

Asymmetric DOM in coordination and its implications

1. Introduction

Differential Object Marking (DOM) is a common crosslinguistic phenomenon whereby overt case-marking on objects surfaces only on a subset of objects, those high in definiteness or animacy (Comrie 1979, Croft 1988, Bossong 1991, Enç 1991, Aissen 2003, de Swart 2007, *i.a.*). In Spanish, for example, simplifying somewhat, overt case-marking of objects (bolded throughout) is required when the object is specific/animate and banned when the object is nonspecific or inanimate (Rodríguez-Mondoñedo 2007):

- (1) a. Juan bes-ó [***(a)** María].
 John kiss-3SG.PST DAT Maria
 ‘John kissed Mary.’ (p. 91) (*nb. gloss of “a” changed to DAT*)
- b. Juan destruy-ó [***(a)** una/la ciudad].
 John destroy-3SG.PST DAT a/the city
 ‘John destroyed a/the city.’ (p. 92)

In this squib, we set out to (i) introduce new findings revealing that many DOM languages allow asymmetric marking in coordinations when conjuncts are mismatched in terms of animacy/definiteness, and (ii) show that these findings are extremely problematic for many popular (broadly) Minimalist accounts of DOM, namely, those that derive DOM via movement (de Hoop 1996, Torrego 1998, Woolford 1999, Bhatt 2007, Rodríguez-Mondoñedo 2007, Baker and Vinokurova 2010, Richards 2010, López 2012, Ormazabal and Romero 2013, *i.a.*), at least insofar as these accounts are intended to be general accounts of DOM and/or apply to the languages that allow asymmetric marking.

Section 2 outlines movement analyses of DOM. In Section 3, we discuss why such accounts predict asymmetric DOM in coordinations to be impossible, and show in Section 4 that many DOM languages *do* in fact allow asymmetric DOM. Section 5 explores ways to save a movement analysis in these languages, but we argue none are feasible.

2. Prominent Movement Analyses of DOM

Movement-based accounts of DOM are those that take raising of the object out of VP

to be a necessary (though perhaps not sufficient) ingredient of DOM, (2).

$$(2) \quad [_{TP} T \dots [\text{object} \dots [_{VP} V t_{\text{object}}]]]$$

\uparrow

Here we lay out two specific accounts, which stand in as instantiations of more general types of accounts: (i) accounts in which movement of the object is to a Case position (e.g., Bhatt 2007, Rodríguez-Mondoñedo 2007, López 2012, Ormazabal and Romero 2013), and (ii) accounts in which raising of the object feeds case competition with the subject (e.g., Baker and Vinokurova 2010, Baker 2014, Levin and Preminger 2015). Across movement-based accounts, a common component of the motivation for movement is that the object must raise out of VP to escape existential closure (Diesing 1992).

The first type of account is exemplified by Rodríguez-Mondoñedo 2007. Rodríguez-Mondoñedo argues that transitive *v* in Spanish can only check [number] features, and so can only assign Case to an object that is φ -incomplete, i.e., one with only [number]. Case assigned by *v* has a null spell-out. If an object has a [person] feature (carried by animate specific nominals), then the object is φ -complete and cannot have its Case checked by *v*. Such an object thus needs to raise (ultimately, to spec-DatP) in order to check its Case. Since the projection it checks Case with is DatP, the marking is dative.

The second type of account is exemplified by Baker and Vinokurova 2010. Looking at the Turkic language Sakha, Baker and Vinokurova argue that DOM is derived by movement out of VP, which is a phase, into the higher CP phase. Since the subject is also in this higher phase (and is as-of-yet caseless), the object enters into case competition with the subject (Marantz 1991) and so, as per the case-assignment rules of Sakha, receives dependent accusative case. Unlike in Spanish, this case is not syncretic with dative, but rather is a unique accusative, *-(n)I*. Objects that do not raise remain caseless.

Not all DOM languages have (at least obvious) syntactic movement of the marked object; see, for example, Hebrew (Shlonsky 1997), Kannada (Lidz 2006), and North-eastern Neo-Aramaic languages (Kalin 2014). However, it might be that there is covert

or undetectable movement of the marked object in these languages. We present data from the domain of coordination that we take to more clearly show that movement is not a necessary ingredient of DOM or general property of DOM in all languages.

3. DOM in Coordinations as a Movement Diagnostic

While the accounts cited above apply various tests to establish the higher position of marked objects (e.g., adverb placement, binding), some of the most reliable tests of syntactic movement are typically not applied, namely, tests involving islands. Islands are syntactic configurations that prohibit movement out of them. If an alleged movement-derived effect fails in such a configuration, this suggests movement is involved. If, on the other hand, the effect is not blocked, this suggests that movement is *not* involved.

In the domain of DOM, many islands are not possible to test since the alleged movement step is very short. Fortunately, one of the most crosslinguistically robust islands is applicable. As is well-known since Ross' (1967) discovery of the Coordinate Structure Constraint (CSC), it is not possible to move one whole conjunct out of a coordination:

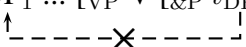
(3) *What did John eat [_{&P} pizza and *t*_{what}]? / [_{&P} *t*_{what} and pizza]?

While theoretical accounts of coordination islands vary, the data are clear.

In order to apply this test to the DOM cases at hand, we simply need to conjoin one element that is supposed to undergo movement (a marked object, DP₁ below) and one element that is supposed to stay in situ (an unmarked object, DP₂ below), (4).

(4) Subject V [DP₁-CASE & DP₂]

If a marked and unmarked object cannot be conjoined, i.e., (4) is ungrammatical, then this indicates that there is indeed something wrong with the configuration, plausibly because it is ruled out by the corresponding CSC island violation schematized in (5).

(5) [TP T ... [DP₁ ... [VP V [_{&P} *t*_{DP1} & DP₂]]]]


If, however, (4)-like sentences are grammatical, and one conjunct is marked while the other is unmarked (or, the conjuncts bear different markers), then this suggests that there is not a crosslinguistically-necessary connection between DOM and movement, nor is a movement analysis feasible for the languages in which (4) is grammatical.¹

4. Asymmetric DOM is Robustly Attested

Here, we test the configuration in (4)/(5) against a sample of eleven DOM-languages from five language families. Out of the eleven languages, nine allow for one conjunct to be DOM-marked while the other one remains unmarked; further, for both languages that disallow asymmetric marking, there is a closely related language that allows it. These results strongly suggest that a movement analysis cannot be maintained for most of the languages in our sample, and thus either movement is not the source for DOM in any language, or there simply is not a unified source for DOM crosslinguistically.

A preliminary note about our examples: For each language, if the language's object marker precedes the object, we use a coordination in which the marked conjunct is the second one, and if the language's object marker follows the object, we use a coordination in which the marked conjunct is the first one. In doing so, we ensure that the DOM marker takes scope over only one conjunct and not the whole coordination phrase. In all the languages we tested apart from Tamil and Spanish, if the conjuncts are reversed, marking of just one conjunct is also grammatical (just not unambiguously asymmetric).

Let's start with Romance languages. Recall that in Spanish, objects that are specific and animate bear the marker *a*, (1). If we conjoin an animate nonspecific object and an animate specific object, we see that asymmetric DOM is possible, (6).

(6) Vi [&P una mujer y a María junt-as] en el parque.
 see.PST.1SG a woman and DAT Maria together-FEM.PL in the park

¹An anonymous reviewer points out that this does not follow if coordination is analyzed as involving multidimensional trees or multiplanar representations (see e.g. ?). An approach which assumes that a coordination structure is grammatical if the same structure is grammatical with each conjunct on its own predicts asymmetric DOM always to be possible. But as the reviewer also notes, this option seems quite unlikely given that not all languages in our sample allow for asymmetric DOM. It seems implausible that some languages have access to multiplanar representations while others do not.

'I saw a (some) woman and Maria together in the park.' (G. Martinez-Vera, p.c.)

Preliminarily, then, even in a language for which a movement-based account has been specifically motivated (e.g., Torrego 1998, Rodríguez-Mondoñedo 2007, López 2012), asymmetric DOM-marking inside coordinations is possible.² Note also the agreeing adjective *juntas*, which suggests that this is indeed a case of DP-coordination.

DOM is also found in most Southern Italian dialects (D' Alessandro 2017). All have in common that first or second person pronouns are marked, (7b), while nonhuman objects are not, (7a). As in Spanish, DOM appears in the form of the dative marker *a*, and asymmetric DOM is allowed, (8). Data here come from the Neapolitan dialect.

- (7) a. Aggia vist [o can] ndò parc.
AUX.1SG see.PCTP the dog in.the park
'I have seen the dog in the park.'
- b. Aggia vist [a tte] ndò parc.
AUX.1SG see.PCTP DAT 2SG in.the park
'I have seen you in the park.' (R. Petrosino, p.c.)

- (8) Aggia vist [&P o can e a tte] ndò parc.
AUX.1SG see.PCTP the dog and DAT 2SG in.the park
'I have seen the dog and you in the park.' (R. Petrosino, p.c.)

In yet another Romance language, Romanian, the main trigger for DOM is animacy (Dobrovie-Sorin 1994). Animate objects are marked with the preposition *pe* while inanimates are not, (9). Again, asymmetric marking in coordinations is possible, (10).

- (9) a. Văd [o barcă]. b. Văd [pe pescar-ul].
see.1SG a boat see.1SG LOC fisherman-DEF
'I see a boat' 'I see the fisherman.' (V. Petroj, p.c.)

²For Spanish, this test has previously been used by Rodríguez-Mondoñedo (2007) and Fábregas (2013). However, in contrast to what they found, our consultants accepted the examples without indicating that the tested sentences were ungrammatical or even marked. This difference may be due to dialectal variation or to the fact that the examples Fábregas gives include a possessive pronoun that precedes its antecedent, e.g., **Vi* [&P *su_i coche y a Juan_i*] (p. 36), while the examples Rodríguez-Mondoñedo (2007) uses only test asymmetric marking on the first conjunct, e.g., **Menciaron* [&P *a Juan y el libro*] (p. 272).

- (10) Văd [_{&P} o barcă și **pe** pescar-ul].
 see.1SG a boat and LOC fisherman-DEF
 ‘I see the boat and a fisherman.’ (V. Petroj, p.c.)

Turning to another branch of Indo-European, Indo-Iranian, we find mixed evidence. In Nepali, dative *-laai* is also used to mark animate and specific direct objects (Schikowski 2013), (11), and mismatched objects can be conjoined, (12), like in Romance.

- (11) a. Raam-le [kitaab] Dekh-yo.
 Ram-ERG book see-3SG.PAST
 ‘Ram saw a book.’
 b. Raam-le [ma-**laai**] Dekh-yo.
 Ram-ERG 1SG-DAT see-3SG.PAST
 ‘Ram saw me.’ (S. Pokharel, p.c.)

- (12) Raam-le [_{&P} ma-**laai** ra mero kitaab] Dekh-yo.
 Ram-ERG 1SG-DAT and 1SG.GEN book see-3SG.PAST
 ‘Ram saw me and my book.’ (S. Pokharel, p.c.)

In Hindi, dative *-ko* also marks specific and animate direct objects (see Mahajan 1990, Bhatt & Anagnostopoulou 1996, *i.a.*), (13), but notably does not allow asymmetric marking, (14). Any combination of a marked and unmarked object is ungrammatical.

- (13) a. Nadya=ne [gaṛi] cala-yi he
 Nadya.F.SG=ERG car.F.SG.NOM drive-PERF.F.SG be.PRES.3SG
 ‘Nadya has driven a car.’
 b. Nadya=ne [gaṛi=**ko**] cala-yi he
 Nadya.F.SG=ERG car.F.SG=ACC drive-PERF.F.SG be.PRES.3SG
 ‘Nadya has driven the car.’ (Butt & King 2004)

- (14) ???/* Vo shikaari [_{&P} sher=**ko** or hiran] maar degaa
 that hunter tiger=ACC and deer kill give.FUT.3SG
 ‘The hunter will kill the tiger and a deer.’ (A. Mahajan, p.c.)

In contrast to all the languages we saw earlier, Hindi disallows asymmetric DOM.

Moving on to another language family, we take a look at Finnish. In Finnish, non-

pronominal objects bear genitive case, (15a), while pronominal objects bear accusative, (15b).³ It is possible to conjoin a pronominal object with a non-pronominal one, (16).

- (15) a. Tuo-n [karhu-n]. b. Tuo-n [häne-t].
bring-1SG bear-GEN bring-1SG 3SG.M-ACC
‘I’ll bring a bear.’ ‘I’ll bring him.’ (Kiparsky 2001)
- (16) Me nä-i-mme [&P häne-t ja karhu-n].
1.PL.NOM see-PAST-1PL 3SG-ACC and bear-GEN
‘We saw him and the bear.’ (A. Vainikka, p.c.)

We thus have evidence from Uralic for the acceptability of asymmetric DOM.

The next family we consider is Turkic. In Turkish, specific objects are marked with a unique accusative case while nonspecific objects are unmarked (Enç 1991, Kornfilt 1997), (17). Like Hindi, Turkish does not allow conjunction of objects with asymmetric marking, (18). (Similar judgments are reported in Kornfilt 1997.)

- (17) a. Ali [bir piyano] kirala-mak isti-yor.
Ali one piano rent-INF want-PROG.3SG
‘Ali wants to rent a (nonspecific) piano.’
- b. Ali [bir piyano-yu] kirala-mak isti-yor.
Ali one piano-ACC rent-INF want-PROG.3SG
‘Ali wants to rent a certain piano.’ (Enç 1991)
- (18) *Hasan [&P dondurma-yı ve pasta] ye-di.
Hasan cake-ACC and ice.cream eat-PAST
Intended: ‘Hasan ate the cake and some ice cream.’ (Ü. Atlamaz, p.c.)

However, Caucasian Urum, a related Turkic language spoken by ethnic Greeks in Georgia, exhibits a DOM system that looks nearly identical to the Turkish system on the surface, (19) (Böhm 2015), but *does* allow asymmetric DOM, (20).

³This DOM characterization of Finnish presupposes Kiparsky’s (2001) decomposition of inflection. For traditional Finnish grammarians, accusative is simply syncretic with genitive on non-pronominals.

- (19) a. Lara [pismo] yoll-ier. b. Lara [pismo-**yi**] yoll-ier.
 Lara letter send-3SG Lara letter-ACC send-3SG
 ‘Lara is sending a letter.’ ‘Lara is sending the letter.’
- (20) Mesut [_{&P} araba-**i** da birāz pul] ist-ier-di.
 Mesut car-ACC and some money ask-IPFV-PAST.3SG
 ‘Mesut asked for the car and (some) money.’ (V. Moisiidi, p.c.)

Next we turn to Semitic languages, most of which exhibit DOM. In Hebrew (e.g., Danon 2006), for example, definite objects are case-marked by the proclitic *et* whereas indefinite objects are not, (21). Asymmetric marking of conjuncts is possible, (22).

- (21) a. Ha-seret her’a [milxama].
 the-movie showed war
 ‘The movie showed a war.’
- b. Ha-seret her’a [**et**-ha-milxama].
 the-movie showed ACC-the-war
 ‘The movie showed the war.’ (Aissen 2003)
- (22) Dan axal [_{&P} uga ve **et**-ha-ugiyot].
 Dan ate cake and ACC-the-cookies
 ‘Dan ate some cake and the cookies.’ (I. Kastner, O. Preminger, p.c.)

In Amharic, a Western Semitic language, the accusative marker *-n* attaches only to definite objects; indefinite objects remain unmarked, (23). As in most of the languages we have seen so far, it is possible to conjoin marked and unmarked objects, (24).

- (23) a. Ləmma [wiʃfa] j-aj-al.
 Lemma dog 3M.SG-see-AUX
 ‘Lemma sees a dog.’
- b. Ləmma [wiʃfa-w-**in**] j-aj-əw-al.
 Lemma dog-DEF-ACC 3M.SUBJ-see-3M.OBJ-AUX
 ‘Lemma sees the dog.’ (Baker 2012)
- (24) [_{&P} li^ɥ-u-**n** inna wiʃfa] ajjə-h^w.
 child-DEF-ACC and dog see-1SG
 ‘I saw the child and a dog.’ (Fábregas 2013, attributed to Baker 2012)

Finally, speakers of Tamil, a Dravidian language, mark definite objects with accusative, while others are usually unmarked (cf. the discussion in Lehmann 1989), (25). In Tamil, it is also possible to conjoin objects with different case markers, (26).⁴

- (25) a. Kumaar [paṇam] keeṭ-ṭ-aan̄.
 kumaar money.NOM ask.PAST-3M.SG
 ‘Kumaar asked for (some) money.’
- b. Kumaar [kar-**aik**] keeṭ-ṭ-aan̄.
 kumaar car-ACC ask.PAST-3M.SG
 ‘Kumaar asked for the car.’ (N. Selvanathan, p.c.)
- (26) Kumaar [&P kar-**aiy**-um paṇam-um] keeṭ-ṭ-aan̄.
 kumaar car-ACC-COORD money.NOM-COORD ask.PAST-3M.SG
 ‘Kumaar asked for the car and money.’ (N. Selvanathan, p.c.)

While DOM in each of these languages has many complexities that we cannot discuss here, it is clear that many (if not most) DOM languages allow for asymmetries in case marking with conjoined objects. Nine out of the eleven languages from five different language families allow conjunction of DOM-marked objects with unmarked ones, while only two (Turkish and Hindi) do not. Since movement is prohibited out of coordinations, this data strongly suggests there must be some non-movement-related mechanism that is behind DOM, at least in nine of our languages.

5. Three Possible Ways Out and Why They Lead Nowhere

In this section, we discuss three possible lines of argumentation that could be pursued in order to maintain a movement analysis of DOM and present arguments against each.

5.1 Languages without the Coordinate Structure Constraint?

The first potential challenge to our argument is that it might be that the coordination island is not as robust as we make it out to be. It has been observed occasionally that exceptions to the Coordinate Structure Constraint are attested. For example, Bošković (2009) has shown some speakers of Serbo-Croatian allow extraction of the left conjunct.

⁴It should be mentioned that there is variation between different dialects of Tamil in this respect. Of the three speakers of Tamil we consulted, only two judged examples like (26) as grammatical.

There are three reasons why a solution along these lines does not go through. First, violations of the CSC are very infrequent crosslinguistically. To our knowledge, no such exception has been reported for any of the eleven languages in our sample. Second, even in languages like Serbo-Croatian, we find that only the leftmost conjunct can be extracted from a coordination phrase; this would predict that only the leftmost conjunct could ever bear DOM. Crucially, this is the wrong prediction: the examples from Spanish, Italian, Romanian, and Hebrew above clearly show that the rightmost conjunct can be the only one that bears DOM, and for the most part, there are not linear restrictions on asymmetric DOM. (Again, Tamil and Spanish may be exceptional here.)

Finally, we can simply test whether short movement allows for violations of the CSC, and we can see that it does not. Tamil, for example, allows for short scrambling of the direct object over the indirect object (see Sarma 2003, Baker 2014). However, Tamil does not allow for scrambling of just one conjunct over the dative, (27).

- (27) *Shakuni **kar-ai-yum** dharmaa-kkut daayatt-ai-yum koDu-tt-aan
 Shakuni-NOM car-ACC-CONJ Dharma-DAT dice-ACC-CONJ give-PAST-3SG
 ‘Shakuni gave the car and the dice to Dharma’ (G.Murugesan, p.c.)

We therefore reject the idea that some languages lack coordination islands, and that this is responsible for the availability of asymmetric DOM in coordinations.

5.2 Asymmetric Case Assignment?

The second objection to our account might be that movement is in fact symmetric but case assignment is not. In other words, in a configuration where only one of the conjuncts is high in definiteness/animacy, it might still be that the whole &P moves higher in the structure, but in this higher position, only one of the conjuncts gets case-marked:

- (28) [TP T ... [F [[&P DP₁ & DP₂] ... [VP V t_{DP₁&DP₂]]]]}
-

There are two reasons why this proposal cannot save a movement account. First, Weisser (2016) argues that (non-DOM) case marking in coordinations is always symmetric. On

the basis of 15 case studies, Weisser shows that, once we control for ellipsis and allomorphy, case is always distributed evenly amongst all of the conjuncts in nominal conjunction. Thus, if (28) were the right kind of analysis for asymmetric DOM, then this would entail that the grammar does not allow case-assigners to reach inside of a coordination and target just one conjunct, except in the case of DOM.

The second argument against (28) is the same as one in Section 5.1. If case assignment could target a specific conjunct inside of an &P, then we would expect to find ordering/hierarchy effects, with only the highest or linearly closest conjunct able to receive DOM, as this is what is found with agreement into coordinations (e.g., Marušič et al 2015). But again, our data do not confirm this prediction. Spanish, Romanian, Italian, and Hebrew are all head-initial, and thus we would expect that the DOM-case assigner should be able to pick out only the left conjunct because it is (a) structurally higher and (b) linearly closer to the case-assigner. However, in all of these languages, we showed that the second conjunct can be DOM-marked while the first one remains unmarked.

5.3 Asymmetric DOM as the result of conjunction reduction?

Another alternative for reconciling a movement-based account with the data at hand is to analyze our examples of asymmetric DOM as involving conjunction of a bigger category (e.g., vPs) plus subsequent gapping, rather than DP-conjunction. One possible structure would be something like (29). Under this analysis, the movement that results in DOM could be internal to one of the conjuncts and thus not violate the CSC.

(29) Subj [_{vP} V DP₁-CASE] & [_{vP} ~~V~~ DP₂]

There are a number of arguments against such analyses. First, gapping in many languages, i.a. in Romance (Repp 2009), comes with a specific intonation, i.e., a pause in the position of the elided verb and a high boundary tone on the edge of the first conjunct. Our consultants produce the asymmetric examples without gapping intonation. Second, in some languages, we can tell from the morphology that we are dealing with

nominal conjunction. In Tamil, the coordination strategy that marks both conjuncts with *-um* conjoins DPs and PPs only (as in (25)). Verbal and clausal conjunction employs a different strategy. Thus, a derivation in terms of ellipsis is in this language not an option. Third, in languages like Spanish (30) and Hebrew (31), relative clauses can unambiguously modify the plural conjoined DP:

(30) Vi un perro y a una persona que jugaban juntos en el parque.
 saw a dog and DOM a person that played.PL together in the park
 ‘I saw a dog and a person who played together in the park.’ (G. Martinez-Vera)

(31) raiti [xatul ve et ha-kalba jeli] rodfim exad axrej ha-feni
 1SG.saw cat and DOM the-dog.F mine chase.PL one after the-other
 ‘I saw a cat and my dog chasing each other’ (I.Kastner, p.c)

Under a VP/TP/CP-coordination approach, there would simply be no plural constituent to adjoin the relative clause to. We therefore conclude that, for at least some of the languages we discuss, conjunction reduction is not a plausible analysis.

6. Preliminary Conclusions

We have shown that many DOM languages allow asymmetric DOM in coordinations, a finding that is problematic for movement-based accounts of DOM. It is important to note that our claim is that *across languages* movement is not a necessary ingredient for the phenomenon of DOM. It may very well be, however, that *within* a particular language, movement is indeed necessary for DOM. For Hindi, for example, movement has been argued to be required for DOM (Bhatt and Anagnostopoulou 1996, *i.a.*); this analysis is in fact supported by our findings, as Hindi disallows asymmetric DOM in coordinations. For Spanish, on the other hand, while many movement accounts have been put forward (e.g., Rodríguez-Mondoñedo 2007, López 2012), these accounts are not supported by our findings; while it may be that marked objects raise when possible in Spanish (and thus movement *correlates* with DOM), it must also be possible for objects to get DOM in situ, namely, in asymmetric coordinations. (See also Preminger’s (2011) discussion of object shift.) It is important to note that a larger, more areally

diverse sample of languages should be gathered, in order to better understand why some languages allow asymmetric DOM, and how common this really is.

At this point, one might wonder what sorts of accounts *can* deal with asymmetric DOM. First, purely morphological accounts that derive case alternations by means of impoverishment/feature freezing (e.g., Keine & Müller 2008, Glushan 2010) could have these post-syntactic operations locally target just one conjunct in a coordination. Second, analyses of DOM that take the fundamental ingredient to be different structural sizes of marked and unmarked objects (e.g., Danon 2006, Lyutikova & Pereltsvaig 2015) could appeal to the whole coordination getting Case, but only one of the conjuncts being of the right size to morphologically host Case. Finally, accounts that appeal to last-resort rescue strategies for deriving DOM (e.g., Kalin 2014) could explain single-conjunct DOM as a highly local rescue. We leave this open for future research.