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Introduction

Abstract: Our introduction to this volume provides an empirical overview of the phenomenon of DOM, Section 1, a theoretical overview of approaches to modeling and understanding DOM, Section 2, a deeper look at some of the challenges that the data pose for a unified approach to DOM, Section 3, and finally, a preview of the contributions to this volume, Section 4.

Keywords: Case and agreement, differential object marking, differential subject marking, licensing, dependent case

1 What is differential object marking?

Differential object marking (DOM) is a widespread linguistic phenomenon that (canonically) divides objects into two classes—a class that is overtly marked and a class that is not overtly marked (Comrie 1979, Croft 1988, Bossong 1991, Enç 1991, de Hoop 1996, Torrego 1998, Woolford 1999, Aissen 2003, de Swart 2007, Dalrymple & Nikolaeva 2011, Witzlack-Makarevich & Seržant 2018, *i.a.*).¹ Canonical DOM involves a two-way contrast in case marking on direct objects, as in (1)—the object may be morphologically unmarked, (1a), or bear an overt case marker, (1b).

(1) DOM in Hindi (Bhatt 2007)

- a. *Mina ek bacca uṭhaa rahii hai.*
Mina.F a/one child lift PROG.F be.PRS.3SG
'Mina is picking up a child.'
- b. *Mina ek bacce-ko uṭhaa rahii hai.*
Mina.F a/one child-DAT lift PROG.F be.PRS.3SG
'Mina is picking up a particular child.'

¹ Note that our use of the terms “marked, marking” (etc.) throughout this chapter refers to overt morphological marking, not to “markedness”.

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In (1) in Hindi, it is the *specificity* of the object that determines whether it is case-marked or not: non-specific nominals are not marked, (1a), while specific nominals are, (1b).²

Another hallmark of DOM, also exemplified by Hindi, is that the “accusative” case marking on marked direct objects is often syncretic with the morphological dative case on indirect objects; this is represented in our gloss of *-ko* as DAT in (1b). It is a matter of debate whether this syncretism is due to a morphological factor or whether marked direct objects are indeed licensed syntactically in the same way as dative indirect objects are (see, e.g., Bossong 1991, Manzini & Franco 2016, Bárány 2018, Kalin 2018)—in the present volume this question is addressed by the contribution of Rita Manzini, Leonardo Savoia, and Ludovico Franco. Finally, there are some instances of DOM where direct objects alternate between two marked forms, rather than a marked and unmarked form; we will see such a case in (7) below.

1.1 Factors triggering DOM

DOM may be triggered by factors relating to definiteness, animacy, affectedness, and information structure, often with more than one factor coming into play. These factors can be modeled in scales, (2):

- (2) a. **Animacy/person** (Silverstein 1976, Croft 1988, Comrie 1989, *i.a.*)
1/2 > 3 Pronoun > Name > Human > Animate > Inanimate
- b. **Specificity/definiteness** (Silverstein 1976, Croft 1988, Comrie 1989, *i.a.*)
Pronoun > Name > Definite > Specific Indefinite > Non-specific
- c. **Information structure**³ (Dalrymple & Nikolaeva 2011)
Topic > Non-topic
- d. **Affectedness** (Næss 2004)
Affected > Unaffected

It is generally objects on the left side of the scale (the “more prominent” objects) that are overtly marked. But languages differ as to which scale(s) factor into the dif-

² Depending on the particular dialect in question, animacy may also play a role in DOM in Hindi. For a detailed review of the diachrony and synchrony of DOM in Hindi, see Montaut (2018).

³ Woolford (1999) reports that focus (rather than topichood) factors into DOM in Ruwund, where DOM is determined by a complex interaction of factors involving animacy, specificity, and theta role, in addition to focus. Since focus seems to be a much rarer factor in DOM, we take the information structure scale in (2c) to be the relevant one for information-structure-related DOM more generally.

ferentiation of objects, as well as where along the scale(s) the marked/unmarked cut off is made. DOM may also be cumulative, in the sense that only objects that have two (or more) certain characteristics are marked, where these characteristics on their own would not be enough to trigger DOM. Cumulative DOM is addressed in Gereon Müller's chapter in this volume.

1.2 Surface realizations of DOM

While DOM is often taken to be descriptively limited to case marking, a number of other morphological phenomena also target objects and are sensitive to the same factors and scales as differential case marking. For example, DOM based on specificity is found taking the form of (i) case, as in Hindi, (1), and Turkish, (3); (ii) agreement, as in Senaya (Semitic; Iran), (4); (iii) clitic doubling, as in Amharic (Semitic; Ethiopia), (5); and (iv) an adposition, as in Spanish, (6).

(3) DOM as case marking in Turkish (Kornfilt 2008: 81)

- a. *(Ben) bir kitap oku-du-m.*
 I a book read-PST-1SG
 'I read a book.' (non-specific)
- b. *(Ben) bir kitab-ı oku-du-m.*
 I a book-ACC read-PST-1SG
 'I read a certain book.' (specific)

(4) DOM as agreement marking in Senaya (Kalin 2018: 119)

- a. *Āna ksūta kasw-an.*
 I book.F write.IPFV-SBJ.1SG.F
 'I (will) write a/some book.' (non-specific)
- b. *Āna ō ksūta kasw-an-ā.*
 I that book.F write.IPFV-SBJ.1SG.F-**OBJ.3SG.F**
 'I (will) write that book.' (specific)

(5) DOM as case marking and clitic doubling in Amharic (Kramer 2014: 601)

- a. *Almaz doro wät' bäll-atʃtʃ*
 Almaz.F chicken stew eat-SBJ.3SG.F
 'Almaz ate chicken stew.' (non-specific)

- b. *Almaz doro wät'-u-n bäll-atftf-ɪw*
 Almaz.F chicken stew-DEF.M-ACC eat-SBJ.3SG.F-**OBJ.3SG.M**
 'Almaz ate the chicken stew.' (specific)

(6) DOM as an adposition in Spanish (Rodríguez-Mondoñedo 2007: 16)

- a. *Besó una mujer.*
 kiss.PST.3SG a woman
 'He kissed a woman.' (non-specific)
- b. *Besó a una mujer.*
 kiss.PST.3SG **DAT** a woman
 'He kissed a (certain) woman.' (specific)

In addition to the marked/unmarked patterns in (3)–(6), DOM can also appear as an alternation of different overt exponents, for example in Kolyma Yukaghir (Samoyedic; Russia), where the exponent of ACC depends on the person of both the subject and the object (Maslova 2003, Keine 2010).

(7) DOM with multiple exponents in Kolyma Yukaghir (Maslova 2003: 95, 93)

- a. *Met-**ul** amde-l-get polde-mek.*
 me-ACC die.PFV-AN-ABL save-TR.2SG
 'You have saved me from death.'
- b. *Tet kimnī met-**kele** kudede-m.*
 your whip me-ACC kill-TR.3SG
 'Your whip has killed me.'

DOM is extremely common crosslinguistically. In fact, among languages that have object marking of some kind, it is more likely for that marking to be differential than uniform (Sinnemäki 2014).

In sum, DOM is a robustly-attested crosslinguistic phenomenon whereby direct objects with features high on certain scales are differentiated from objects with features low on those scales through the appearance of an overt marker. The main challenge faced by accounts of DOM is, of course, unifying the diverse characteristics of DOM while still allowing for the observed variation.

2 Why are objects marked differentially?

The cross-linguistic prevalence of DOM and its largely uniform behavior is often taken to call out for a deep explanation. Accounts of DOM vary widely, though a number of repeating themes can be found across these diverse analyses:

- DOM is the result of pressure to differentiate two nominals, either because of their structural proximity to each other or their functional proximity
- DOM encodes the (a)typicality of NPs in certain thematic/structural positions
- DOM reflects relative featural prominence and/or relative syntactic height
- DOM exists because some objects need special licensing
- DOM is at least in part a surface morphological phenomenon, not necessarily transparently corresponding to any deep syntactic differences

Many approaches to DOM draw on one or more of the themes above in building a complete analysis. Bárány (2017), for example, approaches differential agreement in Hungarian in the following terms: objects that do not trigger agreement are licensed just like those that do trigger agreement; the agreement is a surface-level phenomenon that results from certain objects carrying more features than others.

In this section, we briefly cover what we take to be the major different approaches to understanding and modeling DOM.

2.1 Functional approaches

In the functional/typological literature, DOM is typically explained in terms of case marking having two interacting functions, both of which favor the overt marking of “prominent” (more animate, more definite) objects (Silverstein 1976, Hopper & Thompson 1980, Bossong 1985, 1991, Croft 1988, Comrie 1989, Croft 2003, Næss 2004, *i.a.*). These accounts thus rely most heavily on the themes of differentiation and atypicality.

Such functional/typological explanations typically start from the basic assumption that subjects are canonically more prominent than objects. Next, it is proposed that (overt) case marking surfaces for two primary functional reasons. First is the disambiguating/discriminating function: case serves to distinguish the subject from the object. In a “canonical” transitive, there will be an animate/definite subject and an inanimate/indefinite object, such that disambiguation is easy even without overt marking. However, when an object is prominent (e.g., definite, animate), it is more similar to a subject, and so the disambiguating function will drive overt case marking of the object in such instances. The second

function of case marking is the identifying/indexing function: case serves to identify certain semantic roles. The way this brings about DOM is that when the object is prominent, it is (typically) semantically more affected than a non-prominent object. The identifying function can thus drive case marking of an affected object. Both functions motivate DOM across languages, though different languages may make the prominent/non-prominent cut-off in different places, may care more about one functional factor, and may place different amounts of weight on the different scales discussed in Section 1.1. Additionally, disambiguation can operate “locally” (taking into account only the object) or “globally” (taking into account the relative prominence of the subject and object).

This kind of functional approach has been formalized in generative frameworks, most notably in Optimality-Theoretic analyses (see Section 2.2), but it has also been argued that the extra-linguistic motivation for a functional analysis of DOM is strong enough to make grammatical or syntactic analyses unnecessary (see Haspelmath 2008, 2009, for example).

2.2 Optimality-based approaches

Optimality-Theoretic (OT) approaches to DOM have surfaced as a tool to investigate and predict DOM patterns based on the disambiguating and identifying functions (both locally and globally). OT is particularly useful on this front because it is able to model variation through constraint re-ranking as well as capture the effects of universal prominence scales. The intuition behind OT (Prince & Smolensky 1993) is that multiple possible surface forms (candidates) compete with each other for realization; this competition is regulated by constraints on well-formed surface forms, which penalize candidates that are not “optimal” in some way. Constraints are ranked: violating high-ranked constraints is worse than violating low-ranked constraints. A particular candidate will “win” (will be the grammatical surface form) just in case every other candidate violates some higher-ranked constraint (or violates a particular constraint more times) than the winner does.

Perhaps the most influential OT account of DOM is that of Aissen (2003). Aissen proposes a hierarchy of markedness constraints that target objects, (8), with the relevant constraints formed by local conjunction of (i) a markedness constraint penalizing the lack of case, $*\emptyset_C$, with (ii) a subhierarchy of markedness constraints penalizing prominent objects, e.g., $*\text{Object/Pronoun}$. The former constraint says (essentially) “don’t be a nominal that lacks case”, while the latter says “don’t be a nominal of type X and be an object”; when conjoined, these constraints say something like “don’t be an object of type X and lack case.” In accordance with the disambiguating and identifying functions, it is worse to be

an object that is high in prominence (e.g., pronominal, definite) and lack case than it is to be an object that is low in prominence and lack case.

- (8) a. *Object/Pronoun & * \emptyset_C >> (= *pronominal object lacking case)
 b. *Object/Name & * \emptyset_C >> (= *proper name object lacking case)
 c. *Object/Definite & * \emptyset_C >> (= *definite object lacking case)
 d. *Object/Specific & * \emptyset_C >> (= *specific object lacking case)
 e. *Object/Non-specific & * \emptyset_C (= *non-specific object lacking case)

If these were the only constraints, then all objects would be case marked, since all of the constraints in (8) penalize objects that *lack* case marking. There is thus also an economy constraint that penalizes the *presence* of case marking, (9) (“don’t have case”).

- (9) *STRUC_C (= *having a case value)

This economy constraint can be ranked in any place within or at the edges of the fixed ordering of the constraints in (8). Note that any given object will necessarily violate one of the constraints in (8) or the constraint in (9), since every object must either have case (violating (9)) or not have case (violating one of the constraints in (8)).

Depending on where *STRUC_C is ranked within (8), different patterns of DOM will emerge. For example, *STRUC_C could be ranked immediately below *Object/Pronoun & * \emptyset_C , as in (10).

- (10) a. *Object/Pronoun & * \emptyset_C >> (= *pronominal object lacking case)
 b. *STRUC_C >> (= *having a case value)
 c. *Object/Name & * \emptyset_C >> (= *proper name object lacking case)
 d. *Object/Definite & * \emptyset_C >> (= *definite object lacking case)
 e. *Object/Specific & * \emptyset_C >> (= *specific object lacking case)
 f. *Object/Non-specific & * \emptyset_C (= *non-specific object lacking case)

In this system, only pronominal objects will be case marked. This is because of how the competition will play out. First, imagine two candidates that are both pronominal objects, one of which has case and one of which doesn’t. The case-marked pronominal object will violate the constraint *STRUC_C, but it will not violate the higher-ranked constraint *Object/Pronoun & * \emptyset_C . The competitor, the

non-case-marked pronominal object, will violate the higher-ranked constraint, *Object/Pronoun & * \emptyset_C , but not the lower one, *STRUC_C. Since the non-case-marked pronominal object violates the higher-ranked of the two constraints, it will lose out to the case-marked pronominal object; thus, all object pronouns will be case-marked in this system. Next, consider proper names in the same scenario. A case-marked proper name will violate *STRUC_C but not *Object/Name & * \emptyset_C . A proper name without case marking will not violate *STRUC_C, but will violate *Object/Name & * \emptyset_C . Since the higher-ranked constraint here is *STRUC_C, case-marked proper names lose out against those without case marking.

A number of OT accounts of DOM have followed in the spirit of Aissen (2003), modifying certain aspects of the basic intuition by taking the addressee's expectations into account as well; see, e.g., de Swart (2007), de Hoop & Malchukov (2007).

2.3 Morphological approaches

A different approach to modeling DOM capitalizes on the idea that DOM is principally a surface-level phenomenon. The general idea behind morphological approaches to DOM is that all direct objects have abstract accusative “capital-C Case”, but this uniform abstract Case might not be *realized* uniformly (or even overtly). As a starting point, most morphological approaches to DOM model case not as an atomic entity but as a bundle of features, with different exponents (i.e., surface morphological case forms) spelling out different combinations of features. If accusative Case is a certain bundle of features, one could imagine this bundle being altered in some way before an exponent is chosen, e.g., some feature(s) might be “frozen” (Glushan 2010) or deleted (Keine & Müller 2008, Keine 2010).

To take a concrete example, Keine & Müller (2008) and Keine (2010) take DOM to result from the interaction of Case feature bundles with morphological impoverishment (deletion) rules. The application of impoverishment rules is in turn triggered by an interaction of markedness and faithfulness constraints (cf. the discussion in Section 2.2 above). Unlike Aissen-style OT accounts, in which constraint rankings block or allow case assignment/markings, these accounts use a language's constraint ranking to determine when an impoverishment rule does or does not apply.

Let's see this at work for Hindi, in which (as exemplified in (1)) specificity determines whether the DOM-marker *-ko* appears. The verb in Hindi generally assigns accusative Case to all objects and this accusative Case feature bundle—consisting of the (hypothetical) features [F1] and [F2] below, (11a)—is generally spelled out as *-ko*, (12b). But, there is a markedness constraint penalizing one of the features in the accusative feature bundle, and this constraint is ranked above

the faithfulness constraint that says that Case features for inanimate and non-specific objects should not be deleted. Thus, if the object is non-specific, an impoverishment rule, (11b), deletes the offending feature in the accusative feature bundle, as illustrated in (11c).⁴

$$\begin{array}{l}
 (11) \quad \text{a. } \text{ACC} = \begin{bmatrix} \text{F1} \\ \text{F2} \end{bmatrix} \\
 \quad \quad \text{b. } [\text{F2}] \rightarrow \emptyset / _ [-\text{SPEC}] \\
 \quad \quad \text{c.} \\
 \quad \quad \quad \text{DP} \qquad \qquad \qquad \text{DP} \\
 \quad \quad \quad \begin{bmatrix} -\text{SPEC} \\ \text{CASE} \quad \begin{bmatrix} \text{F1} \\ \text{F2} \end{bmatrix} \end{bmatrix} \xrightarrow{\text{Impoverishment (10b)}} \begin{bmatrix} -\text{SPEC} \\ \text{CASE} \quad \begin{bmatrix} \text{F1} \end{bmatrix} \end{bmatrix}
 \end{array}$$

The non-specific DP in (11c) thus ends up with a single Case feature, [F1]. The exponents of Case features are then determined by Vocabulary Insertion rules like those in (12). Note that nominative Case in Hindi is null, and so we assume here that the null spell-out of both nominative Case and impoverished accusative Case can be unified as a null spell-out of [F1].

$$\begin{array}{l}
 (12) \quad \text{a. } \text{NOM: } [\text{F1}] \leftrightarrow -\emptyset \\
 \quad \quad \text{b. } \text{ACC: } \begin{bmatrix} \text{F1} \\ \text{F2} \end{bmatrix} \leftrightarrow -ko
 \end{array}$$

The impoverishment rule in (11b) and the spell-out rules in (12) give rise to the correct result: specific noun phrases retain their (canonical) case marker, while non-specific noun phrases appear without case marking, because they no longer fit the description for the insertion of the overt exponent *-ko*.

Note that morphological approaches that manipulate feature bundles can help us model DOM systems where the alternation is not between having an exponent and not having an exponent, but rather between two (or more) exponents, like in the Samoyedic languages Tundra Yukaghir (Matić 2019) and Kolyma Yukaghir (Maslova 2003, Keine 2010), as illustrated in (7) above. Morphological

⁴ The rule in (11) is similar to the one in Keine & Müller (2008: 101, (19c)), which also includes reference to a [−HUMAN] feature. There seems to be dialect variation in Hindi with respect to whether human objects must always be marked with *-ko* in or not; cf. (1) above.

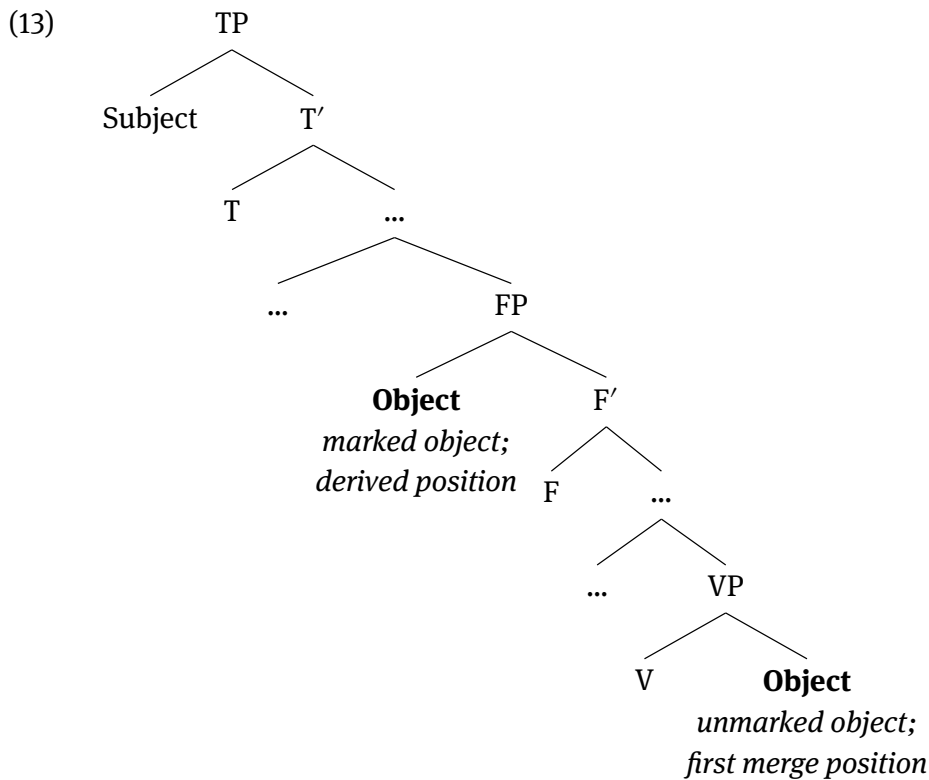
approaches also straightforwardly model syncretism between, for example, dative case and the marked accusative case. In the Hindi account above, if the dative Case feature bundle contains [F1] and [F2] (and there is no relevant vocabulary item more specific than (12b)), then this feature bundle will also receive the *-ko* exponent. (See Vassilios Spyropoulos' contribution to this volume for another impoverishment-based approach to DOM; and see Elsi Kaiser, Merilin Miljan and Virve Vihman's chapter, which argues that morphological case plays quite a different role in the derivation.)

Morphological approaches imply a slightly different perspective from functional approaches to DOM: rather than triggering case marking on atypical objects, the impoverishment approach conspires against case marking while holding that objects typically do have Case. In other words, the default on the impoverishment approach is that objects have Case but markedness results in this Case not being realized on the surface. On most functional approaches, the default assumption is that objects are *not* case-marked, but markedness can lead to the addition of case marking. The results are largely the same for both types of approaches.

2.4 Syntactic approaches

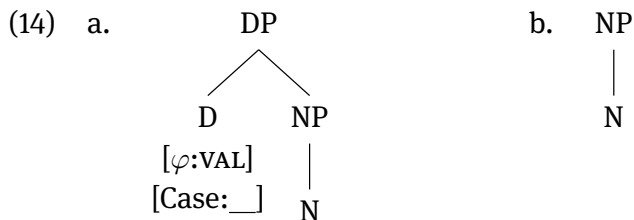
We now turn to a completely different sort of approach to DOM, one that picks up on the themes of (relative) syntactic position and/or syntactic licensing. There are quite a number of different syntactic approaches to DOM, but there are three recurring ingredients: (i) object movement, (ii) object size, and (iii) object licensing. We will discuss each ingredient in turn, though it is important to note that many accounts appeal to more than one of these ingredients to derive DOM.

The first common core ingredient to syntactic approaches to DOM is movement. The idea here is that marked objects raise out of VP, while unmarked objects do not, (13) (Bhatt & Anagnostopoulou 1996, de Hoop 1996, Torrego 1998, Woolford 1999, Bhatt 2007, Baker & Vinokurova 2010, Rodríguez-Mondoñedo 2007, N. Richards 2010, Ormazabal & Romero 2013, Baker 2014, *i.a.*).



The higher position of the object may result in Case assignment/case marking because of locality with a higher case-assigner (e.g., Woolford 1999, Rodríguez-Mondoñedo 2007, López 2012) or locality with another argument, enabling so-called “dependent” case (e.g., Baker & Vinokurova 2010, Baker 2014, 2015, Levin & Preminger 2015; see also Section 3.3 and Jaklin Kornfilt, this volume) or resulting in the spell-out of the object as a phase in order to remain distinct from the subject (N. Richards 2010).

The second common ingredient in syntactic DOM accounts is a difference in structural size, (14), leading to a *visible-for-case* vs. *invisible-for-case* distinction between marked and unmarked objects, respectively (Massam 2001, Danon 2006, Lidz 2006, Rodríguez-Mondoñedo 2007, M. Richards 2008, López 2012, Lyutikova & Pereltsvaig 2015, Bárány 2017, *i.a.*).



Objects lacking certain features and/or structure, (14b), are not visible to Case or agreement processes, and so remain unmarked, while objects with the relevant features and/or structure, (14a), are visible, and so do participate in Case and agreement processes.

The final ingredient in many syntactic DOM accounts is a difference in licensing between marked and unmarked objects: marked objects need (special) licensing, while unmarked objects do not. (Monica Irimia's contribution to this volume speaks to this point.) Licensing may correlate with an object having a larger structure (and thus bearing a Case feature, (14a)), and/or with an object needing to raise in order to get Case, (13), or even just some objects needing to be semantically licensed outside VP (à la Diesing 1992). Some accounts hold that objects that are unmarked are in fact unlicensed (Massam 2001, Danon 2006, Ormazabal & Romero 2013, Kalin 2018, *i.a.*), while others take unmarked objects to need some sort of licensing apart from normal Case (Baker 1988, de Hoop 1996, Baker & Vinokurova 2010 *i.a.*). Yet others assume there is a Case with a null exponent that suffices to license such objects (Laka 1993, Bhatt 2007, Rodríguez-Mondoñedo 2007, *i.a.*).

Syntactic accounts of DOM thus appeal to an interplay among raising (only marked objects raise), visibility (only marked objects are visible to Case and agreement processes), and licensing (only marked objects need Case licensing).

2.5 Information structure approaches

DOM based on both information structure and affectedness pose a challenge for the aforementioned accounts of DOM, since discourse role and degree of affectedness are not properties of the object in isolation, but rather depend on the discourse and the predicate (respectively; see e.g. von Stechow 2008 on the influence of the latter). Here, we will focus on the role of information structure; for affectedness, see Næss (2004). For a number of languages, it has been argued that information structure determines differential case marking or differential agreement, at least in part (cf. Leonetti 2004, 2008 on Spanish, Indo-European, Nikolaeva 1999, 2001 on Khanty, Virtanen 2015 on Mansi, both Uralic, and Dalrymple & Nikolaeva 2011 on a range of other languages).

DOM based on information structure differs from the types discussed above in that the discourse context plays an essential role in determining whether an argument is differentially marked or not, in addition to or instead of other syntactic properties of a sentence. Context can thus be the only variable distinguishing

minimal pairs from each other,⁵ as illustrated with the following examples from Tundra Nenets (Uralic, Samoyedic; ° is the transcription of an extra-short schwa).

- (15) Tundra Nenets (Nikolaeva 2014: 206)

Context: *Whom did he hit?*

Wera-m ladə° /#ladə°-da.
 Wera-ACC hit.3SG.SBJ hit-3SG.SBJ>SG.OBJ
 ‘He hit Wera.’

A felicitous answer to the question in (15) has narrow focus on the direct object. In this scenario, Tundra Nenets allows the verb form *ladə°* ‘hit.3SG’, which only agrees with the subject. The form *ladə°-da* ‘hit-3SG.SBJ>SG.OBJ’, which also agrees with the object in number, is infelicitous in this context. Conversely, if a context establishes a topical direct object, object agreement is required:

- (16) Tundra Nenets (Dalrymple & Nikolaeva 2011: 128)

Context: *What did a/the man do to the/a reindeer?*

xasawa ti-m xada°-da /#xada°
 man reindeer-ACC kill-3SG.SBJ>SG.OBJ kill.3SG.SBJ
 ‘A/the man killed a/the reindeer.’

There are nevertheless morphosyntactic restrictions on what can participate in DOM. In some varieties of Tundra Nenets, for example, only third person pronouns can trigger agreement, but first and second person pronouns cannot; in other varieties *no* pronouns trigger agreement (Nikolaeva 2014: 202f. cf. also É. Kiss 2017). Further, *wh*-words, some quantifiers (such as *ηoka* ‘many, much’), and indefinite and negative pronouns do not trigger object agreement. At least some of these elements have in common that they are not ‘topic-worthy’: only referential NPs can be topical, so non-referential NPs can be ruled out. For dialects with restrictions on pronouns, however, a separate factor must constrain agreement.

⁵ It is of course highly plausible that the information structure of a sentence is reflected in the syntactic derivation structurally and/or featurally, but this is not universally assumed. Note that this question is raised also for DOM triggered by specificity, as it is not generally agreed upon whether specificity is a property of a nominal or emergent from context (or some combination).

Dalrymple & Nikolaeva (2011) propose that information-structure-based DOM is in fact the canonical case of DOM. More specifically, they argue that all instances of DOM (taken to include both case marking and agreement) are either historically or synchronically related to topicality, defined as pragmatic saliency within a communicative context; DOM is thus really just a special case of the sort of all-purpose topic-marking found in languages like Quechua and Japanese. DOM serves to signal a similarity between subjects (which are typically topical) and topical objects (taking objects to be equally likely to be topical or nontopical). Over time, topicality-based DOM may be narrowed to a subset of topical objects, or spread to all objects with certain semantic features that are typical of topics (e.g., specificity or animacy). Dalrymple and Nikolaeva's account is formalized within the Lexical-Functional Grammar (LFG) framework, with certain morphological marking requiring that the nominal that the marking is associated with be interpreted with a certain information structure role, namely, that of being a topic.

Cases where information structure directly conditions DOM pose a number of additional challenges for a unified analysis of DOM. First, not all theories of grammar allow modeling the influence of information structure in syntax in a straightforward way. This is related to the fact that the unacceptability of an example like (15b) follows from its use in a certain *context*, not ungrammaticality *per se*. In other words, pragmatics plays a certain role in determining the felicity of utterances with and without DOM. Indeed, Danon (2006) suggests that DOM might follow a grammaticalization path from more pragmatic to more formal in the history of languages. He proposes that this is the case for Modern Hebrew, and the history of Hungarian shows a similar development (Marcantonio 1985, É. Kiss 2013, 2017).

A second challenge relates to identifying a trigger: is it always topics that trigger DOM? In other words, can we identify a consistent topicality hierarchy similar to the scales discussed in Section 1.1 above? Is the topicality hierarchy shown in (2c) empirically as well-supported as animacy and definiteness scales? Woolford (1999) and Klumpp (2012) present evidence from different languages that *focus*, too, can give rise to differential marking, not just topicality. These questions remain a matter for future research, and are addressed in Pei-Jung Kuo's chapter in this volume.

3 What can DOM tell us about case, agreement, and licensing?

One of the reasons that DOM has remained a relevant and productive area of research is that it has many complexities which are hard to capture in a single unified account across languages, and often even within a single language, as attested by the many differing analyses mentioned in Section 2. These are in fact only a small sampling of the existent literature on DOM. In this section, we hone in on a few specific bigger picture questions raised for generative syntactic theory through the study of DOM, as this is a recurring point of interest in the contributions to this volume.

3.1 DOM and licensing

Generative syntactic theory since the late 1970s (Vergnaud 2008 [1977], Chomsky 1980) has typically held that all nominals need the same sort of abstract licensing, namely, Case. On the surface, DOM seems to show us that, in fact, not all nominals need Case (at least insofar as morphological case reflects abstract Case, cf. Section 2.3), therefore posing a major challenge to the longstanding view. A more explicit question in this respect is whether DOM is better analyzed in terms of abstract Case or morphological case—in other words, does the lack of morphological case indicate the lack of abstract Case (i.e., licensing), too? Monica Irimia, Jaklin Kornfilt, Gereon Müller, and Vassilios Spyropoulos all address this and related questions in their respective chapters in this volume.

An analogous question is relevant for differential object *agreement*. In much Minimalist theorising, abstract Case is assigned to an argument by an *Agree* relation between a functional head, a so-called probe, and a nominal, a goal. Chomsky (2000, 2001) suggests that a goal's Case feature and a probe's φ -features are valued simultaneously under *Agree* relations. *Agree* is thus argued to be responsible for licensing arguments; if a goal fails to be licensed by an *Agree* relation, it will lack a value for Case and violate the Case Filter. This approach implies that a language like English, which does not have object agreement, nevertheless has abstract object Agreement. Just like differential case marking raises questions about the relation of abstract and morphological case, so does differential *agreement*. In languages where differential marking is expressed in verbal morphology, does agreement serve to license direct objects or is it simply that some (already licensed) objects trigger agreement, while others do not?

Further, if case marking and/or agreement indicate the licensing of a direct object, we expect differences in syntactic behavior based on whether an object is agreed with/has overt case or not—is this empirically borne out? The cross-linguistic evidence is mixed: the Uralic family, for example, shows both possible patterns—in some Uralic languages, overt marking correlates with differences in syntactic behavior, and in others, it does not. In Hungarian, objects do not show positional differences nor differences in their binding properties whether agreed with or not (É. Kiss 2002, Bárány 2017). In the Ugric language Northern Ostyak, however, agreeing objects are in a higher syntactic position and can bind and control arguments that non-agreeing objects cannot access (Nikolaeva 1999, Dalrymple & Nikolaeva 2011, Smith 2018). Hindi and Spanish have been argued to be similar: case-marked objects are also syntactically more prominent and can enter binding relations that objects without DOM cannot (Bhatt & Anagnostopoulou 1996, Bhatt 2007, López 2012). The question of where DOM objects are represented in the clause is tackled in this volume in the chapters by Jaklin Kornfilt and by Rita Manzini, Leonardo Savoia, and Ludovica Franco.

3.2 Case, agreement, and DOM

In recent years, the traditional tight connection between abstract Case, morphological case, and agreement has been called into question (Zaenen et al. 1985, Marantz 1991, Bhatt 2005, Bobaljik 2008, Baker 2012, 2015). The reason for this is that there are mismatches among overt case, overt agreement, and syntactic behavior. If Agree is a single operation that values both Case and φ -features, both of which can, but do not have to be spelled out, and that performs a licensing function, we expect to observe certain types of mismatches between case marking and agreement but not others.

Hungarian, for example, shows differential object agreement, but no differential case marking. Direct objects are morphologically accusative independently of their referential properties, while definite direct objects generally trigger object agreement (and most indefinite objects do not, cf. É. Kiss 2002, 2013, Coppock & Wechsler 2012, Coppock 2013, Bárány 2015a,b, 2017). If both Case and agreement happen at an abstract level uniformly, and differential marking is a matter of spell-out only, explaining Hungarian object agreement is a matter of determining when agreement is spelled out and when it is not. Crucially, whatever its spell-out, the object case/agreement relation can be modeled as one between the verb and the direct object: the verb assigns accusative and agrees with the direct object, uniformly.

In other languages, abstract agreement relations are not so clear-cut. Baker (2012) discusses Amharic in this context. Amharic displays both differential object case-marking and differential object agreement, but the two are independent. (17a) and (17b) show that a definite object gets accusative case marking, but only optionally triggers agreement. In addition, the verb can agree with the *indirect object* instead of the direct object, and while agreement with the indirect object preempts (replaces) direct object agreement (direct and indirect object agreement come from the same paradigm and seem to occupy the same slot), this does *not* interfere with the direct object getting its accusative/differential case. This is shown in (17c): the verb does not agree with the (masculine) direct object *məs'əhaf-u-n* 'book-DEF-ACC' but rather the (feminine) indirect object *l-Almaz* 'DAT-Almaz'.

(17) Amharic (Baker 2012: 257, 258)

- a. *Ləmma wiffa-w-in j-aj-al.*
 Lemma dog-DEF-ACC 3.M.SBJ-see-AUX(3.M.SBJ)
 'Lemma sees the dog.'
- b. *Ləmma wiffa-w-in j-aj-əw-al.*
 Lemma dog-DEF-ACC 3.M.SBJ-see-3.M.OBJ-AUX(3.M.SBJ)
 'Lemma sees the dog.'
- c. *Ləmma l-Almaz məs'əhaf-u-n sət't'-at.*
 Lemma DAT-Almaz.F book-DEF-ACC give(3.M.SBJ)-**3.F.OBJ**
 'Lemma gave the book to Almaz.'

Baker argues that such data show that case marking (accusative on the direct object) and agreement (on the verb) cannot have been the result of the same relation and simultaneous valuation of φ -features and Case. Assuming that v assigns accusative to the direct object, how can it agree with the indirect object in (17c) if we are dealing with a single operation? In addition, since the spell-out of agreement is the same, independently of whether the verb agrees with the indirect or the direct object, it can be assumed that the same head is involved. But where do the arguments get their case marking from? Baker's (2012, 2015) answer is dependent case, which we turn to next.

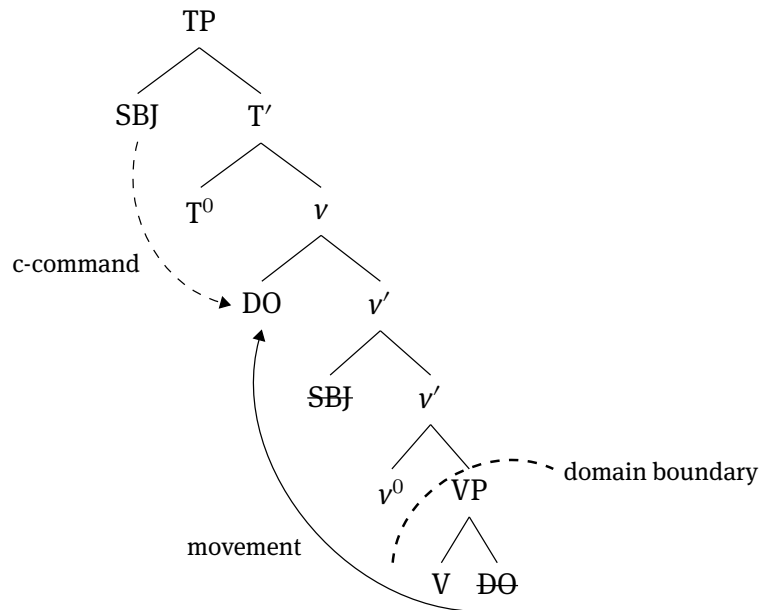
3.3 Dependent case and DOM

Mismatches between case and agreement have contributed to a recent revival of Marantz 1991-style *dependent case* approaches to case marking (e.g., McFadden

2004, Bobaljik 2008, Preminger 2014, Baker & Vinokurova 2010, Baker 2015, Yuan 2016, Jenks & Sande 2017, Yuan 2018). Dependent case is the term for a case that is assigned to one nominal of two, when the two nominals occupy the same relevant syntactic domain, e.g., they are in the same phase, and one of the nominals c-commands the other. Ergative languages are characterized by dependent case being assigned to the higher of two nominals (i.e., the subject in a transitive clause), while accusative languages are characterized by dependent case being assigned to the lower of two nominals (i.e., the object in a transitive clause). The single argument of intransitives is typically morphologically unmarked in both ergative and accusative languages: since there is no second nominal in intransitives, there is no dependent case to assign and the argument gets “unmarked” case, which is often phonologically null (or perhaps absent altogether).

Baker (2015) proposes that this approach straightforwardly explains the connection between object movement and DOM, discussed in Section 2.4. If TP and VP are independent domains, and the subject is always in spec-TP, then the subject and object will only be in the *same* domain as each other if the object raises out of VP, as shown in (18).

(18)



The result of movement in (18) may be dependent ACC assigned to the object, (19), or dependent ERG assigned to the subject, (20). Note that there are independent arguments for movement of the object in the (b) examples but not the (a) examples that we do not review here; see Baker & Vinokurova (2010) and Massam (2001).

(19) Sakha (Vinokurova 2005, cited in Baker & Vinokurova 2010)

- a. *Min saharxaj sibekki ürgee-ti-m.*
 I.NOM yellow flower buy-PST-1SG.SBJ
 ‘I picked yellow flowers.’
- b. *Min saharxaj sibekki-ni ürgee-ti-m.*
 I.NOM yellow flower-ACC buy-PST-1SG.SBJ
 ‘I picked the/a certain yellow flower.’

(20) Niuean (Massam 2000, cited in Woolford 2015)

- a. *Ne inu kofe a Sione.*
 PST drink coffee NOM Sione
 ‘Sione drank coffee.’
- b. *Ne inu e Sione e kofe.*
 PST drink ERG Sione NOM coffee
 ‘Sione drank the coffee.’

Dependent case thus provides an *independent* means of understanding surface case marking apart from Case that is assigned via agreement. This is reflected in Kornfilt’s contribution to this volume, in which she puts forth a proposal to extend dependent case to dependent Agree. In addition, incorporating the idea that dependent case is assigned only in a given syntactic domain can provide an explanation of the role of movement in differential case marking. It is relevant to note that it does not seem that a dependent case account is always appropriate, nor is object movement always a plausible step in the derivation: Kalin & Weisser (2019) have recently mounted a challenge to such approaches by showing that DOM can appear on just one conjunct in a coordination in a number of DOM languages; assuming that coordinations are islands (Ross 1967), it cannot be that one conjunct has raised out of the coordination to a higher position.

4 DOM in this volume

This volume comprises papers which introduce new empirical findings about DOM, implement several different approaches to DOM, and discuss a number of issues that DOM raises for linguistic theory. In this section, we briefly summarize the main contributions of each chapter.

In the most theory-centered contribution to the volume, Gereon Müller uses differential marking phenomena as a testing ground for contrasting how two different theoretical models, namely Harmonic Grammar and local conjunction of constraints in Optimality Theory, deal with cumulative effects in grammar. Cumulative effects are found when two factors (e.g. grammatical features) determine a grammatical effect together, but not by themselves. In DOM in Mannheim German, these two factors are an NP's definiteness and animacy features. Müller argues that local conjunction fares better in modeling the sort of cumulativity seen in differential marking in this variety, challenging aspects of the Harmonic Grammar model.

Monica Irimia, discussing Romanian and other Romance languages and taking a very different perspective, regards DOM as a puzzle for licensing: she revisits *Kayne's Generalization* (Jaeggli 1981) and argues that an account based on secondary licensing (cf. Kalin 2018) can explain the distribution of the DOM marker *pe* in Romanian, as well as differential clitic doubling. This DOM marker spells out the additional licensing relation that is made necessary by the presence of a [+PERSON] feature on an object.

Jaklin Kornfilt's contribution focuses on Turkish, and makes a strong theoretical claim. Kornfilt, discussing both DOM and differential subject marking (DSM), takes on dependent case theory and argues that Case can equally well be seen as licensed by functional heads. However, the ability of a functional head to license Case on its argument can depend on whether another argument has already been licensed or not. She thus proposes that a type of dependent Agree licenses Case on an object only if a subject has been licensed by a previous Agree relation.

The chapter by Vassilios Spyropoulos also discusses Turkish, but his main empirical focus is Pontic Greek. Spyropoulos, like Kornfilt, addresses both DOM and DSM and argues against a functional base for these phenomena. He uses a morphological approach to explain the case alternations and discusses micro-variation in Asia Minor Greek varieties as well.

In contrast, the chapter by Rita Manzini, Leonardo Savoia, and Ludovica Franco endorses an explicitly syntactic, rather than morphological approach to DOM. The authors discuss a range of varieties of Italian and Romance which have homophonous exponents of DOM and dative case. They argue that this homophony is not morphological, e.g. due to syncretism, but that it has a syntactic source: DOM objects are syntactically dative.

Pei-Jung Kuo discusses DOM in a perhaps surprising language, one that is traditionally seen as lacking both case and agreement (at least overtly), Mandarin Chinese. Kuo identifies several types of differential marking phenomena in Mandarin Chinese which she analyses in terms of information structure. Kuo argues

that specific objects undergo internal topicalization which is spelled out in one of three distinct ways, all essentially encoding DOM.

Finally, Elsi Kaiser, Merilin Miljan and Virve Vihman combine recent theoretical approaches to Case with a psycholinguistic perspective and probe the role of case marking in language comprehension. In their paper, they report the results of experiments on case alternations in Estonian and discuss the implications of their results for theories of Case. They argue that morphological case plays a much more active role in syntactic derivations than is usually assumed.

5 Conclusions

DOM illuminates intersections between and among morphology, syntax, semantics, and information structure. As is clear from the literature reviewed in this introduction as well as the contributions to this volume, there remain several open questions in the study of DOM. We still have a long way to go in fully understanding what DOM is telling us about the different components of grammar and about human language more generally, as well as what the right approach to understanding DOM is. Could there possibly be one sort of analysis that is appropriate for all instances of DOM? Or is DOM in fact not a uniform phenomenon at all? The work presented in this volume moves us closer to a robust understanding of DOM and an answer to these questions.

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