A layering approach to DP2 agreement

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1 Introduction

The documented cross-linguistic phenomenon under investigation here deals with the agreement patterns of (pseudo-)partitive constructions, better known as *DP1-of-DP2*.[1] These constructions are of particular interest cross-linguistically due to the variation found with respect to the verbal agreement.

(1) *Romanian*

  a. **O gramada** de oameni **a** venit
    the pile of people **have.PRS.3SG** come.PRTC
    Lit. 'A pile of people has come.'

  b. O gramada de **oameni au** venit
    the pile of **people have.PRS.3PL** come.PRTC
    'A pile of people have come.'

(2) *Bavarian*

  a. **Ein Haufen** Blumen **wird** weggeworfen
    a heap flowers **get.PRS.3SG** thrown.away
    Lit. 'A bunch of flowers gets thrown away.'

  b. Ein Haufen **Blumen werden** weggeworfen
    a bunch **flowers get.PRS.3PL** thrown.away
    Lit. 'A bunch of flowers get thrown away.'

Although some languages, such as Romanian and Bavarian, show both DP1 and DP2 in certain partitive constructions, there are phrases found in several languages in which only DP2 agreement may be borne out.

(3) A lot of **kids** *has / **have** eaten the pie

Two immediate questions arise when considering the variation of these constructions seen across natural language:

- Is there actually verbal agreement with DP2?

- What is the relationship between conceptual plurality and grammatical plurality in order to derive singular vs. plural agreement?

We argue that the answer to question one is in fact *yes*. First we rule out several alternative analyses that might suggest themselves.

To be ruled out: DP1 + *of* is non-decomposable One possible analysis of the agreement facts would be to say that the material preceding DP2 (e.g. *a lot of*) has been reanalyzed as a single chunk (e.g., as some type of quantifier), such that the only phi-bearer is DP2. This is not a viable analysis (at least not for all cases), since DP1 may be independently modified (4a) and in languages like Spanish this inflection is syntactically singular (4b).

(4) a. [A **fuck/shit** ton] of your friends **weren't** there yesterday

  b. *Spanish*

    [Un monton-**azo**] de sintactistas **han** venido
    a heap-**AUG** of syntacticians **have.PRS.3PL** come.PRTC
    'A bunch of syntacticians have come.'

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[1]We will not distinguish between partitive and pseudo-partitive constructions here, as there does not appear to be a significant discrepancy between speaker judgements of Spanish regarding whether one is more favored in terms of DP1 or DP2 agreement.

To be ruled out: Agreement attraction error   A second hypothesis to be ruled out is that we're simply dealing with "agreement attraction" (Wagers et al. 2009; Lago et al. 2015 for this phenomenon in Spanish): a production error where the verbal agreement produced by the speaker tracks whatever the linearly closest DP is. Agreement attraction is not considered a grammatical output but, instead, a production error whereby the closest linear adjacent DP (not the subject) provides agreement on the verb(5).

(5)   [The greatest asset in most of [these peoples lives]] **are** their companies

However, true agreement attraction errors as in (5) are judged as ungrammatical upon further reflection, while the (pseudo)partitive agreement patterns we've shown here are judged fully acceptable. Additionally, agreement is still with DP2 even in cases where DP1 is linearly closer to the verb (6).

(6)   **Han**   pactado   un montón   de **los partidos minoritarios**.
      have.PRS.3SG pact.PRTC a   mountain of **the minority parties**
      "A bunch of minority parties have made a pact."

To be ruled out: DP1 is syntactically plural   An additional hypothesis to discard is that, at least in languages where these partitives seem to generally trigger plural agreement, DP1 (e.g. *a lot*) is actually syntactically plural. However, when DP2 is syntactically singular we see singular agreement on the verb; i.e., agreement tracks DP2.

(7)   a.   A ton of rice **is** on the floor.
      b.   *French*
          Un paquet de parfum   **est**   en route
          a   pack   of perfume **be.3.SG** on route
          'A pack of perfume is on the way.'

The answer to the second question seems more difficult to answer on the surface: while some languages (e.g. English) seem to have a preference for agreement with DP2 in partitives for the majority of possible lexical items serving as DP1, other languages vary considerably from lexical entry to lexical entry (e.g. Spanish). Additionally, languages like Romanian and Bavarian seem to allow both options more generally.

(8)   a.   *Ha   / Han   pactado [un montón de los partidos
          have.PRS.3SG / have.PRS.3PL pact.PRTC [a   mountain of the parties
          minoritarios]
          minority]
          'A bunch of minority parties have pacted.'
      b.   [Una pila de niños] está   / están   en la   cola
          [a   pile of kids] be.PRS.3SG / be.PRS.3PL in the line
          'A pile of kids is/are in line.'

The proposal:

- In order to derive the difference between DP1 and DP2 agreement in these constructions, we claim that the difference is a product of the timing of *parallel computation*.

  – The idea of multiple workspaces is possibly the most presumed aspect of syntactic theory.

  – Even so, there is ample literature regarding its presence both at the phrasal (Uriagereka 1999; Nunes & Uriagereka 2000; Guimarães 2004; Nunes 2004) and word (López 2015) levels.

- Following the concepts of *remerge* (Johnson, 2003) and *layering* (Thoms, 2019), we claim that DP2 agreement is what surfaces when T° is merged, probes, and agrees with a lone DP2, i.e. *before DP1 has been merged*.

  – It is only after this that DP2 undergoes sideward movement/remerges with DP1 (and its prepositional complement), giving it its surface form [DP1 [of [DP2]]].

- We exemplify these derivational processes by modeling data from Spanish, particularly highlighting those DP1 candidates that reject DP2 agreement.

- Moreover, the variation found with some DP1 candidates is the result of a set of derivational differences and is not the result of a DP-internal mechanism that weighs singular and plural features (e.g. *Count*; Gupton & Howe 2023).

  – This avenue proves impossible to derive the correct pattern in situations in which DP2 agreement is now obligatory.

– Moreover, derivational mechanisms such as *Count* or postulations of projections akin to MeasureP may only account for the number distinction between DP1 and DP2. We show that they immediately fail to make correct predictions regarding distinctions in [PERSON], a topic unexplored thus far in the literature.

2   On the various theories of (pseudo-)partitives

Before we delve into our analysis, it is worth noting a few prior claims surrounding the various perspectives taken on these constructions. We will point out their clear shortcomings and highlight the problems we believe our subsequent analysis avoids.

2.1   Semantic descriptions for syntactic analyses

As well summarized in Matushansky (2017), several structures have been argued for pseudo-partitives on the basis of both their agreement properties and, in most cases, the semantic relationship between the two nouns. Matushansky depicts these in (9) below.[2]

(9)   a.

b.

c.

d.
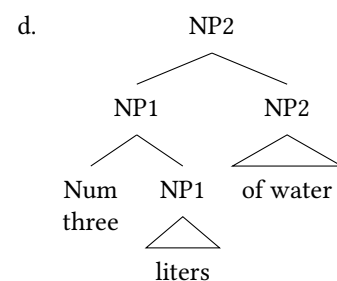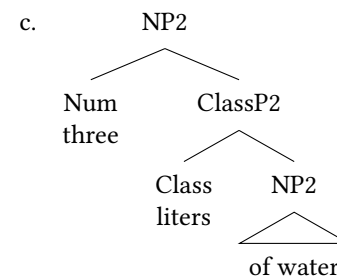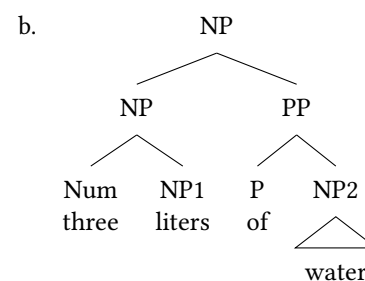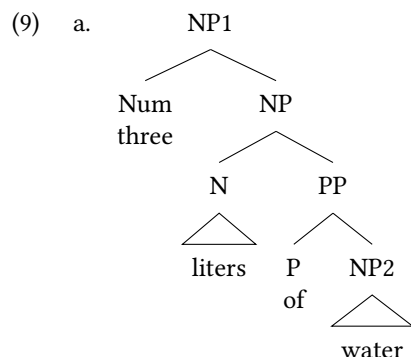
The first problem with the structures in (9c-9d), as pointed out by Mastushansky, is that there is no structural space for the preposition/genitive Case assignment. This is problematic considering:
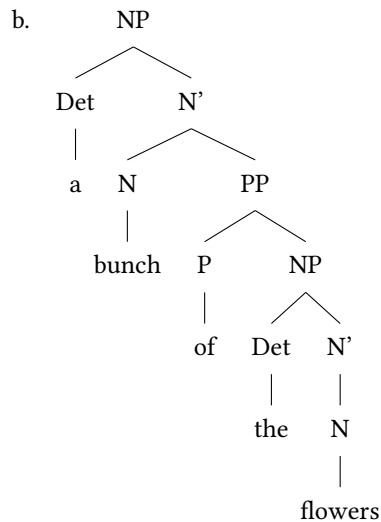
- we know that P°s have C-selectional requirements in that they obligatorily select a nominal complement

- (considering the observation above) this configuration in particular would not only prevent NP2 from projecting but it would also predict the inaccessibility of NP2 for agreement

    – This point in particular is a key issue that we address in our analysis below!

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[2]We maintain the data used, the labels, and the structural configurations for expository purposes.

In discussing variable verbal agreement in partitives such as 'a bunch of', Selkirk (1977) posits that the difference between singular and plural agreement is whether the phrase in question is a true partitive (in her terms) or a noun complement phrase (akin to 9a).

(10)   (Selkirk, 1977, 312)

a.

```
                    NP
                     |
                    N'
               ┌─────┴─────┐
              NP           N'
           ┌───┴───┐        |
          Det     N'        NP
           |       |      ┌──┴──┐
           a       N     Det    N'
                   |      |      |
               bunch (of) the    N
                                 |
                              flowers
```

b.

```
              NP
          ┌────┴────┐
         Det        N'
          |     ┌────┴────┐
          a     N         PP
                |     ┌────┴────┐
             bunch    P         NP
                      |      ┌───┴───┐
                      of    Det      N'
                             |        |
                            the       N
                                      |
                                   flowers
```
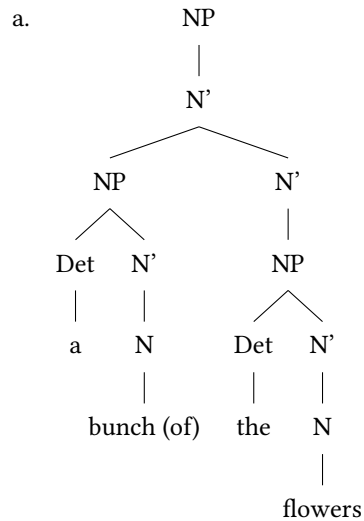
Much like what we see in the structure in (9d), it seems that it was unclear to Selkirk how the preposition might have been accounted for in her partitive structure given the facts just presented above.

The predicative structure in (9b) is associated with a particular semantics in addition to more restricted syntactic properties. These structures are often associated with what are called *qualitative binominal constructions* (QBCs) (Dikken, 2006; Massaro, forthcoming), a type of predicative phrase in which DP1 describes DP2 (often in an exaggerated manner).

(11)   a. *Galician*

$[_{DP1}$ o   parvo] de $[_{DP2}$ min]
       the dummy of   me.OBL

'The dummy of me.'

b. *Dutch*

$[_{DP1}$ die   idioten] van $[_{DP2}$ (een) kerels]
       those idiots   of   a   guys

'Those idiots of (some) men'

These structures, however, vary considerably cross-linguistically with respect to (i) the type of nominal selected as DP2, (ii) the availability for plural referents in either DP slot, and (iii) the possibility to use these outside of simple exclamations. We do not consider these constructions to be in line (neither semantically nor syntactically) with those in question in this investigation.

Moving forward, we take (9a) to be the correct structure for the majority of *DP1 of DP2* constructions. Where we find variation, we shall claim that this is a question of derivational timing. This equates successful Agree to the result of agreement with the features accessible at the time in which Agree is realized. By assuming Agree may occur with just DP2 or the entire partitive construction (DP1), we are able to account for both potential outputs.

3   Parallel derivational computing

▶ *What do we mean when we talk about multiple workspaces?*

Although there have been critiques of both multidominance (e.g. McKinney-Bock & Vergnaud 2013) and sideward movement (e.g. Chomsky et al. 2019), the concept of multiple workspaces must remain unquestioned.

- In order to derive any phrasal constituent, we must assume it is created apart from the workspace of the clausal spine. Otherwise, we undermine the very essence of constituency to begin with!

- Thoms (2023) cites the impossibility of complex specifiers as a basic case for the need of multiple workspaces; all phrasal nominal formation falls under this blanket.

Potentially the most obvious example comes from *syntactic amalgams* (cf. Lakoff 1974; Guimarães 2004), whereby clause-sized structures may be inserted in strict adjacency to much smaller pieces of syntactic material (e.g. NPs).

(12)   Ann bought [$_{DP}$ [$_{\alpha P}$**God only knows how many**] marble ryes] for the party

This idea picked up steam during the expansion of the *Copy Theory of Movement.*

- Predicated on the idea that movement took place via three successive steps (copy, merge, delete), the question of "Can you copy, NOT merge, do something else, and then eventually merge?" quickly surfaced and re-transformed the idea of how flexible derivational mechanisms related to movement and structure building could be.[3]

4   Derivational timing of workspaces

We believe Spanish presents a fruitful perspective on the limitations we should observe in not only the structure building of multiple workspaces but also the role that the timing of said structure building plays. We begin with some recent observations made in Thoms (2019, 2023) and use these as a jumping-off point for our investigation into what different types of movement say about the timing of combining multiple workspaces.

4.1   Thoms (2019, 2023)

Thoms, building off of work in Johnson (2012), discusses the (correct) predictions for the double interpretation of quantifier raising (in particular, its scopal interpretation under negation), commonly known as *antireconstruction* and *reconstruction*.
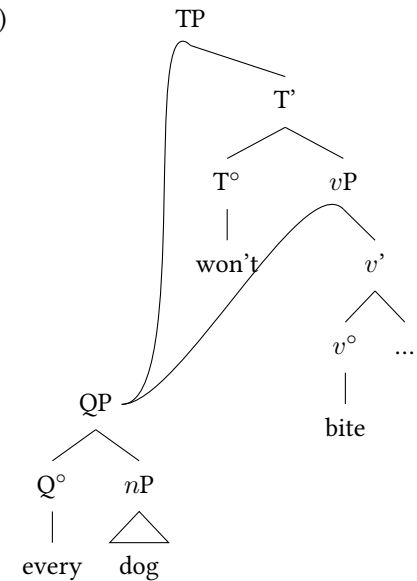
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[3]We thank Juan Uriagereka for his insights on the history of these talking points.

(13)   *Modified from (Thoms, 2023, 9)*

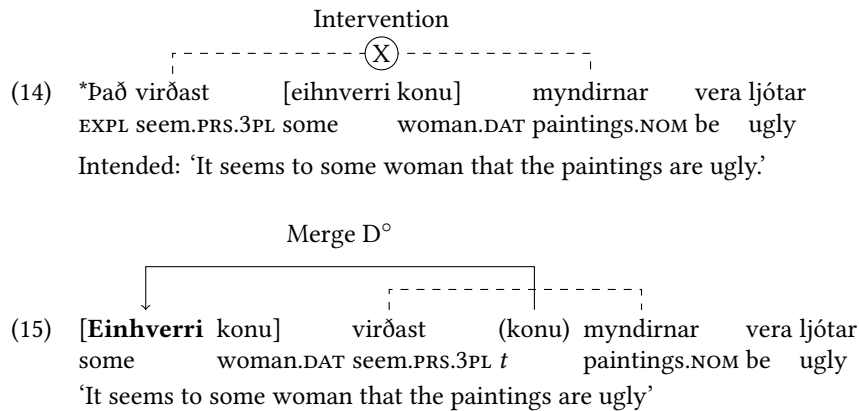a.   *Antireconstruction* ($\forall \succ \neg$)
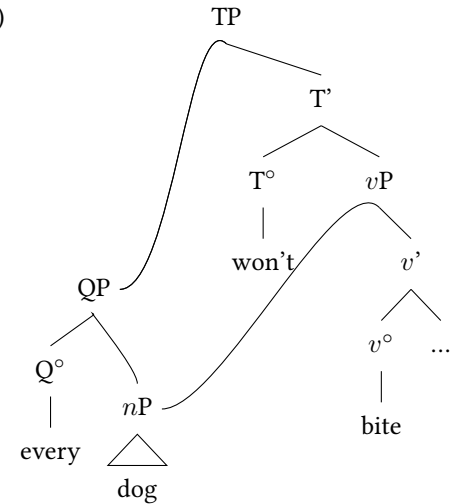
b.   *Reconstruction* ($\neg \succ \forall$)

- More closely related to our topic here, Thoms addresses the potential ramifications that assuming that (i) nPs, not DPs, are base generated in argument posi-

tion; and (ii) the timing of the D-layer, may have on Agree-related phenomena

— Consider the case of Icelandic dative intervention and what occurs if we assume the D-layer is added and merged into the derivation **after** T° has probed.[4]

Intervention

(14) *Það virðast   [eihnverri konu]   myndirnar   vera ljótar
     EXPL seem.PRS.3PL some   woman.DAT paintings.NOM be   ugly

Intended: 'It seems to some woman that the paintings are ugly.'

Merge D°

(15) [**Einhverri** konu]   virðast   (konu) myndirnar   vera ljótar
     some   woman.DAT seem.PRS.3PL *t*   paintings.NOM be   ugly

'It seems to some woman that the paintings are ugly'

This conceptualization of evading agreement via the adding of functional layers after T° has probed will be the basis for our analysis.

We shall suggest several avenues by which this may be possible, highlighting the particularities of an account that relies on multidominance. (See the Appendix for the benefits of accounting for agreement via Johnson's remerge/renumeration mechanism).

5   Variability in Spanish DP2 agreement

Expanding on the notions highlighted in §3-4, we lay out important data points regarding the extent to which we find DP2 agreement on the verb in the constructions under consideration.

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[4]An important point for Thoms' work is that nPs are not candidates for agreement, resulting in the absence of an Agree relation much like many cases of 3rd-person as "person-less" or unavailable for agreement.

5.1   It doesn't matter where you end up

Spanish has a considerably liberal word order, particularly within Romance: although the unmarked order is SVO, VSO and VOS are also viable in information-structure-specific circumstances (Gallego, 2013; López, 2012; Ordóñez, 2007).

In each of these orders, DP2 agreement is not only available but obligatory with the group of DP1 cadndidates discussed above.

(16) a. Un montón   de mis amigos no **estudiaron**   el   material para el
         a   mountain of my friends NEG **study.PST.3PL** the material for   the
         examen
         exam

         'A bunch of my friends didn't study the material for the exam.'

      b. **Criticaron**   un montón de ciudadanos los recortes de educación
         criticize.PST.3PL a   bunch of citizens   the cutbacks of education
         este año
         this year

         'A bunch of citizens criticized the educations cutbacks this year.'

      c. **Leyeron**   el último libro de Javier Marías un montón   de
         read.PST.3PL the last   book of Javier Marías a   mountain of
         aficionados suyos
         fans   his

         'A bunch of Javier Marías' fans read his last book.'

There are two perspectives regarding the derivational movements in (16b) and (16c):

- One perspective takes object shift to be obligatory in all surface-string orders (Gallego, 2013); this entails that VSO order is derived by (i) the object shifting over the subject's base-generated position (Spec,v°), and subsequently (ii) the subject shifting over the object

- A second take does not assume that the object obligatorily moves above the subject (e.g. VSO orders); instead, one claims that the subject **always** moves (at least to an intermediary position between Spec,v° and Spec,T°) (Ordóñez, 2007), whereas the other assumes no movement in either VSO or VOS (López, 2012)

A simple remedy is to assume that, even in postverbal subject orders, the subject always vacates its base-generated position due to the need for additional structure building to occur. We then have a motivation for the ability to add structure once the original DP is sideward merged.

5.2   ...but what if you don't move?

We turn our attention now to copular clauses involving a predicative DP *un puñado de personas* (3'a handful of people') and a referential DP *nuestra democracia* ('our democracy'). It is generally assumed (a) that the predicative DP is base generated in a structurally lower position than the referential DP, and (b) that the predicative DP *un puñado de personas* ('a handful of people') in (17b) stays in its base position throughout the derivation (see Gravely et al. (under review) and references therein, though see Dikken (2006) for copular constructions in which both nominals are assumed to have moved).

(17) a. Un puñado de personas no **son**   nuestra democracia
        a   fist   of persons NEG **be.PRS.3PL** our   democracy
        'A handful of people isn't our democracy.'

      b. Nuestra democracia no **son**   un puñado de personas
        our   democracy NEG **be.PRS.3PL** a   fist   of people
        'Our democracy isn't a handful of people.'

In Gravely et al. (under review), we claimed that the probe on T° never agrees with 3rd-person singular DPs.

- By consequence, it may only Agree with those bearing either (i) a local person specification, or (ii) a [PLURAL] specification.

The examples in (17) show that *personas* ('people') **must** be a target for Agree with T° at some point in the derivation.

- However, this creates issues for one particular aspect regarding multidominance: while movement is attested in (17a), the most common assumption in the literature is that the hierarchically lowest DP, in fact, does not undergo movement (17b) (although see Dikken (2006) for copular constructions in which both nominals are assumed to move).

▶ *What type of movement DO we expect within copular structures?*

What is clear is that DPs do not move to a preverbal position in one fell swoop; there is an intermediate position between T° and PredP that serves as a landing site for the nominal with the potential to land in a preverbal position.

(18) No son   [FP una democracia$_i$] un puñado de personas t$_i$
      NEG be.PRS.3PL   a   democracy   a   fist   of persons
      'A handful of people isn't a democracy.'

Although the verb clearly agrees with DP2 (*personas*) of the hierarchically lowest nominal in (18), it isn't the nominal that moves.

- We should expect, thus, that this is able to happen without overt movement as a precursor of DP2 agreement. We address this in the Appendix by making use of *remerge* which does not require movement to occur for additional structure building.

6   Accounting for cross-linguistic variation

Here we address three attested patterns of agreement found cross-linguistically, beginning with the latter two first:[5]

- DP1 agreement

- DP2 agreement in [NUMBER] but not [PERSON]

- Full DP2 agreement

6.1   It isn't just about number

There exist crucial data to our proposal that has, thus far, gone unaddressed in the literature on agreement in the constructions under investigation. Even within the functional literature (e.g. Traugott 2008), the focus has been on 'classifier'-type DP1 candidates that permit a singular-to-plural change. However, we there is cross-linguistic evidence that these constructions also permit 3rd- to 1st/2nd-person agreement, as well. Observe the example from Spanish in (19).

(19) Un puñado de **vosotros** no **tenéis**   ni puta   idea
      a   fist   of **you.PL**   NEG **have.PRS.2PL** NEG fucking idea
      'A bunch of you guys don't have a fucking clue.'

It is clear from this example that the verb Agrees not only with the [PL] feature of DP2 but also its [PERSON] specification, as well. We claim that this is additional motivation to follow our

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[5]We also recognize agreement patterns beyond the triplet here. We set aside languages like Hungarian whose patterns seem to suggest that DP1 must match DP2 in [NUMBER] in order for full DP2 agreement (i.e., [NUMBER] and local [PERSON]) to surface on the verb. We leave a full exploration of a hypothetical DP-internal agreement mechanism that would be able to account for these patterns for further research.

theoretical assumption that only DP2 is present when T° probes and Agrees. These patterns are found in Ibero-Romance, varieties of Southern Italian (Apulian), and French.[6]

However, there is other variation that would suggest that this is not possible, as in the case of Italian (compared with Spanish) below.

(20) a. *Italian*

Un sacco di **noi**   **stanno**   / *stiamo   andando al   cinema
a   sack of **we.NOM be.PRS.3PL** / *be.PRS.1PL go.PROG to.the cinema

b. *Spanish*

Un montón   de **nosotros estamos**   / *están   yendo al   cinema
a   mountain of **we.NOM   be.PRS.1PL** / *be.PRS.3PL go.PROG to.the cinema

'A bunch of us are going to the cinema.'

We believe that a functional projection akin to ClassifierP/MeasureP is able to account for the cases found in Italian whereby, regardless of the type of plural DP2 argument, plurality is always reflected on the verb. This is in contrast to the [PERSON] agreement found on the verb in Spanish in addition to the singular-to-plural [NUMBER] change.

The data in (20a) demonstrate that a multidominant structure as in (21) incorrectly predicts that 1PL agreement should surface on the verb in Italian.
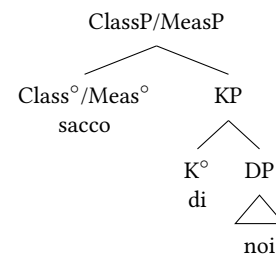
(21)
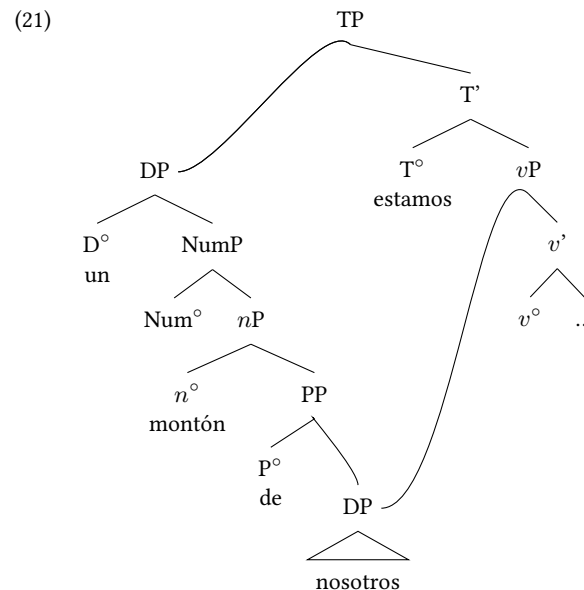
We may also observe that it must not be the case that 'un sacco di' is simply added before T° probes and serves as the bearer of phi-features as in the singular cases of 'una pila'; otherwise, we would expect singular agreement even when DP2 is plural, contrary to fact.

In a sense, the Italian 'un sacco' mirrors 'un montón' in Spanish in that these nominals never serve as goals for T°. How, then, may we account for plural agreement as in (20a)?

Following the observations in Stavrou (2003) and Alexiadou et al. (2007), we claim that the functional head that selects *sacco* is of the classifier type (in Alexiadou et al.'s words, 'semi-lexical').
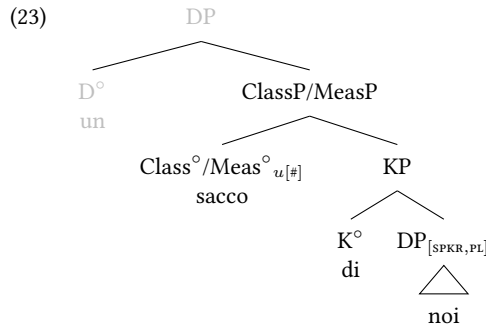
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[6]We also suspect that English and German, although they both lack a morphological distinction between 1st- and 3rd-person plural, are candidates for this group. Evidence for this is seen in cases such as (1a), where this is only possible with a fully 1st-person interpretation. Additionally, the full partitive structure can bind a 1st-person anaphor.

(1)   a. A lot of us here are over sixty.

b. A lot of us$_i$ love ourselves$_i$43.

(22)   *Italian-type partitive structure*

While these authors do not commit to a DP-internal mechanism in order to account for DP2's features being accessible by the probe, we may hypothesize in what structural relation the functional heads in question must stand with respect to one another.[7] Let us postulate, thus, that classifier noun is hosted on a functional head that contains a #-probe and that the preposition is hosted by a K° that permits probing of its complement.

(23)

```
              DP
          /        \
        D°         ClassP/MeasP
        un        /          \
          Class°/Meas°_{u[#]}   KP
              sacco            /   \
                             K°    DP_{[SPKR,PL]}
                             di        △
                                      noi
```
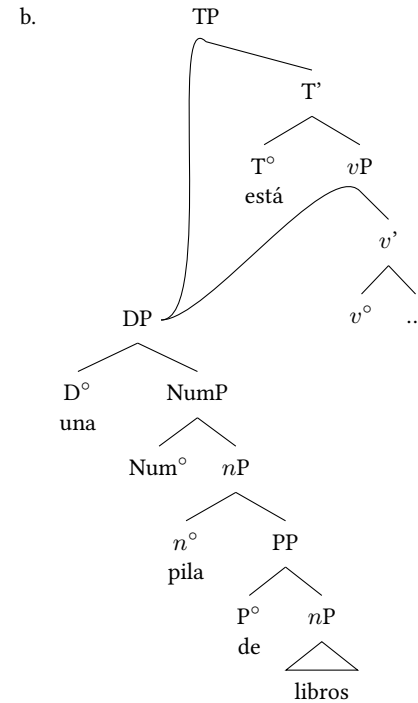
Following the work in Danon (2011) a.o. regarding DP-internal feature sharing, the functional heads Class°/Meas° and D° only host #-probes that, via feature sharing, will both end up with valued a [PL] feature. (We assume that in Italian, much like what we claimed for Spanish (Gravely et al., under review), that 3rd-person agreement is the spell-out of the lack of verbal [PERSON] agreement.)

6.2   Singular agreement as early assembly

The occurrences of singular agreement contrast with those of plural agreement (specifically, in Spanish-type languages) in the fact that DP and its prepositional complement are merged before T° probes, resulting in the entirety of the DP being the target for Agree.

(24)   a. Una pila de libros está   en la   mesa
       a   pile of books is.PRS.3SG on the table

       'A pile of books is on the table.'

b.

```
              TP
           _____
                  \
                  T'
                /    \
              T°      vP
              está      \
                        v'
                       /  \
        DP            v°   ...
       /  \
      D°   NumP
      una  /    \
        Num°    nP
               /   \
              n°    PP
             pila   /  \
                   P°   nP
                   de    △
                        libros
```

Comparing the tree in (24b) to that which results in a [NUMBER] and [PERSON] change (21), the agreement differences are derived much in the same way that the semantic interpretations are between the structures of antireconstruction/reconstruction in (13a) and (13b), respectfully.

7   Conclusion/Discussion

- We can account for variation in DP1-of-DP2 agreement in terms of derivational timing.

- DP1 agreement is the result of early merger of DP1-of (e.g. *a lot of*) while DP2 agreement is the result of DP1 being added only *after* T° has probed (and Agreed with DP2).

- We also saw variation in terms of the richness of phi-agreement with DP2. Spanish shows full person agreement with DP2, while Italian only bears number agreement in constructions like *un sacco di noi* ('a lot of us'). We proposed that these cases involve agreement with a Classifier/MeasureP whose head only probes for Number, before the singular determiner *un* has been merged.

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[7] The description surrounding the mediation of functional heads and their features in Alexiadou et al. (2007) does not necessarily match up with our modified tree in (22). For one, the structure they assume is a measure cascade with each hierarchically superior lexical item c-commanding its complement. However, these authors propose no feature-checking mechanism that would allow the relevant number features to percolate throughout the nominal projection (e.g. Danon 2011). Moreover, they do not commit to a position on the part the preposition/genitive Case marker plays in the structure, instead omitting it from their tree. See the tree in (Alexiadou et al., 2007, 428) for a full comparison.

- Our approach follows in the same spirit of Thoms (2019, 2023) in which derivational timing explains differences in intervention effects and scope interpretation, and applies this logic to cases of variation in agreement patterns in partitive constructions.

- A question we're left with is how (/whether) to encode the derivational timing associated with different lexical items.

  - Recall that in Spanish, the choice of certain nouns in DP1 position, like *pila* ('pile') leads to DP1 agreement, while the choice of *montón* ('mountain, heap') leads to DP2 agreement.

  - Is there a feature on either *n* or D that could either force early assembly of the DP or allow them to wait until later in the derivation to assemble?

  - Or, alternatively, should the choice between two different derivations be something syntax-independent, e.g. learned probabilistically?

Acknowledgements

Appendix A: Remerge *à la* Johnson (2003)

Although the primary focus in Johnson (2003) dealt with a structural explanation for lack of possible movement from within adjunct islands, we believe that it may also explain the type of derivational structure building procedure needed for DP2 agreement, as well.

In order to construct a phrasal constituent that resisted all extraction, Johnson proposed the concept of *renumeration*:

- In Chomsky (1995), it was hypothesized that syntactic terminal items are selected into a smaller group, *the numeration*, from which phrase markers are built.[8]

- The idea behind *renumeration* entailed that a structure could be built, **returned to the numeration**, then remerged as a solitary syntactic item.

[8]However, see Putnam & Stroik (2010) for a modified concept of this.

- Johnson discusses several phonological and syntactic benefits to this operation, only the latter of which will concern us here.

Based on Johnson's proposal, we find the following order of operations and structure building steps for the sentence *(What did Mary) eat after John bought?*
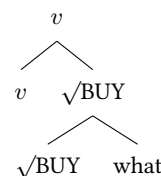
(25)   a. *Beginning numeration*

N = { ... v, √EAT, after, John, v, √BUY, what }

     b. *Merge* '√BUY' *and* 'what'
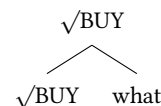
     c. *Merge* 'v'

     d. *Merge* 'John'

e. *Merge* 'after'

```
          after
         /     \
     after      T
               / \
           John   T
                 / \
                T   v
               / \
              t   v
                 / \
                v   √BUY
                   /    \
               √BUY      what
```
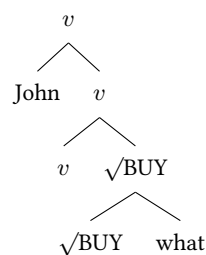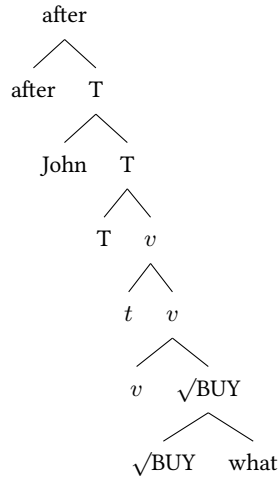
f. *Renumerate* 'after John bought what'

N = { √EAT, v,   after   }

```
          after   T
               / \
           John   T
                 / \
                T   v
                   / \
                  t   v
                     / \
                    v   √BUY
                       /    \
                   √BUY      what
```

g. *Merge* √EAT *and* v

```
      v
     / \
    v   √EAT
```

h. *Merge* 'after John bought what'
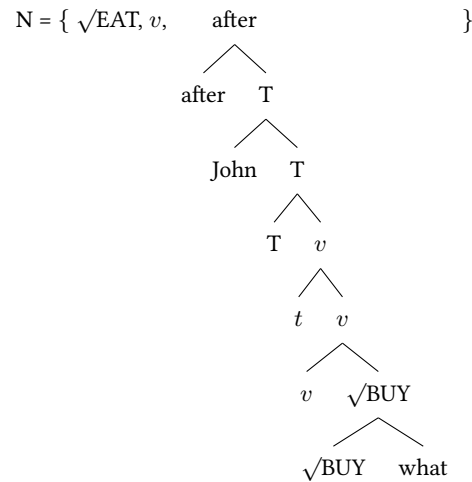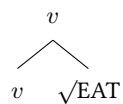
```
              v
            /   \
          v       after
         / \      /   \
        v   √EAT after  T
                      / \
                  John   T
                        / \
                       T   v
                          / \
                         t   v
                            / \
                           v   √BUY
                              /    \
                          √BUY      what
```
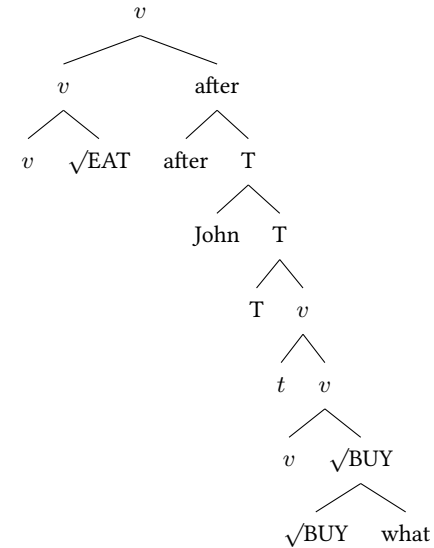
The renumerating *'after John bought what'* yields a piece of structure that must remain intact (i.e., it is opaque to extraction or reassembly of any kind).

We propose that a similar set of processes not only provides a way for us to account for DP2 agreement in cases in which no movement is predicted but also creates a DP island. This is borne out as we see in (26).

(26) *[De qué personas]$_i$ fueron   a la fiesta [un montón t_i]
      of   what persons   be.PST.3PL to the party a   mountain

      Intended: 'What people went to the party a bunch of?'

This is unexpected based on the observations in Starke (2001), where it was observed that postverbal, but not preverbal, subjects permit extraction.

(27) (Haegeman et al., 2014, 121)

      [De qué príncipe]$_i$ fueron   publicadas [varias fotos   comprometedoras t_i]
      of   what prince   be.PST.3PL publish.PRTC various photos compromising

      'What prince were several compromising photos published of?'

11

Appendix B: The data

Below are the results of the grammaticality judgement task we collected in order to formulate the many of theoretical points discussed above.

We surveyed n=117 native Spanish speeakers from Spain, Peru, and Mexico (age range: 23-40 years old) in a 40-question grammaticality judgement task where they were asked to rate each construction via a 5-point Likert scale ('bad' to 'excellent'). Participants were also given a comment box to highlight any particularities or personal judgements not captured in the Likert scale.

We tested five (n=5) common DP1 candidates for their involvement in agreement: *un montón* ('a mountain'), *una pila* ('a pile') *la mayoría* ('the majority'), *un puñado* ('a fist'), and *un huevo* ('an egg'). We tested for a combination of three syntactic aspects: (i) preverbal vs. postverbal position of the target subject, (ii) transitive vs. intransitive verbal predicates, (iii) partitive vs. pseudo-partitive target subjects. All DP2 candidates were plural.

The results of our findings were as follows:

- For the DP1 candidates *un montón*, *un puñado*, and *un huevo* resulting in plural agreement on the verb, there was no significant difference in grammaticality based on (i) the position of the target (preverbal score = 4.957, postverbal score = 4.786), (ii) the transitivity of the verb (intransitive score = 4.829, postverbal score = 4.573), or (iii) the type of partitive complement (pseudo-partitive score = 4.743, partitive score 4.957).

- Plural agreement with *la mayoría* was judged ungrammatical regardless of any syntactic factors mentioned above (1.453), receiving no '4' or '5' value judgements.

- All DP1 candidates resulted in scores that reflect strong acceptability judgements minus *una pila* ('a pile'), for which we receives numerous comments that singular vs. plural agreement was dependent on the real-world status of DP2 (e.g. 'a pile of papers' vs. 'a pile of people').

  - With this DP1 candidate, there was a weighted average of 4.538 for singular agreement with DP2 arguments and a 3.256 for plural agreement.

  - Importantly, in neither case did we receive a '1' for any participant's response for judgements of *una pila*, which we believe indicates that both singular and plural agreement is overall accepted (albeit under varying conditions). We found this noteworthy, as all other DP1 candidates received scores of '1' when agreement expectations were not met (i.e., singular agreement with *un montón*, *un puñado*, and *un huevo*; plural agreement with *la mayoría*).

- When selecting a plural DP2 resulting in singular agreement on the verb, the DP1 candidates *un montón* ('a mountain'), *un puñado* ('a fist'), and *un huevo* ('an egg') had average scores of 1.214 for preverbal and 1.239 for postverbal subjects, 1.186 for transitive and 1.197 for intransitive verbal predicates, and 1.248 for pseudo-partitives and 1.145 for partitives.

A note on the (in)definiteness of DP1 candidates: The DP1 candidates were selected with the most frequent determiner used with that particular candidate. While we recognize that this results in *la mayoría* being singled out as the lone DP1 candidate boasting a definite article, our post-survey talks with several of the informants confirmed that judgements would be unlikely to change were *la mayoría* ('the majority') switched to *una mayoría* ('a majority'). As it stands, this rules out the possibility that the determiner plays a part (at least a significant one) in determining agreement but, instead, indicates that variation is tied to the DP1 nominal itself.

Similarly, while the frequency of the indefinite DP1 candidates from the survey is much lower when used with a definite determiner, our informants confirmed that definiteness of these nouns does not affect the preference for DP2 agreement with a plural DP2.

References

Alexiadou, Artemis & Haegeman, Liliane & Stavrou, Melita. 2007. *Noun phrase in the generative perspective.* Berlin/New York: Mouton de Gruyter.

Chomsky, Noam. 1995. *The minimalist program.* Cambridge, M.A.: MIT Press.

Chomsky, Noam & Gallego, Ángel J. & Ott, Dennis. 2019. Generative Grammar and the Faculty of Language: Insights, Questions, and Challenges. *Catalan Journal of Linguistics: Special Issue* 229–261. doi:10.5565/rev/catjl.288

Danon, Gabi. 2011. Agreement and DP-Internal Feature Distribution. *Syntax* 14(4). doi:10.1111/j.1467-9612.2011.00154.x

Dikken, Marcel Den. 2006. *Relators and Linkers: The Syntax of Predication, Predicate Inversion, and Copulas.* Cambridge, M.A.: MIT Press.

Gallego, Ángel. 2013. Object shift in Romance. *Natural Language & Linguistic Theory* 31. 409–451. doi:10.1007/s11049-013-9188-6

Gravely, Brian & Krapp López, Carlos & Greeson, Daniel. under review. It's not you, it's your probe: A reply to Béjar & Kahnemuyipour (2023). *Syntax* .

Guimarães, Maximiliano. 2004. *Derivation and representation of syntactic amalgams*: University of Maryland, College Park dissertation.

Gupton, Timothy & Howe, Chad. 2023. On semantic plurality within the Spanish DP and ad sensum agreement: A combinatorial variability approach. *Ms*, University of Georgia. (Under review). https://osf.io/mcwf5/.

Haegeman, Liliane & Jiménez Fernández, Ángel & Radford, Andrew. 2014. Deconstructing the Subject Condition in terms of cumulative constraint violation. *The Linguistic Review* 31(1). 73–150.

Johnson, Kyle. 2003. Towards an Etiology of Adjunct Islands. *Norlyd* 31(1). 187–215.

Johnson, Kyle. 2012. Towards deriving the difference in how *wh*-movement and QR are pronounced. *Linuga* 112. 529–553.

Lago, Sol & Shalom, Diego E. & Sigman, Mariano & Lau, Ellen F. & Phillips, Colin. 2015. Agreement attraction in Spanish comprehension. *Journal of Memory and Language* 82. 133–149.

Lakoff, George. 1974. Syntactic amalgams. In *Papers from the 10th meeting of the chicago linguistics society*, Chicago Linguistics Society.

López, Luis. 2012. *Indefinite Objects, Scrambling, Choice Functions, and Differential Object Marking*. Cambridge, M.A.: MIT Press. doi:10.7551/mitpress/9165.001.0001

López, Luis. 2015. Parallel Computation in Word Formation. *Linguistic Inquiry* 46(4). 657–701. doi:10.1162/LING_a_00197

Massaro, Angelapia. forthcoming. Apulian Qualitative Binominal Noun Phrases. *Italian Journal of Linguistics* .

Matushansky, Ora. 2017. On the structure and composition of pseudo-partitives. Presented at 'Séminaire LaGraM', LSA institute 2023.

McKinney-Bock, Katherine & Vergnaud, Jean-Roger. 2013. Grafts and Beyond: Graft-Theoretic Syntax. In McKinney-Bock, Katherine & Zubizarreta, María Luisa (eds.), *Primitive elements of grammatical theory*, 207–236. New York: Routledge. doi:10.4324/9781315889825

Nunes, Jairo. 2004. *Linearization of Chains and Sideward Movement*. Cambridge, M.A.: MIT Press.

Nunes, Jairo & Uriagereka, Juan. 2000. Cyclicity and Extraction Domains. *Syntax* 3(1). 20–43. doi:10.1111/1467-9612.00023

Ordóñez, Francisco. 2007. Cartography of postverbal subjects in Spanish and Catalan. In *Romance languages and linguistic theory 2005: Selected papers from 'going romance'*, 259–280. Amsterdam/Philadelphia: John Benjamins.

Putnam, Michael T. & Stroik, Thomas S. 2010. Syntactic relations in Survive-minimalism. In *Exploring crash-proof grammars*, 143–166. Amsterdam/Philadelphia: John Benjamins.

Selkirk, Elisabeth. 1977. Some remarks on noun phrase structure. In Akmajian, A. & Culicover, P. & Wasaw, T. (eds.), *Formal syntax*, 285–316. Academic Press.

Starke, Michal. 2001. *Move dissolves into Merge*. Geneva: University of Geneva dissertation.

Stavrou, Melita. 2003. Semi-lexical nouns, classifiers and the interpretation(s) of the pseudopartitive construction. In Coene, Martine & D'hulst, Yves (eds.), *From NP to DP* (Volume 1: The syntax and semantics of noun phrases), 329–354. Amsterdam: John Benjamins.

Thoms, Gary. 2019. Anti-reconstruction as layering. In *Proceedings of nels 49*, 221–230. GLSA.

Thoms, Gary. 2023. Resolving selectional puzzles with multidominant representations. Presented at 'How Many Mothers? Multidominance in syntax' workshop, LSA institute 2023.

Traugott, Elizabeth. 2008. The grammaticalization of *NP of NP* patterns. In Bergs, Alexander & Diewald, Gabriele (eds.), *Constructions and language change*, 23–45. Berlin: De Grutyer.

Uriagereka, Juan. 1999. Multiple spell-out. In *Working minimalism*, 251–282. Cambridge, M.A.: MIT Press.

Wagers, Matthew W. & Lau, Ellen F. & Phillips, Colin. 2009. Agreement attraction in comprehension: Representations and processes. *Journal of Memory and Language* 61(2). 206–237.