

APPLICATIVES IN THEIR STRUCTURAL AND THEMATIC FUNCTION:
A MINIMALIST ACCOUNT OF MULTITRANSITIVITY

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APPLICATIVES IN THEIR STRUCTURAL AND THEMATIC FUNCTION:
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This dissertation investigates the syntactic architecture of applicative constructions in the research tradition initiated by Marantz 1993, in which a light verb head, the so-called “applicative” head, is charged with two conceptually different tasks: syntactically licensing an extra object, and assigning a thematic role.

Using data from languages with overt (affixal and non-affixal) and non-overt applicative morphology, I expand Georgala’s et al. (2008) approach to applicative constructions, according to which the applicative projection is uniformly above the lexical VP. Under this approach, which I call raising/thematic applicative hypothesis, the contrast between Pylkkänen’s (2002, 2008) high- and low-type applicatives is that while thematic applicatives introduce an additional argument above VP, as per Pylkkänen’s original analysis, raising applicatives function as an expletive head, introducing no additional argument but serving as a licenser for the highest eligible DP selected by the lexical verb. This analysis preserves Pylkkänen’s insight that the core arguments in low applicatives (recipient and theme) are introduced in the domain of the lexical verb, while allowing for a single structural position for applicative heads.

Applicative constructions are subject to diverse constraints (e.g., on word order, passivization, pronominalization, wh-movement, etc.), which vary depending on the language and on the type of applicative. Thus, they provide a fascinating empirical challenge for any syntactic approach that strives for simplicity and transparency such as the raising/thematic applicative hypothesis. This dissertation focuses on showing how the raising/thematic applicative hypothesis accounts for passive movement, based on the key distinction between symmetric

(both objects get passivized or neither object gets passivized) and asymmetric (either the direct object or the extra object gets passivized). Particular emphasis is given to applicative constructions in German and Greek, which contribute intriguing data, thus constituting interesting puzzles both for the raising/thematic applicative hypothesis and theories of syntactic locality. Accounting for this crosslinguistic and intralinguistic variation has been one of the main goals of this dissertation.

BIOGRAPHICAL SKETCH

Efthymia (Effi) Georgala graduated with Honors from the National and Kapodistrian University of Athens, where she earned a diploma in German Studies in 1998. After spending her senior year in exploring her newfound interest in Computational Linguistics at the Technical University of Athens (NTUA), she joined the Institute for Natural Language Processing (IMS) of the University of Stuttgart as a fellow of the German Academic Exchange Service (DAAD), doing research and course work in Computational Linguistics. From 2001 through 2004 she was a fellow of the German Research Foundation (DFG) and a member of the Graduiertenkolleg “Linguistic Representations and their Interpretation” of the University of Stuttgart. In the fall of 2004 she entered the Ph.D. program of the Department of Linguistics, earning her M.A. in Linguistics with a minor in Cognitive Science in 2009.

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I am also lucky to have had the opportunity to work with John Hale and am very grateful for his help and advice the last two years of grad school, for partially funding my PhD and being extremely helpful during the job search.

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The largest part of this dissertation was written in Switzerland, where I moved one year ago. Babak Falsafi has helped me enormously during the very challenging last year of writing. He provided a very stimulating and fun working environment for me in his lab PARSA at EPFL. Being pretty much a member of PARSA has been a highlight of my time in Switzerland. Thank

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TABLE OF CONTENTS

BIOGRAPHICAL SKETCH	iii
ACKNOWLEDGMENTS	iv
TABLE OF CONTENTS.....	vii
CHAPTER 1: INTRODUCTION.....	1
CHAPTER 2: A CROSSLINGUISTIC TYPOLOGY OF APPLICATIVES	12
2.1 Introduction.....	12
2.2 Overt Applicative Morphology and the Position of Appl.....	12
2.3 Mandarin High Low Applicatives	27
2.4 Passive and Applicative Constructions.....	36
2.4.1 Asymmetric IO Passives.....	38
2.4.2 Symmetric Passives	44
2.4.2.1 Symmetric Raising Applicatives.....	44
2.4.2.2 Symmetric Thematic Applicatives.....	47
2.5 Summary.....	51
CHAPTER 3: GERMAN DATIVE DOUBLE OBJECT CONSTRUCTIONS.....	53
3.1 Introduction.....	53
3.2 The Syntax of German Dative DOCs	54
3.2.1 Typology of Dative DOCs.....	54
3.2.2 The Syntax of “Low” Dative DOCs	63
3.2.3 The Syntax of “High” Dative DOCs / Applicative Constructions.....	69
3.2.3.1 Thematic Applicatives	69
3.2.3.2 Raising Applicatives	72
3.2.3.2.1 Raising from [Spec,VP] to [Spec,AppIP]	72
3.2.3.2.2 Raising from [Spec,DP _{ACC}] to [Spec,AppIP]: Possessor Raising.....	80
3.3 German and the Universal Base Order of Objects in DOCs.....	89
3.3.1 Stranding Reveals IO>DO Base Order in German DOCs.....	89
3.2.2 DO>IO Base Order Accounts	92
3.4 Summary.....	98
CHAPTER 4: GREEK DOUBLE OBJECT CONSTRUCTIONS.....	100
4.1 Introduction.....	100
4.2 A Typology of Greek Extra Arguments.....	103
4.2.1 Genitive/Accusative DOCs.....	106
4.2.1.1 Genitive Bene-/Malefactive DOC.....	106
4.2.1.2 Accusative Recipient DOC	108
4.2.1.3 Inherent Genitive Recipient DOC.....	109
4.2.2 Prepositional Constructions	114
4.2.2.1 Recipient Prepositional Constructions.....	114
4.2.2.2 Bene-/Malefactive Prepositional Constructions	118

4.3	The Syntax of Greek Extra Arguments.....	124
4.3.1	VP-internal Extra Arguments	125
4.3.1.1	Raising Applicatives	125
4.3.1.1.1	Raising from [Spec,VP] to [Spec,AppIP]	125
4.3.1.1.2	Raising from [Spec,DP _{ACC}] to [Spec,AppIP]: Possessor Datives.....	130
4.3.1.2	Inherent Genitive DOC	131
4.3.1.3	Prepositional Construction.....	136
4.3.2	VP-external Extra Arguments: Thematic Applicatives	146
4.3.2.1	Nominal.....	146
4.3.2.2	Prepositional	150
4.4	Experimental Evidence on Locality Constraints of Theme Passives.....	157
4.4.1	Are Theme Passives with Standalone Genitive DPs Grammatical?.....	160
4.4.1.1	The Experiment: Methodology and Procedure	160
4.4.1.2	Results and Discussion	162
4.4.2	Are Theme Passives with Genitive Clitics/ <i>se</i> -PPs Grammatical?	165
4.5	Ethical Datives	174
4.6	Summary.....	182
CHAPTER 5: CONCLUSION		184
REFERENCES		189

CHAPTER 1

INTRODUCTION

This dissertation presents an empirically based crosslinguistic investigation of applicative / extra-object constructions: structures with a direct object and an extra argument. It develops a new framework for describing such constructions, which I call the raising/thematic applicative hypothesis. The main theoretical question addressed in the dissertation is whether all applied objects within a language but also crosslinguistically are associated to an extra head above the VP, and what the nature of this head is.

Marantz in his influential 1993 paper proposes that extra-object constructions such as the Chaga benefactive construction in (1) and the English possessor/recipient double object construction (DOC) in (2) share the same layer of structure associated with the label Applicative Phrase (AppP) (3). In (3) the light applicative verb APPL selects the lexical VP as its complement.

(1) *Chaga benefactive applicative* (Marantz 1993:121)

N-a-i-lyi-i-a m-ka k-elya

FOC-SP-PRS-eat-APPL-FV wife food

‘He is eating food for his wife.’

(2) Nick sent Mary an email.

(3) [_{VP} IO [_V APPL [_{VP} DO V]]] (Marantz 1993)

Marantz’s analysis crucially differs from accounts, such as Kayne’s (1984) small clause analysis in (4a) and Pesetsky’s (1995) cascade analysis in (4b), which claim that DOCs involve extra structure within the lexical VP.

(4) a. [VP ... [V' V [XP IO [X' X DO]]]]

(Kayne 1984)

b. [VP ... [V' V [PP IO [P' G DP]]]]

(Pesetsky 1995)

The two traditions are combined in Pylkkänen's (2002, 2008) theory, which argues that applicatives come in two varieties: high and low. According to Pylkkänen, high and low applicatives differ semantically, and consequently syntactically. High applicatives (5a, 6a) relate new event participants, such as beneficiaries, maleficiaries, instruments, locatives to the event described by the lexical VP. Low applicatives (5b, 6b), on the other hand, denote a transfer-of-possession relation between two individuals, namely the theme and the applied argument (goal/source).

(5)

(Pylkkänen 2002, 2008)

a. *Syntactic structure for high applicatives:*

[VoiceP DP_{AGENT} [Voice' Voice [AppIP DP_{BNF/LOC/INSTR...} [AppI' **Appl** [VP V DP]]]]]

b. *Syntactic structure for low applicatives:*

[VoiceP DP_{AGENT} [Voice' Voice [VP V [AppIP DP_{GOAL/SOURCE} [AppI' **Appl** DP_{THEME}]]]]]

Pylkkänen provides the following semantics for these two kinds of applicatives.

(6) a. *Semantics for high applicatives*

(Pylkkänen 2002:21)

$\lambda x.\lambda e. \text{APPL}(e,x)^1$

b. *Semantics for low applicatives*

(Pylkkänen 2002:22)

Low-APPL-TO (Recipient applicative):

$\lambda x.\lambda y.\lambda f\langle e\langle s,t\rangle\rangle.\lambda e. f(e,x) \ \& \ \text{theme}(e,x) \ \& \ \text{to-the-possession}(x,y)$

¹ APPL collapses APPL_{BENEFACTIVE}, APPL_{INSTRUMENT}, APPL_{LOCATIVE}, etc.

Pylkkänen's treatment of applicatives in (5-6) gives rise to two diagnostics for distinguishing between high and low applicatives: (i) Only high Appl can combine with unergatives, since the semantics of low applicatives stipulates the presence of a theme, and (ii) only high Appl can combine with static verbs (e.g., *hold*), since the type of event denoted by a static predicate is inconsistent with the theme undergoing change of possession.

Although Pylkkänen's characterization of applicatives has been very influential (Legate 2002, McGinnis 2002, Cuervo 2003, Doggett 2004, Jeong 2006, Citko 2011, among many others), it faces morphological, syntactic, and semantic challenges. This dissertation focuses on the morphological and syntactic challenges to an approach like Pylkkänen's, but I also touch on semantic challenges to Pylkkänen's theory in point three below.

1. *Morphological challenge*: On the assumption that head movement involves uniform raising and adjunction to the left of the immediately dominating head (Kayne 1994, Baker 1996, Matushansky 2006, among others), Pylkkänen's approach predicts that overt applicative heads realized as syntactically combined verbal affixes should be realized as suffixes to the verb in high applicative constructions and as prefixes in low applicative constructions. As is shown in detail in Chapter 2, although high applicative heads in the expected morphological position are robustly attested crosslinguistically, there are no clear candidates for a specialized overt low applicative head, either in situ or as a prefix.
2. *Syntactic challenge*: Pylkkänen (2002, 2008), Georgala et al. (2008), and Paul and Whitman (2010) show that VP adverbial modifiers (adverbial quantifiers, manner/frequency adverbs) may intervene between IO and DO in low applicative constructions (see Section 2.3 for the Mandarin data, Section 2.4.1 for the English data, Section 3.2.3.2.1 for the German data, and Section 4.3.1.1 for the Greek data). Under the assumption that adverbial quantifiers and manner/frequency adverbs are adjoined to VP, this is a problem for Pylkkänen's low applicative analysis, where IO and DO are part of the same minimal constituent, namely low ApplP.

3. *Semantic challenge*: As Larson (2010) shows, by disconnecting IO from the event structure of the verb, Pylkkänen’s low applicative semantics in (6b) predicts the incorrect inference from (7a) to (7b). “John’s writing a letter, and that letter’s coming into Mary’s possession, does not entail that John wrote the letter to Mary” (Larson 2010:702).

(6b) *Semantics for low applicatives* (Pylkkänen 2002:22)

Low-APPL-TO (Recipient applicative):

$\lambda x.\lambda y.\lambda f\langle e\langle s,t\rangle\rangle.\lambda e. f(e,x) \ \& \ \text{theme}(e,x) \ \& \ \text{to-the-possession}(x,y)$

(7) a. John wrote a letter and Bill gave Mary that letter. (Larson 2010:702)

b. John wrote Mary that letter.

A standard neo-Davidsonian analysis blocks this undesirable inference. As Larson points out, the conjunction in (8a) does not entail (8b) since *Mary* is related to the giving event e' , and not to the writing event e , and there is no way of deducing the latter from the former.

(8) (Larson 2010:702)

a. $\exists e[\text{writing}(e) \ \& \ \text{Agent}(e,\text{John}) \ \& \ \text{Theme}(e,\text{that_letter})] \ \& \ \exists e'[\text{giving}(e') \ \& \ \text{Agent}(e',\text{Bill}) \ \& \ \text{Theme}(e',\text{that_letter}) \ \& \ \text{Goal}(e',\text{Mary})]$

b. $\exists e[\text{writing}(e) \ \& \ \text{Agent}(e,\text{John}) \ \& \ \text{Theme}(e,\text{that_letter}) \ \& \ \text{Goal}(e,\text{Mary})]$

Note, however, that Pylkkänen’s low applicative structure in (5b) cannot be captured by the neo-Davidsonian representation in (8b), as (8b) is really the semantic representation of the high applicative structure in (5a). Compare (8b), repeated below for convenience, to (9), the neo-Davidsonian representation of *John wrote that letter for Bill*, to which Larson (2010) assigns Pylkkänen’s high applicative structure: Other than the difference in the thematic role of the second DP (*Goal* in 8b and *Beneficiary* in 9), there is no compositional difference

between the two representations.

(8b) $\exists e[\text{writing}(e) \ \& \ \text{Agent}(e,\text{John}) \ \& \ \text{Theme}(e,\text{that_letter}) \ \& \ \text{Goal}(e,\text{Mary})]$

(9) $\exists e[\text{writing}(e) \ \& \ \text{Agent}(e,\text{John}) \ \& \ \text{Theme}(e,\text{that_letter}) \ \& \ \text{Beneficiary}(e,\text{Bill})]$

As Larson (2010) observes, a causative analysis (cf. Krifka 1999, Harley 2002, Beck and Johnson 2004, Bruening 2010b, among others), as in (10), could be an alternative to the standard neo-Davidsonian analysis, which blocks the unwanted entailment.

(10) $\exists e[\text{writing}(e) \ \& \ \text{Agent}(e,\text{John}) \ \& \ \text{Theme}(e,\text{that_letter})] \ \& \quad (\text{Larson 2010:703})$
 $\exists e'[\text{CAUSE}(e,e') \ \& \ \text{to-the-possession-of}(e',\text{that_letter},\text{Mary})]$

The main argument in support of a causative analysis of DOCs comes from *again*-modification. In particular, as Beck and Johnson (2004) show, a DOC, modified by *again*, is ambiguous between two readings: a repetitive reading (11') and a restitutive reading (11'').

(11) Thilo gave Satoshi the map again. (Beck and Johnson 2004:113)

(11') Thilo gave Satoshi the map, and that had happened before.

(11'') Thilo gave Satoshi the map, and Satoshi had had the map before.

Beck and Johnson argue that a causative (small-clause-type) analysis provides a straightforward account of this ambiguity: *Again* can either operate on the CAUSE predicate, giving the repetitive reading, or the “to-the-possession-of”/HAVE predicate giving the restitutive reading.

Larson (1988, 2010) and Pesetsky (1995) argue against a causative analysis, citing evidence from nominalization (Pesetsky 1995), and binding theory (Larson 1988, Pesetsky

1995). A causative analysis of DOCs treats the head of the small clause constituent of the causative structure as an independent predicate. Such an analysis would basically posit Pylkkänen’s low Appl as a predicate (compare 12a, which illustrates Pylkkänen’s low applicative semantics with a single event, to 12b, which illustrates a causative analysis with two events, e and e').

(12) John wrote Mary that letter.

a. *Pylkkänen’s low applicative semantics, as presented by Larson (2010:702)*

$\exists e[\text{writing}(e) \& \text{Agent}(e, \text{John}) \& \text{Theme}(e, \text{that_letter})] \&$
 $\text{to-the-possession-of}(e', \text{that_letter}, \text{Mary})$

b. *Causative analysis of DOCs, as presented by Larson (2010:703)*

$\exists e[\text{writing}(e) \& \text{Agent}(e, \text{John}) \& \text{Theme}(e, \text{that_letter})] \&$
 $\exists e'[\text{CAUSE}(e, e') \& \text{to-the-possession-of}(e', \text{that_letter}, \text{Mary})$

But Beavers’ (2011) detailed semantic theory of ditransitive predicates in English provides additional evidence in support of the basic insight shared by the causative, small clause, and Pylkkänen’s analysis of recipient goal-type ditransitives. In particular, Beavers shows that although for many ditransitives a result state of simple possession is a cancelable inference, all ditransitives nonetheless entail at least some non-cancelable result involving the goal argument, though there is micro-variation in what the result is. I follow Beavers (2011) in the view that low (raising) applicatives always entail some non-cancelable result, and this is what the semantics of low (raising) applicatives should derive.

For the purposes of this dissertation, I take merging the two objects in the specifier and complement of the lexical VP to suggest that there is an underspecified relationship between the two objects in raising applicative constructions, accounting thus for the *again* facts in (10-11). Nevertheless, I do not make a commitment as to what the nature of this relationship *is*.

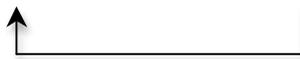
In this dissertation I expand on the raising/thematic applicative hypothesis originally proposed in Georgala et al. (2008). What the raising/thematic applicative hypothesis contributes to the discussion about the structure of extra-object constructions is that it reconciles the evidence that extra-objects are merged in two positions (Pylkkänen 2002, 2008), as in (5), with the evidence that there is a single position for applicative heads (Marantz 1993), as in (3). In particular, the raising/thematic applicative hypothesis claims that there is only one applicative head and it always appears above the lexical VP. Yet, the two types of applicatives do exist: the two patterns involve different thematic roles and exhibit distinct semantic and syntactic behavior, as will be shown in detail in Chapters 2-4. The way the raising/thematic applicative hypothesis deals with this seeming contradiction is by positing a single structural position for applicative heads above the lexical VP with two subtypes:

- a. *Thematic applicatives*, which introduce an additional argument above the lexical VP, as per Pylkkänen's (2002, 2008) high applicative analysis in (5a).

(13) [_{VP} SUBJ [_{v'} v [_{AppIP} **IO**_{BNF/LOC/INSTR...} [_{AppI'} Appl [_{VP} V DO]]]]]

- b. *Raising applicatives*², which function as Case-licensing heads, attracting the IO from its base position in the VP to their specifier. As will be shown in the subsequent chapters, the exact nature of the licensing relationship between the raising applicative head and the recipient argument is subject to crosslinguistic variation.

(14) [_{VP} SUBJ [_{v'} v [_{AppIP} **IO**_{REC} [_{AppI'} Appl [_{VP} **t**_{IO} [_{v'} V DO]]]]]]]



²*Raising Applicative* corresponds to the label *Expletive Applicative* used in Georgala et al. 2008. Thanks to Julie Legate for suggesting this term.

This single structure / dual function analysis establishes a fundamental analogy between the applicative head in extra-object constructions and the Voice (Kratzer 1996) or v (Chomsky 1995) head in the extended verbal projection: both types of head may establish a semantic relation between an “extra” argument and the event denoted by the verbal projection they select, and both may serve as syntactic licensers for DPs more deeply embedded in the verbal projection.

Because many relevant facts in the study of applicatives come from languages that are typologically different from English and other commonly studied languages, this dissertation is oriented toward crosslinguistic comparison. To carry out such comparison I adopt the most recent version of generative grammar known as the Minimalist Program. For the purposes of the present work, I will adopt the following hypotheses, which I will assume throughout.

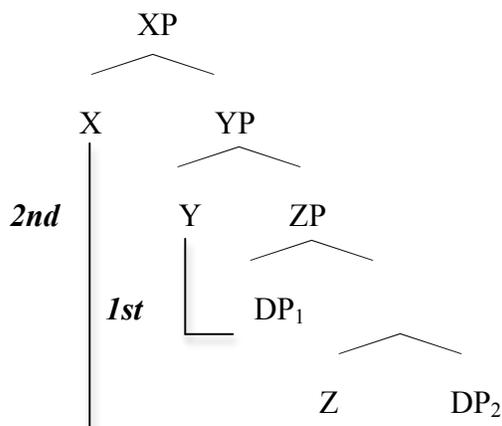
1. Chomsky’s (2000) syntactic licensing mechanism, Agree is adopted (15).

(15) *Agree*

The probe P agrees with the closest matching goal in D.

- a. Matching is feature identity.
 - b. D is the sister of P [D = c-command domain of P].
 - c. Locality reduces to closest c-command.
2. In the configuration in (16) Agree may first apply between Y and DP₁, then between X and DP₂.

(16) *Nesting Agree*



In typical A-licensing applications of Agree there is at most one licensing head per cyclic domain: for example, only ν triggers Agree in transitive ν Ps, and only T does so in the next cyclic domain, CP. This is a consequence of the fact that only ν P is a phase: the Phase Impenetrability Condition (Chomsky 2001) disallows “nesting” Agree, where, for example T Agrees with a DP c-commanded by ν . However, applicative structures introduce a second Agreeing head, Appl, within the domain of a single phase, ν P. I take here the position that ApplP is itself not a phase (compare to McGinnis 2001 and subsequent work).

3. EPP is a generalized Occurrence (OCC) or Edge feature that forces the projection of a specifier at the edge of the relevant head (Chomsky 2000, 2001, 2005). In this sense, it does not specifically refer to the traditional EPP (i.e., the requirement for an overt external subject at [Spec, TP]), but it applies to any functional head (cf. Landau 2007). A head can have an EPP feature either by virtue of being a phase head (ν , C) or by virtue of inheriting it from a phase head (cf. Citko 2011).
4. Appl has an EPP feature by virtue of inheriting it from ν (cf. Citko 2011).
5. EPP-triggered movement is uncoupled from Agree, i.e., the EPP feature associated with Agree does not necessarily have to be satisfied by moving to the specifier of its head the DP with which the Probe establishes the Agree relation (Collins 1997, Hiraiwa 2001, Bowers

2002, Bowers 2010, among others). EPP-triggered movement and Agree are freely ordered (cf. Collins 1997, Hiraiwa 2001, Hasegawa 2005).³

6. Move and Merge are freely ordered (McGinnis 1998).
7. Appl optionally introduces an argument but also enters into an Agree relation with an argument in its c-command domain (cf. Collins 1997, McGinnis 1998, Citko 2011, Haddican and Holmberg 2011, among others).
8. An inactive DP is a DP whose structural Case feature has been valued and deleted. An inactive DP is frozen in place and cannot enter into an Agree relation of the same type (Chomsky 2000, Bowers 2010, Citko 2011, among others). An inactive DP, thus, does not constitute an intervener for Agree and does not violate Shortest Move / Relativized Minimality (cf. Bowers 2010, Citko 2011, Haddican and Holmberg 2011, among others). This assumption deviates from Chomsky's (2000) *Activity Condition*.
9. Inherently Case-marked DPs do not constitute interveners for Agree (cf. McGinnis 1998, Legate 2007, Bowers 2010, among others), but they do intervene for Move (cf. Anagnostopoulou 2003, Doggett 2004, Citko 2011).

This dissertation is organized as follows. In Chapter 2 I provide compelling evidence based on the morphological exponence of the applicative head to motivate the raising/thematic applicative hypothesis. Furthermore, I present a typology of applicative constructions based on the morphological exponence of the applicative head and the A-movement properties of the applied argument, focusing on passive.

Chapters 3 and 4 present a detailed analysis of applicative constructions in German and Greek, languages which contribute intriguing data, constituting thus interesting puzzles both for the raising/thematic applicative hypothesis and theories of syntactic locality. In particular, in Chapter 3 I provide a typology of German dative extra-objects, and argue that German, a

³ In particular, in Collins 1997 and Hiraiwa 2001 it is argued that there is no intrinsic ordering as to which feature has to probe first, if more than one feature are located in a single head/probe.

language with inherent dative Case and asymmetric theme passivization has raising and thematic applicatives, as well as dative oblique arguments. In the second part of the chapter I discuss the base order of objects in German double object constructions, and introduce strong evidence from stranding and split topicalization data to support the view that German applied arguments are merged higher than direct objects, showing thus that the base order <IO, DO> in German applicative constructions conforms to the crosslinguistic generalization about the order of objects in DOCs. This is also the order predicted by the raising/thematic applicative hypothesis.

The goal of Chapter 4 is to argue that Greek recipient and benefactive/malefactive double object constructions show a classical contrast between thematic and raising applicative constructions. Syntactic and semantic differences between the constructions result from whether the applicative head introduces an argument or not. This chapter also provides an account of the difference between three types of recipient extra-objects in Greek, namely accusative Case-marked, genitive Case-marked, and complements of the preposition *se* ‘to’, in terms of how they are syntactically licensed. Further, given the conflicting empirical evidence about the constraints on theme passives of double object constructions in Greek, this chapter presents the results of two magnitude estimation experiments, which were conducted to test competing accounts. The chapter closes with a discussion of Greek “ethical datives”, which I argue should not be analyzed as applied arguments, thus supporting an economical theory of applicative constructions with no more than a single applicative head.

To sum up, this dissertation aims to provide a formal typology of applicatives and show how this typology coupled with independently motivated principles of syntactic theory yields a coherent picture of applicatives, consistent with Minimalist assumptions.

CHAPTER 2

A CROSSLINGUISTIC TYPOLOGY OF APPLICATIVES

2.1 Introduction

In this chapter I present a typology of applicative constructions based on the morphological exponence of the applicative head and the A-movement properties of the applied argument. Furthermore I provide empirical evidence from languages with overt and non-overt applicative morphology in support of the raising/thematic applicative hypothesis. Specifically, I argue that there is no crosslinguistic evidence for the existence of an overt morpheme corresponding to Pylkkänen's (2002, 2008) lower applicative head. In Sections 2.2 and 2.3 I discuss what overt affixal and non-affixal applicative morphology tells us about the position of applicative heads. In Section 2.4 I discuss one of the most interesting points of variation among applicative languages, namely passivization. I show how the different types of passive and their interaction with applicative structure can be analyzed within the framework of the raising/thematic applicative hypothesis. Section 2.4 concludes.

2.2 Overt Applicative Morphology and the Position of Appl⁴

In Chapter 1 I proposed that the projection involved in licensing extra-object constructions is uniformly above VP. The contrast between thematic and raising applicatives is that while the former introduce an additional argument above the lexical VP, as per Pylkkänen's original high applicative analysis, the latter function as what one might call an expletive head, introducing no additional argument but serving as licenser for the highest eligible DP selected by the lexical

⁴ Parts of this section are based on arguments, first appeared in Georgala, Paul and Whitman 2007.

verb. Since this analysis posits an applicative head only in the position above VP, it predicts that overt morphology associated with a true applicative head should be found only in the position above VP, or a location derivable from the position above VP under standard assumptions about head movement. On the assumption that head movement involves uniformly raising and adjunction to the left of the immediately dominating head (Kayne 1994, Baker 1996), or movement into a specifier of the immediately dominating head followed by morphological merger (Toyoshima 2000, Matushansky 2006), my approach also predicts that overt applicative heads realized as syntactically combined verbal affixes should be uniformly realized as suffixes to the verb.

As I show in this chapter, much convergent evidence suggests that this is correct. First, as Emonds and Whitney (2006) point out, applicative affixes of all types are overwhelmingly suffixes (1). Again, this is expected if the applicative originates as a head selecting the VP, but it is not predicted if the applicative head is a low applicative selected by V, in Pykkänen's sense.^{5,6}

(1) *Kinyarwanda benefactive applicative*

(Kimenyi 1980:32)

Umukoôbwa a-ra-som-er-a umuhuûngu igitabo
 girl she-PRES-read-BEN-ASP boy book
 'The girl is reading a book for the boy.'

As Baker (1996) points out, though, applicative morphemes may also be prefixal, appearing to the left of the verb and any incorporated material (2).

⁵ Baker also proposes that the suffixal pattern in (1) is derived by raising and adjoining the verb to the higher applicative head, the benefactive *-er*.

⁶ Koopman and Szabolsci (2000) and Koopman (2005) propose a theory according to which a morphologically overt head originating lower in the structure surfaces to the left of any higher overt head into whose specifier its phrasal projection moves. Although Koopman and Szabolsci (2000) and Koopman (2005) do not explicitly discuss applicatives, within their theory it is predicted that, when overt, Pykkänen's low applicative head should be prefixal, whereas the high applicative head should be suffixal.

Abaza incorporated Ps show the same pattern of agreement as freestanding postpositions, a fact difficult to account for on any other but an incorporation account.

(3) *Abaza locative applicative* (O’Herin 2001:481)

d-ŋa-[hə-**dzqa**]-yə-r-gəl-t’

A3SG.H-DIR[P1-**beside**]-C3SG.M-CSE-stand-DYN

‘He caused him/her to stand next to us.’

(4) *Abaza locative postposition ‘beside’* (O’Herin 2001:486)

[_{PP} a-ʒⁱəra a-**dzqa**]

the-smithy 3SG.N-**beside**

‘beside the smithy’

Furthermore, Abaza prefixal applicatives may be multiple, as example (5) shows.

(5) *Abaza multiple prefixal applicative* (O’Herin 2001:484)

s-pħa ay²azaŋ^w a-stol də-y-z-a-k^w-s-c’a-y-t’

1SG-daughter doctor the-table A3SG.H-P3SG.M-**BEN**-P3SG.N-**LOC.on**-E1SG-put-PRS-DYN

‘I put my daughter on the table for the doctor.’

McGinnis (2005) points out that since high applicatives establish a semantic relation between an individual (individual-denoting specifier) and an event (event-denoting complement), they should be able to merge with other high applicative phrases, which also denote events. Note that Abaza multiple applicatives are all of the high type (benefactive, instrumental, locative). In general, the best attested multiple applicative constructions involve multiple high-type applicatives, such as the multiple suffixal applicative construction from Kinyarwanda in example

(6), where an instrumental applicative (*iish-*) combines with an applicative expressing cause/goal (*ir-*).

(6) *Kinyarwanda multiple high+high suffixal applicative* (Kimenyi 1980)

U-ra-andik-**iish-ir**-iz-a iyo kárámu iki
 2S-PR-write-INSTR-APPL-ASP that pen what
 ‘Why are you writing with that pen?’

Combinations of high and low applicatives also occur, as in the Kinyarwanda recipient-beneficiary example in (7). A high Appl head (benefactive here) merges with a VP containing a low Appl head, as with any other VP.

(7) *Kinyarwanda multiple high+low suffixal applicative* (Kimyeni 1995)

Umugóre a-ra-som-**er-er**-a umugabo abáana igitabo
 woman she-PRES-read-APPL-APPL-ASP man children book
 ‘The man is reading the book to the children for the man.’

In the raising/thematic applicative framework, the applicative head in such cases introduces an argument and syntactically licenses a DP in the verb phrase under Agree. Note that both applicative affixes in (7) are homophonous.⁷ I take this to suggest that the structure of (7), shown in (7’), involves Appl iteration, which happens only for licensing purposes, not for introducing

⁷ In Kinyarwanda the lowest applicative head is null with prototypical ditransitive verbs such as *há* ‘give’ and *éerek* ‘show’, but I still take examples such as (1) to have the same structure as (7), where the lower applicative head is overt.

(1) *Kinyarwanda multiple high+low suffixal applicative* (McGinnis 2005:191)

Umugóre a-rá-hé-**er**-á umugabo ímbwa ibíryo
 woman she-PRES-give-BEN-ASP man dog food
 ‘The woman is giving food to the dog for the man.’

(1’) [_{VP} v [_{AppIP} -er- [_{AppIP} umugabo [_{AppI} Appl [_{VP} ímbwa [_v -hé- ibíryo]]]]]]

new arguments. Thus, the lower Appl introduces the benefactive DP, *umugabo* ‘man’, while the higher Appl, the iterated one, is a pure licencer.

(7') [_{VP} *v* [_{AppIP} -*er*- [_{AppIP} *umugabo* [_{AppI'} -*er*- [_{VP} *abáana* [_{V'} -*som*- *igitabo*]]]]]]]

The iterated applicative analysis explains why the exact same homophonous applicative suffix, namely *-er*, is used twice. Crucially, multiple applicative constructions of this type never occur with two distinct affixes, one a dedicated low-type affix, introducing only recipient arguments, and the other a dedicated high-type affix.

According to Gerdts (1988) and Gerdts and Kiyosawa (2007), Halkomelem, a Salish language, has distinct applicative morphemes to mark recipients (8a) and beneficiaries (8b). However, Halkomelem does not allow multiple applicative constructions (Samkoe 1994) (9), and as the examples in (8) below show, both applicative morphemes are suffixes. In other words, although there are distinct applicative affixes for these two types of arguments, there is just one position for them, and the affixes are in complementary distribution.

(8) a. ʔam:-əs-tal (Gerdts 2000:146)

give-APPL-RECIP

‘give it to each other.’

b. ni? ct q^wəl-əlc-təl

AUX 1PL cook-APPL-RECIP

‘We cooked for each other.’

This is the opposite of what Pykkänen's theory predicts. Assuming head raising adjoins to the left, Pykkänen's theory would predict the order Low Appl – V – High Appl on the surface.

Summing up so far, overt morphemes corresponding to high applicatives are robustly attested crosslinguistically. Affixal marking of high applicatives may take the form of suffixes or prefixes; in the latter case the marker is not a reflex of the applicative head, but rather an incorporated adposition.

What would an overt low applicative look like? If we were to find an overt head in Pykkänen's low applicative structure, it should be realized as a prefix, given the assumptions outlined above. Above I discussed cases of applicative constructions related with prefixal morphology in Ainu (2) and Abaza (cf. examples 3 and 5), but I argued that these cases are best analyzed as P-incorporation. Furthermore, all the examples from Ainu and Abaza have the semantics of high rather than low applicatives; neither the instrumental applicative in Ainu nor the locative and benefactive applicatives in Abaza express transfer of possession. Candidates for an overt low applicative head other than verbal prefixes would look like the kinds of items that can head syntactic complements of V, such as the second verb in ditransitive serial verb constructions or adpositions. Example (12) from Saramaccan shows a ditransitive serial verb construction with a donatory verb as the second verb.

(12) *Saramaccan ditransitive serial verb construction*

(Veenstra 1996:164)

Mí manda biífi **dá** hen

1SG send letter **give** her

'I have sent letters to her.'

Although (12) is a good candidate for a low applicative construction with an overt applicative head, the second verb, *dá* 'give', does not really show the behavior of a low applicative head.

This is because the c-command relations between the DO *biifi* ‘letter’ and the IO *hen* ‘her’ are reversed from Pytkänen’s (2002, 2008) low applicative structure, repeated below.

(13) [_{VoiceP} DP_{AGENT} [_{Voice} Voice [_{VP} V [_{AppIP} DP_{GOAL} [_{AppI} Appl DP_{THEME}]]]]]]

Furthermore, there is consensus in the literature (Dèchaine 1988, Baker 1989, Muysken and Veenstra 1995, among others) that the DO is (at least partly) the argument of the first verb, *manda* ‘send’.

Another candidate for an overt low applicative head is adpositions. Dative adpositions are broadly attested as markers of recipient goals in DOCs. Relying on evidence from quantifier scope, numeral quantifiers, passivization and idioms, Miyagawa and Tsujioka (2004) and Tsujioka (2011) argue that the dative marker *-ni* in Japanese (14) is ambiguous between a structural Case marker and a directional adposition.

(14) *Japanese*

(Miyagawa and Tsujioka 2004:9)

a. Taroo-ga Hanako-**ni** nimotu-o okutta

Taro-NOM Hanako-DAT package-ACC sent

‘Taro sent Hanako a package.’

b. Taroo-ga Tokyo-**ni** nimotu-o okutta

Taro-NOM Tokyo-to package-ACC sent

‘Taro sent a package to Tokyo.’

The passivization data in (15) illustrate the difference in the categorical status of *Hanako-ni* in (14a) and *Tokyo-ni* in (14b). As shown in (15a), *Hanako-ni* is a DP that is assigned Case, and in passivization this Case gets absorbed. Yet *Tokyo-ni* is a PP, so there is no Case to absorb, and passivization does not apply (15b).

(15) a. Taroo-ga Tokyo-ni nimotu-o okur-are-ta (Miyagawa and Tsujioka 2004:16)

Taroo-NOM Tokyo-to package-ACC send-PASS-PAST

‘Taro was sent a package to Tokyo.’

b. *Tokyo-ga Taroo-ni nimotu-o okur-are-ta

Tokyo-NOM Taroo-DAT package-ACC send-PASS-PAST

(Lit.) ‘Tokyo was sent a package to Taro.’

In Miyagawa and Tsujioka (2004) the IO *Hanako-ni* is introduced in the specifier of a high applicative head, while under Pylkkänen’s analysis *Hanako-ni* is merged in the specifier of low Appl. Independently of where IO is merged, what is important for the discussion here is that *-ni* is not the head of a low applicative projection.⁸

Possessor dative constructions provide another candidate with adpositions, which may qualify as in situ low applicative heads. Example (16) from Hebrew is analyzed by Pylkkänen as a low applicative construction⁹, but most importantly Pylkkänen does not analyze the preposition *le-* ‘to’ as the head of the construction; such an analysis would require raising *le-* out of ApplP to a landing site in VP below the verb.

(16) *Hebrew* (Pylkkänen 2002:43)

Ha-yalda kilkela le-Dan et ha-radio

the-girl spoiled to-Dan ACC the-radio

‘The girl broke Dan’s radio on him.’

⁸ As noted by Cuervo (2003), the ambiguity of Japanese *-ni* parallels the ambiguity of Spanish *a* (1).

(1) Pablo (le) mandó un diccionario a Gabi (Cuervo 2003:32)

Pablo CL.DAT sent a dictionary (to/DAT) Gabi

‘Pablo sent Gabi a dictionary.’

Masullo (1992) and Cuervo (2003) argue that *a* is a case marker in DOCs and a preposition in PCs.

⁹ Cf. Landau (1999), among others, who argue that example (10) involves possessor raising.

One additional candidate that comes to mind for low applicative heads in situ are dative clitics in languages such as Spanish, in which DOCs have been argued to obligatorily involve clitic doubling. In these structures the claim has been made that the dative clitic is a low applicative head (cf. Cuervo 2003). Masullo (1992), Demonte (1995), and Cuervo (2003), among others, by providing syntactic and semantic evidence, convincingly argue that ditransitive verbs appear in two distinct structures in Spanish: (i) the double object construction, which involves obligatory clitic doubling of IO, and (ii) the prepositional construction, which does not allow clitic doubling. Example (17) suggests that clitic doubling is optional. But, as Cuervo (2003) points out, if the goal *a Gabi* is replaced with the name of a place, clitic doubling is no longer licit (18b) (cf. Cuervo 2003 for additional evidence).¹⁰

(17) *Spanish* (Cuervo 2003:32)

Pablo (le) mandó un diccionario a Gabi
 Pablo CL.DAT sent a dictionary (to/DAT) Gabi
 ‘Pablo sent Gabi a dictionary.’

(18) *Spanish* (Cuervo 2003:32)

a. Pablo envió un diccionario a Barcelona

Pablo sent a dictionary to Barcelona
 ‘Pablo sent a dictionary to Barcelona.’

b. *Pablo le envió un diccionario a Barcelona

Pablo CL.DAT sent a dictionary Barcelona.DAT
 ‘Pablo sent Barcelona a dictionary.’

¹⁰ According to Cuervo (2003), this restriction should not be viewed as a restriction on doubling of inanimate datives, since, as shown in example (1) below, inanimate objects can be clitic-doubled dative arguments in Spanish.

(1) Andrea *(le) habla hasta a las paredes (Cuervo 2003:29)
 Andrea.NOM CL.DAT talks even the walls.DAT
 ‘Andrea talks all the time/would talk with anyone.’

Cuervo (2003) accounts for the difference between the clitic-doubled and the non-clitic-doubled patterns, by assuming that the source of the clitic-doubled alternate is Pylkkänen’s low applicative head, which is absent in the non-doubled alternate. To account for the obligatoriness of clitic-doubled dative arguments in Spanish, Cuervo proposes that the applicative head has a spellout: the dative clitic. Cuervo observes that Spanish is similar to languages where the applicative morpheme is a verbal affix (e.g., Bantu languages), in that affixation follows from the clitic nature of the morpheme, but it differs from them in that Appl varies according to the features of the DP it licenses in its specifier.^{11, 12}

However, on closer examination Cuervo’s (2003) idea of deriving the dative clitic as the head of a low ApplP faces at least two important problems. First, although Cuervo’s low applicative account predicts the right order in Cl_{DAT}-V configurations (Cl_{DAT} moves in a head-to-head fashion and left adjoins to *v*), when the DO is also realized as a clitic, as in example (19), there is no straightforward way to derive the order Cl_{DAT}-Cl_{ACC}-V.

(19) *Spanish low applicative construction*

Pablo **me** lo envió

Pablo CL.DAT CL.ACC sent

‘Pablo sent it to me.’

(19’)

(based on Cuervo 2003:35)

[VoiceP *Pablo* [Voice’ Voice [_{vP} *v* [*envió* [AppIP [Appl’ *me lo*]]]]]]]]

¹¹ Beyond Spanish, pronominal clitics have been analyzed as the spellout of verbal functional heads in other Romance languages (cf. Folli and Harley 2004 for Italian, Diaconescu and Rivero 2005 for Romanian), but also in non-Romance languages (cf. Nash 2002 for Georgian, Bowers and Georgala 2007 and Kupula 2011 for Greek, Slavkov 2009 for Bulgarian).

¹² Contrast to Ciucivara (2009), who also proposes a low applicative analysis for Romance but treats dative clitics as D-heads and base generates them in the specifier of low ApplP. Anagnostopoulou (2003) too treats Spanish, French and Italian dative clitics as D-heads, but unlike Ciucivara she base-generates them in the specifier of a high applicative head.

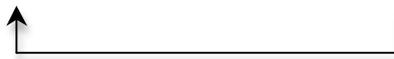
Second, in Cuervo’s theory of Spanish dative arguments, the dative clitic is also the spellout of high Appl. This means that on Spanish would be another language, like the ones discussed above, with both high and low applicatives but no dedicated low applicative affix (licensing only possessors/recipients). But in any case, Cuervo’s high applicative analysis predicts the order V-Cl_{DAT}, which is not attested in Spanish, as example (20) illustrates.

(20) *Spanish high applicative construction* (Cuervo 2003:139)

A Daniela le son/ parecen importantes esos libros
 Daniela.DAT CL.DAT are.PL seem.PL important those books.NOM
 ‘Those books are/seem important to Daniela.’

(20’) (based on Cuervo 2003:139)

[_{AppIP} a Daniela [_{Appl} son/parecen le [_{vP-BE} esos libros _{t_{son/parecen} a importantes}]]]



In contrast to Cuervo (2003), Demonte (1995) and Bleam (2000) propose that the dative clitic in Spanish is an agreement marker. In particular, Demonte (1995) argues that the dative clitic is the head of a Clitic Phrase, which is positioned above the lexical VP, while in Bleam’s (2000) account the clitic is the head of AspP, which is also positioned above VP. Note that the position of CIP/AspP is exactly where Pylkkänen’s high ApplP appears.

There seem, then, to be no clear candidates for an overt low applicative head in situ. Perhaps in recognition of this fact, McGinnis (2001) proposes that the distinction between high and low applicative heads is primarily a semantic and syntactic one without any clear morphological correlates across languages. On this view, there is no particular position in which we should expect to find an applicative affix. But this misses the generalization we suggested above, that applicative heads are realized primarily as suffixes, with some cases of prefixal applicative morphemes that can be analyzed as incorporated prepositions.

McGinnis (2001) argues on the basis of Pylkkänen’s applicative diagnostics that the locative clitic *-ho* in Kinyarwanda (21) and the Chi-Mwi:ni: applicative suffix *-il* (22) are both low applicatives.

(21) *Kinyarwanda locative applicative* (Kimenyi 1980:92)

Umuhuûngu á-r-iig-ir-á-**ho** ishuûri *(imibáre)
 boy SP-PR-study-ASP-LOC school mathematics
 ‘The boy is studying mathematics at school.’

(22) *Chi-Mwi:ni: suffixal applicative* (Kisseberth and Abasheikh 1974:123)

Ni-mw-andik-**il**-il-e Nu:ru xati
 SP-OP-write-APPL-ASP-FV Nuru letter
 ‘I wrote Nuru a letter.’

Abstracting away from the semantics of the Kinyarwanda locative applicative, which corresponds to high applicative rather than low applicative semantics, if McGinnis’ point is correct, one wonders how the position of *-ho* in (21) could be derived from a low applicative head position. As is well known, the Kinyarwanda locative clitics are phonologically reduced forms of the corresponding prepositions (Kimenyi 1980, Baker 1988, Zeller and Ngoboka 2006) (23). This has motivated the preposition incorporation analysis of Kinyarwanda applicatives in Baker (1988) and Zeller and Ngoboka (2006).

(23) *Kinyarwanda locative PC* (Kimenyi 1980:92)

Umuhuûngu á-r-iig-ir-á imibáre **kw’** ishuûri
 boy SP-PR-study-ASP-LOC mathematics at school
 ‘The boy is studying mathematics at school.’

On the restrictive account of head movement introduced above, where incorporation is uniformly head movement to the left of the higher head (Kayne 1994, Baker 1996), the locative clitic can be analyzed as the product of a postsyntactic operation of morphological merger under adjacency (Marantz 1988, Embick 2007, among others) in (21). If we analyze the locative clitic as a low applicative head, though, we face two problems: (i) the phonological relationship between the head/clitic and unreduced prepositions becomes accidental, and (ii) incorporation must involve right head adjunction to the head of AspectP, which goes against the assumption that head adjunction is always to the left.

Let us now turn to the Chi-Mwi:ni: example in (22). The applicative suffix *-il* occupies exactly the position of Baker's (1996) high applicative head, which is equivalent to Pylkkänen's high applicative structure. In Baker's account, the benefactive morpheme takes the VP as its theme and a PP with a null P as its goal. If one accepts McGinnis' point that the syntactic and semantic distinction between high and low applicatives does not correlate with the morphological position of bound applicative morphemes, the same question as in the case of Kinyarwanda arises: how exactly is *-il* derived from Pylkkänen's low applicative head position?¹³ In a head movement analysis, the low applicative head *-il* would first right-adjoin to

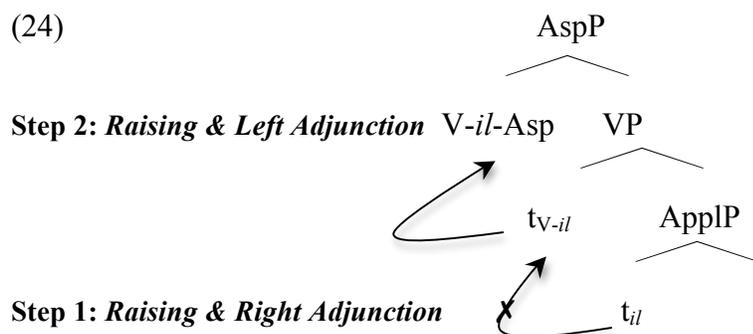
¹³ The Chi-Mwi:ni: applicative suffix *-il* behaves like a low applicative head based on the following three criteria. It is worth noticing that Pylkkänen (2002, 2008) and McGinnis (2001) assume a distinction between high and low applicatives, while Nakamura (1997) acknowledges that there are two different types of applicatives, but he does not employ Pylkkänen's analysis.

1. Passivization (Pylkkänen 2002, 2008). In low applicative constructions only passivization of the applied argument is allowed. In contrast, in high applicative constructions either object can be affected by passive. Benefactive/recipient applicative constructions in Chi-Mwi:ni: allow only passivization of the applied object but not the theme.

2. A-bar movement (Nakamura 1997). Nakamura derives Chi-Mwi:ni: benefactive/recipient applicatives using Baker's (1988) Preposition Incorporation analysis. Under his analysis, economy predicts that the theme of a low applicative construction cannot be wh-extracted, if there is a synonymous non-applicative (prepositional) version. Thus, Chi-Mwi:ni: benefactive/recipient Appl is a low applicative, since it does not have a synonymous analytic counterpart and it allows wh-extraction of the theme. This is not the case with instrumental applicatives, which allow wh-extraction of the theme only when the instrumental is expressed as a PP.

3. Phonological phrasing (McGinnis 2001). In high applicative constructions, the DO and the IO are in the same phonological phrase, while in low applicative constructions IO and DO are in different phonological phrases. In Chi-Mwi:ni:, a process of vowel length shift applies only at the right edge of a phonological phrase (Kisseberth and Abasheikh 1974). Since vowel length shift applies to the recipient IO, McGinnis concludes that the IO is phrased separately from the DO ([V IO] [DO]) and classifies the recipient applicative construction as a low applicative

V, and then raise and left-adjoin to Aspect, as shown in (24). But, such a derivation is problematic, because it contradicts the assumption that head adjunction is always to the left.



To conclude, if we associate the Chi-Mwi:ni: applicative suffix with a high applicative position, we must find a way to allow a high applicative configuration to license low applicative syntax and semantics. Using evidence from Mandarin, Georgala et al. (2008) and Paul and Whitman (2010) argue that this can be done by employing the raising/thematic applicative hypothesis. In what follows, I summarize Paul and Whitman’s (2010) analysis of how the raising applicative hypothesis accounts for the Mandarin data.

2.3 Mandarin High Low Applicatives

In Mandarin, *gěi* is an independent lexical verb meaning ‘give’, which combined with a lexical verb also appears in the three positions in (25).

(25) a. *DOC: V-gěi IO DO*

(Paul and Whitman 2010:265-266)

Wǒ mài-gěi-le Mǎlì yī-ge shǒubiǎo

1SG sell-GEI-PERF Mali 1-CL watch

‘I sold Mali a watch.’

b. *Recipient PC: V DO [PP gěi IO]*

Wǒ mài-le yī-ge shǒubiǎo [PP gěi Mǎlì]

1SG sell-PERF 1-CL watch for Mali

‘I sold a watch to Mali.’

c. *Benefactive PC: [PP gěi DP] V DO*

Tā [PP gěi wǒ] dāng fānyì

3SG for 1SG act interpreter

‘He serves as an interpreter for me.’

Evidence that recipient and benefactive [*gěi DP*] in (25b-c) can be analyzed as a PP comes from fronting and the position of aspectual affixes. More specifically, as the examples in (26) illustrate, [*gěi DP*] in the recipient and benefactive PC patterns can be fronted. Note that the fronted construction in (26a) does not imply transfer of possession, which is characteristic of DOCs; what (26a) can only mean is ‘I sold the watch for Mali’s benefit’ (Paul and Whitman 2010).

(26) a. [PP Gěi Mǎlì], wǒ mài-le yī-ge shǒubiǎo

(Paul and Whitman 2010:266)

for Mali 1SG sell-PERF 1-CL watch

‘For Mali, I sold a watch.’

b. [PP Gěi Mǎlì], wǒ mǎi-le yīdiǎn jiǔ

for Mali 1SG buy-PERF a:little wine

‘For Mali, I bought a little wine.’

- c. [PP Gěi wǒ], tā dāng fānyì
 for 1SG 3SG act interpreter
 ‘For me, he serves as an interpreter.’

Regarding aspectual affixes, Paul and Whitman (2010) observe that aspectual affixes such as the perfective *-le* do not combine with [*gěi* DP] in the recipient and benefactive PC patterns, as shown in (27).

- (27) a. Wǒ mài(-le) yī-ge shǒubiǎo [PP gěi (*-le) Mǎli] (Paul and Whitman 2010:266)
 1SG sell-PERF 1-CL watch for-PERF Mali
 ‘I sold a watch to Mali.’
- b. Tā [PP gěi(*-le) wǒ] dāng(-le) fānyì
 3SG for-PERF 1SG act-PERF interpreter
 ‘He served as an interpreter for me.’

In contrast to the recipient and beneficiary PC, on the other hand, the DOC pattern [V-*gěi* IO DO] displays low applicative properties based on Pylkkänen’s transitivity and verb semantics diagnostics: it is incompatible with either intransitive (28) or stative predicates (29).

- (28) *Transitivity diagnostic* (Paul and Whitman 2010:269)
 a. Nǐ gěi wǒ xiǎoxīn yīdiǎnr!
 2SG GEI 1SG be:careful a:little
 ‘Do me the favor of being a bit more careful!’
Benefactive PC
- b. *Nǐ xiǎoxīn-gěi wǒ
 2SG be:careful-GEI 1SG
DOC

(29) *Verb semantics diagnostic*

- a. Wǒ gěi Mǎlì kān-zhe bāo ne, bù néng líkāi *Benefactive PC*
1SG GEI Mali watch-DUR bag PART NEG can leave
'I'm watching the bag for Mary, I cannot leave.'
- b. *Wǒ kān-gěi-zhe Mǎlì bāo *DOC*
1SG watch-GEI-DUR Mali bag

Summing up so far, the DOC pattern [V-*gěi* IO DO] passes Pylkkänen's tests for a low applicative construction. Yet, if *gěi* heads low ApplP in the underlying structure in (25a'), it must raise and right-adjoin to V, before raise and left-adjoin to Aspect. As Paul and Whitman (2010) point out, such an analysis is problematic for two reasons: (i) it runs counter to the traditional view that head adjunction is always to the left, and (ii) it violates Lin's (2001) generalization that head adjunction is always to the left in Chinese.¹⁴ Note that the problem is exactly parallel to the difficulty posed by the Chi-Mwi:ni: example in (24).

(25a') *Low applicative analysis*

Wǒ [_{ASPP} le [_{VP} mài [_{AppIP} Mǎlì gěi yī-ge shǒubiǎo]]]
1SG ASP sell Mali GEI 1-CL watch

The surface configuration of the DOC pattern, [V-*gěi*-Aspect IO DO], is straightforwardly derivable, if a high applicative structure is assumed. More concretely, in (25a'') the surface pattern is derived by head movement of V to Appl to Aspect (cf. Lin 2001 for V-to-Aspect raising).

¹⁴ Cf. Paul and Whitman (2010) for arguments against a P-incorporation analysis of the DOC pattern, as well as Cheng's et al. (1999) account, in which *gěi* is argued to be incorporated into the lexical verb.

(25a'') *High applicative analysis*

Wǒ [_{ASPP} *mài-gěi-le* [_{AppIP} *Mǎlì* [_{AppI'} *t_{mài} gěi* [_{VP} *t_{Mǎlì}* [_{V'} *t_{mài} yī-ge shǒubiǎo*]]]]]]]
 1SG sell-GEI-ASP Mali 1-CL watch

This brings us back to the question of how a high applicative configuration can license low applicative syntax and semantics. The answer is by assuming that *gěi* is an instance of a raising applicative: it resides above VP, but introduces no additional argument; instead it syntactically licenses the IO in VP. Following I present Paul and Whitman's (2010) evidence in support of a raising applicative analysis of the DOC pattern.

First, drawing on data from verb copying (30) and A-not-A questions (31), Paul and Whitman (2010) show that [V-*gěi*] in DOCs is distinct from V-V compounds in that the former is derived syntactically by raising V and left-adjoining it to *gěi*, whereas the latter are formed in the lexicon.¹⁵

(30) *Verb copying* (Paul and Whitman 2010:274)

- a. Wǒ sòng gěi tā qián [_{VP} yǐjīng sòng(*-gěi)-le hǎojǐ -cì] le
 1SG offer GEI 3SG money already offer-GEI-PERF many-time PART
 'I have given him money as a present several times already.'
- b. Tāmen jiǎn-chá hùzhào [_{VP} jiǎn *(-chá)-le bàntiān]
 3PL inspect-examine passport inspect-examine-PERF long.time
 'They examined the passports for a long time.'

(31) *A-not-A questions* (Paul and Whitman 2010:276)

- a. Tā [_{V°} xǐ-huān] bù [_{V°} xǐ-huān] shùxué ?
 3SG like NEG like mathematics
 'Does he like mathematics?'

¹⁵ Cf. Paul and Whitman 2010 for more details on copying and A-not-A questions with V-V compounds.

b. *Ta huán-gěi bu huán-gěi nǐ qián?

3SG return-GEI NEG return-GEI 2SG money

‘Will he return the money to you?’

Having shown that *gěi* in the DOC pattern heads VP-external ApplP, and *V-gěi* is syntactically derived, let us now examine one of the most crucial parts of the raising applicative hypothesis, namely the claim that the IO raises out of VP. Following Fitzpatrick’s (2006) classification of distributional quantifiers as adverbial¹⁶, Paul and Whitman show that the position of distributional quantifiers in Mandarin provides evidence for movement of the IO from its underlying position in [Spec, VP] to [Spec, ApplP] (32).

(32) Wǒ sòng-gěi háizimen [měi-rén / yī-ren] [yībǎi kuài qián] (Paul and Whitman 2010:279)

1SG give-GEI children every(one) each 100 CL dollar

‘I gave the children each 100 dollar.’

Two properties of adverbial quantifiers are important for Paul and Whitman’s argument: (i) adverbial quantifiers scope over the IO, and (ii) adverbial floating quantifiers restrict their associates to A-movement (Fitzpatrick 2006). The latter is exactly what the raising applicative hypothesis requires (32’).

¹⁶ Fitzpatrick (2006) argues that adverbial floating quantifiers do not appear in NP/DP argument positions, as would be predicted under a stranding analysis. Under this analysis, the properties of adverbial floating quantifiers are the following: (i) they show agreement, (ii) they sometimes contain overt pronouns (e.g., in Hebrew), (iii) they show locality effects, (iv) they show differences in DP/pronoun acceptability (data for this restriction comes from German and French), and (v) they disallow A-bar movement of the associated NP. To account for the above properties, Fitzpatrick proposes that adverbial floating quantifiers contain a possibly null pronominal-like element, and must bind a variable.

(32') *Raising applicative analysis* (Paul and Whitman 2010:279)

Wǒ sòng-gěi [_{AppIP} *háizimen* [_{VP} *měi-rén* [_{VP} ^t*háizimen* [*yībǎi kuài qián*]]]]
1SG give-GEI children every(one) 100 CL dollar

Crucially, distributive floating quantifiers do not occur to the right of the IO in the recipient PC pattern (33), or to the right of the DO in both monotransitive (34a) and recipient PC constructions (34b) (Paul and Whitman 2010). Paul and Whitman propose that this contrast is explained, if we assume that (32) involves A-movement while (33-34) do not.

(33) *Q-float quantifier with IO: Recipient PC* (Paul and Whitman 2010:282)

**Wǒ sòng-le yībǎi kuài qián* [_{PP} *gěi háizi-men*] *měi-rén /yī-rén*
1SG give-PERF 100 CL money to child-PL every(one)/each
(?? 'I gave 100 dollars each to the children.')

(34) *Q-float quantifier with DO: Monotransitive and recipient PC* (Paul and Whitman 2010:282)

a. **Wǒ pèngdào-le xuéshēng-men měi-rén /yī-rén*
1SG meet-PERF student-PL every(one)/each
(*I met the students each.)

b. **Xiàozhǎng fēn-le shí-ge dàxuéshēng měi-rén* [_{PP} *gěi wǒmen*]
principal allot-PERF 10-CL student everybody to 1PL
(*The principal allotted 10 students each to us.)

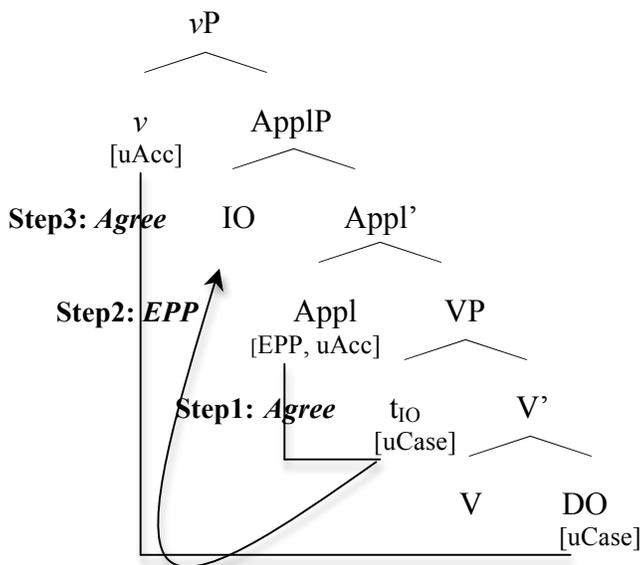
Based on the above discussion, the *gěi* DOC pattern in Mandarin is a raising applicative construction. Let us now turn to the syntactic licensing of IO and DO. (35) summarizes the basic assumptions.

(35)

- a. Chomsky's (2000) definition of Agree is adopted.
- b. Based on the evidence, presented above, showing that IO raises out of VP in Mandarin, it is assumed that Appl bears an EPP feature that attracts the IO to [Spec, ApplP] (cf. Georgala et al. 2008 and Paul and Whitman 2010).
- c. Both Appl and ν are Probes (cf. Collins 1997, McGinnis 1998, Citko 2011, and Haddican and Holmberg 2011, who also assume that Appl may have a Probe).
- d. Following Bowers (2010), Citko (2011), Holmberg and Haddican (2011), among others, when the Case features of a DP have been previously valued, this DP does not intervene when a higher Probe looks for a goal.

The derivation in (36) proceeds as follows (Paul and Whitman 2010): DO and V are merged in V'. IO is merged in [Spec, VP]. IO and DO bear uninterpretable Case features. In the next step of the derivation Appl is merged with VP, and enters into an Agree relation with the closest DP with an unchecked Case feature, namely IO. Next, the EPP feature of Appl attracts IO to its specifier. Then ν is merged with ApplP and probes down the tree to find a goal to Agree with. Since IO has its features valued, it does not constitute an intervener for Agree between ν and the next closest goal with an unchecked Case feature, namely DO.

(36) *Mandarin raising applicative*



This licensing approach predicts that IO is unavailable for A-movement, which is borne out by the data in (37), where it is shown that IO is ineligible for passivization.¹⁷

- (37) *Akiū bèi pēngyǒu mài-gěi chēzi le (Paul and Whitman 2010:289)
 Akiu PASS friend sell-GEI car PART
 ('Akiu was sold a car by a friend.')

More specifically, since IO is licensed by Appl and DO by *v*, only the latter is affected by the failure of [-trans] *v* to check Case features in passive (Paul and Whitman 2010). Assuming that checking of the Case and EPP features of IO by Appl happen prior to passivization, thus eliminating IO as an intervener, A-movement of DO over IO does not violate Shortest Move (cf. Paul and Whitman 2010, Citko 2011). As predicted by this account, DO becomes the subject of passive DOC in Mandarin (34).¹⁸

¹⁷ Fronting of IO with *bǎ*, another instance of A-movement, is also not permitted (Paul and Whitman 2010), as the example below illustrates.

(1) *Pēngyǒu ba Akiū mài-gěi chēzi le (Paul and Whitman 2010:289)
 friend BA Akiu sell-GEI car PART

¹⁸ As expected, *bǎ*-extraction of DO is also possible (Paul and Whitman 2010), as example (1) below shows.

(38) Chēzi bèi pēngyǒu mài-gěi Akiū le

(Paul and Whitman 2010:289)

car PASS friend sell-GEI Akiu PART

‘The car was sold by a friend to Akiu.’

Passivization is one the most central dimensions of applicative variation both language-internally and crosslinguistically. In the next section I discuss the main passivization properties of applicatives and show how they can be accounted for within the framework of the raising/thematic applicative hypothesis.

2.4 Passive and Applicative Constructions

The interaction of passivization and applicative constructions has been of major focus of attention within Minimalist accounts of ditransitive structure. The reason for this is that movement in applicative constructions raises the issue of syntactic locality. Over the course of the development of Minimalist theory, movement has been proposed to be constrained by a variety of conditions such as Shortest Move, Relativized Minimality, and Attract Closest. What all these constraints have in common is that they ensure that the shortest possible movement takes place. On the simplest analysis, all the aforementioned constraints would permit movement of the highest DP, namely IO, to the subject position in passive. There are indeed some cases, such as American English and Chi-Mwi:ni, that fulfill this prediction, as I show below. However, there also cases where DO passivization is licit, despite the fact that it violates the locality constraints mentioned above on their simplest interpretation. Mandarin is one of these languages, as I showed in Section 2.3.

(1) Pēngyǒu ba chēzi mài-gěi Akiū le
friend BA car sell-GEI Akiu PART
‘The friend sold a car to Akiu.’

Baker (1988) and Bresnan and Moshi (1990) were the first to draw a distinction between applicatives based on their passivization properties. They classified applicatives into symmetric and asymmetric.¹⁹ In symmetric applicatives, both the applied argument and the theme show properties of structural objects. Examples of symmetric applicatives are locative applicatives in Swahili (cf. footnote 15, example 2) and applicatives in British English and Ancient Greek, among other languages. To traditional symmetric applicatives, Citko (2011) adds applicative constructions in which neither the applied object nor the theme gets passivized. Examples of the latter type of symmetric applicatives are benefactive/malefactive applicative constructions in Greek, which I discuss in detail in Chapter 4. In asymmetric applicatives, on the other hand, only one object can move. Mandarin allows asymmetric DO passives, and in this it patterns together with German.²⁰ Mandarin, however, differs from German with respect to the type of Case the IO bears: In Mandarin IO has structural Case, while in German IO bears inherent dative Case. A detailed discussion of German follows in Chapter 3. In the remainder of this chapter I discuss and propose an analysis of asymmetric IO passives and symmetric passives.

¹⁹ It is worth mentioning that the difference between symmetric and asymmetric does not only apply to languages but also to different applicative constructions within one language. Swahili and Kinyarwanda are two examples of languages with both symmetric and asymmetric applicatives. The examples in (1-2) are from Swahili. (1) shows that Swahili benefactive applicatives are asymmetric, allowing passivization of the applied argument. (2) shows that locative applicatives are symmetric.

- (1) a. M-toto a-li-nunul-i-w-a ki-tabu (Ngonyani 1996:39-40)
 1-child 1SA-PAST-10A-buy-APPL-PASS-FV 7-book
 ‘The child had a book bought for him.’
 b. *Ki-tabu ki-li-nunul-i-w-a m-toto
 7-book 7SA-PAST-buy-APPL-PASS-FV 1-child
 ‘The book was bought for the child.’
- (2) a. Ofisi-ni pa-li-l-i-w-a ch-akula
 office-LOC 16SA-PAST-eat-APPL-PASS-FV 7-food
 ‘In the office was eaten food.’
 b. Ch-akula ki-li-l-i-w-a ofisi-ni
 7-food 7SA-PAST-eat-PASS-FAV 9.office-LOC
 ‘The food was eaten in the office.’

²⁰ As should be clear by now, in this thesis I assume that DOCs may have the structural properties of an applicative construction, despite the absence of overt applicative morphology (cf. Marantz 1993, McGinnis 1998b, Pytkäinen 2002, Anagnostopoulou 2003, Cuervo 2003, Doggett 2004, Jeong 2006, Bowers 2010, Citko 2011, among many others).

2.4.1 Asymmetric IO Passives

In most asymmetric applicatives, only the IO, i.e., the highest argument, can move to the subject position in a passive construction (McGinnis 2008). One example from a language with overt applicative morphology is the raising applicative in Chi-Mwi:ni, which allows the recipient (39a), but not the theme (39b), to become the subject of the passive (Kisseberth and Abasheikh 1977). In Sections 2.2 and 2.3, I have proposed that Chi-Mwi:ni low-high applicatives pose the same problem as Mandarin *gěi* DOCs, and are best analyzed as raising applicatives to account for the order [V-APPL-ASP]. However, as we see here, Mandarin and Chi-Mwi:ni differ in that the former allows asymmetric DO applicatives, whereas the latter allows asymmetric IO applicatives.

- (39) *Chi-Mwi:ni asymmetric applicative* (Kisseberth and Abasheikh 1977)
- a. Mwa:limu \emptyset - \textbackslash et-el-el-a chibu:ku na Nu:ru
teacher SP-was-brought-APPL-ASP-FV book by Nuru
'The teacher was brought the book by Nuru.'
- b. *Chibu:ku chi- \textbackslash et-el-el-a mwa:limu na Nu:ru
book SP-was-brought-APPL-ASP-FV teacher by Nuru
'The book was brought (to) the teacher by Nuru.'

Another example, this time from a language with non-overt applicative morphology, is the DOC in Standard American English (SAE), where only IO can get passivized, as shown in (40).²¹ Here, I focus on the case of SAE, but the syntactic licensing I will propose below also holds for Chi-Mwi:ni.

²¹ Theme passives (tertiary passives) of DOCs also exist in some dialects of American English and have been analyzed by Fillmore (1965), among others.

(40) a. John was sent a letter.

b. *A letter was sent John.

Based on the transitivity and verb semantics applicative diagnostics, Pykkänen (2002, 2008) shows that SAE DOCs pattern as low applicative constructions (41).

(41) *Low applicative analysis of SAE*

John sent Mary a letter.

[VoiceP *John* [Voice' Voice [VP *send* [AppIP *Mary* [Appl' Appl *a letter*]]]]]

Examples (42a-b) show that in SAE neither unergative nor static verbs can be applicativized.

(42) *SAE low applicative*

(Pykkänen 2002:24)

a. *Transitivity diagnostic: *Unergative predicate*

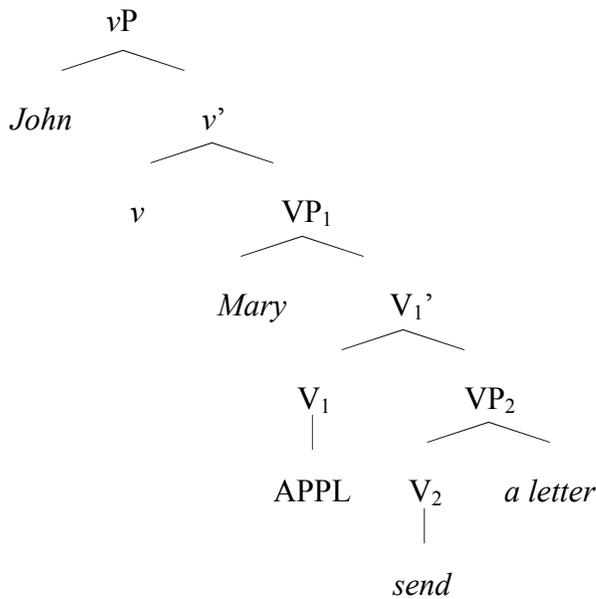
*I ran him.

b. *Verb semantics diagnostic: *Stative predicate*

*I held him the bag.

In contrast to Pykkänen's low applicative analysis of SAE DOCs, Marantz (1993) proposes an analysis in which a light applicative verb APPL selects the lexical VP as its complement. (43) presents Marantz's (1993) proposed derivation for the sentence *John sent Mary a letter*. Marantz's structure is essentially Pykkänen's high applicative structure.

(43) Marantz's (1993) high applicative analysis of SAE



What both accounts have in common is that IO asymmetrically c-commands DO. This c-command asymmetry is one of the defining properties of DOCs, and it has been widely assumed since Larson (1988). Evidence for the relationship between IO and DO comes from an array of diagnostics first discussed in Barss and Lasnik (1986) (44).

(44) a. *Binding*

(Barss and Lasnik 1988:347-350)

- i. I showed John/him himself (in the mirror).
- ii. *I showed himself John (in the mirror).

b. *QNP-pronoun relations*

- i. I denied each worker his paycheck.
- ii. *I denied its owner each paycheck.

c. *Wh-movement and weak crossover*

- i. Which worker_i did you deny his_i paycheck?
- ii. *Which paycheck_i did you deny its_i owner?

d. *Superiority*

- i. Who did you give which book?
- ii. *Which book did you give who?

e. *The each... the other construction*

- i. I gave each man the other's watch.
- ii. *I gave the other's trainer each lion.

f. *Polarity any*

- i. I gave no one anything.
- ii. *I gave anyone nothing.

In what follows, I will show why the raising applicative hypothesis provides an analysis that better captures the SAE data, compared to the two accounts presented above. The main difference between Marantz's high applicative analysis and the raising applicative analysis is that the raising applicative analysis adds an extra step, in which the IO raises from [Spec, VP] to [Spec, ApplP] (45).

(45) *Raising applicative analysis of SAE*

[_{VP} John [_{v'v} [_{AppIP} Mary [_{AppI'} Appl [_{VP} _t_{Mary} [_{v'} send a letter]]]]]



Evidence for movement of the IO to [Spec, ApplP] comes from stranded quantifiers (Georgala et al. 2008) (46).

(46) a. I handed two the boys each a fork.

b. ??I handed two forks each to a boy.

Following Fitzpatrick (2006), who argues that q-float in English is adverbial (cf. footnote 12), these facts are readily explained if the quantifier is adjoined to the left of the VP and the IO A-moves over it to [Spec, ApplP], as predicted by the raising applicative hypothesis. The distributive quantifier *each* must distribute over a plural entity; this is the trace of *two boys* in (46a). The unacceptability of (46b) for many speakers indicates that *each* in this sentence lacks a plural entity to distribute over in its scope.²²

As Georgala et al. (2008) point out, these data are difficult to explain using Pykkänen's low applicative structure. Moreover, on the latter analysis movement out of ApplP and/or VP would have to be posited to explain the facts, but the landing site for movement is unclear. Under Marantz's analysis, where the IO is base-generated in [Spec, ApplP], (40a) can be derived if the quantifier is adjoined to ApplP, but it is not clear to which position the IO would move.

In the remainder of this section, I will show how the syntactic licensing of the raising applicative construction in SAE works. The same syntactic licensing applies also to Chi-Mwi:ni. I adopt the assumptions I made for the Mandarin raising applicative construction in (35), and add two more assumptions to them, namely that EPP-triggered movement is uncoupled from Agree (Collins 1997, Hiraiwa 2001, Bowers 2002, among others), and the order of Agree and EPP is free. In the case of SAE, EPP precedes Agree (Hasegawa 2005, Georgala et al. 2008).²³ Licensing of IO and DO in the SAE DOC in (45), repeated below, proceeds as follows.

²² For speakers who accept (46b), it is possible that an operation corresponding to Object Shift (Johnson 1991) moves the direct object around *each*. Note that sentences corresponding to (46b) improve with a definite direct object, as shown in (1) below.

(1) ?/OK I handed the forks each to a boy.

²³ Note that assuming that EPP precedes Agree in SAE does not violate the Extension Condition. According to Chomsky (1995), the Extension Condition requires that all Merge and Move operations target the root of the tree. Raising of the IO to [Spec, ApplP], triggered by Appl's EPP feature, applies at the point of the derivation after Appl is combined with its complement, namely VP. Head movement and covert movement are considered to be typical violations of the Extension Condition, but not raising.

(45) *Raising applicative analysis*

[_{VP} *John* [_v *v* [_{AppIP} *Mary* [_{AppI} *Appl* [_{VP} *t*_{Mary} [_V *send a letter*]]]]]]



Appl first triggers movement of the IO *Mary* to [Spec, AppIP]. At this point Appl no longer c-commands IO. Assuming that the trace of IO is invisible to Appl (cf. Chomsky 2000, 2001, Hiraiwa 2001, Anagnostopoulou 2003, among others), Agree takes place between Appl and the closest matching goal in VP, the DO *a letter*. After *v* is introduced into the structure, it looks for the closest eligible goal in its c-command domain; this is the IO in [Spec, AppIP].

This treatment derives applicative structures where, in actives, after the IO raises to [Spec, AppIP], the applicative head Agrees with DO, while *v* Agrees with the raised IO. This is the desired result in the case of asymmetric applicatives, where only the applied argument shows structural object properties. Thus, in a passive construction where passive morphology absorbs *v*'s ability to value Case, T is the closest Probe that can value the Case of the IO. As a result, IO undergoes passive movement, and DO is licensed without having to posit a mechanism like Pesetsky's (1995) and Harley's (2002) empty preposition.²⁴

It is well known, though, that across languages, facts are more complex regarding passivization of applicative constructions. As mentioned above, languages such as Kinyarwanda, Swahili, and British English attest symmetric applicatives, where object properties are displayed both by the DO and the applied argument. In the next section I will discuss and account for symmetric passives in British English and Swahili. Part of the analysis of symmetric passives will also be employed to provide an analysis of IO passivization in asymmetric thematic

²⁴ As Anagnostopoulou (2003) points out, having the theme being introduced by a covert preposition does not account for DOCs in languages such as Greek, where clitic doubling is not allowed with prepositional arguments.

- (1) a. To edhosa tu Niku to vivlio
 CL.3SG.ACC gave.1SG the.GEN Nick.GEN the.ACC book.ACC
 b. *To edhosa tu Niku sto vivlio
 CL.3SG.ACC gave.1SG the.GEN Nick.GEN to:the.ACC book.ACC
 'I gave Nick the book.'

applicatives such as Chichewa instrumental applicatives (SAE DOC is an example of an IO asymmetric raising applicative).

2.4.2 Symmetric Passives

In Section 2.3, using the Mandarin raising applicative construction as a case study, I showed what allows the theme to move to the specifier of TP in asymmetric passives, as movement of the applied argument follows from standard locality considerations. Movement of the theme is possible in symmetric passives too. In this section I will explain how symmetric raising and thematic applicatives can be derived in the framework of the raising/thematic applicative hypothesis. More specifically, I employ a hybrid approach²⁵ by analyzing symmetric raising applicatives using a Case-based account (cf. McGinnis 2004, Citko 2011, Haddican and Holmberg 2011) and an “escape-hatch”-based account (cf. McGinnis 1998, Anagnostopoulou 2003, Doggett 2004) (cf. Section 2.4.2.2 for details). In Section 2.4.2.1 I discuss and propose an analysis of symmetric raising applicatives in dialects of (British)²⁶ English. In Section 2.4.2.2 I provide an account of symmetric locative applicatives in Swahili and asymmetric IO thematic applicatives in Chichewa.

2.4.2.1 Symmetric Raising Applicatives

While DO passivization in the presence of IO is prohibited in most dialects of English (e.g., SAE, as shown in Section 2.4.1), it is accepted by some English dialect speakers (Woolford 1993, Anagnostopoulou 2003, Doggett 2004, Haddican and Holmberg 2011, among others) (47).

²⁵ Hybrid approaches to symmetric applicatives have been also developed by McGinnis (2004) and Citko (2011).

²⁶ British English dialects are the most frequently ones cited in the literature regarding symmetric passives in English, but as I noted in footnote 12 DO (tertiary) passives are also attested in American English dialects (Fillmore 1965, among others).

(47) a. %The ball was given my sister.

(Haddican and Holmberg 2011:9)

b. My sister was given the ball.

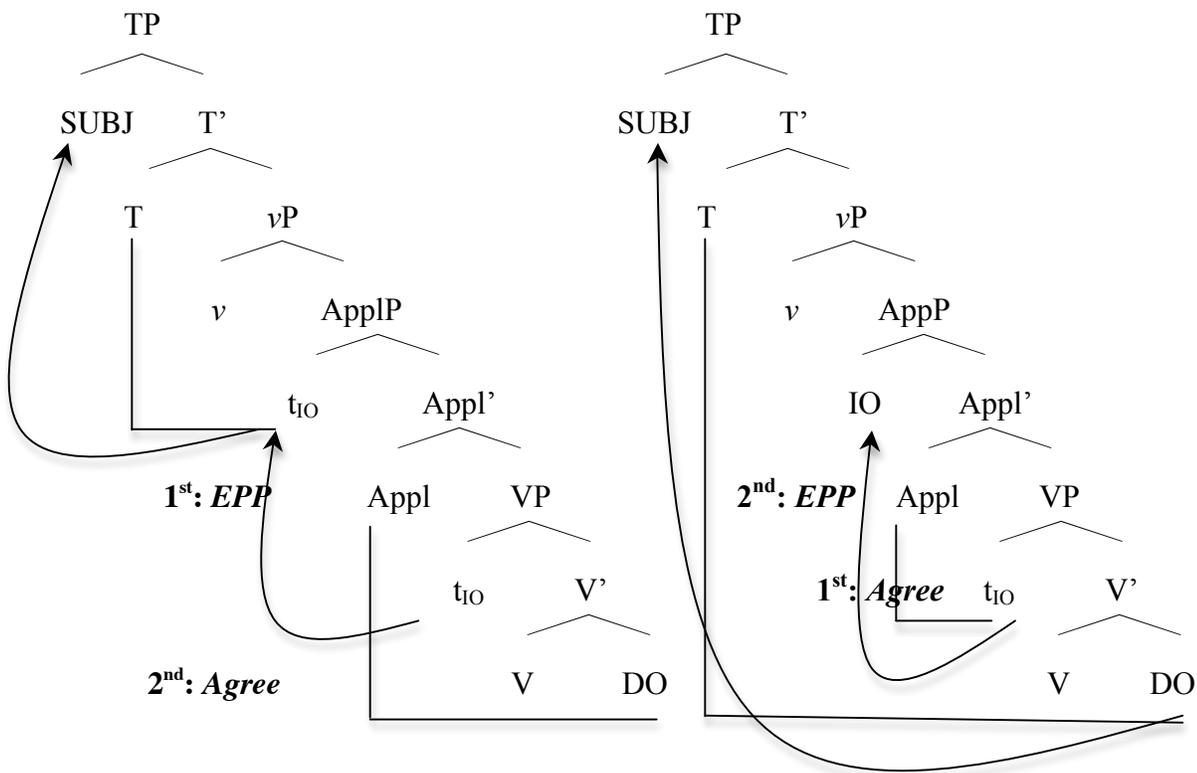
In Section 2.4.1 I provided evidence from quantifier floating and Pylkkänen's (2002, 2008) applicative tests in support of the claim that SAE has only raising applicative constructions. The same evidence holds for British English.

Let us now take a look at how symmetric raising applicatives are licensed. As in SAE, the applicative head in British English has an EPP feature. Here I again assume that EPP-triggered movement is independent of Agree, and the order of EPP and Agree is free, which suggests that symmetric passives are the least marked ones. In the case of IO passivization EPP movement precedes Agree (48a), while in DO passivization EPP follows Agree (48b).

(48) *Symmetric raising applicatives*

a. *IO-passive*

b. *DO-passive*



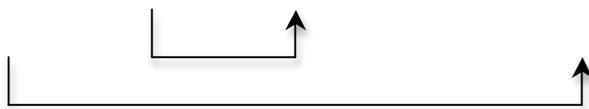
In the derivation in (48a), Appl first triggers movement of the IO to [Spec, ApplP] for EPP checking. At this point Appl no longer c-commands the IO (the trace of the IO is invisible to Appl). Next Agree takes place between Appl and the closest matching goal in VP, the DO. Since in passive *v*'s ability to value Case is absorbed, T is the closest Probe that can value the Case of IO. The result is IO passivization. In (48b), on the other hand, Agree is first established between Appl and IO. Then, IO moves to [Spec, ApplP] to check the EPP feature of Appl. Since all features of IO are checked, it cannot enter into an Agree relation with T, and thus does not constitute an intervener for Agree between T and the DO. As a result, DO is passivized. The derivations in (48a) and (48b) are the ones I presented earlier in this section to account for asymmetric raising passive in SAE and Mandarin respectively. The difference between asymmetric raising applicatives and the symmetric ones is that the latter allow both orders of Agree and EPP, while the former permit only one.

This treatment of symmetric applicatives is similar to Haddican and Holmberg's (2011) account of symmetric applicatives in British English dialects. But, in Haddican and Holmberg's analysis, a linker head (Baker and Collins 2006) above Appl is posited in order to account for the variation. More specifically, similarly to the analysis provided here for IO passivization, both *v* and Appl are Probes, valuing the Case feature of IO and DO respectively. In the case of DO passivization, however, the Probe assigning accusative Case to the theme is not on Appl, but a linker head, Lk, as illustrated in (49).

(49)

(Haddican and Holmberg 2010:32)

[_{VP} EA [_{v'} *v*_[Acc] [_{LkP} Lk_[Acc] [_{AppIPgoal} [_{AppI'} Appl [_{VP} V theme]]]]]]



Although Haddican and Holmberg's approach is interesting, assuming an extra head makes it less economical than the analysis developed here. Linker heads, as they originally appear in Baker and Collins 2006, are very similar to applicative heads in that (i) they appear in exactly the same position, sandwiched between v and lexical V, and (ii) they have the same function, i.e., enabling Case licensing of extra DPs within vP , and providing a specifier position through their EPP feature. So, by using a linker head, Haddican and Holmberg essentially propose an extra applicative head without any semantics related to it.²⁷

It is important to emphasize that the account of tertiary passives that I have proposed does not involve extra machinery comparable to what is required by the linker approach. That is, once we accept the view that EPP-triggered movement and Agree may be decoupled, the assumption that the ordering of EPP and Agree is not fixed is the minimal assumption, the assumption most consistent with a minimalist approach to syntactic derivations. Symmetric languages are examples of cases where EPP and Agree are freely ordered. The fact that they exist indicates that not stipulating the order of EPP and Agree is the right stance from a minimalist standpoint. What principle would determine which applies first, though? For languages that do not allow free variation the order is determined by a parameter. This is in line with what has been recently proposed by Baker (2008, 2010), namely that there is variation in the syntactic operation of Agree, and not in the feature content of individual functional heads involved in agreement.²⁸

2.4.2.2 Symmetric Thematic Applicatives

Although the Case-based account developed above works for symmetric raising applicatives, it does not capture the full range of applicative constructions. In the remainder of this chapter, I

²⁷ Haddican and Holmberg's (2011) Lk is similar in nature to Citko's (2011) *appl*, which is introduced for the same reason, namely to allow DO passivization in DOCs.

²⁸ Another possibility would be to assume that independent principles determine the order of Agree and EPP. It is worth noting that a similar approach was employed to deal with intrinsic rule ordering in phonology. Exploring this possibility is part of future research.

motivate the need for another strategy used in the case of thematic applicatives to allow passivization of both objects. What is crucial in this approach is the assumption that Merge and Move may be freely ordered (McGinnis 1998). This assumption is somewhat parallel to the assumption regarding EPP-triggered movement and Agree proposed above. The data I discuss are from the Swahili locative applicative construction, exemplified in (50).

(50) a. *Passivization of locative applied object in Swahili* (Ngonyani 1996:39-40)

Ofisi-ni pa-li-l-i-w-a ch-akula
 office-LOC 16SA-PAST-eat-APPL-PASS-FV 7-food
 ‘In the office was eaten food.’

b. *DO passivization*

Ch-akula ki-li-l-i-w-a ofisi-ni
 7-food 7SA-PAST-eat-PASS-FAV 9.office-LOC
 ‘The food was eaten in the office.’

The notion of a locality “escape hatch” in the sense of a single head permitting more than one specifier has been employed by many researchers (Ura 1996 and subsequent work, McGinnis 1998 and subsequent work, Anagnostopoulou 2003, Doggett 2004, Citko 2011) in their attempt to capture movement of the DO over the IO. Following McGinnis (1998), I account for the syntactic licensing of passive in symmetric thematic applicatives by combining the availability of multiple specifiers with one extra assumption, namely that the order of Merge and Move may be free.

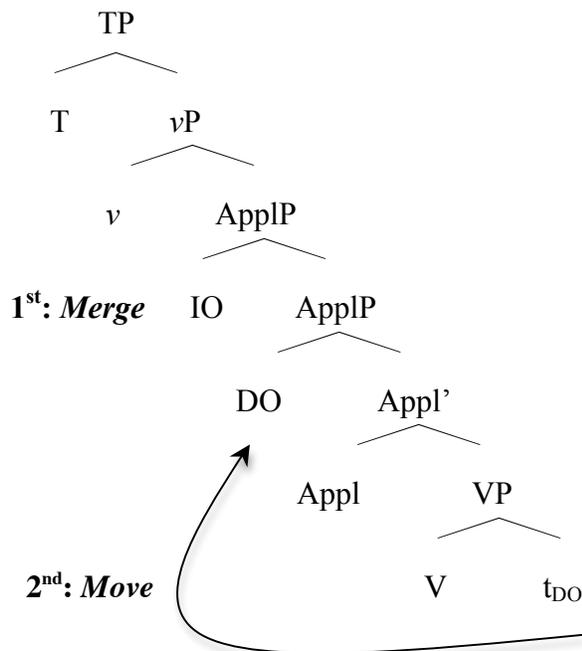
In the following, I go through the derivations for IO and DO passives step-by-step. Let us start with IO passivization in (51a). When Appl enters the derivation, it establishes an Agree relation with DO. Then IO is merged in the specifier of ApplP. Next, DO moves to [Spec, ApplP] to check the EPP feature of Appl by tucking in below IO. As a result, IO gets passivized

because it is the closest matching goal to enter into Agree with T and check its EPP feature. On the other hand, in (51b) when Appl is merged, its EPP feature attracts the DO to its specifier. Then IO is merged via tucking in beneath DO, and is licensed by Appl. DO, being the closest DP with an unchecked Case feature, it enters into Agree with T, as soon as T enters the derivation (*v* is defective in passive). This treatment results in DO passivization.

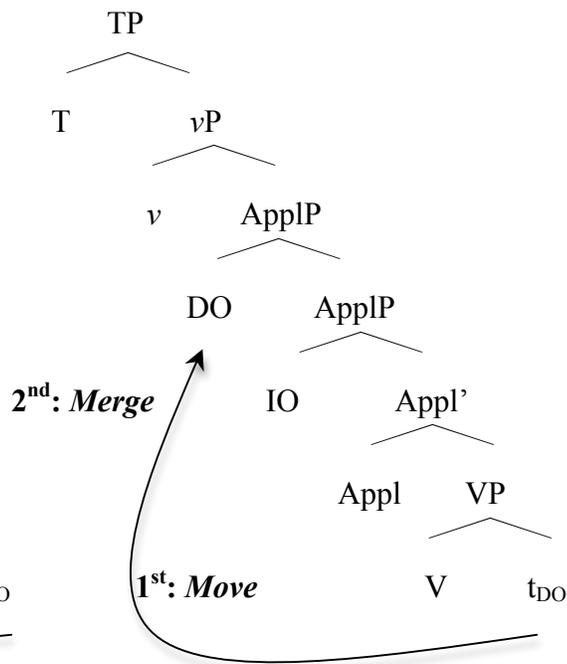
In sum, in thematic symmetric applicatives, when Merge precedes Move, IO becomes the subject of passive, whereas the DO gets passivized, when Move of DO happens prior to Merge of IO.

(51) *Symmetric thematic applicatives*

a. *IO-passive*



b. *DO-passive*



The derivation in (51a) accounts also for asymmetric IO passives of thematic applicatives such as the instrumental applicative construction in Chichewa (52).

(52) *Passivization of instrumental applied object in Chichewa* (Alsina and Mchombo 1988:23)

- a. Mwāla u-ku-phwány-ír-idw-á dēngu
stone SP-PRES-break-APPL-PAS-FV basket
‘The stone is being used to break the basket.’
- b. *Dēngu li-ku-phwány-ír-idw-á mwāla
basket SP-PRES-break- APPL-PAS-FV stone

The instrumental applicative in Chichewa passes Pykkänen’s transitivity high applicative test, as it combines with unergative predicates, such as the verb root *yend* ‘walk’ in (53). Also, like in the case of Chi-Mwi:ni: and Mandarin high-low applicatives, the applicative suffix *-ir*²⁹ in Chichewa follows the verb root and precedes the aspect morpheme. The most straightforward way to account for this order is by assuming a high applicative construction (Baker 1996, Pykkänen 2002, 2008, among others) and an EPP feature on Appl, as in (51a). Without an EPP feature on Appl we cannot account for applicative constructions with low-type semantics in the language.

(53) *Chichewa instrumental applicative* (Baker 1988:379)

- Msangalatsi a-ku-yend-er-a ndodo
entertainer SP-PRES-walk-APPL-ASP stick
‘The entertainer is walking with a stick.’

Note that the only difference between Chichewa instrumental applicatives and Swahili locative applicatives is that the latter allows free order of Merge and Move, while the former permits only the order Merge, Move.

²⁹ The applicative morpheme has two allomorphs *-ir* and *-er*, whose occurrence is determined by vowel harmony. Following Alsina and Mchombo (1988), I use *-ir-* as the citation form.

To sum up, in this section I have discussed one of the most interesting aspects of variation in applicative structures, namely A-movement, focusing on passive. Following much recent work on A-movement in applicatives (cf. McGinnis 2004, Citko 2011, among others), I have shown that a hybrid analysis, combining a Case-based (the higher argument is ineligible for movement, allowing the lower argument to move over it) and a locality-based approach (the lower argument moves over the higher one by means of an escape hatch), best accounts for the different types of symmetric and asymmetric passives. The analysis employed here departs from other analyses in that it is developed within the framework of the raising/thematic applicative hypothesis, which posits an EPP feature on Appl both in raising and thematic applicative constructions. This combined with the assumptions that EPP and Agree, and Merge and Move may be freely ordered account for the different types of applicative passivization discussed in this section.

2.5 Summary

In this chapter I have presented a typology of applicative constructions based on the morphological exponence of the applicative head and the A-movement properties of the applied argument, focusing on passive. In the first part I have provided compelling evidence based on the morphological exponence of the applicative head to motivate the raising/applicative hypothesis. In the remainder of the chapter I discussed one of the most intriguing points of variation among applicative constructions, namely passivization, and showed how the raising/applicative hypothesis can account for the different types of passives in the most economical way, by assuming a single applicative head above VP, while at the same time capturing Pylkkänen's evidence for two semantically different types of applied arguments.

The next two chapters provide an in depth analysis of applicative constructions in German and Greek, languages with non-overt applicative morphology. German and Greek

contribute intriguing data (excluded from this chapter due to their complexity), constituting thus interesting puzzles both for the raising/thematic applicative hypothesis and theories of syntactic locality.

CHAPTER 3
GERMAN DATIVE
DOUBLE OBJECT CONSTRUCTIONS³⁰

3.1 Introduction

German is a language with a variety of double object constructions (DOCs), as shown in (1a–e). The focus of this chapter is DOCs with a dative indirect object (IO) and an accusative direct object (DO), as in (1a–c). I also briefly discuss and propose an analysis for indirect objects bearing accusative case (1d). I argue that German has three different types of dative IOs: oblique, raising and thematic applied arguments. While there is consensus in the literature about the base order of oblique datives and DOs (the DO is merged higher than the dative argument), there is still debate about the underlying order of the two objects in applicative constructions. I provide novel data from depictive and quantifier stranding, as well as split topicalization, in support of the view that applied arguments in German are merged higher than accusative DOs, in accord with the crosslinguistic generalization about the order of objects in DOCs.³¹

- (1) a. dass Eva ihm eine Email schickte *DAT, ACC*
that Eva.NOM him.DAT an.ACC email.ACC sent
'that Eva sent him an email'
- b. dass Eva ihm die Tür aufmachte *DAT, ACC*
that Eva.NOM him.DAT the.ACC door.ACC opened
'that Eva opened the door for him'

³⁰ Parts of this chapter appear in Georgala (2011).

³¹ Cf. Lenerz (1977), Webelhuth (1989), Sabel (1996), McFadden (2004), Meinunger (2006), McIntyre (2006), among others, who also argue for IO>DO base order in German dative DOCs.

three structurally distinct classes of DOCs: (i) “low” dative DOCs,³⁴ (ii) raising applicative constructions, and (iii) thematic applicative constructions. In previous literature, raising and thematic applicatives are subsumed under one class, namely “high” dative DOCs (cf. Wegener 1991, McFadden 2004, Cook 2006).³⁵

What is referred to as the “low(er)” dative appears with verbs such as *ausliefern* ‘deliver’, *aussetzen* ‘expose’, *entziehen* ‘deprive/withdraw’, *unterwerfen* ‘subject to’, *unterziehen* ‘submit to’, *zuführen* ‘supply with / bring to’.³⁶ The class of “low” dative verbs is relatively small and displays less productivity and regularity in its behavior. The so-called “high(er)” dative construction, on the other hand, occurs with prototypical ditransitive verbs (e.g., *geben* ‘give’, *schicken* ‘send’, *empfehlen* ‘suggest’, *zeigen* ‘show’, etc.) and a large number of verbs to which a dative argument can be freely added.

Evidence for the distinction between the two classes comes from a series of diagnostic tests. Here, I present the most reliable ones (cf. Wegener 1991, Frey 1993, McFadden 2004, among others, for more diagnostic tests for the distinction between the two classes of DOCs).

³³ Vogel and Steinbach (1998), Müller (1999), Heck (2000), Fanselow (2003), among others, argue against two classes of dative DOCs, by attributing word order differences to an animacy constraint on word order, namely preference for animate arguments to precede inanimate ones. McIntyre (2006 and subsequent work) and Cook (2006) show that the animacy constraint does not explain the contrast between the two classes. More specifically, as Cook (2006) observes, Vogel and Steinbach’s (1998) and Müller’s (1999) accounts make the wrong predictions when it comes to cases with two objects matching in animacy: Vogel and Steinbach predict that either order is equally unmarked, while Müller predicts that dative precedes accusative. In (1) below both objects are inanimate. Example (1a) with <DAT, ACC> is degraded, undermining both Vogel and Steinbach’s and Müller’s predictions.

(1) a. ^mDie Dschungelbewohner entziehen dem Baumharz (Cook 2006:152)
 the.NOM jungle.dwellers.NOM strip the.DAT tree.resin.DAT
 das Pfeilgift
 das.ACC arrow.poison.ACC

??‘The jungle dwellers strip the resin of the poison for arrows.’

b. Die Dschungelbewohner entziehen das Pfeilgift dem Baumharz
 the.NOM jungle.dwellers.NOM extract the.ACC arrow.poison.ACC the.DAT tree.resin.DAT
 ‘The jungle dwellers extract the poison for arrows from the resin.’

³⁴ “Low(er)” / “high(er)” dative refers to the position of the dative with respect to the direct object.

³⁵ Similarly to my account, McIntyre (2009) acknowledges two different types of “high” dative DOCs, but he follows Pytkäinen’s (2002, 2008) account of low and high applicatives in analyzing them.

³⁶ Cook (2006) argues that *entziehen* ‘deprive/withdraw’ and *zuführen* ‘supply with / bring to’, depending on their reading, can be classified as either “low” or “high” dative verbs.

By applying a traditional constituency test, topicalization, Wegener (1991) and McFadden (2004) show that “low” and “high” dative verbs pattern differently, as illustrated in (2). The standard assumption behind topicalization is that only constituents move in front of the finite verb in a V2 clause. In example (2a), DO and the “high” dative verb *kaufen* ‘buy’ have fronted together, showing that they form a constituent to the exclusion of the IO *einer Frau* ‘a woman’. Fronting of IO and V to the exclusion of the DO, however, is considerably worse, as (2b) shows, suggesting that the IO and the verb do not form a constituent. The opposite is observed with “low” dative verbs, as example (3) illustrates. With a “low” dative verb like *aussetzen* ‘expose to’ fronting of the IO with the verb to the exclusion of the DO is fine (3a), while fronting of the DO with the verb to the exclusion of the IO is much worse (3b).

(2) (Wegener 1991:79, as cited by McFadden 2004:106)

a. [Blumen kaufen]_i kann man einer Frau immer t_i
 flowers.ACC buy can one.NOM a.DAT woman.DAT always
 ‘One can always buy a woman flowers.’

b. *[Einer Frau kaufen]_i kann man Blumen immer t_i

(3) (Wegener 1991:95, as cited by McFadden 2004:106)

a. [Der Kälte ausgesetzt]_i hat er das Kind t_i
 the.DAT cold.DAT exposed has he.NOM the.ACC child.ACC
 ‘He exposed the child to the cold.’

b. *[Das Kind ausgesetzt]_i hat er der Kälte t_i

Furthermore, the two classes differ regarding the placement of sentential negation under neutral intonation (Wegener 1991, McFadden 2004). With a “low” dative verb, such as *aussetzen* ‘expose to’ sentential negation is restricted to the position between the two objects (4a). If *nicht* ‘not’ occurs pre-verbally it is preferably interpreted as constituent negation on the verb. In the

case of “high” dative verbs, such as *geben* ‘give’, on the other hand, *nicht* can receive sentential intonation either when it appears between the two objects or in the immediately pre-verbal position (4b).³⁷

(4) (Wegener 1991:96, as cited by McFadden 2004:105)

a. Sie hat das Kind (nicht) der Kälte (?nicht) ausgesetzt

she.NOM has theACC child.ACC (not) the.DAT cold.DAT (not) exposed

‘She didn’t expose the child to the cold.’

b. Sie hat dem Jungen (nicht) das Buch (nicht) gegeben

she.NOM has the.DAT boy.DAT (not) the.ACC book.ACC (not) given

‘She didn’t give the book to the boy.’

Also, these two verb classes behave differently regarding the so-called recipient passive, in which *bekommen* ‘receive’, *erhalten* ‘obtain’ and *kriegen* ‘get’ seem to function like passive auxiliaries in a construction in which the subject corresponds to the dative IO in an active clause.³⁸ Recipient passive is grammatical with “high” dative verbs, but not with “low” dative

³⁷ Some speakers of German do not agree with Wegener’s judgments in (4b). For instance, according to Brugger and Poletto (1993), Hauptmann (1994), and Hinterhölzl (2006), when *nicht* precedes either object, only constituent negation is possible. Jäger (2008), on the other hand, agrees with Wegener’s judgments and further argues that placing *nicht* before a definite DP object does not result in constituent negation, but negation with marked focus, where the definite DP forms the focus or is included in the focus domain of negation.

³⁸ There is debate in the literature about how the recipient passive is analyzed (cf. Haider 1984, Reis 1985, Fanselow 1987, Cook 2006, McIntyre 2006, Alexiadou et al. to appear). Alexiadou et al. (to appear) apply standard diagnostics to test whether there is an implicit external argument in recipient passives. It is generally agreed upon that the external argument is implicitly present in passivization, as it is semantically and syntactically active. This is suggested by the licensing of (i) agentive *by*-phrases, (ii) purpose clauses, and (iii) agentive adverbs. Alexiadou et al. report that although many speakers treat recipient passives as true passives in Standard German, there are some who do not view these constructions as true passives containing an implicit external argument, at least as far as the control and agentive adverb tests are concerned (in contrast to Dutch, another language with recipient passives, which passes all the tests). Alexiadou et al. speculate that the reasons for this split among speakers/dialects of German is the status of grammaticalization of the verb *bekommen*, and end up treating recipient passives in German as true passives. By treating recipient passives as true passives, though, Alexiadou et al. imply that there are two types of passivization of DOCs in German: (i) *werden*-passives in which the dative is preserved, and (ii) *bekommen*-passives in which the dative is “absorbed”. The former involves an applicative construction (cf. Section 3.2.3),

verbs, as examples (5b) and (6b) illustrate respectively (Czepluch 1988, Fanselow 2000, McFadden 2004, Cook 2006, among others).³⁹

(5) a. Die Mutter schickt **dem Jungen** das Paket (Cook 2006:145)

the.NOM mother.NOM sends the.DAT boy.DAT the.ACC parcel.ACC

‘The mother sends the boy the parcel.’

b. **Der Junge** kriegt das Paket geschickt (von der Mutter)

the.NOM boy.NOM gets the.ACC parcel.ACC sent by the.DAT mother.DAT

‘The boy gets sent the parcel (by the mother).’

(6) a. Die Mutter setzt das Kind **der Kälte** aus (Cook 2006:145)

the.NOM mother.NOM sets the.ACC child.ACC the.DAT cold.DAT out

‘The mother exposes the child to the cold.’

whereas the latter does not. One of the most obvious questions such an account raises is what the difference between the applicative and non-applicative structure is.

Here, due to the lack of robust evidence regarding the presence of an implicit external argument in recipient passives and the implications of a non-applicative passive account I mentioned above, I propose an analysis similar in spirit to Bowers’ (2002) account of ‘transitive’ *get/have*-passives in English. More specifically, I propose that *bekommen/kriegen* is a psych-type predicate and its surface subject is its experiencer argument, binding pro or being related to a null operator binding a trace in the IO position of the participle (cf. McInryre 2006 who entertains the idea that *bekommen/kriegen* passive might be the inchoative version of the same HAVE relation as that which he argues to be the relation which dative IOs have to an event). On this account, passivization of the dative argument in ‘low’ dative DOCs is illicit not only because the dative argument is an oblique (see discussion in this section), but also because it is not an experiencer (cf. example 6).

³⁹ Eroms (1978) was the first to observe that not all “low” dative verbs obey the recipient dative restriction. For example *zuführen* ‘supply/bring’ may appear in the recipient passive construction, as example (1) below shows.

(1) Die Firma kriegt stets die besten Arbeitskräfte (durch die Agentur) zugeführt
 the.NOM company.NOM gets always the.ACC bestACC workers.ACC by the.ACC agency.ACC supplied
 ‘The firm always gets supplied (with) the best workers (by the agency).’ (Cook 2006:160)

Cook (2006) accounts for example (1) by arguing that *zuführen* has two conceptual/thematic structures: one corresponds to the “high” dative reading ‘supply with’ which allows the recipient passive, as shown in example (1) above, and the other corresponds to the “low” dative reading ‘bring’ which prohibits the recipient passive, as example (2) shows.

(2) *Die Verwertung kriegt die sortierten Verpackungen zugeführt (Cook 2006:160)
 the.NOM recycling.NOM gets the.ACC sorted.ACC packaging.ACC brought

The picture is exactly the same with the verb *entziehen* ‘deprive/withdraw’: when *entziehen* has the ‘withdraw’ reading, the dative IO cannot function as the subject of the recipient passive.

b. *Die Kälte kriegt das Kind ausgesetzt
 the.NOM cold.NOM gets the.ACC child.ACC exposed

Before I proceed to the syntactic analysis of “low” dative DOCs and thematic and raising applicatives, I would like to briefly discuss two additional types of dative DPs, the so called estimative and ethical datives.

As Wegener (1989) and Draye (1996) observe, ethical datives appear rather freely, usually as 1st or 2nd person personal pronouns, under appropriate pragmatic conditions, namely surprise, astonishment, (dis)pleasure, or incitement. The referent of an ethical dative expresses the speaker’s interest in the proposition coming true (7) (Wegener 1989, Gutzmann 2007, Bosse et al. to appear) and does not contribute any truth-conditional meaning to the sentence (Gutzmann 2007, Bosse et al. to appear).

(7) a. Schlaf mir jetzt schön ein, Kleines! (Lee-Schoenfeld 2006:105)
 sleep me.DAT now nicely in little.one
 ‘Kindly fall asleep for me now, little one!’

b. Du sollst mir nicht wieder fernsehen! (Bosse et al. to appear:9)
 you shall me.DAT not again watch.television
 ‘You shall not watch TV again and I want this to come true!’

Unlike “low” and “high” datives, ethical datives can neither be stressed, negated, or contrasted (8a–c), nor function as the antecedent of a relative clause or an appositive (9a–b) (Wegener 1989, Draye 1996).

- (8) a. *Da hat er MIR ihm etwas (Draye 1996:184)
 then has he.NOM me.DAT him.DAT something.ACC
 zugeflüstert und...
 to.whispered and
 ‘Then he whispered something to him to my dissatisfaction/surprise and...’
- b. *Komm pünktlich nach Hause, und zwar mir! (Wegener 1989:58)
 come on.time to home and in.fact me.DAT
 ‘Come home on time, for me.’
- c. *Das war nicht dir, sondern mir ein Spaß! (Wegener 1989:58)
 this.NOM was not you.DAT but me.DAT a.NOM fun.NOM
 ‘This was fun not for you, but for me.’
- (9) a. *Komm mir, die ich mich um dich Sorge, (Wegener 1989:58)
 come me.DAT who.NOM I myself for you.ACC care
 pünktlich nach Hause!
 on.time to home
- b. *Der war dir, seiner besorgten Mutter, betrunken!
 he was you.DAT POSS.3SG.MASC.DAT worried.DAT mother.DAT drunk

Moreover, ethical datives may neither appear in the beginning of a sentence (10) nor coordinate (11) (Wegener 1989).

- (10) *Uns wird es doch nicht regnen! (Wegener 1989:58)
 us.DAT will it.NOM still not rain
- (11) *Komm mir und dem Papa ja pünktlich nach Hause!
 come me.DAT and the.DAT dad.DAT PARTCL on.time to house

The restricted syntactic behavior of ethical datives is not special to German. Similar syntactic properties occur in ethical datives crosslinguistically, e.g., in Spanish (Jaeggli 1982, Cuervo 2003, Franco and Huidobro 2008), French (Jouitteau and Rezac 2007), Hebrew (Borer and Grodzinsky 1986), and Greek (see next chapter).

Estimative datives typically co-occur with the degree modifiers *zu* ‘too’ and *genug* ‘enough’, and [...] “seem to distribute identically to the idiom *for x’s liking*” (McIntyre 2006:206).

(12) Die Idee war mir {zu unausgereift / (McIntyre 2006:206)

the.NOM idea.NOM was me.DAT too half-baked

nicht interessant genug}

not interesting enough

‘The idea was {too half-baked / not interesting enough} for my liking.’

Both ethical (13a) and estimative (13b) datives may co-occur with dative arguments, as Wegener (1985) first observed.

(13) a. Nun kauf *mir* endlich **dem** **Kind** (Wegener 1985:39)

now buy.IMP.2SG me.DAT finally the.DAT child.DAT

einen Lutscher, damit es Ruhe gibt

a.ACC lollipop.ACC so.that there peace is

‘Now buy the child a lollipop for me, so that we can have some peace of mind.’

b. Der David hat *mir* der Claudia (Vogel and Steinbach 1998:77)
 the.NOM David.NOM has me.DAT the.DAT Claudia.DAT
 schon zuviele Geschenke gegeben
 already too.many.ACC presents.ACC given
 ‘I think, David has already given too many presents to Claudia.’

With respect to the syntactic analysis of ethical and estimative datives, there is consensus that they should not be treated on a par with “low” and “high” datives. In fact, most studies of dative DOCs simply treat them as adjuncts, without getting into details about their syntax (Beermann 2001, McFadden 2004, Cook 2006, among others). Analyzing ethical datives as adjuncts, though, does not explain their clitic-like behavior.

The most in depth account of these two types of datives is Wegener’s study from 1989, in which she argues that ethical datives are modal particles (see Section 4.2.3, footnote 15 for an alternative analysis) at the clausal level, while estimative datives are dependent on the degree particles *zu* ‘too’ and *genug* ‘enough’ (Wegener 1985, 1989, Eisenberg 1986, Draye 1996), which modify adjectives or adverbs.⁴⁰ Although modal particles and ethical datives have properties in common, Wegener’s analysis does not account for the pronominal behavior of ethical datives.

Bosse et al. (to appear) in their brief discussion of ethical datives, which they call “attitude holders”, speculate that they are merged outside the projection of the external argument, VoiceP, and probably around TP. I agree with Bosse et al. that ethical datives are merged above the thematic domain of the clause. To account for the clitic-like behavior of German ethical datives (cf. Lee-Schoenfeld 2006), I tentatively propose that German ethical datives are defective realizations of an argument-introducing head (Embick 2004, Boneh and Nash 2011), which is

⁴⁰ Estimative datives seem to be related to DegreeP (cf. Jackendoff 1977, Bowers 1987, Abney 1987, Corver 1991, among others on DegreeP).

spelled out as a clitic when it lacks the specifier occupied by a referential argument. The non-thematic domain in which the projection that introduces ethical datives finds itself prohibits adding new event arguments. In Chapter 4 I propose a similar analysis for Greek ethical datives.

3.2.2 The Syntax of “Low” Dative DOCs

As noted above, there is nearly general agreement in the literature that the base order of “low” dative DOCs is ACC>DAT and that the dative argument is an oblique. Yet, there are differences in the details of the proposed syntactic accounts. I follow Meinunger’s (2000, 2006) analysis, which I discuss in the last part of this section.

Meinunger (2000, 2006) and McFadden (2004) argue in support of the low position of the dative argument by comparing “low” datives to PPs. Assuming that PPs, unlike object NPs, are base-generated lower than sentential negation *nicht* ‘not’ under neutral intonation (cf. Wegener 1991, Brugger and Poletto 1993, Hauptmann 1994, Hinterhölzl 2006, Jäger 2008, among others), Wegener (1991) and McFadden (2004), use the position of *nicht* with a PP-construction and a “low” dative DOC to demonstrate the similarity between the two constructions.

(14) (Wegener 1991:96)

a. Er hat das Buch **nicht auf den Tisch** gelegt

he.NOM has the.ACC book.ACC not on the.ACC table.ACC put

‘He did not put the book on the table.’

b. ?Er hat das Buch **auf den Tisch nicht** gelegt

he.NOM has the.ACC book.ACC on the.ACC table.ACC not put

c. Sie hat das Kind **nicht der Kälte** ausgesetzt
 she.NOM has theACC child.ACC not the.DAT cold.DAT exposed
 ‘She didn’t expose the child to the cold.’

d. ?Sie hat das Kind **der Kälte nicht** ausgesetzt
 she.NOM has theACC child.ACC the.DAT cold.DAT not exposed

Wegener’s (1991) and McFadden’s (2004) observation about “low” datives and PPs patterning together is further supported by their position relative to manner adverbs, which precede PPs but follow object NPs, as observed by Brugger and Poletto 1995, and Hinterhölzl 2006, among others.

(15) a. weil sie die Milch **vorsichtig in den Kühlschrank** gestellt hat
 because she the.ACC milk.ACC carefully in the.ACC fridge.ACC put has
 ‘because she carefully put the milk in the fridge’

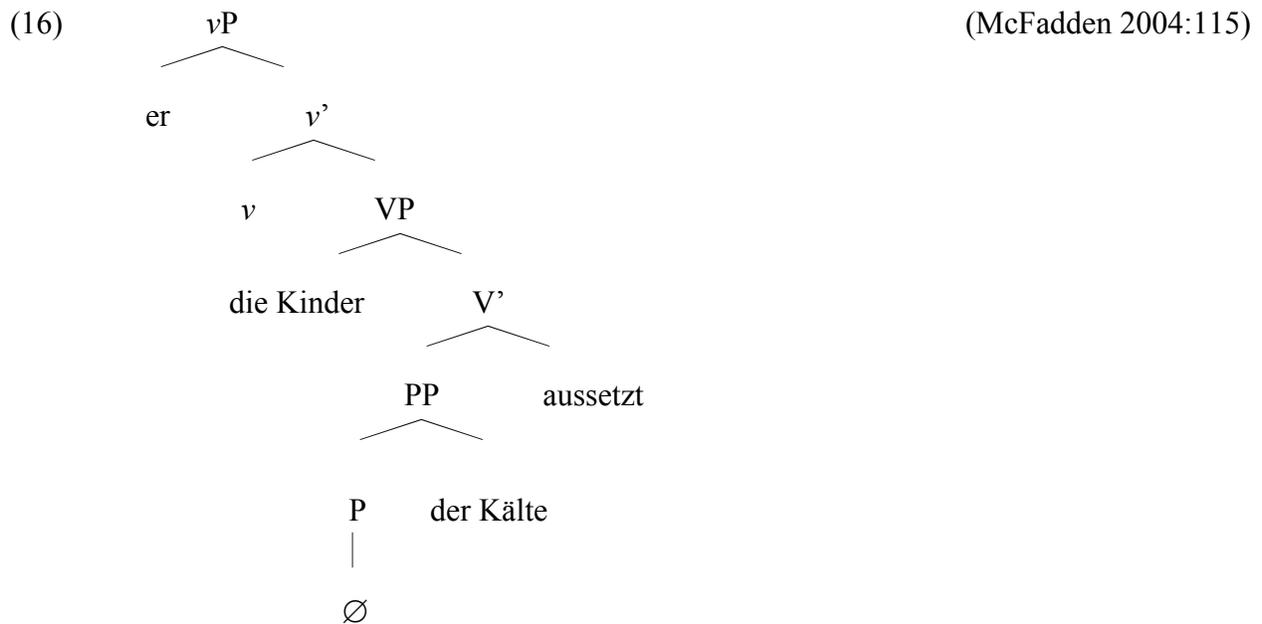
b. *weil sie die Milch **in den Kühlschrank vorsichtig**
 because she.NOM the.ACC milk.ACC in the.ACC fridge.ACC carefully
 gestellt hat
 put has

c. weil sie das Kind **vorsichtig der Sonne** ausgesetzt hat
 because she.NOM the.ACC child.ACC carefully the.DAT sun.DAT exposed has
 ‘because she carefully exposed the child to the sun’

d. *weil sie das Kind **der Sonne vorsichtig** ausgesetzt hat
 because she.NOM the.ACC child.ACC the.DAT sun.DAT carefully exposed has

Furthermore, McFadden (2004), Meinunger (2006), McIntyre (2006, 2009), among others, note that the locational/directional semantics of these datives is most commonly associated with PPs, both within German and crosslinguistically.

Based on the similarities between the two constructions, McFadden proposes that the “low” dative is the complement of a PP with a null P head (16).



McFadden draws a parallel between “low” dative DPs and adverbial DPs (cf. example 17), which are analyzed as DPs embedded in PPs with a null P by Emonds (1987) and Nikanne (1993). In both “low” datives and adverbial DPs, null P semantically relates the DP to the rest of the clause, and the overt case-marking allows the content of null P to be recovered. In the case of “low” datives, the PP is the complement of the lexical verb.

- (17) dass Eva ihren Bruder letzten Sonntag besucht hat
 that Eva.NOM POSS.3SG.FEM.ACC brother.ACC last.ACC Sunday.ACC visited has
 ‘that Eva visited her brother last Sunday’

Note, however, that McFadden’s extension of the null P analysis of adverbial DPs to “low” dative arguments faces a problem with the facts of extraposition. Adverbial DPs (18a) and PPs (18b–c) extrapose, while “low” datives do not (18d).⁴¹

- (18) a. Sie will ihren Bruder besuchen **nächsten Sonntag**
 she.NOM wants POSS.3SG.FEM.ACC brother.ACC visit next.ACC Sunday.ACC
 ‘She wants to visit her brother next Sunday.’
- b. Sie will ihren Bruder besuchen
 she.NOM wants POSS.3SG.FEM.ACC brother.ACC visit
im Februar
 in.the.DAT February.DAT
 ‘She wants to visit her brother in February.’
- c. ?Sie wollen die Osttarife angleichen (McIntyre 2009:9)
 they.NOM want the.ACC eastern.wages.ACC assimilate
an die Westtarife
 to the.ACC western.wages.ACC
 ‘They want to bring the eastern wages more in line with the western wages.’

⁴¹ The extraposition argument against McFadden’s (2004) null P account of “low” datives is first brought up by McIntyre (2009). Note, however, that McIntyre’s argument, solely based on the contrast in (18c-d), is not valid, unless it is supported by the data in (18a). More specifically, the ungrammaticality of (18d) can be explained as a violation of the Proper Binding Condition (Fiengo 1977) on either a base-generation (Webelhuth 1989, Culicover and Rochemont 1990, Wiltschko 1994) or a movement (Reinhart 1980, Baltin 1982, Buring and Hartmann 1995, Müller 1995b, among others) account of extraposition. In parallel to extraposition of a PP with a null P in German (18d), extraposition of a relative clause with a null complementizer in English (1a) is ruled out by the Proper Binding Condition, as shown in (1) below.

(1) a. Bill hit a man at the party *(that) Mary asked him to. (Culicover and Rochemont 1990:44)
 b. Bill hit a man that Mary asked him to.

d. *Sie wollen die Ostarife angleichen (McIntyre 2009:9)
 they.NOM want the.ACC eastern.wages.ACC assimilate
 den Westtarifen
 the.DAT western.wages.DAT

By contrast, Meinunger (2006) argues that the “low” dative is the complement of a PP, with P being incorporated into the verb. Meinunger’s account is based on the observation that all “low” dative verbs (with the exception of the verb *entziehen* ‘withdraw’⁴²) can be morphologically decomposed into a verbal stem and a separable prefix, which is identical to a locative preposition (e.g., *aus* ‘from’ + *setzen* in *aussetzen* ‘expose to’, *unter* ‘under’ + *ordnen* in *unterordnen* ‘subordinate’).⁴³

Meinunger’s incorporation account has been criticized by McIntyre (2003) and McFadden (2004) on the basis of the fact that some of the prefixes would be actually expected to assign accusative instead of dative case, if they were instantiations of the relevant P head. The example mentioned by McFadden to illustrate this point is the verb *angleichen* ‘make similar to.’ As example (18c), repeated below, shows, the PP *an die Westtarife* ‘to the western wages’, which is a complement of *angleichen*, is in accusative instead of dative case.

⁴² Citing Stiebels (1996), Meinunger (2006) notes that the Modern German prefix *ent-* originates from the Old German locative preposition *int*. Both *ent-* and *int* roughly express the meaning ‘away from’.

⁴³ To account for the cases where the prefix and the verb are discontinuous, such as in the infinitival form *auszusetzen* ‘to expose to’, *aus-* needs to excorporate (Roberts 1991) from V and m-merge with the head of AspectP, *zu* ‘to’, in whose specifier it appears (cf. Toyoshima 2000 and Matushansky 2006 on this type of head-movement). According to Hinterhölzl (2006), AspectP immediately dominates VP.

(18) c. ?Sie wollen die Osttarife angleichen (McIntyre 2009:9)

they.NOM want the.ACC eastern.wages.ACC assimilate

an die Westtarife

to the.ACC western.wages.ACC

‘They want to bring the eastern wages more in line with the western wages.’

d. *Sie wollen die Osttarife angleichen

they.NOM want the.ACC eastern.wages.ACC assimilate

den Westtarifen

the.DAT western.wages.DAT

On a closer look, though, this example is not relevant for McFadden’s and McIntyre’s argument against Meinunger’s incorporation analysis, since it is a case of co-occurrence of the true P *an* and the prefix *an-*. A more relevant example would be a case such as (19a), where *zu* ‘to’ appears as a pure preposition (19a) and the verb, *geführt* ‘led’, has no prefix.

(19) a. weil sie ein neues Opfer **zu** ihrem (Meinunger 2006:95)

since they.NOM a.ACC new.ACC victim.ACC to POSS.3PL.DAT

Medizinmann geführt haben

medicine.man.DAT led have

‘since they led a new victim to their medicine man / kahuna’

b. weil sie \emptyset ihrem Medizinmann ein neues Opfer

since they.NOM POSS.3PL.DAT medicine.man.DAT a.ACC new.ACC victim.ACC

*(**zu**)geführt haben

to.led have

Crucially, however, contra McIntyre’s and McFadden’s argument, none of the prepositions identical to the particles of “low” dative verbs, assign only accusative case. They either assign only dative, like *zu* ‘to’, or accusative/dative, like *an* ‘to/ at’.^{44,45}

3.2.3 The Syntax of “High” Dative DOCs / Applicative Constructions

For the remainder of this chapter I focus on “high” dative DOCs. For simplicity, I will talk in terms of DOCs, but the claims to be made are only to apply to “high” dative DOCs. In this section I show that German “high” datives should be divided into applicatives of two types: raising and thematic.

3.2.3.1 Thematic Applicatives

I first argue that German has thematic applicatives, and then I account for their syntactic licensing.

Based on Pylkkänen’s verb semantics diagnostic, the German DOC can be a high (thematic) applicative construction, since the dative IO can combine with the static predicate *halten* “hold”, as example (20) illustrates.⁴⁶

⁴⁴ Dative/accusative prepositions, such as *an* ‘to/at’ take a dative-marked argument when they have a locational meaning and an accusative-marked argument when they have a directional meaning.

⁴⁵ “Low” dative verbs never appear with prefixes whose prepositional counterparts assign only accusative case (*bis, durch, für, gegen, ohne, um, wider, entlang*).

⁴⁶ Pylkkänen’s transitivity diagnostic is inapplicable in German. According to Hoekstra (1988) and Tungseth (2008), among others, “free” datives do not appear with unergative predicates in German, as example (1) below illustrates.

(1) *Fritz hat seinem Bruder geschwommen (Tungseth 2008:110)
Fritz.NOM has POSS.3SG.DAT brother.DAT swum
‘Fritz swam for/on his brother.’

According to Tungseth (2008), two conditions need to be met in German in order for a “free” dative to be licensed: (i) the event must be telic (excludes statives and process transitives/unaccusatives), and (ii) there must be an internal argument present in the structure, allowing for transitives and unaccusatives, but excluding unergatives. But Tungseth’s generalization does not account for example (20), in which the verb *halten* ‘hold’ is an atelic predicate, expressing prolonged contact with an entity but no change of possession.

(20) Eva hat mir Jans Rucksack zwei Stunden gehalten
 Eva.NOM has me.DAT Jan.GEN backpack.ACC two.ACC hours.ACC held
 ‘Eva held Jan’s backpack for me for two hours.’

Lee-Schoenfeld (2006) and McIntyre (2006, 2009) also provide many examples of event-related (high) applied arguments, such as examples (21a–c). In examples (21a–b) the dative argument is a beneficiary, while in (21c) it is a maleficiary.

(21) a. Er klopfte und sie machte **ihm** (die Tür) auf (McIntyre 2006:193)
 he knocked and she made him.DAT the.ACC door.ACC open
 ‘He knocked and she opened the door for him.’

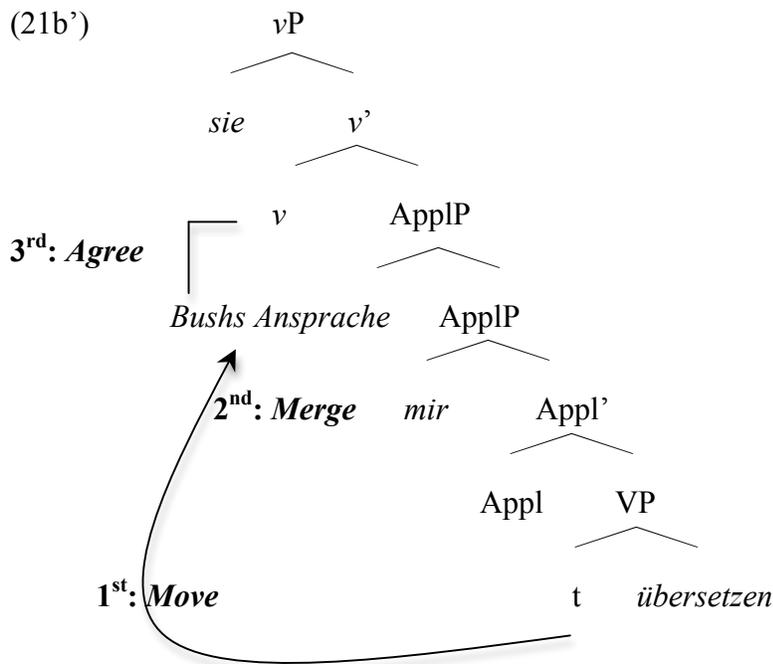
b. Sie hat **mir** Bushs Ansprache
 she.NOM has me.DAT Bush.GEN speech.ACC
 aufgenommen/übersetzt
 recorded/translated
 ‘She has recorded/translated Bush’s speech for me.’

c. Sie haben **mir** das Leben kaputtgemacht
 they.NOM have me.DAT the.ACC life.ACC ruined
 ‘I had them ruin my life.’

The syntactic licensing of thematic applicatives in German proceeds as follows (21b’): Appl always bears an EPP feature in German, which I will motivate in the section on raising applicatives (3.2.3.2.1). I further assume that Merge and Move are ordered freely, subject to parametrization across languages (see discussion in Chapter 5). In German, Move precedes

Independently of what the exact distribution of “free” datives is in German, the fact that their distribution is restricted posits a strong argument against accounts which treat “free” datives as adjuncts due to their freedom of appearance (cf. Haider 1985, Vogel and Steinbach 1998).

Merge (contrast to Chichewa instrumental applicatives, in which Merge precedes Move). When Appl is merged, its EPP feature attracts the DO to its specifier. Next, IO enters the derivation with an interpretable Case feature, which is valued at Merge with Appl (cf. Bailyn and Citko 1999, who argue that interpretable Case features are valued at first Merge, whereas uninterpretable Case features get valued via Agree with a higher Probe).⁴⁷ The IO is merged via tucking in below the DO. As soon as *v* enters the derivation, DO, being the closest DP with an unchecked Case feature, enters into an Agree relation with *v*.



⁴⁷ Unlike McFadden (2004), McIntyre (2009), Bowers (2010), and Citko (2011), among others, who base-generate “free” datives in A-positions (McIntyre 2009 and Citko 2011 in the specifier of Pyllkänen’s high ApplP, and Bowers 2010 in the specifier of AffP), Müller (1995a) base-generates “free” datives in an A-bar position (at least for German), namely the specifier of a functional projection μ P, where dative Case is assigned. It is not clear how “free” datives get a theta-role on Müller’s analysis.

In passive, since the DO is the closest matching goal to T, it enters into an Agree relation with T and raises to its specifier to check its EPP feature. This approach predicts asymmetric DO passivization, which is exactly what is attested in German, as the data in (22) show.⁴⁸

(22) a. Jans Rucksack wurde ihm gehalten

Jans.GEN backpack.NOM PASS me.DAT held

‘Jan’s backpack was held for me.’

b. *Ich wurde Jans Rucksack gehalten

I.NOM PASS Jan.GEN backpack.ACC held

3.2.3.2 Raising Applicatives

In this section I describe two types of raising applicatives: (i) dative and accusative IOs which raise from [Spec,VP] to [Spec, ApplP], and (ii) possessor dative DPs which raise from the specifier of the possessed nominal to [Spec, ApplP].

3.2.3.2.1 Raising from [Spec, VP] to [Spec, ApplP]

In German dative DPs may stand in a “having”-relationship with an entity, namely, the DO.

⁴⁸ Because ethical datives, like beneficiaries/maleficiaries are referents positively or negatively affected by an event, it is tempting to analyze them as thematic applicatives, i.e., bene-/maleficiaries (cf. Wood to appear). Sentences, where two datives co-occur, such as (13a), repeated below as (1), would be then analyzed as multiple applicative constructions.

(1) Nun kauf **mir** endlich *dem Kind* einen Lutscher, (Wegener 1985:39)

now buy.IMP.2SG me.DAT finally the.DAT child.DAT a.ACC lollipop.ACC

damit es Ruhe gibt

so that there peace is

‘Now buy the child a lollipop for me, so that we can have some peace of mind.’

Since thematic applicatives look for an event-denoting argument, they should be able to combine with other thematic or raising applicatives, which also denote events (cf. McGinnis 2005). However, treating ethical datives as thematic applied arguments does not explain their special syntactic behavior (cf. section 3.2.1), which contrasts to how true beneficiary/maleficiary applied arguments behave.

What is crucial in the present account is the surface position of the dative DP, which I argue to be outside the lexical VP. Evidence in support of the VP-external surface position of the dative IO comes from the placement of manner adverbs. Manner adverbs may intervene between the IO and the DO in German, as example (23) shows.

- (23) Der Hiwi hat den Studenten heimlich
 the.NOM teaching.assistant.NOM has the.DAT students.DAT secretly
 einen alten Test ausgeteilt
 an.ACC old.ACC quiz.ACC distributed
 ‘The teaching assistant secretly distributed an old quiz to the students.’

Assuming that *heimlich* ‘secretly’ is positioned on the left edge of VP (Eckardt 1998, 2003), the order in (23) is exactly the order predicted by the raising applicative hypothesis.⁴⁹

- (23’) [_{VP} *der* *Hiwi* [_{v’} v [_{AppIP} *den* *Studenten*_i [_{AppI’} Appl [_{VP} *heimlich* [_{VP} *t*_i
 the.NOM TA.NOM the.DAT students.DAT secretly
 [_{v’} *einen* *alten* *Test* *austeilen*]]]]]]]]
 an.ACC old.ACC test.ACC distribute

Because the position of manner adverbs in German is still under debate (cf. Eckardt 1998, Frey and Pittner 1998, Laenzlinger 2002, Eckardt 2003, Schäfer 2005, among others), I elaborate my argument by providing evidence from quantifier floating data. As shown in (24), the quantifier *alle* ‘all’ can occur to the right of IO. Following Doetjes (1997) and Fitzpatrick (2006),

⁴⁹ This assumption is consistent either with the view that manner adverbs are adjoined to VP, or that they occupy a functional projection above VP (cf. Cinque 1999).

I assume that quantifier floating of the exhaustive quantifier *alle* ‘all’ is adverbial.⁵⁰ Unlike manner adverbs, adverbial quantifiers need to take scope over their associate, here the IO *den Studenten* ‘the students’. Fitzpatrick (2006) argues that adverbial floating quantifiers restrict their associates to A-movement, which is exactly what the raising hypothesis requires.^{51,52}

(24) Der Hiwi hat [den Studenten]_i allen_i einen alten Test ausgeteilt
 the.NOM TA.NOM has the.DAT students.DAT all.DAT an.ACC old.ACC test.ACC distributed
 ‘The TA has distributed an old test to all the students.’

(24') [_{VP} *der* *Hiwi* [_{v'} v [_{AppIP} *den* *Studenten*_i [_{AppI'} AppI [_{VP} *allen*_i [_{VP} *t*_i
 the.NOM TA.NOM the.DAT students.DAT all.DAT
 [_{v'} *einen* *alten* *Test* *austeilen*]]]]]]]]
 an.ACC old.ACC test.ACC distributed

⁵⁰ Fitzpatrick (2006) argues that exhaustive floating quantifiers in German, among other languages, have the distribution of adverbial elements. That is, they do not appear in NP/DP argument positions, as would be predicted under a stranding analysis. According to Fitzpatrick the properties of adverbial floating quantifiers are the following: (i) they show agreement, (ii) they sometimes contain overt pronouns (e.g., in Hebrew), (iii) they show locality effects, (iv) they show differences in DP/pronoun acceptability (data for this restriction comes from German and French), and (v) they disallow A-bar movement of the associated NP. To account for the above properties, Fitzpatrick proposes that adverbial floating quantifiers contain a possibly null pronominal-like element, and must bind a variable.

⁵¹ Paul and Whitman (2010) use the same argument in support of raising applicatives in Mandarin, as discussed in Chapter 2.

⁵² Sentences with a floating quantifier and two different types of adverbs, manner and event-external adverbs, reveal an interesting contrast, as shown in (1) and (2) below. Assuming that adverbial quantifiers scope over their associate and restrict them to A-movement (Fitzpatrick 2006), and event-external adverbs (here *schnell* ‘without further delay, quickly’) are adjoined to vP/PredP, in example (1) the recipient goal IO A-moves over the manner adverb *heimlich* ‘secretly’ to [Spec, AppIP] and from there over *schnell* to [Spec, vP/PredP]. Interestingly, example (2), a sentence with the same pattern but with a beneficiary instead of a goal is degraded for some speakers. This I interpret to suggest that raising to [Spec, AppIP] only happens in the case of IO possessors, i.e., raising applicative constructions.

(1) ?Der Hiwi hat den Studenten schnell heimlich allen einen alten Test ausgeteilt
 the.NOM TA.NOM has the.DAT students.DAT quickly secretly all.DAT an.ACC old.ACC test.ACC distributed
 ‘Without further delay the TA secretly distributed an old test to all the students.’

(2) ?*Die Mutter hat [den Kindern]_i schnell liebevoll allen_i Schokoladenkekse gebacken
 the.NOM mother.NOM has the.DAT children.DAT quickly lovingly all.DAT chocolate.cookies.ACC baked
 ‘Without further delay the mother lovingly baked chocolate cookies for all the children.’

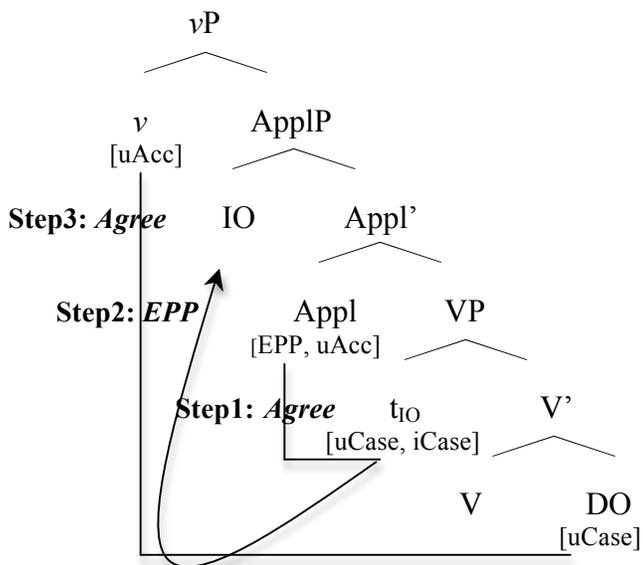
Note that possessor/recipient IOs move to [Spec, ApplP] only in raising applicative structures. McFadden (2004) predicts a contrast between “low” and “high” dative DOCs by base-generating the IO in [Spec, ApplP]. But his account fails to predict the contrast between Pylkkänen’s low and high applicatives, which does exist in German, as I showed above.⁵³ Crucially, McFadden’s account does not predict the data in (24), unless he assumes that adverbial quantifiers are adjoined to ApplP. Also Pylkkänen’s (and consequently McIntyre’s 2009) account of low applicatives is problematic regarding the data in (24), since in her analysis A-movement of the possessor IO out of ApplP or/and VP has to be posited to explain the facts, but the landing site is unclear.

Based on the evidence discussed above showing that the IO raises above VP, I assume that Appl in German always bears an EPP feature triggering raising of the highest nominal argument in VP to [Spec, ApplP]. In the derivation in (25), DO and V are first merged in V’ and then IO is merged in [Spec, VP]. I assume that IO bears quirky Case in German. Following Citko (2011), I take quirky Case to be a combination of an interpretable Case feature and an uninterpretable Case feature. Thus, IO enters the derivation with an interpretable Case feature which is checked via Merge in [Spec, VP] and an uninterpretable Case feature. In the next step of the derivation, Appl is merged. Appl bears an uninterpretable Case feature. The EPP on Appl triggers movement of the IO to [Spec, ApplP] and values its Case feature.⁵⁴ Then ν is merged with Appl and Agree is established between ν and the closest DP with an unchecked Case feature, namely the DO. I assume that checking of the Case features of IO prior to Merge of ν eliminates the IO as a possible intervener (Bowers 2010, Paul and Whitman 2010, Citko 2011, among others).

⁵³ Bowers’ (2010) account of the German data also fails to predict the contrast between Pylkkänen’s low and high applicatives.

⁵⁴ Citko (2011) proposes similar syntactic licensing for languages with an inherently Case-marked IO, such as Polish, but she posits an extra head, *appl* to account for the data. The approach developed here is more economical than Citko’s in that no extra applicative head is proposed.

(25) German raising applicative



The proposed analysis of raising applicatives predicts asymmetric DO passivization, which is borne out by the data in (26). Since all the features of the IO have been checked prior to passivization, it cannot undergo further A-movement to [Spec, TP]. This explains the ungrammaticality of (26b). Furthermore, assuming that a DP with all its features checked does not constitute an intervener readily explains the grammaticality of (26a), where the DO is passivized.

- (26) a. Ein alter Test wurde den Studenten ausgeteilt
 an.NOM old.NOM test.NOM PASS the.DAT students.DAT distributed
 ‘An old test was distributed to the students.’
- b. *Die Studenten wurden einen alten Test ausgeteilt
 the.NOM students.NOM PASS an.ACC old.ACC test.ACC distributed
 ‘The students were distributed an old test.’

Note that although Mandarin and German allow both asymmetric DO passives, they differ with

respect to the Case features of IO. In particular, while in Mandarin the IO bears one uninterpretable Case feature, in German IO enters the derivation with an uninterpretable and an interpretable Case feature. Under this analysis, both the widely accepted view that German IOs in DOCs bear inherent dative Case (cf. Haider 1985, Vogel and Steinbach 1998, McFadden 2004, Platzack 2005, McIntyre 2006, among others), and the evidence that the IO raises out of VP are captured.

With the so-called ‘didactic’ verbs, e.g., *lehren* ‘teach’, *abhören* ‘quiz’, both the goal and the theme may be expressed with accusative case in German (Abraham 1983), as example (27) illustrates.

(27) Frau Schmidt lehrt die Kinder die deutsche (Draye 1996:196)

Mrs Schmidt teaches the.ACC children.ACC the.ACC German.ACC

Grammatik

grammar.ACC

‘Mrs Schmidt teaches German grammar to the children.’

The goal of ‘didactic’ verbs may also bear dative case, as Draye (1996) notes.⁵⁵

⁵⁵ According to Duden (<http://www.duden.de/newsletter/duden-newsletter-vom-20-08-10>), active *lehren* appears more frequently with an accusative rather than a dative goal. However, in passive the use of the dative variant (1) (the DO is passivized) (1) is more common than the use of the accusative variant (the IO is passivized) (2).

(1) Ihm wurde das Schweigen gelehrt *DO passivization*

him.DAT PASS the.NOM silence.NOM taught

(2) Er wurde das Schweigen gelehrt *IO passivization*

he.NOM PASS the.ACC silence.ACC taught

‘Silence was taught to him.’

(28) Frau Schmidt lehrt den Kindern die deutsche (Draye 1996:196)

Mrs Schmidt teaches the.DAT children.DAT the.ACC German.ACC

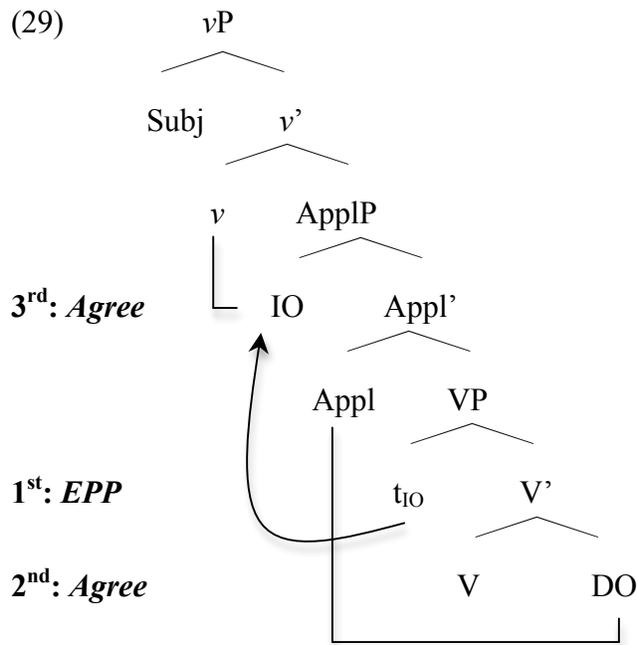
Grammatik

grammar.ACC

‘Mrs Schmidt teaches German grammar to the children.’

Example (28) is a dative raising applicative. Following Draye (1996) who argues that there is no semantic difference between the two DOC variants, I propose that double accusative constructions in German are raising applicative constructions which differ from dative raising applicatives in that both ν and Appl have Probes assigning accusative Case.⁵⁶ The syntactic licensing of double accusative constructions proceeds as follows (29): DO and V are first merged in V' and then IO is merged in [Spec, VP]. IO moves to [Spec, ApplP] to check the EPP feature of Appl. Appl, bearing an uninterpretable Case feature enters into an Agree relation with the closest matching DP, the DO, and values its Case feature as accusative. At this point Appl no longer c-commands every member of the chain headed by the IO. Then ν is merged with Appl and Agree is established between ν and the closest eligible goal in its c-command domain, i.e., the IO in [Spec, ApplP]. ν values the Case feature of IO accusative.

⁵⁶ Cf. Citko (2011) and Haddican and Holmberg (2011) who also assume that Appl may have a Probe.



This analysis of German double accusative constructions predicts goal passivization. Since passive morphology absorbs *v*'s ability to value Case, T is the closest Probe that can value the Case of IO. As a result IO undergoes passive movement, which is exactly what is shown by the data in (30).

- (30) Er wurde das Schweigen gelehrt
 He.NOM PASS the.ACC silence.ACC taught
 ‘He was taught silence.’ (<http://www.duden.de/newsletter/duden-newsletter-vom-20-08-10>)

Note that the syntactic licensing of applicative constructions with didactic verbs is exactly the same as the syntactic licensing of DOCs in Standard American English.

3.2.3.2.2 Raising from [Spec, DP_{ACC}] to [Spec, ApplP]: Possessor Raising

German, like many languages, has a construction known as external possession (cf. Vergnaud and Zubizarreta 1992, Landau 1999, Payne and Barshi 1999, Lee-Schoenfeld 2006, Deal 2010, among many others), where a nominal (in dative case in German) acts both as a possessor of the DO and a benefactive/malefactive argument of the verb. Examples from German are given in (31).

(31) a. Tim hat der Nachbarin das Auto (Lee-Schoenfeld 2006:102)

Tim.NOM has the.DAT neighbor.DAT the.ACC car.ACC

gewaschen

washed

‘Tim washed the neighbor’s car.’

b. Tim ruiniert Lena den schönen (Lee-Schoenfeld 2006:108)

Tim.NOM ruins Lena.DAT the.ACC beautiful.ACC

Garten

garden.ACC

‘Tim ruins Lena’s beautiful garden.’

I follow Lee-Schoenfeld (2006) in base-generating possessor datives in the specifier of the possessee DO and then raising them to [Spec, ApplP] (specifier of Pylkkänen’s high applicative head in Lee-Schoenfeld’s account). Crucially, D, the head of the possessee DO is a non-Case-licensing (defective) head. Raising of the possessor to [Spec, ApplP] results in

b. Der Henker hat *ihm* den Kopf (McIntyre 2009:6)
 the.NOM executioner.NOM has him.DAT the.ACC head.AC
 vom Leib getrennt
 from.the.DAT body.DAT separated
 ‘The executioner separated his head from his body.’

However the grammaticality of (32a–b) can be explained if one assumes Across-the-Board-Movement (Ross 1967), which is defined as simultaneous movement of an element from multiple source positions (specifiers of DP1 and DP2 in 32a’) to a single target position (specifier of ApplP).

(32b’) *Der Henker hat ihm* [_{DP1} *t_i den Kopf*] *von*
 the.NOM executioner.NOM has him.DAT the.ACC head.ACC from
 [_{DP2} *t_i dem Leib*] getrennt
 the.DAT body.DAT separated

McIntyre also criticizes Lee-Schoenfeld’s account of sentences with an embedded possessee, as in (33). On a possessor raising analysis, (33) would be ungrammatical, because the dative cannot be raised out of the embedded DP.

(33) *Mir* fiel der Hammer auf [_{DP} *die Spitze* (McIntyre 2009:6)
 me.DAT fell the.NOM hammer.DAT on the.ACC tip.ACC
 [_{DP} *des linken Zeigefingers_i*]
 the.GEN left.GEN index.finger.GEN
 ‘The hammer fell on the tip of my left index finger.’

Lee-Schoenfeld argues that the possessor dative *mir* ‘me’ in (33) is not a possessor but a malefactive, originating in the specifier of high Appl, pragmatically interpreted as a possessor. More specifically, the left index finger in (33) must be interpreted as belonging to the referent of the dative *mir*. However, since the finger in (a) and the tip in (b) are necessarily possessed by the same person as the left hand and the left index finger, the possessor relation between the PD and the embedded DP need not be syntactically encoded. Lee-Schoenfeld provides the data in (34) to corroborate her argument.

(34) a. ?Ein guter Ehemann massiert seiner (Lee-Schoenfeld 2006:114)

a.NOM good.NOM husband.NOM massages POSS.3SG.MASC.GEN

Frau jeden Abend ihren Rücken

wife.DAT every.ACC evening.ACC POSS.3SG.FEM.GEN back.ACC

‘A good husband massages his wife’s back every night.’

b. Mir fiel der Hammer auf [die Spitze [**meines** linken

me.DAT fell the.NOM hammer.NOM on the.ACC tip.ACC POSS.1SG.GEN left.GEN

Zeigefingers]]

index:finger.GEN

‘The hammer fell on the tip of my left index finger.’

Both examples involve a body-part nominal specified by a possessive pronoun, but, while (34a) is degraded, (34b) is not. Lee-Schoenfeld concludes that the possessor dative in (34b) does not originate in the position occupied by the possessive pronoun, i.e. the specifier of the embedded DP, since the possessive pronoun in (34b) can co-occur with the possessor dative *mir* without degrading the utterance at all. She proposes that *mir* either originates in the possessor position of the larger DP, *die Spitze meines linken Zeigefingers* ‘the tip of my left index finger’, or is really a maleficiary high applicative, not standing in a possessor relation at all.

McIntyre disagrees with Lee-Schoenfeld’s bipartite analysis of possessor datives, namely pragmatically and structurally licensed, and suggests a uniform analysis instead, according to which possessor datives merge in the specifier of high ApplP.

A possessor raising analysis of (33) may be maintained if a layered PP structure for locative phrases is employed. More specifically, in the spirit of Svenonius (2006), I assume that *Spitze* ‘tip/top’ is not a noun, but lexicalizes a functional projection, Ax(ial)Part.⁵⁹ On an account like Svenonius’s where P is decomposed into a series of functional phrases, including AxPartP, the possessor *mir* ‘me’ in (33) can raise from the specifier of the DP *des linken Zeigefingers* ‘of the left index finger’ to [Spec, ApplP]. The derivation of (33) is presented in (33’) below.

(33’) [AppIP *mir*_i [AppI’ Appl [VP *der* Hammer [V’ [PlaceP *auf* [AxPartP *die* Spitze
me.DAT the.NOM hammer.NOM on the.ACC tip.ACC
[_{KP} K [DP *t*_i [D’ *des* [NP *linken Zeigefingers*]]]]]]] *fallen*]]]]
the.GEN left.GEN index.finger.GEN fall

⁵⁹ Svenonius (2006) observes that many languages have specialized locative words or morphemes roughly translating into words such as ‘front,’ ‘back,’ etc. Often, these words are used instead of more specialized adpositions to express spatial meanings corresponding to ‘behind,’ ‘above’, etc. On the basis of a crosslinguistic survey of such expressions, Svenonius (2006) argues that in many cases they motivate a syntactic category which is distinct from both noun and preposition, which he calls *Axial Part* (AxPart). Svenonius applies four diagnostic tests to distinguish the AxPart use of *front* from its noun use in English: the plural test (AxPart cannot be pluralized), the adjectival modification test (AxPart cannot be modified by an adjective), the measure phrase test (measure phrases are acceptable with many locative expressions, e.g., *there was a boy two ft in front of the car*, but **there was a boy two ft in the front of the car*), and the pro-form test (AxPart does not admit replacement of its projections by pro-forms). I applied three of the four diagnostics to *Spitze* to test whether *Spitze* can be an AxPart in German (the measure phrase test is not applicable to German). Although *Spitze* may get pluralized (example 1a is from www.brigitte.de/beauty/make-up/dosdents-534223), it cannot get pronominalized (1b).

- (1) a. Wenn Sie Wimperntusche auftragen, darf nicht zu viel Farbe auf die Spitzen der Härchen gelangen
when you mascara apply should not too much color on the ends the little:hair end:up
‘When you apply mascara, the ends of the eyelashes should not have too much color.’
b. *Mein Bruder will auf [die Spitze_i des Berges] klettern, weil ich neulich auch auf sie geklettert bin
my brother wants on the top the mountain climb because I recently also on it climbed PASS
‘My brother wants to climb to the top of the mountain, because I also climbed to it recently.’

I also searched for the string “*auf die* ADJ *Spitze* + DP_{GEN}” in the Huge German Corpus (HGC), but the search resulted in no hits. As Svenonius points out, the exact diagnostics differ from language to language. Investigating what the exact properties of German AxPart are is subject to future work.

Pylkkänen (2002, 2008) also argues against a raising account of possessor datives and proposes base-generating them in the specifier of low source Appl.⁶⁰ Below I summarize two arguments against Pylkkänen’s analysis, as they appear in Lee-Schoenfeld (2006).

Lee-Schoenfeld’s first argument involves Pylkkänen’s verb semantics diagnostic for the high-low applicative distinction: Since the event in a low applicative construction must result in transfer of possession, the verb cannot be stative. When applied to German, however, this diagnostic does not support Pylkkänen’s claim. The fact that example (35) with the stative verb *halten* ‘hold’ is grammatical indicates that the transfer of possession relation, characteristic of low applicatives, does not hold for the German possessor dative facts (see also example 20 in Section 3.2.3.1 on thematic applicatives).

- (35) Ich habe ihm die Tasche gehalten (Lee-Schoenfeld 2005:4)
 I.NOM have him.DAT the.ACC bag.ACC held
 ‘I held his bag for him.’

Moreover Pylkkänen appeals to the transfer of possession relation between the low applied argument and the DO to account for the obligatory possessor relation which holds between the possessor dative and the possessed nominal. In Pylkkänen’s system, this possessor relation must always coincide with transfer of possession. The notion of possession transfer is compatible with the obvious loss of possession expressed by Pylkkänen’s Korean example in (36) (the ring was taken away from Mary).

- (36) Totuk-i Mary-hanthey panci-lul humchi-ess-ta (Pylkkänen 2002:21)
 thief-NOM Mary-DAT ring-ACC steal-PAST-PLAIN
 ‘The thief stole a ring from Mary.’

⁶⁰ Pylkkänen specifically argues against Landau’s (1999) possessor raising analysis.

It can also be extended to account for the Finnish examples in (37). In (37a), it is possible to interpret the event of Riikka’s seeing the undershirt as a loss of privacy for Sanna, the possessor of the shirt. Pylkkänen argues that the transfer of possession relation is reflected in the privacy of the undershirt being taken from Sanna. By contrast, in (37b), where the DO is an overcoat, no loss of privacy is involved, and hence, no transfer of possession has taken place. As predicted by Pylkkänen’s analysis, Riikka’s seeing Sanna’s overcoat cannot be expressed as a possessor dative construction (37b).

(37) a. Riikka näki Sanna-lta aluspaida-n (Pylkkänen 2002:47)

Riikka.NOM saw Sanna-ABL undershirt-ACC

‘Riikka saw Sanna's undershirt.’

b. #Riikka näki Sanna-lta päällystaki-n

Riikka.NOM saw Sanna-ABL overcoat-ACC

‘Riikka saw Sanna's overcoat.’

Lee-Schoenfeld, however, observes that the abstract notion of privacy loss as an instance of possession transfer does not capture the German data in (38a-b). In particular, the car in (38a) is “publicly possessed”, yet compatible with a possessor dative construction. Similarly, in (38b) the husband’s massaging his wife’s back in is not an event associated with loss of privacy.

(38) (Lee-Schoenfeld 2005:4)

a. Tim hat **der Nachbarin** gestern **das Auto** gewaschen

Tim.NOM has the.DAT neighbor.DAT yesterday the.ACC car.ACC washed

‘Tim washed the neighbor’s car for her yesterday.’

b. Ein guter Ehemann massiert **seiner** **Frau**
 a.NOM good.NOM husband.NOM massages POSS.3SG.MASC.GEN wife
 jeden Abend **den Rücken**
 each.ACC evening.ACC the.ACC back.ACC
 ‘A good husband massages his wife’s back every night.’

Based on the examples in (38), it seems that transfer of possession is not a requirement, and is not at all representative of possessor dative affectedness.

Lee-Schoenfeld’s second argument against analyzing possessor datives as low applicatives is that a low applicative cannot stand in a relation to a DP that is embedded in a PP. This is illustrated by the ungrammatical English example in (39).

(39) *John sat Mary in the car. (Pylkkänen 2002:56)
 (Intended meaning: ‘John sat in a car which was to Mary’s possession.’)

Based on the ungrammaticality of (39), Pylkkänen claims that the Hebrew example in (40), which looks like a possessor dative construction with a PP-embedded possessee, is really a *be*-possessor construction. More specifically, the dative, *le-Rina*, in (40) is argued to be introduced by the verb *to be*, as in simple possessor constructions like *Jon has a son*, literally *(there) is to Jon a son*.

(40) Gil gar le-Rina ba-xacer (Landau 1999:4)
 Gil lives to-Rina in-the-yard
 ‘He lives in Rina’s yard.’

This line of argumentation leads to the prediction that only languages, like Hebrew, which use

3.3 German and the Universal Base Order of Objects in DOCs

In the recent literature on German DOCs, it has been argued that the DO is base-generated higher than the IO, and the order <IO, DO> is the result of A-bar movement (den Dikken 1995, Müller 1995, McGinnis 1999, among others).⁶¹ This makes German a counterexample to the crosslinguistic generalization that IOs are merged higher than DOs in DOCs (Marantz 1993, Pesetsky 1995, Arad 1998, Boeckx and Niinuma 2003, Miyagawa and Tsujioka 2004, Meinunger 2006, Bowers 2010, Citko 2011, among others). In Section 3.3.1 I provide compelling arguments from depictive and quantifier stranding as well as split topicalization in support of the view that German in fact respects the crosslinguistic generalization about the underlying order of objects in DOCs. In Section 3.3.2 I discuss the main arguments of the proponents of the DO>IO base order.

3.3.1 Stranding Reveals IO>DO Base Order in German DOCs

Previously unnoticed data from depictive stranding in German “high” dative DOCs support the hypothesis that IO>DO is the underlying order.⁶² Depictives in German can be predicated of DOs (42a), but not of IOs (42b), and can be stranded by A-movement, for example by passive (42c) or unaccusative (42d) movement.

- (42) a. Er hat Jan [das Bier]_i lauwarm_i serviert
he.NOM has Jan.DAT the.ACC beer.ACC lukewarm served
'He served the beer to Jan lukewarm.'

⁶¹ Tungseth (2008) argues that the order <IO, DO> is derived in German, but she does not discuss the type of movement.

⁶² Cf. Lenerz (1977), Webelhuth (1989), Frey (1993), Sternefeld and Featherston (2003), and McFadden (2004) for further arguments in support of IO>DO being the underlying order of German “high” dative DOCs.

- b. Er_i hat Jan_j das Bier nackt_{i/*j} serviert
 he.NOM has Jan.DAT the.ACC beer.ACC naked served
- c. [Das Bier]_i wurde von dem Kellner lauwarm_i serviert
 the.NOM beer.NOM PASS by the.DAT waiter.DAT lukewarm served
 ‘The beer was served lukewarm by the waiter.’
- d. Eva_i ist aus München müde_i zurückgekommen
 Eva.NOM is from Munich tired returned
 ‘Eva returned tired from Munich.’

My account of depictives is consistent either with the DO and the depictive forming a constituent (Marusic et al. 2008), or with the DO controlling PRO in the specifier of the depictive small clause (Bowers 1993, among others). In the latter case, no other eligible controller (DP) may intervene between the depictive and PRO due to the Minimum Distance Principle (Rosenbaum 1967). Crucially, depictives can be stranded by *ACC DAT depictive stranding*, as shown in (43): the depictive *lauwarm* ‘lukewarm’ is stranded in the base position of the DO *das Bier* ‘the beer’, which moves to the left of the IO *Jan*.

- (43) Er hat [das Bier]_i Jan_t lauwarm_i serviert
 He.NOM has the.ACC beer.ACC Jan.DAT lukewarm served
 ‘He served the beer to Jan lukewarm.’

The base order IO>DO is further supported by evidence from quantifier floating (44).⁶³ Following Fitzpatrick (2006), I assume that the quantifier *allen* in (24), repeated below, has to scope over the IO. IO A-moves from its base position in [Spec, VP], to which the quantifier is

⁶³ This data has been previously discussed in the literature (Giusti 1990, Merchant 1996, among others), but this is the first time it is brought up in the discussion of the base order of objects in DOCs.

adjoined, to [Spec, ApplP], while the DO remains in situ.

- (24) Der Hiwi hat [den Studenten]_i allen_i einen alten Test ausgeteilt
the.NOM TA.NOM has the.DAT students.DAT all.DAT an.ACC old.ACC test.ACC distributed
'The TA has distributed an old test to all the students.'

The last piece of evidence in support of IO>DO, newly contributed here, comes from split-NP (split-topicalization) data. In example (44) the noun *Hemden* 'shirts' is "split" apart from its quantifier *viele* 'many' and occurs in the Vorfeld topic position.

- (44) **Hemden**_i habe ich dem Jungen *viele*_i gekauft
shirts.ACC have I.NOM the.DAT boy.DAT many.ACC bought

To account for the data in (44), I follow Ott (2011), who argues that the fronted part and the stranded part in a split-NP construction underlyingly merge as DP subject (stranded part) and an NP predicate (fronted part)⁶⁴ in a single thematic position (argumental/adverbial), but must be broken by movement to be provided with a label.⁶⁵ Ott's analysis explains why the two parts, while not forming a constituent, nevertheless Agree in Case (the result of Multiple Agree) and are obligatorily separated. Crucially, in (45), having the fronted and the stranded part of the split-NP merged in a

⁶⁴ Ott (2011) assumes that the stranded part of the split-NP construction is always a proper argument, i.e. it always denotes individuals (or sets of individuals) rather than properties. In example (1) below the stranded part can be resumed by a pronoun, even if on the surface it is only an adjective, a numeral or an indefinite noun phrase.

(1) Gute Bücher_k habe ich erst eins_i gelesen. { *Sie_k waren / Es_i war } von Stephen King (Ott 2011:68)
good books have I only one read they were it was by Stephen King

What the above facts bring out is that while the stranded part, *eins*, is referential, the fronted one is not. This is exactly what Ott's approach predicts: while the fronted part is an open nominal expression, the stranded part is always a closed one.

⁶⁵ Following Moro (2000) and Chomsky (2010), Ott (2011) assumes that Merge of two XPs within a single argument or adjunct position yields a structure for which no label ('head') can be detected by Minimal Search ('for any { α , β }, α is the head if α is a lexical item'). Therefore, one of the two noun phrases has to move, yielding the 'split' in overt form.

thematic position higher than the IO, *dem Jungen* ‘the boy’, renders the sentence ungrammatical.

(45) ?***Hemden**_i habe ich **viele**_i dem Jungen gekauft
 shirts.ACC have I.NOM many.ACC the.DAT boy.DAT bought

In the following section, I discuss the principal arguments of the proponents of the DO>IO account.

3.3.2 DO>IO Base Order Accounts

The main proponents of the idea that DO>IO is the underlying order in German DOCs are den Dikken (1995), Müller (1995 and subsequent work) and McGinnis (1999). Their primary argument in support of DO>IO comes from Grewendorf’s (1984, 1988) and Webelhuth’s (1989) anaphor binding data in (46) and (47) respectively, which suggest that dative IOs cannot bind accusative DOs to their right.⁶⁶

⁶⁶ Grewendorf (1988) observes that the dative IO binds the accusative DO, when the co-indexed DO is a personal pronoun, as shown in (1a) below.

- (1) a. Der Arzt zeigte dem Patienten_i **ihn**_i im Spiegel (Grewendorf 1988:58)
 the.NOM doctor.NOM showed the.DAT patient.DAT him.ACC in.the.DAT
 Spiegel
 mirror.DAT
 b. *Der Arzt zeigte den Patienten_i **ihm**_i im Spiegel
 the.NOM doctor.NOM showed the.ACC patient.ACC him.ACC in.the.DAT mirror.DAT

By using example (2), where a quantified dative antecedent binds the accusative pronoun *ihn* ‘him’, Schäfer (2008) shows that (1a) in fact involves real binding between the IO and a variable DO:

- (2) Man sollte einem/jedem Politiker_i immer **ihn**_i/***sich**_i als Verhandlungsführer vorschlagen (Schäfer 2008:276)
 one.NOM should a.DAT/every.DAT politician.DAT always him.DAT/REFL as
 principal.negotiator propose

‘One should always propose to a/every politician himself as a principal negotiator.’

To account for the different behavior of pronouns and reflexives in German binding contexts, Schäfer suggests that the realization of a bound variable as a reflexive or a pronoun is a PF-phenomenon.

(46) a. *Der Arzt zeigte dem Patienten_i sich_i (Grewendorf 1988:58)

the.NOM doctor.NOM showed the.DAT patient.DAT REFL

im Spiegel

in.the.DAT mirror.DAT

‘The doctor showed himself to the patient in the mirror.’

b. Der Arzt zeigte den Patienten_i sich_i

the.NOM doctor.NOM showed the.ACC patient.ACC REFL

im Spiegel

in.the.DAT mirror.DAT

‘The doctor showed the patient to himself in the mirror.’

(47) a. *Er hat den Gästen einander vorgestellt (Webelhuth 1989:407f)

he.NOM has the.DAT guests.DAT RECIP introduced

b. Er hat die Gäste einander vorgestellt

he.NOM has the.ACC guests.ACC RECIP introduced

‘He introduced the guests to each other.’

Sternefeld and Featherston (2003), however, show that judgments for sentences with a reflexive anaphor vary considerably (compare 46 to 48–49). More specifically, Frey (1993) considers example (46a) grammatical, while Frey (1989) and Sternefeld and Featherston (2003) even report on data where the DO does not bind the anaphor IO, as in (48a-b) below.

(48) a. *weil ich die Maria (Sternefeld and Featherston 2003:246)

because I.NOM the.ACC Maria.ACC

sich im Spiegel gezeigt habe

REFL in.the.DAT mirror.DAT shown have

- b. *weil ich den Peter sich überlassen wollte
 because I.NOM the.ACC Peter.ACC REFL leave.to.his.own.devices wanted

Furthermore, Sternefeld and Featherston (2003) provide sentences with pronouns where an anaphor can be bound either by an IO or a DO.⁶⁷

- (49) a. Fritz zeigte ihr sich (Sternefeld and Featherston 2003:239)
 Fritz.NOM showed her.DAT REFL
 im Spiegel
 in.the.DAT mirror.DAT
- b. Fritz zeigte sie sich im Spiegel
 Fritz.NOM showed her.ACC REFL in.the.DAT mirror.DAT

However judgments for sentences with reciprocals, such as those in (47), are not disputable, which seems to corroborate the generalization that DOs originate higher than IOs.

As a result of a magnitude estimation experiment, Sternefeld and Featherston found that the reciprocal *einander* is preferred as IO rather than DO. Sternefeld and Featherston account for this behavior by arguing that the reciprocal tends to behave like an adjunct rather than an object. Given that the dative is the only Case that marks adverbial (“free”) DPs in German,⁶⁸ Sternefeld and Featherston propose that the asymmetry observed with reciprocals is not the result of grammatical constraints but rather reflects a general tendency to interpret *einander* as a dative

⁶⁷ Note that neither (48) nor (49a) can be accounted by Müller’s, den Dikken’s and McGinnis’s analyses.

⁶⁸ I assume that Sternefeld and Featherston refer to thematic applied arguments here and not adverbial DPs, which actually happen to bear either genitive or accusative but not dative, as illustrated below in (1a-b).

- (1) a. Er hat letzten Sonntag das Museum besucht
 he.NOM has last.ACC Sunday.ACC the museum visited
 ‘He visited the museum last Sunday.’
- b. Eines Tages besucht er das Pergamon Museum
 some.GEN day.GEN visits he.NOM the.ACC Pergamon museum.ACC
 ‘Someday he will visit the Pergamon Museum.’

DP. Reflexives, on the other hand, being interpreted as simply bound variables, are not subject to these considerations.

Even if one accepts the judgments in (46) and (47), one can account for the ungrammaticality of (46a) and (47a) by assuming that the anaphor *sich/einander* raises from its base position within the lexical VP to its Case checking position, outer [Spec, ν P]. Thus, the IO cannot bind the reflexive DO from its base position, [Spec, VP]. That the anaphors in (46a) and (47a) can be bound by the respective DOs is explained by the fact that the IOs bear inherent Case in [Spec, VP] and can be bound by the DOs in the outer specifier of ν P.⁶⁹

An argument against movement of the DO anaphor to [Spec, ν P] to check Case may be the claim that reflexives and reciprocals do not need to check Case (Müller and Sternefeld 1994, Müller 1995), which is supported by the data in (50-51) below.

(50) a. dass **sich** jetzt gewaschen wird (Müller 1995:213)
 that REFL now washed PASS

b. *dass **den** **Fritz** jetzt gewaschen wird
 that the.ACC Fritz.ACC now washed PASS

(51) a. Hier wird einander nicht verprügelt (Müller 1995:214)
 here PASS RECIP not beaten

b. *Hier wird den Fritz nicht verprügelt
 here PASS the.ACC Fritz.ACC not beaten

What is suggested by the examples in (50) and (51) is that the anaphors *sich* and *einander* have stayed in situ, bound by an empty subject, instead of moving to the subject position. Yet, as Sternefeld and Featherston (2003) observe, lack of Case on reflexives/reciprocals would lead us

⁶⁹ Cf. Bowers (2010:215) for a similar analysis.

to expect that they should appear in ungoverned positions. This is, however, not the case, as example (52) shows.

- (52) Manfred bittet darum, PRO/*sich bald mal (Sternefeld and Featherston 2003:246)
 Manfred.NOM asks for.it PRO/ REFL soon PRTCL
 bedient zu werden
 served to be
 ‘Manfred asks to be served soon.’

Crucially, Müller’s and den Dikken’s analyses do not account for the data in (53) (first observed by Sabel 1996), where the anaphor is embedded in the DO and the IO c-commands the DO. Note that picture-noun reflexives are never logophoric in German (Kiss 2001). From its base position, being c-commanded by DO, IO cannot bind either a reflexive DO or a reflexive embedded in the DO both in Müller’s and den Dikken’s accounts. Also movement of the IO to an A-bar position above the DO (specifier of μ P for Müller and position adjoined to VP for den Dikken) does not lead to binding of either a reflexive DO (predicted by both accounts) or a reflexive embedded in the DO.

- (53) a. weil Eckhard_i dem Mann_j [ein Bild (Sabel 1996:34)
 because Eckhard.NOM the.DAT man.DAT a.ACC picture.ACC
 von sich_{i/j}]_{DO} zeigte
 of REFL showed
 ‘because Eckhard showed the man a picture of himself’

- b. Sicher hat der Hausbesitzer den neuen Mietern;
 certainly has the.NOM house.owner.NOM the.DAT new.DAT tenants.NOM
 die Nachbarn von einander_j vorgestellt
 the.ACC neighbors.ACC of each other introduced
 ??‘The house owner certainly introduced the new tenants the neighbors of each other.’

McGinnis (1999), on the other hand, claims that her Lethal Ambiguity analysis accounts for the data in (53). Yet, it is not clear what structure McGinnis assumes for German DOCs and to which position the IO A-scrambles. Assuming that in McGinnis’s account DO originates in [Spec, VP] and IO is the complement of V, movement of the IO to the outer specifier of V violates domain-based anti-locality (Grohmann 2003).

To conclude this discussion on anaphor binding, what is important is that anaphor binding is an intricate diagnostic test for base word order in German dative DOCs, partly because of the many options for A-movement.

The other main argument that has been used in support of DO>IO as underlying order is related to pronoun word order in the middle field (Müller 1995 and subsequent work). As observed by Lenerz (1977, 1993), among others, fronting of object pronouns to the left edge of the middle field results in a fixed sequence, which respects the order <DO, IO> (54). Müller uses these facts to argue that a pronoun sequence is well-formed if parallel movement can reconstruct each pronoun in its theta-position.

- (54) a. dass **es ihm** der Fritz gegeben hat (Müller 1999:12)
 that it.ACC him.DAT the.NOM Fritz.NOM given has
 ‘that Fritz gave it to him’

- b. *dass **ihm es** der Fritz gegeben hat
 that him.DAT it.ACC the.NOM Fritz.NOM given has

In this chapter I have also discussed the base order of objects in German DOCs, and have introduced compelling evidence from stranding and split topicalization data to support the view that German applied arguments are merged higher than direct objects. The base order <IO, DO> in German applicative constructions is in accord with the crosslinguistic generalization about the order of objects in DOCs and exactly what is predicted by the raising/thematic applicative hypothesis.

Overall the raising/thematic applicative hypothesis accounts for the German data in an economical way (without positing an extra little *applP*, as in Citko 2011), and without having to violate the universal base order of objects, IO>DO, to account for the passivization facts (cf. Anagnostopoulou 2003 and Doggett 2004, who assume DO>IO as underlying order).

In the next chapter I will thoroughly discuss and account for a set of challenging data from Greek, thus closing the discussion on the classification of applicative constructions based on their passivization properties.

CHAPTER 4

GREEK DOUBLE OBJECT CONSTRUCTIONS

4.1 Introduction

Greek, like German, has a variety of double object constructions (DOCs), as illustrated in (1). The focus of this chapter is DOCs with a genitive⁷¹/accusative indirect object (IO) and an accusative direct object (DO), as in (1a-d). I argue that Greek recipient (1a) and benefactive/malefactive (1b-c) DOCs show a classical contrast between thematic and raising applicative constructions with a non-overt applicative head. I show how both constructions can be accounted for by positing a single position for ApplP. Syntactic and semantic differences between the constructions result from whether the applicative head introduces an argument or not. Furthermore, I argue that the difference between the recipient double accusative construction in (1a) and the recipient genitive DOC in (1d) is due to differences in how the recipient IO is syntactically licensed.

- (1) a. O Nikos dhidhakse ti Maria Italika *ACC, ACC*
 the.NOM Nick.NOM taught.3SG the.ACC Mary.ACC Italian.ACC
 ‘Nick taught Mary Italian.’
- b. O Nikos anixe tis Marias tin porta *GEN, ACC*
 the.NOM Nick.NOM opened.3SG the.GEN Mary.GEN the.ACC door.ACC
 ‘Nick opened the door for Mary.’

⁷¹ Standard Greek has lost the morphological distinction between genitive and dative case and has generalized the use of genitive.

- (2) a. O Nikos edhose ena vivlio sti Maria
 the.NOM Nick.NOM gave.3SG a.ACC book.ACC to:the.ACC Mary.ACC
 ‘Nick gave a book to Mary.’
- b. O Nikos anixe sti Maria tin porta
 the.NOM Nick.NOM opened.3SG to:the.ACC Mary.ACC the.ACC door.ACC
 ‘Nick opened the door for Mary.’
- c. O Nikos anixe tin porta ya ti Maria
 the.NOM Nick.NOM opened.3SG the.ACC door.ACC for the.ACC Mary.ACC
 ‘Nick opened the door for Mary.’
- d. O Nikos estise sti Maria mia farsa
 the.NOM Nick.NOM set to:the.ACC Mary.ACC a.ACC prank.ACC
 ‘Nick set a prank on Mary.’
- e. O Nikos estise mia farsa se varos tis Marias
 the.NOM Nick.NOM set a.ACC prank.ACC against the.GEN Mary.GEN
 ‘Nick set a prank on Mary.’

Accusative recipients alternate with *se*-PPs but also with genitive DPs (Anagnostopoulou 2001, Cooper and Georgala to appear).⁷⁵

- (3) a. O Nikos dhidhakse ti Maria Italika
 the.NOM Nick.NOM taught.3SG the.ACC Mary.ACC Italian.ACC
- b. O Nikos dhidhakse sti Maria Italika
 the.NOM Nick.NOM taught.3SG to:the.ACC Mary.ACC Italian.ACC

⁷⁵ Compare to German, where accusative recipients may also appear bearing dative case.

c. O Nikos dhidhakse tis Marias Italika
 the.NOM Nick.NOM taught.3SG the.GEN Mary.GEN Italian.ACC
 ‘Nick taught Mary Italian.’

I argue that regardless of their category, DP or *se*-PP, recipients/possessors are generated in [Spec, VP] and may or may not raise to [Spec, ApplP], while beneficiaries and maleficiaries originate in [Spec, ApplP].

Section 4.2 presents a of genitive and accusative extra-object constructions in Greek. In Section 4.3 I show how the raising/thematic applicative hypothesis applies to Greek. I also argue that prepositional ditransitive constructions in Greek (2a) share the same structure with recipient genitive DOCs, and provide evidence from the placement of depictives and other data in support of *se*-PP>DP_{ACC} as base order. In Section 4.4 I present the results of two “magnitude estimation” experiments (Bard et al. 1996) I did to establish the reliability of the data on which the analysis in Section 4.2, as well as Anagnostopoulou’s (2003, 2005) analysis build. Experimental investigation of these data is motivated by the fact that they have been recently contested in the literature. In Section 4.5 I propose that ethical datives should not be analyzed as applicatives, thus showing that ethical datives are not counterexamples to a single-applicative-head analysis for capturing the typology of genitive extra-arguments in Greek. Section 4.6 summarizes.

4.2 A Typology of Greek Extra Arguments

Standard Greek has two different types of applied arguments: high (thematic) and low (raising). Both types of applicatives may surface as PPs, but they are differently Case-marked when they are realized as DPs/clitics: High applied arguments (bene-/maleficiaries) bear genitive Case, while low applied arguments (recipients) bear accusative Case. I do not analyze genitive recipients as applicatives, as it will be explicitly shown below.

Genitive is an inherent Case in Greek.⁷⁶ Thus, Greek genitive arguments are never subjects in passive constructions, as the examples in (4) illustrate.

- (4) a. *[I Maria]_{RCP} dhothike ena vivlio apo to Niko
 the.NOM Mary.NOM gave.NON-ACT.3SG a.ACC book.ACC by the.ACC Nick.ACC
 ‘Mary was given a book by Nick.’
- b. *[I Maria]_{BNF} anihtike tin porta apo to Niko
 the.NOM Mary.NOM opened.NON-ACT.3SG the.ACC door.ACC by the.ACC Nick.ACC
- c. *[I Maria]_{MLF} stithike mia farsa apo to Niko
 the.NOM Mary.NOM set.NON-ACT.3SG a.ACC prank.ACC by the.ACC Nick.ACC

⁷⁶ Anagnostopoulou (2003) argues that genitive in Greek possesses properties of both inherent and structural Case. Based on the criterion of passivizability, genitive is inherent across the board (1a) (cf. Warburton 1977, Lascaratou 1984, Tsimpli 1989, Catsimali 1990, Philippaki-Warburton 1992, Theophanopoulou-Kontou 2002, Bowers and Georgala 2007, Georgiafentis and Lascaratou 2007, Georgala and Whitman 2009). However, if clitic doubling is another diagnostic for distinguishing inherent from structural Case, genitive goals should be assigned structural Case, according to Anagnostopoulou (2003). Example (1b) contrasts with example (2) below, where a monotransitive verb takes a complement in genitive, which can neither undergo passivization (2b) nor clitic doubling (2c). The genitive complement in (2) bears inherent Case, while the genitive of the goal in (1) is a hybrid, on Anagnostopoulou’s analysis.

- (1) a. *O Petros dhothike ena vivlio
 the.NOM Peter.NOM gave.NON-ACT.3SG a.ACC book.ACC
 ‘Peter was given a book.’
- b. I Maria tu edhose tu Petru ena vivlio
 the.NOM Mary.NOM CL.3SG.MASC.GEN gave.3SG the.GEN Peter.GEN a.ACC book.ACC
 ‘Mary gave Peter a book.’
- (2) a. I Maria iperischise tu Petru (Anagnostopoulou 2003:68)
 the.NOM Mary.NOM prevailed.3SG the.GEN Peter.GEN
 ‘Mary prevailed over Peter.’
- b. *O Petros iperischistike apo ti Maria
 the.NOM Peter.NOM prevailed.NON-ACT.3SG by the.ACC Mary.ACC
 ‘Peter was prevailed over by Mary.’
- c. *I Maria tu iperischise tu Petru
 the.NOM Mary.NOM CL.3SG.MASC.GEN prevailed.3SG the.GEN Peter.GEN
 ‘Mary prevailed over Peter.’

However, the distinction Anagnostopoulou makes with respect to clitic doubling may simply be based on the difference between genitive as direct complement (DOC) and genitive as a complement of a null P (monotransitive case).

As noted by Anagnostopoulou (2003), Greek permits both $DP_{GEN} > DP_{ACC}$ and $DP_{ACC} > DP_{GEN}$ orders. Examples (5) and (6) illustrate this fact for recipients and beneficiaries respectively. The two arguments in the double accusative construction may also appear in either order, as shown in (7). I account for these orders later in the chapter.

(5) *Recipient genitive DOC*

a. $IO_{GEN} > DO_{ACC}$

O Nikos edhose tis Marias ena vivlio
 the.NOM Nick.NOM gave.3SG the.GEN Mary.GEN a.ACC book.ACC
 ‘Nick gave Mary a book.’

b. $DO_{ACC} > IO_{GEN}$

O Nikos edhose ena vivlio tis Marias
 the.NOM Nick.NOM gave.3SG a.ACC book.ACC the.GEN Mary.GEN
 ‘Nick gave Mary a book.’

(6) *Benefactive DOC*

a. $IO_{GEN} > DO_{ACC}$

O Nikos fitepse tis Marias luludhia ston kipo
 the.NOM Nick.NOM planted.3SG the.GEN Mary.GEN flowers.ACC in:the.ACC garden.ACC
 ‘Nick planed flowers for Mary in the garden.’

b. $DO_{ACC} > IO_{GEN}$

O Nikos fitepse luludhia tis Marias ston kipo
 the.NOM Nick.NOM planted.3SG flowers.ACC the.GEN Mary.GEN in:the.ACC garden.ACC
 ‘Nick planted flowers for Mary in the garden.’

(7) *Recipient double accusative construction*

a. $IO_{ACC} > DO_{ACC}$

O Nikos dhidhakse ti Maria Italika
the.NOM Nick.NOM taught.3SG the.ACC Mary.ACC Italian.ACC
'Nick taught Mary Italian.'

b. $DO_{ACC} > IO_{ACC}$

O Nikos dhidhakse Italika ti Maria
the.NOM Nick.NOM taught.3SG Italian.ACC the.ACC Mary.ACC
'Nick taught Mary Italian.'

In the last section of this chapter I discuss a class of non-argument genitives, the so-called “ethical datives”, which I propose should not be analyzed as applicatives. In the remainder of this section, I argue that Greek has raising and thematic applicative constructions.

4.2.1 Genitive/Accusative DOCs⁷⁷

4.2.1.1 Genitive Bene-/Malefactive DOC

Based on Pylkkänen’s applicative diagnostics, the genitive bene-/malefactive construction is a high applicative construction. In Greek, genitive bene-/maleficiaries may appear with both unergatives⁷⁸ (e.g., *traghudhao* ‘sing,’ *horevo* ‘dance’, *hamoghelao* ‘smile’), as shown in example (8), and statives⁷⁹ (e.g., *kratao* ‘hold/keep’, *stino* ‘set/prepare’), as illustrated in

⁷⁷ Parts of Sections 4.2.1 and 4.2.2 appeared in Georgala and Whitman 2009 for the first time.

⁷⁸ Beneficiaries do not occur with manner of motion verbs, such as *treho* ‘run’ and *perpato* ‘walk’.

(1) *Tis perpatisa
CL.3SG walked.1SG
'I walked for her.'

⁷⁹ Note that in Greek beneficiaries do not appear with all types of stative predicates. While beneficiaries occur with non-directional activity verbs, such as *kratao* ‘hold/keep’, they are not allowed with psychological predicates, such as *aghapo* ‘love’.

examples (9a-b).⁸⁰ In (9b), which is an example of a malefactive DOC with a stative predicate, *stino* ‘set’, it is not possible that the agent’s setting up of a prank results in a possessive relation between the IO *tis Marias* ‘Mary’ and the theme *mia farsa* ‘a prank’. *Maria* in this example is thus a pure malefactive argument.

(8) *High applicative (benefactive) with unergatives*

a. Tha traghudhisis tu Niku ya ta yenethlia tu?
 FUT sing.2SG the.GEN Nick.GEN for the.ACC birthday.ACC POSS.3SG.MASC
 ‘Will you sing for Nick for his birthday?’

b. I Maria hamoghelase tu Niku sto parti
 the.NOM Mary.NOM smiled.3SG the.GEN Nick.GEN at:the.ACC party
 ‘Mary smiled at Nick at the party.’

(9) *High applicative with statives*

a. *Benefactive*

Borite na kratisetete tis Marias afto to forema mehri avrio?
 can.2PL to keep.2PL the.GEN Mary.GEN this.ACC the.ACC dress.ACC until tomorrow
 ‘Can you keep this dress for Mary until tomorrow?’

b. *Malefactive*

O Nikos estise tis Marias farsa
 the.NOM Nick.NOM set.3SG the.GEN Mary.GEN prank.ACC
 ‘Nick set a prank on Mary.’

⁸⁰ Kupula (2008) and Kupula (2011) overlook the unergative and stative predicates cited above, thus arguing that Greek, like English, only has low applicative constructions.

4.2.1.2 Accusative Recipient DOC

Accusative recipient goals appear with a small class of verbs, consisting of the “transfer of message/knowledge verb” *dhidhasko* ‘teach’, and the following “verbs of giving”: *dhanizo* ‘lend’, *plirono* ‘pay’, *kseplirono* ‘repay’, *serviro* ‘serve’, *taizo* ‘feed’, *potizo* ‘water’, and *kernao* ‘offer a treat’. Of these verbs, *taizo* ‘feed’, *potizo* ‘water’, and *kernao* ‘offer a treat’ are non-alternating double object verbs, i.e., they only take part in the double accusative construction (Anagnostopoulou 2003).

Although the double accusative construction has the semantics of a low applicative construction (transfer of possession between the IO and the DO), and thus semantically patterns together with the genitive DOC in Greek, as it will be shown in Section 4.2.1.3, the two constructions differ syntactically with respect to passivization and nominalization. In particular, in contrast to genitive recipients, accusative recipients get both passivized and nominalized (Anagnostopoulou 2001), as examples (10) and (11) illustrate respectively.

(10) *Passivization of accusative recipient*

I Maria dhidhahtike Italika apo to Niko
the.NOM Mary.NOM taught.NON-ACT.3SG Italian.ACC by the.ACC Nick.ACC
‘Mary was taught Italian by Nick.’

(11) *Nominalization of accusative recipient*

Afti i methodhos hrisimopiite sti dhidhaskalia enilikon
this.NOM the.NOM method.NOM used.NON-ACT.3SG to:the.ACC teaching.ACC adults.GEN
‘This method is used for adult teaching.’

The syntactic structure I will propose in Section 4.3 for genitive and accusative recipient DOCs captures the semantics shared by both structures in that recipient genitive and accusative DPs are merged in the same position, namely [Spec, VP].⁸¹

4.2.1.3 Inherent Genitive Recipient DOC

The Greek recipient/possessor DOC pattern in (1d), repeated below, is superficially similar to the bene-/malefactive DOC pattern (9a-b); the IO bears genitive case, the DO accusative. Closer inspection, however, shows that the patterns are distinct. First, patterns like (1d)⁸² imply transfer of possession, while the bene-/malefactive DOC does not (9a-b). For example, in (9a) above the event of keeping the dress (instead of selling it) does not result in the dress ending up in Mary's possession.

(1) d. O Nikos edhose tis Marias ena vivlio
 the.NOM Nick.NOM gave.3SG the.GEN Mary.GEN a.ACC book.ACC
 'Nick gave Mary a book.'

Second, idiom facts do not support a high applicative analysis of the recipient DOC. The standard account of the contrast in (12) (Harley 2003, among others) is that the DOC in (12b) implies transfer of possession, and is thus infelicitous when the idiom does not (12a).

⁸¹ Cf. Bowers and Georgala (2007) and Kupula (2011), who also propose that genitive and accusative recipients are merged in the same position (specifier of low ApplP in Kupula's analysis and specifier of high ApplP in Bowers and Georgala's analysis). These accounts contrast with Anagnostopoulou 2001, in which genitive and accusative recipients are merged in different positions: specifier of high ApplP and specifier of VP respectively. Although Anagnostopoulou's approach captures the syntactic differences between the two constructions, it violates UTAH.

⁸² Example (1d) has no benefactive reading.

- (12) a. Estile to Niko sto dhiaolo
 sent.3SG the.ACC Nick.ACC to:the.ACC devil.ACC
 ‘He/she sent Nick to the devil.’
- b. *Estile tou dhiaolu to Niko
 sent.3SG the.GEN devil.GEN the.ACC Nick.ACC
 ‘He/she sent the devil Nick.’

Third, although theme passives in DOCs are ungrammatical in Greek, when the IO is expressed as a clitic, theme passivization of recipient DOCs is rescued (Markantonatou 1994, Anagnostopoulou 2003) (13),⁸³ while theme passivization of benefactive DOCs is beyond repair (Anagnostopoulou 2003, 2005) (14).

(13) *Passive: Recipient DOC*

- a. To vivlio tis haristike (Anagnostopoulou 2005:77)
 the.NOM book.NOM CL.3SG.FEM.GEN awarded.NON-ACT.3SG
 (tis Marias)
 the.GEN Mary.GEN
 ‘The book was awarded to her (Mary).’

⁸³ Similarly to Greek genitive DOCs, locative applicative constructions in Kinyarwanda allow theme passivization only if the applied object is realized as an object marker on the verb (1a), but not if it is a full DP adjacent to the verb (1b) (Zeller and Ngoboka 2006).

- (1) a. Amabuye y-a-yi-tee-w-e-ho n’umujuura
 stones SP-PST-OM-throw-PASS-ASP-APPL by thief
 ‘The stones were thrown on it by the thief.’
- b. *Amabuye y-a-tee-w-e-ho inzu n’umujuura
 stones SP-PST-throw-PASS-ASP-APPL house by thief
 ‘The stones were thrown on the house by the thief.’

b. ?*To vivlio haristike tis Marias (Anagnostopoulou 2005:65)
 the.NOM book.NOM awarded.NON-ACT.3SG the.GEN Mary.GEN
 by the.ACC Peter.ACC
 apo ton Petro

‘The book was awarded to Mary by Peter.’

(14) *Passive: Benefactive DOC*

a. *O kafes tis ftiahtike (Anagnostopoulou 2005:78)

the. NOM coffee.NOM CL.3SG.FEM.GEN made.NON-ACT.3SG

(tis Marias) apo ton Petro

the.GEN Mary.GEN by the.ACC Peter.ACC

‘The coffee was made for her (Mary) by Peter.’

b. *O kafes ftiahtike tis Marias (Anagnostopoulou 2005:77)

the.NOM coffee.NOM made.NON-ACT.3SG the.GEN Mary.GEN

(apo ton Petro)

‘The coffee was made for Mary (by Peter).’

Although one would expect beneficiaries and maleficiaries to behave alike with respect to theme passivization, based on the data in (15) Anagnostopoulou (2005) argues that maleficiaries pattern together with recipients rather than beneficiaries.

(15) a. *Theme passivization with beneficiaries* (Anagnostopoulou 2005:78)

*To fayito tis mayireftike (tis Marias)

the.NOM food.NOM CL.3SG.FEM.GEN cooked.NON-ACT.3SG the.GEN Mary.GEN

apo ton Petro

by the.ACC Peter.ACC

‘*The meal was cooked Mary by Peter.’

b. *Theme passivization with maleficiaries* (Anagnostopoulou 2005:78)

To fayito dhen ?*(tis) mayireftike tis Marias
 the.NOM food.NOM NEG CL.3SG.FEM.GEN cooked.NON-ACT.3SG the.GEN Mary.GEN
 kala (*apo ton Petro)
 well by the.ACC Peter.ACC

‘The meal was not cooked well by Mary and Mary was unhappy about it.’

Crucially, *Maria* in (15b) is interpreted as being simultaneously the agent and the person that is negatively affected by the cooking event (Anagnostopoulou 2005). The passivization asymmetry in (15) leads Anagnostopoulou (2005) to argue that the single applicative head, originally proposed in Anagnostopoulou 2003 to account for applicatives crosslinguistically, should be split into two types: (i) vAPPL1 which introduces possessor- and benefactive-recipients, and (ii) vAPPL2 which introduces maleficiaries.

However, the alleged theme-passive with a maleficiary in (15b) is in fact a middle construction, based on three tests (the *by-itself* test, the cause-PP test, and the agentive *by*-phrase test), proposed by Alexiadou and Doron (2007) to distinguish between middle and passive constructions in Greek, among other languages.⁸⁴ The examples in (16) show that beneficiaries and maleficiaries pattern together in passive and middle. In particular, theme passivization is ungrammatical (16c), while a middle with a cliticized bene-/maleficiary (16a-b) is fine.

(16) a. *By-itself test*

?Afto to kreas (dhe) tha su psithi orea apo mono tu
 this.NOM the.NOM meat.NOM NEG FUT CL.2SG.GEN roast.NON-ACT.3SG well by itself

‘This type of meat will (not) roast well by itself and you will be (un)happy about it.’

⁸⁴ According to Alexiadou and Doron (2007), Modern Greek has a two-way voice distinction, active and non-active. Non-active voice marking subsumes anticausatives, reflexives, reciprocals, dispositional middles, medio-passives, and passives.

b. *Cause-PP*

?Afto to kreas (dhe) tha su psithi oreá me
this.NOM the.NOM meat.NOM NEG FUT CL.2SG.GEN roast.NON-ACT.3SG well with
ton aera
the.ACC air.ACC

‘This type of meat will (not) convection roast well and you will be unhappy about it.’

c. *Agentive by-phrase*

*To kreas (dhe) tha su psithi oreá apo to Niko
the.NOM meat.NOM NEG FUT CL.2SG.GEN roast.NON-ACT.3SG well by the.ACC Nick.ACC

To account for the data in (16), in Section 4.3 I propose that beneficiaries and maleficiaries are both thematic applicatives, merged in [Spec, ApplP]. Since beneficiaries and maleficiaries behave alike with respect to theme passive and middle constructions, there is no need to postulate a special head for each one of them. The type of affectedness of the thematic applicative head, i.e., benefactive or malefactive, is underspecified, and it is the idiosyncratic meaning of the lexical verb and pragmatics that determine whether the applied argument is a beneficiary or a maleficiary. Moreover, although Anagnostopoulou’s motivation for having maleficiaries and beneficiaries being merged in two different positions is basically their distinct behavior in passive, the same motivation does not explain why in her account beneficiaries and recipients are merged in the same position. Recall that beneficiaries and genitive recipients do not pattern together with respect to passivization (cf. examples 13-14).

Now, observe that theme passivization with IOs as standalone DPs is ungrammatical for all types of genitive DOCs, as (13b), (14b) and (15b) illustrate. However, for some native speakers the contrast in (13) does not exist (Georgiáfentis and Lascarátou 2007, Kupula 2011), as shown by the judgments reported by Georgiáfentis and Lascarátou (2007) in example (17).

- (17) To arthro mas (Georgiafentis and Lascaratou 2007:45)
 the.NOM paper.NOM POSS.1PL
 dhothike / stalthike / tahidhromithike tis Irinis
 gave.NON-ACT.3SG sent.NON-ACT.3SG mailed.NON-ACT.3SG the.GEN Irene.GEN
 ‘Our paper was given/sent/posted to Irene.’

As will be discussed in more detail in subsequent sections, the contrast in (13) has played a crucial role in proposals of locality theory of A-movement and the syntax of ditransitive constructions (cf. Anagnostopoulou 2003 and subsequent work). The existence of judgments such as those in (17), however, make it necessary to confirm the empirical basis of the assumptions of these proposals. In order to shed light on this outstanding issue, I conducted a magnitude estimation study of DOC passivization in Greek. In Section 4.4 I describe the study and discuss its results, which confirm Anagnostopoulou’s (2003, 2005) data.

4.2.2 Prepositional Constructions

4.2.2.1 Recipient Prepositional Constructions

In Greek recipient prepositional constructions (PCs) the recipient goal is the complement of the preposition *se*⁸⁵ ‘to’ and the theme bears accusative case, as illustrated in examples (18a-b). The order of the PP and the DO is not fixed (18a-b).

⁸⁵ *Se* obligatorily incorporates an immediately following definite article (e.g. *se + to > sto*). *Se* is also used as a locative (locational and directional) preposition, e.g.,

- (1) a. O Nikos piye sti Romi
 the.NOM Nick.NOM went.3SG to:the.ACC Rome.ACC
 ‘Nick went to Rome.’
 b. O Nikos meni sti Romi
 the.NOM Nick.NOM lives in:the.ACC Rome.ACC
 ‘Nick lives in Rome.’

- (18) a. O Nikos edhose ena vivlio sti Maria ACC, PP
 the.NOM Nick.NOM gave.3SG a.ACC book.ACC to:the.ACC Mary.ACC
 b. O Nikos edhose sti Maria ena vivlio PP, ACC
 the.NOM Nick.NOM gave.3SG to:the.ACC Mary.ACC a.ACC book.ACC
 ‘Nick gave a book to Mary.’

Theme passivization (19) and nominalization⁸⁶ (20) of the recipient PC are felicitous (Alexiadou 2001, Anagnostopoulou 2003). Note that nominalization of the recipient DOC is ungrammatical (21).

(19) *Passivization of the recipient PC*

Ena vivlio dhothike sti Maria apo to Niko
 a.NOM book.NOM gave.NON-ACT.3SG to:the.ACC Mary.ACC by the.ACC Nick.ACC
 ‘A book was given to Mary by Nick.’

(20) *Nominalization of the recipient PC*

I anthesi mias efkolis askisis sti Maria
 the.NOM assignment.NOM an.GEN easy.GEN exercise.GEN to:the.ACC Mary.ACC
 ‘The assignment of an easy exercise to Mary.’

(21) *Nominalization of the recipient DOC*

*I anthesi mias efkolis askisis tis Marias
 the.NOM assignment.NOM an.GEN easy.GEN exercise.GEN the.GEN Mary.GEN
 ‘The assignment of an easy exercise to Mary.’

⁸⁶ I follow Anagnostopoulou (2003, 2005) in using nominalization, like passivization, as a test to distinguish between the DOC and the PC. Nominalization has been used as a test to distinguish between DOCs and PCs in other languages too (cf. Kayne 1984, Pesetsky 1995, Marantz 1997, Beck and Johnson 2004 on English).

Genitive recipient DOCs and PCs in Greek typically have the same meaning, as indicated by the behavior of idioms. It is generally assumed that fixed pieces of an idiom must form an underlying constituent syntactically. Based on this assumption the following predictions are made (Richards 2001, Harley 2003, among others):

(i) An idiom with a fixed theme should only appear in the DOC.

(22) a. Nick gave Mary [*a headache*]_{THEME}

b. *Nick gave a headache to Mary

(ii) An idiom with a fixed goal should only appear in the PC.

(23) a. Nick sent Mary [*to the devil*]_{GOAL}

b. *Nick sent the devil Mary.

Contrary to the prediction in (i), fixed theme idioms are found in PCs both in English (24a) (Rappaport Hovav and Levin 2008) and Greek (24b) (Georgala and Whitman 2009). As argued by Rappaport Hovav and Levin (2008), fixed theme idioms are found in both variants, because they express a change of possession. Their meaning involves a potential recipient goal that has two possible realizations, like any other potential recipient goal. The syntactic structure I will propose in Section 4.3 predicts this by base-generating recipient goal DPs and PPs in the same position.

(24) a. Police lend an ear to the victims... (COBUILD, as cited by Rappaport Hovav and Levin 2008:153)

b. O Nikos edhose *tis* *Marias / sti* *Maria*
 the.NOM Nick.NOM gave.3SG the.GEN Mary.GEN to:the.ACC Mary.ACC
 prasino fos
 green.ACC light.ACC
 ‘Nick gave the green light to Mary.’

As in English, fixed goal idioms in Greek are only found in PCs. This is because fixed goal idioms involve goals and not recipients (Rappaport Hovav and Levin 2008). Unlike recipients, locative goals can be realized only as *se*-PPs in Greek, as the contrast in (25) illustrates.

(25) a. O Nikos estile ti Maria *sto* *dhiaolo*
 the.NOM Nick.NOM sent.3SG the.ACC Mary.ACC to:the.ACC devil.ACC
 b. *O Nikos estile ti Maria *tu* *dhiaolu*
 the.NOM Nick.NOM sent.3SG the.ACC Mary.ACC the.GEN devil.GEN
 ‘Nick sent Mary to the devil.’

In the idiom in (26) a recipient goal co-occurs with a locative goal. The fixed theme part of the idiom is *ta paputsia* ‘the shoes’, while the fixed goal part is *sto heri* ‘to the hand’. As expected, the recipient, *Nick*, is found in both variants, while the locative goal is only realized as a PP.

(26) I Maria edhose [[**tu** **Niku**] / [**sto** **Niko**]]
 the.NOM Mary.NOM gave.3SG the.GEN Nick.GEN to:the.ACC Nick.ACC
 ta paputsia [[**sto** **heri**] / * [**tu** **heriu**]]
 the.ACC shoes.ACC to:the.ACC hand.ACC the.GEN hand.GEN
 ‘Mary kicked Nick out.’

Another indication in support of the view that recipient DOCs and PCs may express the same meaning in Greek comes from Anagnostopoulou's (2005) observation that Oehrle's generalization does not apply to Greek. As a reminder, Oehrle's (1976) generalization has been used to show that the DOC and the PC in English have distinct underlying structure. So, patterns with *give*, such as (27a), occur in the DOC but not in the PC (27b) in English.

- (27) a. Interviewing Nixon gave Mailer a book. (Pesetsky 1995:193)
 b. *Interviewing Nixon gave a book to Mailer.

Examples such as (28) show that Oehrle's generalization does not hold with *se*-PPs in Greek.

- (28) a. O ghamos harise sti Maria (Anagnostopoulou 2005:86)
 the.NOM marriage.NOM gave.3SG to:the.ACC Mary.ACC
 statherotita
 stability.ACC
 b. O ghamos tis harise tis Marias statherotita
 the.NOM marriage.NOM CL.3SG.FEM.GEN gave.3SG the.GEN Mary.GEN stability.ACC
 'Marriage gave Mary stability.'

4.2.2.2 Bene-/Malefactive Prepositional Constructions

As Anagnostopoulou (2005) observes, beneficiaries which are understood as intended recipients alternate with *se*-PPs and *ya* 'for' PPs, as examples (29a) and (29b) illustrate respectively.

(29) a. *Benefactive se-PP construction*

O Nikos aghorase to aftokinito sti Maria
the.NOM Nick.NOM bought.3SG the.ACC car.ACC to:the.ACC Mary.ACC
'Nick bought the car for Mary.'

b. *Benefactive ya-PP construction*

O Nikos aghorase to aftokinito ya ti Maria
the.NOM Nick.NOM bought.3SG the.ACC coffee.ACC for the.ACC Mary.ACC
'Nick bought the car for Mary.'

Unlike *ya*-PPs, benefactive genitive DPs/clitics and *se*-PPs pattern together, based on the results of the “double object-hood” tests in (30) (Anagnostopoulou 2005). This leads Anagnostopoulou (2005) to propose that both nominal and *se*-PP recipient-beneficiaries are merged in the same position, i.e., the specifier of vAPPL1, which coincides with Pylkkänen’s high applicative position. I agree with Anagnostopoulou’s proposal⁸⁷ to base-generate *se*-PPs and genitive beneficiaries in the same position, and elaborate on their syntactic analysis in Section 4.3.

(30) *Diagnostic tests for the “double object-hood” of beneficiaries*

a. *Recipient interpretation*: Based on Kayne’s (1975) observation about French, Anagnostopoulou (2005) notices a difference between the interpretation of *ya*-PPs on the one hand, and *se*-PP and nominal beneficiaries on the other: *se*-PP and genitive beneficiaries have a recipient interpretation, while *ya*-PPs are not constrained to this meaning. Examples (i-iii) below illustrate this difference.

⁸⁷ Bowers and Georgala (2007) also propose that *se*-PPs and genitive DPs are merged in the same position, [Spec, ApplP], in benefactive constructions.

(i) Eftiixa tu papu koliva
made.1SG the.GEN grandfather.GEN koliva.ACC

(ii) Eftiixa koliva ston papu
made.1SG koliva.ACC to:the.ACC grandfather.ACC

‘I made grandfather koliva (boiled wheat made in the memory of a dead person).’

(iii) Eftiixa koliva ya ton papu
made.1SG koliva.ACC for the.ACC grandfather.ACC

‘I made koliva for grandfather.’

While examples (i-ii) above imply that the grandfather actually receives koliva, example (iii) does not show this restriction. In particular, (i) and (ii) would be used only in the case the grandfather is alive and likes having koliva for dessert. In example (iii), on the other hand, it may be the case that the beneficiary, namely *the grandfather* is dead and koliva is made in his memory.

Furthermore, following Beck and Johnson (2004) on English,⁸⁸ Anagnostopoulou (2005) notes that unlike nominal and *se*-PP beneficiaries, *ya*-PPs have a wider range of thematic roles. In particular, *ya*-PPs may have also the “instead-of” reading. Hence, while *Petros* ‘Peter’ in examples (iv-v) can be only understood as the potential recipient of the spinach pie, in example (vi) *Peter* may be either the potential recipient or the person who baked the spinach pie in place of *John*.

(iv) O Yanis mayirepse tu Petru (Anagnostopoulou 2005:75)
the.NOM John.NOM cooked.3SG the.GEN Peter.GEN
spanakopita
spinach:pie.ACC

⁸⁸ Green (1974) was the first to observe this ambiguity in English.

(v) O Yanis mayirepse ston Petro spanakopita
 the.NOM John.NOM cooked.3SG to:the.ACC Peter.ACC spinach:pie.ACC
 ‘John cooked Peter spinach pie.’

(vi) O Yanis mayirepse spanakopita ya ton Petro
 the.NOM John.NOM cooked.3SG spinach:pie.ACC for the.ACC Peter.ACC
 ‘John cooked spinach pie for Peter.’

b. *Predicate restriction*: *Se*-PP and genitive benefactives appear only with a restricted set of predicates (e.g., verbs of creation and *buy*-verbs), unlike *ya*-PPs, which are more flexible (Anagnostopoulou 2005). Hence, while the verb of creation *mayirevo* ‘cook’ appears in the three-way benefactive alternation (i-iii), the verb *diaschizo* ‘cross’ only occurs with *ya*-PP beneficiaries (iv-vi).

(i) O Yanis mayirepse tis Marias (Anagnostopoulou 2005:76)
 the.NOM John.NOM cooked.3SG the.GEN Mary.GEN
 keftedhakia
 meatballs.ACC

(ii) O Yanis mayirepse sti Maria keftedhakia
 the.NOM John.NOM cooked.3SG to:the.ACC Mary.ACC meatballs.ACC
 ‘John cooked Mary meatballs.’

(iii) O Yanis mayirepse keftedhakia ya ti Maria
 the.NOM John.NOM cooked.3SG meatballs.ACC for the.ACC Mary.ACC
 ‘John cooked meatballs for Mary.’

(iv) *O Yanis dieschise tis Marias tin erimo
 the.NOM John.NOM crossed.3SG the.GEN Mary.GEN the.ACC desert.ACC

(v) *O Yanis dieschise sti Maria tin erimo
 the.NOM John.NOM crossed.3SG to:the.ACC Mary.ACC the.ACC desert.ACC
 ‘John crossed the desert for Mary.’

(vi) O Yanis dieschise tin erimo ya ti Maria
 the.NOM John.NOM crossed.3SG the.ACC desert.ACC for the.ACC Mary.ACC
 ‘John crossed the desert for Mary.’

c. *Passivization*: As with genitive DPs/clitics (i), theme passivization with *se*-PPs is ungrammatical (ii) (Anagnostopoulou 2005). However, this is not the case with *ya*-PPs, as example (iii) illustrates (Anagnostopoulou 2005).

(i) *To aftokinito tis aghorastike apo to Niko
 the.NOM car.NOM CL.3SG.FEM.GEN bought.NON-ACT.3SG by the.ACC Nick.ACC
 ‘The car was bought for her by Nick.’

(ii) *To aftokinito aghorastike sti Maria apo to Niko
 the.NOM car.NOM bought.NON-ACT.3SG to:the.ACC Mary.ACC by the.ACC Nick.ACC

(iii) To aftokinito aghorastike ya ti Maria apo to Niko
 the.NOM car.NOM bought.NON-ACT.3SG for the.ACC Mary.ACC by the.ACC Nick.ACC
 ‘The car was bought for Mary by Nick.’

Similar facts hold also for maleficiaries. As mentioned above, maleficiaries may be the complements either of the simple preposition *se* ‘to’ or the complex preposition *is/se varos* ‘against’. Although theme passivization with the maleficiary being realized either as a genitive DP/clitic (iv) or as the complement of *se* ‘to’ (v) is ungrammatical, theme passivization with *is/se varos* ‘against’ PPs is licit (vi).

(iv) *I farsa tis stithike apo to Niko
 the.NOM prank.NOM CL.3SG.FEM.GEN set.NON-ACT.3SG by the.ACC Nick.ACC

‘A prank was set on her by Nick.’

(v) ?*I farsa stithike sti Maria apo to Niko
 the.NOM prank.NOM set.NON-ACT.3SG to:the.ACC Mary.ACC by the.ACC Nick.ACC

(vi) I farsa stithike is varos tis Marias apo to Niko
 the.NOM prank.NOM set.NON-ACT.3SG against the.GEN Mary.GEN by the.ACC Nick.ACC

‘A prank was set on Mary by Nick.’

d. *Nominalization*: Like genitive beneficiaries/maleficiaries and unlike *ya*-PPs and *is/se varos* PPs, *se*-PPs are illicit in nominalizations.

Beneficiaries

(i) *I aghora tu aftokinitu tis Marias⁸⁹
 the.NOM purchase.NOM the.GEN car.GEN the.GEN Mary.GEN

(ii) *I aghora tu aftokinitu sti Maria
 the.NOM purchase.NOM the.GEN car.GEN to:the.ACC Mary.ACC

(iii) I aghora tu aftokinitu ya ti Maria
 the.NOM purchase.NOM the.GEN car.GEN for the.ACC Mary.ACC

‘The purchase of the car for Mary.’

Maleficiaries

(iv) *To stisimo tis plakas tis Marias
 the.NOM setting.NOM the.GEN prank.GEN the.GEN Mary.GEN

(v) *To stisimo tis plakas sti Maria
 the.NOM setting.NOM the.GEN prank.GEN to:the.ACC Mary.ACC

⁸⁹ Example (26di) can be grammatical only under the reading ‘The purchase of Mary’s car.’

(vi) To stisimo tis plakas is/se varos tis Marias
 the.NOM setting.NOM the.GEN prank.GEN against the.GEN Mary.GEN
 ‘The setting up of a prank on Mary.’

Based on Anagnostopoulou’s semantic and syntactic diagnostics presented above, we have seen that *ya*-PPs and *is/se varos* PPs do not pattern together with *se*-PPs and genitive bene-/maleficiaries. Anagnostopoulou (2005) argues that *ya*-PPs present conflicting evidence in terms of their phrase structure status, specifically whether they are arguments or adjuncts. In Section 4.3.2.2 I present Anagnostopoulou’s arguments and apply Anagnostopoulou’s tests to *is/se varos*-PPs to show that they pattern together with *ya*-PPs.

In this section I have presented syntactic and semantic evidence in support of two different types of genitive extra objects in Greek. In addition, I have shown that in Greek extra arguments may be realized either as DPs bearing genitive or accusative case, or complements of PPs headed by the preposition *se* ‘to’. In the following section, I propose that accusative/genitive recipients and *se*-PP recipients are all merged in the same position, namely specifier of VP, but it is only the accusative recipients that raise to [Spec, VP]. I analyze genitive and *se*-PP bene-/malefactive as thematic applicatives.

4.3 The Syntax of Greek Extra Arguments

In this section I will show that the raising/thematic applicative hypothesis sketched in Chapter 1 accounts for the following facts:

1. The difference between bene-/malefactive and recipient DOCs in Greek.
2. The difference between and recipient genitive and recipient accusative DOCs.
3. The intervention (passive) effects with: (i) recipient genitive/accusative DPs, clitics, and PPs, and (ii) bene-/malefactive DPs, clitics, and PPs.

4. Word order.

5. Idioms.

6. Similarity between genitive DPs and *se*-PPs.

In Section 4.3.1 I analyze accusative possessor/recipients as raising applicatives, and argue that genitive and *se*-PP recipients do not involve raising. In Section 4.3.2 I argue that *se*-PPs and genitive bene-/malefactive are thematic applicatives.

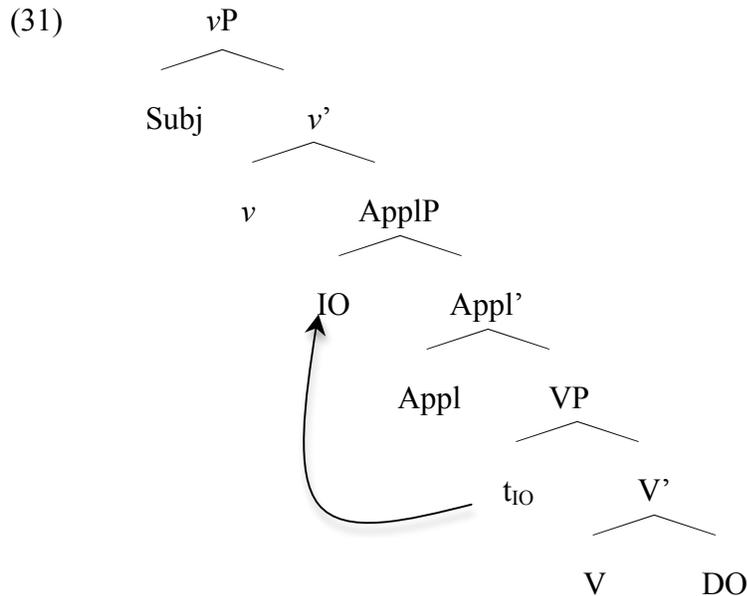
4.3.1 VP-internal Extra Arguments

In Section 4.2.1 I presented evidence for distinguishing high and low applicatives in Greek, based on their distinct syntactic and semantic properties. In the first part of this section I account for possessor/recipient (low) applicatives, which I argue raise from the specifier of the lexical VP to the specifier of ApplP. In addition, I show that the difference between genitive and accusative recipient DOCs lies in the lack of raising to [Spec, ApplP] in the former. In Section 4.3.1.1.2, I deal with another type of raising applicatives, the so-called “possessor datives” (bearing genitive case in Greek), which I analyze as DPs, raised from the specifier of the possessed nominal, the DO, to [Spec, ApplP].

4.3.1.1 Raising Applicatives

4.3.1.1.1 Raising from [Spec, VP] to [Spec, ApplP]

In this section I show that the accusative recipient/possessor DOC in Greek is a raising applicative construction (31).



The raising applicative analysis in (31) predicts that accusative IOs c-command DOs. This is indeed the case, based on the results of the Barss and Lasnik (1986) c-command tests in (32-33). Below I present the results of the two most reliable tests for Greek, namely *bound variable anaphora* (32) and *reciprocal binding (each... the other construction)* (33) (cf. Anagnostopoulou 2003 for a discussion on the application of the rest of the Barss and Lasnik c-command tests to Greek). As the data in (32) and (33) show, (i) the accusative IO asymmetrically c-commands the accusative DO, and (ii) the order $DP_{ACC} > DP_{ACC}$ can only be derived by A-bar scrambling of the accusative DO to a position higher than the accusative IO. The movement must have A-bar properties, because the fronted DO_{ACC} cannot bind an anaphor inside IO_{ACC} (compare 32b to 32c and 33b to 33c).

(32) *Bound variable anaphora*

$IO_{ACC} > DO_{ACC}$

(Kupula 2008:39)

a. Plirosa ton kathe erghazomeno_i to mistho tu_i
paid.1SG the.ACC every.ACC employee.ACC the.ACC salary.ACC POSS.3SG.MASC
'I paid every employee his salary.'

b. *Plirosa ton erghazomeno tu_i ton kathe mistho_i
paid.1SG the.ACC employee.ACC POSS.3SG.MASC the.ACC every.ACC salary.ACC
?*I paid its employee every salary.'

$DO_{ACC} > IO_{ACC}$

c. *Plirosa ton kathe mistho ton erghazomeno tu
paid.1SG the.ACC every.ACC salary.ACC the.GEN employee.GEN POSS.3SG.MASC
'I paid every salary (to) its employee.'

(33) *Reciprocal binding*

$IO_{ACC} > DO_{ACC}$

(Kupula 2008:39)

a. Servira ton enan pelati to proino tu alu
served.1SG the.ACC one.ACC customer.ACC the.ACC breakfast.ACC the.GEN other.GEN
'I served each customer the other's breakfast.'

b. *Servira ton pelati tu alu to ena proino
served.1SG the.ACC customer.ACC the.GEN other.GEN the.ACC one.ACC breakfast.ACC
*I served the other's customer each breakfast.'

$DO_{ACC} > IO_{ACC}$

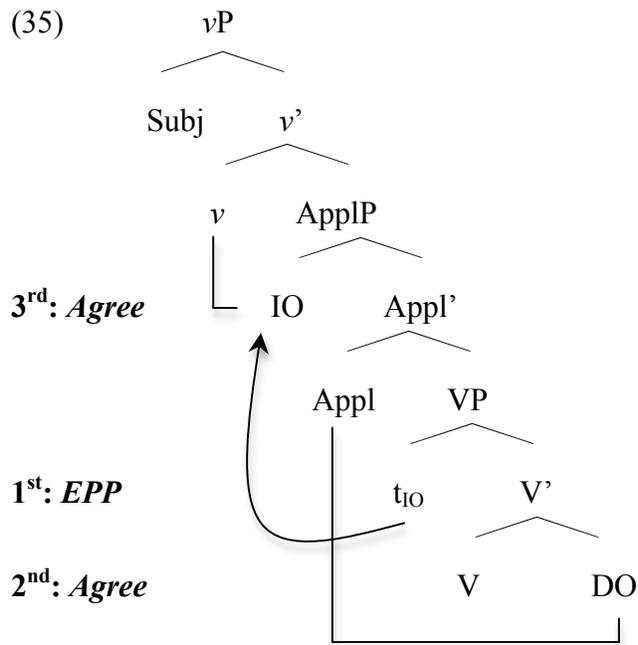
c. *Servira to ena proino ton pelati tu alu
served.1SG the.ACC one.ACC breakfast.ACC the.ACC customer.ACC the.GEN other.GEN
'I served each breakfast (to) the other's customer.'

Greek allows quantifier floating with the exhaustive quantifier *oli/oles/ola* 'all' (34).

(34) *Servira tus pelates olus proino*
 served.1SG the.ACC customers.ACC all.ACC breakfast.ACC
 ‘I served all customers breakfast.’

Based on Fitzpatrick’s (2006) diagnostics, q-floating in Greek is adverbial (see also Tsakali 2008). I assume that adverbial quantifiers need to take scope over their associate, here the IO *tus pelates* ‘the customers’, and, following Fitzpatrick (2006), that adverbial floating quantifiers restrict their associates to A-movement. The latter is exactly what is required by the raising applicative hypothesis.

Based on this evidence, showing that the IO raises above VP, I assume that Appl bears an EPP feature in Greek. With the additional assumptions that (i) EPP-triggered movement is uncoupled from Agree and may precede Agree, and (ii) Appl bears an uninterpretable Case feature, syntactic licensing of double accusative constructions proceeds as follows (35): DO and V are first merged in V’ and then IO is merged in [Spec, VP]. IO moves to [Spec, ApplP] to check the EPP feature of Appl. Appl, bearing an uninterpretable Case feature enters into an Agree relation with the closest matching DP, the DO, and values its Case feature as accusative. At this point Appl no longer c-commands every member of the chain headed by the IO. Then *v* is merged with Appl and Agree is established between *v* and the closest eligible goal in its c-command domain, i.e., the IO in [Spec, ApplP]. *v* values the Case feature of IO accusative.



This treatment of Greek double accusative constructions predicts goal passivization. Since passive morphology absorbs *v*'s ability to value Case, T is the closest Probe that can value the Case of IO. As a result IO undergoes passive movement, which is exactly what the data in (36a) show.

(36) *Passivization of accusative recipient*

- a. I Maria dhidhahtike ti ghramatiki ton Latinikon
 the.NOM Mary.NOM taught.NON-ACT.3SG the.ACC grammar.ACC the.GEN Latin.GEN
 apo to Niko
 by the.ACC Nick.ACC
 ‘Mary was taught Latin grammar by Nick.’

- b. *I ghramatiki ton Latinikon dhidhahtike ti Maria
 the.NOM grammar.NOM the.GEN Latin.GEN taught.NON-ACT.3SG the.ACC Mary.ACC
 apo to Niko
 by the.ACC Nick.ACC
 ‘Latin grammar was taught to Mary by Nick.’

Note that the syntactic licensing of applicative constructions with accusative recipients is exactly the same as the syntactic licensing of DOCs in Standard American English and German applicative constructions with didactic verbs.

4.3.1.1.2 Raising from [Spec, DP_{ACC}] to [Spec, ApplP]: Possessor Datives

Greek, like German and many other languages, has external possession (cf. Payne and Barshi 1999, Landau 1999, Lee-Schoenfeld 2006, Deal 2010, among others), as the examples in (37) illustrate.

- (37) a. Tu eklepsan to portofoli
 CL.3SG.MASC.GEN stole.3PL the.ACC wallet.ACC
 ‘They stole his wallet and this affected him.’
- b. O Nikos espase tis Marias ta yalia kata lathos
 the.NOM Nick.NOM broke.3SG the.GEN Mary.GEN the.ACC glasses.GEN by accident.ACC
 ‘Nick broke Mary’s glasses by accident and this affected her.’
- c. O Nikos tis halase ti dhiathesi
 the.NOM Nick.NOM CL.3SG.FEM.GEN ruined.3SG the.ACC mood.ACC
 ‘Nick ruined her mood.’

I follow Lee-Schoenfeld (2006) in base-generating possessor datives in the specifier of the possessee DO and then raising them to [Spec, ApplP]. As in German, D, the head of the possessee DO is a non-Case-licensing (defective) head. Raising of the possessor to [Spec, ApplP] results in assignment of a second theta-role, namely bene-/malefactive, and licensing of inherent genitive Case by Appl.

4.3.1.2 Inherent Genitive DOC

Let us now turn to the genitive recipient DOC. I propose that the genitive recipient is base-generated in the same position as the accusative recipient, namely [Spec, VP]. This predicts that the genitive recipient c-commands the theme. Based on the results of the Barss and Lasnik (1986) c-command tests in (38-39), the genitive IO indeed asymmetrically c-commands the accusative DO. Moreover, the order $DP_{ACC} > DP_{GEN}$ can only be derived by A-bar scrambling of the accusative DO to a position higher than the genitive IO, as exemplified by the contrast between (38b) and (38c), as well as (39b) and (39c) (Anagnostopoulou 2003). This is exactly what was shown above for the double accusative construction.

(38) *Bound variable anaphora*

$DP_{GEN} > DP_{ACC}$ (Anagnostopoulou 2003:138-139)

a. ?Edhosa tu kathe fititi_i tin erghasia tu_i

gave.1SG the.GEN every.GEN student.GEN the.ACC paper.ACC POSS.3SG.MASC

‘I gave every student his term paper.’

b. ?*Edhosa tu sighrafea tu_i to kathe hiroghrafo_i

gave.1SG the.GEN author.GEN POSS.3SG.MASC the.ACC every.ACC manuscript.ACC

?*‘I gave its author every manuscript.’

$DP_{ACC} > DP_{GEN}$

(Anagnostopoulou 2003:141)

c. *?Estila to kathe vivlio tu sighrafea tu

sent.1SG the.ACC every.ACC book.ACC the.GEN author.GEN POSS.3SG.MASC

‘I sent every book (to) its author.’

(39) *Reciprocal binding*

$DP_{GEN} > DP_{ACC}$

(Anagnostopoulou 2003:140)

a. Estila tis mias miteras to pedhi tis alis

sent.1SG the.GEN one.GEN mother.GEN the.ACC child.ACC the.GEN other.GEN

‘I sent each mother the other’s child.’

b. *Estila tis miteras tu alu to ena pedhi

sent.1SG the.GEN mother.GEN the.GEN other.GEN the.ACC one.ACC child.ACC

*‘I sent the other’s mother each child.’

$DP_{ACC} > DP_{GEN}$

(Anagnostopoulou 2003:141)

c. *Estila to ena pedhi tis miteras tu alu

sent.1SG the.ACC one.ACC child.ACC the.GEN mother.GEN the.GEN other.GEN

‘I sent each child (to) the other’s mother.’

Unlike in the case of the double accusative construction, though, there is no clear evidence that the genitive IO moves outside the lexical VP.⁹⁰ Example (40) shows that the q-float diagnostic cannot be applied to the genitive recipient DOC.

⁹⁰ Georgala and Whitman (2010) provide examples, where low adverbs such as manner adverbs occur between the IO and the DO, arguing thus that the IO and the DO are not as tight as a unit as Pylkkänen’s low applicative analysis predicts. However, the position of manner adverbs in Greek is not clear (cf. Alexiadou 1997, where manner adverbs are analyzed as complements of V, which obligatorily raise to [Spec, VoiceP], if they are not complex).

- (40) *Edhosa ton pelaton olon proino⁹¹
 gave.1SG the.GEN customers.GEN all.GEN breakfast.ACC
 ‘I gave all customers breakfast.’

Assuming that Appl is not present in this construction and genitive Case is inherent in Greek,⁹² let us now consider how the IO and DO are licensed in this construction: IO enters the derivation with an interpretable Case feature which is valued at Merge in [Spec, VP]. Following Legate (2008) and Bowers (2010), among others, I assume that inherently Case-marked DPs do not intervene for Agree. Next, ν is merged. After the closest DP in the c-command domain of ν , the inherently Case-marked IO, fails to enter into an Agree relation with it, ν continues to search down the tree for a DP with an unvalued Case feature, and finds DO. ν , then, enters into Agree with DO, and values its Case accusative. This syntactic licensing predicts theme passivization. Yet, with the inherently Case-marked DP staying in situ (contrast to quirky-Case marked IO in German), and crucially being itself a candidate for movement to [Spec, TP] (cf. Nevins and Anand 2003, who argue that fronting of genitive IOs in passive DOCs in Greek is in fact

⁹¹ Plural genitive IOs are illicit in all types of DOCs, even when no q-float is involved, as the examples (1-2) below show.

- (1) *Edhosa olon ton pelaton proino *Recipient DOC*
 gave.1SG all.GEN the.GEN customers.GEN breakfast.ACC
 ‘I gave all customers breakfast.’
- (2) *Eftiaksa olon ton pelaton proino *Benefactive DOC*
 made.1SG all.GEN the.GEN customers.GEN breakfast.ACC
 ‘I made all customers breakfast.’

However, the plurality constraint on genitive DPs does not apply to possessor genitive DPs and genitive DOs of monotransitive verbs, as examples (3) and (4) show respectively. I have no explanation of why genitive IOs are illicit in plural.

- (3) Dhiavasa to simioma ton pelaton
 read.1SG the.ACC message.ACC the.GEN customers.GEN
 ‘I read the customers’ message.’
- (4) Iperischise ton ipolipon istiotopon
 prevailed.3SG the.GEN rest.GEN websites.GEN
 ‘It prevailed the rest of the websites.’

⁹² The presence of ApplP in the case of possessor raising, discussed in Section 4.3.1.1.2, is due to the theta role and the Case the Appl head assigns. If Appl is present, it bears an EPP feature, which results in raising.

promotion to subject position), the DO cannot A-move to [Spec, TP] to check the EPP feature of T (cf. example 13b, repeated below). Such movement would violate Shortest Move.

- (13b) ?*To vivlio haristike tis Marias (Anagnostopoulou 2005:65)
 the.NOM book.NOM awarded.NON-ACT.3SG the.GEN Mary.GEN
 apo ton Petro
 by the.ACC Peter.ACC
 ‘The book was awarded to Mary by Peter.’

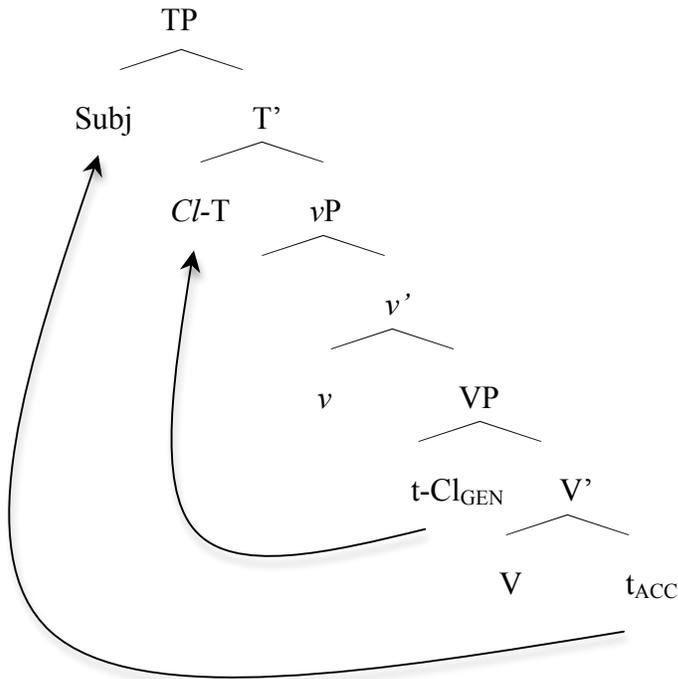
However, as mentioned earlier in this chapter, theme passivation of the recipient genitive DOC is licit, if the genitive IO is realized as a clitic.

- (13) a. To vivlio tis haristike (Anagnostopoulou 2005:77)
 the.NOM book.NOM CL.3SG.FEM.GEN awarded.NON-ACT.3SG
 (tis Marias)
 the.GEN Mary.GEN
 ‘The book was awarded to her (Mary).’

To account for the grammaticality of (13a), I assume that pronominal clitics are XPs/X0s (i.e., minimal and maximal) (cf. Chomsky 1995:249) and D/DPs are merged in object theta positions and moving in the syntax (see also Kayne 1975, Anagnostopoulou 2003, Matushansky 2006, Mavrogiorgos 2010, Roberts 2010, among others). In its base position, a clitic is [+min, +max], while a moved clitic is a D head (Cardinaletti 1994, Uriagereka 1995, Chomsky 1995, Corver and Delfitto 1999). In (13a) the clitic IO is merged in [Spec, VP]. Following Kayne (1989, 1991, 1994), I assume that clitics are left-adjoined to a head, here T. In cases where the functional head dominates the verb, this straightforwardly yields the order clitic-verb, which is the case with

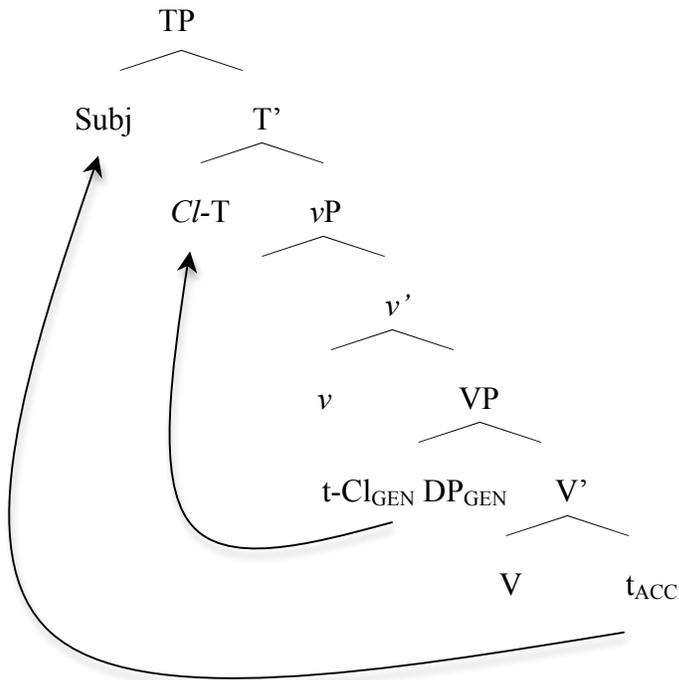
finite non-imperative clauses in Greek (13a). Movement of the DO to [Spec, TP] does not violate Shortest Move, because neither the trace of the clitic IO in [Spec, VP], nor the moved [+min] clitic, as a head (once the clitic is adjoined to T it is no longer in the search domain of T), count as interveners (41).

(41) *Theme passivization: Simple cliticization of IO*



In the case of clitic doubling (13a), the clitic and the genitive DP build an X^0 chain. The clitic moves from [Spec, VP] to T, whereas the DP stays in situ. Following Anagnostopoulou (2003), given that (i) clitic doubling chains are A-chains (Sportiche 1998, Alexiadou and Anagnostopoulou 1997), and (ii) only the head of an A-chain blocks movement (Chomsky 1995, 2000, 2001), the genitive DP in situ is ‘invisible’ to the movement of the theme across it (42).

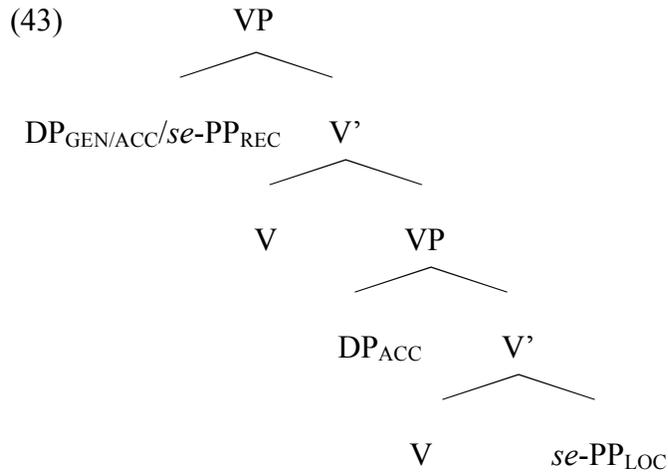
(42) Theme passivization: Clitic doubling of IO



4.3.1.3 Prepositional Construction

In Section 4.2.2.1, primarily relying on idiom facts, I showed that recipient/possessor DOCs and PCs share the same meaning in Greek. This is predicted by base-generating the recipient genitive/accusative DPs and *se*-PPs in the same position, namely [Spec, VP] (43) (cf. Bowers and Georgala 2007, Georgiafentis and Lascaratou 2007).⁹³ Following Larson (2004), I treat locative goals as lowermost V-complements, stranded by the verb that undergoes successive raising through a series of stacked VP “shells” (cf. Miyagawa and Tsujioka 2004, Gracanin-Yukse 2006, Bowers and Georgala 2007).

⁹³ Bowers (2010) argues that recipient DPs and PPs are base generated in the same position also in English. Cf. Bruening 2010a for arguments against treating double object and prepositional dative constructions alike in English.



The structure in (43) predicts co-occurrence of recipient/possessor goals and locative goals, which is attested in examples such as (44) and the idiom in (26), repeated from above. The meaning of (44) is that Nick sent a letter to her apartment in Athens, which is a location, with the intention that she will come to possess it.

(44) O Nikos [tis]_{REC} estile ena ghrama [sto dhiamerisma
 the.NOM Nick.NOM CL.3SG.FEM.GEN sent.3SG a.ACC letter.ACC to:the.ACC apartment.ACC
 tis stin Athina]_{LOC}
 POSS.3SG.FEM in:the.ACC Athens.ACC
 ‘Nick sent her a letter to her apartment in Athens.’

(26) I Maria edhose [[tu Niku] / [sto Niko]]_{REC}
 the.NOM Mary.NOM gave.3SG the.GEN Nick.GEN to:the.ACC Nick.ACC
 ta paputsia [[sto heri] / *[tu heriu]]_{LOC}
 the.ACC shoes.ACC to:the.ACC hand.ACC the.GEN hand.GEN
 ‘Mary kicked Nick out.’

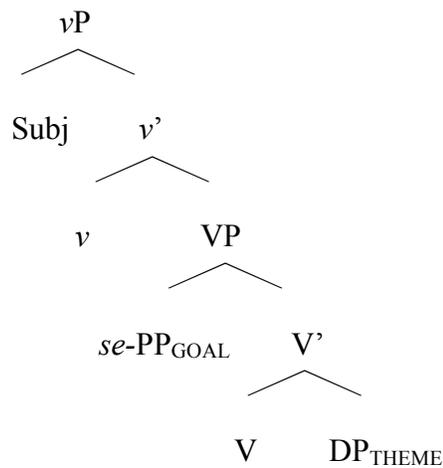
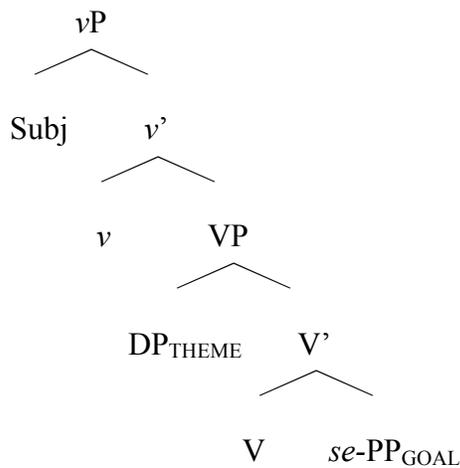
However, Anagnostopoulou (2003, 2005), following Marantz (1993), among others,

argues that the applicative head is absent in prepositional goal ditransitives where the goal is introduced in the root level (45). Furthermore, Anagnostopoulou (2005) analyzes both (45a) and (45b) as underlying orders in Greek, based on the observation that the binding facts of the PC are different than those of the DOCs (compare 46 to 33 and 39). In particular, in the PC, whichever argument is leftmost binds the other, as the results of the *each... the other* c-command test in (46) show.

(45) a. $DP_{ACC} > se-PP$

b. $se-PP > DP_{ACC}$

(Anagnostopoulou 2005:68)



(46) $DP_{ACC} > se-PP$

(Anagnostopoulou 2005:68)

a. Estila to ena pedhi sti mitera tu alu

sent.1SG the.ACC one.ACC child.ACC to:the.ACC mother.ACC the.GEN other.GEN

‘I sent each child to the other’s mother.’

b.*Estila to pedhi tis alis sti mia mitera

sent.1SG the.ACC child.ACC the.GEN other.GEN to:the.ACC one.ACC mother.ACC

‘*I sent the other’s child to each mother.’

se-PP > *DP_{ACC}*

- c. *Estila sti mitera tu alu to ena pedhi
sent.1SG to:the.ACC mother.ACC the.GEN other.GEN the.ACC one.ACC child.ACC
- d. Estila s-ti mia mitera to pedhi tis alis
sent.1SG to-the.ACC one.ACC mother.ACC the.ACC child.ACC the.GEN other.GEN

The binding facts in (46) lead Anagnostopoulou to conclude that both orders, *se-PP* > *DP_{ACC}* and *DP_{ACC}* > *se-PP*, are base-generated. Yet, note that Condition A effects apply throughout the derivation to DPs in A-positions (Kayne 1981, van Riemsdijk and Williams 1981, Burzio 1986, Belletti and Rizzi 1988, among others). So, the pattern where the accusative DO binds the *se-PP* can be a derived position for the DO. Additionally, base-generation of both relative orders of *PP* and *DP_{ACC}* raises questions from the standpoint of UTAH (Baker 1988). Specifically, while the theme argument is in the specifier of V in (45a), it is the sister of V in (45b) (Bowers 2010).

Anagnostopoulou justifies base-generation of both structures by appeal to Marantz's (1993) proposal that certain thematic roles are such that it does not matter where the one is merged relative to the other. However, the thematic role of the IO in the goal ditransitive construction, namely potential recipient goal, is not one of the thematic roles mentioned by Marantz (1993). Marantz proposes that thematic roles, such as instrument, affected object locative, and inalienable possessor, which are affected simultaneously in the same event as the theme, may be higher or lower than the theme. On the other hand, benefactives, malefactives, datives of interest, alienable possessors and directional locatives, which are separate from and sequentially later than the event affecting the theme, must be higher than the theme. Marantz's system thus provides no support for freely generating recipient goal *se-PP*s in two distinct locations.

In the remainder of this section I argue for an alternative to Anagnostopoulou's two

underlying orders for the PC. In particular, I propose that *se-PP*>*DP_{ACC}* is the base order, while *DP_{ACC}*>*se-PP* is derived by movement.

That the underlying order of the PC is *PP*>*DO* has been also argued for English PCs. Using primarily backward binding facts (47d), first noted by Burzio (1986), Kitagawa (1994), Pesetsky (1995), Vukic (2003), Doggett (2004), and Bowers (2010), among others, demonstrate that even if the anaphor in (47d) is not c-commanded by its antecedent at surface, a reconstruction effect is induced at LF due to movement of the DO. The DOC, on the other hand, does not exhibit reconstruction effects, as shown in (47b).

- (47) a. Sue showed John and Mary each other's friends.
b. *Sue showed each other's friends John and Mary.
c. Sue showed John and Mary to each other's friends.
d. Sue showed each other's friends to John and Mary.

The acceptability of (47d), in contrast to (47b), suggests that the DP containing the reciprocal anaphor in (47d) has been moved from an underlying position to the right of the goal PP.⁹⁴

Greek has no exact counterpart of English reciprocal *each other* binding, but evidence in support of *se-PP*>*ACC* as underlying order comes from depictive stranding.⁹⁵ Greek depictives are of the English type. They can be predicated of direct objects (48a, 49a), but not of indirect objects (48b), even when the latter bear accusative case, as shown in example (49b).

⁹⁴ Note that Anagnostopoulou's *each... the other* data in (46) is not exactly parallel to the English reciprocal binding data in (47). While *each other* in (47d) may precede its antecedent, *each... the other* must occur in a fixed surface order in English, as in Greek:

(1) Sue showed each child to the other's friend.
(2) *Sue showed the other's friend to each child.

These facts indicate that unlike reciprocal binding, *each... other* is of limited utility in determining the underlying order of DO and PP.

⁹⁵ Bowers (2010) also uses depictive stranding to show that the *to-PP* c-commands the theme in English PCs.

(48) a. O Nikos edhose tis Marias [ti bira]_i zesti_i
 the.NOM Nick.NOM gave. 3SG the.GEN Mary.GEN the.ACC beer.ACC warm.ACC

‘Nick gave the beer to Mary warm.’

b. *O Nikos edhose [tis Marias]_i [ghimnis]_i
 the.NOM Nick.NOM gave.3SG the.GEN Mary.GEN naked.GEN

ti bira

the.ACC beer.ACC

*‘Nick gave Mary_i the beer naked_i.’

(49) a. O Nikos servire ti Maria [ti bira]_i zesti_i
 the.NOM Nick.NOM served.3SG the.ACC Mary.ACC the.ACC beer.ACC warm.ACC

‘Nick served the beer to Mary warm.’

b. *O Nikos servire [ti Maria]_i ti bira

the.NOM Nick.NOM served.3SG the.ACC Mary.ACC the.ACC beer.ACC

ghimni_i

naked.ACC

*‘Nick served Mary_i the beer naked_i.’

Depictives in Greek can be stranded by A-movement, for example by passive or unaccusative movement (50). My account of depictives is consistent either with the DO and the depictive forming a constituent (Marusic et al. 2008), or with the DO controlling PRO in the specifier of the depictive small clause (Bowers 1993, among others). In the latter case, no other eligible controller (DP) may intervene between the depictive and PRO.

(50) a. I bira servirete kria *Passive*

the.NOM beer.NOM serve.NON-ACT.3SG cold.NOM

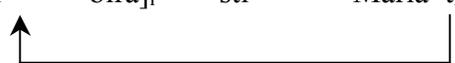
‘Beer is served cold.’

b. Eftase kathisterimenos
 arrived.3SG late.MASC.NOM
 ‘He arrived late.’

Unaccusative

Crucially, depictives can also be stranded by *ACC PP depictive stranding*, as shown in (51).

(51) O Nikos edhose [ti bira]_i sti Maria t_i zesti_i



the.NOM Nick.NOM gave.3SG the.ACC beer.ACC to:the.ACC Mary.ACC warm.ACC
 ‘Nick gave the beer to Mary warm.’

Depictive stranding suggests that the $DP_{ACC} > PP$ order is derived by some type of movement. I propose that the movement that derives the order *DP_{ACC} PP depictive* is Short Object Shift (SOS) / A-scrambling of the accusative DP to [Spec, *v*P]. Greek short A-scrambling is like Japanese short scrambling in that it appears to be a pure EPP-driven operation (Miyagawa 1997, 2001, among others).

Evidence in support of an A-movement analysis comes from weak crossover (WCO) facts. WCO is a standard test for determining underlying order (Saito and Hoji 1983). As illustrated in (52-53), A-bar movement triggers WCO (52b)⁹⁶, but A-movement does not (53b).

⁹⁶ As Anagnostopoulou (2003) notes the existence of WCO effects in wh-questions has been questioned in Greek by Catsimali (1990), Horrocks (1994), and others. I agree with Anagnostopoulou, though, in that there is a contrast and apparently a dialect split with respect to WCO judgments.

(52) a. [Pias miteras]_i edhoses to pedhi
 which.FEM.GEN mother.FEM.GEN gave.2SG the.NEUT.ACC child.NEUT.ACC
 tis_i?

POSS.3SG.FEM

‘Which mother did you give her child?’

b. ?*[Pio pedhi]_i edhoses tis miteras
 which.NEUT.ACC child.NEUT.ACC gave.2SG the.FEM.GEN mother.FEM.GEN
 tu_i?

POSS.3SG.NEUT

‘Which child did you give to his mother?’

(53) a. Se [pia mitera]_i edhoses to pedhi
 to which.FEM.ACC mother.FEM.ACC gave.2SG the.NEUT.ACC child.NEUT.ACC
 tis_i?

POSS.3SG.FEM

‘To which mother did you give her child?’

b. [Pio pedhi]_i edhoses sti mitera
 which.NEUT.ACC child.NEUT.ACC gave.2SG to:the.FEM.ACC mother.FEM.ACC
 tu_i?

POSS.3SG.NEUT

‘Which child did you give to his mother?’

Now let us apply the WCO test to the *ACC PP depictive* stranding pattern. The examples below contrast depictives stranded from an accusative DO in the DOC (54a-b) with depictive stranding in the PC (54c-d).

- (54) a. [Pias miteras]_i paredhoses to pedhi
 which.FEM.GEN mother.FEM.GEN gave.2SG the.NEUT.ACC child.NEUT.ACC
 tis_i nekro?
 POSS.3SG.FEM dead.NEUT.ACC
 ‘Which mother did you give her child dead?’
- b. ?*[Pio pedhi]_i paredhoses tis miteras
 which.NEUT.ACC child.NEUT.ACC gave.2SG the.FEM.GEN mother.FEM.GEN
 tu_i nekro?
 POSS.3SG.NEUT dead.NEUT.ACC
 ‘Which child did you give to his mother dead?’
- c. Se [pia mitera]_i paredhoses to pedhi
 to which.FEM.ACC mother.FEM.ACC gave.2SG the.NEUT.ACC child.NEUT.ACC
 tis_i nekro?
 POSS.3SG.FEM dead.NEUT.ACC
 ‘To which mother did you give her child dead?’
- d. [Pio pedhi]_i paredhoses sti mitera
 which.NEUT.ACC child.NEUT.ACC gave.2SG to:the.FEM.ACC mother.FEM.ACC
 tu_i nekro?
 POSS.3SG.NEUT dead.NEUT.ACC
 ‘Which child did you give to his mother dead?’

Strikingly, while the $DP_{ACC} > DP_{GEN}$ pattern in the DOC (54b) shows WCO effects, $DP_{ACC} > PP$ in the PC (54d) does not. This suggests that while $DP_{ACC} > DP_{GEN}$ order is derived by A-bar movement, as proposed by Anagnostopoulou, $DP_{ACC} > PP$ can be derived by A-movement, in other words by SOS.

Why should it be possible to A-move over a PP goal, but not over a genitive DP goal? I follow Chomsky (1998) and Boeckx (1999) in assuming that prepositions are deficient barriers, in the sense that I make precise below. According to the structure I proposed in (35), *se*-PPs and genitive DPs originate in the same position, namely [Spec, VP]. With the preposition *se* ‘to’ constituting a deficient barrier (the preposition is what prevents a feature relation to be established between T, the attractor, and the DP), movement of the DO to [Spec, *v*P] is not blocked. Unlike *se*-PPs, genitive DPs are not dominated by a preposition, so strict Shortest Move is observed and raising of the DO is blocked.⁹⁷ Miyagawa (1997) proposes a similar analysis for numeral quantifier stranding in Japanese ditransitive constructions: stranding is possible when an accusative object is short scrambled over a PP, but bad when short scrambling takes place over a dative goal. The facts in (54) indicate that in Greek too, genitive DP goals are interveners for A-movement, but PP goals are not.

⁹⁷ Note that the same analysis can also account for experiencer genitive DPs and *se*-PPs of mono-clausal NP movement constructions (1), under the assumption that they are base generated in the same position. Yet, as Anagnostopoulou (2003) observes, experiencer DPs / PPs of bi-clausal environments, such as raising constructions (2), show a different pattern. In raising constructions both experiencer DPs and PPs block movement of the embedded subject to [Spec, TP]. In response to these facts, I suggest a preliminary hypothesis that the intervention of PPs in raising constructions is a combination of the bi-clausal properties of raising constructions and the lack of movement of the experiencer, assuming that experiencers are merged in [Spec, ApplP] (contrast to recipient PCs where movement of the PP from [Spec, VP] to [Spec, ApplP] is involved).

(1) a. ?*Afta ta vivlia aresun tu (Anagnostopoulou 2003:26)
 these.NOM the.NOM books.NOM please.3PL the.GEN

Petru poli
 Peter.GEN a:lot
 ‘Peter likes these books a lot.’

b. Afta ta vivlia aresun ston Petro poli
 these.NOM the.NOM books.NOM please.3PL to:the.ACC Peter.ACC a:lot
 ‘Peter likes these books a lot.’

(2) a. *Ta pedhia dhen fenode tis (Anagnostopoulou 2003:28, 30)
 the.NOM children.NOM NEG seem.3PL the.GEN

Marias na meletun
 Mary.GEN to study.3PL
 ‘The children do not seem to Mary to study.’

b. ?*Ta pedhia dhen fenode sti Maria na meletun
 the.NOM children.NOM NEG seem.3PL to”the.ACC Mary.ACC to study.3PL
 ‘The children do not seem to Mary to study.’

4.3.2 VP-external Extra Arguments: Thematic Applicatives

In section 4.2, I applied Pylkkänen’s and Anagnostopoulou’s semantic and syntactic diagnostics to show that Greek bene-/malefactives are instances of thematic (high) applicatives, independently of their categorial status, i.e., whether they are realized as *se*-PPs or genitive DPs/clitics. The remainder of this section explicates how nominal and prepositional benefactive/malefactive constructions are derived syntactically.

4.3.2.1 Nominal

The thematic applicative structure in (55) predicts that bene-/maleficiaries bearing genitive case c-command the accusative theme.

(55) [_{VP} v [_{AppIP} DP_{BNF/MLF} [_{AppI} Appl [_{VP} V DP_{THEME}]]]]

This is indeed correct, based on the reciprocal binding data in (56), first noted by Anagnostopoulou (2005).

(56) *Benefactives: DP_{GEN} > DP_{ACC}* (Anagnostopoulou 2005:81)

a. ?O arhitektonas schedhiase tu enos pelati to
the.NOM architect.NOM sketched.3SG the.GEN one.GEN client.GEN the.ACC
spiti tu alu
house.ACC the.GEN other.GEN

‘The architect sketched each client the other’s house.’

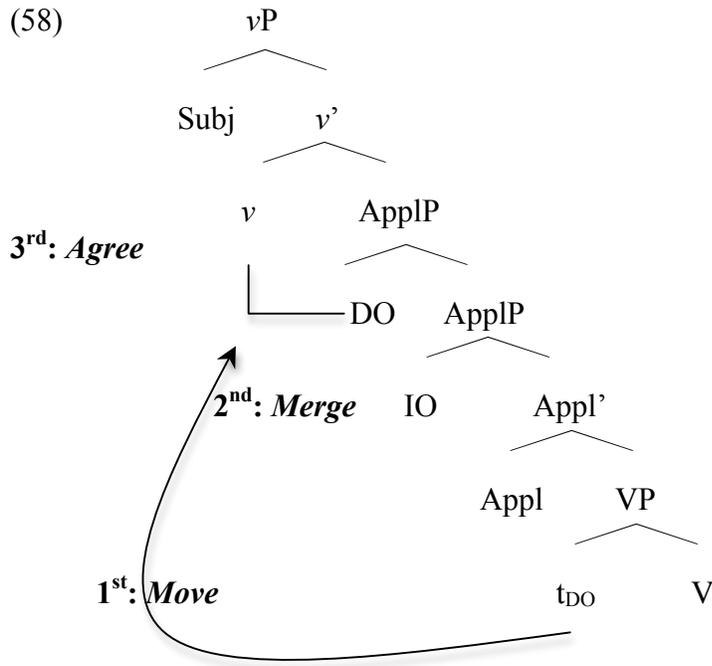
- b. *O arhitektonas schedhiase tu idhioktiti tu alu
 the.NOM architect.NOM sketched.3SG the.GEN owner.GEN the.GEN other.GEN
 to ena spiti
 the.ACC one.ACC house.ACC
 ‘The architect sketched the other’s owner each house.’

Like beneficiaries, genitive maleficiaries c-command the theme, as the binding data in (57) illustrate.

(57) *Maleficiaries: DP_{GEN} > DP_{ACC}*

- a. ?Estisan tu enos apodhekti ti farsa tu alu
 set.3PL the.GEN one.GEN receiver.GEN the.ACC prank.ACC the.GEN other.GEN
 ‘They set each subject the other’s prank.’ (In a context where there is a show such as *Candid Camera*, where the crew sets pranks on people.)
- b. *Estisan tu apodhekti tis alis ti mia farsa
 set.3PL the.GEN receiver.GEN the.GEN other.GEN the.ACC one.ACC prank.ACC
 ‘They set the other’s subject each prank.’

The syntactic licensing of thematic applicatives in Greek proceeds as in German. Assuming that Appl bears an EPP feature (see the discussion on raising applicatives in 4.3.1.1) and Move precedes Merge in Greek, in (58), as soon as Appl is merged, its EPP feature attracts the DO to its specifier. Then IO enters the derivation with an interpretable Case feature which is valued at Merge with Appl. The IO is merged via tucking in below the DO. In the next step of the derivation, *v* is merged and probes for a matching goal. The closest DP with an unchecked Case feature, the DO, enters into an Agree relation with *v*.



Inherent Case on the IO prevents it from undergoing A-movement to [Spec, TP] to check nominative Case in passive (McGinnis 1998, among others). This explains why examples (4b-c), repeated below, are ungrammatical.

- (4) b. *[I Maria]_{BNF} anihtike tin porta apo to Niko
 the.NOM Mary.NOM opened.NON-ACT.3SG the.ACC door.ACC by the.ACC Nick.ACC
- c. *[I Maria]_{MLF} stithike mia farsa apo to Niko
 the.NOM Mary.NOM set.NON-ACT.3SG a.ACC prank.ACC by the.ACC Nick.ACC

Unlike raising applicative constructions, thematic applicative constructions in Greek do not allow theme passivization under any circumstances, as examples (14a-b), repeated below, and (59) illustrate (compare to theme passivization of recipient DOCs). The impossibility of passive with nominal and prepositional beneficiaries can be explained if only ‘active’ *v* (*v* which

assigns a thematic role) selects ‘active’ Appl (Appl which assigns a thematic role) (Anagnostopoulou 2005, Georgala and Whitman 2009).⁹⁸

(14) *Passive: Benefactive DOC*

a. *O kafes tis ftiahtike (Anagnostopoulou 2005:78)

the.NOM coffee.NOM CL.3SG.FEM.GEN made.NON-ACT.3SG

(tis Marias) apo ton Petro

the.GEN Mary.GEN by the.ACC Peter.ACC

‘The coffee was made for her (Mary) by Peter.’

b. *O kafes ftiahtike tis Marias (Anagnostopoulou 2005:77)

the.NOM coffee.NOM made.NON-ACT.3SG the.GEN Mary.GEN

(apo ton Petro)

by the.ACC Peter.ACC

‘The coffee was made for Mary (by Peter).’

(59) *Passive: Malefactive DOC*

a. ?*Mia farsa tis stithike (tis Marias)

a. NOM prank.NOM CL.3SG.FEM.GEN set. NON-ACT.3SG the.GEN Mary.GEN

apo to Niko

by the.ACC Nick.ACC

⁹⁸ To account for the passive facts in (14), Bowers and Georgala (2007) alternatively propose that DOs in benefactive constructions do not bear structural Case. However, evidence that DOs bear a structural Case feature comes from the fact that the middle construction provides systematic alternation between accusative and nominative in bene-/malefactive DOCs. For example, the accusative object in (1a) surfaces as nominative in the middle form in (1b).

(1) a. O Nikos su epsise to kreas orea
the.NOM Nick.NOM CL.2SG.GEN roasted.ACT.3SG the.ACC meat.ACC well

‘Nick roasted the meat well for you.’

b. To kreas su psithike orea
the.NOM meat.NOM CL.2PL.GEN roasted.NON-ACT.3SG well

‘The meat roasted well and this pleased you.’

- b. *Mia farsa stithike tis Marias apo to Niko
 a. NOM prank.NOM set.NON-ACT.3SG the.GEN Mary.GEN by the.ACC Nick.ACC
 ‘A prank was set on Mary by Nick.’

4.3.2.2 Prepositional

Genitive DP beneficiaries and maleficiaries may also be expressed as *se*-PPs. As already illustrated in Section 4.2.2, genitive DP and *se*-PP bene-/maleficiaries behave exactly the same in theme passivization and nominalization. To account for the ungrammaticality of theme passives with *se*-PPs (60a-b), I assume that: (i) both *se*-PP bene-/malefactive and genitive bene-/malefactive originate in the same position, [Spec, ApplP] (58), and (ii), as in the case of genitive beneficiaries, only ‘active’ *v* (*v* which assigns a thematic role) selects ‘active’ Appl (Appl which assigns a thematic role).

- (60) a. *To aftokinito aghorastike sti Maria
 the.NOM car.NOM bought.NON-ACT.3SG to:the.ACC Mary.ACC
 apo to Niko
 by the.ACC Nick.ACC
 ‘The car was bought for Mary.’
 b. *?Mia farsa stithike sti Maria apo to Niko
 a.NOM prank.NOM set.NON-ACT.3SG to:the.ACC Mary.ACC by the.ACC Nick.ACC
 ‘A prank was set on Mary by Nick.’

More evidence about the shared properties of genitive and *se*-PP beneficiaries comes from reciprocal binding. The examples in (56), repeated from above, and (61) show that the beneficiary, irrespectively of how it is realized, c-commands the theme.

(56) $DP_{GEN} > DP_{ACC}$

(Anagnostopoulou 2005:81)

a. ?O arhitektonas schedhiase tu enos pelati to
the.NOM architect.NOM sketched.3SG the.GEN one.GEN client.GEN the.ACC
spiti tou alu
house.ACC the.GEN other.GEN

‘The architect sketched each client the other’s house.’

b. *O arhitektonas schedhiase tu idhioktiti tu alu
the.NOM architect.NOM sketched.3SG the.GEN owner.GEN the.GEN other.GEN
to ena spiti
the.ACC one.ACC house.ACC

‘The architect sketched the other’s owner each house.’

(61) $se-PP > DP_{ACC}$

(Anagnostopoulou 2005:81-82)

a. O arhitektonas schedhiase ston ena pelati to
the.NOM architect.NOM sketched.3SG to:the.ACC one.ACC client.ACC the.ACC
spiti tu alu
house.ACC the.GEN other.GEN

‘The architect sketched each client the other’s house.’

b. *O arhitektonas schedhiase ston idhioktiti tu alu
the.NOM architect.NOM sketched.3SG to:the.ACC owner.ACC the.GEN other.GEN
to ena spiti
the.ACC one.ACC house.ACC

‘The architect sketched the other’s owner each house.’

As Anagnostopoulou (2005) further observes, in the order $DP_{ACC} > se-PP$, which is fine in Greek, binding of the beneficiary by the theme is deviant (62), suggesting that $se-PP > DP_{ACC}$ is the base order.

(62) ?*O arhitektonas schedhiase to ena (Anagnostopoulou 2005:82)
 the.NOM architect.NOM sketched.3SG the.ACC one.ACC
 spiti ston idhioktiti tu alu
 house.ACC to:the.ACC owner.ACC the.GEN other.GEN
 ‘The architect sketched each house to the other’s owner.’

Malefactive *se*-PPs, like benefactive ones, c-command the theme, as the binding data in (63) suggest.

(63) *se-PP > DP_{ACC}*

a. ?Estisan ston enan apodhekti ti farsa tu alu
 set.3PL to:the.ACC one.ACC receiver.ACC the.ACC prank.ACC the.GEN other.GEN
 ‘They set each subject the other’s prank.’

b. *Estisan ston apodhekti tis alis ti mia farsa
 set.3PL to:the.ACC receiver.ACC the.GEN other.GEN the.ACC one.ACC prank.ACC
 ‘They set the other’s subject each prank.’

DP_{ACC} > se-PP

c. ?*Estisan ti mia farsa ston apodhekti tis alis
 set.3PL the.ACC one.ACC prank.ACC to:the.ACC receiver.ACC the.GEN other.GEN
 ‘They set each prank to the other’s subject.’

Regarding benefactive *ya*-PPs, Anagnostopoulou (2005) argues that they present conflicting evidence with respect to their phrase structure status, namely whether they are adjuncts or arguments. I agree with Anagnostopoulou (2005), and below I present in detail the evidence she provides.

Benefactive constructions with *ya*-PPs allow both $\langle ya\text{-PP}, DP_{ACC} \rangle$ and $\langle DP_{ACC}, ya\text{-PP} \rangle$ orders, as shown in (64).

- (64) a. Eftiixa to fayito ya ti Maria (Anagnostopoulou 2005:82)
 made.1SG the.ACC food.ACC for the.ACC Mary.ACC
 b. Eftiixa ya ti Maria to fayito
 made.1SG for the.ACC Mary.ACC the.ACC food.ACC
 ‘I made the food for Mary.’

Assuming that A-binding is possible only by items in A-positions, *ya*-PPs behave like arguments based on the binding data in (65-66), observed by Anagnostopoulou (2005).

(65) $DP_{ACC} > ya\text{-PP}$ (Anagnostopoulou 2005:82-83)

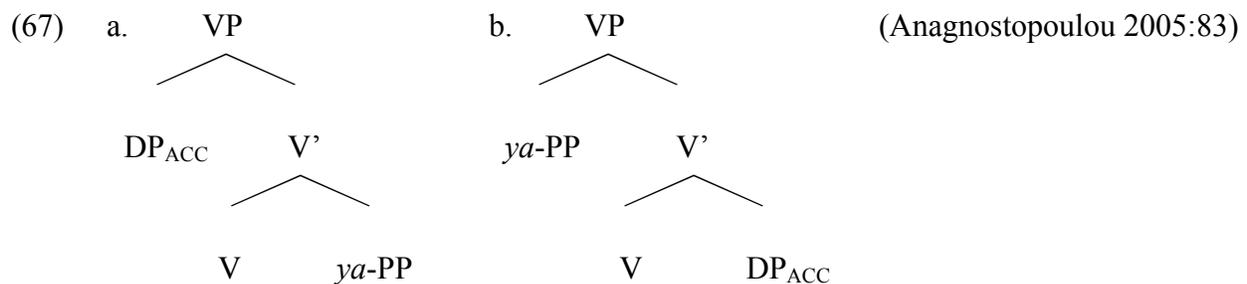
- a. O raftis ekane lathos ke erapse to ena kustumi
 the.NOM tailor.NOM made.3SG mistake.ACC and sewed.3SG the.ACC one.ACC suit.ACC
 ya ton aghorasti tu alu
 for the.ACC buyer.ACC the.GEN other.GEN
 b. *O raftis ekane lathos ke erapse to kustumi
 the.NOM tailor.NOM made.3SG mistake.ACC and sewed.3SG the.ACC suit.ACC
 tu alu ya ton ena pelati
 the.GEN other.GEN for the.ACC one.ACC client.ACC

(66) $ya\text{-PP} > DP_{ACC}$ (Anagnostopoulou 2005:83)

- a. O arhitektonas schedhiase ya ton ena pelati to
 the.NOM architect.NOM sketched.3SG for the.ACC one.ACC client.ACC the.ACC
 spiti tu alu
 house.ACC the.GEN other.GEN

- b. *O arhitektonas schedhase ya ton idhioktiti tu alu
 the.NOM architect.NOM sketched.3SG for the.ACC owner.ACC the.GEN other.GEN
 to ena spiti
 the.ACC one.ACC house.ACC
 ‘*The architect sketched the other’s owner each house.’

More concretely, what (65-66) show is that whichever argument is leftmost binds the other. The above facts lead Anagnostopoulou to propose the free base-generation analysis in (67) for *ya*-PP benefactive constructions.



However, by applying a traditional diagnostic test for adjunct-hood, namely ‘do-so’-substitution, whose equivalent in Greek is *kano to idhio* ‘do the same’, Anagnostopoulou (2005) shows that *ya*-PP beneficiaries may be adjuncts. The examples in (68) compare benefactive sentences, where the beneficiary is realized as the complement of a *ya*-PP (68a), the complement of a *se*-PP (68b), and as a genitive DP (68c). In (68a) *ya*-PP is an adjunct and therefore *kano to idhio* ‘do the same’ can be anaphoric to the constituent V+DP *eftiaxe kafe* ‘made coffee’, excluding the PP. By contrast, in (68b-c) the beneficiary is an argument of *eftiaxe* ‘made’, thus the antecedent of *kano to idhio* ‘do the same’ must include the beneficiary *se*-PP or genitive DP.

(68) a. O Petros eftiaxe kafe (Anagnostopoulou 2005:84)

the.NOM Peter.NOM made.3SG coffee.ACC

ya ti Maria ke o Kostas ekane to idhio

for the.ACC Mary.ACC and the.NOM Kostas.NOM did.3SG the.ACC same.ACC

ya tin Katerina

for the.ACC Katerina.ACC

‘²Peter made coffee for Mary and Kostas did the same / did so for Katerina.’

b. ²*O Petros eftiaxe kafe sti Maria ke

the.NOM Peter.NOM made.3SG coffee.ACC to:the.ACC Mary.ACC and

o Kostas ekane to idhio stin Katerina

the.NOM Kostas.NOM did.3SG the.ACC same.ACC to:the.ACC Katerina.ACC

‘*Peter made Mary coffee and Kostas did so Katerina.’

c. ²*O Petros eftiaxe kafe tis Marias ke

the.NOM Peter.NOM made.3SG coffee.ACC the.GEN Mary.GEN and

o Kostas ekane to idhio tis Katerinas

the.NOM Kostas.NOM did.3SG the.ACC same.ACC the.GEN Katerina.GEN

‘*Peter made Mary coffee and Kostas did so Katerina.’

Summing up, while binding suggests that *ya*-PP beneficiaries are attached low, which leads to their analysis as arguments, ellipsis suggests that they are adjuncts. I will not attempt to resolve this issue here.

Like benefactive *ya*-PPs, malefactive *is/se varos* PPs also present conflicting evidence with respect to their status, as the c-command data in (69-70) and the results of applying the ‘do-so’-substitution diagnostic for adjunct-hood in (71) imply.

(69) $DP_{ACC} > is/se \text{ varos } PP$

a. Ekanan lathos ke estisan ti mia farsa is varos tu apodhekti
made.3PL mistake.ACC and set.3PL the.ACC one.ACC prank.ACC against the.GEN receiver.GEN
tis alis
the.GEN other.GEN

‘They made a mistake and set each prank on the subject of the other (prank).’

b. *Ekanan lathos ke estisan ti farsa tu alu
made.3PL mistake.ACC and set.3PL the.ACC prank.ACC the.GEN other.GEN
is varos tu enos apodhekti
against the.GEN one.GEN receiver.GEN

(70) $is/se \text{ varos } PP > DP_{ACC}$

a. Ekanan lathos ke estisan is varos tu enos apodhekti ti farsa
made.3PL mistake.ACC and set.3PL against the.GEN one.GEN receiver.GEN the.ACC prank.ACC
tu alu
the.GEN other.GEN

b. *Ekanan lathos ke estisan is varos tu apodhekti tis alis
made.3PL mistake.ACC and set.3PL against the.GEN receiver.GEN the.GEN other.GEN
ti mia farsa
the.ACC one.ACC prank.ACC

(71) ‘Do-so’-substitution test for adjunct-hood

a. O Nikos estise mia farsa is varos tis Marias
the.NOM Nick.NOM set.3SG a.ACC prank.ACC against the.GEN Mary.GEN
ke o Stavros ekane to idhio is varos tis Elenis
and the.NOM Stavros.NOM did.3SG the.ACC same.ACC against the.GEN Helen.GEN

- b. ^{9*}O Nikos estise mia farsa sti Maria ke
 the.NOM Nick.NOM set.3SG a.ACC prank.ACC to:the.ACC Mary.ACC and
 o Stavros ekane to idhio stin Eleni
 the.NOM Stavros.NOM did.3SG the.ACC same.ACC to:the.ACC Helen.ACC
- c. ^{9*}O Nikos estise mia plaka tis Marias ke
 the.NOM Nick.NOM set.3SG a.ACC prank.ACC the.GEN Mary.GEN and
 o Stavros ekane to idhio tis Elenis
 the.NOM Stavros.NOM did.3SG the.ACC same.ACC the.GEN Helen.GEN
- ⁹‘Nick set a prank on Mary and Stavros did the same / did so on Helen.’

In this section I accounted for the semantic and syntactic properties of genitive and *se-PP* bene-/maleficiaries by analyzing them as thematic applicatives, merged in [Spec, ApplP]. Furthermore, I showed that beneficiaries and maleficiaries, introduced by the prepositions *ya* ‘for’ and *is/se varos* ‘against’ respectively, may be analyzed either as adjuncts or arguments.

4.4 Experimental Evidence on Locality Constraints of Theme Passives

So far I have proposed an analysis of Greek applicative constructions, based on a binary model of the empirical data⁹⁹, as they are reported in Markantonatou 1994, Anagnostopoulou 2003, Anagnostopoulou 2005, Bowers and Georgala 2007, and Georgala and Whitman 2009. One of the most important contributions of Anagnostopoulou 2003 is the observation about the interaction between NP-movement and cliticization, which in this chapter is illustrated by the passivization data in (13a-b), repeated below.

⁹⁹ Featherston (2005) defines a binary model of data as a model in which a given example sentence is generally evaluated as either grammatical or ungrammatical.

(13) *Passive: Recipient DOC*

a. To vivlio tis haristike (Anagnostopoulou 2005:77)

the.NOM book.NOM CL.3SG.FEM.GEN awarded.NON-ACT.3SG

(tis Marias)

the.GEN Mary.GEN

‘The book was awarded to her (Mary).’

b. ?*To vivlio haristike tis Marias (Anagnostopoulou 2005:65)

the.NOM book.NOM awarded.NON-ACT.3SG the.GEN Mary.GEN

by the.ACC Peter.ACC

apo ton Petro

‘The book was awarded to Mary by Peter.’

Anagnostopoulou’s data have been recently contested by Georgiafentis and Lascaratou (2007) and Kupula (2011), whose data shows that standalone genitive DPs do not intervene (cf. example 72 from Georgiafentis and Lascaratou 2007) in theme passives.

(72) To arthro mas (Georgiafentis and Lascaratou 2007:45)

the.NOM paper.NOM POSS.1PL

dhothike / stalthike / tahidhromithike tis Irinis

gave.NON-ACT.3SG sent.NON-ACT.3SG mailed.NON-ACT.3SG the.GEN Irene.GEN

*‘Our paper was given/sent/posted Irene.’

The dispute about which structures are and are not grammatical raises a question about the adequacy of Anagnostopoulou’s theory of locality and cliticization, in particular the claim that cliticization constitutes an “escape hatch” strategy to locality violations. Given the conflicting empirical evidence about the constraints on theme passives of DOCs, I applied the

methodology of magnitude estimation (Bard et al. 1996) to produce replicable grammaticality data as a basis for further work and to test competing accounts. Below I show that the experimental data support the asymmetry, illustrated in (13a-b).

In what follows, I first present the experiment, i.e., the materials, procedure, and results. I then discuss the results and propose an explanation about the lack of agreement in the literature. In the last part of the section I present the results of a pilot magnitude estimation experiment whose aim is to investigate Anagnostopoulou's (2003, 2005) observation that theme passivization of benefactive DOCs is not rescued either by cliticization of the IO or the IO being the complement of the preposition *se* 'to' (73). The experiment data support Anagnostopoulou's observation, while at the same time data harvested from the web show that in some cases Anagnostopoulou's claim does not hold.

(73) a. *O kafes tis ftiahtike (Anagnostopoulou 2005:78)

the.NOM coffee.NOM CL.3SG.FEM.GEN made.NON-ACT.3SG

(tis Marias) apo ton Petro

the.GEN Mary.GEN by the.ACC Peter.ACC

'*The coffee was made Mary by Peter.'

b. *O kafes ftiahtike sti Maria (Anagnostopoulou 2005:77)

the.NOM coffee.NOM made.NON-ACT.3SG to:the.ACC Mary.ACC

(apo ton Petro)

by the.ACC Peter.ACC

'The coffee was made for Mary by Peter.'

c. O kafes ftiahtike ya ti Maria (apo ton Petro)

the.NOM coffee.NOM made.NON-ACT.3SG for the.ACC Mary.ACC by the.ACC Peter.ACC

'The coffee was made for Mary by Peter.'

4.4.1 Are Theme Passives with Standalone Genitive DPs Grammatical?

When authors contest judgments reported in the preceding literature, it is clear that limited theoretical progress can be made. Therefore, my aim here is to determine whether Greek theme passives of raising applicatives with standalone genitive DPs are grammatical or not, by employing the magnitude estimation method.

4.4.1.1 The Experiment: Methodology and Procedure

The magnitude estimation method (Bard et al. 1996, Cowart 1997, Keller 2000) allows us to elicit more finely grained judgments and compare them meaningfully. It is based on a methodology used in psychophysics to grade physical sensations, such as brightness, and developed from there for use in attitude and opinion measurement (Stevens 1975). In order to remove the restrictions of the scale from subjects' judgments, it varies from standard elicitation of grammaticality judgments in several ways. First, subjects are asked to provide relative judgments. This means that an absolute criterion of grammaticality is never applied. Also, all judgments are proportional, namely, subjects are asked to state how many times better or worse sentence A is than sentence B. The subjects themselves fix the value of the reference item (modulus) relative to which subsequent judgments are made. Moreover, the scale along which judgments are made is decided by the subjects themselves. Lastly, the scale has no minimum division, i.e., the subjects can always produce an additional intermediate rating. The results obtained exhibit more differentiation than conventional judgments are assumed to contain, since the limitation to a scale selected by the linguist is removed (Featherston 2005).¹⁰⁰

¹⁰⁰ Cf. Sprouse 2008 and 2011, Weskott and Fanselow 2008, Bader and Häussler 2010, and Fukuda et al. 2011, where it is shown that linguistic magnitude estimation may not provide more accurate data than other tasks (e.g., n-point scale tasks), as has been previously suggested (Bard et al. 1996, Keller 2000, Featherston 2005, among many others).

In this study I tested nine pairs of passive sentences, consisting of one sentence with a genitive DP recipient and another sentence with a clitic recipient. The sentences with genitive DPs are based on passive DOC sentences with genitive DPs harvested from the web. The sentences were edited so as to minimize background variation. Three high-frequency prototypical ditransitive verbs were used: *dhino* ‘give’ (five pairs), *stelno* ‘send’ (three pairs) and *tahidhromo* ‘mail’ (one pair). These verbs are also used in the examples cited in Anagnostopoulou 2003, Anagnostopoulou 2005, Michelioudakis and Lascaridou 2007, and Kupula 2011. In (74) I exemplify a pair from the material used in the experiment.

(74) a. *Genitive DP IO*

I nomi pu dhothikan tu Moisi itan nomi afstiri
the.NOM laws.NOM that gave.NON-ACT.3PL the.GEN Moses.GEN were laws.NOM strict.NOM
‘The laws that were given to Moses were strict.’

b. *Genitive clitic IO*

I kanones pu tu dhothikan itan kanones afstiri
the.NOM rules.NOM that CL.3SG.MASC.GEN gave. NON-ACT.3PL were rules.NOM strict.NOM
‘The rules that were given to him were strict.’

The target materials (18 sentences total) were mixed among 12 sentences which made up the pilot experiment, I describe in Section 4.4.2, and 44 fillers. The total number of sentences each subject saw was 74.

The experiment had 102 participants and was performed remotely using the package WebExp (Keller et al. 1998, see <http://www.language-experiments.org>). The experiment proceeded as follows: first subjects read a page of instructions outlining their task. The criterion they were to judge by was defined as whether the sentences "sounded natural". The first practice phase aimed to familiarize them with magnitude estimation. In particular, they were instructed to

assign numeric values to line lengths relative to a reference line (modulus). This was followed by a second practice phase which extended the use of magnitude estimation to judging sentence acceptability. Only after this did the experiment itself begin. Each participant saw the sentences in random order.

4.4.1.2 Results and Discussion

The data was normalized by dividing each item's score by the modulus score, and then the ratios and the z-scores of these ratios were plotted. This effectively unifies the different scales that the individual subjects adopted for themselves, and allows us to inspect the results visually.

The most significant result for our present purpose is presented in Figure 1, which on the scale axis shows the mean normalized grammaticality judgment score and 95% confidence interval by sentence type. Higher scores indicate greater perceived naturalness (note that there is no point which indicates absolute (un)grammaticality). Along the horizontal axis, the structures are grouped by verb. Figure 1 reveals that passive structures with genitive DP IOs are scored much lower than passives with genitive clitic IOs. Crucially, this result supports Markantonatou's (1994) and Anagnostopoulou's (2003) judgments.

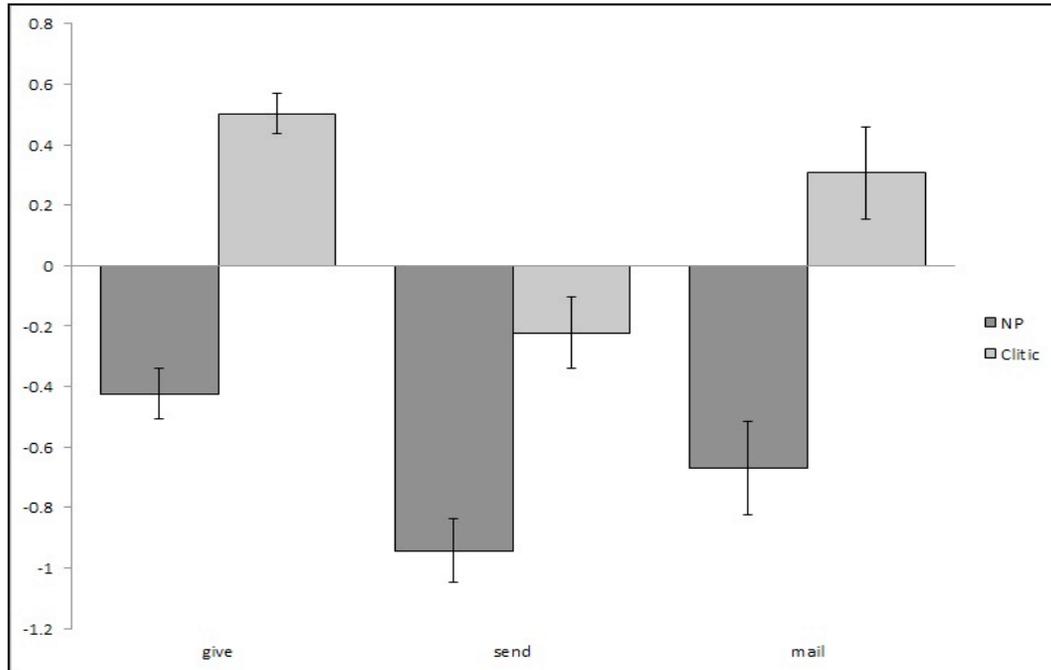


Figure 1: Results of experiment on theme passives of Greek recipient DOCs. Judgments are distinguished by structure (clitic or DP) and main verb.

Figure 1 further shows that there is variation among the sentences depending on the verb. In order to explain the difference in naturalness between clitic passive sentences with *send* and the rest of the verbs, I present a more detailed plot of the data (Figure 2), in which along the horizontal axis the structures are grouped by sentence.

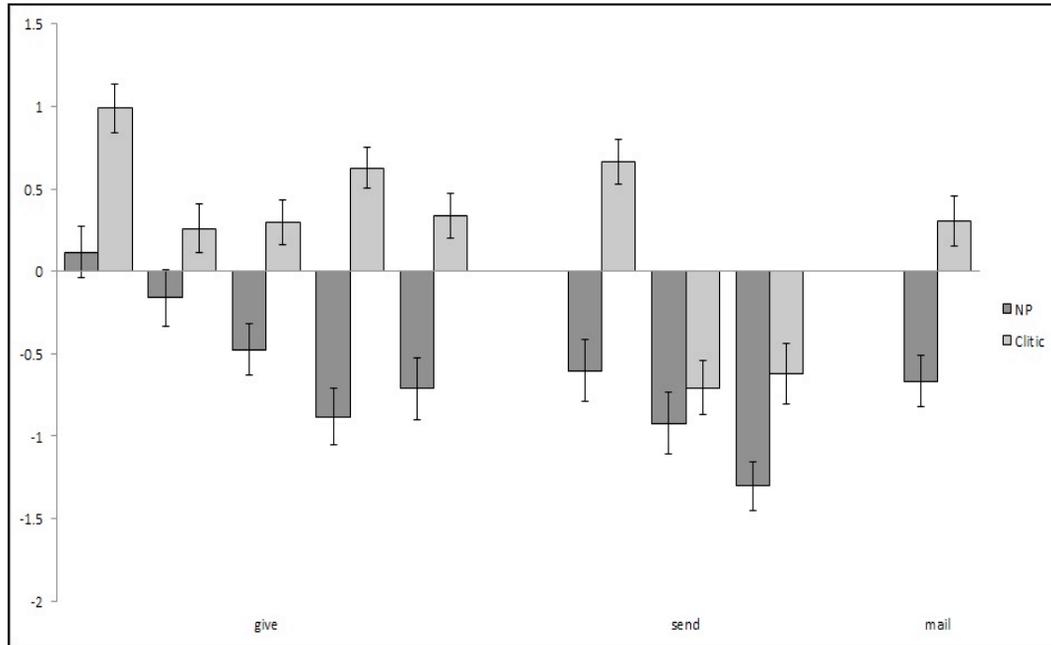


Figure 2: Results of experiment on theme passives of Greek recipient DOCs. Judgments are distinguished by sentence and structure (clitic or DP).

Figure 2 reveals that the decreased naturalness in the case of clitic sentences with *send* is due to the second and third clitic sentences. Why these sentences are less natural is not clear, but it may be related to the presence of a clitic doubled IO (75).

(75) I epistoli tha tu stali tu ghramatea
the.NOM letter.NOM FUT CL.3SG.MASC.GEN sent.NON-ACT.3SG the.GEN secretary.GEN
to sintomotero dhinaton
the.ACC sooner.ACC possible.ACC
‘The letter will be sent to the secretary as soon as possible.’

According to Philippaki-Warbuton (1987), in Greek clitic doubling constructions the clitic puts the object into background information and makes it a topic. Thus, it is plausible that the subjects needed some background information to accommodate the sentences in question.

In sum, the results of the magnitude estimation experiment about strong dispreference of theme passives with genitive recipient DPs over their counterparts with clitics support Markantonatou's (1994) and Anagnostopoulou's (2003) judgments.

In this chapter I have proposed a novel analysis of theme passives only with a cliticized / clitic doubled IO (cf. Anagnostopoulou 2003 and Bowers and Georgala 2007 for alternative analyses). The data provided by Georgiafentis and Lascaratou 2007, and Kupula 2011, according to which theme passives with standalone DPs are natural require some explanation too, though. It is worth mentioning that these judgments are further supported by data harvested from the web¹⁰¹ (recall that the target sentences of the experiment were based on web data). In response to these facts, I suggest a preliminary hypothesis that there are two different grammars of Greek DOCs: one that allows genitive standalone DPs with theme passives, such as German, among other languages, and one that allows theme passives only in the presence of a cliticized / clitic doubled IO. I propose that the former grammar has raising applicatives of the German kind (cf. Section 3.2.3.2).

4.4.2 Are Theme Passives with Genitive Clitics / *se*-PPs Grammatical?

In this section I describe a pilot experiment whose aim is to determine whether Greek theme passives of benefactive DOCs with genitive clitics or *se*-PPs are grammatical or not, by employing the magnitude estimation method. Recall that benefactive DOCs and benefactive constructions with *se*-PPs pattern together, while *ya*-PP benefactive constructions behave

¹⁰¹ The results of web harvesting indicate that theme passives with genitive DPs are very rare, but they do exist. All the web examples reported in this study were very carefully checked, so as to make sure that the sentences were written by native speakers.

differently (Anagnostopoulou 2005). According to Anagnostopoulou (2005), theme passivization is possible only when the beneficiary is realized as a *ya*-PP (cf. example 73 repeated from above).

(73) a. *O kafes ftiahtike tis Marias (Anagnostopoulou 2005:77)

the.NOM coffee.NOM made.NON-ACT.3SG the.GEN Mary.GEN

(apo ton Petro)

by the.ACC Peter.ACC

‘*The coffee was made Mary by Peter.’

b. *O kafes ftiahtike sti Maria (apo ton Petro)

the.NOM coffee.NOM made.NON-ACT.3SG to:the.ACC Mary.ACC by the.ACC Peter.ACC

‘The coffee was made for Mary by Peter.’

c. O kafes ftiahtike ya ti Maria (apo ton Petro)

the.NOM coffee.NOM made.NON-ACT.3SG for the.ACC Mary.ACC by the.ACC Peter.ACC

‘The coffee was made for Mary by Peter.’

Anagnostopoulou’s judgments have not been contested in the literature on Greek benefactive constructions (Bowers and Georgala 2007, Georgala and Whitman 2009), but careful harvesting of the web did reveal examples of theme passives with genitive clitic beneficiaries. A few of these examples are presented in (76).

(76) a. (<http://www1.rizospastis.gr/wwwengine/storyPlain.do?id=4347256&action=print>)

Dhen eklisa omos tin porta pu mu anihtike...

NEG closed.1SG however the.ACC door.ACC that CL.1SG.GEN opened.NON-ACT.3SG

‘However I didn’t close the door that was opened for me.’

- b. (<http://www.phorum.gr/viewtopic.php?t=206215&p=3437138>)
- Veveos, kali lisi dhen adilegho, ala pali tha adidhrasun ean avrio
 sure good.NOM solution.NOM NEG oppose.1SG but again FUT react.3PL if tomorrow
tus ftiahti ena tetio oreotato
 CL.3PL.MASC.GEN made.NON-ACT.3SG a.NOM such.NOM most:beautiful.NOM
erghostasiaki apenadi apo to spiti tus
 little:factory.NOM across from the.ACC house.ACC POSS.3PL
 ‘Sure, this is a good solution. I’m not opposing to it. But they will react again, if
 tomorrow a nice little factory is made for them across from the house.’
- c. (<http://www.sport-fm.gr/article/93891>)
- O idhios pantos, dhen borese na paravrethi stin *ekdhilosi pu*
 he:himself.NOM however NEG could.3SG to is:present in:the.ACC event:ACC that
tu etimastike, omos stus fotinus pinakes
 CL.3SG.MASC.GEN prepared.NON-ACT.3SG but on:the.ACC light.ACC tables.ACC
tu stadhiu ihe anagrafi to parakato minima:...
 the.GEN stadium.GEN had.3SG written.PPART the.NOM following message.NOM
 ‘He himself, however, couldn’t be present in the event which was prepared for him, but
 the following message was written on the stadium score boards:...”’
- d. (<http://www.poiein.gr/archives/9616/index.html>)
- Troi ipakua *to fai pu tu aghorastike, efharisti*
 eats dutifully the.ACC food.ACC that CL.3SG.MASC.GEN bought.NON-ACT.3SG thanks
ton kirio ke fevyi
 the.ACC gentleman.ACC and goes
 ‘(A little child) dutifully eats the food which was bought for him/her, thanks the
 gentleman and leaves.’

e. Enalaktika tha boruse na dhimiuryithi ena nisi stil,
 alternatively FUT could.3SG to created.NON-ACT.3SG an.NOM island.NOM style
 Makronisu opu tha tus htisti apo ena
 Makronisos.GEN where FUT CL.3PL.MASC.GEN built.NON-ACT.3SG from a.NOM
 spitaki ke tha zun mesa exoristi apo ta pada
 little:house.NOM and FUT live.3PL inside exiled.NOM from the.ACC everything.ACC
 (me anthropines sinthikes, horis vasanistiria ktl)
 with humanitarian.ACC conditions.ACC without tortures.ACC etc.

‘Alternatively an island like Makronisos could be created, where a little house would be built for each of them and they would live inside it being exiled from everything (under humanitarian conditions, without torturing).’

(http://www.capital.gr/gmessages/showTopic.asp?id=1633221&pg=5&pid=1634024&orderdir=asc#post_1634024)

Theme passives with *se*-PPs are more rare, but they do exist (77).

(77) (<http://arion-stavros.blogspot.com/2008/09/blog-post.html>)

Ena neo monopati anihtike sto Stavro me protovulia
 a.NOM new.NOM path.NOM opened.NON-ACT.3SG to:the.ACC Stavro.ACC with initiative.ACC
 tu Dhimu Ahilion
 the.GEN town.GEN Ahilia.GEN

‘A new path was opened for Stavros under the initiative of the Town of Ahilia.’

Given this conflicting empirical evidence about the restriction on theme passivization of benefactive DOCs, I applied the magnitude estimation method to produce grammaticality data to test Anagnostopoulou’s analysis. The results of the experiment support Anagnostopoulou’s

(2005) intuitions (cf. example 73). In the remainder of this section I present the materials, procedure and results of the experiment.

The material tested in this study was split into four groups based on the main verb: *anigho* ‘open’, *ftiahno* ‘make’, *mayirevo* ‘cook’, *metafrazo* ‘translate’. *Make* and *cook* are prototypical benefactive verbs, cited in Anagnostopoulou 2005. *Open* and *translate* are cited in the literature as prototypical high applicative verbs, whose semantics does not entail transfer of possession. All four verbs appear with a high frequency in Greek. Each verb group consists of three different types of sentences. The sentence types are theme passives with the beneficiary being realized as: (i) genitive clitic¹⁰², (ii) *se*-PP, and (iii) *ya*-PP. An example from the experiment materials is illustrated in (78).

(78) a. *Theme passive with a benefactive genitive clitic*

I aliis ton Meston ine evghnomones pu tus
 the.NOM fishermen.NOM the.GEN Mesta.GEN are thankful.NOM that CL.3PL.MASC.GEN
 ftiahtike ena ipersighrono limani pu dhe zitisan
 made.NON-ACT.3SG a.NOM supermodern.NOM port.NOM that NEG asked.3PL
 ‘The fishermen of Mesta are thankful that a supermodern port they didn’t ask for was made for them.’

b. *Theme passive with se-PP*

Ta fayita pu ftiahnode stus fadarus dhen
 the.NOM dishes.NOM that make.NON-ACT.3PL to:the.ACC soldiers.ACC NEG
 troghode
 eat.NON-ACT.3PL
 ‘The food which is made for soldiers is inedible.’

¹⁰² The passive sentences with clitics are based on sentences harvested from the web.

c. *Theme passive with ya-PP*

Ta fayita pu ftiahnode ya tus fitites ine halia
the.NOM dishes.NOM that make.NON-ACT.3PL for the.ACC students.ACC are terrible
'The food which is made for the students is terrible.'

The procedure adopted was as in the previous experiment. The target sentences were mixed among 44 fillers and the 18 sentences which made up the previous experiment. Each of the 102 subjects saw a total of 74 sentences. Like in the previous experiment, the data was normalized by dividing each item's score by the modulus score, and then the ratios and the z-scores of these ratios were plotted.

Figure 3 presents the most significant result, namely that theme passivization with *ya*-PPs is much more natural than with a genitive clitic or a *se*-PP, supporting thus Anagnostopoulou's (2005) observation. The only exception to this result are the sentences with *translate* (79).

(79) a. *Theme passive with a benefactive genitive clitic*

Tu metafrastikan oles i odhiyies sta
CL.3SG.MASC.GEN translated.NON-ACT.3PL all.NOM the.NOM instructions.NOM into:the.ACC
Elinika yati dhen ixere Ghalika
Greek.ACC because NEG knew.3SG French.ACC
'All the instruction were translated to him into Greek, because he didn't know French.'

b. *Theme passive with se-PP*

Metafrastike sto Niko to kimeno sta Elinika
Translated.NON-ACT.3SG to:the.ACC Nick.ACC the.NOM text.NOM into:the.ACC Greek.ACC
yati dhen ikxere Aglika
because NEG knew.3SG English.ACC
'The text was translated to Nick into Greek, because he didn't know English.'

c. *Theme passive with ya-PP*

Metafrastikan ya to Niko ola ta eghrafa
translated.NON-ACT.3PL for the.ACC Nick.ACC all.NOM the.NOM documents.NOM

sta Elinika yati dhen iksero Ispanika
into:the.ACC Greek.NOM because NEG knew.3SG Spanish.ACC

‘All the documents were translated into Greek for Nick, because he didn’t know Spanish.’

As illustrated in Figure 3, in the case of *translate* theme passivization with a clitic is more natural than with *ya-PP*. A possible explanation of this discrepancy is that the clitic IO was interpreted as a recipient. However, this does not explain why theme passivization with *se-PP* is not better than with *ya-PP*¹⁰³, since *se-PPs* and genitives DPs have been shown to behave similarly (Anagnostopoulou 2005, Bowers and Georgala 2007, and Georgala and Whitman 2009). More data will probably contribute to a better understanding of the behavior of *translate*.

Now, when it comes to theme passives with *se-PPs* and genitive clitics of the rest of the verbs, Figure 3 shows variation regarding their degree of naturalness. In particular, in the case of *make* theme passives with *se-PPs* are significantly more natural than with clitics, while the opposite holds for theme passives with *open* and *cook*. I will not attempt to explain the theoretical implications of these results here, since the data in the experiment is very limited. In future research I plan to set up a large-scale magnitude estimation experiment comparing *se-PP* and clitic benefactive theme passives to test the syntactic analysis of base-generating these two constructions in the same position, [Spec, ApplP]. Based on this analysis one would predict that both constructions would also behave similarly in terms of how naturally they are interpreted.

¹⁰³ Actually the difference between the *se-PP* and the *ya-PP* theme passive of *translate* is not statistically significant.

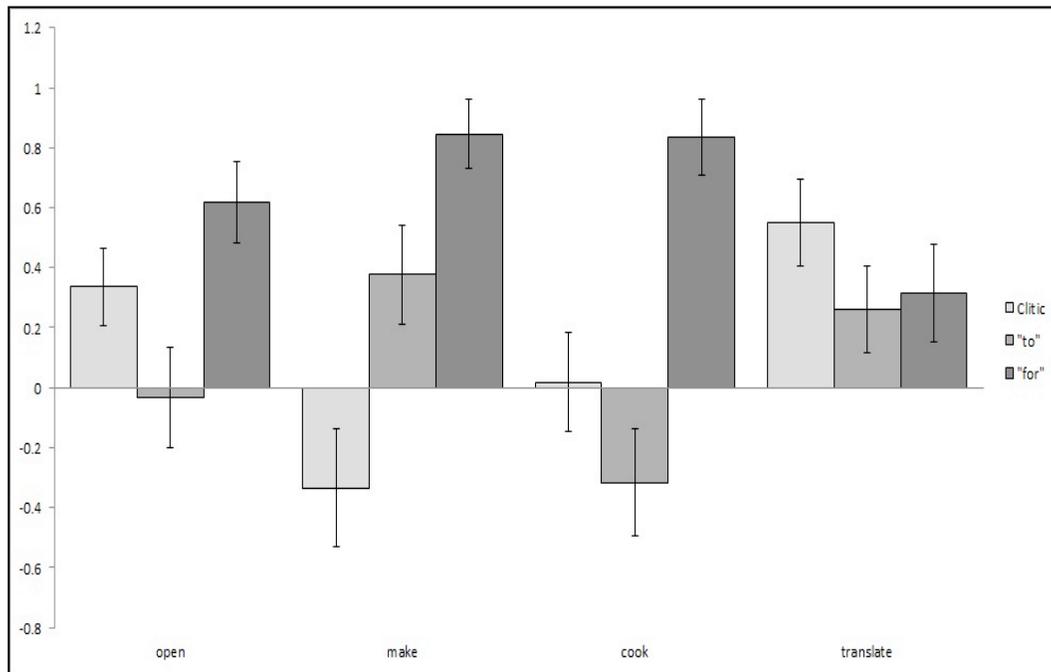


Figure 3: Results of experiment on theme passives of Greek benefactive constructions. Judgments are distinguished by verb and structure (clitic, *se*-PP, *ya*-PP).

In sum, the results of the second magnitude estimation experiment indicate strong dispreference of benefactive theme passives with genitive clitics / *se*-PPs over their counterparts with *ya*-PPs. This result supports Anagnostopoulou's (2005) data. The examples I harvested from the web (cf. 76, 77), which attest that benefactive theme passives occur with genitive clitics and *se*-PPs, require some explanation as well, though. As in the case of genitive recipients, I will also here preliminarily propose that there are two different grammars of benefactive constructions in Greek: one that allows theme passives with applied arguments (cliticized or *se*-PP beneficiaries) and one that does not.

In Section 4.3.2 I have proposed an account of the benefactive construction of the second grammar. As a reminder, the beneficiary receives inherent genitive Case from the applicative head, while the theme receives structural accusative Case from *v*. The impossibility of passive with benefactive applied arguments can be explained if only 'active' *v* selects 'active' Appl.

Thematic applicatives in the former grammar are different in that also defective (inactive) *v* selects Appl. The syntactic licensing of thematic applicatives in this grammar of Greek appears to be similar to the syntactic licensing of German thematic applicatives with one caveat: German thematic applied arguments never intervene for Shortest Move/Relativized Minimality, while in Greek it is not clear whether full genitive DPs intervene or not. The examples harvested from the web are only with clitics and *se*-PPs. A preliminary search of a few verbs in the theme passive construction with a full genitive DP led to no hits.¹⁰⁴ If full genitive DPs do not intervene, then this grammar of Greek is like German. If full genitive DPs do intervene, though, then an analysis similar in spirit to the one I proposed for raising applicatives in German, namely that the IO bears quirky genitive Case, may explain the data. Further research to determine which option is correct will require empirical work specifically with speakers of this variety of Greek.

Alternatively the extra-object constructions in examples (75-76), which I considered to be benefactive constructions based on Anagnostopoulou's (2003, 2005) criteria, may allow a recipient reading on their IO/*se*-PP. As these examples show, the recipient reading is particularly salient in passives. This may imply that when speakers use *se*-PPs or genitive clitics rather than *ya*-PPs in passives, they try to accentuate the recipient reading.

To conclude this section, I presented the results of two magnitude estimation experiments whose aim was to test the data on theme passivization of raising and thematic applicatives, as they are presented in Anagnostopoulou (2003, 2005), among others. The experimental results supported Anagnostopoulou's grammaticality judgments, of which I have provided a novel analysis in Section 4.2 of this chapter. Yet, I did not dismiss the data contesting the results of the experiments and Anagnostopoulou's, among others, judgments. Instead, I provided a preliminary explanation of these conflicting data by assuming that there exist two grammars of Greek benefactive DOCs: one that bans theme passivization, but allows it only

¹⁰⁴ Although, as Heycock (2008) notes, corpus data typically allow no straightforward distinction between non-occurring and ungrammatical.

b. *Filise *emena* tin Ketī

kiss.2SG.IMP me.GEN the.ACC Kate.ACC

‘Kiss Kate for my sake / on my behalf!’

c. (Tzartanos 1946:125, as cited in Michelioudakis and Sitaridou 2008:4)

Su ehun kati dhodia ta tiflopodika pu se tromazun
CL.2SG.GEN have.3PL some teeth.ACC the.NOM moles.NOM that CL.2SG.ACC frighten.3PL

d. *Ehun *esena* kati dhodia ta tiflopodika pu se tromazun
have.3PL you.GEN some teeth.ACC the.NOM moles.NOM that CL.2SG.ACC frighten.3PL

‘Moles have so big teeth that they can frighten you.’

(81) a. Su ipe i Maria_i oti tis_i

CL.2SG.GEN said.3SG the.NOM Mary.NOM that CL.3SG.FEM.GEN

padreftike telika i mikri tis_i adherfi?

married.NON-ACT.3SG finally the.NOM young.NOM POSS.3SG.FEM sister.NOM

‘Did Mary tell you that her young sister finally got married to her delight?’

b. *Tis *Marias_i* padreftike telika i mikri tis_i

the.GEN Mary.GEN married.NON-ACT.3SG finally the.NOM young.NOM POSS.3SG.FEM

adherfi

sister.NOM

‘Mary_i’s sister got married to her_i delight.’

(ii) Different from genitive arguments, ethical datives do not alternate with PPs (compare to 2a-e).

(82) a. *Filise *se ’mena* / *ya ’mena* tin Ketī

kiss.2SG.IMP to me.ACC / for me.ACC the.ACC Kate.ACC

‘Kiss Kate for me!’

b. **Sti* *Maria*_i padrefitke telika i mikri tis_i
to:the.ACC Mary.ACC married.NON-ACT.3SG finally the.NOM young.NOM POSS.3SG.FEM
adherfi
sister.NOM

(iii) Unlike direct object clitics (83) and clitics of genitive arguments (84), clitic doubling of ethical datives is infelicitous (85a). But note that Clitic Left Dislocation (85b) and Clitic Right Dislocation (85c) of ethical datives are marginally grammatical.

(83) a. *Ti* filise
CL.3SG.FEM.ACC kissed.3SG
‘He/she kissed her.’

b. *Ti* filise *ti* *Maria*
CL.3SG.FEM.ACC kissed.3SG the.ACC Mary.ACC
‘He/she kissed Mary.’

(84) *Recipient DOC*

a. *Tis* edhose to vivlio
CL.3SG.FEM.GEN gave.3SG the.ACC book.ACC
‘He/she gave her the book.’

b. *Tis* edhose *tis* *Marias* to vivlio
CL.3SG.FEM.GEN gave.3SG the.GEN Mary.GEN the.ACC book.ACC
‘He/she gave Mary the book.’

Benefactive DOC

c. *Tis* anixe tin porta
CL.3SG.FEM.GEN opened.3SG the.ACC door.ACC
‘He/she opened the door for her.’

(89) a. Mu_i edhikse ton eafto mu_i (Michelioudakis and Sitaridou 2008:5)

CL.1SG showed.3SG myself.ACC

ston kathrefti

in:the.ACC mirror.ACC

‘He/she showed me myself in the mirror.’

b. *Na mu_i prosechis ton eafto mu_i

to CL.1SG take:care.2SG myself.ACC

‘That you take care of myself for my sake.’

As in other languages, ethical datives in Greek involve conventional implicatures (Michelioudakis and Sitaridou 2008). As example (90) shows, the presence of the ethical dative *mu* makes no difference to the truth-conditional meaning of the conditional: independently of the presence or absence of *mu*, Nick will receive \$20 from the speaker, if the hearer kisses Kate.¹⁰⁵

(90) a. An *mu* filisis tin Keti, tha dhoso sto Niko \$20

if 1SG.GEN kiss.2SG the.ACC Kate.ACC FUT give.1SG to:the.ACC Nick.ACC \$20

‘If you kiss Kate for my sake / on my behalf, I will give Nick \$20.’

b. An filisis tin Keti, tha dhoso sto Niko \$20

if kiss.2SG the.ACC Kate.ACC FUT give.1SG to:the.ACC Nick.ACC \$20

‘If you kiss Kate, I will give Nick \$20.’

There are three syntactic accounts of Greek ethical datives, which I summarize below. While Catsimali (1989) argues that ethical datives in Greek are CP-adjuncts, Antonopoulou and Sifianou (2000) analyze ethical datives as a subtype of genitive IOs or possessor datives.

¹⁰⁵ Bosse et al. (to appear) use conditionals among other diagnostics to classify dative non-selected arguments based on their contribution to the truth-conditional meaning of the clause they appear in.

Although Catsimali's account is appealing, it does not explain why ethical datives are realized only as clitics.

The most recent account of ethical datives is by Michelioudakis and Sitaridou (2008), who analyze ethical datives as discontinuous non-core arguments with an overt part in the specifier of a third applicative head, introduced between ν and Pylkkänen's (2002, 2008) high applicative head, and a null counterpart in the specifier of Cinque's (1999) EvalP.¹⁰⁶ Michelioudakis and Sitaridou assign restricted semantics to the third Appl head (only a function that essentially restates the semantics of its complement, i.e. the event), while the non-truth-conditional content comes from the Eval head, as is the case with evaluative adverbs. According to Michelioudakis and Sitaridou, the abstract argument in [Spec, EvalP], being null, necessarily underspecifies the precise content of the evaluative attitude and calls for pragmatic enrichment, depending on the semantics of the event and the context of the utterance.

In Chapter 1, I argued against treating ethical datives as applicative constructions crosslinguistically. The distinct morpho-syntactic behavior of ethical datives in Greek, presented above, provides ample evidence against analyzing ethical datives as arguments in the sense that a thematic applicative is: ethical datives cannot get doubled by a DP¹⁰⁷, or extracted, and, as Sitaridou (1998) argues, they do not get a thematic role, since they do not affect the truth conditional meaning of the sentence and often they invoke the speaker or addressee as witness or vaguely affected party. Thus, the first question an analysis of ethical datives as applicatives must answer is why the projection hosting ethical datives should be called applicative. It hosts none of the traditional applicative roles, and it cannot be occupied by arguments.

Here, I preliminarily argue that Greek ethical datives are defective realizations of an argument-introducing head (Embick 2004, Boneh and Nash 2011). An argument-introducing head is spelled out as a clitic when it lacks the specifier occupied by a referential argument. The

¹⁰⁶ Cinque's (1999) EvalP is the projection that introduces evaluative adverbs.

¹⁰⁷ Along the lines of Jaeggli (1986), Suñer (1988), among others, I assume that the option of having a DP in a Case position doubled by a clitic indicates the argumental status of the clitic.

non-thematic domain¹⁰⁸ in which the projection that introduces ethical datives finds itself prohibits adding new event arguments. Evidence that ethical datives are merged above *v* is given by examples such as (91) where ethical datives take scope over constituents including the external argument. Merging the ethical dative above the proposition *v*P puts it outside the event argument and the subject.

(91) (Michelioudakis and Kapogianni 2010:8)

O Papandreu *mu* archise ke tis patriotikes korones. An itan o Karatzaferis sti thesi tu den tha to scholiaza.

‘Papandreu started talking patriotic bullshit to my disappointment. If this came from Karatzaferis (=a nationalist leader), I wouldn’t bother.’

Ethical datives are also independent of the CP/Mood-system, since they may appear in embedded clauses, such as *na*-clauses¹⁰⁹ (92a) and embedded *wh*-questions (92b), and imperatives (92c), suggesting thus a lower position.

(92) a. Thelo na mu filisis ti Maria

want.1SG to CL.1SG.GEN kiss.2SG the.ACC Mary.ACC

‘I want you to kiss Mary for my sake / on my behalf.’

b. Ton rotises pia apo tis kores tis

CL.3SG.MASC.ACC asked.2SG who.SG.FEM.ACC of the.ACC daughters.ACC POSS.3SG.FEM

mu filise?

CL.1SG.GEN kissed.3SG

‘Did you ask him which one of her daughters he kissed for my sake / on my behalf?’

¹⁰⁸ Traditionally, *v*P-VP is the thematic-domain of the predicate.

¹⁰⁹ I follow Roussou (2009) in assuming that *na* ‘to’ is a morpheme situated in the left periphery, more precisely in Mood.

c. Filise mu ti, otan ti dhis
 kiss.2SG.IMP CL.1SG.GEN CL.3SG.FEM.ACC when CL.3SG.FEM.ACC see.2SG
 ‘Kiss her for my sake / on my behalf, when you see her.’

To conclude, in this section, based on abundant syntactic and semantic evidence, I have argued that ethical dative constructions in Greek should not be analyzed as applicative constructions, contrary to what has been proposed by Michelioudakis and Sitaridou (2008), Mavrogiorgos (2010), and Michelioudakis and Kapogianni (2010). Furthermore, I have shown that ethical datives in Greek are introduced above ν P, the thematic domain of the clause, but also appear not to be related to the CP/Mood system.

4.6 Summary

In this chapter I have proposed that Greek has two types of applied arguments, raising and thematic. Raising applied arguments are recipient arguments, realized as accusative DPs, while thematic applied arguments may be realized either as genitive DPs or complements of the preposition *se* ‘to’. I further showed that recipient genitive and *se*-PP arguments share the same underlying position with accusative recipients, but unlike accusative recipients do not raise to [Spec, AppIP]. This novel account of Greek applicative constructions preserves Anagnostopoulou’s (2003, 2005) single structural position for applicative heads above the lexical VP, but at the same time it explains the semantic evidence for distinct types of applied arguments in Greek (recipients, beneficiaries, maleficiaries, possessor datives).

In addition, I have shown that the raising/thematic applicative hypothesis accounts for two different grammars of Greek DOCs: (i) grammar 1 that allows theme passivization, and (ii) grammar 2 that does not, unless special locality conditions (cliticization of the recipient IO) apply. The data of grammar 2 have been extensively discussed in Anagnostopoulou (2003,

2005), among others, and have been empirically supported by magnitude estimation studies, presented in this chapter. The data of grammar 1 have been presented in recent papers by Georgiarentis and Lascaratou (2007) and Kupala (2011), and further been supported in this chapter by a corpus study, using the web as a corpus.

The chapter closed with a discussion of Greek “ethical datives”, which I argued should not be analyzed as applied arguments, thus supporting an economical theory of applicative constructions with no more than a single applicative head.

CHAPTER 5

CONCLUSION

This dissertation has investigated the exact properties of the syntactic architecture of applicative / extra-object constructions in the research tradition initiated by Marantz 1993, in which a light verb head, the so-called “applicative” head, is charged with the tasks of adding an extra object to a clause and assigning a thematic role. Generalizing across researchers, applicative heads play two semantic and two syntactic roles: (i) they may relate an argument and an event, (Pylkkänen’s 2002, 2008 high applicative) or two arguments (Pylkkänen’s low applicative), and (ii) they may introduce arguments or syntactically license DPs in VP.

Using data from languages with overt (affixal and non-affixal) and non-overt applicative morphology, I have expanded Georgala’s et al. (2008) approach to extra-object constructions, according to which the projection involved in licensing extra-object constructions is uniformly above the lexical VP. Under this approach, which I call raising/thematic applicative hypothesis, the contrast between Pylkkänen’s (2002, 2008) high and low applicatives is that while the former introduces an additional argument above VP, as per Pylkkänen’s original analysis, the latter functions as an expletive head, introducing no additional argument but serving as a licenser for the highest eligible DP selected by the lexical verb. There are two main advantages of this treatment of applicative constructions:

1. It preserves Pylkkänen’s insight that the core arguments in low applicatives (theme and recipient) are introduced in the domain of the lexical verb.
2. It is economical in that it posits a single structural position for applicative heads. In specific languages such as German and Greek, this simplified version of applicative architecture appears to be able to account for a wider body of data than the more complicated versions that propose multiple applicative heads to capture the semantics and syntax of the different types of extra arguments.

Applicative constructions are subject to diverse constraints (e.g., on word order, passivization, pronominalization, wh-movement, etc.), which vary depending on the language and on the type of applicative. Thus, they provide a fascinating empirical challenge for any syntactic approach that strives for simplicity and transparency such as the raising/thematic applicative hypothesis. Here, I have focused on showing how the raising/thematic applicative hypothesis accounts for passive movement in applicative constructions, based on the key distinction between symmetric (both objects get passivized) and asymmetric (either the direct object or the extra object gets passivized). Accounting for this crosslinguistic and intralinguistic variation has been one of the main goals of this dissertation.

The most challenging task in accounting for the passivization patterns of applicative constructions has been to explain what allows the direct object to skip the extra object and move to the subject position in a theory which assumes (i) that the universal order of objects is IO>DO, and (ii) movement of the extra (higher) object follows from standard locality constraints. Following McGinnis 1998, Anagnostopoulou 2003, Doggett 2004, Citko 2008, among others, I proposed that the best solution to this problem is a combination of the two most prominent strategies featuring in the recent literature: an “escape hatch”-based one and a Case-based one. By utilizing the main assumptions of the raising/thematic applicative hypothesis, namely that Appl has an EPP feature and may have a Probe, along with the more general assumptions that the order of EPP and Agree, as well as Move and Merge may be free, I classified extra-object constructions based on how they are syntactically licensed as follows:

				IO	DO	Agree/EPP	Merge/Move
Raising	Asymmetric	DO	<i>German</i>	uC, iC	uC	Agree>EPP	N/A
			<i>Mandarin</i>	uC	uC	Agree>EPP	N/A
		IO	<i>SAE</i>	uC	uC	EPP>Agree	N/A
	Symmetric	IO, DO <i>BE</i>		uC	uC	EPP, Agree	N/A
		None	<i>Greek</i>	iC	uC	N/A	N/A
Thematic	Asymmetric	DO	<i>German</i>	iC	uC	N/A	Move>Merge
		IO	<i>Chichewa</i>	uC	uC	N/A	Merge>Move
	Symmetric	IO, DO <i>Swahili</i>		uC	uC	N/A	Merge, Move
		None	<i>Greek</i>	iC	uC	N/A	N/A

Table 1: Types of passives of extra-object constructions and their syntactic licensing

The statement that the relative ordering of operations such as EPP/Agree and Merge/Move is free has two possible interpretations. One similar to the interpretation of extrinsic rule ordering in phonology the period after the publication of Chomsky and Halle (1968). This interpretation would say that universal grammar does not fix the order of operations in question, and the grammars of particular languages, or more exactly specific structural configurations, are free to stipulate ordering. This interpretation raises immediate questions from the standpoint of language acquisition, as the need to learn the order of operations for individual structural configurations increases the burden on the learner.

The second possible interpretation of a statement such as “the relative order of EPP checking and Agree is free” is that UG stipulates no ordering of these operations, but more general principles tell the learner which operation takes place first in a particular context. This interpretation or approach is parallel to the search for general principles to account for the order of operations in phonological theory from the 1970s on.

The second interpretation is obviously the preferred one from the standpoint of language acquisition, but an accurate assessment of our current level of understanding of the operations in question is closer to the first interpretation. Independently from the extra-object constructions that are the subject of this dissertation, different researchers have proposed that EPP checking should apply first (Hasegawa 2005, among others), Agree should apply first (Rackowski 2002, among others), or the two are unordered. A similar situation obtains with respect to our current understanding of the ordering of Move and Merge (McGinnis 1998). Within the broader Principles and Parameters framework, variation of this sort is handled by positing a parameter, which fixes, for example, the order of EPP checking and Agree where the choice is relevant. The ultimate objective of the linguist is to isolate the set of parameters actually accessed by the language learner; obviously such parameters should be as broad as possible.

From this standpoint, a parameter such as [EPP>Agree/Apply], which specifies the ordering of EPP and Agree at ApplP, is the starting point, rather than the endpoint of the investigation. It is beyond the scope of this dissertation to attempt to reduce each of the points of variation (each interpretable as a parameter) in Table 1 to a broader parameter. I hope to focus on such a reduction in further research.

In addition to the questions raised above, many interesting aspects of applicatives have not been addressed in this dissertation. Among them, applicative constraints other than passive movement, such as *wh*-movement, a property shared by applicative constructions in a wide variety of languages, as Emonds and Whitney (2006) point out. Furthermore, although I have touched upon multiple applicatives in the discussion on the morphological exponence of the applicative head, I have not in detail addressed any of the challenging issues multiple applicatives present, such as interaction among applicatives and its consequences for neutral word order and *c*-command relative to the theme argument. The intriguing observations that have been made about multiple applicatives (cf. Kimyeni 1980, McGinnis and Gerdt 2003, among others) remain to be captured within the framework of raising/thematic applicative hypothesis.

Another unresolved issue in this dissertation is the analysis of a variety of extra “objects”, such as ethical datives and personal/co-referential datives, which have recently been in the center of the discussion on applicative structures, and have been analyzed as such (cf. Cuervo 2003, Tsai 2010, Boneh and Nash 2011, among others). Although in my brief discussion of Greek and German ethical datives I have provided arguments against analyzing these constructions as applicatives, a concrete proposal about their syntactic structure still remains to be made. These matters, among others, invite further research.

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