

# The grammaticalization of K(case) Ps within Minimalism: formalism vs functionalism, synchrony vs diachrony



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## Abstract | Abstrakt

*Roberts and Roussou (2003) argue that the cross-linguistic distribution of grammaticalization is due to its "simplification", and the grammaticalization of case-markers displays it since there is a loss of "Agree" relations. Synchronic "simplicity" explains diachronic trends, and formalism and functionalism are not mutually exclusive.*

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Český abstrakt 

## Introduction

Grammaticalization occurs cross-linguistically and is a challenge for Lightfoot (1999, pp. 148–149, 166–173; 2006) which predicts that language evolution should not have cross-linguistic trends. Roberts and Roussou (R & R; 2003, pp. 2–7) propose that grammaticalization is a natural kind of change that can occur cross-linguistically. They analyse the grammaticalization of three functional categories: auxiliary verbs (T), complementisers (C) and determiners (D). There is another functional category, namely K(case). In this paper, I propose to expand R & R's hypotheses by testing them on the grammaticalization of K(case), and in doing so I illustrate the theoretical relationships between synchrony and diachrony and between formalism and functionalism.

## 1 Generative models of language change

### 1.1 Lightfoot (1999, 2006)

Lightfoot argues that grammar is moulded in first language acquisition, which is the locus for language change (Lightfoot 1999, pp. 60–74; 2006, pp. 10–15, 88–89). There are three components:

- 1) internal grammar (IG)
- 2) universal principles and parameters of grammar (UG)
- 3) trigger experience in the form of primary linguistic data (PLD).

IG is formed by children analysing their PLD and setting the parameter values of their UG accordingly:

- a) Linguistic triggering experience (genotype phenotype)
- b) Primary linguistic data (Universal Grammar internal grammar; Lightfoot 1999, pp. 66–68; 2006, pp. 10, 45)

As UG is a genetic constant, the source for language change lies in the PLD and in how children (re-)analyse it in language acquisition (Lightfoot 1999, pp. 66–68, 178–179; 2006, pp. 11–2, 87–90).

### 1.2 “Re-analysis” in grammaticalization:

The classic example of “re-analysis” in grammaticalization is English *going to* > *gonna* (Hopper and Traugott (H & T) 1993, pp. 2–4):

- a) there are examples (purposive directional constructions with non-finite complements) where the old (*going to* denoting movement and purpose) and new (*gonna* denoting futurity) interpretations co-exist<sup>1</sup>
- b) there is a context (the absence of an overt directional phrase) in which the old interpretation is weakened and the new one strengthened<sup>2</sup>
- c) the outcome of “re-analysis” is identified in examples where only the new interpretation is possible/likely.<sup>3</sup>

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1 “the change occurs only in a very local context, that of purposive directional constructions with non-finite complements [...] *I am going to marry Bill* (i.e. *I am leaving/travelling to marry Bill*)” (H & T 1993, p. 2).

2 “[...] there is an inference of futurity from purposives [...] In the absence of an overt directional phrase, futurity can become salient” (H & T 1993, p. 3).

3 “the re-analysis is discoverable [...] only when the verb following *be going to* is incompatible with a purposive meaning, or at least unlikely in that context [...] *I am going to like*

### 1.3 “Re-analysis” in generative models of language change:

Both Lightfoot (1999, p. 149; 2006) and R & R (2003, pp. 14–15) argue that in language acquisition “cues” express parameter values. Steps a), b) and c) are therefore all “cues”, and b) is the exact point of parameter resetting where the previous parameter value (*going* as a lexical verb construed with *to* as a preposition) is dropped in favour of the new parameter value (*gonna* as an auxiliary verb).

Lightfoot asserts that language evolution is random because he argues that PLD is language-specific and unpredictable. He makes no comment on how PLD shifts through time.<sup>4</sup> In Lightfoot’s model, the cross-linguistic distribution of “cues” is random.

Grammaticalization occurs cross-linguistically and is hence incompatible with Lightfoot’s model. R & R (2003, pp. 14–17) introduce a learning device in language acquisition that chooses the “simpler” alternative in ambiguous “cues”,<sup>5</sup> and since they argue that grammaticalization always leads to “simpler” structures, it is a natural mechanism in language acquisition that can occur cross-linguistically (pp. 2–3, 15–17). They define “simplicity” as the reduction of “formal feature syncretisms”, namely “the presence of more than one formal feature in a given structural position: H [+F, +G...]” (p. 201), and they discover three types of grammaticalization (pp. 198–199):

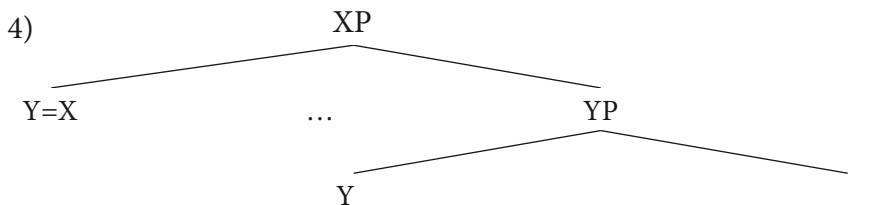
- 1)  $[_{XP} Y + X [_{YP} \dots t_Y \dots]] > [_{XP} Y=X [_{YP} \dots Y \dots]]$
- 2)  $[_{XP} X_F \dots [_{YP} \dots Y_F \dots]] > [_{XP} X_F \dots [_{YP} \dots Y \dots]]$
- 3)  $[_{XP} YP X \dots [ \dots t_{YP} \dots ]] > [_{XP} Y=X \dots [ \dots ]]$

The first (1) and third types (3) involve the loss of *Move* and the introduction of *Merge* to the grammaticalized item in a higher position. The second type (2) involves the loss of *Agree* and an upward shift of features to the grammaticalized item. R & R (2003, p. 200) represent grammaticalization thus:

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*Bill, I am going to go to London...* (H & T 1993, p. 3).

- 4 “[...] the cues permit an appropriately *contingent* account of why the change took place [...] the expression of the cues changed in such a way that a threshold was crossed and a new grammar was acquired. That is as far as this model goes, *and it has nothing to say about why the distribution of cues should change*” (italics by K. T.; Lightfoot 1999, p. 166).
- 5 It is not clear whether this learning device is part of UG or not, since Vincent & Borjars (2010, pp. 280, 293) consider it as part of UG whereas van Gelderen (2011, p. 9) attributes it to principles that are not specific to UG. Either way this learning device plays a prominent role in Minimalism.



In all three types, features in a lower syntactic position (Y) are shifted upwards to a higher position (X). Such is R & R's characterisation of grammaticalization.

## 2 K(case)

### 2.1 Lamontagne and Travis (1986, 1987, 1992)

The earliest postulation of K(case) as a functional category was proposed by Lamontagne and Travis (L & T; Van Kemenade and Vincent 1997, p. 24, footnote 5), who note that when nominal complements are adjacent to their head predicates, their morphological case-endings can be optionally dropped (5a, 6a, 7a), but when they are not adjacent, their morphological case-endings are obligatory (5b, 6b, 7b):

#### Japanese:

- 5a)            John-ga            dare(-wo)            nagutta            no?  
                John-NOM            who-ACC            hit                 Q
- 5b)            dare\*(-wo)            John-ga            nagutta            no?  
                who-ACC            John-NOM            hit                 Q
- “Who did John hit?” (L & T 1986, p. 54; 1992, p. 158).

#### Turkish:

- 6a)            Hasan            dün            (bu)            pasta(-yi)            ye-di  
                Hasan            yesterday            this            cake-ACC            eat-PAST
- 6b)            Hasan            \*(bu)            pasta\*(-yi)            dün            ye-di  
                Hasan            this            cake-ACC            yesterday            eat-PAST
- “Hasan ate (this) cake yesterday” (L & T 1986, p. 53; 1992, p. 158).

**Welsh:**

- 7a) mae 'r dyn wedi gweld ci  
is the man after seeing dog  
“The man has seen a dog.”
- 7b) gwelodd y dyn gi  
saw the man dog  
“The man saw a dog” (L & T 1986, p. 54).<sup>8</sup>

This distribution resembles other functional categories e.g. complementisers, which are also omissible when they are adjacent to their head predicates (8a, 9a) and not elsewhere (8b, 9b–d):

**Japanese:**

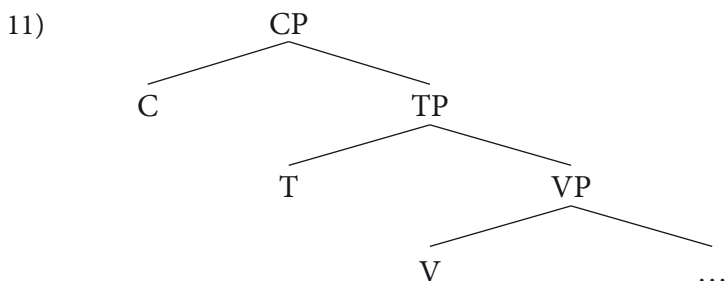
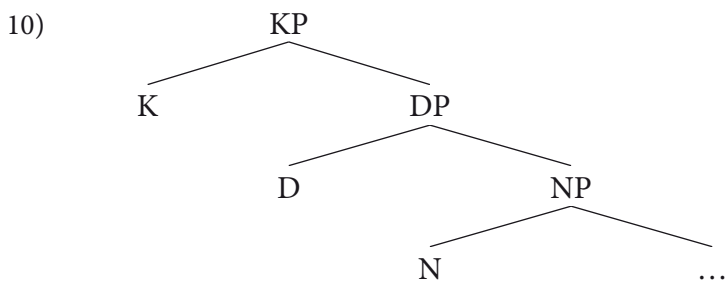
- 8a) Mary-ga kinoo John-ni Koobe-ni iku (te)  
Mary-NOM yesterday John-DAT Kobe-DIREC-  
TIONAL go COMP  
yuuteta (koto)  
was.saying fact
- 8b) Mary-ga kinoo Koobe-ni iku \*(te) John-ni  
Mary-NOM yesterday Kobe-DIREC- go COMP John-DAT  
TIONAL  
yuuteta (koto)  
was.saying fact  
“Mary said to John yesterday that she was going to Kobe” (L & T 1986, p. 56; 1992, p. 159).

**English:**

- 9a) John believes (that) Mary will win.  
9b) John believes wholeheartedly \*(that) Mary will win  
9c) That Mary will win, John believes with all his heart.  
9d) \*Mary will win, John believes with all his heart (L & T 1986, p. 57; 1992, p. 159).

<sup>6</sup> L & T (1986, p. 54) analyse Welsh *gi* as a variant of *ci* and argue that this voicing (*ci* > *gi*) is equivalent to morphological case since it is obligatory when the complement is not adjacent to the head predicate (7b).

L & T therefore postulate a functional category for morphological case called K(case) on the left-edge of DPs (10), just like complementisers are postulated on the left-edge of TPs (11; L & T 1986, pp. 57–58; 1992, pp. 159–161):



Van Kemenade and Vincent (1997, pp. 6–7) argue that functional categories host functional morphology and lexical categories move to them in order to “pick up” their morphology e.g. Infl (=T), which hosts verbal morphology and causes lexical verbs to move from V to T (Chomsky 1991, pp. 421–426, 430ff). In the case of K, van Kemenade and Vincent (1997, p. 20) argue that K hosts case morphology and NPs/DPs with morphological case move to K in order to have their morphological case licensed.

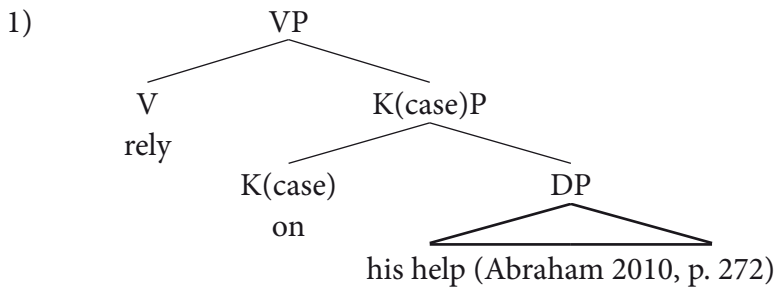
## 2.2 The grammaticalization of K(case)

As K represents morphological case, any morpheme that is equivalent to morphological case can be analysed as K i.e. a case-marker (van Kemenade and Vincent 1997, p. 18ff). In this section, I identify some case-markers in Latin/Romance.

### 2.2.1 Lexical prepositions and functional prepositions:

Cinque (2010, pp. 3–11) argues that there are two types of prepositions, lexical and functional. Huddleston and Pullum (2002, p. 647) define functional

prepositions in English as those that are obligatorily selected by the head predicate e.g. *of* in *they disposed of the box* (\**they disposed the box*). Furthermore, *of* in this construction does not co-vary with other prepositions spatially: \**they disposed at/below/on/through/under the box*, which is a contrast to lexical prepositions that do: *put it under/above/near the table* (p. 647). This suggests that *of* in English *dispose of* is a non-spatial complement of the head verb (*dispose*). All this conforms with generative approaches that define functional prepositions as being part of subcategorisation and not having argument structure or spatial features (Abraham 2010, pp. 261–272; Cinque 2010, p. 7; Rauh 2002, p. 17ff) e.g. English *rely on his help*:



The complement (*his help*) of the head verb (*rely*) is non-spatial (“instrument/theme”) and *on* here is analysed as a case-marker (K) for this complement (Abraham 2010, p. 272; Rauh 2002, p. 18; cf Huddleston and Pullum 2002, p. 660). This is supported by the fact that many functional prepositions are equivalent to morphological case in other languages (Huddleston and Pullum 2002, p. 601; Abraham 2010, pp. 261–263, 272; van Kemenade and Vincent 1997, pp. 18–21):

- |                |              |                |
|----------------|--------------|----------------|
| 2) milit-es    | Graec-i      | super-at-i     |
| soldier-NOM.PL | Greek-NOM.PL | overcome-PERF. |
|                |              | PTCP-NOM.PL    |
| sunt           | Roman-is     |                |
| be.PRES.3PL    | Roman-ABL.PL |                |
- “The Greek soldiers were beaten by the Romans (=Romanis)”  
(brackets by K. T.; Latin; Abraham 2010, p. 272).

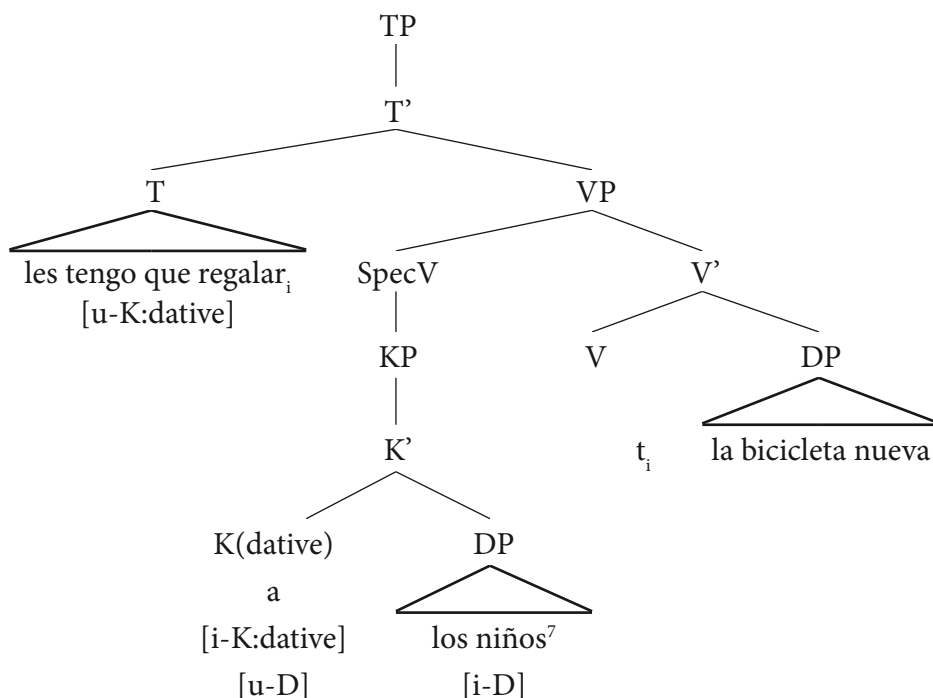
*Romanis* has ablative case (*-is*) and is rendered into English by the preposition *by* (*by the Romans*). English *by* is therefore equivalent to the Latin

ablative case and can be analysed as a functional preposition (K; Huddleston and Pullum 2002, p. 601).

### 2.2.2 Latin/Romance functional prepositions

In Romance, there are non-spatial functional prepositions that correspond to Latin morphological cases e.g. Romance *ad*, which marks the third non-spatial argument (“recipient”, “beneficiary”) and corresponds to the Latin dative case (Adams 2011, pp. 263–267) e.g.

- |                |                 |               |          |
|----------------|-----------------|---------------|----------|
| 3) les         | teng-o          | que           | regal-ar |
| them-DAT       | have-1SG.PRES   | that          | give-INF |
| a              | los             | niñ-os        |          |
| to             | DEF.ART.MASC.PL | child-MASC.PL |          |
| la             | bicicleta       | nuev-a        |          |
| DEF.ART.FEM.SG | bicycle.FEM.SG  | new-FEM.SG    |          |
- “I have to give the children a new bike” (Spanish; Ledgeway 2011, p. 436).



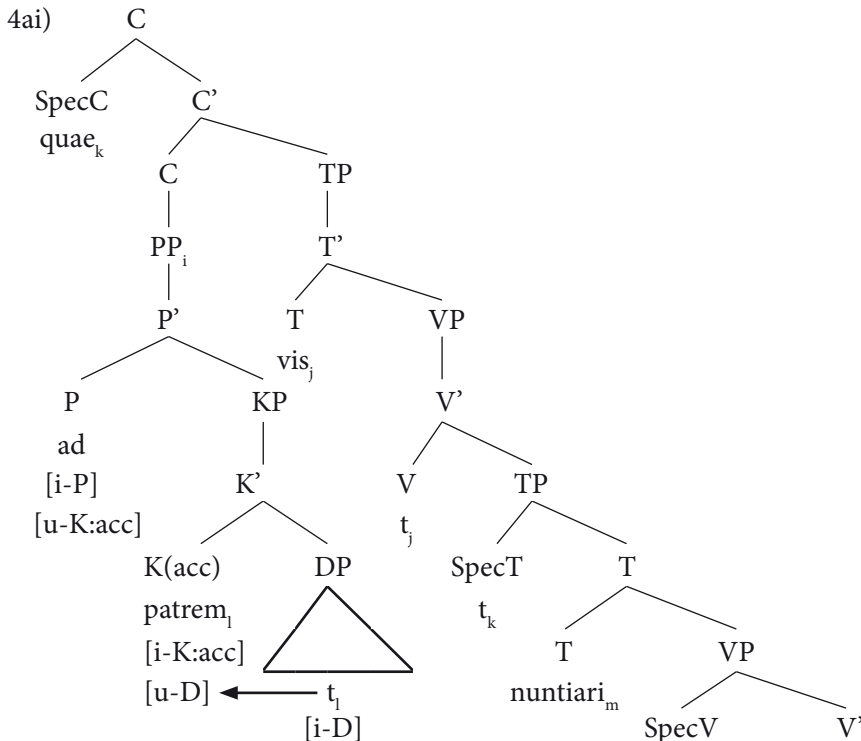


Latin *ad* is originally a lexical spatial preposition denoting “direction” and is used with trivalent verbs in Plautus (254–184 BC; Pinkster 1990, pp. 197–202; Salvi 2011, p. 339; Adams 2011, p. 266):

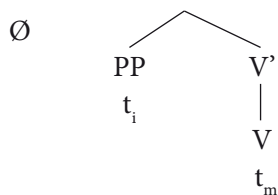
- 4a) quae-ae                      ad      patr-em                      v-is  
 which-N.PL.ACC              to      father-ACC.SG              want-PRES.2SG  
 nunti-ar-i  
 report-INF-PASS

“[...] the things which you want to be reported in the direction of your father.” (Plautus, *Captivi* 360)

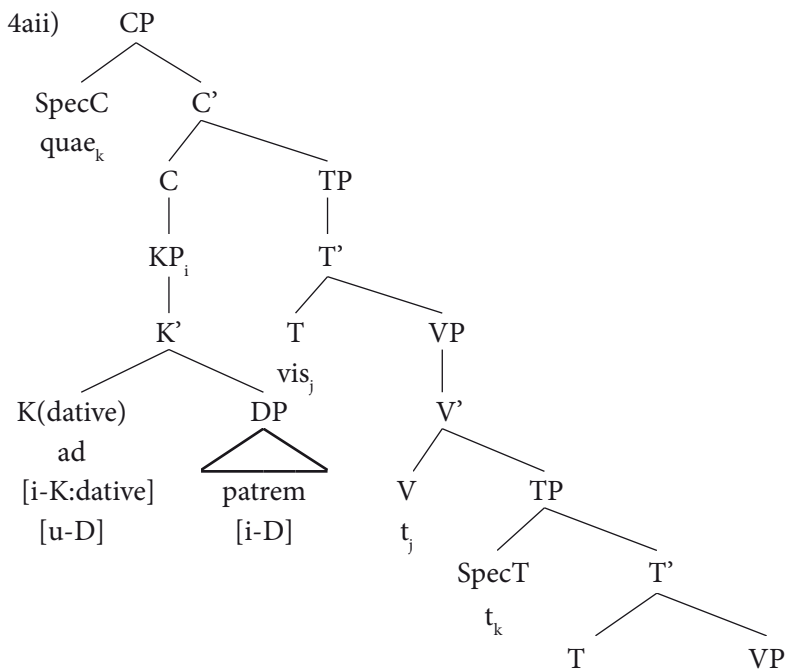
*Ad* assigns morphological case (accusative) to its nominal complement (*patr-em*), and so there is an Agree relation between them. Its complement has morphological case (*patr-em*) and is therefore a KP which contains a *Move* relation between K and its DP complement (see section 2.1). The *ad*-PP (*ad patrem*) modifies the verb (*nuntiari*) and should be analysed as its adjunct:



7 I have placed the indirect object (*les... a los niños*) in SpecV, following Larson (1988), who places the English direct object in SpecV and the indirect object as the complement of V (Larson 1988, pp. 339, 342ff). In order to derive the correct word order in Spanish, I analyse the direct object (*la bicicleta nueva*) as the sister of V and the indirect object as the specifier of V. This reversal has been suggested by Hale and Keyser (2002, pp. 160–163).



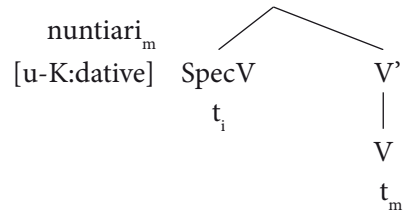
As *ad* marks the “direction” in which the message is to be conveyed (*quae ad patrem... nuntiari* “the things which... to be announced in the direction of your father”), its complement (*patrem* “father”) can be re-analysed as the “recipient/beneficiary” of the verb i.e. its indirect object.<sup>8</sup> The *ad*-PP can therefore be re-analysed as a dative KP headed by *ad* in SpecV (see section 2.2.2, ex. 3 and footnotes 40 and 42):



8 In the same passage, there is a very similar example where the dative (*patri* “to the father”), the default case for marking indirect objects in Latin (Blake 1994, p. 6), is actually used with the same predicate (*vis... nuntiari* “you want... to be announced”):

- |    |                 |                  |               |               |
|----|-----------------|------------------|---------------|---------------|
| 1) | numquid         | aliu-d           | v-is          | patr-i        |
|    | whether         | another-N.SG.ACC | want-PRES.2SG | father-DAT.SG |
|    | nunti-ar-i      |                  |               |               |
|    | report-INF-PASS |                  |               |               |
- “Whether you want another thing to be reported to your father” (Plautus, *Captivi* 400).

The Latin *ad*-PP in 4a) is therefore functionally very similar to the Latin dative case.

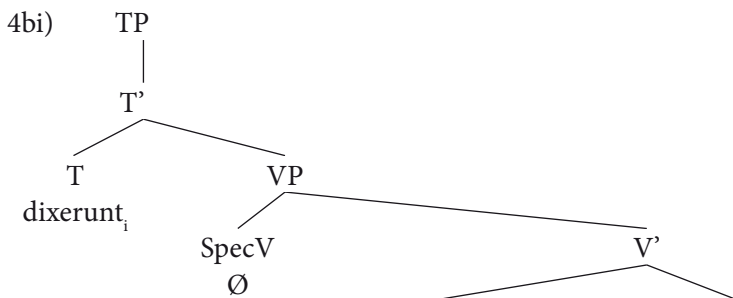


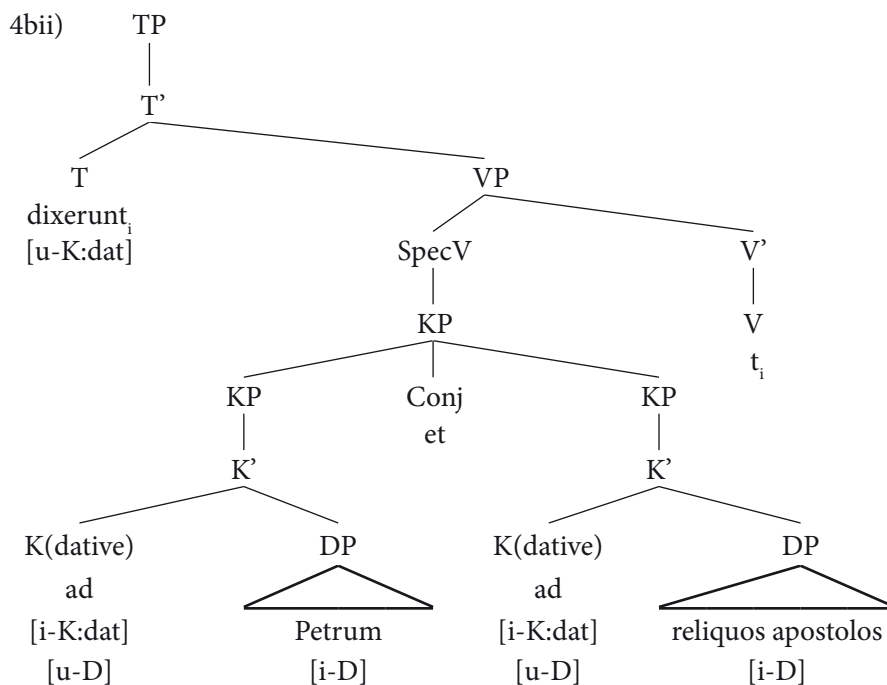
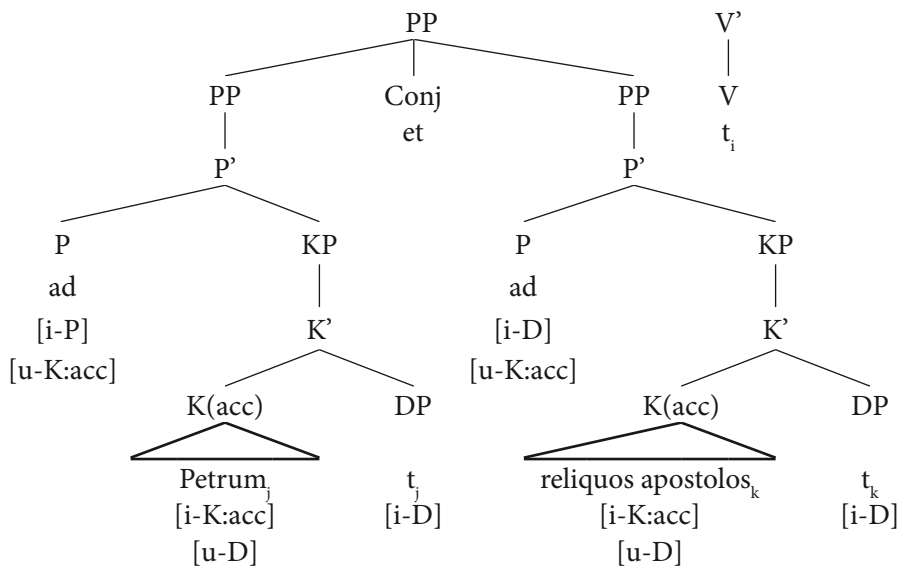
4aii) is “simpler” than 4ai), since the *Agree* relation ([i-P], [u-K]) between the lexical preposition *ad* and its KP complement (*patr-em*) is lost. The features associated with morphological case ([i-K], [u-D]) are shifted upwards from the complement of *ad* (*patr-em*) in an adjunct position to *ad* itself in a base-generated complement position (SpecV). However, Adams and Pinkster both point out that in this particular example *ad* retains its full directional force, as the recipient (*patrem* “father”) is most likely not immediately present in this scene and the message has to be transported to him, which implies spatial “direction” (Adams 2011, p. 266; Pinkster 1990, p. 202). This *ad*-PP is therefore stronger than the morphological dative in footnote 42 and cannot be equated with it yet. This is step a).

Step b) occurs when the spatial force of *ad* is weakened, and this is found in very late Latin (Adams 2011, p. 267) e.g.

4b)	et	dix-erunt	ad	Petr-um
	and	say-PERF.3PL	to	Peter-ACC.SG
	et	ad	reliqu-os	apostol-os
	and	to	rest-ACC.PL	apostle-ACC.PL
	quid	faci-emus		
	what	do-FUT.1PL		

“[...] and they said to Peter and to the rest of the Apostles what we shall do...” (*The Latin Vulgate Bible, Actus Apostolorum* 37, 6th century AD).



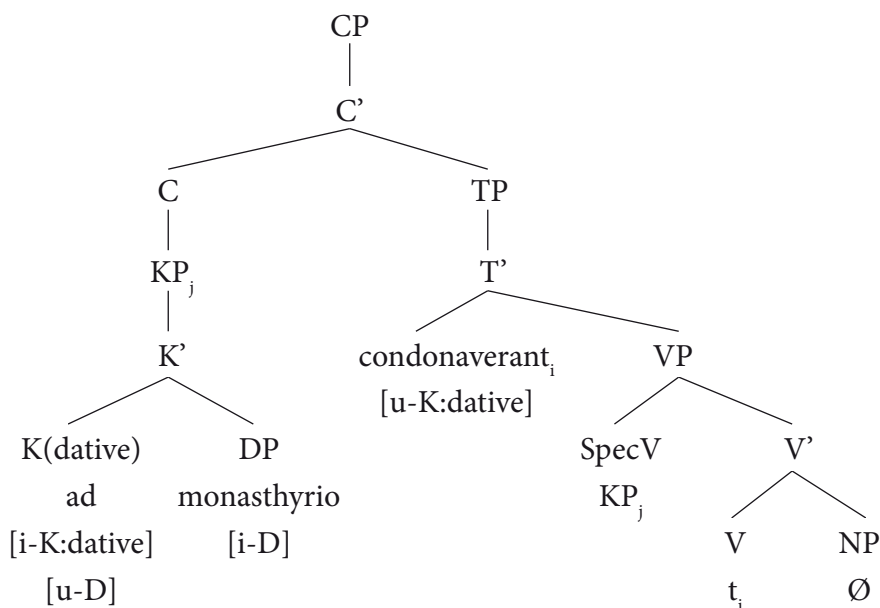


Like 4a), the complements of *ad* (*Petrum... reliquos apostolos* “Peter and the rest of the apostles”) denote the “direction” in which the message was conveyed (4bi) and can hence be re-analysed as the “recipients” of the main verb (*dixerunt* “they said...”) (4bii). Here there is no question that the “recipients” (*Petrum... reliquos apostolos* “Peter and the rest of the apostles”) are immediately present in

the scene, and so there is very little (if any) difference between the *ad*-PPs (4bi) and the dative (4bii) here. 4bii), the “simpler” analysis, comes through.

Step c) occurs in the *Merovingian documents* (7th–8th century AD). Adams (2011, pp. 266–267) argues that the use of *ad*-PPs with trivalent verbs is mainly attested with verbs of saying. In the *Merovingian documents*, there are the first attestations of *ad*-PPs being used with other types of trivalent verbs e.g. verbs of giving/showing (Vielliard 1927, p. 201):

- 4c) *ad*            *monasthyrio*        *condona-verant*  
 AD            monastery            present-PLUPERF.3PL  
 “they had presented to the monastery...” (*Merovingian documents*, 29.11).



The spread of *ad*-PPs to other trivalent verbs suggests that they have already been grammaticalized as dative KPs. The grammaticalization of Latin/Romance *ad* therefore conforms to R & R’s “simplicity” and “upward feature analysis”.

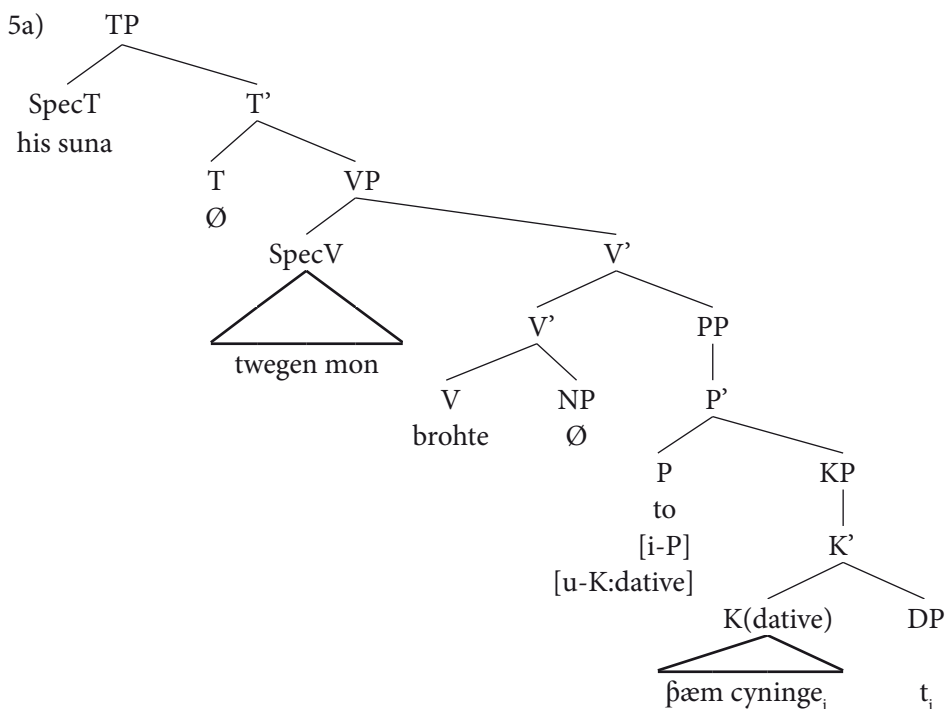
### 2.3 Cross-linguistic distribution

It is pleasing to see that the grammaticalization of Latin/Romance *ad* as K, a new functional category (see introduction), conforms to R & R’s hypotheses. This predicts that it should have cross-linguistic counterparts that also

undergo “structural simplification” (see section 1.3), which is indeed borne out e.g. English *to*:

- 5) his suna twegen mon brohte to þæm cyninge  
 His sons two one brought to that.DAT king.DAT  
 “His sons brought one of the two in the direction of that king i.e. to that king” (*Two of the Saxon Chronicles Parallel* 86.26, 894 AD).

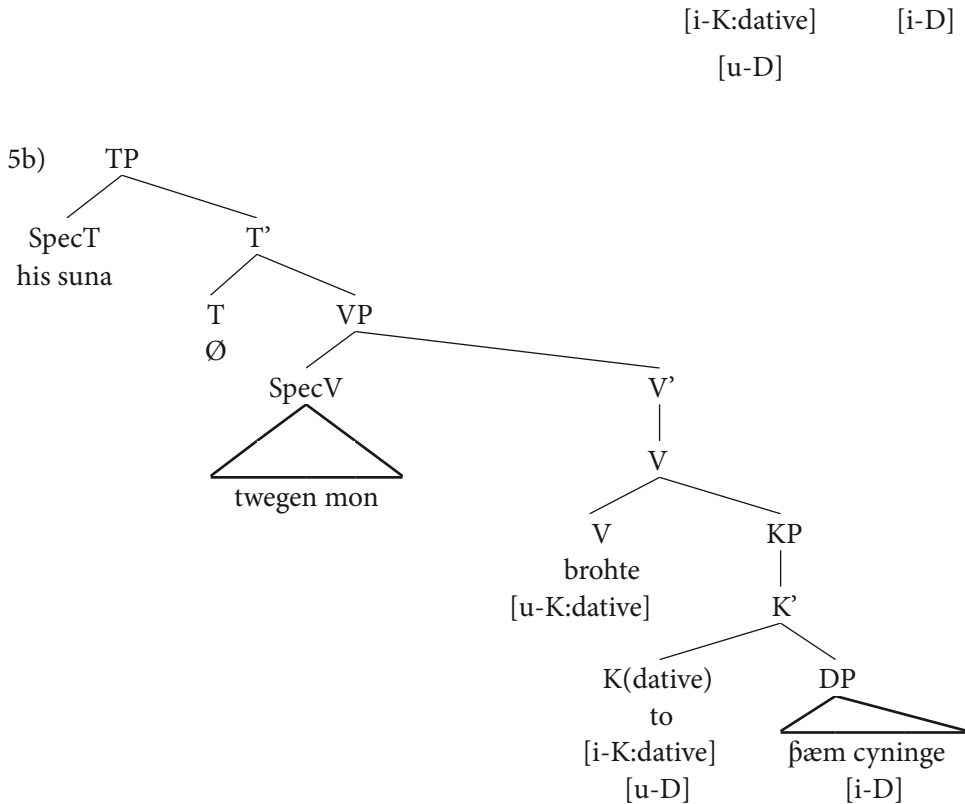
*To* is a lexical spatial preposition marking “direction” and *to þæm cyninge* is hence a PP-adjunct to the main verb (*brohte* “brought”) (5a). Its complement (*þæm cyninge* “that king”) is therefore re-analysable as the “recipient/beneficiary” of the main verb, in which case *to* is re-analysed as K(dative),<sup>9</sup> a complement within the VP (5b) (see footnote 40):



9 The same usage is found synchronically with the same head predicate (*broht-* “bring”) and the same complement (*þæm cyninge* “that king”) where the morphological dative is used:

- 1) þa teð hie brohton sume þæm cyninge  
 those teeth they brought some that.DAT king.DAT  
 “They brought some of those teeth to that king” (King Alfred, *Orosius* 18.1, 849–899 AD).

The *to*-PP in 5) is therefore functionally equivalent to the English dative case, like Latin/Romance *ad* (see footnote 42).



5b) is “simpler” than 5a), since, like Latin/Romance *ad* (4a–b), the *Agree* relation between the lexical preposition (*to*) and its KP complement (*ðæm cyninge*) and the *Move* relation between K and its DP complement are lost, and since Old English preposition *to* subcategorises for complements with morphological case (*ðæm cyninge*; Traugott 1972, pp. 80–81), the K features already exist in the original “cue” (5a) and are “upwardly shifted” from the complement of *to* (*ðæm cyninge*) in adjunct position to *to* itself in complement position (5b). With the subsequent loss of spatial force, *to* is re-analysed as K(dative), as in modern English (Huddleston and Pullum 2002, pp. 660–661).

### 3 Vincent & Borjars (2010)

Vincent & Borjars (V & B) argue that formalism and functionalism should not be seen as mutually exclusive in language change.<sup>10</sup> Both Latin/Romance *ad*

<sup>10</sup> Formalism is defined as “a property of a theoretical system” (V & B 2010, p. 283) and is said “to model this data in terms of the innate asymmetries of Universal Grammar

and English *to* go through “structural simplification”, namely “reduction of feature syncretisms” (see sections 1.3, 2.2.2, 2.3). R & R’s synchronic definition of “simplicity”, therefore, accounts for a diachronic trend, namely the cross-linguistic distribution of grammaticalization. Synchrony and diachrony can therefore be combined in the Minimalist account of grammaticalization. Furthermore, while R & R’s “simplicity”, a formalist consideration (see footnote 51), holds for these cross-linguistic examples, the “cues” in the PLD, which are functionalist and data-based (see footnote 52), are not cross-linguistically random: both Romance *ad* (4a) and English *to* (5a) denote “direction” and “recipient/beneficiary” simultaneously, which is a strong cross-linguistic trend (Heine and Kuteva 2002, pp. 37–38), and both lose their spatial force in “re-analysis” (4b, 5b). Formalism and functionalism, therefore, account for different yet related aspects of “re-analysis” and are hence not mutually exclusive. The role played by functionalist factors in grammaticalization further attests to the fact that pragmaticalization<sup>11</sup> plays a significant role in grammaticalization.

Conclusions:

It is pleasing to see that my analysis of the grammaticalization of a new functional category (K(case)) conforms to the previous literature about Minimalism and grammaticalization (R & R 2003), which is powerful evidence in support of their hypotheses. Furthermore, this case-study allows me to verify another hypothesis (V & B 2010), which attests to the interface between several mutually unexclusive methodologies in linguistics (synchrony/diachrony, formalism (theory)/functionalism (data), pragmaticalization/grammaticalization).

## Literature

ABRAHAM, W. (2010). Misleading Homonymies, Economical PPs in Microvariation, and P as a Probe. In *Mapping Spatial PPs: The Cartography of*

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(UG) [‘simplicity’ being preferred in language acquisition (see section 1.3)]” ([ ] brackets by K. T.; V & B 2010, p. 280), while functionalism “relates internal aspects of language to the external context of language use” (V & B 2010, p. 283) and “seeks to explain these diachronic patterns (i.e. cross-linguistic distribution) with reference to discourse and interpersonal communication strategies rather than in terms of an innate UG” (brackets by K. T.; V & B 2010, p. 280).

11 Pragmaticalization is defined as “the fossilization of discourse strategies in syntactic and morphological structure” (Traugott and Heine 1991, pp. 2, 5) and is closely related to functionalism (see footnote 51).



*Syntactic Structures*, vol. 6, eds. G. Cinque and L. Rizzi, pp. 261–294. Oxford: University Press.

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## Key words | Klíčová slova

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