

PARAMETERISING GERMANIC DITRANSITIVE VARIATION

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PARAMETERISING GERMANIC DITRANSITIVE VARIATION:  
A HISTORICAL-COMPARATIVE STUDY

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# Acknowledgements

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# ABSTRACT

## PARAMETERISING GERMANIC DITRANSITIVE VARIATION: A HISTORICAL-COMPARATIVE STUDY

Hezekiah Akiva Bacovcin

Anthony Kroch

This dissertation investigates the interplay of morphology and syntax in generating surface complexity and the universality of argument structure by analysing recipient ditransitives in Germanic. Keeping the semantics constant (recipients) permits direct comparison of the syntactic variation between the Germanic languages. The main claim of the dissertation is that all recipients are introduced as dative PPs in the specifier of an applicative phrase. This conclusion supports a strong version of Baker’s UTAH hypothesis, namely that there is no variation between natural languages in argument structure and that all surface variation is derived from transformations on a uniform underlying structure.

In addition to arguing for the base generated structure of recipient ditransitives, this dissertation also explores transformations that apply to the base structure and show how these transformations are able to account for the surface variation seen both synchronically and diachronically in Germanic. Morphological variation in the form of allomorphy in the realisation of the dative P head is argued to cause the variation seen in Dative Shift (e.g. “John gave Mary the book” vs “John gave the book to Mary”). In addition to the morphological variation, languages also varied as to the availability of different syntactic transformations.

For active sentence, the main syntactic transformation is VP-internal scrambling, which moves the theme over the recipient to generate theme–recipient word orders (e.g., “John gave the book to Mary”). Also, pronominal cliticisation can effect the morphological realisation of dative case. In the passive, P-incorporation is argued to license dative-to-nominative recipient subject raising. Theme passivisation is argued to be licensed by a number of different syntactic methods, including relativised minimality with respect to the PP/DP distinction.

The original contribution to this dissertation is two-fold. First, while none of the com-

ponents of the base generation analysis (nor the syntactic transformations) is unique to this dissertation, the analysis presented here combines these components in a way that has not been proposed previously. In addition, this is the first time that a substantial review of data from the ditransitives of all the Germanic languages has been brought together in one place.

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# Chapter 1

## Introduction

This dissertation addresses three larger questions: (a) what is the distribution of labour between the syntactic and morphological components of the grammar, (b) what aspects of syntax are universal/language particular, and (c) what methods can/should be used to address morphosyntactic problems. The first question bears on the architecture of the grammar, namely which surface properties are driven by the presence/absence/position of syntactic atoms and which properties are driven by the phonological (and semantic) realisation of those atoms. The answer to this question ideally reduces surface complexity to the interaction of simple independently necessary syntactic and morphological operations.

The second question (what aspects of syntax are universal/language particular) has direct implications for Plato's Problem, namely how do children acquire language as quickly as they do. Assuming that only language particular material needs to be acquired, the more universal properties that can be ascribed to human language, the easier it is to solve Plato's Problem (Chomsky 1993). The specific aspect of this question addressed here is the tension between argument structure and movement operations; different word orders could arise either by (a) being base generated in each position or (b) created by moving arguments from a previous (moved or base generated) position. This dissertation argues that there is no variation in base generation (the strong version of the UTAH hypothesis, Baker 1988b) and that syntactic variation comes from differences in movement operations, morphological realisations, and associations of particular semantic concepts with the universally provided base constructions.

The answer to the final question (what methods are necessary to address morphosyntactic problems) depends on the nature of the problems being considered. The first question (on addressing the derivation of surface complexity) requires studying situations that involve some degree of surface complexity. However, in most cases, it is impossible to tease apart closely related solutions by looking at a single construction in a single language. The need to consider data from multiple sources is even more acute in the case of the second question. In order to plausibly argue for universality, it is necessary to demonstrate that the universal analysis has empirical coverage over a variety of distinct surface realisations. This dissertation solves this problem in two ways: (a) by using data from languages throughout the Germanic family and (b) bringing in qualitative and quantitative analysis of language change.

Typological study of closely related languages permits necessary comparisons. Often one language cannot provide the necessary data to support any given analysis (the crucial data is ambiguous or the necessary constructions do not exist for reasons irrelevant to the current theoretical question). However, a closely related language often provides the needed data, while being similar enough to the first language that we can be confident that the relevant theoretical implications are the same. The Germanic language family has the advantage of containing a number of well studied languages (including English, which has received the largest share of linguistic inquiry of any language), which provide a large amount of morphosyntactic variation (e.g., presence/absence of complex inflectional morphology and OV vs. VO word order). This variation, however, occurs within the framework of familial similarity that comes from all the languages being derived from a common ancestor. Variation within a broader framework of similarity helps reveal true comparisons between related elements, which might otherwise be obscured by irrelevant differences between the languages in question.

Another reason to study Germanic languages is the ability to do large scale quantitative diachronic research. Traditional syntactic inquiry has relied on the use of acceptability judgements to probe grammatical structure. However, it has been noted since the beginnings of the generative program that acceptability judgements are not a perfect probe for grammatical structure (see Schütze 1996 for a discussion of the history of this issue). While

acceptable sentences (when the judgement was given after long deliberation) are presumably all grammatical, ungrammaticality is only one of a number of factors that can contribute to unacceptability. Generative linguistics has developed a number of techniques for trying to overcome this issue (e.g., the use of multiple different lexicalisation and providing explicit contexts to alleviate pragmatic issues), quantitative corpus data provides an independent source of information about grammatical structure (Kroch 1989, 1994 and others working in this programme). We can be more confident in conclusions that are supported by both sources of information (since they tap into different aspects of the grammatical processes and thus the probability that both would coincidentally point to the same conclusion is much smaller than the probability that either would individually).

The case study that I have used to address the first two questions is the analysis of recipients in Germanic ditransitives. Ditransitive clauses provide the necessary surface complexity to be able to study how different grammatical components interact to produce that complexity. By constraining my focus to a particular semantic feature (recipients), I legitimate cross-linguistic comparisons in looking for universals. Assuming that all languages have the expressive capacity to capture any semantic notion and by holding semantics constant, we can study what morphosyntactic correlates of the semantics are universal and which are subject to linguistic variation.

The main theoretical claim of the dissertation is that recipients are universally base generated as dative PPs in the specifier of an applicative phrase (henceforth the dative PP + applicative analysis). As the dissertation progresses, a number of ancillary morphological and syntactic operations will be argued for to generate the surface complexity seen in Germanic. While none of the components (main or ancillary) are original, this dissertation provides a unique combination of previous theoretical proposals. Also, while cross-linguistic study of Germanic ditransitives have been employed previously (Falk 1990, Sprouse 1995, and Holmberg and Platzack 1995, among others) this dissertation is the first complete survey of Germanic ditransitive data from all (major) extant Germanic languages. As such, all natural language examples are collected by language in an appendix for ease of reference.

The dissertation has the following structure. Chapter 2 presents the theoretical background for the dissertation. This chapter focuses on presenting the theoretical claims in an

abstract way independent from the inherent messiness of any natural language examples. Each component of the main claim is explicated. The focus is on the claims relevant to the base generation of recipients; issues related to morphosyntactic operations are discussed in the context of the data that motivates positing them. Where appropriate, my theory is situated among other live possibilities from the literature. When multiple theories are presented, a brief discussion of the differences in empirical predictions are presented. These empirical predictions are tested against natural language data in the following chapters.

Chapter 3 presents data concerning active ditransitive constructions in Germanic. The focus is providing the data that demonstrates the empirical coverage of the dative PP + applicative analysis. Variation in the marking of recipients between unmarked, marked with synthetic dative case, and introduced by overt preposition (e.g., English *to*) is explained by reference to allomorphy (i.e., the same operation that explains the variation in plural marking between dogs, sheep, children and men). Three syntactic operations are introduced: (a) VP-internal scrambling, (b) pronoun cliticisation, and (c) P-incorporation. The focus is on VP-internal scrambling and pronoun cliticisation, since P-incorporation is one of the major focuses of the next chapter.

Chapter 4 presents data concerning passive ditransitive constructions in Germanic. I explore different distributions of subject properties (namely raising to spec-TP and receiving nominative case) over the recipient and theme. P-incorporation is used to explain dative-to-nominative raising, while unincorporated dative Ps provide a fertile study of passive locality. Across (and sometimes within the same language) dative Ps range from being valid targets of passivisation through being invisible for locality to being defective interveners.

Chapter 5 returns to the question of linguistic evidence and presents two case studies in using quantitative data about language use to support grammatical arguments. Building on the arguments from the previous two chapters, this chapter discusses changes in recipient marking and recipient passivisation in the history of the English language. I show how the quantitative data provides independent support for the analysis previously suggested, and how the data can independently give information about the nature of language change.

The final chapter summarises the support for the dative PP + applicative analysis. The chapter then returns to the larger questions introduced at the beginning of this chapter and

argues for what (partial) answers the dative PP + applicative analysis provides. Finally, some further implications and broader predictions are provided.

## Chapter 2

# Theoretical Background

### 2.1 Introduction

The goal of this section is to introduce the theoretical options relevant to the claim of the dissertation: namely that recipients are universally merged as dative PPs in the specifier of an Applicative Phrase. This claim has three parts, each of which is explicated below. The first part is that the claim is about recipients. The first section in this chapter introduces the notion of theta roles, situates the work in the context of Dowty's Proto-Role theory and defines the notion of Recipient used here.

The second section deals with the second aspect of the claim, namely that Recipients are universally introduced as dative PPs. The possible difference between syntactic case and morphological case is explored with the claim that morphological case is the phonological realisation of syntactic case features. These features are then separated into structural and non-structural types, with dative case as an example of a non-structural case. The PP analysis is introduced as a way of capturing the structural/non-structural distinction. Structural case is a property of DPs, while non-structural case is the realisation of a P-head (or the reflex of concord with a P-head).

The final section addresses the structural claim of the dissertation, namely that recipients are introduced in the specifier of an applicative. Before explaining the applicative analysis, alternative analyses are introduced. The most radically different analysis introduces recipients as prepositional objects of verbs. Pylkkänen (2001) argues for a similar structure in her



Low Applicative analysis, in so far as the recipient is introduced as an object of the verb. Another analysis that argues that the recipient is introduced below the verb suggests that recipients are the subject of small clauses. Finally, I adopt the analysis that place recipients in the specifier of an Applicative Phrase attached above the verb.

In the conclusion, I bring together a summary of the dative PP + Applicative analysis of recipients. I argue on purely theoretical grounds that (assuming it has empirical coverage) the dative PP + Applicative analysis is to be preferred as being more parsimonious. The next two chapters argue that the dative PP + Applicative analysis has at least as good empirical coverage (and sometimes better) than alternative theories.

## 2.2 Thematic Roles

This dissertation is about the morphosyntactic nature of recipients. This section is focused on defining what the dissertation considers recipients to be (and what it does not). The use of recipient here assumes that morphosyntactic constructions cluster around theta roles as privileged atoms of argument structure (this underlies the UTAH from Baker 1988b). The only necessary aspect of this assumption is that the term recipient selects a set of semantically related arguments whose morphosyntactic realisation can be compared across languages. Theta roles are intended to classify the arguments of verbal events into related classes, for example Agent, Patient, Experiencer and Recipient.

In particular, I am assuming a system similar to that of Dowty (1991), who argued that theta roles like Agent and Patient are prototypes that particular arguments cluster around. Any particular argument may share properties with multiple different prototypes. In such cases where multiple proto-types are implicated, the role assigned to any particular argument of any particular verb is linguistically/culturally determined. The version of the theory I am assuming here assumes that roles like Recipient can be accessed by the morphosyntax to distinguish between different arguments (and the constructions they appear in). Languages (and possibly speakers) may differ as to which of these prototypical roles is assigned to any particular argument by any particular verb.

The prototypical recipient is the caused possessor in a transfer of possession event. Re-

cipients are a particularly useful thematic role to study, because they almost always occur in triadic constructions (since there are almost always also an object transferred and a previous owner). Since ownership (and the transfer thereof) is an (essentially) universal property of human cultures, the recipient role guarantees a uniform point of comparison across various languages.

The prototypical verb that introduces this role is thus GIVE, which indicates a semantically neutral transfer of a **theme** from an **agent** to a **recipient** without encoding anything about the manner of the transfer. Since the non-theme object of GIVE is the proto-type of the recipient role, the equivalent of GIVE across languages should be the focus point for studying recipient constructions. Other verbs *may* introduce recipient roles, but the putative recipient could be construed (in that particular linguistic/cultural context) as being more similar to some other thematic role, and thus outside of the claims being made here. The existence of ditransitive verbs that do not exhibit the behaviour expected from the dative PP + Applicative analysis can only count as counter-examples if it can be proven that the relevant argument is being treated as a recipient.

## 2.3 Recipient Case

Since Vergnaud (1977) a distinction has been made between syntactic (or abstract) case and morphological case. Syntactic case has been viewed as a crucial property in licensing DPs. Morphological case refers to the affixes used in various languages to indicate semantic/grammatical roles (e.g., nominative, accusative, ablative, etc). In this dissertation, I assume that morphological case is the morphological realisation of syntactic case features (e.g., via vocabulary insertion from Distributed Morphology, Halle and Marantz 1993). In many languages the morphological reflex of syntactic case is null, which means that the evidence for syntactic case in those languages can only come from its impact on syntactic operations. Similarly, in a language with overt case realisations, morphological syncretism can cause distinct syntactic cases to have the same morphological reflex (e.g., German *das* “the” is both nominative and accusative neuter). Finally, the same syntactic case can have multiple morphological reflexes in the same language, representing case allomorphy similar

to multiple reflexes of plurality in English (e.g., dogs vs. children vs. women).

Two different analyses for the distribution of syntactic case has been proposed. The system dating back to Vergnaud (1977) argues that case is assigned in the syntax and plays a crucial role in licensing A-positions and triggering A-movement. Another strand, going back to Yip et al. (1987), argues that abstract case features are assigned post-syntactically dependent on the relative structural position of the arguments after syntactic operations are complete. Under this dependent case approach (further explored in Marantz 1991, McFadden 2004 and others), syntactic operations cannot reference the abstract case properties of arguments (since they have not yet been assigned). While this dissertation does not make a strong claim on either side of this debate (i.e., the main claim is compatible with both accounts), the restriction of subject movement to elements capable of receiving nominative case in most languages suggests a close relationship between structural case availability and syntactic movement, which is more difficult to account for under the dependent case account.

Both analyses of case make a distinction between structural cases (e.g., nominative/accusative) and non-structural cases (e.g., ablative). The fundamental distinction between these two classes is their sensitivity to (relative) syntactic position. Structural case forms are manipulated by valency altering operations (e.g., passivisation or causitivation), while non-structural cases are unaltered. The classic example of this is the transformation of accusative objects to nominative subjects in passives.

(1) Standard German:

- a. Ich        habe den        Mann gesehen  
    I.NOM have the.ACC man    seen  
    ‘I saw the man.’
- b. Der        Mann wurde gesehen  
    the.NOM man    was    seen  
    ‘The man was seen.’

Non-structural case, rather than being sensitive to syntactic position/valency, is associated with either particular semantic roles or idiosyncratic lexical assignment (see Woolford 2006). Dative case generally falls clearly in the non-structural class, since it is associated with a specific semantic role (recipient) and generally is not altered by valency change op-

erations (although see Chapter 4 for a discussion of dative-to-nominative conversion).

The PP analysis captures the structural/non-structural distinction syntactically. Bayer et al. (2001) argues the non-structural properties of dative case in German can be captured by adding another structural layer above the dative DP: called the KP (for Kase Phrase). Asbury (2007), looking at Finnish, shows how K and P occupy parallel structural positions and form similar roles (classification of the semantic role of the DP in the event structure). This follows a long tradition of associating certain types of (semantic) cases with prepositional phrases (McFadden 2004 and citations therein). In this dissertation, I adopt use the term PP to refer both to classical prepositional phrases and also to Bayer-style KPs.

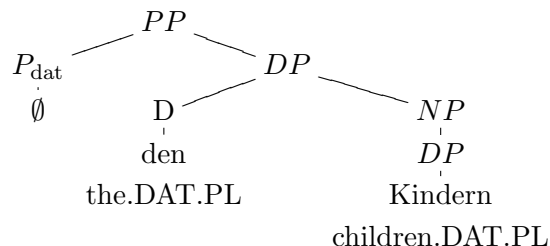
Asbury (2005) also explains why it appears that P-heads in many languages govern DPs that seem to have their own case marking (e.g., in Standard German, certain prepositions take arguments that have dative, accusative or genitive marking). Asbury argues that this represents cases of preposition stacking, which can be supported by a comparison between English and German.

In English, there is a distinction between ‘in’ and ‘into’ that represents the difference between a locative and goal interpretation of ‘in’. In German, the same distinction is made by changing the case marking on the DP (in + dative = ‘in’ and in + accusative = ‘into’). The dative and accusative case can be seen as the corresponding elements to the plain ‘in’ and the ‘to’ in English ‘in’ and ‘into’ respectively. Thus, the accusative and dative forms in these cases do not reflect syntactic accusative and dative P-heads, but instead a locative and goal P-head respectively, which happen to be syncretic in their realisation on noun phrases with the dative and accusative case.

Traditional dative marked elements (as in German) do not surface with a separate lexical item indicating dative case (as in traditional prepositional phrases). Instead, the case information is represented on various elements of the DP (including the determiner, adjective or head noun). The transfer of the abstract case properties from the P head to the rest of the nominal elements is attributable to the same operation that spreads gender and number feature throughout the DP in cases of adjective/determiner agreement (see Norris 2012 for a modern analysis of this phenomenon under the label concord). Once the features are attached to each of the elements in the DP, they can be associated with the appropriate

morphological reflexes.

(2) Dative PP:



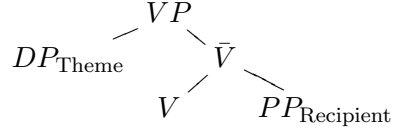
Two different cases have been proposed for Germanic recipients: accusative and dative. As discussed above, accusative case is structural and dative case is non-structural. Given that some Germanic languages show a morphological distinction between accusative and dative case (with recipients receiving dative), proponents of the accusative case analysis argue that languages (and constructions within languages) vary as to the case assigned to recipients. The dative PP analysis predicts that there should be syntactic and/or morphological evidence for the dative P. The accusative analysis predicts that the recipient should behave like other accusative predicates for all purposes.

## 2.4 Argument Structure

The final component of the analysis of recipients are their syntactic position. As was the case with accusative analysis discussed above, it is often the case that combinations of these analysis are assumed for different languages (or constructions within languages). I introduce alternative analyses first, starting with analyses that have recipients introduced as (part of) the complement of the main verb, and then conclude with the analysis that I am arguing for.

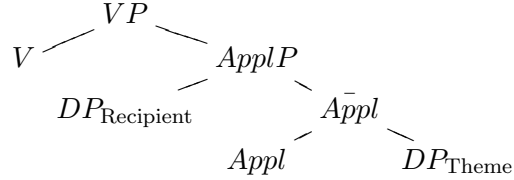
The first analysis holds that recipients are introduced as prepositional objects. This means that they have the same syntactic position as prepositional object in cases like “John put the book **on the table**”. These analyses predict that recipients (of this type) should behave like other prepositional objects for all relevant purposes. The structure, which is assumed to be shared between these cases, has the theme in the specifier of the main verb and the recipient as its complement (see Larson 1988:ex. 13 and citations therein).

(3) Prepositional Object Construction:



A similar analysis, which has the recipient as part of the complement of the main verb, is the Low Applicative analysis of Pylkkänen (2001). This analysis places an applicative phrase as the complement of the main verb, with the recipient in the specifier and the theme as the complement of the applicative.

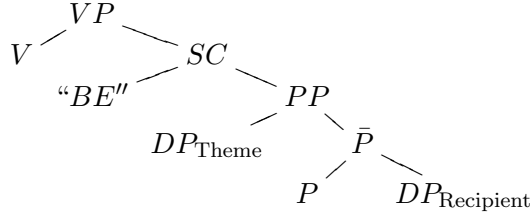
(4) Low Applicative Construction:



The main arguments that Pylkkänen makes for her claim that recipients are introduced by a separate type of applicative from High Applicatives (e.g., instruments) is based on a claim about the semantics of recipients, namely that “low applied arguments bear no semantic relation to the verb whatsoever; they bear only a transfer-of-possession relation to the direct object” (Pylkkänen 2008). However, Larson (2010) shows that those semantics do not properly capture the meaning of recipients used by the relevant verb, which proves problematic for her system (see Georgala 2012 for an alternative that captures the semantics, but is similar to the high applicative account argued for here).

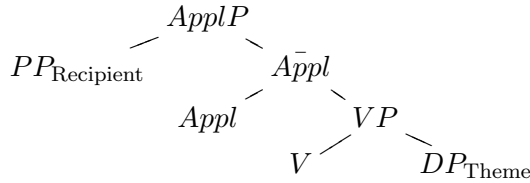
Another analysis that has a similar structure to Pylkkänen’s is the small clause structure proposed by Den Dikken (1995) and adopted by Harley (2002), Harley and Jung (2015), Ormazabal and Romero (2012). Under this analysis, ditransitives are small clauses that are in the complement of the main verb. These small clauses place the recipient the complement of a preposition.

(5) Small Clause Analysis (Den Dikken 1995: simplified from ex. 38):



Finally, the analysis argued for in this dissertation has the recipient introduced in the specifier of a head introduced above the main verb. Larson (1988) introduced the notion that this head is a purely formal copy of the main verb (or plausibly part of a lexical decomposition of the main verb) as part of his VP shell analysis. Building on work on Bantu, going back to Baker (1988a), this head has been called an applicative head, since Bantu (and other languages) show an overt morpheme on the verb that co-varies with the presence of recipients (and other elements). For ease of exposition, I adopt the applicative terminology, but none of my arguments hinge on this; the Larsonian VP-shell structure is equally compatible with my claims.

(6) Applicative Analysis (with dative PP):



There is a split between the analysis I adopt (the applicative analysis) and all the alternatives, namely the position of the recipient vis-a-vis the main verb. All of the alternative analyses have the recipient as or as part of the complement of the main verb. The applicative analysis places the recipient higher than the main verb. Thus, the applicative analysis makes different empirical predictions about the relative C-command relationship between the recipient and the main verb (or material attached to the main verb).

## 2.5 Conclusions

This chapter gave further specification about the main claim of this dissertation. Recipients are defined as the proto-role, which is prototypically introduced by the verb GIVE (or its counterpart in other languages). Focusing on a thematic role eases cross-linguistic

comparison, since all languages have some means of conveying a concept and those means can then be directly compared. One of the assumptions of this dissertation, however, is that the linguistic association of a particular verbal argument with the recipient theta role is culturally/linguistically determined. Thus, while the object of GIVE and its counterparts are always going to be recipients, that is not always the case for other verbs. At certain points in the following chapters, I mention possible counterexamples to my generalisations and claim that there are good reasons to think that these cases involve theta roles other than recipients, in particular I focus on the common confusion between Recipient and Goal arguments.

As mentioned in the previous two sections, most analyses of recipients claim that there is a diversity of constructions needed to analyse recipients, even across the closely related Germanic languages. This dissertation makes the strong (and more parsimonious claim) that only one analysis is needed for the syntax of all recipients. The complexity of surface forms comes from the interaction of the universal base order and independently necessary syntactic (scrambling, passivisation, and P-incorporation) and morphological (allomorphy) operations. The next two chapters shows how this analysis is able to capture the range of data from Germanic languages and explicates the syntactic and morphological operations alluded to in the previous sentence.



## Chapter 3

# Active Syntax of Recipient Ditransitives

### 3.1 Introduction

This chapter focuses on the proper analysis of active recipient ditransitives. Using data from Germanic languages, I support the claim that all recipients are base generated as dative PPs in the specifier of an applicative phrase. One of the main goals of this chapter is to distinguish this claim from the analysis for goals, which are often confused with recipients (due to a large degree of semantic overlap). Goals are the end point of a path of motion. Recipients, on the other hand, are the new possessors after a transfer of possession event (in which no movement is necessary), as described in the previous chapter. Given that moving something from one persons domain to another is a standard way of enacting a transfer of possession, these two notions can often be introduced by the same verbs, which can lead to syntactic ambiguity.

The main empirical puzzle that this chapter addresses is the relationship between the three forms found with certain German verbs of motion (7) and the two forms of English dative shift (8). These patterns are replicated across the other Germanic language, and relevant data from other languages are also examined. With verbs like *schicken* “to send”, a goal/recipient can occur in three different positions: (7a) marked with dative before an

accusative marked theme, (7b) marked with dative after an accusative marked theme, and (7c) introduced by the preposition *an* “to/on” after an accusative marked theme. In Modern American English, the same argument can occur in the following positions: (8a) unmarked before an unmarked theme or (8b) introduced by the preposition “to” after an unmarked theme. I will argue that English (8a) is always a reflection of German (7a) and the English (8b) is ambiguous between German (7b) and (7c) with the syntactic ambiguity reflecting a semantic difference between a recipient and goal interpretation.

(7) German, Dative–Preposition Alternation:

- a. Ich     habe der        Frau    das        Buch geschickt  
       I.NOM have the.DAT woman the.ACC book sent  
       ‘I sent the woman the book.’
- b. Ich     habe das        Buch der        Frau    geschickt  
       I.NOM have the.ACC book the.DAT woman sent  
       ‘I sent the woman the book.’
- c. Ich     habe das        Buch an die        Frau    geschickt  
       I.NOM have the.ACC book to the.ACC woman sent  
       ‘I sent the book to the woman.’

(8) English, Dative Shift:

- a. I sent the woman the book.
- b. I sent the book to the woman.

German and Icelandic encode the distinction between the goals and recipients with the distinction between prepositions and dative case, which occur in distinct syntactic positions. Using data from other German languages, I argue that the distinction between prepositions and dative case morphology does not always clearly align with this semantic difference and thus that the presence/absence of a preposition cannot be used as a diagnostic for syntactic structure. The dative PP analysis described in the previous chapter is used to account for these mismatches. The presence/absence of “to” in dative shift can then be accounted for using contextual allomorphy (i.e. the same mechanism that determines that the plural of “cat” is “cats”, but that the plural of “sheep” is “sheep”). Evidence from Swedish and the history of English is brought to support this KP + contextual allomorphy account.

After demonstrating that recipients and goals are different constructions, I argue that theme–recipient word orders (e.g. “I gave the theme to the recipient”) are derived via VP-internal scrambling. I present typological evidence suggesting that the recipient–theme order is base generated and then give data from German that suggests that the mechanism for deriving the theme–recipient order is scrambling. I finish by presenting evidence from Low German that demonstrates that complex surface morphology is unnecessary for scrambling to occur. Finally, I conclude by reviewing the argument for the conclusions introduced above.

## 3.2 Goals and Recipients

### 3.2.1 Introduction

This section focuses on arguing that goals and recipients are distinct thematic roles and therefore distinct constructions in natural language. As discussed in the previous chapter, my claims are specifically about the syntactic structures associated with recipients. The comparison with goals provides an example of how concepts that are closely related semantically can have quite different syntactic realisations. It is necessary to emphasise this point, because this distinction is poorly marked in English and this has confused research about the structure of English ditransitives (see Hovav and Levin (2008) for a full discussion). I show how evidence from Icelandic and German (both of which maintain synthetic dative case forms) support different thematic roles and base generation positions for recipients and goals. I then review evidence from studying modern English that show that this difference also applies in English with the caveat that some surface forms are ambiguous between a recipient and goal interpretation.

In Icelandic, recipients are typically marked with dative case marking. Indeed, Thrainsson (2007), in his grammar of Icelandic, describes the availability of PP-alternants as follows:

... in Icelandic the PP-alternative is pretty much restricted to verbs of sending (i.e., where the IO is an actual goal of some sort of movement) ... Interestingly, if the verbs *gefa* ‘give’ and *selja* ‘sell’ can be interpreted as having a directional sense, then it becomes normal to use the prepositional variant in Icelandic:

(9) Icelandic:

Ég gaf bækurnar til Háskólabókasafnsins  
I.NOM gave books.the.ACC to University.Library.the.GEN  
'I gave the books to the University Library'

(10) Icelandic:

Þeir seldu skipið til Englands  
they.NOM sold ship.the.ACC to England.GEN  
'They sold the ship to England.'

In the last example a dative IO would not be a possibility since 'England' would not be the actual recipient (unless one was talking about the English (or British) state or some such ... (Thrainsson 2007:fn 64)

For German, the same pattern holds, prepositional objects with *an* "to (for animate goals)" or *nach* "to (for inanimate goals)" are restricted to verbs of motion (i.e. they cannot occur with pure verbs of transfer, e.g. *geben* 'give'). Also, when dative case is used with verbs of motion, an obligatory recipient interpretation is derived, i.e. the theme must actually have been transferred into the possession of the recipient. In the following examples, the verb *schicken* "send" can take both dative and prepositional objects. When a dative object is used, then the dative must actually gain possession of the theme. With a prepositional complement, change of possession need not occur. This difference supports the idea that the dative encodes recipients (the end point of a transfer of possession), while the prepositional varieties encode goals (end point of a path, which can be interrupted).

(11) German:

- a. # Ich weiss, dass er **Maria** einen Brief geschickt hat, aber  
I.NOM know, that he.NOM **Maria** a.ACC letter sent has, but  
er ist bei ihr nicht angekommen  
he.NOM is by her.DAT not arrived  
'I know that he sent Maria a letter, but it has not reached her.'
- b. # Ich weiss, dass er einen Brief **Maria** geschickt hat, aber  
I.NOM know, that he.NOM a.ACC letter **Maria** sent has, but  
er ist bei ihr nicht angekommen  
he.NOM is by her.DAT not arrived  
'I know that he sent a letter to Maria, but it has not reached her.'

- c. Ich weiss, dass er einen Brief **an Maria** geschickt hat, aber  
 I.NOM know, that he.NOM a.ACC letter **to Maria** sent has, but  
 er ist bei ihr nicht angekommen  
 he.NOM is by her.DAT not arrived  
 ‘I know that he sent a letter to Maria, but it has not reached her.’

German also provides evidence that the dative recipients and prepositional goals are syntactically distinct. While German has fairly free word order, topicalised VPs provide a window into which word orders are possible within the verb phrase. With dative recipients, both recipient–theme and theme–recipient word orders are possible in topicalised VPs.

(12) High German, VP-topicalisation:

- a. Dem Mann das Buch gegeben habe ich, (nicht der Frau  
 the.DAT man the.ACC book given have I, (not the.DAT woman  
 dEN Film geschenkt).  
 the.ACC film sent).  
 ‘It was giving the man the book that I did (not sending the woman the film).’
- b. Das Buch dem Mann gegeben habe ich, (nicht dEN Film  
 the.ACC book the.DAT man given have I, (not the.ACC film  
 der Frau geschenkt).  
 the.DAT woman sent).  
 ‘It was giving the book to the man that I did (not sending the film to the woman).’

However, with prepositional goals, only the theme–goal order is possible, suggesting that prepositional goals start below the theme in a prepositional object construction and are unable to move above the theme inside the VP. Here, the main point is that the prepositional goals and dative recipients do not show the same syntactic pattern indicating that they occupy distinct syntactic positions. A full analysis of these differences is provided in Section 3.4. The basic outline is that recipients are introduced in the specifier of an applicative phrase (i.e., in a higher functional projection above the main verb), while goals are introduced as the complement of the main verb.

(13) High German, VP-topicalisation:

- a. \* An den Mann das Buch geschickt habe ich, (nicht an die  
 to the.ACC man the.ACC book sent have I, (not to the.ACC

Frau dEN Film übergeben).  
woman the.ACC film delivered).

‘It was sending to the man the book that I did (not delivering to the woman the film).’

- b. Das Buch an den Mann gegeben habe ich, (nicht dEN Film  
the.ACC book to the.ACC man given have I, (not the.ACC film  
an die Frau übergeben).  
to the.ACC woman delivered).

‘It was sending the book to the man that I did (not delivering the film to the woman).

### 3.2.2 Two ‘to’s in English

Much confusion has occurred in discussing English ditransitives from combining recipient and non-recipient ditransitives in the same analysis. As discussed above, there is good cross-linguistic evidence that non-recipient ditransitives have a different structure than recipient ditransitives (and are therefore not probative of recipient transformations). Levinson (2005) and Hovav and Levin (2008) show that there are (at least) two ‘to’s in English: one that introduces recipients and one that introduces goals. Any argument that uses verbs of motion (e.g. ‘send’) is going to run afoul of this ambiguity.

One of the best arguments for the distinction between recipient and goal ‘to’ comes from wh-questions. Goals introduce a location and can therefore be questioned with ‘where’, while recipients are not locative and therefore do not allow for ‘where’-questions.

(14) English, Recipients:

- a. Who did you give the package to?  
b. \*Where did you give the package to?

(15) English, Goals:

- a. Who did you send the package to?  
b. Where did you send the package to?

Hallman (2015) provides additional evidence supporting a distinction between goal and

recipient interpretations (or at least between ‘to’ marked recipients and prepositional object constructions). He notes that ‘to’-marked recipients pattern with bare recipients and not with prepositional objects in their ability to control into purpose clauses. In both the recipient–theme and theme–recipient orders, the recipient is able to bind PRO in the purpose clause and the theme is able to bind the empty category object. Crucially, this means that the recipient needs to be higher than  $\bar{V}$ , which is the site of purpose clause attachment.

(16) English (Hallman 2015:exx 6 & 7):

- a. Mary gave John<sub>i</sub> a puppy<sub>k</sub> [PRO<sub>i</sub> to play with e<sub>k</sub>].
- b. Mary gave a puppy<sub>k</sub> to John<sub>i</sub> [PRO<sub>i</sub> to play with e<sub>k</sub>].
- c. Mary sent John<sub>i</sub> a manuscript<sub>k</sub> [PRO<sub>i</sub> to read e<sub>k</sub>]
- d. Mary sent a manuscript<sub>k</sub> to John<sub>i</sub> [PRO<sub>i</sub> to read e<sub>k</sub>]

This is crucially different from the behaviour of prepositional objects in prepositional object constructions (e.g. as introduced by ‘put’). The prepositional objects scope under the purpose clause and cannot control into it. (18) shows that the ungrammaticality comes from the presence of the purpose clauses, as opposed to some inherent problem in the matrix POC constructions.

(17) English (Hallman 2015:ex 9):

- a. \* Mary put the child<sub>k</sub> on the horse<sub>i</sub> [PRO<sub>i</sub> to carry e<sub>k</sub>]
- b. \* Mary led the horse<sub>k</sub> to John<sub>i</sub> [PRO<sub>i</sub> to feed e<sub>k</sub>]
- c. \* Mary immersed the cloth<sub>k</sub> in oil<sub>i</sub> [PRO<sub>i</sub> to permeate e<sub>k</sub>]
- d. \* Mary placed the planting pots<sub>k</sub> under the tomato vines<sub>i</sub> [PRO<sub>i</sub> to grow over e<sub>k</sub>]

(18) English (Hallman 2015:ex 10):

- a. Mary put the child on the horse
- b. Mary led the horse to John
- c. Mary immersed the cloth in oil
- d. Mary placed the planting pots under the tomato vines

Hallman argues that this control asymmetry can be captured by having the recipient ‘to’ and goal ‘to’ in different syntactic positions. Assuming that purpose clauses are adjoined to the edge of V-bar, recipient ‘to’ must occur outside of VP in order to be able to bind into the purpose clause. In the previous chapter, I showed how the main difference between the applicative analysis of recipients and the other currently viable analyses was that the applicative analysis put the recipient in a higher functional projection than the VP (and thus positions the recipient to be able to bind into VP level material). All the other analyses had the recipient as either the complement of the main verb or part of the complement of the main verb and thus underneath the purpose clause and unable to bind into it. The goal ‘to’ as part of a prepositional object construction is placed inside the VP and thus is unable to bind into the purpose clause. The exact structures under consideration are discussed in the end of this chapter; here the essential point is that even in English there is good evidence for a syntactic difference between recipients and goals.

### 3.3 Morphology and Dative Marking

#### 3.3.1 Typology of Morphosyntactic Marking

I argued above that goals and recipients have distinct syntactic positions. Also, in German and Icelandic, recipients were marked with dative case while goals were introduced by prepositions. The goal of this section is to argue that the preposition/case distinction is a surface morphological property and that both goals and recipients are introduced as the same type of syntactic object. As discussed in the previous chapter, I argue for an analysis of recipients as being dative PPs.

One example of the interchangeability of case and prepositions in recipient ditransitives comes from certain dialects of German (in particular the dialects spoken in Alsace, Baden-Württemberg, Switzerland, and Bavaria). In these dialects, the preposition *in* ‘in/into’ or the preposition *an* ‘on/onto’ has come to be used with full noun phrases in cases where standard German has dative case. This occurs even though synthetic dative case is still marked in these dialects (Seiler 2001, 2003). If the distinction between case and preposition was deeply syntactic (especially if it correlated with the difference between goals and



recipients), syntactic and semantic restrictions on the distribution of prepositional elements is predicted.

However, Seiler (2001) claims, using data both from dialect corpora and traditional fieldwork, that “PDM [Prepositional Dative Marking] is not sensitive to different semantic roles, and PDM does not encode different information than does a bare dative NP.” He also states that “the relative order of direct and indirect object in the middle field doesn’t cause any asymmetry in the acceptance of PDM.” Thus, prepositional marking can freely occur with ditransitives in both recipient–theme and theme–recipient orders as seen below (Seiler 2001, 2003):

(19) Zürich German:

si            schänkt äine        **a de Tristane**  
they.NOM sent        one.ACC to the Tristan

‘The sent one to Tristan (Seiler 2003:pg. 175).’

(20) Luzern German:

miir        verchauggid **i de Chunde** nur Mère-Josephine-Poulets  
we.NOM sold            to the clients        only Mere-Josephine            chicken

‘We sold the clients only Mere-Josephine chicken (Seiler 2003:pg. 175).’

Dutch also shows a pattern where prepositional marking is not restricted to certain syntactic positions or thematic roles. In modern Standard Dutch, the prepositions *aan* ‘to’ can be used both with goals and with recipients. When introducing recipients, it must occur in the theme–recipient order, but is also freely available in recipient–theme orders.

(21) Dutch:

a. Ik heb een boek \*(aan) Jan gegeven  
I have a book to John given  
‘I gave a book to John (Tiersma 1985).’

b. Ik heb (aan) Jan een boek gegeven  
I have to John a book given  
‘I gave John a book (Tiersma 1985).’

Another example comes from certain dialects of British English. In the previous examples, prepositions occurred in positions that are restricted to synthetic dative case in German and

Icelandic. In these dialects, the opposite situation occurs; prepositions do not occur even in goal contexts. Biggs (2015) shows that in the dialect spoken in and around Liverpool ‘to’ is used for neither recipients nor goals. Here even goal elements are not being introduced by an overt preposition. This can be seen in the following examples, where bare recipients/goals occur in all three word orders.

(22) Liverpool English (Biggs 2015):

- a. Mary gave the teacher the book.
- b. Mary gave the book the teacher.
- c. Mary sent the package her nan’s.
- d. I want to go Chessington. (unambiguous goal)

### 3.3.2 Analysis of Recipient Marking

In the above sections, I showed the following: (a) German and Icelandic distinguish between recipients and goals by generating goals as prepositional objects in a prepositional object construction and recipients with dative case in the specifier of an applicative phrase and (b) that the association of prepositions with goals and case with recipients does not hold cross-linguistically. This section directly addresses the question of how the surface marking is derived. Bayer et al. (2001) introduced the notion of a K(ase) Phrase that occurs on top of a DP for non structurally case marked nouns (the issue of structural case will be dealt with along with passivisation in the next chapter). Asbury (2007), using Hungarian data, argues that KPs and PPs should be unified. As discussed in the previous chapter, I adopt the label dative PP to reinforce the syntactic unity between inherent case and prepositional phrases under this analysis.

Under this analysis, there is no syntactic difference between dative case marked elements and prepositional phrases. One way of thinking about this is that all dative elements are actually PPs (Bittner and Hale 1996, Caha 2009, Alexiadou et al. 2014) and that dative case is a particular morphological realisation of the dative preposition. In particular, the realisation of dative case on elements within the DP (e.g. determiners, adjectives and nouns) can be viewed as a concord effect with a null dative preposition (similar to the concord in

gender seen in many languages, where gender information from the head noun appears on modifying adjectives and determiners).

The data from High German dialects given by Seiler (2001, 2003) supports this analysis in the following way. The High German dialects still have overt realisation of dative case (at least on free standing pronouns), yet the dative preposition can still co-occur with the overt case marking (e.g. *in der frau* “to the.DAT woman”, Seiler 2001:ex 3). The null prepositional element posited in the previous paragraph can be realised overtly in these dialects without any syntactic or semantic effect.

Before turning to how dative Ps are realised in English, it is necessary to support the notion that recipients in English are obligatorily dative. One strong piece of evidence that English recipients never receive accusative case is their inability to surface as genitives in nominalisation (unlike other accusative elements in the language).

(23) English, Accusative-to-genitive in nominalisation (Non-recipient):

- a. John kissed Mary.
- b. John’s kissing of Mary...

(24) English, Accusative-to-genitive in nominalisation (Recipient):

- a. John gave Mary a book.
- b. \* John’s giving of a book of Mary...
- c. \* John’s giving of Mary...
- d. \* John’s giving of Mary of a book...

However, if the recipient surfaces with *to*, then the nominalisation is possible.

(25) English, Recipients in nominalisation:

- a. John gave Mary a book.
- b. John’s giving of a book to Mary...
- c. John’s giving to Mary...
- d. ? John’s giving to Mary of a book...

If *to* is the reflex of dative case, then the above facts can be explained in the following way: structurally case marked elements in verbal phrases are realised with genitive case in nominalisations of the verbal phrase, but non-structurally case marked elements retain their non-structural case (in this case dative). One potential problem with this theory is that many other Germanic languages do not permit recipients inside of nominalisations (26, however, other languages with overt dative case do allow synthetically dative marked recipients in nominalisations (e.g., Czech, 27). This difference can be captured by the amount of verbal structure underlying the DP (i.e., can ApplPs be nominalised or only VPs). English (and Czech) allow ApplP nominalisations, while German only allows VP nominalisations.

(26) German:

- a. Oswald hat den Präsident ernordet  
Oswald has the president.ACC assassinated  
'Oswald assassinated the president (Bayer et al. 2001:ex 5a)'
- b. die Ermordung des Präsidenten  
the.NOM assassination the.GEN president  
'the assassination of the president (Bayer et al. 2001:ex 5c)'
- c. Oswald hat dem Präsidenten gehuldigt  
Oswald has the.DAT president given-homage  
'Oswald gave homage to the president (Bayer et al. 2001:ex 6a)'
- d. \*die Huldigung des/dem Präsidenten  
the.NOM homage-giving the.GEN/the.DAT president  
'the homage giving to the president (Bayer et al. 2001:ex 6)'

(27) Czech:

darování knihy Marii  
giving.NOM.SF book.GEN Mary.DAT

'Giving a book to Mary ... (Dvorák 2009:ex. 14)'

If, following the argument expressed above, the recipient in English is a dative PP, an analysis of the alternation between the presence and absence of 'to' in English dative shift

is possible (e.g. “John gave Mary the books” vs “John gave the books to Mary”). The dative P element in English has two possible realisations:

(28) Dative P Realisations in English:

- a. Phonologically null (henceforth  $\emptyset$ )
- b. ‘to’

In modern American English, the distribution of the two forms follows the following rule: (28b) is the default form and (28a) can only occur when P is linearly adjacent to the verb. This linear adjacency restriction is typical of contextual allomorphy (see Embick (2010) for a discussion of locality in contextual allomorphy). The contextual allomorphy analysis of dative shift claims that the choice between marking recipients with ‘to’ and not marking them overtly is driven by the exact same mechanism that determines that ‘cat’ has a plural in ‘cat-s’, but ‘sheep’ has a plural in ‘sheep- $\emptyset$ ’.

The linear adjacency restriction manages to capture the standard dative shift data. I use the notation of “P=/x/” to indicate the linear position of P and its phonological realisation in the following examples in order to emphasise the syntactic unity underlying the morphological variation.

(29) English:

- a. John [gave] [P= $\emptyset$  Mary] [a book].
- b. John [gave] [a book] [P=to Mary].

Apparent counterexamples are informative about the ordering/existence of other post-syntactic operations. For example, ‘to’ surfaces adjacent to the verb in cases of Heavy NP Shift of the theme (30), suggesting that the phonological deletion of copies (or traces) occurs after the determination of linear adjacency for contextual allomorphy (see Franks (2015) for a similar argument using data on the distribution of multiple wh-movement). The copy of the theme, which intervenes between the verb and P is not pronounced, but is still able to prevent the null allomorph of P to be used.

(30) English: John [gave] [~~a book that I read~~] [P=to Mary] [a book that I read]

In some dialects of British English, the opposite sort of counterexample occurs, namely ‘to’ fails to surface even when some element intervenes between the verb and ‘to’ on the surface. However, this is restricted to cases with pronouns (Biggs 2015), which can be analysed as having cliticised onto the verb and thus being no longer available to intervene.

(31) Northwestern British English:

- a. John [gave=it] [P=∅ Mary]
- b. \*John [gave] [the book] [P=∅ Mary]

The PP + allomorphy analysis also provides an explanation for the data from Liverpool English discussed above. In Liverpool English, the default realisation of both the goal and recipient P is null, i.e., ‘to’ is no longer an allomorph for recipients or goals in that dialect.

### 3.3.3 Case Studies in Dative Shift

In this subsection, I show how the morphosyntactic analysis given above is able to account for the variation in the availability of dative shift in Swedish between different verb classes and the quantitative evidence about the rise of ‘to’ in the history of English.

In Swedish, ditransitive verbs with (e.g., *er-bjöd* “offer”) and without (e.g. *ge* “give”) prefixes pattern differently concerning the availability of dative shift. Verbs without prefixes can occur in both recipient–theme and theme–recipient orders, but only with an overt prepositional element in theme–recipient orders.

(32) Swedish:

- a. Han gav Jan bollen  
he.NOM gave John ball.the  
‘He gave John the ball’
- b. Han gav bollen \*(til) Jan  
he.NOM gave ball.the to John  
‘He gave the ball to John’

Prefixed verbs, however, can only occur in the recipient–theme order; the theme–recipient order, even with a preposition, is ungrammatical. In discussing passivisation, Alexiadou et al. (2014) suggest that the dative P can be incorporated into the verb. Holmberg and

Platzack (1995) suggest that the Swedish prefixes reflect incorporated prepositions (although their analysis of recipients is different from the one discussed here). This incorporation analysis can explain the unavailability of prepositional complements for prefixed verbs in Swedish; speakers have analysed the verbal prefixes as realising the incorporated dative P. The nature of P-incorporation plays a large role in the analysis of ditransitive passives and is thus fully explored in the next chapter.

(33) Swedish:

- a. Han       erbjöd Jan   ett nytt jobb  
      he.NOM offered John a   new job  
      ‘He offered John a new job’
- b. ?? Han       erbjöd ett nytt jobb til Jan  
      he.NOM offered a   new job   to John  
      ‘He offered a new job to John’
- c. \* Han       erbjöd ett nytt jobb Jan  
      he.NOM offered a   new job   John  
      ‘He offered a new job to John’

Using the Penn Parse Corpus of Middle English (Kroch and Ann Taylor 2000), McFadden (2002) showed that recipient ‘to’ entered the English language during the Early Middle English period (c. 1200). At this point, the old synthetic case marking forms still existed on some pronouns in some dialects, but were in the process of being completely lost. McFadden showed that texts that still had the synthetic pronominal forms were significantly less likely to use recipient ‘to’ than texts that had completely lost synthetic dative marking. This suggests that ‘to’ and the synthetic case marker were in competition for the same grammatical position.

McFadden adopted an analysis of Icelandic (and Old English), in which the theme–recipient order with a dative recipient was base generated as a prepositional object construction with a null PP. He argued that the rise of dative shift in English was the introduction of ‘to’ as the realisation of this previously null preposition. The facts from German VP-fronting and Hallman’s purpose clause facts discussed above argue against any such proposal that unifies prepositional objects and theme–recipient word orders.

Also, McFadden was only able to look at the data from Middle English (because parsed

corpora of later stages of the language were not yet available). When we include data from Modern English (Kroch et al. 2004, 2010, Taylor et al. 2006), a different pattern emerges. When both the recipient and theme are full noun phrases, recipient ‘to’ rises in use in all contexts in the Middle English period, and then around 1400 ‘to’ begins to decline in use in the recipient–theme context. Table 3.1 shows the rates of ‘to’-marking in various syntactic contexts.

	1200–1300	1300–1400	1400–1500	1500–1600
I gave theme (to) recipient	76% (80)	99% (233)	100% (280)	100% (614)
(To) recipient, I gave theme	55% (20)	92% (12)	97% (34)	100% (50)
I gave (to) recipient theme	21% (56)	53% (95)	45% (261)	36% (430)
Theme, I gave (to) recipient	66% (38)	100% (13)	83% (12)	68% (22)

Table 3.1: % of Middle and Early Modern English *give* and *promise* type ditransitives with ‘to’-marking (number of tokens in parentheses)

McFadden noticed the rise at the end of the Middle English period, i.e. that ‘to’-marking was common even in the recipient–theme order. He suggested that this was caused by a larger number of heavy themes in later texts. However, when further statistics are run on the data, that hypothesis becomes untenable. Table 3.2 explicitly compares models for predicting the rate of ‘to’-marking after 1425 (when the rate of ‘to’-marking begins to fall) in recipient–theme ditransitive sentences with full noun phrase recipients and full noun phrase themes (e.g., “John gave Mary the books.” vs “John gave to Mary the books”). One model included the year of composition as well as variables related to the heaviness of the theme (number of words and whether the theme included an embedded clause). The next model used only the heaviness measures as predictors. The final model assumed a constant rate independent of heaviness and year of composition. According to the Log-likelihood Ratio Test ( $\text{Pr}(>\text{Chi})$ ), the AIC, and the BIC, the model including both year of composition and heaviness measures is the best fit, i.e., even while there was a significant decrease in the use of ‘to’ from 1425 onwards, when holding the heaviness of the theme constant.

Figure ?? shows the rates of ‘to’ with recipient–theme ditransitives as well as the rates of heavy NP shift as estimated by the proportion of objects post-posed after adverbs and PPs with full noun phrase objects. Between 1450 and 1650, the rate of ‘to’ use is significantly different from the rate of heavy NP-shift ( $\chi^2 = 2365$ ,  $\text{df} = 2$ ,  $p < 0.001$ ). The significant



Model	Df	Deviance	Pr(>Chi)	AIC	BIC
Both	1	68	<0.001	1405	1431
No Year	3	48	<0.001	1471	1492
Null	-			1513	1519

Table 3.2: Model comparison statistics for predicting ‘to’ use in recipient–theme contexts after 1425

difference in rates between ‘to’ in recipient–theme ditransitives and other post-posing operations in this time period indicates that these constructions are almost certainly **not** derived via post-posing the theme from a theme–recipient construction.

In other words, up until about 1400, ‘to’ was being used to mark recipients in all syntactic positions. Bacovcin (to appear) showed that the rate at which ‘to’-marked recipients replaced bare recipients was constant across the theme–recipient and recipient–theme context. Kroch (1989) hypothesised that a constant rate of change across different contexts could be the reflex of a single grammatical change moving through the grammar. In this case, the single change was the replacement of a null morphological realisation of dative case with a realisation of dative case as ‘to’.

Around 1400, this change went to completion in the theme–recipient context (i.e., there are no more bare recipient tokens in this context). Around the same time, ‘to’-marking began to be used less frequently in the recipient–theme context. Up until this point, I argue that both the ‘to’ and null allomorphs of dative case were available in both the theme–recipient and recipient–theme context. Because of the historical origin of ‘to’ in goal PPs, ‘to’-marking was always more common in the theme–recipient context, but before 1400 this predisposition was a constraint on the deployment of the two variant options. After 1400, one of the variants was no longer available in the theme–recipient context. Children reanalysed the variation in the recipient–theme context as a case of contextual allomorphy. A new grammar was introduced wherein ‘to’ was the default realisation of dative case and the null realisation was restricted to verb adjacent contexts. Throughout the 15th and 16th centuries, this new grammar spread through the language leading to the situation in modern British English.

### 3.4 Syntax of Recipients

The previous sections argued that recipients and goals occur in distinct syntactic constructions and that the difference between dative case and prepositions is a purely surface morphological alternation. In this section, I propose an analysis for the syntactic positions for goals and recipients. As hinted at above, I follow the rest of the literature (e.g., Jackendoff (1990), Harley (2002), Hallman (2015)) in analysing goals as being introduced in a prepositional object construction (i.e., as the object of V). For the recipient, I follow McGinnis (1998), Bruening (2010a,b) in assuming that the recipient is introduced in an applicative head above the VP as discussed in the previous chapter. Theme–recipient word orders are derived by scrambling the theme into a second specifier of the applicative phrase (a view first suggested for English in Takano (1998)). In the following section, I show the following: the theme can marginally reconstruct from its scrambled position (using tests for asymmetric c-command), typological evidence that the recipient–theme order is base generated and the theme–recipient order is derived, and German specific evidence that the derivation operation is scrambling. I then further support the transformational account for English by responding to criticisms of such accounts from the literature. Finally, I use data from Low German to support the idea of scrambling even in morphologically poor languages.

#### 3.4.1 Asymmetric C-command

Binding asymmetries provide some of the clearest evidence for the internal structure of English ditransitive clauses. Barss and Lasnik (1986) showed that, in the recipient–theme order, the recipient systematically asymmetrically c-commands the theme. Aoun and Li (1989) showed that, in the theme–recipient order, the theme systematically asymmetrically c-commands the recipient. Anaphor Binding, Superiority and Negative Polarity all show the surface c-command possibilities, in which the leftmost element asymmetrically c-commands the rightmost element (examples adapted from Aoun and Li (1989)).

(34) English, Anaphor Binding:

- a. Recipient–theme: I showed Mary herself (in the mirror).
- b. Recipient–theme: \*I showed herself Mary (in the mirror).

- c. Theme–recipient: I showed Mary to herself (in the mirror).
- d. Theme–recipient: \*I showed herself to Mary (in the mirror).

(35) English, Superiority:

- a. Recipient–theme: Who did you give which check?
- b. Recipient–theme: \*Which paycheck did you give who?
- c. Theme–recipient: Which check did you give to who?
- d. Theme–recipient: \*Who did you give which check to?

(36) English, Negative Polarity:

- a. Recipient–theme: I showed no one anything.
- b. Recipient–theme: \*I showed anyone nothing.
- c. Theme–recipient: I showed nothing to any one.
- d. Theme–recipient: \*I showed anything to no one.

However, when looking at binding tests that allow for reconstruction (quantifier binding and each...the other), the recipient binding the theme is (marginally) possible in the theme–recipient order. In the recipient–theme order, the binding relationship is completely fixed.

(37) English, Quantifier Binding:

- a. Recipient–theme: I gave every worker<sub>i</sub>'s mother his<sub>i</sub> paycheck.
- b. Recipient–theme: \* I gave his<sub>i</sub> mother every worker<sub>i</sub>'s paycheck.
- c. Theme–recipient: I gave every worker<sub>i</sub>'s paycheck to his<sub>i</sub> mother.
- d. Theme–recipient: ? I gave his paycheck to every worker<sub>i</sub>'s mother.

(38) English, Each...the other:

- a. Recipient–theme: I showed each man the other's friend.
- b. Recipient–theme: \* I showed the other's friend each man.
- c. Theme–recipient: I showed each man to the other's friend.
- d. Theme–recipient: ? I showed the other's friend to each man.

German shows a similar pattern to the English data discussed above with a bias towards surface scope, such that a quantifier needs to c-command any bound pronouns on the surface.

This can be seen in the recipient–theme order, where there is no availability of reconstruction (since no movement has taken place).

(39) Standard German, recipient–theme:

- a. dass Maria jedem seinen Nachbarn vorgestellt hat.  
that Maria everyone.DAT his.ACC neighbour.ACC introduced has.  
‘that Maria introduced everyone his neighbor (Lee and Santorini 1994:ex. 11a).’
- b. \*dass Maria seinem Nachbarn jeden vorgestellt hat.  
that Maria his.DAT neighbour.DAT everyone.ACC introduced had.  
‘that Maria introduced everyone to his neighbour (Lee and Santorini 1994:ex. 9a).’

In the theme–recipient order, the theme can easily scope over/bind into the recipient. However, the recipient is also able to marginally scope over/bind into the theme. The judgements here are subject to speaker variation, but there are some speakers who allow the scrambled theme to reconstruct (for example to prevent a weak crossover violation). This is consistent with the idea that the theme has moved from a position under the recipient and can (marginally) reconstruct to that position at LF.

(40) Standard German, theme–recipient :

- a. dass Maria jeden seinem Nachbarn vorgestellt hat.  
that Maria everyone.ACC his.DAT neighbour.DAT introduced had.  
‘that Maria introduced everyone to his neighbour (Lee and Santorini 1994:ex. 10a).’
- b. %dass Maria seinen Nachbarn jedem vorgestellt hat.  
that Maria his.ACC neighbour.ACC everyone.DAT introduced had.  
‘that Maria introduced everyone his neighbour (Lee and Santorini 1994:ex. 12a (note 10)).’

### 3.4.2 Evidence for scrambling

I start this section on scrambling by presenting typological evidence in support of the notion that the recipient–theme order is basic and the theme–recipient order is derived. The basic

order should be available in all languages, and indeed the recipient–theme order is available in all Germanic languages:

(41) a. Icelandic:

Pétur gaf konunginum ambáttina.  
Peter.NOM gave king.DEF.DAT maid-servant.DEF.ACC.  
‘Peter gave the king the maid-servant.’

b. Faroese:

Hon gav Mariu troyggiuna.  
She gave Maria.DAT sweater.DEF.ACC.  
‘She gave Maria the sweater (Lundquist 2013).’

c. Standard Norwegian:

Jeg har gitt mannen boken.  
I have given man.DEF book.DEF.  
‘I gave the man the book (Sprouse 1995:ex 10).’

d. Swedish:

Jag gav Johan en bok.  
I gave John a book.  
‘I gave John a book (Holmberg and Platzack 1995).’

e. Danish:

Peter viste jo Marie bogen.  
Peter showed indeed Mary book.DEF.  
‘Peter indeed showed Mary the book (Vikner 1989).’

f. High German:

weil er der Unehrlichkeit keine Chance gibt.  
as he.NOM the.DAT dishonesty no.ACC opportunity gives.  
‘as he gives dishonesty no opportunity (Draye 1996:162).’

g. Yiddish:

Zi git der snjjer dus pékl.  
she.NOM gives the.DAT daughter-in-law the.ACC parcel.  
‘She gives her daughter-in-law the parcel (Birnbaum 1979:ex 190a).’

h. Dutch:

Ik heb (aan) Jan een boek gegeven.

I have (to) Jan a book given.

‘I gave Jan a book (Tiersma 1985).’

i. Afrikaans:

dat die man die vrou ‘n dokument gegee het.

that the man the woman a document given has.

‘...that the man gave a document to the woman (Louw 2012).’

j. Frisian:

se joech jar kammeraatske in skjirre.

she gave her girlfriend a pair of scissors.

‘She gave her girlfriend a pair of scissors.’

k. Low German:

ick gaw den Mann dat Brod.

I gave the man the bread.

‘I gave the man the bread (Mussäus 1829).’

l. English: I gave the man the book.

Most of the Germanic languages<sup>1</sup> also allow theme–recipient word orders (as discussed above the difference between prepositions and dative case is syntactically irrelevant).

(42) a. % Faroese<sup>2</sup>:

Hon gav telduna til gentuna.

she gave computer-the.ACC to girl-the.ACC

‘She gave the computer to the girl.’

b. Norwegian:

Vi har lånt den interessante boken du nevnte \*(til) Petter.

we have lent the interesting book you mentioned to Peter.

‘We have lent the interesting book you mentioned to Peter (Larson 1988).’

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<sup>1</sup>I do not have data on the availability of theme–recipient orders in Yiddish. See below for Icelandic

<sup>2</sup>Faroese is currently undergoing a change, where dative shift is becoming a regular part of the language. The % indicates the variation seen between people, who have adopted this change versus those who have not. For those who have not adopted this change, Faroese behaves like Icelandic, which is described below.

c. Swedish:

d. Jag gav en bok \*(til) Johan.

I gave a book to John.

‘I gave a book to John (Holmberg and Platzack 1995).’

e. Danish:

Jeg gav bogen \*(til) Anna.

I gave book.the to Anna.

‘I gave the book to Anna (Holmberg and Rijkhoff 1998).’

f. High German:

weil er keine Chance der Unehrlichkeit gibt.

as he.NOM no.ACC opportunity the.DAT dishonesty gives.

‘as he gives no opportunity to dishonesty’

g. Dutch:

Ik heb een boek \*(aan) Jan gegeven.

I have a book \*(to) Jan given.

‘I gave a book to Jan.’

h. Afrikaans:

Ek het ‘n fooitjie aan hom gegee.

I have a tip to him given.

‘I have given a tip to him (de Stadler 1996).’

i. Frisian:

ik joech in plant oan Beppe.

I gave a plant to Grandmother.

‘I gave a plant to Grandmother (Tiersma 1985).’

j. Low German:

ick gaw dat Brod den Man, wobei dat Brod zeigend ist.

I gave the bread the man who the bread shown is.

‘I gave the bread to the man who was shown the bread (Mussäus 1829).’

k. English: I gave the book to the man.

However, Modern Icelandic does not allow theme–recipient orders except as the product of heavy NP shift (Dehé 2004).

(43) Icelandic:

?\*Hann gaf ambáttina konunginum.  
He.NOM gave maid-servant.DEF.ACC king.DEF.DAT.

‘He gave the king the maid-servant (Dehé 2004:ex 14b).’

The universality of the recipient–theme order and the unavailability of theme–recipient orders in some languages suggest that the recipient–theme order is basic and the theme–recipient order derived (with Modern Icelandic lacking the theme–recipient deriving transformation). Georgala (2011) provides evidence from stranded depictives, floating quantifiers and split topics that all support the notion that the recipient–theme order is basic in Standard German. Standard German also provides additional evidence that the transformation under discussion is scrambling (Lenerz 1977, Abraham 1986, Webelhuth 1992, Choi 1996).

Lenerz (1977) showed that all scrambling in German is sensitive to information focus (i.e. the focus received by new information), but not contrastive focus. In particular, words that receive new information focus cannot be targeted by scrambling operations. Lenerz (1977) applied this heuristic to ditransitives and discovered that recipient ditransitives had the following pattern. When recipients received information focus (e.g., by being the answer to a wh-question), both recipient–theme and theme–recipient word orders were possible. This would be consistent with either of the following analyses: the two word orders are not derived via scrambling or the recipient is not the element that scrambles.

(44) German, Recipient Focus (Choi 1996):

Wem hast du das Geld gegeben?  
whom.DAT have you.NOM the money.ACC given

‘Who did you give the money to?’

a. Ich habe dem KASSIERER das Geld gegeben.  
I.NOM have the cashier.DAT the money.ACC given.

‘I have given the cashier the money.’



- b. Ich        habe das Geld                dem KASSIERER gegeben.  
 I.NOM have the money.ACC the    cashier.DAT    given.  
 ‘I have given the money to the cashier.’

However, when the theme receives information focus, only the recipient–theme word order is possible. Given the constraints on scrambling in German, this indicates that the recipient–theme order is base generated and that the theme–recipient order is derived via scrambling the theme above the recipient.

(45) German, Theme Focus (Choi 1996):

Was            hast du            dem Kassierer    gegeben?  
 what.ACC have you.NOM the    cashier.DAT given

‘What did you give to the cashier?’

- a. Ich        habe dem Kassierer    das GELD        gegeben.  
 I.NOM have the    cashier.DAT the money.ACC given.  
 ‘I have given the cashier the money.’
- b. ?\* Ich        habe das GELD                dem Kassierer    gegeben.  
 I.NOM have the money.ACC the    cashier.DAT given.  
 ‘I have given the money to the cashier.’

In Example (12), repeated below, I presented evidence from VP-fronting that the scrambling occurs within the verb phrase.

(12) High German, VP-topicalisation:

- a. Dem        Mann das            Buch gegeben habe ich, (nicht der        Frau  
 the.DAT man    the.ACC book given    have I, (not    the.DAT woman  
 dEN        Film geschenkt).  
 the.ACC film    sent).  
 ‘It was giving the man the book that I did (not sending the woman the film).’
- b. Das        Buch dem        Mann gegeben habe ich, (nicht dEN        Film  
 the.ACC book the.DAT man    given    have I, (not    the.ACC film  
 der        Frau    geschenkt).  
 the.DAT woman sent).  
 ‘It was giving the book to the man that I did (not sending the film to the woman).’

Another piece of evidence is that both word orders can occur after vP-level adverbs (such as negation). In combination, these facts show that the site of the scrambling is within the verb phrase.

(46) German, VP-level adverbs:

- a. Ich habe nicht dem Mann das Buch gegeben, SONDERN DER  
I have not the.DAT man the.ACC book given, but the.DAT  
FRAU DEN FILM GESCHENKT.  
woman the.ACC film sent.  
'I didn't give the man the book, instead I sent the woman the film.'
- b. Ich habe nicht das Buch dem Mann gegeben, SONDERN DEN  
I have not the.ACC book the.DAT man given, but the.ACC  
FILM DER FRAU GESCHENKT.  
film the.DAT woman sent.  
'I didn't give the book to the man, instead I sent the film to the woman.'

Since Oehrle (1976), there has been an argument that English dative shift should not receive a transformational analysis, because there are interpretive differences between the recipient-theme and theme-recipient constructions. One of the interpretive differences is the existence of a completion implicature in the recipient-theme order.

(47) English:

- a. # John taught the students French, but they didn't learn French
- b. John taught French to the students, but they didn't learn French

Hovav and Levin (2008) show that this completion implicature is actually the product of individual verbs and not directly attributable to the order of the objects. For example, 'give' entails successful transfer no matter which order the objects are in, and 'offer' does not entail it in either variant (it entails successful transfer in all plausible worlds in which the offer is accepted).

(48) English, 'give', (Hovav and Levin 2008:exx 36 & 37):

- a. # My aunt gave my brother some money for new skis, but he never got it
- b. # My aunt gave some money to my brother for new skis, but he never got it

(49) English, 'offer', (Hovav and Levin 2008:exx 38 & 39):

- a. Max offered the victims help, but they refused his offer.
- b. Max offered help to the victims, but they refused his offer.

Oehrle (1976) demonstrated that there were a number of different type of recipient interpretations associated even with verbs like GIVE. He argued that one of the interpretations was only available in the recipient–theme order. This interpretation involves abstract possession. The classic example is given below:

(50) English: Nixon gave Mahler a book.

- a. Nixon gave Mahler a physical object (namely a book)
- b. Nixon gave Mahler an idea (that Mahler wrote into a book)

(51) English: Nixon gave a book to Mahler.

- a. Nixon gave Mahler a physical object (namely a book)
- b. \*Nixon gave Mahler an idea (that Mahler wrote into a book)

These abstract interpretations inevitably involve coercing the verb into a verb of creation, since the abstract entity always comes into being by the act of giving. Frey (2001) shows that in German indefinite objects under verbs of creation have to remain in base position (i.e. they must occur to the right of manner adverbs).

(52) German (Frey 2001:ex 31):

- a. dass Hans geschickt eine Flöte schnitzte  
that John skillfully a.ACC flute carved

‘that John skillfully carved a flute.’

- b. \*dass Hans eine Flöte geschickt schnitzte  
that John a.ACC flute skillfully carved

‘that John skillfully carve a flute.’

The fact that the objects cannot scramble in German, in combination with the German predilection for surface interpretation (Beck 1996), supports the conclusion that at LF these

objects need to be in their base position. That the object of verbs of creation must be interpreted in their base position explains why ‘to’ variants are generally prohibited when verbs of transfer are coerced into a creation interpretation (when the theme comes into being as part of the transfer), which Bruening (2010b) used as an argument against a transformational account of dative shift in English. coerced

(53) English (Bruening 2010b:ex. 2):

- a. The lighting here gives me a headache
- b. \*The lighting here gives a headache to me

The same interpretive pressure exists in cases of idioms. Under the assumption that at LF idiomatic objects need to form a constituent with the verb in order to receive an idiomatic interpretation, scrambled idiomatic objects would need to obligatorily reconstruct promoting the recipient–theme order. Under the assumption that reconstruction is costly, there must be some countervailing pressure that would motivate the scrambling (see (Bruening 2010a,b, to appear) for a discussion of these issues).

(54) English (Bruening 2010b:ex 3):

- a. The count gives me the creeps
- b. \*The count gives the creeps to me

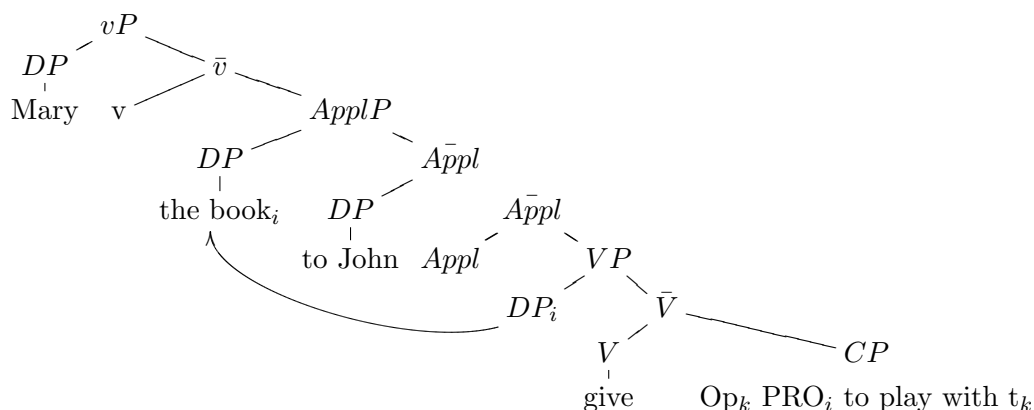
The scrambling analysis is also able to more easily explain some of the purpose clause facts from Hallman (2015). Hallman suggests that the theme–recipient order is derived via internal passivisation from the recipient–theme order (see Larson (1988)). However, he notes that this gets the standard word order between the recipient and purpose clause wrong (55), since the recipient would be a right adjoined adjunct in a higher phrase than the purpose clause. He is thus forced to argue that the purpose clause obligatorily scrambles above the recipient adjunct (see (56b)).

(55) English (Hallman 2015:ex 25):

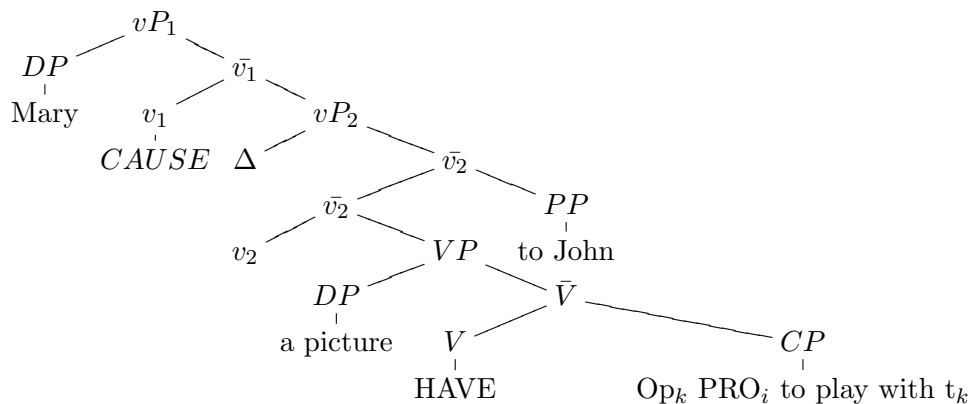
- a. \*Mary gave a puppy to play with to John
- b. Mary gave a puppy to John to play with

In (56), I show trees of both the scrambling analysis (following the scrambling structure provided in McGinnis (1998)) pursued here and Hallman’s analysis. In both cases, the recipient scopes over the purpose clause (unlike with goals, where the goal PP scopes under the purpose clause). Under the scrambling analysis, the word order falls out without any alterations, since the recipient is still in the left attached specifier of the applicative phrase.

(56) a. Scrambling Analysis:



b. Hallman’s Analysis:



A potential problem for the scrambling analysis in English is the existence of verbs that only occur in the theme–recipient order (verbs that only occur in the recipient–theme order can be explained as lacking the scrambling operation). These verbs (e.g., DONATE) form an ill defined class that shows a great deal of inter-speaker variation (Levin 1993). I propose that there is interspeaker variation in the origin of the unacceptability judgements for these verbs. For some speakers, it is plausible that these verbs are analysed as introducing goals instead of recipients. In this case, the ‘to’-marked elements are the complement of the main

verb and thus the theme–recipient order arises by default. The availability of goal thematic roles in Icelandic in the same situation (i.e., cases of donation) suggests that this reanalysis is plausible.

(9) Icelandic:

Ég gaf bækurnar til Háskólabókasafnsins  
I.NOM gave books.the.ACC to University.Library.the.GEN

‘I gave the books to the University Library’

However, Hallman (2015) presents his judgements that suggest that even the object of these verbs are in the specifier of an applicative (namely that for him, their recipient objects are able to bind into purpose clauses). To the extent that these sentences are acceptable, the goal reanalysis is untenable.

(57) English (ex. 48 from Hallman 2015):

- a. John donate money<sub>j</sub> to the church<sub>i</sub> [PRO<sub>i</sub> to buy candles with e<sub>j</sub>].
- b. Mary submitted a draft<sub>j</sub> to the professor<sub>i</sub> [PRO<sub>i</sub> to comment on e<sub>j</sub>].
- c. Mary returned the books<sub>j</sub> to John<sub>i</sub> [PRO<sub>i</sub> to reshelve e<sub>j</sub>].
- d. John revealed the plan<sub>j</sub> to Mary<sub>i</sub> [PRO<sub>i</sub> to consider e<sub>j</sub>].
- e. Mary demonstrated the technique<sub>j</sub> to John<sub>i</sub> [PRO<sub>i</sub> to teach e<sub>j</sub> to the new assistants].

However, a similar problem arises when looking at the behaviour of recipients in Romance languages (esp. since these verbs are often characterised as being predominantly borrowed from Romance). The typical word order for recipients in Romance languages is theme–recipient and the recipient is obligatorily marked with a preposition (unless it has cliticised to the verb, where prepositional marking is prohibited).

(58) Italian (Proudfoot and Cardo 2013:sec. 4.3.1)

- a. Ho dato il libro \*(a) Paolo.  
I.NOM gave the book to Paolo.  
‘I gave the book to Paolo.’

- b. Ho      dato il    libro \*(a) LUI.  
I.NOM gave the book to    him.  
'I gave the book to HIM.'
- c. (\*A) gli            ho      dato il    libro.  
to    him.DAT I.NOM gave the book.  
'I gave him the book.'

If the theme–recipient order is the only one that occurs, that would seem to be a refutation of the universality of a recipient–theme base generation order, especially since requiring scrambling seems unsatisfactory. However, while theme–recipient orders are (vastly) preferred in Romance languages, there exists evidence that they are derived via the same VP-internal scrambling operation as in Germanic languages. In particular, Italian shows the same sensitivity to information focus described for German, suggesting that just as in German, the theme–recipient order is derived from the recipient–theme order via scrambling.

(59) Italian (Belletti and Shlonsky 1995:ex 26)

- a. Che cosa hai            restituito a Maria?  
what did you.NOM give back to Maria?  
'What did you give back to Maria'
- b. Ho      restituito a Maria le chiavi.  
I.NOM give back to Maria the keys  
'I gave back the keys to Maria'
- c. \*Ho      restituito le chiavi a Maria.  
I.NOM give back the keys to Maria  
'I gave back the keys to Maria'

Even though the Romance theme–recipient order is derived from VP-internal scrambling, it is necessary to explain why the operation is as restricted as it is in Romance, given that it applies much more freely in Germanic languages. At this point, it becomes useful to distinguish between grammar and performance. A grammar generates the possible utterances of the language (i.e., it creates a possibility space). It is obvious that not all grammatical possibilities are naturally probable (e.g., “the button machine with letters” is a perfectly grammatical way of referring to a “keyboard”, but is not the way any native speaker of English would avail themselves of). Speakers of a language conform as a community on de-

termining how the possibilities of their grammar will be deployed in order to satisfy various demands (including information structure, prosodic naturalness, social signalling, among others). The difference between Germanic and Romance can be attributed to the way in which the possibilities are deployed in actual language use.

As discussed in Chapter 2, unacceptability can, but need not, be derived from ungrammaticality. Corpus studies of dative shift (Collins 1995, Bresnan et al. 2007, Bresnan and Nikitina 2009) have shown that even when all other factors are kept constant (e.g., length of objects, information status of objects, etc.), there is a great deal of between verb variation in the probability of the recipient–theme and theme–recipient word orders. Bresnan and Ford (2010) use a series of gradient acceptability judgement tasks to show that degree of acceptability is strongly predicted by corpus frequency (i.e., the more likely a particular sentence is to occur in the recipient–theme order in a corpus, the more acceptable participants tended to rate it). This suggests that one source of unacceptability is a non–grammatical dispreference in use for certain grammatical constructions (i.e., just because a grammar generates a sentence does not mean that any native speaker of the language would use the sentence).

By associating the DONATE class’s theme-recipient preference to the independently necessary verb specific patterns of use, the grammar of recipient ditransitives can be kept simple and universal. The verb specific nature, also, explains why there is so much interspeaker variation as to which verbs belong in the DONATE class. Each speaker needs to estimate the probability of scrambling and not-scrambling for each verb; some speakers assign such a strong lexical probability to scrambling that no other factors can override it, while other speakers assign a weaker lexical probability to the same verb moving it out of the class. The tendency for verbs of similar types to pattern together (see Levin 1993) can be explained by the need for speakers to often estimate lexical probability from extremely small number of attestations of a particular lexical item. In those situations, a sensible strategy is to group a number of phonologically/semantically related verbs together and estimate the lexical probability of each individual verb on the basis of the group corpus.

Some evidence that DONATE does not categorically prohibit recipient–theme orders, but simply strongly disprefers them, comes from cases in which all of the other contextual factors conspire to support the recipient–theme order. This situation arises in cases of organ



donation, where the recipient of the donation is animate and can be realised pronominally. In this case, sentences like “John donated him a kidney” are generally much more acceptable than “John donated the library books”. Indeed, a Google search for “donated him a kidney” had 71 hits, suggesting that a number of English speakers find the construction grammatical.

While scrambling has been considered a standard operation in morphologically rich languages, it has been considered rare (or impossible) in languages without overt case marking (see for example Weerman (1997)). However, Low German provides an example of a language that lacks robust case marking, but maintains scrambling syntax. For example, Fleischer (2006) states: “In Low German, this construction [prepositional dative marking] could eventually be viewed as compensatory to the loss of a distinct dative case; however, from the fact that I could not find any decisive examples of this construction in Low German, I conclude that it is very rare.” Lindow (1998) makes no mention of prepositional dative marking (including in a section discussing the uses of various prepositions. Indeed, Mussäus (1829) gives examples of theme–recipient clauses without any prepositional marking, even though the dative/accusative distinction had been lost hundreds of years before Mussäus wrote his grammar (Lasch 1914, Boden 1993).

(60) Low German:

ick gaw dat Brod den Man, wobei dat Brod zeigend ist.  
 I gave the bread the man who the bread shown is.

‘I gave the bread to the man who was shown the bread (Mussäus 1829).’

The opposite counterexample also holds, namely the only Germanic language to lack scrambling (i.e., the only language to lack theme–recipient word orders) is Icelandic, which still has rich morphological case marking.

### 3.5 Conclusions

In this chapter, I argued that recipients are always introduced as a PP in the specifier of an applicative phrase, which means that recipient–theme word orders are always the base generated orders. Goals, on the other hand, are introduced as a direct goal PP object of

the verb. The claimed universal nature of these syntactic order supports a strong version of the Uniformity of Theta Assignment Hypothesis, namely that all languages share the same base generation orders for the same theta roles. Typological evidence as well as language specific evidence from German and English was brought to demonstrate that theme–recipient orders are derived from scrambling. All Germanic language have recipient–theme orders, but Icelandic lacks the theme–recipient order. German internal evidence and data from marginal reconstruction in theme–recipient orders supports the notion that the theme is moving from a base position below the recipient to its surface position. The difference between dative case and prepositional marking was reduced to contextual allomorphy in the realisation of the dative P head. This morphological distinction was shown to sometimes correlate with the recipient/goal distinction, but was often independent. Evidence from Low German and Icelandic showed that the availability of scrambling is completely independent of the richness of surface morphology.

## Chapter 4

# Passive Syntax of Recipient Ditransitives

### 4.1 Introduction

This chapter analyses how data from the passivisation of recipient ditransitives can be explained by the dative PP + applicative analysis. Passivisation, as a movement operation, is a useful probe in studying the internal structure of clauses. The assignment of subject properties to arguments shows sensitivity to case and locality issues that reflect on the case and syntactic positions of arguments.

Looking at passivisation implicates the internal properties of subjecthood. McCloskey (1997) describes how one of the major innovations of the generative program was to remove subjecthood as a primitive notion, instead associating different properties of subjecthood with distinct structural positions. The two properties focused on here are: (a) the nature of the higher subject position (e.g., spec-TP) and (b) the assignment of nominative case and triggering of subject agreement on the finite verb. Ditransitive passives show how arguments are chosen for the assignment of these two properties, since multiple arguments are available for selection.

Similar to Platzack (2005), I propose a theory that unites the two main theories of argument selection in passivisation, namely: case-based theories (Larson 1988, Baker 1988b, Pe-

setsky 1996, Holmberg 2001) and locality based theories (Falk 1990, Holmberg and Platzack 1995, McGinnis 1998, Anagnostopoulou 2003). Case based theories assume that only non-inherently case marked elements (or direct objects instead of indirect objects) are available to receive subject properties. The strongest version of case-based theories is impossible given the possibility of oblique subjects (see Zaenen et al. 1985 and below), which has led to a general rise in prominence of locality-based theories.

Locality-based theories state that only the structurally highest DP is available to receive subject properties. The applicative analysis claims that recipients are base generated higher than the theme, which means that the locality approach predicts that, barring intervening factors, the recipient should always become the subject (recipient passivisation). However, among Germanic languages, theme passivisation (where the theme becomes the subject) is available indicating mechanisms for obviating the locality violation. These mechanisms will be discussed below.

This chapter will start by analysing recipient passivisation. Since (as argued in Chapter 3) the recipient always receives dative case, which is represented by a PP, full recipient passivisation (with a nominative recipient) requires dative-to-nominative conversion. Building on the analysis of Alexiadou et al. (2014), I propose that dative-to-nominative conversion involves incorporation of the P head into a verbal element, which turns the recipient into a bare DP and makes it available for structural case assignment. The dative PP analysis assumes that the difference between inherent/lexical case and structural case is the presence of the PP layer (Bayer et al. 2001). Evidence for the incorporation analysis will be brought from recipient passives in German, Dutch and Swedish. In the following subsection, I discuss oblique subjects in Icelandic and the evidence they provide for separating the movement to subject position and nominative case assignment.

The second section focuses on theme passivisation. I show that there are two mechanisms by which the locality constraint can be violated, namely: (a) restriction of case assignment/subject movement to bare DPs or (b) movement of either the recipient or the theme. The first mechanism is a consequence of the P-incorporation analysis for recipient passivisation. If P-incorporation is unavailable, then the recipient is not a valid target for nominative case assignment. I give evidence for the following outcomes in the situation

in which a movement strategy to obviate the locality violation is not employed: (a) direct theme passivisation (i.e., selection of the theme for subject properties in its base merged position) or (b) defective intervention (i.e., failure to passivise).

## 4.2 Recipient Passivisation

In this dissertation, recipient passivisation is defined as cases where the recipient is in the higher subject position (i.e., spec-TP). There are two sub-cases of this situation, which will be addressed in turn. The first (dative-to-nominative raising) is a case where the recipient receives nominative case and has all subject properties. The second (oblique subjects) is a case where the subject properties are split with the recipient occupying the higher subject position, but the theme receives nominative case.

### 4.2.1 Dative-to-Nominative Raising

The dative PP + applicative analysis claims that all recipients are dative case marked. Therefore, any example of a nominative recipient is an example of dative-to-nominative conversion. As will be shown below, this property can be seen on the surface in a number of Germanic languages (namely Faroese, Halsá Norwegian, and Standard German).

Faroese<sup>1</sup> and Halsá Norwegian both show the availability of dative-to-nominative conversion, although they do not elucidate the mechanism by which dative-to-nominative conversion occurs. Both languages have a clear morphological distinction between dative and accusative case.

(61) Faroese:

- a. Teir góvu **gentuni** telduna  
they gave **girl-the.DAT** computer-the.ACC  
'They gave the girl the computer.'
- b. \*Teir góvu **gentuna** telduna  
they gave **girl-the.ACC** computer-the.ACC

---

<sup>1</sup>Faroese is currently changing from having oblique subjects like Icelandic (discussed below) and having dative-to-nominative raising. The data presented below are from the speakers that have adopted the new grammar with dative-to-nominative raising (see Eypórrsson et al. (2012) for a discussion of this change and survey data attesting to the existence of this sub-population).

‘They gave the girl the computer.’

(62) Halsá Norwegian:

- a. Ho erta    **kattå**  
she teased **cat.DEF.ACC**  
‘She teased the cat.’
- b. Ho ga    **kattå**            inn mat  
she gave **cat.DEF.DAT** food  
‘She gave the cat food.’

Both languages also allow the dative argument to surface as nominative in the passive. Oblique subjects (of ditransitive passives) are marginal/ungrammatical (Eyþórsson et al. 2012).

(63) Faroese:

- a.    Gentan            bleiv givin            telduna  
girl-the.NOM was    given.NOM computer-the.ACC  
‘The girl was given the computer.’
- b. ?? Gentuni            bleiv givin            ein            telda  
girl-the.DAT was    givn.NOM a.NOM computer.NOM  
‘The girl was given the computer.’

(64) Halsá Norwegian:

- a.    Hainn    vart gjevinn ei skei.  
He.NOM was given    a spoon  
‘He was given a spoon.’ (Eyþórsson et al. 2012:ex 50c)
- b.    \*Hånnå    vart gjevinn ei skei.  
He.DAT was given    a spoon  
‘He was given a spoon.’ (Eyþórsson et al. 2012:ex 50c)

In order to explain how dative-to-nominative conversion occurs, a theory of nominative case assignment needs to be given. Bayer et al. (2001) and Asbury (2007) argue that PPs may be restricted to inherent/lexical case, and that the P layer is absent in DPs marked with structural case. That analysis is adopted here, which means that in order for an element to receive nominative case, it must be a bare DP. While the theme in recipient ditransitives is

a DP, the recipient is a PP and thus should be unavailable for nominative case assignment. For it to become available, the PP layer must be removed.

Alexiadou et al. (2014) propose a mechanism for removing the PP layer, namely P-incorporation, which was briefly introduced in the last chapter. This operation unites dative-to-nominative conversion with theories of pseudopassivisation, where passivisation of the object of preposition required incorporation of the preposition into the verbal domain (Herslund 1984). This section argues that both pseudopassivisation and nominative recipient passivisation rely on the same underlying mechanism of P-incorporation, however, the structural/semantic differences between prepositional objects (complements of the main verb) and recipients (specifiers of an applicative phrase) mean that pseudopassivisation and nominative recipient passivisation need not co-occur in the same language (or that the reflex of P-incorporation need not be the same across the two constructions in the same language).

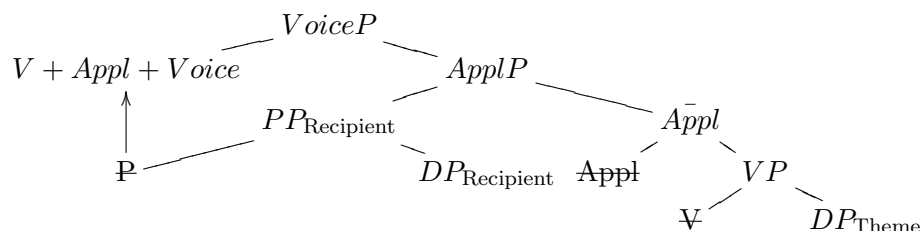
P-incorporation is a type of head excorporation, which must be distinct from standard head movement. P-incorporation moves the P-head from the specifier of the recipient – itself in the specifier of the applicative phrase – and adjoins it to the head of the nearest C-commanding phrase. This description of the landing site can be seen from the Swedish data shown in the previous chapter, namely that VP-internal scrambling is unavailable with verbs that show P-incorporation (by having a prefix, e.g. *er-*). After VP-internal scrambling, the theme C-commands the recipient and is thus the nearest C-commanding phrase. Since the verb *erbjoda* ‘offer’ is built from P-incorporation, if the dative P does not incorporate, the verb cannot be used (since it cannot be built).

(33) Swedish:

- a. Han       erbjöd Jan ett nytt jobb  
      he.NOM offered John a new job  
      ‘He offered John a new job’
- b. ?? Han       erbjöd ett nytt jobb til Jan  
      he.NOM offered a new job to John  
      ‘He offered a new job to John’
- c. \* Han       erbjöd ett nytt jobb Jan  
      he.NOM offered a new job John  
      ‘He offered a new job to John’

After reviewing some more data, I show that the target site also has implications for the structure of OV and VO clauses, since OV and VO languages show different reflexes of P-incorporation.

(65) P-incorporation (VO Word Order)



Recipient passivisation is not normally available in Dutch or Standard German, instead the theme must receive nominative case (see below for further discussion of theme passivisation).

(66) Standard German:

- a. Ich glaube, dass **den** **Kindern** das Fahrrad geschenkt  
 I believe that **the.DAT.PL children** the.NOM bicycle granted  
 worden ist.  
 become be.3sg  
 ‘I believe that the children were granted the bicycle.’
- b. \*Ich glaube, dass **die** **Kindern** das Fahrrad geschenkt  
 I believe that **the.NOM.PL children** the.ACC bicycle granted  
 worden sind.  
 become be.3pl  
 ‘I believe that the children were granted the bicycle.’

(67) Dutch:

- a. De boeken **worden** werden haar aangeboden.  
 the books **became.PL** her given  
 ‘The books were given to her.’ (Broekhuis and Cornips 1994:ex. 5b)
- b. \*Zij **werd** de boeken aangeboden.  
 she.NOM **became.SG** the books given  
 ‘She was given the books.’ (Broekhuis and Cornips 1994:ex. 5c)

However, when the passive auxiliary changes from *worden* ‘become’ to *bekommen/krijgen* ‘get’, recipient passivisation becomes obligatory. Alexiadou et al. (2014) argue that the



change in auxiliary is the direct reflection of P-incorporation, i.e., that *werden* is the realisation of the passive on its own, while *bekommen/krijgen* is the realisation of the passive with the dative P incorporated. For Standard German, this is a clear case of dative-to-nominative conversion, since dative case is marked on the surface.

(68) Standard German:

- a. dass der Vater **der** Tochter ein Buch geschenkt hat  
 that the.NOM father **the.DAT daughter** a.ACC book sent has  
 ‘that the father sent the daughter a book.’
- b. dass **die** Tochter von dem Vater ein Buch geschenkt bekommen  
 that **the.NOM daughter** by the father a.ACC book sent got  
 hat  
 has  
 ‘that the daughter got sent a book by her father (Draye 1996:183).’

(69) Dutch:

**Zij** kreeg de boeken (van mij) aangeboden.  
**she.NOM** got the books (by me) given

‘She was given the books (by me).’ (Broekhuis and Cornips 1994:ex. 7)

For German and Dutch, there is evidence that the *bekommen/kreign* passive is actually a passive construction. This evidence comes from the availability of by-phrases (as seen above) and productivity (Broekhuis and Cornips 1994). In Dutch, the construction can be productively used with almost all verbs that assign a recipient or addressee theta role. The only exception is the verb *geven* ‘give’, which Broekhuis and Cornips (1994) argue is ruled out on pragmatic grounds, since ‘get given’ is pleonastic for ‘get’.

Another case of overt incorporation can be seen in Swedish. Herslund (1984) argued that P-incorporation for pseudopassivisation in Scandinavian languages appears as prefixed verbs rather than P-stranding as in English.

(70) Danish:

- a. Revisionen blev **påbegyndt** i maj  
 revision-the was **on-begun** in May  
 ‘The revision was begun in May’

- b. \*Revisionen blev **begyndt på** i maj  
 revision-the was **begun on** in May  
 ‘The revision was begun in May’

(71) English:

- a. \*The bed was inslept.
- b. The bed was slept in.

I showed in Chapter 3 that Swedish shows a split between ditransitive verbs with and without prefixes. There, I suggested that the particle verbs represented the incorporation of dative P into the verb. This explanation is consonant with the Swedish passivisation data; only verbs with particles allow recipient passivisation (see below for theme passivisation strategies in Swedish). Recipient passivisation is not available for non-particle verbs (Lundquist 2006).<sup>2</sup>

(72) Modern Swedish:

- a. Particle Verb:

Han erbjöds ett nytt jobb  
 he.NOM offered.PASS a new job

‘He was offered a new job (Anward 1989, Lundquist 2006).’

- b. \*Non-Particle Verb:

Pelle gavs ett äpple  
 Pelle gave.PASS a apple

‘Pelle was given an apple (Anward 1989, Lundquist 2006).’

Most of the Germanic languages do not show any overt signs of P-incorporation (including Faroese and Halsa Norwegian discussed above). Given the morphological description of dative case realisation discussed in Chapter 3, this is not surprising. Most of these languages (e.g., Danish, Standard Norwegian and English) seem to share the distribution of null dative case realisation with English (i.e., the null realisation is restricted to contexts locally

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<sup>2</sup>Lundquist (2004) shows that there are some exceptional cases where recipient passivisation is available with a verb like *ge* ‘give’, namely “where the agent has less control over the outcome of the event” (e.g. “John was given the opportunity to succeed”). Since these represent a marginal component of the system, I do not discuss them further.

adjacent to the verb). When the P-head incorporates, it is maximally adjacent to the verb. Thus, a null realisation is expected.

(73) English: He was P= $\emptyset$ -given ~~he~~ the ball.

(74) Standard Norwegian:

Han        vart P= $\emptyset$ -gitt ~~han~~        ein medalje  
 he.NOM was given        ~~he.NOM~~ a        medal

‘He was given a medal.’

(75) Danish:

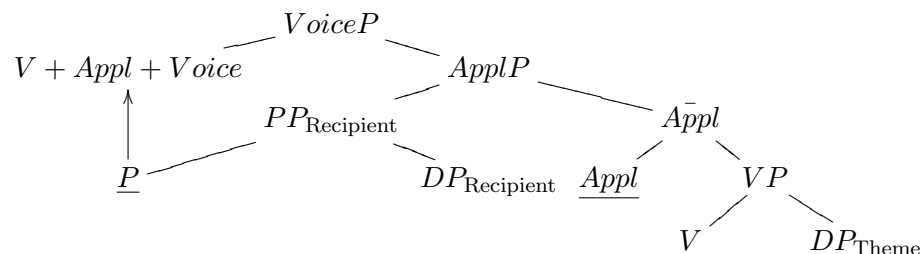
Han        blev P= $\emptyset$ -tilbudt ~~han~~        en stilling  
 he.NOM was offered        ~~he.NOM~~ a        job

‘He was offered a job.’

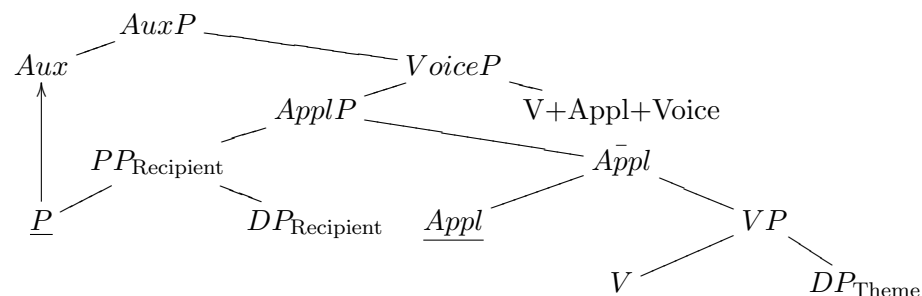
This P-incorporation process seems to be sensitive to OV vs VO word order, a generalisation observed in Sprouse (1995). In languages like Dutch and German with OV word order, P-incorporation happens with the auxiliary, which is the element to the left of the recipient, and thus recipient passivisation is restricted to cases with a different auxiliary. In VO languages, like Swedish, the verb is the element to the left of the recipient, and thus recipient passivisation is restricted to particle verb cases. In many of the languages, P-incorporation is invisible, since the P element has a null realisation.

The OV/VO split follows from the roll-up analysis of object linearisation (Biberauer 2004, Biberauer and Roberts 2005, Wallenberg 2009). Under these analyses, the VP scrambles to be above VoiceP after the verbal head has already moved into VoiceP via head movement. Under this structure, TP (or AuxP) is the next highest functional head above the recipient and thus the target for P-incorporation. In VO languages, the VP with the recipient inside of it stays low and thus VoiceP is the next highest head, leading to the Swedish case where the verbal prefixes reflect P-incorporation.

(??) VO:



(76) OV:



In addition to the synchronic/typological discussion above, there are also diachronic reasons to prefer the P-incorporation account. Falk (1997) and Allen (1999), and Platzack (2005) (following earlier literature) suggest that nominative recipient passivisation is made available by the reanalysis of bare dative recipients as being marked with accusative case (and thus possible targets to raise as nominative subjects). This explanation predicts that nominative recipient passives should become available shortly after the loss of synthetic dative case (since there is no longer any morphological evidence for a dative–accusative distinction). In the discussion of the diachronic data below, I show that in all cases that have been investigated, nominative recipient passivisation only become available hundreds of years after the loss of synthetic dative case.

The diachrony of both the loss of synthetic dative case and the availability of nominative recipient passivisation have been examined for English and Swedish. For English, Allen (1999) shows that the last remnants of synthetic dative case were lost in all English dialects by the middle of the 12th century. However, she carefully shows that the first unambiguous example of nominative recipient passivisation (instead of topicalised dative passives or dative subjects) occurs around 1375, nearly 200 years after dative case has been lost. Falk (1997) shows that nominative recipient passivisation only becomes available in the end of the 19th century (she does not discuss the split between different verb classes). This is also about

200 years after the loss of synthetic dative case in the 17th century.

I already suggested that the analysis of nominative recipient passivisation that relies on reanalysis of recipients as being introduced with accusative case in the active has no way to explain why the reanalysis does not occur until almost 200 years after the loss of the morphological forms that would have provided evidence to language learners about the case distinction. In other words, why would language learners keep positing dative case without any surface evidence if an accusative analysis was possible?

Under the analysis proposed here, the answer to this question is that an accusative (re)analysis is not possible. Recipients are universally marked with dative case (i.e., this is not subject to variation and thus does not need to be learned as part of language acquisition). Nominative recipient passivisation requires the learner to posit an operation of P-incorporation and associate the operation with the dative P (and possibly particular verbs as in the Swedish case). When the dative P incorporates, the recipient becomes a bare DP, which is then available to raise as a nominative subject. The existence of a null realisation of P after the loss of synthetic dative case (i.e., the null allomorph in dative shift) **licenses** a language learner to posit P-incorporation for datives, since there is no surface evidence about the location of the null allomorph. However, since the learner is required to posit an independent syntactic operation (P-incorporation), it is not unexpected that there might be a long lag between the development of a situation that licenses the change (i.e., the development of a null allomorph) and learners actually implementing the change (i.e., positing P-incorporation as a valid operation in the language for dative Ps).

As discussed above, the P-incorporation account also explains why Dutch does not allow nominative recipient passivisation with the standard passive auxiliary (namely because as an OV language P-incorporation involves incorporation into the auxiliary triggering a different allomorph of the passive auxiliary). Under the case reanalysis account, it is unclear why Dutch should not have undergone case reanalysis allowing nominative recipient passivisation across-the-board (even with the standard passive auxiliary).

Finally, the existence of nominative recipient passives in languages with synthetic dative case marking (Faroese and Halsa Norwegian) needs to be explained. Case reanalysis cannot account for these languages, since they transparently do not have accusative recipients in

the active. The P-incorporation account, however, is compatible with the data. The dative P that triggers the synthetic dative morphology can be incorporated in the passive and maintain its null realisation (since in most cases of synthetic datives the P is null and the case features are realised by concord on other elements in the DP). Positing P-incorporation in these languages should not easily occur, since there is overt evidence that the dative P is still attached to the recipient (in the form of synthetic dative case marking). For both Faroese and Halsa Norwegian, however, spontaneous positing of the operation is unnecessary, since both languages are spoken by populations who are in intense language contact with languages that already have P-incorporation (namely Danish and Standard Norwegian respectively). In these cases, P-incorporation can plausibly have been borrowed from the contact language.

#### 4.2.2 Oblique Subjects

The previous subsection dealt with cases in which P-incorporation occurred. In that situation, the highest argument (i.e., the recipient) was available both for movement to subject position and nominative case assignment. Most of the rest of this chapter will focus on cases where P-incorporation does not occur. In these situations, the recipient is not available for nominative case assignment. This subsection describes cases where the two subjecthood properties split: the recipient moves to a higher subject position (oblique subject) and the theme receives nominative case (nominative object) and triggers verbal agreement. This split can be encoded in the featural content of T, where the T head that licenses subject properties has the movement and case assignments distinct. See the discussion of theme passivisation below for further discussion of how the assignment of nominative case to the theme proceeds.

Zaenen et al. (1985) gives the classic presentation of the evidence in Modern Icelandic for oblique subjects. In Icelandic, only subjects can occupy the post-finite verb position.

##### (77) Topicalization

- a. Refinn                skaut **Ólafur**                með þessari byssu.  
fox.DEF.ACC shot **Olaf.NOM** with this                shotgun  
‘The fox, Olaf shot with this shotgun (Zaenen et al. 1985:ex. 19a).’

- b. \* Með þessari byssu skaut **refinn** Ólafur.  
 with this shotgun shot **fox.DEF.ACC** Olaf.NOM  
 ‘The fox, Olaf shot with this shotgun (Zaenen et al. 1985:ex. 19b).’

(78) Direct Question

- a. Hafði **Sigga** aldrei hjálpað Haraldi?  
 had **Sigga.NOM** never helped Harald.DAT  
 ‘Had Sigga never helped Harald (Zaenen et al. 1985:ex. 20b)?’
- b. \* Hafði **Haraldi** Sigga aldrei hjálpað?  
 had **Harald.DAT** Sigga.NOM never helped  
 ‘Had Sigga never helped Harald (Zaenen et al. 1985:ex. 20c)?’

In cases of ditransitive passives, the dative phrase is capable of filling this position patterning with undisputed subjects.

(79) Topicalization

- a. Um veturinn voru **konunginum** gefnar ambáttir.  
 In winter.the were **king.the.DAT** given slaves.NOM  
 ‘In the winter the king was given slaves (Zaenen et al. 1985:ex. 47a).’

(80) Direct Question

- a. Voru **konunginum** gefnar ambáttir?  
 were **king.the.DAT** given slaves.NOM  
 ‘Was the king given slaves (Zaenen et al. 1985:ex. 48a)?’

Note that in all cases with dative subjects, the verb obligatorily agrees with the nominative object in number only (Árnadóttir and Sigurðsson 2013). Thus, the finite verb must enter into a relationship with both of the object DPs: the recipient in order to trigger movement to the subject position, and the object in order to assign nominative case and to trigger verbal agreement. The weaker nature of agreement without movement is seen in other languages with both preverbal and postverbal positions for the agreement triggering phrase (e.g. Arabic subject agreement, Soltan.2006).

### 4.2.3 More on PP subjects

The above analysis claimed that oblique subjects represented PPs filling subject position, which at first glance seems to be a very difficult claim to accept. Even Icelandic, the

paradigm case of oblique subjects does not allow overt prepositional arguments into subject position.

(81) Icelandic:

- a. \*Í gar var um þessa konu oftast talað  
yesterday was about this woman often talked  
'Yesterday, this woman was often talked about'
- b. \*Í gar var í rúminu sofið  
yesterday was in bed.DEF slept  
'Yesterday, the bed was slept in.'

The unification of oblique arguments and prepositional phrases allows for a unification of the explanation of why PP subjects and oblique subjects are both so rare crosslinguistically (i.e., because they are the same thing syntactically). Below, I present evidence from Afrikaans that oblique subjects at least can be PPs with the preposition realised as an independent word. I then conclude this discussion by describing why recipient PPs can become subjects, but most other PPs cannot (e.g., in Icelandic).

Afrikaans provides additional evidence that oblique subjects should be analysed as PPs, by having morphologically clear recipient PPs in subject position in ditransitive passives. According to de Stadler (1996), Afrikaans has the standard V2 subject position. As discussed above for Icelandic, only subjects are allowed to immediately follow the finite verb in cases where either the sentence is V1 (e.g. yes/no questions) or where there is a topicalised element, unlike in Dutch and German, where the subject position need not be filled. In the passive, the recipient patterns as a subject occurring after the finite verb in both V1 constructions and with a topicalised element, even when it is prepositionally marked:

- (82) a. Is aan hom ooit 'n geskenk gegee?  
Was to him ever a present given.  
'Was he ever given a present (ex. 49 from de Stadler 1996?)'
- b. Gister is aan hom 'n klomp geld gegee.  
Yesterday was to him a lot of money given.  
'Yesterday he was given a lot of money (ex. 50 from de Stadler 1996).'

When the recipient raises, leaving it unmarked (if a full noun phrase) or with nominative



case (if a pronoun) is marginal. The preferred construction is for the recipient to be marked with *aan* ‘to’.

- (83) a. ?hy is ‘n present gegee.  
           he was a present given  
           ‘He was given a present.’
- b. Aan hom is ‘n present gegee.  
           to him was a present given  
           ‘He was given a present.’

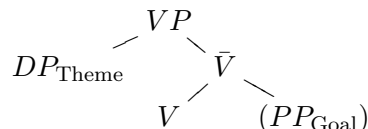
If oblique recipients are just PPs, why are they able to become subjects when other PPs cannot in Icelandic? I propose that the difference comes not from the internal structure of the PPs, but instead from their clausal position. Adjunct PPs can be excluded from raising to subject position (on the assumption that only arguments can become subjects). This prohibition holds with respect to pseudo-passivisation in English, adjunct PPs do not license pseudo-passives (Hornstein and Weinberg 1981, Baker 1988b). However, argument PPs (the kind of PPs that license pseudo-passivisation in English) are also not grammatical subjects in Icelandic.

Under the analysis presented above, this cannot be because PPs cannot be subjects, since I argued that oblique subjects represent PP subjects. I propose that instead of being a property of the PPs that differs, this asymmetry is caused by a difference in the syntactic location of the two arguments. In particular, I argue that the main verb is a syntactic barrier (or phase head), generally prohibiting material in its complement from moving. Thus most argument PPs cannot raise, because they are too deeply embedded. Pseudo-passivisation is available on the assumption that incorporation is a technique for moving an element past a syntactic barrier (see Alexiadou et al. 2013 and citations therein).

Under the standard assumption that themes are in the complement of main verbs, this should also rule out passivisation of standard monotransitives. However, this dissertation has already committed to a different location for themes. This follows from the combination of the structure of themes in prepositional object constructions (i.e., in the specifier of the main verb or some higher functional projection) and the requirements of UTAH (i.e., that there be only one location for a given thematic role). Since themes are in a specifier above

the main verb, the fact that the main verb is a barrier to movement is irrelevant; the theme is generated beyond the barrier.

(3) Prepositional Object Construction:



## 4.3 Theme Passivisation

Theme passivisation occurs when the theme is in the higher subject position (i.e., spec-TP). In these case, the theme always receives nominative case (i.e., there are no oblique theme subjects). However, the theme being in subject position is a violation of locality without any intervening operation, since the recipient is always base generated higher than the theme. This section addresses two mechanisms by which the locality violation can be licensed: case sensitivity (a type of relativised minimality) and movement (of either the theme or the recipient).

### 4.3.1 Case Licensed Locality Violation

This subsection deals with the situation where the dative case of the recipient does not P-incorporate, oblique subjects are not licensed, and no movement operation has altered the initial structure. In order for oblique subjects to be prevented, movement to subject position in these cases must be restricted to nominative elements (i.e., the two subjecthood properties are linked on T). The recipient intervenes for locality purposes between T and the theme, and both relativised minimality and defective intervention are observed.

Relativised minimality (Rizzi 1990) solves locality violations by restricting the domain of possible targets for the search. The classic case is that arguments in A-bar positions are not in the domain of A-movement operations. In the case of ditransitive passivisation, PPs are not in the domain for an operation that is looking for DPs, namely T is looking to jointly assign nominative case and simultaneously trigger subject raising. Since P-incorporation has not occurred, the recipient is a PP and thus not in the domain of the nominative case assignment operation. The recipient is invisible for the search and the theme can receive

nominative case and move to the higher subject position directly from its base merged position. I call this construction, where the theme becomes a subject from its base merged position, **direct theme passivisation**.

Evidence for direct theme passivisation comes from a number of different Germanic languages. One piece of evidence that nominative case assignment can target the theme in its base merged position comes from German and Dutch. In both of these languages, there is no requirement that the higher subject position be filled (Besten 1990). Nominative elements in all clauses can stay in their base merged positions. In the passives of ditransitives with the normal passive auxiliary *werden*, only the theme can receive nominative case (for the behaviour with alternative passive auxiliaries, see above). The nominative theme can be in its base merged position, underneath the recipient, suggesting that the nominative case assignment occurred past the recipient, which was invisible since it was a PP.

(84) High German:

Ich glaube, dass den           Kindern das           Fahrrad geschenkt worden ist.  
 I   beleive that the.DAT.PL children the.NOM bicycle granted   become be.3sg  
 ‘I believe that the child was granted the bicycle.’

(85) Dutch:

Er    werd           mij een boek gegeven.  
 There became.3sg me a   book given  
 ‘A book was given to me. (Donaldson 2008:pg 245)’

Certain dialects of British English and historical dialects of English also provide evidence for direct theme passivisation. In these dialects, theme passivisation can occur with bare recipients (86a). In Chapter 3, I argued that lower copies of movement are able to intervene for determining the realisation of dative P, namely that they prevent the null allomorph from being realised. Thus, the existence of a null allomorph in theme passive contexts must be due to the theme moving to subject position from its base merged position without an intermediate stage of VP-internal scrambling.

(86) English Dialects:

- a. The book was given P= $\emptyset$  the man ~~the book~~.
- b. \* The book was given ~~the book~~ P= $\emptyset$  the man ~~the book~~.

Icelandic also provides an example of direct theme passivisation. As discussed in Chapter 3, Icelandic lacks VP-internal scrambling. However, theme passivisation is still a robust possibility in Icelandic. Either the theme is moving directly from its base merged position in the passive, or the passive shows evidence of a covert operation (VP-internal scrambling) that can only feed further transformation, but cannot occur on its own. While such operations have been argued for in the literature (Richards 2001:119ff), direct theme passivisation gives a simpler analysis of Icelandic clauses, using only operations that are independently necessary.

(87) Icelandic:

- a. Um veturinn voru **ambáttin** gefin konunginum ~~ambáttin~~.  
In winter.the was **slave-the.NOM** given king.the.DAT ~~slave-the.NOM~~  
'In the winter the slave was given to the king (Zaenen et al. 1985:ex. 47b).'
- b. Var **ambáttin** gefnar konunginum ~~ambáttin~~?  
were **slave-the.NOM** given king.the.DAT ~~slave-the.NOM~~  
'Was the slave given to the king (Zaenen et al. 1985:ex. 48b)?'
- c. **Bókin** var gefin Jóni ~~Bókin~~  
**book-the.NOM** was given John.DAT ~~book-the.NOM~~  
'The book was given to John (Holmberg and Platzack 1995, Barðdal 2001).'

Swedish verbs without particles (e.g., *gav* 'give'), Danish and Modern American English all prohibit theme passivisation with bare recipients.

(88) Swedish (verbs without particles):

- \* Ett äpple gavs Pelle.  
An apple gave.PASS Pelle.  
'An apple was given to Pelle (Anward 1989, Lundquist 2006).'

(89) Danish:

- \* En stilling blev tilbudt ham.  
A job was offered him.OBL.  
'A job was offered to him (Falk 1990).'

(90) Modern American English: \*The book was given P= $\emptyset$  John ~~the book~~.

These facts can be captured by assuming that PPs elicit a defective intervention (Chomsky 1998) effect in these languages. Direct theme passivisation is ungrammatical, since the recipient intervenes between T and the theme. The recipient is not a valid target for subjecthood (since P-incorporation has not occurred), but the recipient is still included in the search domain for the assignment of nominative case (since in these languages relativised minimality with respect to the PP/DP distinction does not hold). Some movement operation is necessary to allow passivisation in these cases.

(91) Modern American English: The book was given ~~the book~~ P=*to* John ~~the book~~.

To summarise the above approaches, T can have various restrictions on the target of its search for movement to subject position. The most liberal search criterion is to search for any argument and move it to subject position (i.e., PPs are in the domain of subject movement), which leads to oblique subjects. The most restricted search criterion is that only DPs (i.e., elements that can receive structural case) can be targets for subject movement, which leads to direct theme passivisation. Since Icelandic has both oblique subjects and direct theme passivisation, it must be possible for the same language to have both search criteria. This requirement can be captured by placing the variation in search criteria on T (i.e., the element initialising the search). Icelandic has two different Ts: one that searches for any argument (oblique subject T) and one that searches for only DPs (direct theme passivisation head).

Some languages have a head that is in-between the two search criteria, namely that only DPs can be targeted, but PPs can intervene (defective intervention). These languages do **not** show variation (i.e., in allowing both defective intervention and either oblique subjects or direct theme passivisation). Defective intervention can be captured in two ways. One is that both the PP and DP search properties are specified on the same T head, while languages like Icelandic have T heads that are undefined for DP or PP search properties. Under this analysis, the more specific head (with both properties specified) would always be inserted over heads with underspecified properties (a syntactic analogue of the morphological subset principle, see Halle and Marantz 1993). Another analysis would be to say that

these languages have the DP only variant from Icelandic, and a separate global parameter determines whether intervening arguments are invisible or interveners. The data from recipient ditransitives is insufficient to decide between these two, so I leave the issue open for further research.

### 4.3.2 Movement Licensed Locality Violation

As already hinted to above, VP-internal scrambling is a straightforward solution to the locality problem. If the theme has moved to be structurally higher than the recipient, then the theme is both available for nominative case assignment and the closest element from a locality standpoint. In English (and other languages with a similar case realisation pattern), this entails that the non-null realisation dative P head be used, since the null allomorph will not be licensed as the copy of the theme will intervene between P and the verb.

(92) English:

- a. The book was given ~~the book~~ P=<sub>to</sub> the man ~~the book~~.
- b. \* The book was given ~~the book~~ P=<sub>∅</sub> the man ~~the book~~.

VP-internal scrambling solves the locality problem by moving the theme. Anagnostopoulou (2003) shows that movement of the recipient is also able to obviate locality violations. Germanic languages show two different types of recipient movement. Anagnostopoulou argued that scrambling in Dutch (outside of the VP) is an A-bar operation that makes the recipient invisible for A-movement to subject position (i.e., standard relativised minimality). This type of scrambling can be identified by the placement of the argument to the left of VP-level adverbs (e.g. *waarschijnlijk* ‘probably’).

(93) Dutch:

- a. dat het boek **Marie** waarschijnlijk gegeven wordt  
that the book **Mary** probably given was  
‘that the book was probably given to Mary.’
- b. ?\* dat het boek waarschijnlijk **Marie** gegeven wordt  
that the book probably **Marie** given was  
‘that the book was probably given to Mary.’

Anagnostopoulou shows that for other languages, e.g., Modern Greek, clitic doubling of the recipient also suffices. For Modern English (and many of the mainland Scandinavian languages), pronoun cliticisation seems to be a sufficient movement operation. Since many of these languages also have direct theme passivisation (see above), only usage data is able to show the existence of a pronoun cliticisation operation. For English dialects in which both direct theme passivisation and cliticisation are available, theme passivisation with bare full noun phrase recipients is rare in corpus data ( $\sim 3\%$ – $10\%$  of all passives). On the other hand, theme passivisation with bare pronominal recipients is common ( $\sim 50\%$ ).<sup>3</sup> The difference in usage rates suggests that there may be multiple operations at play (namely a rare direct theme passivisation operation and a more common cliticisation operation). Cliticisation of the recipient removes it from further movement and from being an intervener between T and the theme.

- (94) English Dialects (cliticisation): The book was given=~~me~~ ~~the book~~.

Another piece of evidence for cliticisation is the availability of theme passivisation comes from languages/dialects in which cliticisation is available, but direct theme passivisation is not. For many modern British English dialects from the Northwest of England (around Manchester and Liverpool), theme passives with bare recipients are only available with pronominal recipients (suggesting that cliticisation is the only available strategy) (Haddican 2010, Myler 2011, Haddican and Holmberg 2012b, Biggs 2015).

- (95) a. The book was given me.  
b. \*The book was given John.

### 4.3.3 Bare Recipient Theme Passives and Bare Recipient Theme–Recipient Actives

This subsection brings additional evidence supporting the existence of direct theme passivisation and cliticisation as methods for generating theme passives in English. A pure

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<sup>3</sup>Corpus estimates are drawn from historical data in COHA (1810–2009) (Davies 2010–) and the Parsed Corpora of Modern British English (1700–1910) (Kroch et al. 2010). See the next subsection for a discussion of diachronic patterns and more detail on this construction.

locality approach would predict that theme passivisation could only be fed by the theme–recipient active word order and that for English bare recipient theme passives would occur only in grammars that had corresponding bare recipients in theme–recipient actives. Haddican (2010) and Haddican and Holmberg (2012a,b) used experimental acceptability ratings to show that this correlation does not hold in the grammar of individual speakers of British English. They found three of the four logically possible grammars attested.

(96) (Haddican and Holmberg 2012b:Table 2)

Grammar	Theme–Goal orders in active sentences	Theme passives
1	*	*
2	Ok	Ok
3	Ok	*
4 (unattested)	*	Ok

They concluded that the unattested grammar should be inexpressible and formulated an analysis of British English to account for the ungrammaticality. They only investigated cases with pronominal themes, finding that *it* licensed bare recipients better than *they* as theme subjects. From this they concluded that there was a connection between the pronominal active cases and the passive cases, since a similar pattern vis-a-vis *it* and *them* has been found in actives. Since full noun phrase theme subjects occur with bare recipients in reported judgements for some dialects (and occur robustly in corpora as seen below), it seems difficult to maintain this claim, since the same dialects do **not** allow full themes in bare recipient theme–recipient actives. Also, the fourth grammar that was unattested in their investigation of Modern British dialects surfaces in the recent history of American English.

Using the Corpus of Historical American (Davies 2010-), I investigated the loss of both bare recipient theme–recipient actives (e.g., “I gave it John”) and bare recipient theme passives (e.g., “It was given John”) in the history of American English. I extracted all tokens of the lemma GIVE + *it* in order to examine the rate of bare theme–recipient actives. I also extracted all cases of the lemma BE + the passive participle of GIVE in order to study the loss of bare theme passives. In addition, a sample of 50 tokens of OFFER were extracted for each year (25 with a pronoun after the verb and 25 with a following determiner, noun or



adjective). All of these tokens were coded by hand for the following features: whether the recipient was a pronoun or full noun phrase, whether the recipient was *to*-marked or bare, and (for passive clauses) whether it was a theme or recipient passive.

Figure ?? shows the results from this study with respect to *to*-marking. Bare marked recipients in theme–recipient actives were gone by 1940, while bare theme passives survived. After 1940, there are 22 examples of bare theme–recipient actives (out of 3098 tokens of theme–recipient actives with *it* as the theme), all of which occur either in intentionally archaisising contexts (e.g., translations of Norse sagas) or in direct quotations in plays or fiction. The restriction to archaisising and quotational environments suggest that there was still an awareness of this use of bare recipient in theme–recipient actives, but that it was no longer a productive part of the grammar of Standard American English. At the same time, among all 2448 theme passive tokens after 1940, 7% of all tokens for full noun phrase recipients and 39% of all tokens with pronominal themes are bare. Theme passives with bare recipients were prominent across all genres, but most prevalent in fiction. The prominence of bare recipients in fiction may suggest that theme passives with bare recipients were considered colloquial.

In combination with the results from Haddican’s studies, this suggests that there is a complete dissociation between bare theme–recipients in the active and bare theme passives. All possible combinations of bare vs *to*-marked theme–recipient actives and bare vs *to*-marked theme passives are attested in different dialects/time periods. The analysis presented here predicts this dissociation, since the presence of case-based restrictions on locality are neither connected to nor solely dependent on pronoun cliticisation.

In order to investigate whether theme passives with bare recipients were restricted to theme pronouns, I extracted all tokens of theme passives with bare recipients after 1940 for a total of 337 tokens (with both full noun phrase and pronominal recipients. I coded all of the extracted tokens for the status of the theme: theme pronoun, theme noun, or theme empty (for empty categories, mostly subject relative clauses, or where information about the theme was unavailable). I found that theme nouns made up the largest number of tokens 63%, with theme empty following at 24%, and finally theme pronouns (almost exclusively *it*) at 13%. So, *it* predominated among pronouns, probably because it is the most common

theme pronoun. However, theme pronouns in general were the least likely to occur with bare recipients, probably because pronouns are rarer than full noun phrases in general in written text. The ample evidence for full noun phrase theme subjects with bare recipients reinforces the fact that bare recipients in active and passive clauses are unrelated.

#### 4.3.4 Swedish Verbs and Theme Passivisation

As discussed above, Swedish presents one of the clearest cases for the P-incorporation analysis of dative-to-nominative conversion. In this subsection, I discuss data concerning claims that theme passivisation with bare recipients is also available with prefixed verbs. Since P-incorporation makes the recipient a valid target for subjecthood and blocks VP-internal scrambling, theme passivisation should generally be impossible in these cases, unless the recipient has moved. One type of potential counter-example that can be solved in this way are cases of purported theme passivisation with bare pronominal recipients. Cliticisation of pronominal recipients could explain why pronominal recipients can stay low in these cases.

- (97) Ett nytt jobb erbjöds=honom.  
 A new job offered.PASS=him.OBL.  
 ‘A new job was offered to him (Anward 1989,Falk 1990,Lundquist 2006).’

If this is true, Swedish gives further clarity about the cliticisation process, since theme passivisation with unmarked recipients is **only** available with particle verbs. This suggests that in Swedish, the cliticisation process is restricted to DP pronouns. Pronouns in a dative PP (i.e., in non particle verbs) are unable to cliticise and thus serve as defective interveners for direct theme passivisation (see previous subsection).

- (98) \*Ett äpple gavs honom.  
 An apple gave.PASS him.  
 ‘An apple was given to him (Anward 1989,Lundquist 2006).’

However, Lundquist (2004) claims that there are examples of theme passivisation with full noun phrases with prefixed verbs.

- (99) Swedish:

Jobbet erbjöds mannen med den långa svarta kappan.  
 job.DEF offered.PASS man.DEF with the long black coat

‘The job was offered to the man with the long black coat (Lundquist 2004:ex 26).’

If the prefixed verbs reflect P-incorporation, as I have argued, then direct theme passivisation is not a possible explanation (since the recipient is a valid target for subject movement). Instead, I claim that these are actually cases of recipient passivisation with theme topicalisation. Since Swedish is a V2 language, there is a strong ambiguity for sentence initial elements between a subject and topic interpretation. Lundquist (2004) provides examples in which themes are degraded when they occur in unambiguous subject positions (i.e., between an auxiliary and the passive participle).

(100) Swedish:

- a. Mannen som erbjöds **jobbet** hade redan tackat ja till ett  
 man.DEF who offered.PASS **job.DEF** had already thanked yes to a  
 annat jobb.  
 other job  
 ‘The man, who was offered the job, had already accepted another job (Lundquist 2004:ex. 51).’
- b. ?? Mannen som **jobbet** erbjöds hade redan tackat ja till ett  
 man.DEF who **job.DEF** offered.PASS had already thanked yes to a  
 annat jobb.  
 other job  
 ‘The man, to whom the job was offered, had already accepted another job  
 (Lundquist 2004:ex. 52).’

Another piece of evidence comes from the distribution of recipient and theme passivisation in corpora. Lundquist (2004) shows that recipient passivisation is extremely prevalent in modern Swedish (with prefix verbs). This propensity is explained if purported examples of theme passivisation are actually cases of theme topicalisation, which is expected to happen at relatively low rates in a corpus.

One challenge for this view is that there are cases where the recipient seems to not (obligatorily) occur in subject position. Since Swedish generally requires expletives when the subject position is not filled, this analysis would require that null expletives be licensed in theme relative clauses.

(101) Swedish:

- a.    Jobbet som erbjöds        **mannen**    var mycket slitsamt.  
      job.DEF which offered.PASS **man.DEF** was very    tiring  
      ‘The job, which was offered to the man, was very tiring (Lundquist 2004:ex. 49).’
- b.    Jobbet som erbjöds        **mannen**    var mycket slitsamt.  
      job.DEF which **man.DEF** offered.PASS was very    tiring  
      ‘The job, which the man was offered, was very tiring (Lundquist 2004:ex. 50).’

Interestingly, Haddican and Holmberg (2015) notes that although theme passives with null recipients are generally judged unacceptable in American English, theme relative clauses are often judged much better. Since the relationship between theme relative clauses and bare recipients is replicated across at least two languages, it seems worthy of further research into the relationship between the head of relative clauses and the internal properties of the clause. However, such an investigation of relative clause structure is outside the scope of this dissertation.

(102) Modern American English (Recipient Relatives):

- a.    The man, who was given the book, read.
- b.    ? The man, who the book was given to, read.
- c.    ?? The man, who the book was given, read.

(103) Modern American English (Theme Relatives):

- a.    ? The book, which the man was given, was red
- b.    The book, which was given to the man, was red
- c.    ?? The book, which was given the man, was red

## 4.4 Conclusions

This chapter analysed passivisation of recipient ditransitives. P-incorporation converted dative recipients into unmarked DPs, licensing dative-to-nominative conversion. This incorporation was seen on the surface in Dutch, German and Swedish. Oblique subjects

were analysed by splitting the movement and case assignment properties of T into different searches (with different domains of application). In addition, surface theme passivisation with nominative themes were shown to arise from a number of possible mechanisms for avoiding locality violation, namely: relativised minimality, VP-internal scrambling, and recipient scrambling/cliticisation. Relativised minimality was argued to result in direct theme passivisation, where the theme moved to subject position directly from its base merged position.

## Chapter 5

# Full Case Study in English Diachrony

### 5.1 Introduction

This chapter applies the analysis presented in the previous three chapters to a large scale case study, namely diachronic development in recipient ditransitive syntax in the history of English. As discussed in the introduction, quantitative (and especially) diachronic studies can provide a useful independent verification of analyses developed on the basis of acceptability judgements. Crucially, data from language production can provide independent verification of theories developed primarily from language comprehension (i.e., acceptability judgements).

The problem of finding empirical validation of theoretical claims is made acute by the nature of the types of claims made in theoretical linguistics. Building on the work starting during the cognitive revolution in the 50s and 60s, the goal of generative linguistics has been to study the linguistic competence of speakers, which consists of the language specific information that is needed to use a language natively (CITATIONS). As will be shown below, this linguistic competence can be separated into grammatical and non-grammatical competences. Grammaticality reflects the ability of a grammar to associate a particular utterance with a particular meaning. However, given the rampant ambiguity in natural language, the grammar of natural languages often associates multiple utterances with a particular meaning (and multiple meanings with a particular utterance). An equally crucial aspect of being a native speaker of a language is knowing which of the options produced by

the grammar to use in any particular circumstance. These choices are often impacted by language specific implementations of general social or psychological factors (CITATIONS). Unfortunately, it has been known since the beginning of this enterprise that there is no direct evidence of this knowledge (CITATION), which is typical of knowledge and psychological constructs. Instead, it has been necessary to deduce the nature of the linguistic knowledge by studying its effects on language performance (see CITATIONS-FROM-PHILLIPS-LAB for discussion of the fundamentally performative aspect of linguistic data).

One of the most prominent types of linguistic performance to be used in theoretical linguistics is the acceptability judgement. These judgements reflect a native speakers sensation of naturalness/unnaturalness upon encountering a particular linguistic utterance. These sensations have a cognitive reality similar to that of pain sensations (CITATIONS). A major advantage to the acceptability judgement is that even utterances that would never occur in natural production (due to the combination of factors each of which is extremely infrequent) can still be studied. However, as mentioned in the first chapter, grammaticality is only one aspect that contributes to the sensation of naturalness; other factors such as pragmatic concerns can often render a perfectly grammatical utterance unnatural (e.g., because there is a more concise grammatical way of conveying the same information). Trained linguists (and ideal native language informants) are able to minimise contextual factors that impact naturalness by attempting to evaluate the utterance in a number of hypothetical linguistic contexts, but these techniques cannot rescue a grammatical utterance that is ruled out because of universal, overwhelming problems. These non-grammatical problems often have a gradual impact on acceptability, reflect a gradient notion of pragmatic infelicity or psychological complexity (CITATIONS).

Quantitative studies of language performance is useful for isolating these gradient factors, so that they can be factored out when studying grammaticality using performance data. Since corpora (ideally) provide multiple instances of the relevant features in a variety of pragmatic contexts, the gradient effects of non-grammatical factors can be investigated for the observed contexts and statistically extrapolated to unobserved contexts. In addition, corpora provide a means of studying diachronic processes that cannot be studied using traditional acceptability judgements, since the earlier speakers in the diachronic process

are unavailable for consultation. Assuming that language change cannot radically alter the underlying grammar (since the speakers of the new variety must participate in a speech community with speakers of the old variety), it is possible to provide independent evidence of the internal structure of the relevant grammatical processes.

This chapter will begin by reviewing the analyses from the previous three chapters and discussing the diachronic implication of these analyses. This will be followed by looking at three independent changes in the history of English. The first change is the change in recipient marking, ranging from synthetic dative case in Old English to the current distribution of ‘to’ in modern American English. The second change reflects changes in the non-grammatical competence of speakers vis-a-vis active word orders in the history of English (i.e., when does the recipient occur before the theme and vis-a-versa). Finally, the fall and rise of recipient passivisation will be examined going from Old English to modern American English.

## 5.2 Theoretical Issues

Since this dissertation argues that all languages have the same underlying configuration of recipient and theme (i.e., the recipient is introduced as a dative PP in the specifier of an applicative phrase), I predict that there should be no diachronic development in base generation. However, there are a number of transformations that can apply to the base generated order and different stages of the language can vary as to which operations are grammatical and when they should apply. One of the major factors that impact the surface realisation of recipients is allomorphy with respect to the morphological realisation of the dative P-head. The P-head itself can receive a null realisation or be spelled out overtly (e.g., as the preposition ‘to’). It can also trigger concord on its complement, which causes the realisation of synthetic dative case on elements in the noun phrase. As an instance of allomorphy, these variants can be sensitive to contextual information (e.g., the properties of surrounding elements). The nature of these links are the essence of Sassurian arbitrariness and are thus predicted to be subject to drift over centuries of language change. In addition to morphological variation, there are a number of syntactic operations that impact both



the surface order of elements and their syntactic hierarchy. Since all of these operations are optional, any stage of the language could fail to have them. Thus, grammatical change is predicted to involve gaining or losing one of the operations. These operations are one of the main sources of ambiguity that necessitates the non-grammatical component of language competence. Thus, change could also impact the rate at which these grammatical operations apply. VP-internal scrambling derives a theme–recipient order from the underlying recipient–theme order by moving the theme to a higher specifier of the applicative phrase. Cliticisation moves a pronominal element from being an independent syntactic head to being adjoined to a head in the verbal spine (here the head will always be little-*v*/voice). Finally, P-incorporation can move the dative P-head out of the PP and adjoin it to the next highest head. This renders the complement of the preposition a bare DP, which makes it eligible for receiving structural case. Looking at passivisation, the availability and probability of the transformations discussed in the previous chapter alters the availability of the theme and the recipient to raise to subject position and receive nominative case. In addition, languages vary as to the permissability of T in assigning subject properties. The main variation is in the treatment of PPs in the search for a subject. The assignment of nominative case (as a structural case) is restricted to DPs, a fact which does not vary diachronically (modulo the presence/absence of P-incorporation). However, the search for an argument to raise to subject position shows a variety of possible treatments for PPs. PPs can be valid targets for subject raising (oblique subjects), they can be invisible for subject raising (triggering direct theme passivisation), or they can be defective interveners (requiring one of the operations from the previous paragraph to create a non-intervening configuration). In the history of English, almost all of the changes discussed above occur. The realisation of dative P shifts from synthetic dative case to ‘to’ alternating contextually with a null realisation. While VP-internal scrambling is grammatical in all stages of English, the conditioning factors change moving from Old English to modern American English. Cliticisation is lost during the history of American English, while P-incorporation becomes common place. Finally, all of the possible treatments of PPs in passivisation are attested (oblique subject, direct theme passivisation and defective intervention). Crucially, in every case of a change in grammaticality, the analyses presented here can account for the surface change by positing the gain/loss of

a single syntactic operation.

### 5.3 Recipient Marking

Old English had synthetic dative case marking inherited from proto-Germanic. While there was a great deal of syncretism in the Old English case system (Allen 1999), there was a reliable distinction between accusative and dative case for many noun classes and in pronouns.

By the end of the Old English period (11th century), these distinctions were breaking down. Nominal case marking was no longer reliable. While both accusative and dative pronominal forms were still being used, the forms were no longer consistently distributed along the accusative/dative case distinctions (i.e., old dative case forms would be used where previously accusative case was required and vis-a-versa). Around this time, ‘to’ began to be used for the first time to introduce recipients. In Old English, ‘to’ had previously been restricted to goals and addressees, i.e., the indirect object of verbs of communication (Allen 1999, McFadden 2002, OED 2013).

Throughout the Middle English period (i.e., up until about 1400), ‘to’ became more prominent across the board. However, during the 15th and 16th centuries, a new grammar arose in which the unmarked form was preferred when the recipient was adjacent to the verb. This adjacency could be satisfied either by (a) having the recipient–theme word order (e.g., “John gave Mary the book”) or (b) by having a theme pronoun cliticise in the theme–recipient order (e.g., “John gave it him”). In the rest of this section, I discuss statistical evidence supporting the explanation given above.

One of the major discoveries coming from the quantitative study of diachronic syntax has been the Constant Rate Effect. This effect has obtained in cases where a single syntactic mechanism can apply in multiple syntactic environments. In these cases, it has been repeatedly found that the slope parameter assigned by logistic regression (i.e., the rate at which the frequency of use of the incoming variant changes) is constant across its different environments of application (this is true even in cases where the environments themselves show different frequencies of use).

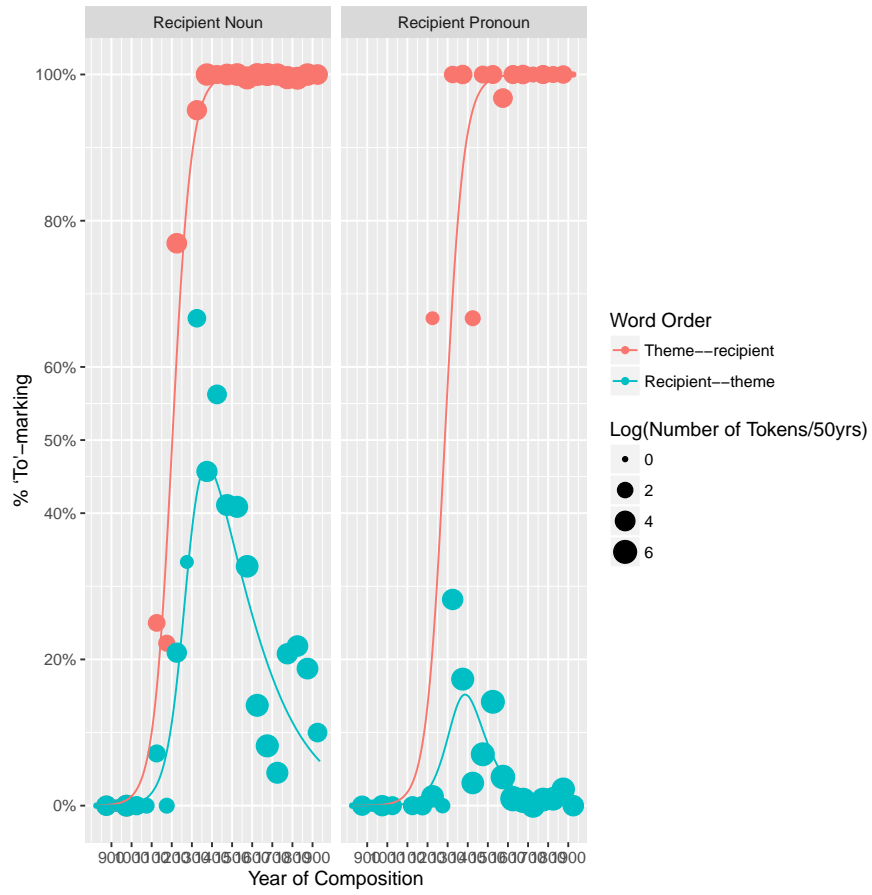


Figure 5.1: Empirical frequency of 'to'-use with predicted rates according to model in different conditions

The first example of this from Kroch (1989), where the use of do-support was studied in a number of different environments (e.g., negative declaratives, affirmative questions, negative questions, imperatives, etc.). Kroch found that while the use frequency of do-support in these environments differed from one another in any given year (see Fig. 5.2), the rate at which these frequencies changed was constant across environments. He hypothesised that this effect reflected the fact that only one change was taking place (the loss of V-to-T raising). Under this hypothesis, the Constant Rate Effect provides a means of recovering underlying grammatical information from diachronic patterns in language use. If a Constant Rate Effect is found (assuming that one has enough data that it would be possible to fail to find it), the most parsimonious hypothesis is that there is a unified change underlying the variation in each environment.

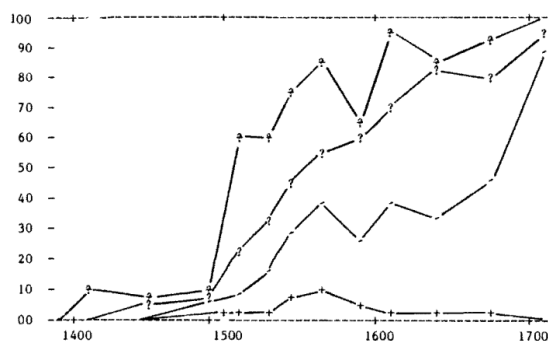


Figure 5.2: Rates of do-support in different environments: affirmative and negative questions (? and ?) and affirmative and negative declaratives (+ and ') (Fig. 1 from Kroch 1989)

For English 'to'-use, there are two changes to be considered. The first is the introduction of 'to' as a means of marking recipients. The second is the introduction of null marking in verb-adjacent contexts. In order to study these changes, I extracted all tokens from the Parsed Corpora of Historical English (CITATIONS) containing the following recipient introducing verbs (verbs that also introduce goals, e.g., SEND, were excluded): ALLOT, APPOINT, ASSIGN, AYEVEN, BEHIEGHT, BEQUEATH, BETAKE, DAELAN, FEED, GIVE, GRANT, LEND, OFFER, OWE, PAY, PROFFER, PROMISE, RESTORE, SELL, SELLAN, SERVE, SHOW, VOUCHSAFE, and YIELD. I also extracted information about whether the arguments were full noun phrases or pronouns, the relative order of the recipient and theme (and their order with respect to the verb to rule out cases of topicalisation), and

whether or not the recipient was marked with ‘to’ (passive data was also collected, which is discussed in the subsection below). When the theme is a pronoun, the theme–pronoun order was essentially categorical (X examples of recipient–theme order over 1000 years). Since there was such poor evidence for the frequency of ‘to’-use in these environments, their inclusion muddled any attempts at statistical analysis. Therefore, those cases have been excluded for the analyses discussed below (and were excluded from Fig. 5.1 as well).

As can be seen in Fig. 5.1, in theme–recipient contexts, the frequency of ‘to’ use increased in the typical S-shaped curve expected from logistic regression (Kroch 1989). However, when both the recipient and theme were a pronoun, the S-shaped curve did not go to 100%, reflecting the availability of theme pronoun cliticisation to render the null allomorph available. This effect was captured in the models by scaling the logistic. The scaling was accomplished by multiplying the outcome of the logistic by a scaling factor. This scaling factor was derived from an independent logistic regression (guaranteeing that the scaling factor would be between 0 and 1), which allowed the both pronoun case to differ in scale from all the other environments.

The same scaling issues arise in the recipient–theme orders. Even after the null allomorphy grammar has taken hold, ‘to’ still occurs in recipient–theme orders because of heavy NP shift (e.g., “John gave to me the book that he wrote last summer.”). The same mechanism that captures this scaling was also able to capture the fact that the null allomorphy change only affected the recipient–theme orders (i.e., by scaling the effect of the change to 0 in the theme–recipient environments). This interaction of changes do not show a typical S-shaped curve. Instead, as discussed above, ‘to’-use until about 1400 and then slowly tapers off. As discussed in Bacovcin (to appear), this effect can be modelled by multiplying two independent logistic changes together. An advantage of separating the change into two distinct logistics, is that the Constant Rate Effect can be tested for. In other words, it was possible to see if the rise of ‘to’ in theme–recipient and recipient–theme contexts reflected a uniform underlying change. The Constant Rate Effect predicts the **absence** of significant interactions between year and condition factors (in this case, word order and the status of the theme and recipient).

The final model involved the multiplication of four distinct logistic regressions. Two of

the regressions were used to calculate the scaling parameters (one for each change), and the other two represented the changes themselves. The general structure of logistic regression is:  $1/(1+\exp(-\text{parameters}))$ , where the parameters are a linear model (i.e. predicting a number ranging from  $-\infty$  to  $+\infty$ ) that is transformed into a number between 0 and 1. The final model for all environments discussed here was:  $(1/(1+\exp(-(\text{change1scaling}))))*(1/(1+\exp(-(\text{change1parameters}))))*(1-((1/(1+\exp(-(\text{change2scaling}))))*(1/(1+\exp(-(\text{change2parameters}))))))$ . The interpretation of this is that the first two logistic equations generated a scaled implementation of the rise of ‘to’-use, while the second two equations generated a scaled version of the rise of the null allomorphy grammar. The results of the null allomorphy grammar were subtracted from 1 so that when multiplied with the first change, there would be little effect early on and then a larger effect later. Also, this allowed the scaling in the theme–recipient environment to go to zero and have no effect on the first change. This complex model was fit using the *nloptr* R package for non-linear optimisation (see the accompanying R files for more detail). The optimum model was found using stepwise AIC, where parameters were individually added to the model (always including the parameter that created the greatest decrease in AIC) until no further improvement was found.

The optimal model had the following properties (model fits shown in Fig. 5.1): (a) the first change was characterised by a slope parameter, a scaling parameter when both arguments were pronouns, and a basic effect when both arguments were pronouns, (b) the second change was characterised by a slope only for recipient–theme orders, a constant effect of recipient pronouns, and a scaling factor that varied between word orders. Effect (a) indicates an extremely strong Constant Rate Effect for the introduction of ‘to’-marking for recipients, there was no significant variation across conditions. Part of that is because variation was captured by the second change (the null allomorphy change). This change had a constant effect of depressing ‘to’-marking with recipient pronouns (similar to the effect in Romance languages, where clitic pronouns receive null marking while full noun phrases receive prepositional marking). The interaction of a scaling parameter and the constant pronominal effect generated the lower end point for the theme–recipient orders when both objects were pronouns. In the recipient–theme order, it also had an effect of decreasing ‘to’-use over time as the null allomorph in adjacent contexts grammar spread through the

population.

This modelling technique allowed for confirmation of another case of the Constant Rate Effect, involving a complex interaction of properties. Data from the corpus on the spread of ‘to’-marking is strongly consistent with it involving a single change across all recipient constructions. The complex allomorphy seen in Modern British English can be explained as the interaction of this simple morphological change in the base realisation of recipient marking in combination with two additional morphological operations. The first is a time independent dispreference for marking recipient pronouns with overt case markers (a fact that may be linked to the maintenance of a synthetic case distinction on pronouns). The other is the introduction of the adjacency trigger null allomorphy, which becomes prominent during the 15th and 16th centuries.

## 5.4 Passivisation Order

Changes in passivisation of ditransitives is a more complex change. The situation in Old English is quite complex. Allen (1999) provides evidence that monotransitive datives are able to become oblique subjects in Old English, but she suggests that in ditransitives, putative oblique subjects are actually topics. To discuss this distinction, she introduces the term “fronted dative”, which is agnostic as to whether the fronted element is a topic or a subject. The argument about the status of fronted datives in ditransitive passives is made on the basis of Coordinate Subject Deletion facts. In Old English (as in Modern English), arguments are generally obligatory (i.e., neither subject nor object drop is licensed). However, when two sentences are coordinated and share the same subject, the subject does not need to be expressed in the second sentence (104). In a corpus investigation, none of the fronted datives in ditransitive passives triggered Coordinate Subject Deletion, while a number of fronted nominatives did (see Table 5.1).

- (104) *ða easternnan tungelwitegan gesawon niwne sterorran beorhtne, na on  
the eastern star-wisemen saw new.ACC star.ACC bright.ACC, not in  
heofnum betwux oðrum tunglum, ac wæs angenga betwux heogenum and  
heaven among other stars, but was solitary between heaven and  
eorðan  
earth*

Nominative Coreferential		Deletion	No Deletion
	Order NOM DAT	11	4
	Order DAT NOM	4	3
	Total	15	7
Dative Coreferential		Deletion	No Deletion
	Order NOM DAT	0	27
	Order DAT NOM	0	11
	Total	0	38

Table 5.1: Allen’s counts of Coordinate Subject Deletion with ditransitive passive in OE prose (Table 2-6, Allen 1999)

‘The eastern star-wisemen saw a bright, new star, not in the heaven among other stars, but it was solitary between heaven and earth (Ex. 29, Allen 1999).’

There are two problems with this argument. In the first case, the total number of coordinated passive sentences is not very large, so it is possible that the lack of dative examples is merely accidental. This is made even more serious because of Standard German facts. While Standard German is generally accepted to not have oblique subjects (Zaenen et al. 1985, although see Eythórsson and Barðdal 2005), it does allow fronted dative elements to trigger coordinate topic deletion, but only if the two topic share the same case (CITATIONS). Assuming that Old English had the same rules, (a) Coordinate Subject Deletion would need to be distinguished from Coordinate Topic Deletion and (b) the fact that fronted dative elements are rarer than fronted nominative elements would need to be accounted for before any data was interpreted. In additions to the problems with her argument discussed above, I have data from the Corpus of Old English Prose (Taylor et al. 2003) that suggests that fronted datives in Old English ditransitive passives were actually subjects. In Old English, the status of the theme and recipient as noun vs pronoun had a nearly categorical effect on active word order, with recipient pronouns coming before theme nouns and theme pronouns coming before recipient nouns and pronouns. The exact same ordering sensitivity is found for the fronted element in the passive, which can be explained if these fronted elements are subjects (oblique or otherwise) and the highest element in the active raises to subject in the passive. If they were topics, it is unclear why topicality should be sensitive to active word order in this way.

INSERT TABLE HERE



This match between active and passive orders ceases after the Old English period. The move from Old English to Modern English is characterised by the loss of recipient fronting. Much of this loss occurs during the 11th and 12th centuries (where our data is sparsest), however, by the 13th century, ditransitives with initial recipients are quite uncommon (see Fig. X). This loss of recipient fronting begins as a loss of oblique subjects. However, by at least 1375, dative-to-nominative conversion had become a live possibility (Allen 1999). Interestingly, this change in the origins of recipient subjects in passives (from oblique subjects to dative-to-nominative conversion) did not prevent (or seemingly alter) the loss of recipient passivisation.

INCLUDE PROOF OF CONTINUITY

INSERT FIGURE OF RECIPIENT PASSIVISATION

Under the system proposed here, this change reflects a move away from having either PP passives or P-incorporation. Together these reflect a dispreference for manipulating PPs. If the PP cannot move to subject position or be incorporated, then theme passivisation becomes obligatory. While P-incorporation is grammatical (as can be seen by the existence of pseudo-passives and the occasional instance of dative-to-nominative conversion), it is strongly dispreferred, apparently because any such manipulation of PPs was dispreferred. This reflects a case where the grammar can generate possibilities that are selected against. In other words, for pseudo-passives P-incorporation is the only possible way of demoting the agent (assuming this is the main pragmatic role of passivisation). However, for ditransitives, P-incorporation is only one of a set of possible operations that license ditransitive passivisation. Building on previous generations loss of oblique subjects, there was a dispreference for manipulating PPs, which extended to the use of P-incorporation when other options were available.

This separation of active and passive word orders continues in British English to the end of our data (in abt. 1911). However, the change is reversed in American English. Looking at data from the Corpus of Historical American English (Davies 2010-), I extracted all instances of passive sentences involving the verbs ‘give’ or ‘offer’. For ‘give’, I hand coded all of the examples, while for offer I coded a sample of X tokens for each year. Each token was coded for the type of passive (theme, recipient, or monotransitive), the status of the recipient (full

noun phrase or pronoun), and the marking of the recipient (presence/absence of ‘to’). For ‘offer’, I also hand coded the status of the theme (full noun phrase or pronoun). For ‘give’, I use a script to determine where the theme was (based on the type of passive coding) and then determined the status of the theme automatically.

The result of this study shows that the main change in ditransitive passives in American English was an increase in the rate of recipient passivisation. In the early 19th century, there are essentially no examples of recipient passives. By the end of the 20th century, recipient passivisation rates match active word order rates (see Fig. X). Logistic regression models confirm that the change in recipient passivisation during this period is significant (INSERT STATS HERE). Just as in Old English, ditransitive passive word order reflected active ditransitive word order.

INSERT TABLE COMPARING ACTIVE AND PASSIVE WORD ORDERS IN LATE 20th CENTURY AMERICAN ENGLISH

According to the analyses proposed here, this change in American English reflects a normalisation of P-incorporation. In Early Modern English (and at least early 20th century British English), P-incorporation was a marked operation. If there was no other way of implementing passivisation (i.e., in the case of pseudo-passivisation), P-incorporation was available. However, if possible, speakers preferred to use other mechanisms for licensing passivisation. In American English, however, P-incorporation became a normal state of affairs. Given that the preposition is realised as  $\emptyset$  in recipient–theme orders, there is no surface evidence against P-incorporation. Therefore, language learners only have indirect evidence for the rate of P-incorporation; this reliance on indirect evidence creates a situation that is ripe for language change.

## 5.5 Conclusions

In this chapter, I have presented two case studies of change in the history of English. The first captured changes in morphological marking of recipients, which supports the interchangeability of prepositional and synthetic case marking. The second the fall and rise of recipient passivisation. The first change provided an example of how even complex changes involving

the interaction of a number of moving parts (two changes each of which involved scaling factors) can be broken apart using relatively simple statistical processes. This breaking apart can then provide evidence for the structure of the underlying grammar. The second change provided some insight into the underlying mechanism driving changes in use frequency of syntactic mechanisms. In at least some cases, it is the surface outcome of the mechanisms that is subject to change (i.e., recipient passives), independently of how that surface property is derived (i.e., oblique subjects vs. dative-to-nominative raising). While in many cases the surface properties that drive use-frequency changes are the direct reflexes of grammatical properties (as was the case with changes in allomorphy in the ‘to’-marking change), in other cases the relationship between use and grammar is more indirect with surface properties that have multiple grammatical causes being unified by language learners.

## Chapter 6

# Conclusions and Further Implications

### 6.1 Conclusions

This dissertation argued for the dative PP + applicative analysis for recipient ditransitives. Recipient dative PPs were distinguished from goal PPs in so far as goal PPs are merged as the complement of V and recipients are merged in the specifier of an applicative head. Data from typology, focus sensitivity, reconstruction effects, and control possibilities (into purpose clauses) were used to support the notion that the recipient starts off in a position outside of the VP, which C-commands the base position of the theme. After linearisation, this generates a base recipient–theme word order in the active.

Theme–recipient word orders were derived by VP-internal scrambling of the theme to a second specifier of the applicative phrase. Focus sensitivity evidence from German as well as scope reconstruction effects from German and English support this analysis. The availability of this operation was subject to variation, Modern Icelandic does not have this operation and only has recipient–theme word orders in the active.

Dative shift, where the recipient is marked with a preposition in the theme–recipient order and unmarked in the recipient–theme order, is attributed to allomorphy in the resalisation of the dative P head. Evidence from modern Dutch and quantitative historical evidence from Middle English supports the notion that the P-head that marks recipients in dative shift languages is parallel to the synthetic dative case in languages that have synthetic dative case. The overt allomorph (English ‘to’) is the default realisation, which is blocked by a null

allomorph when the P-head is linearly adjacent to the verb.

This linear adjacency property was sensitive to prior copies of the theme (e.g., “John gave ~~the book that he loves~~ \*(to) Mary the book that he loves). This data point granted insight into the ordering of morphological processes, namely that checking linear adjacency for allomorphy must occur before (at least some) copies are deleted.

Considering passive data, Swedish provided overt evidence for the idea that P-incorporation licenses recipient passivisation, since only verbs with over prefixes (argued to be the reflex of incorporated dative P) allow recipient passivisation. Following Alexiadou et al. (2014), Dutch and German were also used to provide evidence in the form of auxiliary variation in the availability of recipient passivisation. The difference between auxiliary variation in OV and prefix vs. non-prefixed verbs in VO languages was used to explore the nature of P-incorporation. This sensitivity to object order provided tangential evidence in favour of a roll-up analysis of object–verb ordering. P-incorporation always moved out of the PP into the next highest functional head; for OV, the next highest head is the auxiliary (after rollup), while, for VO, it is the main verb.

Theme passivisation, which is a violation of locality without further syntactic operations (since the recipient intervenes between T and the theme in base generated position), provided evidence for a number of distinct licensing operations. VP-internal scrambling solved the locality problem by moving the theme over the recipient. Recipient cliticisation solved the problem by moving the recipient out of the way of the theme.

When neither the theme nor the recipient moved, languages varied as to how they solved the locality violation. Most languages only allowed DPs to move to subject position (Icelandic exceptionally allowing dative PPs in subject position). Assuming that PPs were not a valid target for movement, languages treated the intervention differently. For some languages (i.e., some English dialects, Icelandic, German and Dutch), the PP was invisible, allowing the theme to directly move to spec-TP. In other languages (e.g., modern American English, Danish and Swedish), the PP served as a defective intervener, which caused passivisation to fail, requiring one of the previously mentioned licensing techniques.

## 6.2 Implications

The conclusions discussed above were only able to be supported by combining data from multiple languages. One clear example of this phenomenon was the typological argument for the recipient–theme base order (namely that all Germanic languages have the recipient–theme order, but Icelandic lacks the theme–recipient order). This type of argument is only possible because a wide variety of languages were surveyed.

Another example is the evidence for P-incorporation. Here Swedish, with its surface realisation of incorporated P-heads, provided the clearest evidence in favour of P-incorporation. However, the same complicated data that makes Swedish ideal for studying P-incorporation makes it a less than ideal case study for arguing for the morphological underpinnings of dative shift. Having access to data from a variety of different languages enabled using the clearest supporting evidence for each point being made, which would have been impossible if only data from one language was used.

Also, diachronic data provided independent support for the analysis. While synchronic evidence from scopal ambiguities and control into purpose clauses is strongly suggestive of the dative PP + applicative analysis, the quantitative analysis of how dative shift developed in the Middle and Early Modern English periods provided a distinct type of evidence that the dative PP + applicative analysis must have been true at an earlier stage of English. Since it was true at an earlier stage, and the modern data is still compatible with the analysis, the most parsimonious explanation is to maintain the analysis throughout the history of English.

The stability through the history of English is a sub-case of the stronger point argued for here. I showed that the dative PP + applicative analysis was compatible with synchronic and diachronic data from all of the major Germanic languages. I proposed that this provides tentative support for the strong UTAH hypothesis (Baker 1988b), namely that **all** languages share a universal argument structure. In other words, languages cannot vary the base generation positions assigned to arguments. This revitalises the deep structure claims of earlier generative traditions (Chomsky 1965, 1981), i.e., that syntax is fundamentally about performing transformations on a universal (possibly non-linguistic) basic structure. This

hypothesis is quite falsifiable, in so far as it predicts that the dative PP + applicative analysis should be able to account for recipient data from all natural languages.

A final larger point that this dissertation highlights is the advantage of modularity in approaching linguistic complexity. The Germanic languages showed a large degree of surface variation in the position and surface marking of recipient arguments across active and passive sentences. By distributing the burden of accounting for the surface complexity to the interaction of syntactic and morphological processes, a globally parsimonious account was achieved.

The clearest example of this is the analysis of dative shift. Empirically, dative shift is characterised by an unmarked recipient when adjacent to the verb and a marked recipient elsewhere (with a small number of categorisable surface exceptions). A purely syntactic approach would need to account for how the syntax is able to identify the linear adjacency of two elements as well as accounting for the difference between marked and unmarked recipients. By using modularity, the syntax of dative shift languages can be made identical to that of non-dative shift languages, with only the addition of the allomorphy operation, which is independently necessary and independently known to be sensitive to linear adjacency. Only because the variation could be attributed to the morphology was the strong UTAH claim explained above possible; languages might have widely varying surface structures that reflect morphological obfuscation of a unified syntactic underpinning.

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