The heterogeneous nature of verbal alternations: What information structure can tell us about it

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Abstract

In this paper, I discuss Dative Alternation and Locative Alternation, proposing a cross-linguistically heterogeneous behavior of verb alternates. I explore information structural factors and study the available basic verb patterns in contexts where no previous shared information is presumed (broad focus), which is taken as diagnostic of the derived or non-derived nature of a given verbal alternation. I examine the different discourse interpretations of the two alternates in Spanish, English, Portuguese and Turkish. I suggest a non-derived nature of the two instances of verbs in Spanish Locative Alternation. On the contrary, Dative Alternation in Spanish exhibits derivational properties from a discourse perspective. In short, I propose two types of alternates (a derivational type and a non-derivational type), for which I find evidence in the notion of scope freezing (Larson 2014, Antonyuk 2020, Cépeda & Cyrino 2020). In Spanish, an inverse scope reading is available in quantifiers in locative alternation, which supports a non-derivational analysis of the two patterns. Locative Alternation

shows scope freezing, favoring a derivational analysis. I put forth a Minimalist derivation based on discourse features and the notion of feature inheritance, which accounts for the above-mentioned characteristics.

Keywords: verbal alternations, argument structure, information structure, broad focus, scope freezing.

1. Introduction

Argument structure alternations have been a crucial area of research in generative linguistics since its beginning, yielding important implications for our understanding of the overall architecture of grammar per se as well as issues regarding the nature of the relation between lexicon and syntax in particular (Levin 1993, Levin & Rappaport Hovav 2005; see also Ramchand 2013 for a general overview).

The examples in (1) illustrate the classic causative/inchoative alternation:

(1)   a. The chair broke.
        b. John broke the chair.
        c. The chair is broken.

Examples in (1) raise the question as to whether we are dealing with the same verb – *break*– or with different verbs. In her paper on argument structure alternations, Ramchand (2013: 267) states that "distinctions in verb meaning must be encoded only insofar as they have systematic effects in the grammar". Underlying this statement and the question of one vs. different verbs are the various approaches to verb alternations, namely derivational or non-derivational.

In addition, approaches to a possible answer to this question have been based on the semantics of the two alternating constructions (Levin 1993, 2006) or on whether their syntax is different or similar (Larson 1988, 2014). Paying attention to the semantics of the alternates, Levin (2006) proposes a meticulous classification of verbs. In the search of a unified account, Levin (1993) produces an extensive spectrum of verb alternations, distinguishing between putting verbs (*spray*) and removing verbs (*clear*):

(2) Locative Alternation — "putting" subtype:
        a. Jill sprayed paint on the wall.
        b. Jill sprayed the wall with paint.

(3) Locative Alternation — "removing" subtype:
        a. Jack wiped crumbs off the counter.
        b. Jack wiped the counter.

As we may observe, the crucial factor is the verb meaning (For Spanish, see Mayoral Hernández 2015).

In addition to semantic elements, some classifications have considered syntactic aspects too. For instance, the preposition selected by each alternate in the pair or the syntactic category of the location argument. Once Mayoral Hernández

(2015) has established his semantic classification, he distinguishes different verbs in his first group for Spanish depending on the preposition involved:

- Either *con* 'with' or *de* 'of', as in *cargar* 'load'

(4)   Marta cargó   el coche con/de leña.
           Marta load-PST.3SG   the car   with of wood
           'Marta loaded her car with wood.'

- Only *con* 'with', as in *cultivar* 'raise'

(5)   a. Juan cultivaba   cebollas en su huerto.
          Juan raise-PST.3SG onions   in his vegetable garden
      b. Juan cultivaba   su huerto   con cebollas.
          Juan raise-PST.3SG his vegetable garden   with onions
          'Juan raised onions in the vegetable garden.'

- Only *de* 'of', as in *plantar* 'grow'

(6)   a. Plantaron   pinos   en el monte.
          plant-PST.3SG pinetrees   in the mountain
      b. Plantaron   el   monte   de pinos.
          plant-PST.3SG the   mountain of pinetrees
          'They planted the mountain in pinetrees.'

The second syntactic aspect taken into consideration by Mayoral Hernández (2015) is the category of the location argument. The first criterion is whether the location argument can occur in a PP:

(7)   a. El viento barrió   de cenizas   nuestras amadas calles.
          the wind sweep-PST.3SG   of ashes   our   beloved streets
      b. El viento barrió   de   nuestras amadas calles   las cenizas.
          the wind sweep-PST.3SG   from   our   beloved streets the ashes
          'The wind swept the ashes from our beloved streets.'

The second criterion is whether location cannot occur as PP, including in this group verbs such as absolver ('absolve'), *aliviar* ('soothe'), *curar* ('cure'), *despojar* ('deprive'), *desvalijar* ('clean out'), *disculpar* ('excuse'), *exculpar* ('exonerate'), *etc*.:

(8)   a. Disculpó   a Felipe de sus horrendos   crímenes.
          exonerate-PST.3SG to Felipe of his terrible   crimes
      b. Disculpo   *{de Felipe}   los horrendos crímenes.
          exonerate-PST.3SG   of Felipe   the terrible   crimes
          'He exonerated Felipe of his terrible crimes.'

For Agenjo (2019), in the approach to alternating verbs, one crucial question has been on what property makes a verb alternating. There are many problematic

issues to decide on whether a particular verb is alternating or not. Focusing on Spanish, these are summarized as follows (Agenjo 2019: 33):

1) Different classifications (Cifuentes Honrubia 2008 or Mayoral Hernández 2015) show many controversial cases.
2) Speakers do not fully agree with what constitutes an alternating verb, making experimental work biased.
3) Dictionaries are also incoherent with the use of alternating verbs.

Agenjo's (2019) experimental work shows that, in Spanish, none of the 39 alternating verbs tested achieve 100 % acceptability (reaching only 60 % - 70 %, at most).

Figure 1. Acceptability of alternating verbs in Agenjo's experiment

Porcentaje de aceptación	
%	**Verbos**
10-20	*empapar* (11,4), *pringar* (11,5), *mojar* (19,1)
20-30	*infiltrar* (28,2), *impregnar* (28,8)
30-40	*incrustar* (32,3), *intercalar* (35,4), *embutir* (35,7)
40-50	*inyectar* (43,5), *desocupar* (44,3), *imbuir* (47,7)
50-60	*mezclar* (50,8), *agitar* (51,1) *restregar* (51,9), *remover* (53,8), *vaciar* (56,5), *plantar* (56,9), *limpiar* (58,8), *inscribir* (58,9), *desalojar* (59,5)
60-70	*atar* (60,6), *poner* (60,8), *ajustar* (61,1), *salpicar* (62,1), *sembrar* (62,8), *dejar* (65,1), *espolvorear* (66,7), *anudar* (67,2), *pulverizar* (66,7), *rociar* (67,9), *cargar* (68,2), *menear* (68,2)
70-80	*ceñir* (70,2), *marcar* (71,5), *pinchar* (72), *frotar* (78,3), *tatuar* (78,5), *untar* (78,6)
>80	*grabar* (85,4)

As observed in Figure 1, typical verbs which occur in all inventories are ranked very lowly (*empapar* 'soak up'; exception *grabar* 'engrave'), whereas verbs which are hard to find in research as alternating are ranked very highly (*tatuar* 'get tatooed').

Agenjo (2019) also analyses the treatment of alternate verbs in usage-based dictionaries: *Diccionario del Español Actual* (DEA), *Diccionario del Estudiante* (DE), *Diccionario Estudio Salamanca* (DESAL) and *Diccionario Clave* (DC). The author arrives at a classification of verbs based on their occurrence as alternates in the above-mentioned dictionaries (Agenjo 2019: 20):

Figure 2. Agenjo's findings in dictionaries

Verbos	Diccionarios
agitar, *ajustar*, *anudar*, *atar*, *desocupar*, *impregnar*, *inscribir*, *intercalar*, *inyectar*, *menear*, *mezclar*, *pinchar*, *pringar*, *remover*, *rociar*	0
dejar, *embutir*, *mojar*, *poner*, *pulverizar*	1
frotar, *grabar*, *infiltrar*, *salpicar*, *tatuar*, *vaciar*	2
cargar, *ceñir*, *espolvorear*, *incrustar*, *limpiar*, *marcar*, *restregar*, *untar*	3
desalojar, *empapar*, *imbuir*, *plantar*, *sembrar*	4

The main problem in this classification is that classical alternate verbs from the literature such as *rociar* 'spray' are not even mentioned as alternate verbs. However, very infrequent verbs such as *imbuir* 'infuse' appear in the four dictionaries.

What is clear is that there has been a monumental proliferation of alternations and classifications thereof in the literature, and none of them are free from shortcomings and flaws. Ramchand (2013) makes a substantial compilation of the most popular verb alternations in the literature, tackling the problem raised with the polysemous analysis (two lexical entries) or monosemous analysis (one single entry) that we may entertain for alternate verbs. To obtain a full picture of the scenario emerging from the dichotomy between derived and non-derived analyses of alternates, following is a summary of the alternations examined here.

The first group that Ramchand (2013) discusses is the one involving Dative Shift or Dative Alternation, as illustrated in (9), including verbs such as *give*, *send*, *buy*, *etc.*

(9)   a. John gave the book to Mary.
        b. John gave Mary the book.

Verbs here may select the patterns /OPO/, where the goal can be instantiated as a *to*-PP (as in *to Mary* in (9a)), or /OO/, where the goal is turned into the primary object (Mary in (9b)). As an object, this goal allows for passivization, as in (10):

(10) Mary was given the book.

A second verb Alternation that Ramchand takes into account is Locative Alternation, illustrated in (11):

(11)   a. John smothered the toast with marmalade.
        b. John smothered marmalade on the toast.

In the Locative Alternation, the verb may be followed by the location in object position and then by what Ramchand defines as the 'located substance' preceded by the preposition *with*, as in (11a). Alternatively, the located substance can function as the direct object and the location is realized by a PP. Other verbs included in this group are *spread*, *spray* (paint), *etc*.

        A third class of verb alternation that Ramchand discusses is the Contactive Alternation (also called the *with*/*against* alternation, by Levin 1993). As illustrated in (12a), the direct object can be the contacted element followed by the instrument as a with-PP. However, in (12b) the verb selects the instrument as the direct object and the contacted object is expressed as a locative PP (Ramchand 2013: 276):

(12)   a. John hit the table with the cricket bat.
        b. John hit the cricket bat against the table.

        Other verbs included in the class of Contactive Alternation are *strike*, *slap* (somebody on a body part), *etc*.
        A fourth class is the so-called Causative-Inchoative Alternation, illustrated in (13).

(13)   a. The window broke.
        b. John broke the window.

        Given that the number of arguments selected by each of the alternate verbs is different, it is extremely difficult to propose a non-derived analysis. Much on the contrary, it is widely claimed that the verb exhibits two separate lexical entries. Other verbs in the alternation include *ring (the bell), sink (the boat), burp (the baby), etc.*
        In the proliferation of alternates, a crucial problem lays in the fact that some verbs may enter different lexical classes (Levin 1993), and hence showcase different alternations. This is the case of *slide*:

(14)   a. Carla slid the book to Dale.
        b. Carla slid Dale the book.

(15)   a. Carla slid the books across the table.
        b. The books slid across the table.

        In (14) *slide* involves Dative Alternation, whereas in (15) it exemplifies Causative/lnchoative Alternation.
        We have seen that, in addressing verb alternations, linguists have observed syntactic factors, semantic factors and/or lexical factors. However, only a few studies have paid attention to discourse and information structure factors. Bresnan *et al.* (2007) analyze the connection between definiteness, givenness and ordering in Dative Alternation in English, based on internet searches for examples. Speakers are supposed to show preference for the order /OO/ or /OPO/ depending on whether the relevant postverbal constituent is definite and displays given information. This is just one factor

influencing the ordering chosen by native English speakers. The authors claim that pronominal constituents precede non-pronominal ones, definite constituents precede indefinite ones and shorter elements precede longer ones (Bresnan *et al.* 2007). Examples in (16) are illustrative:

(16)   a. ??Karen hand-carried a man a form.
         b. Karen spoke with Gretchen about the procedure for registering a complaint, and hand-carried her a form, but Gretchen never completed it.

        As is clear, (16b) complies with all the factors mentioned about pronominality, definiteness and length, contrary to (16b). I agree that choosing one pattern or another is multifactorial. However, Bresnan *et al.* (2007) do not take these information structural factors into account in showing whether a polysemous or monosemous analysis is more accurate for English Dative Alternations. See Krifka (2003) for the information structure view of the two possible analyses in English Dative Alternation.
        For Spanish, Jiménez-Fernández (2009) has shown that the original ordering in ditransitives in Spanish dative constructions is /OPO/ and that the reverse ordering is obtained by some discourse-based operation whereby the first object is seen as topic and the second object as focus, and proposes an analysis based on cartography (Rizzi 1997) to distinguish between the two patterns. Finally, for Brazilian Portuguese, Scher (1996) and Armelin (2011) discuss the information structure of Dative Alternations arguing for an adjunct topic position in charge of the rearrangement of the two patterns /DO + IO/ and /IO + DO/. This is illustrated for BP as follows:

(17)   a. O   João deu   o   livro ao/pra   Pedro.
            the   João give-PST.3SG   the   book to.the/for.the   Pedro
         b. O João deu ao/pra Pedro o livro.
            'John gave a book to Peter.'

                                                      (Armelin 2011: 16, her examples in (1))

        IN BP, the preposition alternates between *a* 'to' and *pra* 'for'. There may be no preposition at all, as in the BP variety in Zona da Mata Mineira. What is interesting is that the ordering in Dative Alternation in BP displays exactly the same discourse properties as Spanish, and hence the DP *o livro* is a topic in (17a) but focus in (17b). Also, both Scher (1996) and Armelin (2011) claim that for broad focus, the preferred option (and hence the canonical construction) is the /DO IO/ pattern, similar to what Cépeda & Cyrino (2020) and Lacerda (2017, 2020) propose. Note that the constructions all these authors study are the two alternates in Dative Alternation.
        In an experimental perspective, Quarezemin (2009) has shown that the topic+focus partition in BP headily draws on prosodic properties. A task-based experiment displays a critical preference in BP to mark focus by intonation, instead of syntactic rearrangement. Quarezemin adopts a cartographic view and puts forth a Topic Phrase in the low periphery to account for the possible rearrangement. A Topic Phrase is also assumed by Cépeda & Cyrino (2020).
        From this brief discussion on previous information structure approaches to ditransitives, several conclusions are drawn. First, linguists have tended to focus only on Dative Alternation -no discourse-based study has been found on Locative Alternation. Second, it is clear that information structure is involved in the derivational

connection between the two patterns of Dative Alternation. All authors agree that there is a topic position in ditransitives, and also that the primary basic pattern is /DO IO/ and hence express broad focus. However, they do not discuss the possible association of this original word order and its role in the possible derivational (monosemous) or non-derivational (polysemous) nature of verbal alternations.

To fill this gap, the main goal of this paper is to explore a discourse-based explanation for two types of verbal alternations, namely Dative Alternation and Locative Alternation, based on the behavior of a given pattern in broad focus scenarios.

My research question is whether information structure (in particular, broad focus) supports a derivational or a non-derivational view of argument structure alternations. In answering the question, my starting hypothesis is that there are two types of alternations inter- and cross-linguistically, namely 1) purely lexical-syntactic alternations, and 2) discourse-based alternations.

The organization of this paper is as follows: In Section 2, I address the two approaches to verbal alternations. I focus on two classes of alternations, namely Dative Shift and Locative alternation in English and Spanish. In Section 3, I propose that, when Information Structure is taken into account, a completely different perspective is obtained in which Dative alternation involves two patterns which are related derivationally, whereas Locative alternation verbs are not related and require two separate lexical entries. In other words, I claim that there are two types of alternations cross-linguistically and that there is no homogeneous analysis for all verbal alternations. I extend the analysis to other languages such as Portuguese (a language in which objects are marked very similar to English and Spanish) and Turkish (a typologically different language which marks objects by using Case and/or Prepositions). Section 4 provides evidence for the split into 2 groups: scope freezing in quantified expressions. In Section 5, I present a possible formal analysis of the heterogeneous classes of alternates. Finally, Section 6 presents the general conclusions to which I arrive.

2. Two approaches to verb alternations

In discussing alternations such as (18) in Double Object Constructions, there have been two views.

(18)   a. John has sent a letter to Mary.
        b. John has sent Mary a letter.

First, proponents of the monosemy/thematic paraphrases view often take the position that one of the alternating frames derives from the other (Fillmore 1968, Larson 1988, 1990, 2014, Aoun and Li 1989, Baker 1997). In this derivational approach, lexical entries share the same underlying structure. Second, proponents of the polysemy view adopt the stance that the two constructions encode different semantic relations – for example, change of possession for the DOC and movement to a goal for a PP Dative (Jackendoff 1990, Pesetsky 1995, Harley 1995, 2002, 2014). This is the non-derivational approach, where lexical entries involve different semantic relations, and hence require different underlying structures.

The two approaches use arguments which might work for the purposes of establishing a possible relation between alternating verbs or not. Three different arguments can illustrate this in the following manner:

As pointed out by Goldberg (2002: 337-340), there is not always a one-to-one correspondence in the alternation. This is the case of the pair *load* vs. *cover:*

(19)   a. Pat loaded the hay onto the wagon.
        b. Pat loaded the wagon with hay.

(20)   a. They covered the wall with posters.
        b. *They covered posters onto the wall.

While *load* allows the alternation in (19), *cover* occurs in the frame /O + *with*-PP/ in (20a) but blocks the alternation with the frame /O + locative PP/ in (20b). The very same constraint is found in Spanish:

(21)   a. Pedro cargó   el heno en el   vagón.
           Pedro load-PST.3SG the hay in the wagon
           'Pedro loaded the hay onto the wagon.'
        b. Pedro cargó   el vagón   con heno.
           Pedro load-PST.3SG the wagon   with hay
           'Pedro loaded the wagon with hay.'
(22)   a. Cubrieron   la   pared con posters.
           cover-PST.3PL the   wall   with posters
           'They covered the wall with posters.'
        b. *Cubrieron   posters en la   pared.
            cover-PST.3PL   posters on the wall
           '*They covered posters onto the wall.'

Furthermore, there is not always a one-to-one correspondence in meaning. In one of the frames of the alternation, a holistic interpretation is detected, which is absent in the other frame (Antonyuk & Mykhaylyk 2022, Rappaport-Hovav & Levin 1988, Kearns 2011):

(23)   a. John loaded the cart with hay.
        b. John loaded hay in the cart.

(23a) implies the full loading of the cart, whereas (23b) does not (Anderson 1971). Again, the same distinction is found in Spanish:

(24)   a. Juan cargó   el carro con heno.
           Juan load-PST.3.SG the cart   with hay
           'John loaded the cart with hay.'
        b. Juan cargó   heno en el   carro.
           Juan load-PST.3.SG hay   in the   cart
           'John loaded hay in the cart.'

Both arguments do seem to support a non-derivational approach to verb alternations. In contrast with these two arguments, we may build up arguments in favor of the derivational approach. I will focus on Romance Dative Alternation in ditransitives. In Spanish and European and Brazilian Portuguese, the following alternate is found:

(25)   a. Julia (le)   dio   un regalo   a Pedro. /DO + IO/
            Julia CL.3.SG.DAT give-PST.3.SG a gift   to Pedro
         b. Julia (le) dio a Pedro un regalo. /IO + DO/
            'Julia gave a gift to Pedro.'
(26)   a. A Olga deu   uma maçã a/para o Mario. /DO + IO/
            the Olga give-PST.3.SG   an   apple to for the Mario
         b. A Olga deu a/para o Mario uma maçã. /IO + DO/
                                                         (Cépeda & Cyrino 2019)

Ditransitives in Spanish and in European and Brazilian Portuguese show an optional rearrangement of DO and IO. This reordering has a clear discourse-based reason since, in Spanish and Portuguese, the sentence-final position is reserved for information focus. Thus, though the two alternates are possible, their discourse interpretation is completely different. Also, for Spanish, the optional insertion of the clitic is taken to indicate that the dative is an object DP or a PP (Demonte 1995, Cuervo 2003, 2010). Only if a clitic is present is the construction considered as a DOC.[1]

Regardless of the analysis of ditransitives, (25) and (26) support the derivational approach to (at least some) alternations in the three languages. I will argue in favor of this analysis for Dative Shift in Spanish and Portuguese below. At this point, I simply conclude that there are arguments for both the derivational analysis and the non-derivational analyses of ditransitives.

3. Verb alternations: When Information Structure matters

We have observed that, when classifying verbs by verb alternations, attention has focused on syntactic, semantic and/or lexical issues. However, no detailed study of these alternations has paid heed to a possible impact of information structure on the arrangement of participants in the alternations. What makes argument structure in the Lexicon select one lexical entry or the other out of two alternate ones?

Levin & Grafmiller (2013) have stated that information structure factors (among other semantic and syntactic factors) feed the lexicon. For example, psychological verbs may occur in at least two frames in English. In one pattern, the Experiencer functions as the subject, whereas in the other it is the object of the verb. The distinction *fear* vs. *frighten* may be a case in point. Jiménez-Fernández &

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[1]   The existence of DOCs in Romance is a controversial issue that I cannot discuss here. It is interesting to note that, diachronically, the kind of dative alternation found in Present-Day English was productive in Late Latin, but there are many reasons to believe that the alternation between a bare dative and dative-PP has been lost at least in Spanish and Portuguese. See Fedriani & Napoli (2023) for discussion of the relevant constructions diachronically.

Rozwadowska (2016) have discussed this discourse-based alternation in sentences such as (27):[2]

(27) a. Angela fears snakes.
      b. Snakes frighten Angela.

Based on experimental work, these authors show that, depending on what the information focus is, the speaker may select one alternative or the other. And in case the whole sentence is focus either pattern can be used (as answer to a question such as *What's up?*). This information structural approach raises the question as to whether verb alternations such as Dative Alternation or Locative Alternation are subject to discourse factors on a par with psychological verbs.[3]

Before answering the question, I will delve into the information structure interpretation in the Causative-Inchoative alternation. The crucial matter here is what member of the alternation is most likely to be chosen, depending on the information structure reading of the relevant sentence. Focus is associated with new information which typically satisfies the information request in a previous explicit or implicit question. Assuming this is correct, the examples below are all based on the naturalness of the answer provided by Speaker B to the question posed by Speaker A (# indicates that, in the context provided, the sentence is not natural):

(28) A: Who broke the window?
      B: a. #The window broke.
            b. John broke the window.
(29) A: What did John break?
      B: a. #The window broke.
            b. John broke the window.
(30) A: What happened with the window?
      B: a. The window broke.
            b. #John broke the window. (*vs*. John broke it)

For (28), the inchoative alternate does not satisfy the information request in the question since this is about the Agent of the event, and hence only the causative

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[2]   The impact of information structure in verbal alternations is currently under debate. For example, for Brazilian Portuguese, Rodrigues (2023) and Kato & Ordóñez (2019) have claimed that alternations such as possessor raising constructions showcases a different discourse interpretation (though see Nunes & Kato 2023 for arguments that these alternations are caused by syntactic properties and not by information structure):

(i)   a. O caramujo   quebrou   a concha.
          the snail   break-PST.3SG   the shell
      b. A   concha   do   caramujo quebrou.
          the shell   of.the snail   break-PST.3SG
          'The snail's shell broke.'

[3]   In this work, I concentrate on one type of focus, namely information focus, both in its broad and narrow manifestation. I leave aside other types of foci such as contrastive or mirative focus since they are not relevant for the connection between alternates of a given verb. When contrast affects the interpretation, this fact has been highlighted.

alternate is natural here. Likewise, in (29), the transitive construction is more natural because the presupposition in the question is that there is an Agent involved, John, and that this is information that both speakers share. As such, it qualifies as a topic in the answer, requiring pre-verbal position. Finally, in (30), the information provided by *the window* is already known from the question, making Speaker B select the inchoative sentence in (30a), where the DP *the window* is the topic.

Now, I will turn to the all-focus sentences that may be used as a reply to a question deprived of any type of background information, such as *What's up?* The idea is that broad focus (cf. Zubizarreta 1998) is associated with the canonical pattern/patterns in the relevant language (Erteschik-Shir 2007, Contreras 1983, Fernández-Soriano 1999, Jiménez-Fernández & Rozwadowska 2016, 2017), among others). A sentence which is interpreted as broad focus must make use of the basic/unmarked word order of the language. This is what we can find in out-of-the-blue contexts, and it can be a solid diagnostic to tear apart the two verbs in a given alternation (hence two separate lexical entries are involved, arguing for a non-derivational analysis of the alternation) or to link the two verbs in a single entry (supporting a derivational analysis of the alternation).

Examples in (31) illustrate the Causative-Inchoative Alternation and the broad focus interpretation:

(31)   A: What happened?
        B: a. The window broke.
                b. John broke the window.

Both patterns satisfy the information request in the question, thereby being both all-focus sentences. If the verb *break* qualifies as representative of the Causative-Inchoative Alternation, the conclusion to be drawn is that this alternation requires a non-derivational or polysemous analysis, with two separate lexical entries for verbs included in this group.

As far as Locative Alternation in English is concerned, the different discourse interpretations that the two alternates may show up with are illustrated in (32-33):

(32)   A: What did John put on the toast?
        B: a. John smothered the toast with marmalade.
                b. #John smothered marmalade on the toast.[4]
(33)   A: What did John do with the marmalade?
        B: a. #John smothered the toast with the marmalade.

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[4]   The non-felicitous status of (32Bb) is based on a flat intonation with no special accent on the DP *marmalade*. However, this felicity issue changes when the DP gets the focus pitch accent and now the relevant example would be natural as answer to Speaker A's question (*John smothered MARMALADE on the toast*); see Bresnan et al. (2007) for the interaction between stress and grammatical possibility, even when grammar rules out a given ordering.

English is a language where final position is reserved for focus. Nevertheless, there is not a one-to-one relation between syntactic position and focus due to the rigidity of word order in the language. In other words, focus may simply be associated with prosody (with no syntactic reordering of constituents), in which case the discourse-based syntactic distinction in (32-33) is blurred. See Gussenhoven (2007) on the connection between focus and prosody in English.

b. John smothered the marmalade on the toast.

As with Causative-Inchoative Alternation, in Locative Alternation, the information present in the question conditions the member of the alternate pair that the speaker would choose. In (32), the information request is about the located substance. Therefore, the most natural answer will leave this information in a final position, thereby selecting the alternate whose argument structure has a *with*-PP as one of the participants. On the contrary, in (33), the information request is about the location, pushing the speaker to select the verb whose frame includes a PP-location.

The questions may be more open in that the information request may include everything except for one single constituent, as in (34-35), in which case there is also a preference for one verb or the other of the alternation depending on the syntactic position of the background information:

(34)   A: What happened with the marmalade?
        B: a. #John smothered the toast with the marmalade.
                b. John smothered the marmalade on the toast.
(35)   A: What happened with the toast?
        B: a. John smothered the toast with the marmalade.
                b. #John smothered the marmalade on the toast.

Finally, when there is no background information and the request is fully open, either of the verbs with their different lexical frames is felicitous:

(36)   A: What happened?   (Broad focus)
        B: a. John smothered the toast with the marmalade.
                b. John smothered the marmalade on the toast.

The examples in (30) show that, in English Locative Alternation, the two alternates are part of the canonical patterns of the language, supporting the view that verbs in this group have two separate entries and no derivational analysis is available.

In a language such as English, in which focus can optimally be assigned in sentence-final position or in situ by using prosody, lexical alternations are influenced by information structure. Dative Alternation in English seems to behave as Locative Alternation does in that narrow focus displays some preferences depending on the background information given in the previous question. This is exactly what Bresnan *et al.* (2007) and Lacerda (2017) show.

(37)   A: What happened with the book?
        B: a. # John gave Mary the book.
                b. John gave the book to Mary.
(38)   A: What happened with Mary?
        B: a. John gave Mary a book.
                b. # John gave a book to Mary.

Lexical alternations are influenced by information structure, as illustrated in (37-38). The Information Flow Principle states that messages are arranged from given to new information (Chafe 1987; Prince 1981). Following this principle, the speaker

may choose one alternate or the other depending on the information already familiar in the context. Following an observation by an anonymous reviewer, this is just a preference, not a universal hard constraint; also, this varies crosslinguistically. Even in rigid focus-final languages, contrastive focus may overwrite this requirement. This is why my claim is that lexical alternations are influenced by discourse. There may be other factors involved in this influence.

Concerning broad focus, English-speaking informants show a clear preference for the prepositional object as in (39B.b), confirmed in (40B.b):

(39)   A: What happened?   (Broad focus)
        B: a. # John gave Mary the book.
                b. John gave the book to Mary.

(40)   a. # John sent Peter the new regulation.
        b. John sent the new regulation to Peter.

The two patterns are not basic in English, supporting the polysemous view that the two patterns involved in Dative Shift are derived. Now we turn to languages where a syntactic position is employed for focus purposes. I will start with the Spanish case by exploring the connection between information structure and word order in locative alternation and dative alternation.

3.1. The Spanish case: Locative alternation

Verbs such as *limpiar* 'clean' and *cargar* 'load' are typical verbs illustrating locative inversion in Spanish (adapted from Cifuentes Honrubia 2006):

(41)   a. Helen limpió [con un trapo] las huellas del cristal.
            'Helen wiped the fingerprints off the wall.'
        b. Helen limpió [con un trapo] el cristal (de huellas).
            'Helen wiped the wall (*of fingerprints)'
(42)   a. Juan cargó leña en el carro.
            'John loaded wood on to the cart.'
        b. Juan cargó el carro con leña.
            'John loaded the cart with wood.'

If information structure is associated with a specific arrangement of the syntactic constituents, the two patterns involved in this alternation are expected to exhibit a specific discourse reading which will favor one alternate or the other. Concentrating on narrow focus, examples in (43-44) showcase that the option between the two alternates is constrained by the information already known in a previous question:[5]

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5   An anonymous reviewer claims that this pair does not provide a strong argument for the polysemous analysis since this could be independently explained by the focus final rule in Spanish. It is precisely my claim that the focus final rule (Zubizarreta 1998) in Spanish influences the choice between the two alternates in locative alternations such as the one illustrated by verbs such as *cargar* 'load'. From the context questions in (43-44) we infer that

(43)   A: ¿Qué pasó con la leña?
        B: a. Juan cargó la leña en el coche.
                  b. #Juan cargó el coche con la leña.

(44)   A: ¿Qué pasó con el coche?
        B: a. #Juan cargó la leña en el coche.
                  b. Juan cargó el coche con la leña.

Now, I turn to broad focus in locative alternation. For an open question such as (45A), either (45B.a) or (45B.b) are natural:

(46)   A: ¿Qué pasó? ('What happened?')
        B: a. Juan cargó la leña en el carro.
                  b. Juan cargó el carro con la leña.

We have seen that all-focus sentences are used to check the basic sentence patterns in a language (Erteschik-Shir 2007, Contreras 1983, Fernández-Soriano 1999, among others) and hence they favor the use of the basic/unmarked word order of the relevant language. Accordingly, the two patterns in (46) are part of the core properties of Spanish argument structure. This has an important implication for our claim that the nature of argument structure alternations is not homogeneous since the verb *cargar* 'load' does require two separate lexical entries.

In the same group of verbs, we may find *coser* 'sew'. If the nature of this verb is not described in terms of a derivational analysis, the prediction is that the two alternates should occur in out-of-the-blue sentences. This prediction is borne out in (47) (examples adapted from Levin 2006: 29):

(47)   A: ¿Qué pasó? ('What happened?')
        B: a. Juana cosió   los lazos en el   disfraz.
                 Juana sew-PST.3SG the bows on the costume
                 'Juana sewed the bows on the costume'.
              b. Juana cosió   el disfraz   con los lazos.
                 Juana sew-PST.3SG the costume   with the bows
                 'Juana sewed the costume with the bows'.

No derivational approach will account for the use of the two verbal alternates with the discourse category of broad focus, supporting a polysemous analysis, hence they should be separate lexical entries. Note that, when some background information is present in the question, one pattern is preferred over the other one as more natural in the specific context:

(48)

A: ¿Qué cosió Juana en el disfraz?
        'What did Juana sew in the costume?'
B: a. # Juana cosió los lazos en el disfraz.

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the information given and shared in the question cannot occupy last position in the reply, thereby favoring one pattern or the other.

b. Juana cosió el disfraz con los lazos.

(49)

A: ¿A qué cosió Juana los lazos?
          'What did Juana sew with the bows?'
B: a. Juana cosió los lazos en el disfraz.
          b. # Juana cosió el disfraz con los lazos.

3.2. Extending the discourse-based view to Portuguese and Turkish

In the previous section, I have shown that in locative alternation, the two patterns are plausible answers for a question such as 'What's up?', which indicates that both qualify as all-focus sentences. This is taken as evidence supporting a polysemous analysis of (at least some) locative alternation verbs in Spanish and English. This observation can be extended to other languages such as Brazilian Portuguese, where a verb such as *carregar* 'load' exhibit two possible alternates, namely either a *with*-marked object for the locatum or a locative preposition with the location:[6]

(50)   a. O Higor   carregou   o caminhão com a lenha.
           the Igor   load-PST.3SG   the truck   with the wood
           'Igor loaded the truck with the wood.'
        b. O Higor   carregou   a lenha no   caminhão.
           the Igor   load-PST.3SG   the wood in.the truck
           'Igor loaded the wood into the truck.'

Both can be answers to *O que aconteceu?* 'what's up?' (broad focus), supporting the view that this particular verb has two separate lexical entries.
     Another minimal pair is obtained with the verb *encher* 'fill', as illustrated in (51):

(51)   a. A Maria encheu   a   chaleira com água.
           the Maria fill-PST.3SG the teapot   with water
           'Mary filled the teapot with water.'
        b. A Maria encheu   de água a   chaleira.
           the Maria fill-PST.3SG of wáter the teapot
           'Mary filled water in the teapot.'

As is clear from (51), the verb *encher* 'fill' may be used in either pattern in all-focus sentences, giving credit to a polysemous analysis.
     Now I turn to Turkish locative alternation. Turkish is a language where all nominals are marked with morphological case, the default focus position is always immediately preceding the verb and where specificity effect arise associated with

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[6]   An anonymous reviewer claims that there are other alternates for sentences such as (50b) which may sound more natural in BP (*O Higor carregou com a lenha o caminhão*). This is a very interesting point since it shows that, in BP, this particular verb may display an information structure-based alternation (where just word order changes) alongside a non-derived alternation. Also, notice that intonation is relevant in all pairs, given that a special pitch accent is used to indicate focus.

accusative case and syntactic position (Enç 1991). Once these factors are controlled, minimal pairs such as that in (52) may be obtained:

(52)   a. Can   araba-yı odun-la   doldur-du.
          Can.NOM   cart-ACC wood-with   fill-PST.3SG
          Lit. 'Can filled the cart with wood.'

        b. Can   odun-lar-ı   araba-ya doldur-du
          Can.NOM   wood-PL-ACC cart-DAT load-PST.3SG
          'Can loaded wood on to the cart.'

Both patterns are possible in an out-of-the-blue context, which implies that both are basic patterns in Turkish. In (52b) we find the sequence /Acc + Dat/, where the locatum is marked with accusative and the location, with dative. In contrast, in (52a) the location is accusative whereas the locatum object is marked with a *with*-preposition. In short, locative alternation verbs such as *doldur* 'fill' can occur in either of their patterns as reply to a question such as *What's up?*, which supports a non-derivational analysis of the verb.

3.3. Dative alternation: The Spanish/Portuguese case

Two approaches can be found for the two variants in dative alternation in Spanish and Portuguese. The first approach suggests that the verbs in this group involve a double object construction (DOC) when doubled by a dative clitic, and the sequence O+PP-dative when there is no clitic (Demonte 1995, Cuervo 2003, Bleam 2003, among others):

(53)   a. Le   entregué   las llaves   al   conserje.
          CL-DAT.3.SG hand-PST.1SG the keys   to.the   janitor
        b. Entregué las llaves al conserje.
          'I gave the keys to the janitor.'
                          (Demonte 1995: 6-7)

Torres Morais & Salles 2010 argue for the same distinction between DOC and O+PP-dative in Brazilian Portuguese.[7]

In this view, the two alternates have different lexical entries, hence a non-derivational analysis is proposed for the alternation. One potential problem that this approach poses is that not all varieties of Spanish showcase the optional insertion of the clitic, especially with most frequently used verbs such as *dar* 'give'. In varieties such as Andalusian Spanish, the absence of the clitic yields a most unnatural outcome (NGRAE 2009):

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[7]   DOC in Brazilian Portuguese is not a very productive syntactic process as the claim by Torres Morais & Salles would lead one to imagine, as an anonymous reviewer points out. This kind of structure is possible in some varieties of Brazilian Portuguese spoken in some states such as Minas Gerais, Goiás and Bahia. This issue is orthogonal to my main concern about the homogeneous or heterogeneous nature of ditransitives. For the reader interested in the presence or absence of the preposition in the IO in BP (in particular, in Minas Gerais), see Scher (1996) and Armelin (2011).

(54)   a. Le   di   las llaves a María.
           CL-DAT.3.SG give-PST.1SG the keys   to Maria
        b. ?? Di las llaves a María.
           'I gave Maria the keys.'

In a different approach, the two variants in the alternation are derivationally connected. Here, word order plays a crucial role (Jiménez-Fernández 2009):

(55)   a. Le   entregué   las llaves al   conserje.
           CL-DAT.3.SG hand-PST.1SG the keys   to.the janitor
        b. Le entregué al conserje las llaves.
           'I gave the keys to the janitor.'

Word order rearrangement is replicated in BP (Cépeda & Cyrino 2020):

(56)   a. A   Olga deu   uma   maçã para o   Mario.
           the Olga give-PST.3SG   an   apple to   the Mario
        b. A Olga deu para o Mario uma maçã.
           'Olga gave an apple to Mario.'

Word order and information structure work hand in hand. From this perspective, the question arises as to whether there is any preference for a particular ordering in Spanish and Portuguese. Let us start with Narrow Focus. For Spanish, the final position is reserved for information focus. Therefore, depending on whether the indirect object or the direct object is focused, speakers will show a preference for /O+Dative-PP/ or /Dative-PP+O/, as illustrated in (57) and (58), respectively:

(57)   A: ¿A quién le diste las llaves?
           'Who did you give the keys?'
        B: a. Le entregué las llaves al conserje.
                b. # Le entregué al conserje las llaves.
                   'I gave the keys to the janitor.'
(58)   A: ¿Qué le diste al conserje?
           'What did you give to the genitor?'
        B: a. # Le entregué las llaves al conserje.
                b. Le entregué al conserje las llaves.
                   'I gave the keys to the janitor.'

Cépeda & Cyrino (2020) also discuss the discourse-based choices on a particular sequence for ditransitives in BP when narrow focus is concerned, claiming that there is also a preference for a particular sequence. This does not mean that the sentences dubbed as # cannot ever be used as answers for the context question. They can, but they are not the preferred option in BP, at least for Cépeda & Cyrino:[8]

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[8] In the last two decades, there has been a fruitful debate about how BP marks focus. Rearrangement of word order seems to be one possible way (Cépeda & Cyrino 2020). However, an anonymous reviewer states that the preference in BP is for focus in situ (Quarezemin 2009, Lacerda 2020), marked prosodically. Both answers in (53) are thus

(59)   A: A quem a Olga deu uma maçã?
          'Who did Olga give an apple?'
        B: a. A Olga deu uma maçã para o Mario.
                b. # A Olga deu para o Mario uma maçã.
                'Olga gave an apple to Mario.'
(60)   A: O que a Olga deu para o Mario?
          'What did Olga give to Mario?'
        B: a. # A Olga deu uma maçã para o Mario.
                b. A Olga deu para o Mario uma maçã.
                'Olga gave an apple to Mario.'

As for broad focus, there seems to be a difference between the two patterns. Only the sequence /O+PP-dative/ is optimally picked up as an all-focus sentence. (61-62) illustrate the situation is Spanish; (63) does so in Portuguese:

(61)   A: ¿Qué pasó?
          'What happened?'
        B: a. Le   concedieron   el   Premio Nobel a Cela.
                   CL-DAT.3SG award-PST.3PL the   Prize Nobel   to Cela
                b. # Le concedieron a Cela el Premio Nobel.
                   'Cela was awarded the Nobel Prize.' (adapted from Demonte 1995)
(62)   A: ¿Qué pasó?
          'What happened?'
        B: a. Juan le   enseñó   el vídeo a   Rosalía.
                   Juan CL-DAT.3SG   show-PST.1SG the video to   Rosalia
                b. # Juan le enseñó a Rosalía el vídeo.
                   'Juan showed the video to Rosalía.'
(63)   A: O que aconteceu?
          'What happened?'
        B: a. A Olga deu uma maçã para o Mario.
                b. # A Olga deu para o Mario uma maçã.
                   'Olga gave an apple to Mario.'

The conclusion we can draw from Ibero-Romance dative alternation is that, as far as all-focus sentences (broad focus) are indicative of the canonical pattern in a given language (under the question-answer congruence; Krifka 2008; Repp 2016; Bentley & Cruschina 2018; Fábregas et al. 2016), only the order DO+PP-dative is attested as basic in Spanish and Portuguese (Jiménez-Fernández 2009 for Spanish; Lacerda 2020, 2017 for Portuguese, among many others). This is confirmed in narrow

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acceptable with the appropriate intonation, given that BP is not a focus-final language, whereas Spanish is. There are multiple strategies that languages may use to express information structure, two of them are prosody and syntactic reordering, which can be used in one single language, as is the case in Spanish (Zubizarreta 1998). What is relevant for the BP examples in (59-60) is that, syntactically speaking, the preference is always the one putting the constituent satisfying the question's information request in final position. Prosodically, there may be other alternatives, which do not concern us here.

focus sentences where the preference for one or other member of the alternation is crucially dependent on the discourse function of the DO and the PP-dative.

One final note is in order regarding dative shift in Turkish. The order of the objects in double object constructions is in constant debate in Turkish (Issever 2003, Kornfilt 2003, Simpson et al. 2008, Georgala 2011). For linguists such as Kornfilt 2003, the basic order is /DO + IO/, whereas for others such as Georgala (2011), the canonical order is /IO + DO/ (for general issues concerning Turkish information structure and word order, see Sener 2010).

If the direct object is accusative-marked, both acc-dat and dat-acc orders are generally possible for most speakers in an out-of-the-blue context (Issever, p.c.). This is illustrated in (57):

(64)   a. Can paray-ı adam-a uzattı.
          Can.NOM money-ACC man-DAT hand-PST.3SG
       b. ? Can adam-a paray-ı uzat-tı.
          Can.NOM man-DAT money-ACC hand-PST.3SG
          'Can handed the money to the man.'

Both sentences can answer the question 'What happened?'. However, Turkish has factors such as specificity which may force a constituent to be placed in a given position for a non-specific reading. This may be the case in (64b) as far as *paray-ı* 'money' is concerned. By contrast, this problem does not arise in (64a), where the DO cannot be interpreted as non-specific. In the absence of more compelling evidence, I will assume that Turkish canonical ditransitive pattern is /DO + IO/, and the two alternates are related by a derivational link, which calls for just one lexical entry for the two alternates.

3.4. Extending the debate to SVOA

A parallelism can be established between the behavior of dative alternation and the pattern SVOA, illustrated in (65) in Spanish in contrast with English (66):

(65)   a. Puse   la leche   en la nevera.
          put-PST.1SG the milk   in the fridge
       b. Puse en la nevera la leche.
          'I put the milk in the fridge.'
(66)   a. I put the milk in the fridge.
       b. *I put in the fridge the milk.

Only (65a) is natural as a reply for the question 'What happened?', showing that the canonical pattern is SVOA, and SVAO is derived in Spanish (Jiménez-Fernández & Vlachos 2019):

(67)   a. Puse la leche en la nevera.
       b. # Puse en la nevera la leche.

However, (66) shows that in English, the pattern /SVAO/ is simply not part of their grammar (except in cases where the object is too heavy to stay in situ).

With narrow focus however, we are faced with a different story. In (68) and (69) there is again a preference for one sequence or the other depending on whether the Object or the Adverbial is focused:

(68)   A: ¿Dónde pusiste la leche?
            'Where did you put the milk?'
        B: a. Puse la leche en la nevera.
                b. # Puse en la nevera la leche.
(69) Q: ¿Qué pusiste en la nevera? 'What did you put in the fridge?'
     A: a. # Puse la leche en la nevera.
         b. Puse en la nevera la leche.

The availability of rearrangement or lack thereof in the /SVOA/ pattern may be used to divide languages into two groups, namely languages that exhibit a behavior similar to English and languages which pattern Spanish in licensing this rearrangement:

(70)   German: Bettina Kaminski, p.c
        a. Ich   stele   die Milch   in den Kühlschrank.
           I   put-PST.1SG   the milk   in the fridge
        b. ??Ich stele in den Kühlschrank die Milch.
           'I put the milk in the fridge.'

(71)   French: Lina Elhage-Mensching and Pierre Larrivée, p.c
        a. Je   mets   le lait dans   le   frigo.
           I   put-PST.1SG   the milk   in   the   kitchen
        b. *Je mets dans le frigo le lait.
           'I put the milk in the fridge.'

(72)   (Brazilian) Portuguese: Cilene Rodrigues and Roberta Pires de Oliveira, p.c
        a. Eu coloquei   o leite   na geladeira.
           I   put-PST.1SG   the milk   in.the fridge
        b. Eu coloquei na geladeira o leite.
           'I put the milk in the fridge.'

(73)   Greek: Jiménez-Fernández & Vlachos 2019
        a. Evala   to ghala   sto   psighio.
           put-PST.1SG the milk-ACC to-the   fridge
        b. Evala sto psighio to ghala.
           'I put the milk in the fridge.'

Both German and French are of the English-type, whereas Portuguese   and Greek are of the Spanish-type. Thus, both orderings are possible, but SVAO is most

natural with narrow focus on the object in the last group, whereas SVOA is preferred if this is an answer to a context question such as *Where did you put the milk*?[9]

To conclude this third section, focusing on Spanish (though the analysis can be extended to other languages), two types of alternations can be held to appear in Spanish, namely verb alternations of the *load*-type and verb alternations of the *give*-type. The former entail two separate lexical entries, whereas the latter will require but one single lexical entry. Based on the patterns the alternates use in all-focus sentences, locative alternation will have two syntactic derivations, whereas dative alternation will require just one syntactic derivation and the sequence /OI DO/ will be informationally derived from the canonical /DO IO/.

Previous literature has discussed issues concerning the information structure of verbal alternations, as presented in Section 1, especially concerning Dative Alternation (to my knowledge, there is no study about Locative Alternation and discourse). For Brazilian Portuguese, we find references such as Scher (1996), Armelin (2011), Cépeda & Cyrino (2020) or Lacerda (2020); for Spanish, we find Jiménez-Fernández (2009); for English we find Bresnan et al. (2007) or Krifka (2003). The issues tackled in these works are connected with my claim that the use of a given pattern as broad focus is indicative that this pattern is basic (and hence, non-derived) in the relevant language.

Most previous literature concentrate on the partition topic+focus and the connection between givenness and syntactic position. They address narrow focus, which I have shown does not tell us anything about a monosemous or polysemous analysis of verbal alternations. They also address broad focus, but they do not associate broad focus with a possible derived or non-derived analysis in syntactic terms of the different types of verbal alternations. My claim is that ordering in Dative and Locative Alternations is crucially dependent on broad focus, and that this discourse strategy discriminates between the two possible analyses of verbal alternations. In my next section, I provide evidence that verbal alternations do not constitute a homogeneous group not only crosslinguistically, but also within one single language.

4. Evidence for the split into two groups: scope freezing

Since the seminal paper by May (1977), quantifier scope ambiguities have been used as a basis for structural distinctions. For example, when two quantifiers (universal quantifier ∀ + existential quantifier ∃) are present in a given sentence, ambiguity arises precisely from the presence of those two Qs (Kiss & Pafel 2017). A sentence such as (74) will have two interpretations depending on whether the Q *some* scopes over *every* or the other way around (Kiss & Pafel 2017):

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[9]   As for Turkish SVOA, although both the acc-loc and loc-acc orders are possible, the former seems to be better in a broad focus context (Issever, p.c.):

(i)   a. Aslı   kitab-ı   masa-da   bırak-tı.
          Aslı.NOM book-ACC   table-LOC   leave-PST.3SG
       b. # Aslı masa-da kitab-ı bırak-tı.
          'Aslı left the book on the table.'

(74) Some man danced with every woman. ∃>∀/∀>∃
> a. There is at least one man (among the men in a given domain) who danced with every woman (in a given domain).
> b. For every woman (in a given domain), there is at least one (possibly different) man (among the men in a given domain) who danced with her.

The interpretation in (74a) is obtained via surface scope. The existential Q *some* has scope over the universal Q *every*, which is reflected in syntax by c-command (*some* c-commands *every*). However, in (74b), the interpretation is reversed and hence May's (1977) inverse linking is obtained via Q-raising (inverse scope). In that case, the universal Q *every* has scope over the existential Q (again reflected by c-command in the syntactic derivation).

This situation is replicated in Spanish, as observed in (75):

(75)   Un gato persigue   a cada ratón. ∃>∀/∀>∃
        a   cat   chase-PRS.3SG   to each mouse
        'A cat chases every mouse.'
        a. A single cat chases every mouse. (∃>∀)
        b. A different cat chases each mouse. (∀>∃)

The presence of two quantifiers in (75) produces an ambiguous interpretation of the sentence. In (75a), we find the surface scope interpretation, in which the existential Q takes scope over the universal Q (∃>∀). However, (75b) shows an inverse scope interpretation, and hence the universal Q takes scope over the existential Q (∀>∃).[10]

Now I turn to the impact of scope and the structural consequences in ditransitives. Based on Aoun & Li (1989), Antonyuk (2020) proposes the Scope Freezing Generalization (SFG):

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[10] There is some debate about the obligatory distributive nature of the quantifier *cada* 'each'. For Leonetti (2007) and Sánchez López (1999), this Q is always distributive (*Cada detective resolvió tres crímenes* 'Each detective solved three crimes'). However, NGRAE (2009: 1427-1428) states that the Q *cada* occurs in two different constructions (closely related to each other), namely distributive and non-distributive.

1) Non-distributive *cada*: it refers to the total amount of some set of items, be it already introduced or not in the previous discourse (*Había sopesado meticulosamente cada palabra de su alocución* 'He weighed every single word of his speech.'). DPs containing non-distributive *cada* are barred from occurring in subject position (?*Cada niño de la clase se había resfriado* 'Each child in the class got a cold.'). If the subject is postverbal, this anomaly disappears (*Se había resfriado cada niño de la clase*), which may indicate that the interpretation of the Q should be low in the tree.
2) Distributive *cada*: much more frequent, in this reading the Q is connected to some other expression containing a pronoun or a possessive or some other Q. The combination has a multiplying effect, establishing pairs: (*Cada niño entregó su examen* 'Each child handed in their exam.').

I will take it for granted that this quantifier has these two interpretations.

> Scope freezing results when one QP raises over another to a c-commanding position within the VP as a result of a single instance of movement. (Antonyuk 2020: 48)

Antonyuk (alongside Larson 2014, Cépeda & Cyrino 2020) takes inverse scope as an indication that the ditransitive verb exhibits two alternates which are related by a derivational analysis. In other words, the two verbs show up as two separate lexical entries and there is no structural relation between them. However, if scope freezing is possible, the two verbs in the alternation are related by a derivational analysis and two separate lexical entries are proposed for the two verbs.

The diagnostic is described by Cépeda & Cyrino (2020: 105) as follows:

> When DO contains an existential quantifier (DO∃), IO contains a universal quantifier (IO∀), and the order is DO∃>IO∀, the sentence is scopally ambiguous: it has both a surface and an inverse scope reading. In contrast, when DO contains a universal quantifier (DO∀), IO contains an existential quantifier (IO∃), and the order is IO∃>DO∀, the scope in the sentence is frozen: no inverse scope reading is allowed.

Larson (2014) illustrates with the verb *teach* in English:

(76)   a. John taught every language to two persons. ∀>∃; ∃>∀
        b. John taught two persons every language. ∃>∀; *∀>∃

As observed, in (76a) we obtain two scope-based interpretations. First, ∀>∃ implies that for every language (within a set), there are potentially two (different) people that John taught it to. And secondly, ∃>∀ implies that there are two people that John taught all the languages (maybe in a delimited set) to. However, in (76b), the only interpretation available is the one in which the existential Q takes scope over the universal Q, and hence a reading arises in which each of two people are taught all the languages.

As Larson (2014: 84) puts it, "[t]he double object form seems to "freeze" the scope of two quantified object nominals whereas the oblique form does not." Scope freezing is evidence for the derivational view of Dative Shift in English (also for Russian ditransitives; cf. Antonyuk 2020).[11] The two possible configurations in ditransitives and their interpretatios are summarized in Figure 3:

Figure 3. Scope interpretations of double Qs

| DO∃ + IO∀ >>> Scope ambiguity |
| IO∃ + DO∀ >>> No inverse scope |

The different scope interpretations are also attested for other verbs such as *give* in English Dative Shift by Antonyuk & Larson (2016):

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[11]   In relevant current literature on ditransitives, scope is taken as diagnostic of the structural relation existing between the two alternate verbs in a given alternation (Bruening 2010).

(77)   a. The teacher gave a book to every student. (∃>∀, ∀>∃)
         b. The teacher gave a student every book. (∃>∀, *∀>∃)

In (77a), one possible reading is ∃>∀: there is a book that the teacher gave to every student. An alternative interpretation for (77a) is ∀>∃, by which for each student there is a different book that the teacher gave to them. In contrast, in (77b), there is just one reading in which a single student received all the books. This is taken as evidence for a derivational analysis of verbs such as *give* in English.

Cépeda & Cyrino (2020) replicate the same diagnostic for the Dative Alternation in BP:

(78)   a. A   Olga deu   [DO um presente]   [IO para todos
           the   Olga give-PST.3SG   a   gift   to   every
           os alunos]. (∃>∀, ∀>∃)
           the students
           'Olga gave a gift to every student.'
        b. A   Olga deu   [IO para um   aluno] [DO   todos os
           the   Olga give-PST.3SG to   a   student   every the
           presentes]. (∃>∀, *∀>∃)[12]
           gifts
           'Olga gave a student every gift.'
                                      (Cépeda & Cyrino 2020: 104, examples 15a-b)

In (78a), two interpretations are attested. On the one hand, the ∃>∀ scope implies that that there is a book that the teacher gave to every student. On the other hand, the inverse ∀>∃ scope relation establishes that for each student there is a different book that the teacher gave to them. Conversely, in (78b), only the surface ∃>∀ scope relation is available. Cépeda & Cyrino (2020) take this as evidence that Dative Alternation is BP involves a derivational analysis.

Recall that with the all-focus sentence test the pattern in (78a) is the one selected to express broad focus, and hence it is the canonical pattern which may derive into a different pattern for discourse reasons. In other words, scope interpretations and broad focus work hand in hand in supporting a derivational analysis of BP Dative Alternation. I will turn next to Spanish, testing and implementing in this language what Cépeda & Cyrino (2020), Larson (2014) and Antonyuk (2020) have shown in other languages.

Spanish Dative Alternation exhibits the same scope interpretations as English and BP:

(79) a. Marisa le   dio   un regalo a cada alumno/a todos
        Marisa CL-3.SG.DAT give-PST.3SG a   gift   to each student/to every
        los alumnos. ∃>∀; ∀>∃
        the students

---

[12]   An anonymous reviewer points out that the ∀>∃ reading is possible in BP. Variation among speakers is expected regarding the different scope interpretations. However, I will stick to the reading that Cépeda & Cyrino assume in their paper.

'Marisa gave a present to every student.'
b. Marisa le   dio   a un alumno cada regalo/todos
   Marisa CL-3.SG.DAT give-PST.3SG   to a student each gift/   every
   los regalos. ∃>∀; *∀>∃
   the gifts
   'Marisa gave a student every present.'

(79a) shows scope ambiguity. In the first interpretation ∃>∀, there is one gift that Marisa gave to every student. As for the second reading ∀>∃, for every student there is a potentially different gift that Marisa gave them (distributive interpretation of the universal Q). Contrariwise, only 1 possible reading is observed in (79b), in which one single student is given all the gifts.

This scenario supports my view that dative shift in Spanish involves a derivational analysis and that the patter /IO + DO/ is derived from the canonical word order /DO + IO/, exactly as Cépeda & Cyrino (2020) have found for BP. In (80), I confirm this conclusion as far as quantifier scope is concerned:

80a. La   policía   le   pidió   algún documento
     the policeman   CL-3SG.DAT   ask-PAST.3SG some document
     a cada pasajero. ∃>∀; ∀>∃
     to each passenger
     'The police asked some document from every passenger.'
b. La   policía   le   pidió   a algún pasajero
   the policeman   CL-3SG.DAT   ask-PAST.3SG to some passenger
   cada documento. ∃>∀; *∀>∃
   each document
   'The police asked some passenger every document.'

Sentence (80a) showcases the two readings. On the one hand, the same type of document was requested from every passenger (maybe in a group), so there is some document that every passenger had to show (∃>∀). On the other hand, it may be the case that, for every passenger, there is a different document that they are asked to show, so a passport is requested for passenger 1, an ESTA for passenger 2, a different document for passenger 3, etc. (∀>∃).

Sentence (80b) displays scope freezing, so just one reading is available (There is a passenger who was asked to show every document). A possible distributive reading is not permitted (**For every document, there are different passengers that the police asked).

In conclusion, Dative Alternation has /DO + IO/ as the basic pattern and /IO + DO/ is derived. Information structure influences the ordering that the speaker may select. The canonical pattern has a specific discourse interpretation (broad focus), which is absent in the derived ordering.

Now, we will delve into Spanish Locative alternation and the distinct scope interpretations (both surface and inverse scope interpretations):

(81)   a. María roció   algún perfume en cada camisa. ∃>∀; ∀>∃
        Maria spray-PAST.3SG some perfume on every shirt
        'María sprayed some perfume on every shirt.'

b. María roció   alguna camisa con cada   perfume. ∃>∀; ∀>∃
   Maria spray-PAST.3SG   some   shirt   with every perfume
   'María sprayed some shirt with each perfume.'

By hypothesis, if Locative Alternation verbs involve two different lexical entries, there should be no scope freezing and the two readings should be available in both sentences. If this is validated, a non-derivational approach to locative alternates will be favored.

Sentence (81a) exhibits the two readings, so either direction of scope will yield a possible outcome. First, there is some perfume that María sprayed on every shirt. Secondly, for every shirt, there is a potentially different perfume that María sprayed each shirt with -shirt 1 smelled of lavender, shirt 2 smelled of vanilla, shirt 3 smelled of Chanel 5, etc. (distributive meaning of the universal Q).

Sentence (81b) displays the two readings as well, so no scope freezing is detected. In the first reading, there is a particular shirt that María sprayed with every type of perfume, so she mixed them up. In the second interpretation, for each perfume (of a given set) there is a potentially different shirt that María sprayed with it (distributive reading).

Hence, I conclude that we have separate lexical entries, which are not associated by means of a derivational process. I propose two different computations, whose ingredients will be shown in Section 5. What is clear at this point is that the class of ditransitive verbs is not homogeneous both language-internally and across languages.

In what follows, I provide cross-linguistic hints on the heterogeneous nature of ditransitives. For Antonyuk (2020), there are three groups of ditransitives in Russian, depending on the direction of scope: 1) DO > IO shows ambiguity, but the reverse does not; 2) IO > DO is ambiguous but the alternative is not; and 3) both orderings are scopally ambiguous. For Group 3 there is no Scope Freezing, as illustrated in (75) for Russian:

(82)   a. Maša   na-pisa-l-a   [kak-oj-to   slogan]   na
           Masha   NA-write-PAST-F   some-ACC.M-IND   slogan.ACC.M on
           každ-oj   sten-e. ∃>∀; ∀>∃
           every-P.F   wall-P.F
           'Masha wrote some slogan on every wall.'
        b. Maša   na-pisa-l-a   na kak-oj-to   sten-e
           Masha   NA-write-PAST-F   on some-P.F-IND   wall-P.F
           [každ-yj   slogan]. ∃>∀; ∀>∃
            every-ACC.M   slogan.ACC.M
           'Masha wrote every slogan on some wall.'

                                                    (Antonyuk 2020: 51, examples 17)

Examples in (83) represent Group 3 in English (Larson 1990):

(83)   a . Job blamed [God] [for his troubles].
        b. Job blamed [his troubles] [on God].

Let's observe if there is any scope freezing in this group 3:

(84)   a. John blamed some employee for every mistake. ∃>∀; ∀>∃
         b. John blamed some mistake on every employee. ∃>∀; ∀>∃
                    (Richard Larson p.c., *apud* Antonyuk 2020: 67, examples 57a-b)

As shown in (84) no scope freezing is detected in either alternate of the verb, which indicates that *blame* will be provided with two different lexical entries and no derivational link is possible between them.[13]

Russian Group 1 corresponds to the English *spray-load* alternation.

(85)   a. Vanja za-gruz-i-l   [kak-oj-to   vid   sen-a]
            Vania ZA-load-IPFV-PST.M some-ACC.M-IND type.ACC.M hay-GEN.N
            [na každ-yj gruzovik].
            on every-ACC.M truck-ACC.M
            'Vania loaded some type of hay on every truck.'
         b. Vanja za-gruz-i-l   [kak-oj-to   gruzovik]
            Vania ZA-load-IPFV-PST.M some-ACC.M-IND   truck.ACC.M
            [každ-m   vid   sen-a].
            every-INS.M type-INS.M   hay-GEN.N
            'Vania loaded some truck with every type of hay.'
                                        (Antonyuk 2020: 46, examples 4)

Schneider-Zioga (1988) shows that *spray-load* pairs like (86-87) exhibit scope freezing effects in English:

(86)   a. The worker loaded one box on every truck. ∃>∀; ∀>∃
         b. The worker loaded one truck with every box. ∃>∀; *∀>∃
(87)   a. Max sprayed some slogan on every wall. ∃>∀; ∀>∃
         b. Max sprayed some wall with every slogan. ∃>∀; *∀>∃

The two readings for (87a) are: 1) There is some (particular) slogan that Max sprayed on every wall; 2) For each wall, there is a potentially different slogan that Max sprayed on them. On the other hand, (87b) exhibits two scope interpretations as well: 1) There is a wall that Max sprayed with every slogan (maybe of a delimited set); and 2) *For each slogan, there is a potentially different wall that Max sprayed.

However, the class of Locative Alternation verbs is not homogeneous when confronted with the behavior of these ditransitive verbs in Spanish. Alternate verbs in Spanish of the *spray-load* class do pattern with Russian or English Group 3, as illustrated in (81-82):

(88)   a. Juan cargó   una   caja en cada camión. ∃>∀; ∀>∃
            Juan load-PST.3.SG a   box on every truck

---

[13] Interestingly, though the English verb *blame* belongs to Group 3, the corresponding verb in Russian is included in Group 2. This is evidence for the heterogeneous nature of ditransitive verbs across languages in that the classification of a verb in a given language as belonging to one group does not mean that the same verb will be a member of the same group in another language.

'Juan loaded one box on every truck.'

b. Juan cargó   un   camión con cada   caja. ∃>∀; ∀>∃
Juan load-PST.3.SG a   truck with every   box
'Juan loaded one truck with every box.'

(89)   a. María untó   algún tipo de mermelada en cada tostada. ∃>∀; ∀>∃
Maria spread-PST.3SG some type of jam   on each toast
'Maria spread some type of jam on each piece of toast.'
b. María untó   alguna tostada con cada tipo de mermelada. ∃>∀; ∀>∃
Maria spread-PST.3SG some toast   with each type of jam
'Maria spread some toast with each type of jam.'

(88a) has two interpretations: 1) There is a (particular) box that Juan loaded on every truck; 2) For each truck, there is a potentially different box that Juan loaded. Likewise, (88b) presents two readings: 1) There is a truck that Juan loaded with every box; 2) For each box, there is a potentially different truck that Juan loaded.

The same picture is obtained for (89). (89a) shows two interpretations: 1) There is some type of jam that Maria spread on each piece of toast; 2) For every piece of toast, there are different types of jam that Maria spread on. Similarly, (89b) yields two readings: 1) There are some unspecified pieces of toast that Maria spread with each type of jam; 2) For each type of jam, there is at least one piece of toast that Maria spread.

Sentences in (88-89) are fully acceptable in an all-focus context, which points to the conclusion that the two verbs constitute separate lexical entries in Spanish. As far as the scope freezing test is concerned, if we are facing two separate verbs, we predict that there is no scope freezing effects, which is precisely what we find in (88-89). In other words, the broad-focus diagnostic and the scope freezing effects work together to favor a polysemous analysis of Spanish Locative Alternations, whereas they do call for a monosemous analysis of Spanish Dative Alternations.

5. Towards a possible analysis: Alternations in Spanish and discourse features

In this section, I put forth a plausible (though tentative) analysis of Dative Alternation and Locative Alternation in Spanish, based on the information structure interpretation of the sentence. First, I show that Spanish Dative Alternation requires a derivational approach, considering the different information structure partitions examined in Section 3. Accordingly, the starting point of the derivation involves the same argument structure configuration /DP + PP/ as the basic pattern.

Secondly, I contend that Locative Alternation encompasses a non-derivational approach, where information structure may influence, but not forcefully, and where two different argument structure configurations mark the beginning of two different derivations. Thus, the analysis suggests two distinct basic patterns for Locative Alternation. Before presenting the different syntactic analyses, I will very shortly discuss the notion of feature inheritance, since it is pivotal in my theoretical proposal. In a second subsection, I present the tentative formal discourse-based analysis of Dative and Locative Alternations in Spanish, providing some justification in favor of my analysis.

5.1. Discourse features and feature inheritance

Chomsky (2001, 2006, 2008) has claimed that uninterpretable features enter the derivation in phasal heads and by a process of feature inheritance, they are lowered onto the immediately next head. This lowering process is restricted to agreement features (φ-features), and is responsible for the agreement relation between a DP subject and T. Implementing this idea, Miyagawa (2005, 2010, 2017, 2023) holds that the phasal head C contains both agreement and focus-related features. In his view, languages opt for one particular type of feature to be given special emphasis. Thus, Japanese is claimed to give priority to the discourse feature under C, which is inherited by T. This explains the different word-order patterns in (1), from Miyagawa (2005: 220).

(90) a. Taroo-ga hon-o   katta.
        Taro-NOM book-ACC bought
        'Taro bought a book'.
     b. Hon-o   Taroo-ga katta.
        book-ACC Taro-NOM bought
        'A book, Taro bought'.

In strong contrast, English is considered to be giving prominence to agreement features, which spread onto T, accounting for the strict word order of the English clause, illustrated in the preference for (91a) in contrast with (91b) and the low frequency of use of the latter.

(91)   a. John likes information structure.
       b. ??Information structure John likes.

In both cases, the features under T work in conjunction with an Edge Feature (EF) to activate the valuation of the relevant uninterpretable features and to trigger movement of the category agreed with.
      Assuming that focus feature stands for discourse features (δ-features, including both [Foc]- and [Top]-features), Jiménez-Fernández (2010 *et subseq.*) claim that there are languages which emphasize both φ-features and δ-features. Such is the case of Spanish. In these languages, the discourse and φ-features under C percolate down to T, in such a way that T may attract any constituent to its specifier (Jiménez-Fernández 2023). In the Spanish canonical SVO pattern, the subject values both agreement and discourse features (example (92)). But in other situations, it is, for instance, the object that values discourse features, and T's φ-features will get valued via Long-Distance AGREE with the in-situ subject (example (43)).

(92)   Susana cortó   los tulipanes. (S-V-O)
       Susana cut-PST.3SG   the tulips

'Susana cut the tulips.'

(93)   Los tulipanes(,) los   cortó   Susana. (O-cl-V-S)
        the tulips,   CL-3PL.MASC cut-PST.3SG   Susana
        'The tulips, Susana cut'.

(Jiménez-Fernández 2020: 32, examples (3-4))

Based on Chomsky's (2006, 2008) idea that phasal properties should be extended to all phases, Jiménez-Fernández (2020), Jiménez-Fernández & Spyropoulos (2013) and Mursell (2021) argue for a strict parallelism between C-T and *v*-V, claiming that *v* enters the derivation with both agreement and discourse features. Languages then will choose the type of feature to be highlighted and lowered onto V and a parallel behavior is detected in the *v*-V system.

Jiménez-Fernández & Spyropoulos's (2013) discussion of phasal *v* is concerned with argument small clauses. In their system, English only emphasizes φ-features, hence requiring a fixed word-order in small clauses (see (94) below). Nevertheless, languages such as Spanish give prominence to both agreement and discourse features by passing them over onto V. This double nature of the VP-area explains the information-based rearrangements identified in small clauses, illustrated in (95-96) (examples extracted from Jiménez-Fernández 2020; italics = focus, underlining = topic):

(94) a. Q: Who do you find so attractive?
            A: I find *Susan* very attractive.
      b. Q: How do you find Susan?
            A: I find Susan *very attractive*.
(95)   Q: ¿A quién   encuentras   tan atractiva?
             to whom   find-PRES.2SG   so attractive
             'Whom do you find so attractive?'
         A': Encuentro   muy atractiva *a Susana*.
            find-PRES.1SG very attractive to Susana
            '*I find very attractive Susana'.
         A'': *Encuentro   a Susana *muy atractiva*.
             find-PRES.1SG   to Susana very attractive
            'I find Susana very attractive'.
(96)   Q: ¿Cómo encuentras   a Susana?
            how   find-PRES.2SG   to Susana
            'How do you find Susana?'
         A': *Encuentro   muy atractiva *a Susana*.
            find-PRES.1SG very attractive to Susana
            '*I find very attractive Susana'
         A'': Encuentro   a Susana *muy atractiva*.
             find-PRES.1SG   to Susana very attractive
            'I find Susana looks very attractive'.

In this approach to discourse (known as Radically Minimalist Discourse in Jiménez-Fernández, Forthcoming) there are no dedicated projections such as Topic Phrase or Focus Phrase (as in cartography), basically because it is in the minimalist spirit to eliminate redundancies and repetitions. If we already have discourse features,

why do we also need discourse-based projections? (see discussion in Jiménez-Fernández, Forthcoming).

In light of this reductionist idea, I assume that the vP periphery exhibits no designated projections such as Topic Phrase or Focus Phrase (for the original idea in cartography, see Belletti 2001). The relevant features in Spanish enter the derivation in phasal v and are inherited by V.

5.2. Towards a formal analysis

In this subsection, I offer a preliminary analysis of the two types of alternations that I have discussed. The analysis for Dative Alternation takes into account the possible information structural role of topic for the DO or the IO as in Cépeda & Cyrino (2020) or Quarezemin (2009), but it does not rely on the presence of a Topic Phrase, but rather on the postulation of a topic feature, much in the spirit of Minimalism.

The ingredients of the proposal for Dative Alternation in Spanish are outlined as follows:

1) Ditransitives require the projection of a low ApplP (Pylkkänen 2000; Bleam 2003; Cuervo 2003; Armelin 2011; Fábregas et al. 2016; Jiménez-Fernández 2020). A plausible justification of the presence of this projection is that there seems to be a possessive relation between the DO and the IO. From a sentence such as *Juan le dio el libro a María* ('Juan gave the book to Mary'), we all infer that Mary possesses the book. The possession flavor was the original motivation for the inclusion of ApplP, as argued in Pylkkänen (2000).

2) The Appl head is occupied by the dative clitic *le* (as discussed by Cuervo 2003).

3) To account for the neutral word order, I assume that DO is in spec-ApplP and IO is in the complement of ApplP (*contra* Cuervo 2003, but following my previous research on datives in Jiménez-Fernández 2020). The main reason why I use this configuration is that it accounts for the canonical word order of Dative Alternation without stipulating any further operation.

4) To explain the all-focus instances, there is no movement except for the clitic to attach the verb. By default, in the absence of discourse features, when the derivation is transferred to the interfaces the sentence is interpreted as broad focus (Bentley & Cruschina 2018).

5) To justify the position of DO in the /DO IO/ sequence, I claim that it has a topic function. As such, the DO undergoes movement to spec-VP after feature inheritance from v to V (Jiménez-Fernández & Spyropoulos 2013; Jiménez-Fernández & Vlachos 2019; Mursell 2021). This does not affect the original word order.

6) To account for the topic interpretation of IO, this argument moves to spec-VP after feature inheritance, rearranging the original word order.

The derivation that I propose for the ordering /DO IO/ in (97a) appears in (97b):

(97)   a. Juan le dio el regalo a María.
        b.
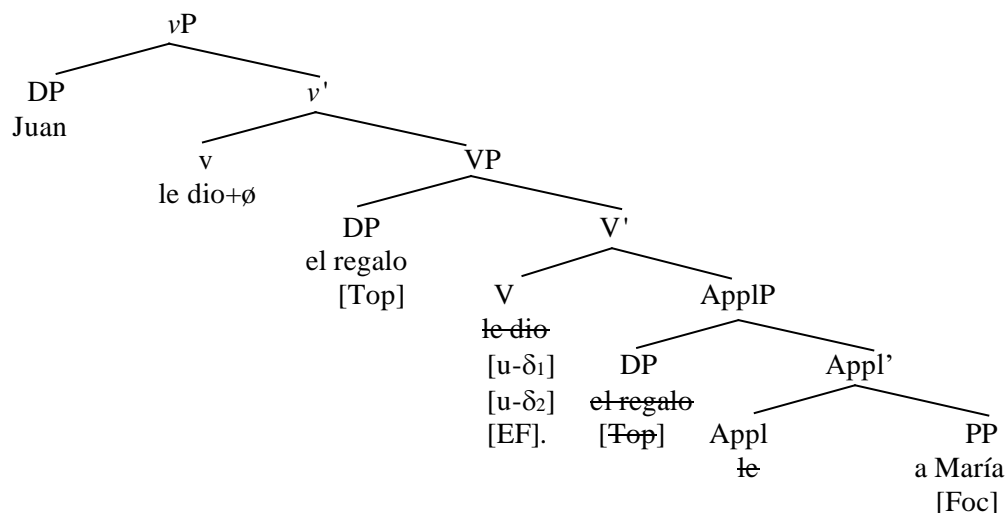
By Agree V probes the DP *el regalo* as its Goal. The unvalued discourse feature $[u\text{-}\delta]_1$ in V will be valued by the topic feature in the DP *el regalo*. The Edge Feature (EF) triggers movement of the constituent carrying the discourse feature [Top].

Kratzer & Selkirk (2020) have argued that newness is not associated with a [Foc] feature in English. IF is interpreted after syntax by prosody. However, this is far from common to all languages. There are languages such as Gungbe where IF is marked syntactically but not prosodically (Kratzer & Selkirk 2020). However, in languages such as Spanish, IF is marked only prosodically or by a combination of syntactic position and intonation. The syntactic rearrangement that IF can trigger is indicative that this discourse role involves a δ-feature, more precisely, an interpretable [Foc] feature. In our derivation, this means that the IO *a María* is endowed with the feature [Foc] (Aboh 2010), which values the $[u\text{-}\delta]_2$ under V. No movement is required since the EF under V has already been satisfied.

Now let's turn to the pattern /IO DO/ and the discourse features present in the low periphery of the construction. This is illustrated in (98a), for which I put forth the derivation in (98b):[14]

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[14]   There are differences in terms of word order and the definite or indefinite nature of the direct object in English. Krifka (2008) identifies some preference of a particular alternation over the other one:

(i)   a. Bill showed the boy a girl.
        b. *Bill showed a boy the girl.
        c. Bill showed the girl to a boy.

The selection of a pattern depends on the occurrence of the indefinite DP in last position, which favors a focus reading. Thus, (ib) violates the Information Flow Principle in that it
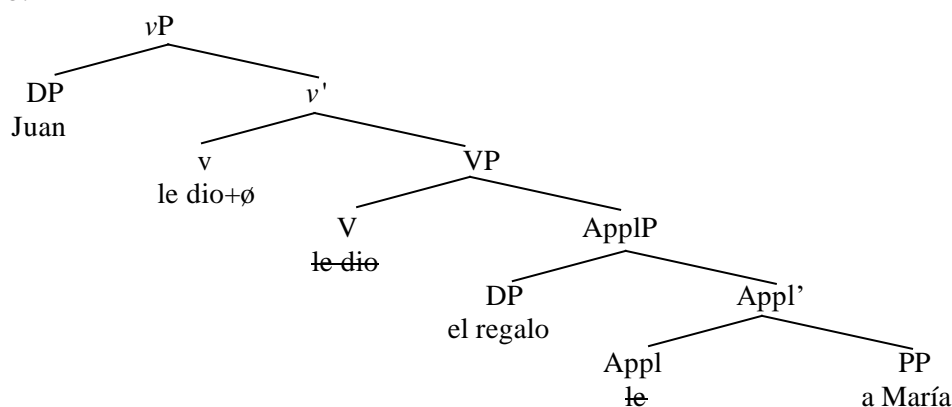
(98)   a. Juan le dio a María el regalo.
        b.

```
                              vP
                     _____/  _____
                   DP                    v'
                  Juan          _____/  _____
                               v                    VP
                            le dio+ø        _____/  _____
                                          PP                  V'
                                       a María         _____/  _____
                                        [Top]         V                ApplP
                                                    le dio      _____/  _____
                                                    [u-δ₁]     DP               Appl'
                                                    [u-δ₂]  el regalo     _____/  \_____
                                                    [EF]     [Foc]      Appl            PP
                                                                         le           a María
                                                                                      [Top]
```
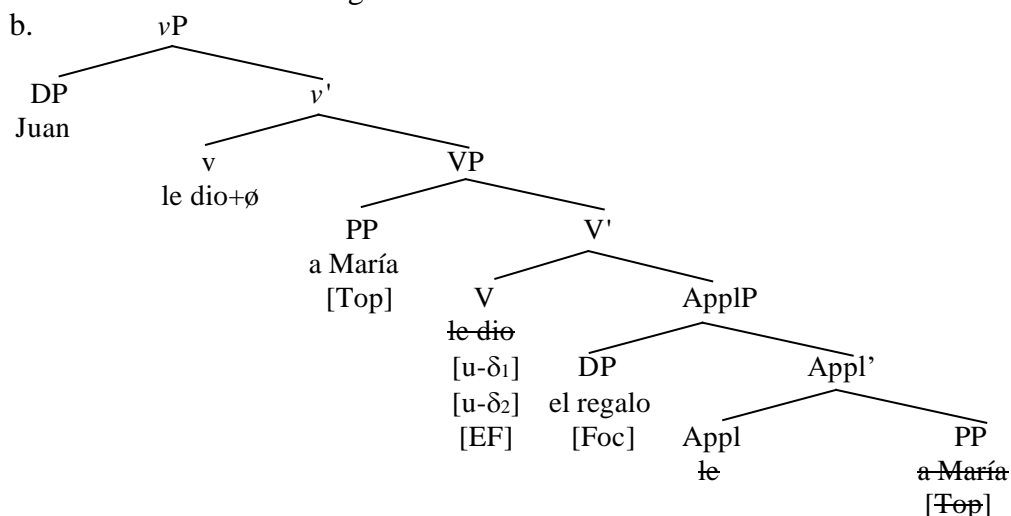
The unvalued discourse feature $[u\text{-}\delta_1]$ in V will be valued by the topic feature in the PP *a María*. The EF triggers movement of the Topic-marked element to spec-VP. However, $[u\text{-}\delta_2]$ is valued by Agree with the focused DO *el regalo*. Thus, we obtain the ordering /IO DO/.

Now we move to all-focus ordering in Dative Alternation. For broad focus, we have seen that the natural ordering is /DO IO/, as illustrated in (99a). The syntactic analysis I proposed for this all-focus sentence is provided in (99b):

(99)   a. Juan le dio el regalo a María. (all-focus)
        b.

```
                              vP
                     _____/  _____
                   DP                    v'
                  Juan          _____/  _____
                               v                    VP
                            le dio+ø         _____/  _____
                                           V                ApplP
                                        le dio       _____/  _____
                                                    DP               Appl'
                                                 el regalo     _____/  \_____
                                                             Appl            PP
                                                              le           a María
```

Here, for economy reasons, no IS-related features are necessary, and V is not endowed with an EF. Hence, no movement is involved. The all-focus interpretation is obtained after syntax (Fábregas *et al*. 2015), at the interfaces. When the interpretative

---

presents new information following background information (Chafe 1976). These definiteness effects are evidence for an analysis based on the /topic + focus/ partition.

levels realize that there are no discourse features to be interpreted, the broad focus interpretation obtains (Bentley & Cruschina 2018).
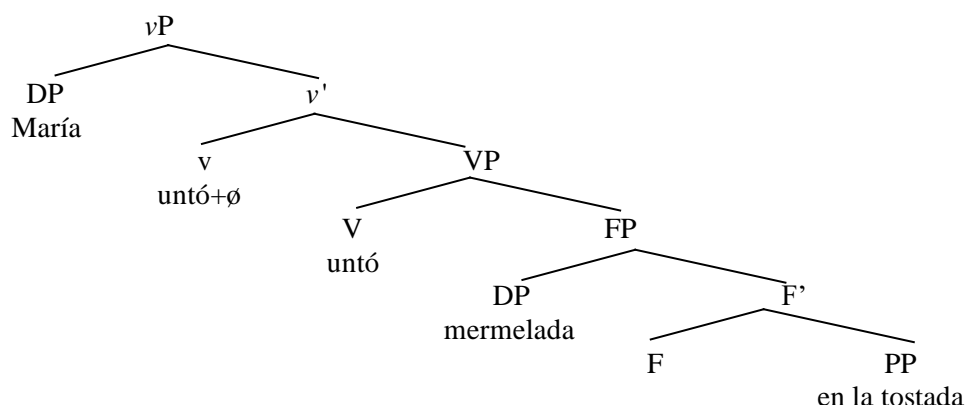
The next step is the computation of Locative Alternation in Spanish. The ingredients of my proposal for Spanish Locative Alternation consider that two separate computations are necessary. These ingredients are listed below:

1) No ApplP proper is required; rather the two postverbal arguments are generated inside a small clause. (Kayne 1984; Pesetsky 1995; Harley 1996; 2002; Cuervo 2003; Beck & Johnson 2004; Jung & Miyagawa 2004; Harley & Miyagawa 2017; McIntyre 2006; Pylkkänen 2008; Schäfer 2008; Harley & Jung 2015; Bondarenko 2018, among others). The reason why there is no ApplP is that there is no possessive meaning which may connect the two postverbal arguments. For example, from *María untó mermelada en la tostada* ('Mary spread jam on toast') we infer a locative relation where the location is the slices of bread, but not a real possessive relation.

2) The alternation may be reduced to the syntactic position (specifier or complement) that each participant occupies in the SC (FP). Positing this SC is supported by the locative relation that is established between the two participants (the jam is on toast), based on Kayne's (1984) line of argumentation according to which location is a SC predicate.

3) The two alternates have a different neutral ordering for all-focus interpretation.

4) As stated earlier, for the broad focus interpretation no discourse features are involved in the syntactic computation.

All-focus ordering for each alternate is illustrated in (100). For (100a) I put forth the analysis in (101), whereas for (100b) I provide the analysis in (102):

(100) a. María untó mermelada en la tostada.
       b. María untó la tostada con mermelada.

(101)

(102)

untó

```
              ┌──────────┴──────────┐
             DP                     F'
          la tostada          ┌─────┴─────┐
                              F          PP
                                    con mermelada
```
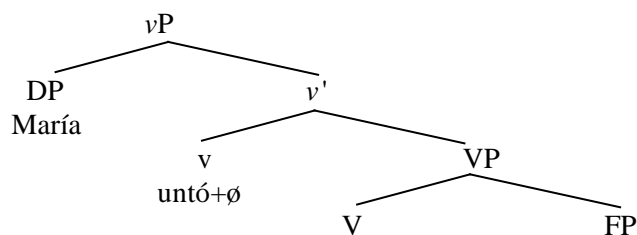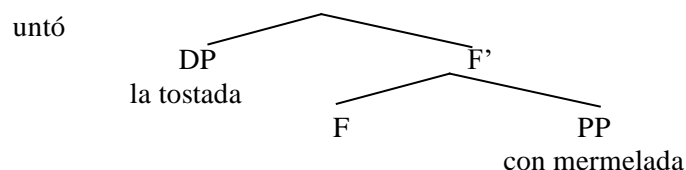
In both cases, no IS-related features are involved since the whole sentence is interpreted as broad focus. V has no EF; therefore, no movement takes place. As with Dative Alternation, the all-focus interpretation in Locative Alternation is obtained after syntax (Fábregas et al. 2015). In case of a different discourse interpretation (for example, if a /topic + focus/ partition is involved in the postverbal sequence), the relevant discourse features will be inherited from v to V and the derivation would be exactly as the ones presented for Dative Alternation above.

One final note is in order regarding the topic interpretation of the postverbal participant in both Dative and Locative Alternations. I have mentioned that Quarezemin (2009), Cépeda & Cyrino (2020), Jiménez-Fernández (2009) and Lacerda (2020) propose the projection of a TopP in the low periphery, assuming cartography. The analysis I propose is based on discourse features with no stipulation of dedicated projections. For ditransitives, where the postverbal sequence reflect a /topic + focus/ partition, both approaches are theoretically sound. However, in the minimalist spirit that I am assuming, my analysis is preferred in that no redundancy or superfluous projections are available.

6. Conclusions

In this paper I have discussed the nature of two verbal alternations, namely Dative Alternation and Locative Alternation. Traditionally, two different approaches have emerged. Alternate verbs are derivationally or non-derivationally related. However, by analyzing data from different languages (English, Turkish, Portuguese and especially Spanish), we may notice that the nature of alternations is not homogeneous both cross-linguistically and language-internally.

In Spanish, we find at least two types of ditransitives: 1) Alternations which involve a derivational relation between the two alternates, and 2) Alternations which require no relation between the two alternates. Information Structure plays a crucial role in understanding some types of alternations (Dative Shift): a **δ**-feature may work in conjunction with an EF, triggering topic movement. Broad focus has been used as a test to reveal whether the ordering of objects is canonical or derived. This brings about consequences for linguistic theory in that all-focus sentences have been observed to be a reliable diagnostic for tearing apart the two groups. Scope-freezing has proved to be confirmation of the different behavior of the two groups.

Acknowledgments

List of abbreviations used in the article

ACC	accusative
CL	clitic
DAT	dative
DO	direct object
IO	indirect object
NOM	nominative
PL	plural
PRES	present
PST	past
SG	singular

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