The Third Way
Optional object reordering as ambiguous labeling resolution

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Abstract

This paper examines free object order alternation in ditransitives, focusing in Slovenian as the main case study. It is shown that neither a scrambling analysis nor an analysis where the two orders are not derivationally related is fully satisfactory. The former faces problems with contexts where object order is restricted (causative and benefactive readings, verb sensitivity, and idiomatic readings), while the latter faces issues with explaining quantifier scope asymmetries while also introducing a lot of redundancy into the analysis that is not reflected in the cross-linguistically attested ditransitive case patterns. The proposed solution builds on the approach to projection of Chomsky (2013, 2015). The key is that when second object merges with a VP, it creates an ambiguous labeling scenario ({NP,VP}), which I argue has two equivalent resolutions: (i) movement of the VP with the first object inside (Kayne 2005; Collins 2021), or (ii) movement of the second object. This crucially derives both free object order in the general case and the restrictions on object order in select contexts, as due to the specifics of the VP-movement analysis it is possible for selectional restrictions to filter out either derivation (i) or (ii). Additionally, it is shown that the proposed analysis can be straightforwardly extended to the English dative alternation and Romance ditransitives, with some interesting implications for the analysis of cross-linguistic variation in ditransitive constructions.

Keywords: applicatives, case, idioms, labeling, passivization, scrambling, smuggling

1 Introduction

Languages differ greatly in how they realize ditransitive clauses. Some, like English, have more than one option: a *double object* or a *prepositional dative* construction; see (1a) and (1b) respectively.

(1) a. Slyboots gave Thickhead a gift.
b. Slyboots gave a gift to Thickhead.

Others, like Slovenian, appear to have only the option of a double object construction, illustrated in (2). Note that the two internal arguments can appear in two different orders—usually attributed to

the relatively free word order of Slovenian—and that their thematic roles are recoverable from case marking: the Theme (Th) is accusative marked, while the Recipient (R) is dative marked.

(2) a. Zvitorepec je dal Trdonji darilo. R(ecipient)»Th(eme)
Slyboots is gave.M Thickhead.DAT gift.ACC

b. Zvitorepec je dal darilo Trdonji. Th(eme)»R(ecipient)
Slyboots is gave.M gift.ACC Thickhead.DAT
'Slyboots gave Thickhead the/a gift.'

The English ditransitive alternation shown in (1) has received much attention, mainly focusing on whether the two constructions share a common syntactic base or not. Because (1a) and (1b) can express virtually the same thematic relations, they have often been analyzed as having a common base and being transformationally related (*the single-base hypothesis*; see Chomsky 1975; Larson 1988; Aoun and Li 1989; Kitagawa 1994; i.a.). Other analyses have emphasized the many ways in which (1a) and (1b) do not pattern exactly the same, attributing this to distinct syntactic bases (*the dual-base hypothesis*; see Oehrle 1976; Pesetsky 1995; Harley 1995, 2002; i.a.).

Languages like Slovenian, with an apparent single ditransitive construction and two possible object orders, have been the subject of a similar debate. This type of paradigm is common among Slavic languages and cross-linguistically, with German and Japanese as two other notable examples (see Anagnostopoulou 2003 for discussion). The null hypothesis for such languages is that the two object orders are the result of optional movement (*scrambling*) of one object over the other with a single underlying base (Hoji 1985; Saito 1985; Anagnostopoulou 2003; i.a.). However, the equivalents of (2a) and (2b) in these languages also show the asymmetries observed in English between double object and prepositional dative constructions—including those that have been used to argue for the dual-base hypothesis. This is why alternative analyses where the two object orders correspond to two underlying bases have also been entertained (see McFadden 2004; Miyagawa and Tsujioha 2004; Gračanin-Yuksek 2006; Dvořák 2010; Marvin and Stegovec 2012; i.a.). It has thus proven to be quite difficult to say for sure that (2) shows the lack of multiple ditransitive constructions, but there are also many good reasons to still favor a single-base analysis.

In this paper, I propose a third way to analyze these types of alternations—one that combines the advantages of single-base and dual-base approaches, while avoiding some of their shortcomings. The goal is capture why in the majority of cases the two object orders appear to be freely available, while in a small set of contexts the order of object becomes restricted or the two orders become associated with different interpretations of the ditransitive relation.

The key idea that the proposed analysis builds on is that ditransitive structures are effectively unstable because of the introduction of a second argument at the VP level. This is framed in terms of the *Labeling Algorithm* approach to projection of Chomsky (2013, 2015) (see also Collins 2014; Epstein et al. 2014; Saito 2014, 2016; Shlonsky 2014; Bošković 2016; Rizzi 2016; i.a.). While the

first object (a maximal projection) merges with V (a head) and projection is guaranteed (cf. (3a)), a second object involves merger of a maximal projection (NP) with another maximal projection (VP), which constitutes an ambiguous labeling scenario (cf. (3b)) where projection is not guaranteed.

(3) a. {V, NP} $\Rightarrow$ {$_{\text{VP}}$ V, NP}
b. {NP, VP} $\Rightarrow$ {$_{?}$ NP, VP}

I will argue that the freedom of object order in languages of the Slovenian type is the result of there being two equally viable resolution to the labeling conflict in (3b). One involves movement of the second object NP, while the other involves movement of the VP across the second object, carrying the first object within it—effectively the type of derivation that has been independently proposed for prepositional dative constructions by Kayne (2005) and Collins (2021).

This analysis will not only derive the scrambling-like properties of the object order alternation, it will also allow for different interface factors (thematic relations, selection, idiomatic readings, etc.) to act as filters on the outcome of the ambiguous labeling scenario and as a result restricting the availability of both unmarked object orders. This will be key in capturing, within a single analysis, the advantages of single-base and dual-base analysis which otherwise seem to contradict each other.

The paper is organized as follows. In Section 2, Slovenian is used as a case study to illustrate the main issue with choosing between a single-base and a dual-base analysis, showing that ultimately neither is fully satisfactory. In Section 3, I introduce the new analysis and show how it can reconcile the seemingly conflicting aspects of the object order alternation. In Section 4, I discuss how the analysis can be extended to English and Romance ditransitives. Section 5 concludes the paper.

2 Case study: Slovenian ditransitives

The order of objects in Slovenian ditransitives generally reflects differences in information structure status, definiteness/specificity, and animacy (see Titov 2012 in relation to the same phenomenon in Russian). However, if these factors are controlled for, both the R»Th order and the Th»R order are unmarked with a canonical ditransitive verb like *dati* ('give'), *kazati* ('show'), or *predstaviti* ('introduce'). This is illustrated in (4), where both objects are animate and indefinite/non-specific, and the sentences are intended as "out of the blue" utterances (the **bold text** does not mark any sort of prominence, it consistently marks the R-object in order to simplify the data presentation).[1,2]

[1] In addition to the choice of object orders, there are different displacement options such as topic and focus related movements, which further mask the underlying order of arguments in Slovenian. I thus concern myself exclusively with information-structure 'neutral' utterances, so when I refer to a particular object order as rigid or restricted in a particular environment, this is to be taken as: restricted in the absence of focus or topic related movements.

[2] I will also often drop NOM suffixes, or gender and agrement information if not relevant for the discussion at hand.

(4) a. Zigi spet predstavlja [**nekemu bobnarju**] [nekega kitarista]. R»Th
Ziggy again introducing some.DAT drummer.DAT some.ACC guitarist.ACC

b. Zigi spet predstavlja [nekega kitarista] [**nekemu bobnarju**]. Th»R
Ziggy again introducing some.ACC guitarist.ACC some.DAT drummer.DAT
'Ziggy is introducing some guitarist to some drummer again.'

Given that both orders are freely available and show no difference in meaning, the null hypothesis should be that they are related via scrambling. This scrambling operation would be an instance of A-movement, or *A-scrambling* (Mahajan 1990; Saito 1992), since the reordering affects binding relations; shown in (5) for reciprocal binding: the Th-object cannot bind the R-object in (5a), but the same binding relation is possible with the reverse object order in (5b).

(5) a. *Zigi je predstavil [**enega drugemu**]$_i$ [nova kitarista]$_i$. R»Th
Ziggy AUX.3 introduced one.ACC other.DAT new.DL.ACC guitarist.DL.ACC

b. Zigi je predstavil [nova kitarista]$_i$ [**enega drugemu**]$_i$. Th»R
Ziggy AUX.3 introduced new.DL.ACC guitarist.DL.ACC one.ACC other.DAT
'Ziggy introduced the two new guitarists to each other.'

The A-scrambling analysis is also compatible with the differences in quantifier scope: the R»Th order only allows a surface scope reading, as in (6a), where *'every'* cannot scope over *'other'* ($= \Delta$), thus excluding a distributive reading. In contrast, the distributive reading is available with the Th»R order in (6b) despite the sentence being identical save for the difference in object order.

(6) a. Aladin je povedal [**#drugemu prijatelju**] [vsako zgodbo]. $*\forall > \Delta$
Aladdin AUX.3 told other.DAT friend.DAT every.ACC story.ACC
'A. told {the other friend every story / *every story to a different friend}.'

b. Aladin je povedal [vsako zgodbo] [**drugemu prijatelju**]. $\forall > \Delta$
Aladdin AUX.3 told every.ACC story.ACC other.DAT friend.DAT
'A. told {every story to a different friend / the other friend every story}.'

Crucially, the Th»R order also allows for the R-object to scope over the Th-object, as seen in (7), where the distributive reading is allowed with both orders, unlike in (6). This means that in (7b) *'other'* in the second object is scoping over *'one'* in the first object, indicating inverse scope.

(7) a. Aladin je povedal [**vsakemu prijatelju**] [drugo zgodbo]. $\forall > \Delta$
Aladdin AUX.3 told every.DAT friend.DAT other.ACC story.ACC
'A. told {every friend a different story / the other story to every friend}.'

b. Aladin je povedal [drugo zgodbo] [**vsakemu prijatelju**]. $\Delta > \forall, \forall > \Delta$
Aladdin AUX.3 told other.ACC story.ACC every.DAT friend.DAT
'A. told {the other story to every friend / every friend a different story}.'

This particular type of scope asymmetry is often taken as evidence that the Th»R order is derived (see Lechner 1998 for discussion based on German). The idea is that A-scrambling the Th-object

over the R-object creates a new surface scope configuration, where inverse scope is available via reconstruction. As R»Th is the base configuration, there is no reconstruction with that order.[3]

However, an issue all A-scrambling analyses face is that they require an argument to undergo A-movement over another argument, thus violating *Relativized Minimality* (Rizzi 1990). In relation to this issue, Saito and Fukui (1998) point out that if the optional nature of scrambling is due to it not being feature-driven, its ability to reorder arguments could be due to Relativized Minimality only applying to feature-driven movement (see also McGinnis 1998; Richards 2008 for alternative solutions). Of course, an obvious way to avoid the Relativized Minimality issue is with an analysis where the word order alternation is not the result of movement and the two object orders are realizations of two distinct ditransitive constrictions.

This base generation approach to the R»Th/Th»R alternation has been entertained for Icelandic (Homberg and Platzack 1995), Japanese (Miyagawa and Tsujioha 2004), German (McFadden 2004), Croatian (Gračanin-Yuksek 2006), Czech (Dvořák 2010), and even Slovenian (Stegovec 2012; Marvin and Stegovec 2012), among many others. The core assumption with this approach is that the R»Th/Th»R alternation directly parallels the English dative alternation.[4] That means that only the R»Th order corresponds to a double object construction (DOC), whereas the a Th»R order actually corresponds to the English prepositional dative construction (PDC), although with a silent preposition. Crucially, R»Th and Th»R orders in the languages in question show parallel binding possibilities to the DOC and PDC in English (Barss and Lasnik 1986; Larson 1988), and the parallelism extends also to the quantifier scope patterns, since the DOC only allows surface scope in English, as shown in (8a), whereas the PDC allows both surface and inverse scope, as shown in (8b).

(8) a. Mary gave **someone** every book. ($\exists > \forall$; *$\forall > \exists$)

b. Mary gave some book **to everyone**. ($\exists > \forall$; $\forall > \exists$) (Aoun and Li 1989:166–7)

In other words, the binding and scope facts used to argue for the A-scrambling analysis of the object order alternation match those observed with English DOCs and PDCs, so these tests alone are not useful to distinguish between the A-scrambling analysis and the dual-base analysis of ditransitives in Slovenian and other languages with a comparable pattern. In order to begin tackling this issue, I will review below some data that is highly problematic for the A-scrambling analysis.

[3]Interestingly, the same facts have been used for Russian to argue for a Th»R base, attributing the rigid scope of R»Th to a *scope freezing effect* caused by movement of an argument over another argument (Antonyuk 2015). This mirrors the debate with derivational approaches to the English dative alternation, where Aoun and Li (1989) use scope facts to argue for a double object base, while Larson (1990) uses the same facts to argue for a prepositional dative base.

[4]Recall though that the English dative alternation has received both single-base and dual-base analyses, where only the latter avoids the Relativized Minimality issue by way of not involving A-movement across another argument.

2.1 Asymmetries in interpretation and selection

The support for dual-base analyses of the English dative alternation comes largely from differences in meaning between the DOC and PDC (the key observations go back at least to Green 1974; Oehrle 1976; Allerton 1978; Dowty 1978). For example, the thematic roles of the internal arguments may be different in the DOC and PDC, either the DOC or the PDC may be unavailable with certain classes of ditransitive verbs, and the availability of idiomatic readings may differ between the DOC and PDC. The reasoning is that if the two constructions share a syntactic base we expect them to be totally synonymous and show the same selection restrictions (cf. the discussion of passivization in Chomsky 1957, 1975), so the DOC and PDC must not be derivationally related. The same logic can be applied to the two unmarked object orders in Slovenian. If the two object orders are derivationally related, we expect total synonymy and identical selectional restrictions between the two.

2.1.1 Causative and benefactive readings

Oehrle (1976) observes that in English, only the DOC permits the so-called *causative reading* of a ditransitive, as illustrated in (9), where the reading in question can be paraphrased as: *'This music is causing me to have a headache.'* Note that the PDC in (9b) is incompatible with this reading.

(9) a. This music is giving **me** a headache. DOC

b. #This music is giving a headache **to me**. PDC

The easiest way to show that a causative reading is possible in a ditransitive is to use an inanimate subject, which can only be interpreted as a Causer (as opposed to an Agent).

The same asymmetry occurs in Slovenian ditransitives, but with respect to the unmarked order of objects (Stegovec 2012; Marvin and Stegovec 2012). Although both orders are normally unmarked with a ditransitive construction, a causative reading makes R»Th the only unmarked order:[5]

(10) a. Zmaga je prinesla **Sloveniji** nastop v finalu. R»Th
victory.F AUX.3 brought.F Slovenia.DAT performance.ACC in final

b. #Zmaga je prinesla nastop v finalu **Sloveniji**. Th»R
victory.F AUX.3 brought.F performance.ACC in finals Slovenia.DAT
'The victory gave Slovenia a chance to play/perform in the finals.'

Note that this does not mean that a causative reading is entirely impossible with a Th»R word order in Slovenian—it is merely unavailable with an unmarked Th»R order. If the dative object in (10b) bears heavy narrow focus, the sentence allows a causative reading. Crucially, the sentence in (10a) gets the relevant reading also without any kind of focus on either of the objects. As we will see

[5]For ease of exposition, I always use R and T (or R-object and Th-object) as labels for the two internal arguments that most commonly bear the Recipient and Theme thematic roles. As I discuss in this section, their thematic roles are not always Recipient or Theme. I explicitly note their thematic roles when it is relevant for the discussion at hand.

below, all meaning and selection asymmetries in Slovenian will be of this type: they may only be reflected by changes in the unmarked order of objects, never by absolute restrictions on word order. But this is to be expected in a language like Slovenian, where word order is largely determined based on the information structure status of the syntactic constituents in each sentence.

A related asymmetry concerns the availability of Benefactive objects. Benefactives can be added as a second internal arguments to simple transitive verbs, but in many languages this is not a fully productive option. For example, in English Benefactives may be added as either a bare indirect object or prepositional object to some transitive verbs, like *'cook'* in (11a), while other transitive verbs only permit a prepositional Benefactive, like *'watch'* in (11b).

(11) a. Uncle Jim cooked { **Margaret** } a meal { **for Margaret** }.
b. Uncle Jim watched { *__Margaret__ } a television programme { **for Margaret** }.
(Allerton 1978, 23)

Limited productivity with non-prepositional Benefactives is also observed in languages with dative indirect objects, like Icelandic (Jónsson 2000), Japanese and Korean (Tomioka and Kim 2017). In contrast, Slovenian is fully productive with respect to non-prepositional Benefactive objects (Marvin 2009, 2012). Thus, the verb *'držati'* (*hold*) in (12a) is a simple transitive verb, but the addition of a dative object yields a benefactive reading. However, as observed by Marvin and Stegovec (2012), the benefactive reading restricts the unmarked order of objects to R»Th. This means that the Th»R order in (12b) is only allowed with narrow focus on the dative object.

(12) a. Igor je (za trenutek) držal **Davidu** kitaro. R»Th
Igor AUX.3 (for moment) held David.DAT guitar.ACC
b. #Igor je (za trenutek) držal kitaro **Davidu**. Th»R
Igor AUX.3 (for moment) held guitar.ACC David.DAT
'Igor held the guitar for David (for a moment).'

Furthermore, as noted by Marvin (2009, 2012), some Slovenian ditransitives are compatible with canonical ditransitive and benefactive readings, resulting in ambiguity. However, the ambiguity is only present with one of the object orders. This is best illustrated with verbs where the canonical ditransitive interpretation is a *malefactive* one: transfer of possession to the detriment of the R-object. Thus, the unmarked R»Th order in (13a) is compatible with both a malefactive and a benefactive reading, while the unmarked Th»R order in (13b) limits the sentence to a malefactive reading.

(13) a. Tomaž je ukradel **Jani** verižico. R»Th
Tom AUX.3 stole.M Jean.DAT necklace.ACC
i. 'Tom stole the necklace from Jean.' (*malefactive*)
ii. 'Tom stole the necklace for Jean.' (*benefactive*)

b. Tomaž je ukradel verižico **Jani**. Th»R
Tom AUX.3 stole.M necklace.ACC Jean.DAT
'Tom stole the necklace from Jean.' (*malefactive*)

The influence the Causee/Benefactive interpretation of the dative object has on the unmarked object order thus parallels what we observe in English with respect to the DOC.[6]

2.1.2 Verb sensitivity

Another well known constraint on the DOC/PDC alternation is sensitivity to ditransitive verb classes. For example, verbs like as *'envy'*, *'deny'*, *'spare'*, etc. (henceforth *envy*-class) are only compatible with a DOC, while verbs like *'expose'*, *'donate'*, *'transfer'*, etc. (henceforth *expose*-class) are only compatible with a PDC (see Oehrle 1976; Pinker 1989; Gropen et al. 1989; Pesetsky 1995; i.a.). In Slovenian, there is also an equivalent of the *envy*-class of verbs (showing significant overlap with the English *envy*-class). As illustrated in (14), these verbs restrict the unmarked object order to R»Th, allowing the Th»R order only with narrow focus on the dative object.

(14) a. Igor je zavidal { **Davidu** } nadarjenost { **#Davidu** }. R»Th / #Th»R
Igor AUX.3 envied.M David.DAT talent.ACC David.DAT
'Igor envied David his talent.'

b. Igor je zaupal { **Davidu** } skrivnost { **#Davidu** }. R»Th / #Th»R
Igor AUX.3 trusted.M David.DAT secret.ACC David.DAT
'Igor confided the secret to David.'

The *expose*-class also has an equivalent in Slovenian (also significantly overlapping with the English *expose*-class). With these verbs, the unmarked object order is reversed as illustrated in (15): Th»R is unmarked, while R»Th requires narrow focus on the accusative object.

(15) a. Igor je izpostavil { občinstvo } **hrupu** { #občinstvo }. Th»R / #R»Th
Igor AUX.3 exposed.M audience.ACC noise.DAT audience.ACC
'Igor exposed the audience to noise.'

b. Igor je posvetil { pesem } **Davidu** { #pesem }. Th»R / #R»Th
Igor AUX.3 dedicated.M song.ACC David.DAT song.ACC
'Igor dedicated the song to David.'

Slovenian is not unique in this respect, as other languages with an object order alternation also have classes of ditransitive verbs that restrict the unmarked object order of dative and accusative marked objects in the same way; see, among others, Zaenen et al. (1985) and Homberg and Platzack (1995) on Icelandic, Beermann (2001) on German, and Dvořák (2010) on Czech.

[6] Another asymmetry between DOCs and PDCs is that only the latter allow a Location/Goal reading for the R-object: *"*The emperor sent the border the troops."* vs. *"The emperor sent the troops to the border."* Both object orders are incompatible with a Location/Goal reading for the R-object in Slovenian, as Locations/Goals are always PPs in Slovenian (see also Adler 2011 regarding German and Kristínardóttir and Jónsson 2022 regarding Icelandic).

2.1.3 Ditransitive idiom classes

The final asymmetry I consider concerns the availability of ditransitive verbal idioms. Bruening (2010a) notes that in terms of verb-object combinations which constitute the fixed part of a verbal idiom, there exist only three types of ditransitive idioms in English: DOC idioms with a fixed verb and direct object (*Class 1* (16a)), PDC idioms with a fixed verb and direct object (*Class 2* (16b)), and PDC idioms with a fixed verb and indirect object (*Class 3* (16c)). Curiously, DOC equivalents of Class 3 ditransitive idioms do not exist, that is: ditransitive verbal idioms with a DOC frame and a fixed verb and indirect object (*Class 4* (16d)) are not attested in English.

(16) a. **Class 1:** Verb NP NP (*give X the creeps*)
b. **Class 2:** Verb NP to NP (*give rise to X*)
c. **Class 3:** Verb NP to NP (*send X to the showers*)
d. **Class 4:** Verb NP NP (nonexistent) (Bruening 2010a: 536)

What is interesting is that even though Class 1 ∼ Class 2 alternating idioms do exist in English (*read X the riot act*/*read the riot act to X*) (see also Richards 2001; Harley 2002), Class 3 idioms do not alternate; a fixed verb-indirect object combination is only possible with a PDC idiom.

Even though Slovenian does not have a DOC/PDC alternation, Marvin and Stegovec (2012) observe that it has the same three types of ditransitive verbal idioms as English. That is, if we take an unmarked R»Th order as a stand in for the DOC and an unmarked Th»R order as a stand in for the PDC. The three classes of attested Slovenian ditransitive verbal idioms are described in (17).

(17) a. **Class 1:** Verb NP_R NP_{Th} (*dati X*-DAT *košarico* = *give X a/the basket*)
b. **Class 2:** Verb NP_{Th} NP_R (*prodati dušo X*-DAT = *sell soul to X*)
c. **Class 3:** Verb NP_{Th} NP_R (*prepustiti X*-ACC *usodi* = *leave X to fate*)
d. **Class 4:** Verb NP_R NP_{Th} (nonexistent)

The existence of idioms sensitive to the unmarked object order is surprising from the perspective of a scrambling analysis of the object order alternation—as are the other asymmetries discussed in this section. But what is even more interesting is the perfect parallelism with the English idiom classes, which demands an explanation. What further highlights the importance of the three R»Th/Th»R asymmetries is how they interact with passivization possibilities, which is what I turn to next.

2.2 Passivization asymmetries

In simple transitives, the object is the only candidate for the subject of a corresponding passive. In ditransitives, however, the two objects provide two candidates for a passive subject. Languages differ with respect to whether both or only one (and which) internal argument can become the

subject of a passive. This is one of the properties that distinguishes *symmetrical* from *asymmetrical* DOCs (see Holmberg et al. 2019 for a recent cross-linguistic overview and references).

In Slovenian, passives of ditransitives show an asymmetric pattern, allowing only the Th-object to become the subject of a corresponding passive. This is a fairly common pattern for languages with morphological dative and accusative marking, with Icelandic and Japanese as notable exceptions that also allow R-passives (Anagnostopoulou 2003). In Slovenian, the passive of a ditransitive is formed by promoting the Th-object to subject, which results in it receiving nominative case and showing full agreement with the auxiliaries and the main verb, as illustrated in (18).[7,8]

(18) a. Bobni so bili poslani **Jani**. PASSIVE
drum.M.PL AUX.3PL been.M.PL sent.M.PL Jean.F.DAT

b. **Jani** so bili poslani bobni.
Jean.F.DAT AUX.3PL been.M.PL sent.M.PL drums.M.PL
'The drums were sent to Jean.'

Because there is no fixed subject position in Slovenian (compare (18a) and (18b)), the fact that R-subjects is not immediately clear. In fact, because Slovenian allows dative Experiencers, it is often assumed without question that dative subjects are generally allowed (Marušič and Žaucer 2004; Marušič 2005). However, at least in passives, dative arguments are never subjects in Slovenian.

Slovenian does not have the large battery of subjecthood tests that Icelandic has (Zaenen et al. 1985; Sigurðsson 1989; Jónsson 1996), but subject oriented anaphors (the most reliable subjecthood test in Slavic; Moore and Perlmutter 2000) nonetheless show that the dative argument in ditransitive passives is not the subject. In (19), the reflexive possessive pronoun is located within the nominative argument c-commanded by the dative argument. Since Slovenian reflexives must be bound by the

[7] In addition to *be*-auxiliary passives like (18), Slovenian also has impersonal passives formed with the "reflexive" '*se*' clitic. These impersonal passives do not trigger ACC/NOM-alternation and require default neuter singular agreement:

(i) Bobne se je poslalo **Jani**.
drum.M.PL.ACC REFL AUX.3 sent.N Jean.F.DAT
'The drums were sent to Jean.'

Rivero and Sheppard (2003) attribute the default agreement to the underspecified *se* clitic filling in for the external argument, which means these are not true passives in that they do not involve demotion of the external argument.

Some speakers allow *se*-passives with the ACC/NOM-alternation and agreement with the NOM subject (see Rivero and Sheppard 2003; Marušič 2005: Ch. 2). Other speakers (including myself), interpret most sentences like (ii) as active sentences with a reflexive direct object—in (ii) this implies anthropomorphized drums capable of "sending themselves":

(ii) Bobni so se poslali **Jani**.
drum.M.PL AUX.3PL REFL sent.M.PL Jean.F.DAT
i. %'The drums were sent to David.' / ii. 'The drums sent themselves to David.'

Due to these complications I set *se*-passives aside in this paper, but see Rivero and Sheppard (2003); Marušič (2005); Ilc and Marvin (2016); Lenardič (2019) for discussion and competing analyses.

[8] Note that in Slovenian verbal agreement is only possible with nominative arguments and that dative case is always retained in passives, so there can never be agreement with the R-argument in active or passive sentences.

subject of a clause (unless they are variable bound by a quantifier),[9] the fact that dative argument cannot bind the reflexive in (19) tells us that the dative argument is not the subject.

(19) *__Jani__ so bili$_i$ poslani svoji$_i$ bobni.
Jean.F.DAT AUX.3PL been.M.PL sent.M.PL self'S.M.PL drums.M.PL
'Her$_i$ drums were sent to Jean$_i$.'

Dative arguments more generally cannot be subjects of passives in Slovenian. For example, (20a) is a transitive sentence where dative is assigned to the object by the verb *'pomagati'* ('help'), and as (20b) shows, a transitive clause with a sole dative object cannot be passivized in Slovenian.[10]

(20) a. Pomagali so __Jani__. ACTIVE
helped.M.PL AUX.3PL Jean.F.DAT
'They helped Jean.'

b. *__Jani__ je bilo pomagano. PASSIVE
Jean.F.DAT AUX.3 been.N helped.N
'Jean was helped.'

To sum up, passives of ditransitives in Slovenian only allow the Th-object to be promoted to subject and the impossibility of R-objects to become subjects of passives is part of a broader ban on the promotion of dative objects to subjects in passives. What we will see next is that even the promotion of Th-objects to subject can be blocked in Slovenian too—specifically, it is blocked in all the contexts where an unmarked R»Th object order is required in the active counterpart.

2.2.1 Passives of causative and benefactive ditransitives

Recall that in Slovenian a causative reading of a ditransitive is only possible with an unmarked order of objects if the object order is R»Th, as in (21a). Interestingly, the causative reading also cannot be retained under passivization; thus, the passive in (21b) can only have the odd literal reading where the possession of the "performance in the finals" has changed.

(21) a. Zmaga je prinesla __Sloveniji__ nastop v finalu. ACTIVE
victory.F AUX.3 brought.F Slovenia.DAT performance.ACC in final
'The victory gave Slovenia a chance to play/perform in the finals.'

b. #Nastop v finalu je bil prinešen __Sloveniji__. PASSIVE
performance.ACC in final AUX.3 been.M brought.M Slovenia.DAT
'The chance to play/perform in the finals was brought to Slovenia.'

[9]For speakers of some Slovenian dialects the form for the pronoun in the reflexive form (*svoj-* stem) can sometimes replace the free pronoun form (*nj-* stem). The test was therefore checked with speakers who never allow this option.

[10]This type of transitive clause can only have an impersonal *se*-passive counterpart, which crucially do not involve the promotion of an internal argument to subject status (see discussion and references in footnote 7).

The same restriction is observed with benefactives. A Benefactive dative can be added in an active construction, like (22a), but prohibited in its passive counterpart (22b). In other words, the verb *'držati'* ('hold') can only be passivized in its transitive use, without the Benefactive dative.

(22) a. Igor je držal **Davidu** kitaro za vrat. ACTIVE
Igor AUX.3 held.M David.DAT guitar.ACC for neck
'Igor held the guitar for David by its neck.'

b. Kitara je bila držana (***Davidu**) za vrat. PASSIVE
guitar.F AUX.3 been.F held.F David.DAT for neck
'The guitar was held (for David) by its neck.'

Similarly, the verb *'ukrasti'* ('steal') can in its ditransitive use have either a malefactive reading ('steal from') or a benefactive reading ('steal for'), as shown in (23a). However, in passive form the same verb can only get a malefactive reading, as shown in (23b).

(23) a. Tomaž je ukradel **Jani** verižico. ACTIVE
Tom AUX.3 stole.M Jean.DAT necklace.F.ACC
i. 'Tom stole the necklace from Jean.' (*malefactive*)
ii. 'Tom stole the necklace for Jean.' (*benefactive*)

b. Verižica je bila ukradena **Jani**. PASSIVE
necklace.F AUX.3 been.F stolen.F Jean.DAT
'The necklace was stolen from Jean.' (*malefactive*)

Recall that, just like with causative readings, the benefactive readings are only possible with an unmarked object order in such ambiguous cases if the order of objects is R»Th, and that R»Th is also the unmarked order of objects when a Benefactive dative is added to a transitive verb.

2.2.2 Passives of different ditransitive verb classes

Ditransitive verbs from the *envy*-class, which restrict the unmarked object order to R»Th (cf. (24a)), do not have passive counterparts, as shown in (24b).

(24) a. Igor je zavidal **Davidu** nadarjenost. ACTIVE
Igor AUX.3 envied.M David.DAT talent.F.ACC
'Igor envied David his talent.'

b. *Nadarjenost je bila zavidana **Davidu**. PASSIVE
talent.F AUX.3 been.F envied.F David.DAT
'His talent was envied David.'

Conversely, ditransitive verbs from the *envy*-class, which restrict the unmarked object order to R»Th (cf. (24a)), can be easily be passivized, as shown in (25b).

(25) a. Igor je izpostavil občinstvo **hrupu**. ACTIVE
Igor AUX.3 exposed.M audience.N.ACC noise.DAT
'Igor exposed the audience to the noise.'

b. Občinstvo je bilo izpostavljeno **hrupu**. PASSIVE
audience.N AUX.3 been.N exposed.N noise.DAT
'The audience was exposed to the noise.'

The ability to passivize reflects the object order options: verbs that allow only a R»Th unmarked order block passivization, while verbs that allow only a Th»R unmarked order allow passivization.

2.2.3 Passives of ditransitive idioms

Verbal idioms can retain their idiomatic reading under passivization (Nunberg et al. 1994; Ingason et al. 2016; Harwood et al. 2016). An example of this is *'X spill the beans'* (= 'divulge/reveal the secret') (26a), which can occur in passive form with an idiomatic reading (26b).

(26) a. Bob spilled the beans.

b. The beans were spilled (by Bob). (Harwood et al. 2016: 8)

This is also the case with ditransitive verbal idioms in Slovenian. An Class 2 ditransitive idiom like *'prodati dušo X*-DAT*'* (*sell soul to X*; with the same idiomatic reading as its English counterpart), which requires a Th»R unmarked order and a fixed Th-object, can undergo passivization and retain its idiomatic reading in the passive form, as shown in (27).

(27) a. David je prodal (svojo) dušo **rock n'rollu**. ACTIVE
David AUX.3 sold.M his.F.ACC soul.F.ACC rock n'roll.DAT
'David sold his soul to rock n' roll.'

b. (Njegova) Duša je bila prodana **rock n'rollu**. PASSIVE
his.F soul.F AUX.3 been.F sold.F rock n'roll.DAT
'His soul was sold to rock n' roll.'

In addition to Class 2 idioms, where the fixed Th-object can become a passive subject, verbal idioms of Class 3 like *'prepustiti X*-ACC *usodi'* (*leave X to fate*; with the same idiomatic reading as its English counterpart), where the Th-object is flexible, can also be passivized, as shown in (28).

(28) a. Major je prepustil podrejene **usodi**. ACTIVE
Major.M AUX.3 left.M subordinates.M.PL.ACC fate.DAT
'The major left his subordinates to their fate.'

b. Podrejeni so bili prepuščeni **usodi**. PASSIVE
subordinates.M.PL AUX.3PL been.M.PL left.M.PL fate.DAT
'The subordinates were left to their fate.'

What Class 2 and 3 have in common is the unmarked Th»R order. Class 1 ditransitive idioms, on the other hand, require an unmarked R»Th order. Crucially, Class 1 idioms cannot be passivized and retain the idiomatic reading. This is shown in (29) for *'dati X*-DAT *košarico'* (*give X a/the basket* =

'break up with/reject X' or 'decline X's advances'), and in (30) for the idiom *'piti X*-DAT *kri'* (*drink X's blood* = 'exploit/abuse X'). Their passive counterparts can only be understood literally.[11]

(29) a. Jana je dala **Tomažu** košarico. ACTIVE
Jean.F AUX.3 gave.F Tom.DAT basket.F.ACC
'Jean dumped Tom.'

b. #Košarica je bila dana **Tomažu**. PASSIVE
basket.F AUX.3 been.F given.F Tom.DAT
'The basket was given to Tom.'

(30) a. Podjetje je pilo **uslužbencem** kri. ACTIVE
company.N AUX.3 drank.N employees.DAT blood.F.ACC
'The company exploited its employees.'

b. #Kri je bila pita **uslužbencem**. PASSIVE
blood.F AUX.3 been.F drank.F employees.DAT
'Blood was drunk from the employees.'

The passivization asymmetry is parallel to what we saw with causative/benefactive readings and verbs that require specific unmarked object orders: when the R»Th order is required passivization is

[11] Note that these idioms are not so-called *idiomatic phrases* (IdPs) (Harwood et al. 2016), which generally resist passivization and have fixed prenominal modifiers; e.g. the IdP *'kick the bucket'* has a fixed prenominal slot and disallows passivization, while *'take advantage of'* has a free prenominal slot and can be passivized (Lebeaux 2009:xx):

(i) a. 'kick (**#all**) the bucket'
b. #The bucket was kicked.

(ii) a. 'take (**some/a lot of**) advantage of'
b. Advantage was taken of John.

The Slovenian verbal idioms in question are also flexible with respect to prenominal modification. Examples in (iii) show that *'basket'* can be modified by a numeral (note that the idiom also takes part in the *give*/*get* alternation, cf. Richards 2001; Harley 2002), and NP modification is also possible with *'drink X blood'*, as (vi) shows.

(iii) a. Arsene Wenger je dobil **še eno** košarico.
Arsene Wenger AUX.3 got.M also one.F.ACC basket.F.ACC
'Arsene Wenger rejected yet again.' (http://ekipa24.si/. . . /zelja-arsenala-pobegnila-v-psg; 10/22/2016)

b. Mu je zdajle s tem cinizmom dala **še eno** košarico.
3.M.DAT AUX.3 now with this cynicism gave.F also one.F.ACC basket.F.ACC
'She, with this cynicism, now rejected him again.' (Google search on: 10/22/2016)

(iv) . . . firmo spravil na kolena, ko ji je spil **vso** kri
company.ACC brought.M on knees.ACC when 3.F.DAT AUX.3 drank.M all.F.ACC blood.F.ACC
'[*He*] brought the company to its knees, when he exploited it completely.'
(http://www.radiokrka.com/poglej_clanek.asp?ID_clanka=167941; 10/22/2016)

Crucially, Slovenian verbal idioms can also be IdPs which disallow all kinds of prenominal modifiers possible with idioms like (iii) and (iv), and crucially cannot be passivized despite being regular transitive verbal idioms:

(v) a. Vsi so izgubili (#**celo** / #**še** **eno**) glavo zaradi nje.
all AUX.3PL lost.M.PL whole.F.ACC / also one.F.ACC head.F.ACC because her.F.GEN
'Everyone lost their heads because of her.' ('Everyone was not thinking straight because of her.')

b. #Glave so bile izgubljene.
head.F.PL AUX.3PL been.F.PL lost.F.PL
'Heads were lost.' (literally)

The (iii)-(iv) vs. (v) contrast shows is that the ban on passivization in (29,30) cannot be due to the idioms being IdPs.

blocked, while when the Th»R order is required passivization is possible.

2.2.4 The significance of the passivization asymmetries

When all the passivization facts are considered together a clear generalization emerges: (i) passives are possible when an unmarked Th»R order is possible, whether as one of the unmarked options or the only unmarked option, and (ii) passives are impossible when R»Th is the only unmarked object order option (causative/benefactive readings, *envy*-type verbs, and Class 1 ditransitive idioms).

Given that with both unmarked object orders the first object asymmetrically c-commands the second object (as evidenced by the binding data in (5) and scope data in (6)–(7)), the passivization facts fit an intervention based analysis (see e.g. Anagnostopoulou 2003): promotion to subject requires an Agree/checking dependency between the T(ense) head and the internal argument, where only the highest internal argument is accessible to T. Recall that dative arguments can not be promoted to subject in Slovenian, which can be attributed to dative case making internal arguments inaccessible to T (Anagnostopoulou 2003; Alexiadou et al. 2014; i.a.). This means that passives of ditransitives are possible only when in the active version the Th-object asymmetrically c-commands the R-object, which is the case when an unmarked Th»R object order is available.

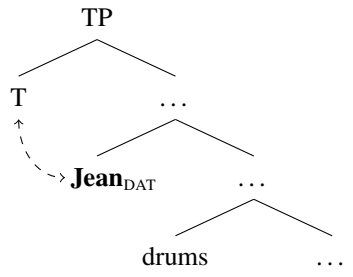
What needs to be considered next is how the factors that make the unmarked Th»R object order, and therefore passivization, unavailable fit the existing analyses of the object order alternation.

2.3 Issues with existing analyses

An influential approach to the correlation between the Th»R object order and Th-subject passives in languages without the dative alternation attributes both to the existence of optional short movement (*short-distance scrambling*) of the Th-object over the R-object (Ura 1996; McGinnis 1998; Anagnostopoulou 2003; i.a.). The idea is that this movement feeds both the surface Th»R order in active clauses and the establishment of the dependency between T and the Th-argument in passives.

In a language like Slovenian, inherent dative case on the R-argument blocks Agree between it and T (cf. (31a)), and since a probe can only Agree with the closest goal (Chomsky 2000) T cannot establish Agree with the Th-argument, making passivization impossible. If, however, the Th-argument moves over the R-argument before T enters the derivation (cf. (31b)), T can establish agree with the Th-argument, making promotion of the Th-argument to subject in a passive possible.

(31) a.



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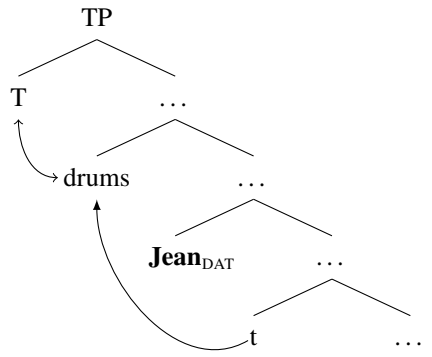


Since object reordering changes binding and scope relations, the optional movement responsible for it would have to be A-scrambling, which is in line with how short-distance scrambling below the TP-level generally behaves (Tada 1993; Yatsushiro 1999, 2003).

The issue with this analysis is that in Slovenian the Th»R order and passivization are not always an option, and scrambling—as a freely available syntactic operation—should always be an option. The only way to prevent scrambling would be a syntactic island, but none of the R»Th contexts (causative/benefactive readings, *envy*-type verbs, and Class 1 ditransitive idioms) are islands for movement of the Th-argument, as the examples in (32) show for *envy*-type verbs.

(32) a. Kaj je Igor zavidal **Davidu**? (wh-moved Th-object)
what.ACC AUX.3 Igor envied.M David.DAT
'What did Igor envy David?'

b. *Nadarjenost* je Igor zavidal **Davidu**. (focus moved Th-object)
talent.F.ACC AUX.3 Igor envied.M David.DAT
'It was *talent* that Igor envied David.'

In contrast, a dual-base analysis of the alternation can draw a direct analogy with English, where Th-subject passives are only available with PDCs (in most dialects; see e.g. Haddican 2010):

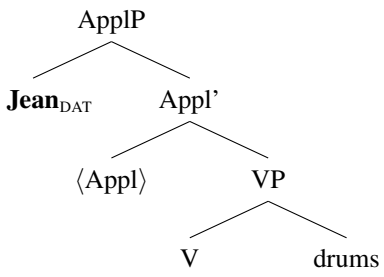
(33) a. *The drums$_i$ were given **Jean** t_i. DOC: *Th-subject

b. The drums$_i$ were given t_i **to Jean**. PDC: Th-subject

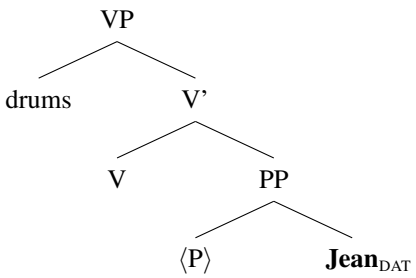
Following Marvin and Stegovec (2012), the R»Th order can be analyzed as an applicative construction with a silent Appl head (Marantz 1993; Anagnostopoulou 2003) (cf. (34a)), while the Th»R order can be analyzed as equivalent to an English PDC, but with a silent P (cf. (34b)).[12]

[12]Other dual-base analyses, like Pesetsky (1995) or Harley (1995, 2002), can also be adapted for Slovenian, as long as the argument-introducing heads other than V are null in the DOC and PDC counterparts.

(34) a.



b.



With this analysis object order can be restricted by postulating selectional requirements that restrict the availability of the DOC-analogue (R»Th order) or the PDC-analogue (Th»R order).

An issue that arises with this analysis is that the possibility of inverse scope with the Th»R object order cannot be attributed to reconstruction. Instead, a version of Bruening's (2001) analysis of scope possibilities in DOCs vs. PDCs has to be adopted, which crucially relies on *Quantifier Raising* (QR) to derive inverse scope. This is not an issue for English, as it generally allows inverse scope (cf. (35a)), and the rigid surface scope in DOCs is the anomaly. But Slovenian is a scope-rigid language (cf. (35b)), where surface scope is always observed outside reconstruction contexts (Aoun and Li 1989; Lechner 1998; Zubizarretta 1998; i.a.). The dual-base analysis thus forces one to make QR available in Slovenian exclusively in Th»R order contexts, which is quite problematic.[13]

(35) a. Someone loves everyone. $\exists > \forall, \quad \forall > \exists$

b. Nekdo ljubi vsakogar/vse. $\exists > \forall$, $*\forall > \exists$
someone loves.3 everyone.ACC/all.ACC

Additionally, consider what free object order alternation amounts to with the dual-base analysis: (34a) and (34b) must be equivalent in meaning and case assignment in the majority of ditransitive contexts. Appl and P must both yield the transfer of possession reading and assign dative. For an individual language this is not necessarily an issue, as the equivalence could have arisen as a historical accident. The issue is that the object order alternation is very common in the world's languages (Primus 1998; Heine and König 2010).[14] Many of these languages also have ditransitive case patterns besides DAT-ACC: for example ACC-GEN, DAT-DAT, DAT-GEN in Icelandic (Zaenen et al. 1985), ACC-ACC, ACC-GEN in German (Beermann 2001) and ACC-ACC, ACC-GEN in Slovenian. These occur with specific verbs and typically a single unmarked object order (cf. Section 2.1.2), but always alongside the DAT-ACC pattern, which occurs with both object orders. With the dual-base

[13] See also Williams (2006) for a discussion of issues with Bruening's (2001) analysis of rigid scope in English DOCs. Additionally, Kitagawa (1994) shows (contra Barss and Lasnik 1986) that backwards binding, and hence reconstruction, is possible in English PDCs (its availability seems to depend at least in part on the type of anaphor involved).

[14] The number of languages counted as having a free R»Th/Th»R alternation in these references is actually conservative, counting Slavic languages with dative and accusative marking like Slovenian as only having an R»Th order, following Siewierska and Uhlířová (1998, 126), who describe R»Th as the "preferred" order (without providing an explanation for this assessment) while noting that: *"there is no fixed order for the patient* [= theme] *and recipient"*.

analysis, where nothing ensures that Appl and P must always be able to assign the same case, there is no explanation for the cross-linguistic robustness of the object order alternation.[15]

One more option to consider is that object reordering is driven by Case or some other formal feature, where the three ditransitive contexts are distinguished by the way the movement-driving feature [F] is distributed: (i) [F] optionally present (R»Th and Th»R), (ii) [F] must be present (only Th»R), or (iii) [F] must be absent (only R»Th). Apart from this essentially being a restatement of the facts, the factors that we saw influence object order are quite varied and difficult to attribute to a single feature. Verbal idioms are particularly problematic, as there is no evidence that idioms differ from their non-idiomatic counterparts in terms of Case or other formal features. However, I will argue next that a different kind of third option, one that builds on the insights of both the scrambling and the dual-base analyses while avoiding their shortcomings, is in fact possible.

3 Smuggling for labeling

I propose that the Th»R object order in Slovenian, and presumably other languages with the object order alternation, involves the Th-object moving across the R-object as part of the VP containing it, building on the Kayne's (2005) analysis of French PDCs and Collins's (2021) analysis of English PDCs. However, unlike Kayne and Collins, I propose that the VP-movement step is not driven by the need to check formal features. Instead, VP-movement is one of the strategies that can void the labeling conflict (Chomsky 2013, 2015) which arises whenever an object NP merges with a VP. The other strategy involves movement of the object NP, yielding the R»Th order.

Crucially, I argue that either resolution strategy is equally available in NP+VP Merge scenarios, unless a particular interface requirement filters it out. This accounts for the scrambling-like behavior of the object order alternation in the general case. More importantly, since the object reordering involves a VP-movement step, the structural configuration of the verb in relation to the functional heads in its extended projection will be radically altered. This will be key in accounting for the selectional and semantic differences between R»Th and Th»R object orders.

3.1 Core assumptions

The main point of departure from earlier work in Chomsky (2013, 2015) is the abandonment of projection as a part of Merge (Chomsky 1995). Under this new view, narrow syntax does not need

[15] One could say that as an inherent case, dative directly reflects the theta-role of the object, thus as long as it is a Recipient, it should be dative regardless of case assigner. But dative objects can also be Causees or Benefactives (see Section 2.1.1), so dative occurs with a range of theta-roles, and conversely the variation in ditransitive case patterns noted above means that Appl or P should be able to assign a range of different cases. Tying the case of the object solely to the assigner thus more accurately reflects the data; see Emonds and Whitney (2006, 77–81) for relevant discussion.

labels: the phrase markers of syntactic objects created by Merge. The information provided by labels, assigned by the *Labeling Algorithm* (LA), is only needed by the interfaces.

The ways in which the LA operates on syntactic objects generated by Merge is illustrated in (36). Only when a head (X) and non-head (YP) merge, as in (36a), is projection guaranteed, labeling the resulting syntactic object as XP. Thus, when two maximal projections (XP and YP) merge, as in (36b), the LA cannot determine the label of the resulting syntactic object.

(36) a. Merge: X + YP $\Rightarrow$ {X, YP}; LA: {X, YP} $\Rightarrow$ {$_{\text{XP}}$ X, YP}

b. Merge: XP + YP $\Rightarrow$ {XP, YP}; LA: {XP, YP} $\Rightarrow$ {$_{?}$ XP, YP}

A consequence is that traditional specifier positions become problematic for the LA. Any maximal projection merging with XP as a "SpecXP" will yield (36b) cause a labeling conflict. This is also the structural configuration which will be the main focus in the analysis proposed below.

Crucially, LA conflicts can be resolved later in the derivation. For instance, either XP or YP in (36b) may become invisible for the LA by moving out of the problematic constituent (Chomsky 2013) (the lower copy is then part of discontinuous element): YP-movement results in XP providing the label, while XP-movement results in YP providing the label. This resolution strategy is employed by Chomsky to derive successive cyclic movement without intermediate feature checking. Note that (36b) arises with both *Internal Merge* (base generation) and *External Merge* (movement), so it also arises with successive cyclic XP-movement. What Chomsky argues is that the need to resolve the LA conflict is in fact what drives the movement itself: it is movement to ensure labeling.

Ideally, the hope is that all movement can be derived as movement for labeling, although ultimately that might not be possible. What I argue in this paper is more modest. Namely, just like successive cyclic movement, the optional reordering of objects is driven by a LA conflict like (36b), the difference being that the two object orders result from two distinct movement options.

I assume that Slovenian ditransitives are applicative constructions and that there are at least two kinds of applicative constructions associated with two distinct applicative heads (Pylkkänen 2002, 2008): **(i)** a *low applicative head* (Appl_L) which occurs with canonical ditransitives, and **(ii)** a *high applicative head* (Appl_H) which occurs, among other things, with benefactive constructions. However, unlike Pylkkänen, I do not assume that they occur at different heights in the structure (Appl_H above VP; Appl_L below VP), but that both Appl heads take VP as a complement. The difference between the two kinds of applicatives is that Appl_H both introduces and licenses the R-object while Appl_L only licenses the R-object, which is first merged at the VP-level (following Georgala et al. 2008; Georgala 2011). This difference is going to be key for deriving why benefactive and causative readings are not available with an unmarked R»Th object order.

3.2 Deriving free object order

All applicative derivations begin, like transitives, with the merger of the verb and the Th-argument. Because V is a head and the NP is not, the verb projects the VP, as illustrated in (37).

(37) $\{\text{V}, \text{NP}_{\text{Th}}\} \Rightarrow \{_{\mathbf{VP}}\ \text{V}, \text{NP}_{\text{Th}}\}$

At this point, transitives and ditransitives diverge. In a transitive the next merged element is *v*, while in a low applicative the next merged element is another NP, as shown in (38). Because the latter involves merger of a non-head (NP) with a non-head (VP), the LA cannot determine a label.

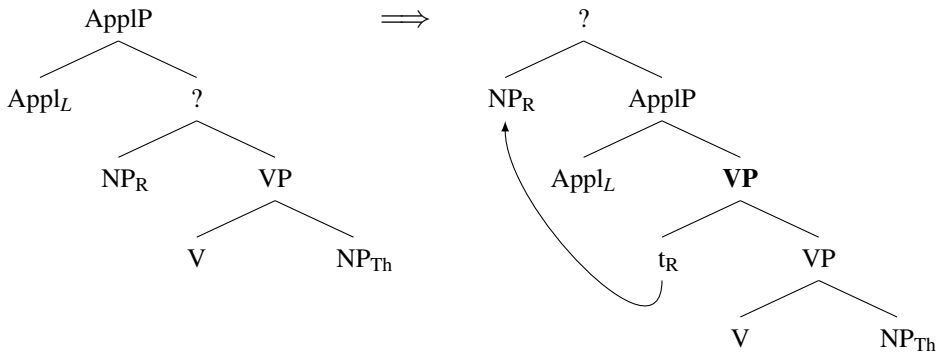
(38) $\{\text{NP}_{\text{R}}\ \{_{\text{VP}}\ \text{V}, \text{NP}_{\text{Th}}\}\} \Rightarrow \{_{\mathbf{?}}\ \text{NP}_{\text{R}}\ \{_{\text{VP}}\ \text{V}, \text{NP}_{\text{Th}}\}\}$

The Appl_L head enters the derivation next and projects because it is merged with a non-head element:

(39) $\{\text{Appl}_L\ \{_{?}\ \text{NP}_{\text{R}}\ \{_{\text{VP}}\ \text{V}, \text{NP}_{\text{Th}}\}\}\} \Rightarrow \{_{\mathbf{ApplP}}\ \text{Appl}_L\ \{_{?}\ \text{NP}_{\text{R}}\ \{_{\text{VP}}\ \text{V}, \text{NP}_{\text{Th}}\}\}\}$

A label can be assigned to the unlabeled constituent (?) if NP_{R} moves out of it, as in (40). Then VP projects by virtue of traces (lower copies) being invisible for the LA (Chomsky 2013).

(40)



This step leads to a LA conflict between NP_{R} and ApplP, which matches what we get when an external argument NP raises to TP. Here Chomsky's (2013) remaining labeling strategy is relevant: sharing of prominent features between two maximal projections. Chomsky (2015) argues that when an NP moves to TP in a classic EPP language like English, the label of {NP, TP} is determined via the sharing of their ϕ-features (cf. spec-head agreement), resulting in a $\langle\phi,\phi\rangle$ label, as illustrated in (41a). The main function of Appl is to license NP_{R}, just like T licenses subjects. I thus propose that the licensing of NP_{R} involves inherent dative Case assignment by Appl, which in turn determines the label of {NP, ApplP} via the sharing of Case features (K), as illustrated in (41b).

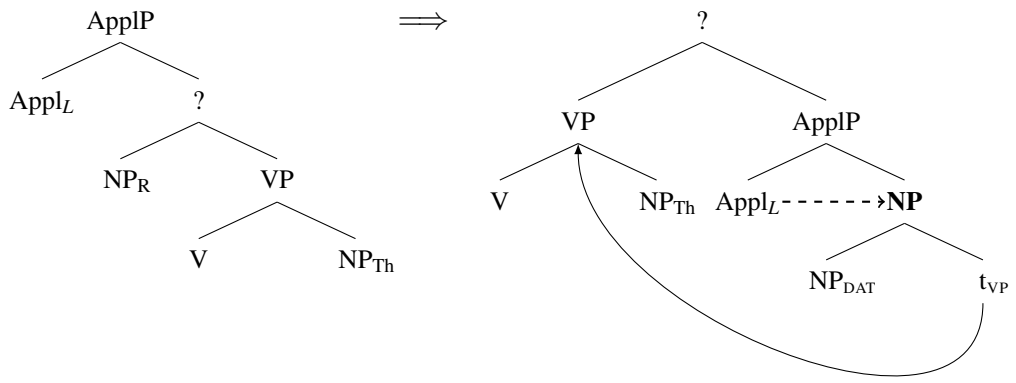
(41) a. $\{_{\langle\phi,\phi\rangle}\ \text{NP}_{[\phi]}\ \{_{\text{TP}}\ \text{T}_{[\phi]}\ \{_{v\text{P}}\ \text{t}_{\text{EA}}\ \{_{v\text{P}}\ v \ldots\}\}\}\}$

b. $\{_{\langle K,K\rangle}\ \text{NP}_{[K]}\ \{_{\text{ApplP}}\ \text{Appl}_{[K]}\ \{_{\text{VP}}\ \text{t}_{\text{R}}\ \{_{\text{VP}}\ \text{V} \ldots\}\}\}\}$

We can now turn to the derivation of the Th»R order. Again drawing a parallel with (41a), note that the labeling conflict arising when the external argument (EA) merges with *v*P is resolved when

the EA moves out of *v*P, but moving the *v*P instead could also resolve it. While there might be reasons to exclude the *v*P-movement option in (41a) (Shlonsky 2014), I propose that in ditransitive structures both resolutions are possible. Namely, the VP containing the NP_{Th} may move instead of NP_R, as shown in (42). This results in NP_R projecting the label for the problematic constituent.

(42)



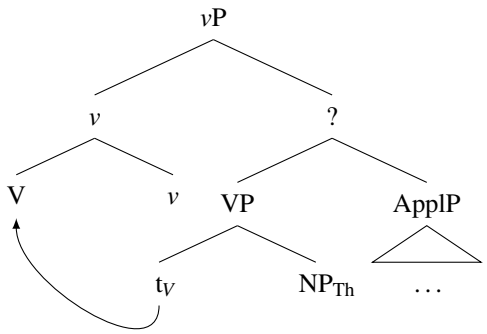
NP_R, which is now the complement of $Appl_L$, is also assigned inherent dative Case by $Appl_L$. On the surface, inherent Case assignment is allowed in this analysis both in a more traditional head-compliment configuration, as in (42), as well as in a spec-head configuration, as in (41b) (see also Lasnik 1995 regarding spec-head inherent case assignment). But note that in a system like this, which assumes bare phrase structure, the ApplP label in (40) is equivalent to the Appl head projecting it (see also Řezáč 2003). This means both instances of inherent case assignment occur strictly under sisterhood between the case assigning head and the argument.[16]

Like (40), the derivation in (42) also induces a new LA conflict, in this case with Merge of VP and ApplP. However, I propose that labeling is ensured in this case due the interaction of the LA and the way in which X-bar status of syntactic objects is determined in a system with bare phrase structure (Chomsky 1995). The derivation continues with head-movement of V to *v* after *v* is merged, as shown in (43a) (V and *v* must combine when *v* is present; Chomsky 2013, 2015).[17] The VP is now essentially left headless, and if NP_{Th} were to move, VP would dominate only traces. In fact, the binding and scope data observed with the Th»R order (see Section 2) tell us that NP_{Th} has to move to a position where it asymmetrically c-commands NP_R, as in (43b); I assume that this is the same *"object shift"* movement Collins (2021) proposes for Th-objects in English PDCs. I argue that V-movement and Th-object movement together result in {VP, Appl} being labeled as VP.

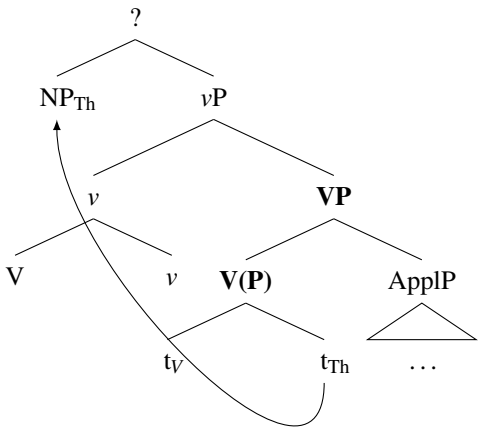
[16] In fact, a case can be made that sisterhood is a universal condition on inherent case assignment. It does seem to be the case that inherent case assignment is much more local than structural case assignment. The only possible exception to the sisterhood generalization that I am aware of arises with the *'dative of quantification'* in Russian (Franks 1994), where DAT can be assigned by the preposition *'po'* not to its complement (a NP) but to the specifier of its complement (a QP). However, under Franks' analysis, this variety of DAT is actually structural in Russian and analogous to ECM.

[17] Chomsky only considers cases where the verbal root head-adjoins to *v* (the EA-introducing head) in the syntax, but as we are dealing with additional argument-introducing heads, I assume that Chomsky's proposal extends to all functional heads inside the *v*P phase, so V successive-cyclically head-adjoins to all heads c-commanding it in *v*P.

(43) a.



b.



Recall that traces (lower copies) are invisible for the LA, but note also that in bare phrase structure XP and X are not distinguished by any special marking; the X-bar status of any category is read off the structure it appears in: **(i)** a category X that does not project any further is a maximal category XP, and **(ii)** a category X that is not a projection at all (= it does not dominate any YPs) is a minimal projection X (Chomsky 1995). Consider now that the LA amounts to: a category formed via Merge is labeled by the closest head. Since the LA cannot see traces it stands to reason that a category dominating only traces counts as a minimal projection for the LA. This is exactly what we get in (43b). V(P) is not a projecting category from the perspective of the LA because traces are invisible for it, and because the unlabeled category now dominates a "head" V and maximal projection ApplP, it is labeled as VP. NP_{Th} moving to *v*P is therefore another case of movement for labeling.[18]

The two derivations in (40) and (42–43) respectively yield the R»Th and Th»R surface orders and provide the asymmetric c-command relations between the two objects needed to explain the binding facts discussed in Section 2. The same goes for the quantifier scope facts: only the Th»R derivation in (42–43) results in NP_{Th} having copies above and below NP_R, allowing for inverse scope (via reconstruction) with Th»R but not R»Th orders. Another welcome result is that the reordering of objects never involves A-movement of an argument across another argument, because NP_{Th} only moves over NP_R as part of the VP that contains it, and thus poses no problem for a strict version of Relativized Minimality. Just like in Collins's (2021) analysis of the English dative alternation, the reordering of arguments is achieved via *smuggling* (Collins 2005a,b).

Most importantly, either (40) or (42–43) is a possible outcome in the absence of any interface requirements that could filter out one or the other derivation (I discuss a number of such factors below). Moving NP_R or VP are equivalent resolutions of the labeling conflict, which I argue is the reason why we observe two unmarked object orders in a language like Slovenian. The scrambling-

[18]The movement creates another LA conflict, which is orthogonal to the current discussion. The same LA conflict also arises with *"object shift"* even in transitive sentences. There are numerous possibilities for label-assignment, one of them being feature sharing; NPs carry ϕ-features and *v* can also bear ϕ-features (Chomsky 2000), so the ϕ-features themselves can project through feature sharing (see Chomsky 2015 also in relation to raising-to-object).

like properties of the object order alternation can thus be attributed to the unstable equilibrium that arises whenever a second object is introduced in the derivation: something has to move to ensure labeling, and in the absence of any additional factors, either derivation can accomplish this.[19]

Given the role information-structure plays in restricting the order of objects, I assume it is one of the factors that constrains the outcome of the ambiguous labeling scenario. This fits nicely with contextual approaches to information-structure, where topics and foci are not tied to dedicated projections, but are determined based on their relative position with respect to each other (Neeleman and van de Koot 2008; Neeleman et al. 2009; Lacerda 2020; i.a.). But what truly distinguishes the proposed analysis from a scrambling one is that it allows for other factors, such as verb class and idiomatic readings, restrict the outcome of the ambiguous labeling scenario, much like in a dual-base analysis the same factors determine which of the two structures is used. I review how this is achieved in the following sections.

3.3 High applicatives

Recall that causative and benefactive readings as well as *envy*-type verbs require an unmarked R»Th order and consequently block passivization. I propose that this is because these involve a different applicative head than canonical ditransitives (high applicative; Appl_H), which not only licenses R-objects, but also introduces them. The derivation diverges from transitives and low applicatives after VP is built. Following Georgala et al. (2008) and Georgala (2011), I assume that with high applicatives, Appl_H merges with the VP before NP_R is merged, as shown in (44). Since Appl_H is a head merging with a non-head element, Appl_H provides a label for the resulting structure.

(44) $\{\text{Appl}_H\ \{_{\text{VP}}\ \text{V}, \text{NP}_{\text{Th}}\}\} \Rightarrow \{_{\textbf{ApplP}}\ \text{Appl}_H\ \{_{\text{VP}}\ \text{V}, \text{NP}_{\text{Th}}\}\}$

In terms of the semantic differences between high vs. low applicatives, I roughly follow Bruening's (2010a) modification of Pylkkänen's (2002; 2008) proposal. The key assumption is that V in low applicatives requires two individual arguments (type *e*) and denotes a kind of transfer relation, while V in high applicatives combines only with one individual argument, so Appl_H is required for the introduction of a second argument.[20] In the current system, this split is reflected syntactically with the height at which NP_R enters the structure (VP in low applicatives, ApplP in high applicatives).

[19] Mizuguchi (2019) argues that partial *wh*-movement, Icelandic object shift, in-situ subjects, and non-nominal subjects result in {XP, YP} scenarios where neither movement nor feature sharing can ensure labeling. Instead, the CI interface may directly determine the label. Assuming his interpretation of these phenomena and theoretical conclusions are correct, I nonetheless contend that the object order alternation is a phenomenon where an analysis that follows the essence of Chomsky (2013, 2015) and employs movement to ensure labeling best captures the data under consideration. Furthermore, as we will see below, my proposal also employs interface conditions as a way to constrain labeling.

[20] Since causative and benefactive readings are possible with inherently ditransitive verbs, the semantic type of those verbs must reflect that they must combine further with Appl (cf. Bruening 2010a). This is in contrast to benefactive constructions built off of transitive verbs, where Appl_H freely combines with a regular transitive V.

Thus, NP_R is introduced only after $Appl_H$, shown in (45). Because NP_R is also assigned inherent dative Case by $Appl_H$, the label for {NP_R, ApplP} is guaranteed through feature sharing.

(45) $\{_{\langle K,K\rangle}\ NP_{[K]}\ \{_{ApplP}\ Appl_{[K]}\ \{_{VP}\ V,\ NP_{Th}\}\}\}$

Note that there is no stage at which an ambiguous labeling configuration arises in this derivation, so there is no reason for VP-movement to ensure labeling. This is the reason why unmarked Th»R orders are unavailable with high applicatives, and why passivization is blocked. Remember that inherent dative case makes NP_R inaccessible to T and thus for promotion to subject. But NP_R also acts as an intervener between T and NP_{Th}, making passivization completely impossible. This contrasts with the low applicatives, where a derivation yielding Th»R is always available, and thus consequently a configuration of objects where NP_{Th} is accessible to T in passives.

Bruening (2010a) notes that *envy*-type verbs in English have a semantics expected from high applicatives, which is also the case in Slovenian, so I assume that *envy*-type are characterized by requiring a high applicative structure. Causative reading ditransitives, on the other hand, while not identical to regular high applicatives, have a semantics that suggests they are built on top of transitive VPs (see e.g. Cuervo 2003). I thus propose that they also involve an Appl head that merges directly with a VP, which excludes Th»R order yielding VP-movement derivations.

3.4 Selectional restrictions

In addition to *envy*-type verbs, object order is also restricted with *expose*-type verbs, although to the Th»R order. With a dual-base analysis, this restriction can be attributed to selectional requirements. In the current approach this intuition can be maintained because the outcome of ambiguous labeling scenarios can either satisfy or fail to satisfy the selectional requirements of the next head to enter the derivation. This can be made explicit in the form of the following principle:

(46) ***Selectional Filter on Labeling.*** *For a syntactic object* $\alpha = \{_{?}\ YP, XP\}$ *and a head* Z, Z *can select for category* Y *in* $\{_{ZP}\ Z, \alpha\}$ *iff* YP *provides the label for* α.

This is not a condition on labeling *per se*, but merely a condition on selection. If selection is restricted to head-complement configurations,[21] then for this condition to be satisfied between Z and Y(P), α must be labeled YP, because a XP label would not satisfy the selectional requirement.

I will not attempt to provide an explicit theory of selection here, as it is not relevant for the issue at hand, but I assume that broadly speaking selectional requirements must be satisfied to

[21] This is not a trivial stipulation, although it is a necessary one. It distinguishes movement diacritics ([EPP]/edge features; checked in spec-head configurations) and Agree (valuation/checking under c-command) from selection (strictly head-complement). This is reflected, among other things, in functional sequences, such as C–T–*v*–V, being sequences of specific heads and phrasal complements; C taking a TP complement ([S:T]) is not equivalent to T taking a CP complement. Furthermore, as I show below, the head-complement restriction allows us to derive the Class 4 idiom gap.

guarantee Full Interpretation at the interfaces (Chomsky 1995). I represent selectional requirements as diacritics, where [S:X] means the head selects for a complement of category X. I propose that with *expose*-type verbs V selects for a complement of category Appl ([S:APPL]). As illustrated in (47a), selection is satisfied in a Th»R-yielding derivation with VP-movement, the only ditransitive derivation where ApplP is the complement of VP. Compare this to a PP object structure (with Th-object shift) in (47b). Note that the two structures are largely parallel if we substitute Appl for P.

(47) a. [NP_{Th} [$_{v}$P V+v [VP [V t_V t_{Th}]$_{[S:\text{APPL}]}$ [~~ApplP~~ $Appl_L$ [NP NP_R t_{VP}]]]]]

b. [NP_{Th} [$_{v}$P V+v [VP t_{Th} [V' $t_{V[S:P]}$ [~~PP~~ P NP]]]]]

The parallelism between (47a) and (47b) is important because it shows that selection forcing a Th»R derivation is equivalent to a verb selecting a PDC-like structure in a dual-base analysis.

Given the significant overlap between *expose*-type verbs in Slovenian and English, the selectional restriction likely has a basis in the lexical-semantics of the verbs (Pinker 1989; Gropen et al. 1989; Pesetsky 1995; Rappaport Hovav and Levin 2008; i.a.). The verbs tend to express relations between objects that are not strictly speaking transfer of possession. They revolve around spatial relations, motion, communication, and more abstract transfer notions like "fulfillment". Just like the semantics of *envy*-type verbs forces a high applicative structure, the semantics of the *expose*-type verbs seems to force a VP-over-ApplP/PP structure. This means either that: (i) $Appl_L$ is semantically underspecified in a way that yields a "transfer of possession" or "transfer in space" semantics depending on the structural configuration, or (ii) the "transfer in space" Appl occurring with *expose*-type verbs is a special type of Appl incompatible with an ApplP-over-VP structure. This is admittedly a very rough sketch of a potential semantic basis for the selectional restriction, but what is important is that the structural parallelism between (47a) and (47b) makes any analysis that works for obligatory PP objects easily translatable into a VP-over-ApplP analysis.

3.5 Ditransitive Verbal Idioms

Idioms can be viewed as a special kind of selectional relationship. The main difference is that rather than heads always requiring a specific type of complement, the idiomatic reading is only available when a head has a specific type of complement. While the exact nature of idioms is very much debated (see Harwood et al. 2016 for an overview), it will suffice for the issue at hand to treat them in essentially the same way as selectional relationships, using [S:X] diacritics. For ease of exposition, I treat selection of particular nouns and verbs as selection for a N or V category.

All logically possible ditransitive idioms with a single free argument are schematized in (48). A ditransitive idiom can be characterized by Appl selecting V (cf. (48a,48c)) or V selecting Appl (cf. (48b,48c)), given that what separates ditransitives from transitives is the presence of Appl. The former requirement is only satisfied in a R»Th derivation, while the later is only satisfied in

a Th»R derivation. The fixed objects, on the other hand, are selected by either Appl (R-objects) or V (Th-objects). Crucially, heads can have more than one selectional requirement. As I proceed to show below, while Class 4 is logically possible, the satisfaction of $\text{Appl}_{[\text{S:V}]}$ always bleeds the satisfaction of $\text{Appl}_{[\text{S:N}]}$, which correctly predicts the nonexistence of Class 4 ditransitive idioms.

(48) a. **Class 1**: *'give X_{R} a basket'* = [$\text{Appl}_{[\text{S:V}]} \rightarrow \text{give}_{[\text{S:N}]} \rightarrow$ basket]

- fixed R»Th order = $\text{Appl}_{[\text{S:V}]}$ + fixed Th-object = $\text{V}_{[\text{S:N}]}$

b. **Class 2**: *'sell soul to X_{R}'* = [$\text{sell}_{[\text{S:N,APPL}]} \rightarrow$ soul, Appl]

- fixed Th»R order = $\text{V}_{[\text{S:APPL}]}$ + fixed Th-object = $\text{V}_{[\text{S:N}]}$

c. **Class 3**: *'leave X_{Th} to fate'* = [$\text{leave}_{[\text{S:APPL}]} \rightarrow \text{Appl}_{[\text{S:N}]} \rightarrow$ fate]

- fixed Th»R order = $\text{V}_{[\text{S:APPL}]}$ + fixed R-object = $\text{Appl}_{[\text{S:N}]}$

d. **Class 4**: (unattested) = [$\text{Appl}_{[\text{S:N,V}]} \rightarrow$ V, N]

- fixed R»Th order = $\text{Appl}_{[\text{S:V}]}$ + fixed R-object = $\text{Appl}_{[\text{S:N}]}$

Let us first take a closer look at Class 3 idioms. These are characterized by V selecting Appl (fixed Th»R) and Appl selecting N (fixed R-order), which is only satisfied in a derivation like (49a) (V and NP_{Th} movement is not shown to simplify exposition). Selection diacritics are crucially inherited through projection, and can only be checked by a complement of the specified category.

(49) a. ✓ $[_{\text{VP}}\, [_{\text{V}}\, \textbf{leave}_{V}\ \text{NP}_{\text{Th}}\ ]_{[\text{S:}\cancel{\text{APPL}}]}\ [_{\cancel{\text{ApplP}}}\ \textbf{Appl}_{[\text{S:}\cancel{\text{N}}]}\ [_{\cancel{\text{NP}}}\ \textbf{fate}_{\text{NP}}\ t_{\text{VP}}\ ]]]$

b. ✗ $[_{\langle K,K\rangle}\ \textbf{fate}_{\text{NP}}\ [_{\text{ApplP}}\ \textbf{Appl}_{[\text{S:*N}]}\ [_{\text{VP}}\ t_{\text{R}}\ [_{\text{VP}}\ \textbf{leave}_{V\,[\text{S:*APPL}]}\ \text{NP}_{\text{Th}}\ ]]]]$

The derivation in (49b) is blocked because it fails to meet the selectional requirements: the complement of V is not Appl and the complement of Appl is not N. Because of this, only the unmarked Th»R order is available with Class 3 idioms which also allows them to exist in passivized form.

I turn now to Class 1 idioms, which are characterized by Appl selecting V (fixed R»Th) and V selecting N (fixed Th-object). The derivation which meets these requirements is shown in (50a).

(50) a. ✓ $[_{\langle K,K\rangle}\ \text{NP}_{\text{R}}\ [_{\text{ApplP}}\ \textbf{Appl}_{[\text{S:}\cancel{\text{V}}]}\ [_{\cancel{\text{VP}}}\ t_{\text{R}}\ [_{\text{VP}}\ \textbf{give}_{V\,[\text{S:}\cancel{\text{N}}]}\ \textbf{basket}_{\cancel{\text{NP}}}\ ]]]]$

b. ✗ $[_{\text{VP}}\, [_{\text{V}}\, \textbf{give}_{V\,[\textbf{S:}\cancel{\textbf{N}}]}\ \textbf{basket}_{\cancel{\text{NP}}}\ ]\ [_{\text{ApplP}}\ \textbf{Appl}_{[\text{S:*V}]}\ [_{\text{NP}}\ \text{NP}_{\text{R}}\ t_{\text{VP}}\ ]]]$

The problem with (50b) is that Appl cannot select V. As the derivation that yields an Th»R order is unavailable, such idioms are correctly predicted not to retain their idiomatic reading as passives: NP_{R} is an intervener for T and NP_{Th} with the derivation in (50a). In other words, the only derivation which allows an idiomatic reading is also the derivation which blocks passivization.

Lastly, let us look at Class 2, the final attested type of idioms, which is characterized by V selecting Appl (fixed Th»R) as well as N (fixed Th-order). The derivation in (51a) satisfies both

requirements because NP_{Th} starts as a complement of V, and VP moves to ApplP and later takes ApplP as a complement (after V and NP_{Th} movement ensures labeling).

(51) a. ✓ [$_{VP}$ [$_{V}$ **sell**$_{[S:\cancel{N},APPL]}$ **soul**$_{\cancel{NP}}$]$_{[S:N,\cancel{APPL}]}$ [$_{\cancel{ApplP}}$ **Appl** [$_{NP}$ NP_R t_{VP}]]]

b. ✗ [$_{\langle K,K\rangle}$ NP_R [$_{ApplP}$ **Appl** [$_{VP}$ t_R [$_{VP}$ **sell**$_{V[S:\cancel{N},*APPL]}$ **soul**$_{\cancel{NP}}$]]]]

What goes wrong in (51b) is that while V can select NP_{Th} as is its complement, V cannot select Appl, as ApplP is not the complement of VP. In fact, VP is the complement of ApplP. As the only possible derivation yields an Th»R order, the idiomatic reading is maintained under passivization.

The biggest advantage of the current approach is that it also derives the Class 4 gap. This is because only complements, and not specifiers, can be selected in this system. In the case of Class 4, the hypothetical idiom has a fixed R-object ($Appl_{[S:N]}$) and a fixed R»Th order ($Appl_{[S:V]}$). However, in either derivation at most one of these requirements can ever be met, as illustrated in (52).

(52) a. ✗ [$_{\langle K,K\rangle}$ **NP**$_R$ [$_{ApplP}$ **Appl**$_{[S:\cancel{V},*N]}$ [$_{\cancel{VP}}$ t_R [$_{VP}$ **V** NP_{Th}]]]]

b. ✗ [$_{VP}$ [$_{V}$ **V** NP_{Th}] [$_{ApplP}$ **Appl**$_{[S:*V,\cancel{N}]}$ [$_{\cancel{NP}}$ **NP**$_R$ t_{VP}]]]

The proposed analysis of the object order alternation thus not only allows us to derive the three types of ditransitive idioms attested in Slovenian, it also straightforwardly deduces the non-existence of Class 4 idioms because selectional relations are limited to head-complement configurations.

4 Extensions: Going beyond Slovenian

The proposed analysis is meant to be applicable to all dative-accusative languages where the object order alternation shows the same properties as Slovenian—namely if they show the same binding and scope asymmetries and the same selectional and meaning asymmetries between the R»Th and Th»R object orders.[22] However, I will tentatively suggest in this section that the analysis can also be extended to the English dative alternation and Romance prepositional ditransitives.

The extension to English is fairly straightforward, given the similarities between the proposed analysis and Collins's (2021) analysis of the English dative alternation. The main point of departure is that the $Appl_L$ head must be silent in DOCs but spell out as *'to'* in PDCs (a point which I return to below), in contrast to Collins' proposal where *'to'* is the realization of a "low Voice" head only present in PDCs. The proposed analysis of Slovenian can account for the restrictions on causative readings, *envy*-type verbs, *expose*-type verbs, and the three attested classes of ditransitive idioms, as well as the absence of Class 4 idioms. Since all of these restrictions are exactly mirrored in English

[22] A verb-final language like Japanese might at first appear to be excluded, since VP-movement moves the verb to the left of the R-object. But note that the VP-movement must happen below *v*P and V must raise to *v* following Chomsky (2013, 2015). If *v* follows its complement, this will be sufficient to yield the correct word order. See also Fenger (2020) and Funakoshi (2020) for VP-fronting related evidence that in Japanese verbal heads below T syntactically combine.

if we only replace the R»Th order with the DOC and the Th»R order with the PDC, we can apply the proposed analysis to English virtually without any alterations aside from the difference in the appearance of *'to'* and the absence of morphological dative case.

Regarding the reanalysis of *'to'* as Appl, it is natural to ask what the advantages are of this analysis over more traditional ones. One instance where the Appl analysis has an advantage are the exceptional uses of PDCs in DOC contexts (Bresnan 2007; Bresnan et al. 2007). As discussed in Section 2.1.1, causative readings are available with DOCs (cf. (53a)), but not PDCs (cf. (53b)), but a causative reading seemingly becomes possible for a PDC with "heavy" R-objects, as in (53c).

(53) a. The lighting here gives **me** a headache. (DOC)

b. #The lighting here gives a headache to **me**. (PDC)

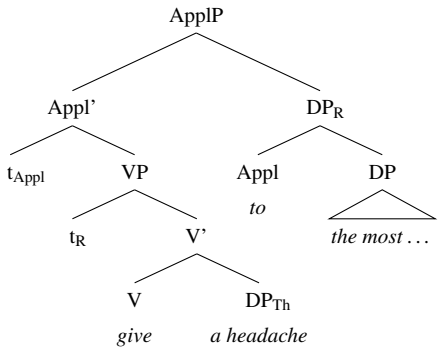
c. … a stench or smell is diffused over the ship that would give a headache to **the most athletic constitution**. (PDC) (Bresnan et al. 2007, 71–72)

The same kind of pattern is also observed with *envy*-type verbs and Class 1 idioms (e.g. *'give X the creeps'*), which are, outside the heavy R-object cases, also restricted to DOCs.

Bruening (2010b) shows that these exceptional PDCs pattern with DOCs in that they allow only *R-object* > *Th-object* quantifier scope readings, very puzzling given the surface Th»R order, and disallow locative inversion of the R-object, which is otherwise allowed with PDCs. These ditransitives are thus actually DOCs "disguised" as PDCs, which Bruening analyses as low applicatives with the R-object located in an exceptional right specifier. What remains to be explained though is why *'to'* exceptionally appears in such constructions. Bruening tentatively suggests that *'to'* occurs when the canonical order of objects is reversed, or alternatively R-objects always have a dative case marker, whose realization is zero or *'to'* depending on the syntactic context. This suggests either that the P in true PDCs is always null (Bruening assumes a dual-base analysis), or that *'to'* is P in true PDC but a case marker in disguised DOCs. The analysis of the dative alternation I am proposing here, allows us to say that *'to'* is always an Appl head, which is null only when it is not a sister to a DP.

I propose that in the derivations that require a right SpecApplP, otherwise identical to those proposed by Bruening (2010b), the Appl head adjoins to the R-object DP, as shown in (54).

(54)



The way Appl adjoins to DP_R is equivalent to the way K adjoins to DP in Saito's (2014; 2016; 2018) analysis of Japanese case suffixes (more on this below). This is intended to capture the often expressed intuition that *'to'* is closer to a case marker than a true preposition. Additionally, since the object remains a DP, we can attribute to this why it does not take part in locative inversion. Conversely, when ApplP projects over DP_R in a true PDC derivation (equivalent to a Slovenian Th»R derivation), ApplP counts as a PP. This is not a weird assumption to make given that applicative suffixes are often homophonous with prepositions or at least historically develop from prepositions (Peterson 2007). Appl and P may even be seen as contextual manifestations of the same underlying category, which would be a natural future extension of the analysis proposed here.

The adoption of Saito-adjunction of Appl to DP_R is also relevant in relation to another context where disguised DOCs occur. In English, wh-extraction of the R-object in DOCs is disallowed for most speakers (cf. (55)). Interestingly though, in a context that requires a DOC (e.g. Class 1 idioms), disguising a DOC into a surface PDC makes wh-extraction possible, as in (56).

(55) %Who did you give the book?

(56) Who does he give the creeps to? (Bruening 2010b, 296)

The extraction ban seems to be tied to case, as it only occurs in languages where R-objects in DOCs are not marked with inherent dative case (Emonds and Whitney 2006). Recall that inherent dative plays an important role in derivations where an R-object merges with ApplP in Slovenian, resulting in labeling via sharing of Case features. Suppose that the lack of inherent dative in English means a label is not guaranteed for {DP, ApplP}. Setting aside for now what happens outside wh-movement derivations, consider this in light of Bošković's (2016) proposal that movement must cross at least one full phrase, which crucially excludes unlabeled constituents. Then wh-movement via the *v*P phase edge in a language like Slovenian crossed one full phrase, labeled via the sharing of Case features (cf. (57a)), whereas the same wh-movement in English can not cross a full phrase when moving via Spec*v*P, as there is only an unlabeled projection in between (cf. (57b)).

(57) a. ✓ $[_{CP}$ **who**$_R$ … $[_{vP}$ **t**$_R$ $[_{\langle K,K\rangle}$ **t**$_R$ $[_{ApplP}$ Appl $[_{VP}$ **t**$_R$ …]]]]]

b. ✗ $[_{CP}$ **who**$_R$ … $[_{vP}$ **t**$_R$ $[_{?}$ ***t**$_R$ $[_{ApplP}$ Appl $[_{VP}$ **t**$_R$ …]]]]]

Crucially, Saito (2018) argues that suffixal case adjoined to DP acts as an anti-labeling device, so DP cannot provide a label in a {DP, XP} configuration. Recall that I proposed Appl plays the same role in disguised DOCs, which means that ApplP has to project over DP, which in turn allows wh-movement to cross one full projection when moving through Spec*v*P (cf. (58)).

(58) ✓ $[_{CP}$ **who**$_R$ … $[_{vP}$ **t**$_R$ $[_{ApplP}$ $[_{Appl'}$ t$_{to}$ $[_{VP}$ **t**$_R$ …]] $[_{DP}$ *to* **t**$_R$]]]]

What remains to be explained is how {DP, ApplP} is labeled outside wh-movement contexts. I tentatively suggest that object shift of the DP allows ApplP to project, based on the availability of

quantifier float with R-objects in DOCs (Bošković 2004). Crucially, this means there must be more structure between ApplP and *v*P when object shift occurs that is not present when wh-movement occurs. This is supported by the absence of quantifier float in wh-questions of otherwise shifted objects (Bošković 2004), and in line with Lasnik's (1999) proposal that AGR_OP (or whichever projection is responsible for object shift) is only present when object shift takes place.

The proposed analysis of the object order alternation can thus be extended to English, effectively adding the Appl-adjunction strategy as a third option for the resolution of ambiguous labeling.

The proposed analysis can also be extended to Romance, building on Kayne's (2005) analysis of French PDCs, which also assumes VP-movement across the R-object. In most Romance languages, ditransitives with non-clitic objects always look like PDCs with an unmarked Th»R object order, although they may behave as disguised DOCs in that they allow causative and benefactive readings as well as the binding and scope behavior of DOCs (see e.g. Cuervo 2003 on Spanish).

In line with the proposal above regarding *'to'*, I propose that the French preposition *à* (or its counterpart outside French) is actually an Appl head. However, unlike in English, Appl is never null. The derivation of a French PDC is sketched in (59a), while the disguised DOC (identical to the English derivation above) is sketched in (59b). The impossible DOC derivation is shown in (59c).

(59) a. ✓ $[_{VP}\,[_{V}V\ DP_{Th}\,]\,[_{ApplP}\ \boldsymbol{\grave{a}}\textbf{=}\ [_{DP}\ \textbf{DP}_{R}\ t_{VP}\,]]]$

b. ✓ $[_{ApplP}\,[_{Appl'}\ t_{\grave{a}}\,[_{VP}\,t_{R}\,[_{VP}\,V\ DP_{Th}\,]]]\,[_{DP}\ \boldsymbol{\grave{a}}\textbf{= DP}\,]_{R}\,]$

c. ✗ $[_{\langle K,K\rangle}\ \textbf{DP}_{R}\,[_{ApplP}\ \boldsymbol{\grave{a}}\textbf{=*}\ [_{VP}\,t_{R}\,[_{VP}\,V\ DP_{Th}\,]]]]$

What unifies the possible derivations is that *à* is left-adjacent to DP_R. In fact, Kayne (2005) argues that *à* is a probe that attracts DP_R. Recall that in the analysis of the object order alternation proposed above, neither VP-movement nor R-object movement is feature-driven. Instead, interface conditions may filter out one of the derivations. In the spirit of this approach, I will reinterpret Kayne's analysis in these terms, attributing the absence of surface DOCs directly to the affix-like nature of *à*.

As is well known, *à* may contract with determiners (*à* 'to' + *le* 'the' = *au* 'to the'), indicating a morpho-phonological dependency between *à* and D(P). I propose that the reason why surface DOCs can not arise in French is because *à* (Appl) is a D-proclitic that must be adjacent to DP_R at PF or the derivation crashes. All derivations are driven by the need to ensure labeling, so they are all in principle possible unless they violate any interface conditions, which in French is the adjacency condition of *à*. Thus, as long as a derivation results in a configuration where the PF adjacency requirement is met, whether it is a true PDC like (59a) or a disguised DOC like (59b), it will converge at PF. Any other derivation, which in this case is (59c), will be filtered out.

Of course, these are only rough sketches of analyses. My intention in this section is merely to illustrate that an analysis using ambiguous labeling resolution in {NP/DP, VP} configurations with filtering at the interfaces can in principle be extended beyond Slovenian. However, the advantage of

a universal analysis of ditransitives along these lines, if it is indeed possible, is clear. It would allow us to move away from parameterization in the narrow syntax and put the burden of cross-linguistic variation largely on semantic and morpho-phonological differences in functional Appl heads. This would significantly alleviate the problem of language acquisition in this domain, along the lines suggested more generally by Borer (1984) and Chomsky (1995).

5 Conclusion

In this paper I examined the phenomenon of free object order alternations in ditransitives, focusing in Slovenian as the primary case study. I argued that neither single-base scrambling analyses nor dual-base analyses of the phenomenon are satisfactory. The former face problems with contexts where object order is restricted (causative/benefactive readings, verb sensitivity, and idiomatic readings), while the latter face issues with explaining the quantifier scope asymmetries and introduce a lot of redundancy that is not reflected in the cross-linguistically attested ditransitive case patterns.

The proposed solution to this problem builds on the labeling approach to projection of Chomsky (2013, 2015), where the key is the existence of two equivalent labeling resolutions when a second object merges with a VP already containing an object ($\{_{?}\,\text{NP}\ \{_{\text{VP}}\,\text{V, NP}\}\}$). The two options are: **(i)** movement of the VP with the first object inside (cf. Kayne 2005; Collins 2021), or **(ii)** movement of the second object. This analysis crucially derives both the free object order in the general case and the restrictions on object order in select contexts—the latter is possible because the two derivations yield radically different structural configurations of the verb in relation to other local functional heads, allowing for selectional restrictions to filter out derivations. The strength of this analysis is ultimately that it uses independently proposed mechanisms with very minor modifications to derive a new set of facts. Furthermore, the proposal opens new avenues of research in the area of cross-linguistics variation in possible ditransitive constructions. A natural further extension would be to consider all non-complement arguments in this light, where the question is if other grammatical function alternations or instances of scrambling can be analyzed in these terms.

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