

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 on Slovenian. It is shown that neither a scrambling analysis nor an analysis where the two orders are not derivationally related is satisfactory. A new analysis building on Chomsky (2013, 2015) is proposed, where the key proposal is that the introduction of a second object creates an ambiguous labeling scenario ($\{NP, VP\}$), which has two equivalent resolutions: (i) movement of the VP with the first object inside, or (ii) movement of the second object. This is shown to derive 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). Finally, it is shown that the analysis can be extended to English and Romance ditransitives.

Keywords: ditransitives, labeling, passivization, scrambling, selection, 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. $\{V, NP\} \Rightarrow \{VP, V, NP\}$ 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 resolutions 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}

- (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.'

¹In 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.

²I also often omit NOM suffixes, gender and agreement information in the gloss if not relevant for the discussion.

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’ (= Δ), 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]. *∀ > Δ
 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**]. ∀ > Δ
 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]. ∀ > Δ
 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**]. Δ > ∀, ∀ > Δ
 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

³Interestingly, the same scope 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 single-base approaches to the English dative alternation, where Aoun and Li (1989) use the same scope asymmetry in English (see the examples in (8) below) to argue for the double object construction being the

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 constructions.

This base generation approach to the R»Th/Th»R alternation has been entertained for Icelandic (Holmberg and Platzack 1995), Japanese (Miyagawa and Tsujioha 2004), German (McFadden 2004), Croatian (Gračanin-Yukseš 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.

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

base from which the prepositional dative construction is derived, whereas Larson (1990) uses the same English scope facts to argue for the reverse derivational relationship between the two ditransitive constructions.

⁴Recall 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.

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 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.

⁵For ease of exposition, I always use R and Th (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.

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 (as above, the benefactive reading becomes possible only with narrow focus on the dative object).

- (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 Holmberg and Platzack (1995) on Icelandic, Beermann (2001) on German, and Dvořák (2010) on Czech.

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

⁶Another 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).

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 exemplified 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.’

As there is no fixed subject position in Slovenian (compare (18a) and (18b)), the fact that the dative R-argument cannot be the subject of the passive construction in (18b) 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, it can be shown that 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 subject of a clause (unless they are variable bound by a quantifier),⁹ the fact that the dative argument cannot bind the reflexive in (19) tells us that it cannot be the subject.

⁷In 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.

⁸Note 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.

⁹For 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.

- (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**.
 helped.M.PL AUX.3PL Jean.F.DAT
 ‘They helped Jean.’
- b. ***Jani** je bilo pomagano.
 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.’

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).¹¹ 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.’

¹⁰This 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).

¹¹Although I present only the most natural word order for reasons of space (cf. the word order variation in (18)), the restriction holds regardless of word order changes in this case as well as with the other passivization asymmetries.

- 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 *expose*-class, which restrict the unmarked object order to Th»R (cf. (25a)), 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.¹²

¹²Note 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’ (ii) a. ‘take (some/a lot of) advantage of’
 b. #The bucket was kicked. b. Advantage was taken of John.

- (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 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 for Slovenian passives of ditransitives: (i) passives are possible when an unmarked Th»R order is possible, whether

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) ... firno 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.

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).¹³ Since promotion to subject is unavailable in Slovenian for dative objects, a natural way to capture this pattern is to treat it as an intervention effect, where the dative R-object blocks promotion to subject of the Th-object when R»Th is the only unmarked order.

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 objects can act as interveners for each other. Thus, if promotion to subject requires an Agree/checking dependency between the T(ense) head and the internal argument, only the highest internal argument is accessible to T. The inability of dative arguments to be promoted to subject can then be attributed to dative case rendering internal arguments inaccessible to T in Slovenian (see Anagnostopoulou 2003; Alexiadou et al. 2014; i.a. on cross-linguistic variation regarding this property of dative case). 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. [TP T [**Jean**_{DAT} [drums [...]]]] b. [TP T [drums_i [**Jean**_{DAT} [t_i [...]]]]]

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).

¹³Since heavy narrow focus on the R-object makes all of these available with the Th»R order, a reviewer asks how focus affects passivization. Focus on the R-object crucially does not make passivization possible in the relevant contexts, which is expected if narrow focus on the R-object is in these cases a reflex of focus-driven movement yielding the surface Th»R order from an underlying R»Th structure (see also footnote 23 in Section 3.2).

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*. b. The drums_i were given *t_i* **to Jean**.

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)).¹⁴

- (34) a. [_{AppIP} **Jean** [_{Appl} Appl [_{VP} V drums]]] b. [_{VP} drums [_V V [_{PP} P **Jean**]]]

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.¹⁵

- (35) a. Someone loves everyone. $\exists > \forall, \forall > \exists$
 b. Nekdo ljubi vsakogar/vse. $\exists > \forall, * \forall > \exists$
 someone loves.3 everyone.ACC/all.ACC

¹⁴Other 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.

¹⁵See 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).

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).¹⁶ 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 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.¹⁷

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

¹⁶The 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*".

¹⁷One 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.

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). Instead, the *label* of syntactic objects created by Merge is assigned by the *Labeling Algorithm* (LA). The ways in which the LA operates 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 {_{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 *External Merge* (base generation) and *Internal 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).

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

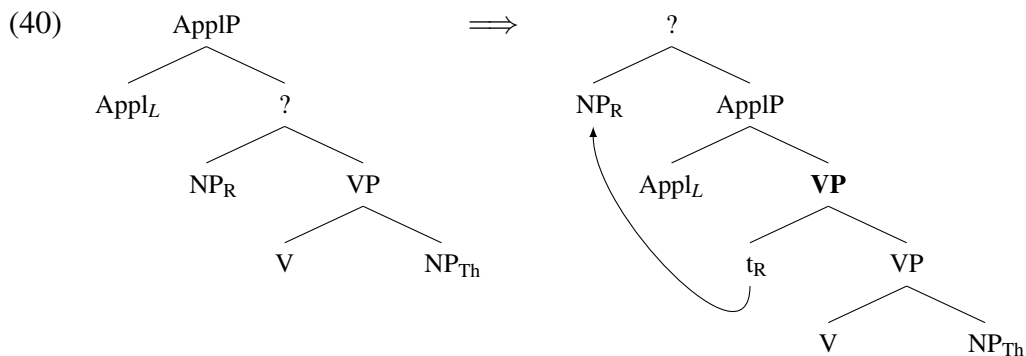
At this point, transitives and ditransitives diverge. In a transitive the next merged element is v , while in a low applicative the next merged element is another NP, as shown in (38). Because the latter involves merger of a non-head (NP) with a non-head (VP), the LA cannot determine a label.

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

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

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

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).



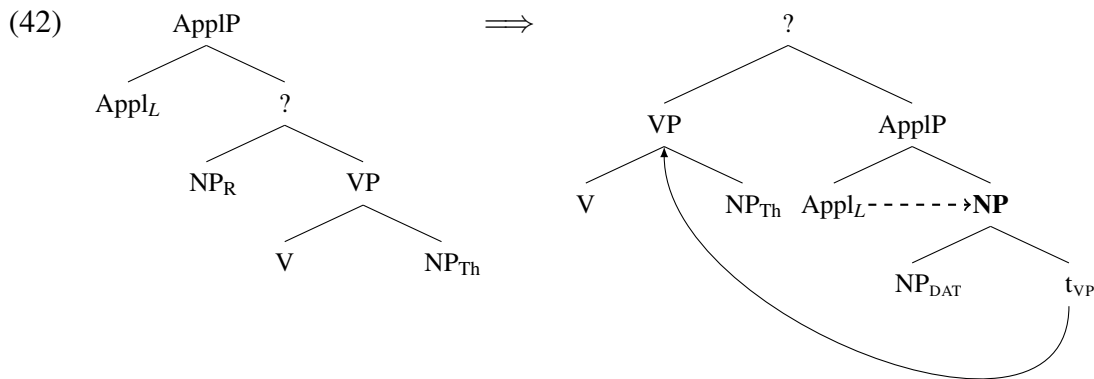
This step leads to a LA conflict between NP_R and ApplP , just like when an external argument NP raises to merge with TP. I will argue in Section 4 that there is more than one way to ensure a label for $\{\text{NP}, \text{ApplP}\}$ cross-linguistically. However, in languages like Slovenian, with clear dative case on NP_R , I propose that the label is determined via the sharing of prominent features between NP_R

and ApplP. This is crucially also what Chomsky (2015) proposes for cases when an NP moves to TP in classic EPP languages 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). In (40), the main function of Appl is to license NP_R , just like T licenses a subject NP. The idea is that the NP_R object is licensed via 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. $\{\langle\phi, \phi\rangle \text{NP}_{[\phi]} \{\text{TP T}_{[\phi]} \{\nu\text{P } t_{\text{EA}} \{\nu\text{P } \nu \dots\}\}\}\}$
 b. $\{\langle K, K\rangle \text{NP}_{[K]} \{\text{ApplP Appl}_{[K]} \{\text{VP } t_R \{\text{VP } V \dots\}\}\}\}$

Although this will only become crucial with the alternative derivation below, I also follow Chomsky (2013, 2015) in assuming that the verbal root V always head-adjoins to ν (the EA-introducing head) in the syntax, and since in the case of ditransitives we are dealing with additional argument-introducing heads, I extend this requirement to all such heads inside νP . Thus, in the case of (40), V must successive-cyclically head-adjoin first to Appl and then to ν once it enters the derivation (in compliance with the *Head Movement Constraint*; Travis 1984; Rizzi 1990; i.a.).

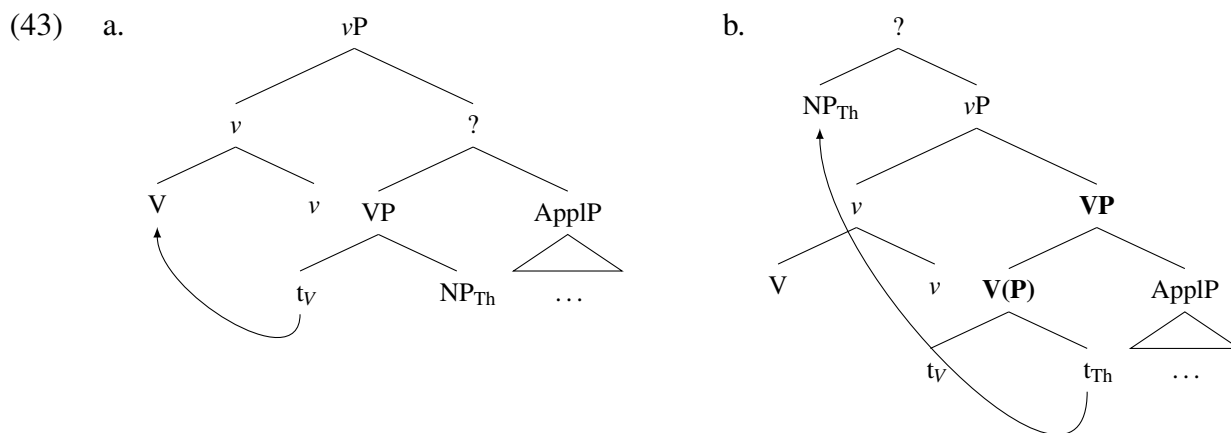
Note that the derivation in (40) yields the R>Th order. To derive the Th>R order, an alternative strategy to label $\{\text{NP}_R, \text{VP}\}$ must be employed. Again drawing a parallel with (41a), note that the labeling conflict arising when the external argument (EA) merges with νP is resolved when the EA moves out of νP , but moving the νP instead could also resolve it. While there might be reasons to exclude the νP -movement option in (41a) (cf. 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.¹⁸



¹⁸A reviewer asks why VP must move to ApplP specifically and not NP_R or the result of Merge between $\{\text{NP}_R, \text{VP}\}$ and an adverbial phrase, which should provide enough structure to avoid violating *anti-locality* (the ban on too short movement steps; Bošković 1994; Abels 2003; Grohmann 2003; i.a.). The analysis proposed here is actually consistent with Bošković’s (2016) approach to anti-locality (see also Section 4): “Movement of A targeting B must cross a projection distinct from B (where unlabeled projections are not distinct from labeled projections).” Thus, merging Appl (or any projecting head above $\{\text{NP}_R, \text{VP}\}$) first is necessary to make movement of either NP_R or VP possible.

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-complement 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.¹⁹

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-adjunction of V to v after v is merged, as shown in (43a) (recall that V and v must combine when v is present). 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 propose that V-movement and Th-object movement together result in $\{VP, Appl\}$ being labeled as VP.



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: “a category that does not project any further is a maximal projection XP, and one that is not a projection at all is a minimal projection X^{min} ” (Chomsky 1995, 242). As the LA cannot see traces, I propose that a category dominating only traces counts as a minimal projection

¹⁹In 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.

for the LA, provided it already has a label (following Bošković 2016, {X, YP} constituents are assigned a label as soon as possible). This is what we get in (43b), where the VP label assigned to {V, NP_{Th}} counts as a V after the movement of V and NP_{Th}.²⁰ This is because V(P) dominates no category visible to the LA, which makes it a non-projecting category. Additionally, because the unlabeled {VP, ApplP} constituent in (43a) is now {V, ApplP}, it can be labeled a VP. This all means that NP_{Th} moving to vP is reduced to another case of movement to ensure labeling.²¹ More importantly, I will argue in Sections 3.4 and 3.5 that this LA driven VP-to-V reanalysis offers a solution to the problems that other single-base analyses of the R»Th/Th»R alternation face when it comes to verb sensitivity and restrictions on possible idioms.

In sum, the 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-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.²²

²⁰Note that no label actually changes in this derivation, as V and VP are just informal notations used for expository purposes when bare phrase structure is assumed. When {V, NP_{Th}} is labeled the label is really just V, but it counts as a maximal projection (VP) because it is a projecting category. What changes in (43) is that the LA, when determining a label for {VP, ApplP}, can find only one instance of V in the constituent, but more than one instance of Appl. For the LA this means that V is a minimal projection and Appl a maximal projection, so V provides the label.

²¹The 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).

²²Mizuguchi (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.

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.).²³ However, as I will show in the following sections, what truly distinguishes the proposed analysis from a scrambling analysis is that it allows for other factors, such as verb class and idiomatic readings, to restrict the outcome of the ambiguous labeling scenario, much like how in a dual-base analysis the same factors determine which of the two structures must be used.

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.

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

In terms of the semantic differences between high vs. low applicatives, I roughly follow Bruening’s (2010a) modification of Pykkänen’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.²⁴ 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).

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.

²³Note that I am not claiming NP_R and NP_{Th} never undergo any information-structure driven movements. We saw that focus fronting of NP_{Th} takes place in (32b) despite the *envy*-type verb, which requires an unmarked R»Th order (Section 2.3). Recall also that restrictions on unmarked R»Th or Th»R orders are nullified by heavy narrow focus on the linearly last object (cf. (14) and (15) in Section 2.1.2 for verb sensitivity). Thus, subsequent focus-driven movements can still yield a Th»R surface order from R»Th derivations or a R»Th surface order from Th»R derivations.

²⁴Since 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. In relation to the benefactive/malefactive asymmetry in (23), a reviewer asks how the malefactive reading arises with Appl_L. Malefactive readings, unlike benefactive ones, are lexically determined in Slovenian. They only arise with verbs like *ukrasti* ‘steal’ that lexically encode transfer-of-possession to the Agent, which is still a kind of transfer relation meaning.

(45) $\{ \langle_{K,K} \text{NP}_{[K]} \{ \text{AppIP Appl}_{[K]} \{ \text{VP V, NP}_{\text{Th}} \} \} \}$

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.²⁵ 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 $\alpha = \{ \text{? YP, XP} \}$ and a head Z, Z can select for category Y in $\{ \text{ZP Z, } \alpha \}$ iff YP provides the label for α .

This is not a condition on labeling *per se*, but merely a condition on selection. I crucially adopt the fairly traditional view that selection is restricted to head-complement configurations (Chomsky 1965),²⁶ which means that for this condition to be satisfied between Z and Y(P), the constituent α

²⁵A reviewer asks how intervention is to be understood in a framework with labeling-driven movement. Chomsky (2013, 2015) only considers cases where subjects successfully agree with T in a spec-head configuration (allowing labeling via feature sharing), but facts usually attributed to intervention need an explanation in the framework as well, in this case *defective intervention* (Chomsky 1995): X blocks movement of/agreement with Y although X itself cannot move/be agreed with. I am unaware of any explicit proposals concerning defective intervention in the LA framework, but it seems plausible that the following assumptions could be adopted in it: (i) some valued Case features may render an argument's ϕ -features inert for valuation/feature sharing (cf. Saito 2016, 2018 on Case in the LA framework), and (ii) inert ϕ -features may still halt the search for less local ϕ -features (see e.g. Miyagawa et al. 2018 on probe-goal relations in the LA framework). I leave to future research a more precise formulation of these mechanisms.

²⁶This 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

must be labeled YP, because a XP label would not satisfy the selectional requirement.²⁷

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 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. This, in conjunction with maximal projections counting as heads when containing only traces (cf. (43)), allows for selectional requirements to be satisfied either in situ or after movement with phrase-to-head reanalysis:

- (47) a. [YP Y_[S:X] [XP X [...]]] (selection in situ)
 b. [XP [ZP Y+Z [YP [Y t_Y t_{XP}]_[S:W] [WP W [... t_{YP}]]]]] (selection after movement)

The latter option is possible because under bare phrase structure, a head and the phrase it projects are crucially the same element, which means they must have the same selectional requirements.

The option of selection after movement is what I argue takes place with *expose*-type verbs, in that V selects for a complement of category Appl ([S:APPL]). As illustrated in (48a), selection is satisfied in a Th»R-yielding derivation with VP-movement; the only derivation where ApplP is the complement of V some point in the derivation. Compare this to a PP object structure (with Th-object shift) in (48b). Note that the two structures are largely parallel if we substitute Appl for P.

- (48) a. [NP_{Th} [vP V+v [VP [V t_V t_{Th}]_[S:APPL] [ApplP Appl_L [NP NP_R t_{VP}]]]]]
 b. [NP_{Th} [vP V+v [VP t_{Th} [V' t_V]_[S:P] [PP P NP]]]]]

The parallelism between (48a) and (48b) 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

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.

²⁷Note that an approach where heads select local heads (e.g. Baltin 1989; Svenonius 1994) would be problematic in the case of unlabeled {YP, XP} constituents, given that the heads Y and X would be equally local to Z, potentially ruling in the unattested instances of heads selecting the specifier of the complement or adjuncts to the complement.

that the structural parallelism between (48a) and (48b) makes any analysis that works for obligatory PP objects easily translatable into a VP-over-AppIP 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 specific noun and verb roots as selection for a N or V category.

Recall from the previous section that selectional requirements of heads can be satisfied in situ or after movement via phrase-to-head reanalysis. Crucially for the derivation of ditransitive idioms, this also means a head can select two complements in spite of binary branching: a head can select for one complement in situ (cf. (49a)) and a different complement after movement (cf. (49b)).

- (49) a. [YP Y_[S:X,W] [XP X [. . .]]] (in situ complement)
 b. [XP [ZP Y+Z [YP [Y t_Y_[S:X,W] t_{XP}]_[S:X,W] [WP W [. . . t_{YP}]]]]] (derived complement)

As I show below, the three selection configurations possible in the proposed system (in situ, after movement, or both) allow for the derivation of only the three attested ditransitive idiom classes.

All logically possible ditransitive idioms with a single free argument are schematized in (50). A ditransitive idiom can be characterized by Appl selecting V (cf. (50a,50c)) or V selecting Appl (cf. (50b,50c)), 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 also have more than one selectional requirement. As I proceed to show below, while Class 4 is logically possible, the satisfaction of Appl_[S:V] always bleeds the satisfaction of Appl_[S:N], which correctly predicts the nonexistence of Class 4 ditransitive idioms.

- (50) a. **Class 1:** ‘give X_R a basket’ = [Appl_[S:V] → give_[S:N] → basket]
 • fixed R»Th order = Appl_[S:V] + fixed Th-object = V_[S:N]
 b. **Class 2:** ‘sell soul to X_R’ = [sell_[S:N,APPL] → soul, Appl]
 • fixed Th»R order = V_[S:APPL] + fixed Th-object = V_[S:N]
 c. **Class 3:** ‘leave X_{Th} to fate’ = [leave_[S:APPL] → Appl_[S:N] → fate]
 • fixed Th»R order = V_[S:APPL] + fixed R-object = Appl_[S:N]

- d. **Class 4:** (unattested) = [Appl_[S:N,V] → V, N]
- fixed R»Th order = Appl_[S:V] + fixed R-object = Appl_[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 (51a) (V and NP_{Th} movement is not shown to simplify exposition). Selection requirements are crucially inherited through projection, and can only be satisfied by a complement of the specified category/type.

- (51) a. ✓ [VP [V **leave**_V NP_{Th}]_[S:APPL] [AppIP **Appl**_[S:N] [NP **fate**_{NP} t_{VP}]]]
 b. ✗ [_(K,K) **fate**_{NP} [AppIP **Appl**_[S:*N] [VP t_R [VP **leave**_{V[S:*APPL]} NP_{Th}]]]]

The derivation in (51b) 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 (52a).

- (52) a. ✓ [_(K,K) NP_R [AppIP **Appl**_[S:V] [VP t_R [VP **give**_{V[S:N]} **basket**_{NP}]]]]
 b. ✗ [VP [V **give**_{V[S:N]} **basket**_{NP}] [AppIP **Appl**_[S:*V] [NP NP_R t_{VP}]]]]

The issue with (52b) is that Appl cannot select VP. When Appl enters the derivation, its complement is the unlabeled constituent {NP_{Th}, VP}, while after VP-movement, its complement is NP_{Th}; at no point in the derivation Appl has a VP complement. As the derivation that yields an Th»R order is therefore 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 (52a). 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 (53a) satisfies both requirements because NP_{Th} starts as a complement of V, while V takes AppIP as a complement after VP movement (and after V and NP_{Th} movement out of VP ensures labeling).²⁸

- (53) a. ✓ [VP [V **sell**_[S:N,APPL] **soul**_{NP}]_[S:N,APPL] [AppIP **Appl** [NP NP_R t_{VP}]]]]
 b. ✗ [_(K,K) NP_R [AppIP **Appl** [VP t_R [VP **sell**_{V[S:N,*APPL]} **soul**_{NP}]]]]

What goes wrong in (53b) is that while V can select NP_{Th} as is its complement, V cannot select Appl, as AppIP is not the complement of VP. In fact, VP is the complement of AppIP. As the only possible derivation yields an Th»R order, the idiomatic reading is maintained under passivization.

²⁸In Bruening's (2010a) analysis of ditransitive idioms, which this analysis takes inspiration from, Class 2 idioms involve V selecting the Th-object as a specifier—makes them the only verbal idioms that involve a fixed specifier. The proposed analysis derives all three attested ditransitive idiom classes without the need to invoke specifier selection.

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 ($\text{Appl}_{[S:N]}$) and a fixed R»Th order ($\text{Appl}_{[S:V]}$). However, in either derivation at most one of these requirements can ever be met, as illustrated in (54).

- (54) a. ✗ [_(K,K) NP_R [_{AppIP} $\text{Appl}_{[S:V,*N]}$ [_{VP} t_R [_{VP} V NP_{Th}]]]]
 b. ✗ [_{VP} [_V V NP_{Th}] [_{AppIP} $\text{Appl}_{[S:*V,N]}$ [_{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.²⁹ 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 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. (55a)), but not PDCs (cf. (55b)), but a causative reading seemingly becomes possible for a PDC with “heavy” R-objects, as in (55c).

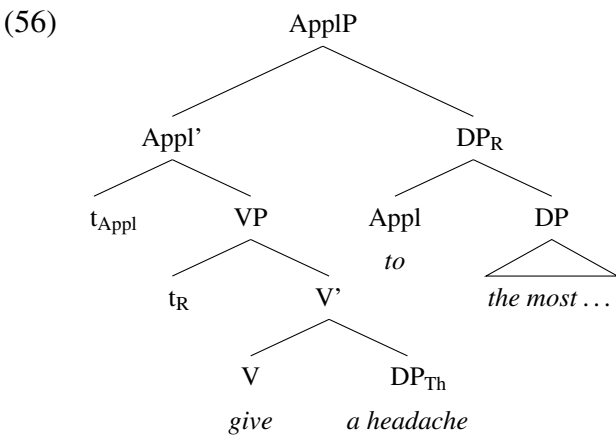
²⁹A verb-final language like Japanese might at first appear to be excluded, since VP-movement moves the verb to the left of the R-object. But note that the VP-movement must happen below vP and V must raise to v following Chomsky (2013, 2015). If v follows its complement, this will be sufficient to yield 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.

- (55) 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 a 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 Appl: Appl is realized as ‘*to*’ when outside the verbal complex and null when incorporated into the verb via V-to-AppI-to-*v* adjunction (see Section 3.2).

I propose that in the derivations that require a right SpecAppIP, otherwise identical to those proposed by Bruening (2010b), the Appl head adjoins to the R-object DP, as shown in (56).³⁰



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

³⁰For reasons of space, I can not explore in any meaningful detail the relationship between DP “heaviness” and the licensing of a right SpecAppI, which invites comparisons to Heavy DP Shift of Th-objects in PDCs. Crucially, we will see below that heaviness is not the only way to license a right SpecAppIP. A possibility, which I explore in relation to wh-extraction of R-objects, is that a right SpecAppIP is a last-resort used when neither a regular DOC derivation nor a PDC derivation is possible. I leave it for future work to explore how heaviness of DPs can be a factor in this.

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. (57)). 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 (58).

(57) %Who did you give the book?

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

The extraction ban seems to be tied to case, as it is not found in languages where R-objects in DOCs clearly bear inherent dative case (Emonds and Whitney 2006). Recall that dative case plays an important role when R-objects merge with ApplP in Slovenian, resulting in labeling via K-feature sharing. Lack of inherent dative case would then mean {DP, ApplP} remains unlabeled.

Suppose that English speakers who disallow (57) have no dative case assignment, whereas others have underlying dative case on R-objects without a morphological reflex (see Emonds and Whitney 2006 for a similar proposal). Setting aside for now what happens outside wh-movement derivations, consider the unlabeled {DP, ApplP} 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 vP phase edge in a language like Slovenian crosses one full phrase, labeled via the sharing of Case features (cf. (59a)), whereas the same wh-movement in dative-less English cannot cross a full phrase when moving via SpecvP, as there is only an unlabeled projection in between (cf. (59b)).

(59) a. ✓ [CP **who**_R ... [vP **t**_R [_(K,K) **t**_R [AppIP Appl [VP **t**_R ...]]]]]

b. ✗ [CP **who**_R ... [vP **t**_R [? ***t**_R [AppIP Appl [VP **t**_R ...]]]]]

Crucially, Saito (2018) also 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 SpecvP (cf. (60)).

(60) ✓ [CP **who**_R ... [vP **t**_R [AppIP [AppI’ *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 in the same way as object shift

of the Th-object ensures labeling in Th»R/PDC derivations. The existence of this extra movement step is actually supported by the availability of quantifier float with R-objects in English DOCs (Bošković 2004). Crucially, this also means there must be more structure between ApplP and vP when R-object shift occurs that is not present when wh-movement of the same element occurs. This too is actually 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 alternations can thus be extended to English, effectively adding the Appl-adjunction strategy as a third option for the resolution of ambiguous labeling.

Lastly, 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, which could be due to it resisting incorporation into the verbal complex (see discussion below). The derivation of a French PDC is sketched in (61a), while the disguised DOC (identical to the English derivation above) is sketched in (61b). The impossible DOC derivation is shown in (61c).

- (61) a. ✓ [VP [V V DP_{Th}] [ApplP *à*= [DP DP_R t_{VP}]]]
 b. ✓ [ApplP [Appl' t_à [VP t_R [VP V DP_{Th}]]] [DP *à*= DP]_R]
 c. ✗ [_(K,K) DP_R [ApplP *à*=* [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; this excludes derivations where Appl is incorporated into the verbal complex, like the basic DOC derivation. Since all derivations are driven by the need to ensure labeling, 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 (61a) or a disguised DOC like (61b), it

will converge at PF. Any other derivation, which in this case is (61c), 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 ($\{_{\gamma} \text{NP} \{_{\text{VP}} \text{V}, \text{NP}\}\}$). 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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