of an overt lexical item, and the absence of the functional projection is preferred (see Oda 2022 for an argument that bare NPs without a functional projection are the default option of UG). In either case, what is at stake for non-projection of DP in indefinite nominal phrases is non-projection of DP by an indefinite article, which is implemented by External Pair-Merge.

A remaining question is why the indefinite article is not obligatory at the relevant intermediate stage of grammaticalization. My speculation here is that External Pair-Merge

plays a role. In minimalism, it has been more or less standardly assumed that so-called parametric variations are attributable to different feature specifications in the lexicon, which is called *Borer-Chomsky Conjecture* (Borer 1984, Fukui 1986, Chomsky 1995, Baker 2008). When an “indefinite article” is at the stage of grammaticalization where it is Externally Pair-Merged with a nominal head, it always appears as part of a complex head (say, <Num, N>). This complex head essentially functions as a single head, hence the relevant features of the “indefinite article” are always part of the single (complex) head. I suggest that at this stage of grammaticalization the features that are to be contained in the indefinite article, such as Case, can be contained either in the to-be indefinite article (i.e., numeral ‘one’) or in the nominal head to which it is adjoined, because in either way the relevant features appear in the single complex head and play relevant roles in the derivation in narrow syntax and the interpretations at the interfaces. In other words, as long as the relevant features are contained somewhere in the complex head, it does not matter in which head of the complex head they are contained (see also Oda 2022:ch.4, 2024 for a proposal that a complex head created by External Pair-Merge counts as a single unit at the syntax-PF interface). Then, the relevant features of nominal phrases can be present whether the “indefinite article” is present or not, so that it is not required to be present (e.g., for nominal licensing by Case).

4. Concluding Remarks

In this paper, I have argued that indefinite articles do matter for the NP/DP-language distinction, *contra* Bošković (2009). Specifically, I have presented two crosslinguistic generalizations where the (non-)obligatoriness of the indefinite article correlates with the presence/absence of relevant properties: adjunct extraction out of indefinite nominal phrases and null arguments with the sloppy reading. I have then discussed the relevance of the degree of grammaticalization of the “indefinite articles”, suggesting that creation of a complex head via External Pair-Merge at an intermediate stage of grammaticalization gives rise to non-projection of a functional projection and non-obligatoriness of the indefinite article. I hope to have presented a novel direction of investigating typology and grammaticalization from the minimalist perspective.

I would like to end this paper with some interesting issues that arise from the above discussion. First, many more languages and phenomena should be closely examined from the perspective of the NP/DP-language scale and indefinite articles (e.g., the indeterminate pronominal system discussed by Oda 2022, 2023b), in order to have a more comprehensive picture of the NP/DP-language distinction. Second, it remains to be investigated whether and how the degree of grammaticalization correlates with the semantics of the indefinite articles (see Li and Oda 2023, who discuss the relationship between grammaticalization of the parenthetical *I mean* as a structural reduction by External Pair-Merge on the one hand and loss of the lexical semantics and acquisition of grammatical/communicative functions on the other). Also potentially relevant would be Chierchia’s (1998) Blocking Principle, which is given in (34). This principle essentially states that if there is a lexicalized (or grammaticalized, in the conventional sense) version of a semantic operator, such as the definite article, which is a

lexicalized version of the iota operator, no covert application of the operator at LF is allowed, and the relevant lexical item must be used for the function of the operator. This explains why the definite article is obligatory for the definite interpretation in languages like English.

(34) For any type shifting operation τ and any X:

* $\tau(X)$ if there is a determiner D such that for any set X in its domain, $D(X) = \tau(X)$
(Chierchia 1998: 360)

Given the discussion in this paper, however, if we assume that there are formal or semantic features that correspond to the relevant type shifting operators, (34) may be revised as follows:

(35) For any type shifting operation τ and any X:

* $\tau(X)$ if there is a fully grammaticalized determiner (or lexical item) D that necessarily contains a relevant feature F such that for any set X in its domain, $D_F(X) = \tau(X)$ ".

Under this formulation, optional/non-obligatory determiners for the relevant semantic interpretation would not block covert application of the relevant operator. In fact, there are languages that appear to have a definite article but its use is not obligatory for the definite interpretation (e.g., Koromfe *hoŋ/kon*). Interestingly in this context, for the purpose of his NP/DP-language distinction, Bošković (2016) defines a definite article as an element that is obligatory in a nominal phrase with the definite interpretation, which he argues follows from Chierchia's Blocking Principle in (34). Given the more fine-grained treatment of the NP/DP-language distinction advocated in this paper, we would be able to refine Chierchia's Blocking Principle in a more nuanced way like (35), taking into consideration non-obligatory definite and indefinite articles as well as the degree of grammaticalization of those items.

I leave a full investigation of all these issues in future research.

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