What is 'lateral grammaticalization'?

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Abstract

Simpson and Wu (2002) and Wu's (2004) 'lateral grammaticalization' is a Minimalist analysis of Chinese de, which has been re-analysed from a determiner (D) to a verbal suffix (T). Roberts and Roussou (2003) and van Gelderen (2011) deal with grammaticalization within Minimalism, though neither take 'lateral grammaticalization' into account (Vincent and Borjars (2010:293)). A comparison between these accounts reveals that Roberts and Roussou's (2003) and van Gelderen's (2011) 'feature economy' also accounts for the cross-linguistic distribution of 'lateral grammaticalization', which is the main theoretical thrust of their accounts (Roberts and Roussou (2003:2-7), van Gelderen (2011:4-17)). However, the lack of 'upward feature analysis' (Roberts and Roussou (2003:200)) in 'lateral grammaticalization' sets it formally apart from grammaticalization, and this ties in empirically with the lack of 'phonological weakening', 'univerbation' and 'semantic bleaching' in 'lateral grammaticalization' when these are the diagnostic traits of grammaticalization (Campbell (2001), Roberts and Roussou (2003:224-232)). All this entails some significant revisions to Minimalism as a model for grammaticalization and 'lateral grammaticalization', the former of which involves an upward shift of features while the latter involves a re-analysis of features from pragmatics.

1   Introduction

'Lateral grammaticalization' is a term dubbed by Simpson and Wu (S & W) (2002) and Wu (2004:chapter 4) to analyse a particular example of syntactic change within Minimalism, namely Chinese *de*, which is re-analysed from being a determiner (D) to a past tense marker (T). Roberts and Roussou (R & R) (2003), Roberts (2010) and van Gelderen (2011) analyse grammaticalization also within Minimalism, and in this paper I compare these two changes within Minimalism. In my conclusion, I provide new insights and definitions for both changes within grammaticalization theory and Minimalism.

2   Grammaticalization and Minimalism

In Tse (2013:section 2), Tse explains how grammaticalization is incompatible with Lightfoot's (1999, 2006) generative model of language change, which asserts that language evolution should be random (Lightfoot (1999:180-204, 264-266, 2006:90-111, 164-165)) when grammaticalization occurs cross-linguistically (Heine and Kuteva (2002)). R & R introduce to Lightfoot's model a learning device in language acquisition, which chooses the 'simpler' alternative in re-analysis (R & R (1999:1020-1022, 2003:14-17), Clark and Roberts (1993:313-319), Tse (2013:fn 1)), and this accounts for why grammaticalization, which always leads to 'simpler' structures, is a natural type of change that can occur cross-linguistically (R & R (2003:2-7)).

R & R (2003) define 'simplicity' as the reduction of 'formal feature syncretisms', which are defined as 'the presence of more than one formal feature in a given structural

position: H [+F, +G…]' (R & R (2003:201), Roberts (2010:49)), and they have discovered three types of grammaticalization (R & R (2003:198-199)):

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

1) and 3) involve the loss of *Move* (Y+X… t_Y, YP X… t_{YP}) and the introduction of *Merge* for the grammaticalized item in a higher functional position (Y=X), while 2) involves the loss of *Agree* (X_F… Y_F) and an upward shift of features to the grammaticalized item (X_F). R & R (2003:200) therefore represent grammaticalization thus:

4)
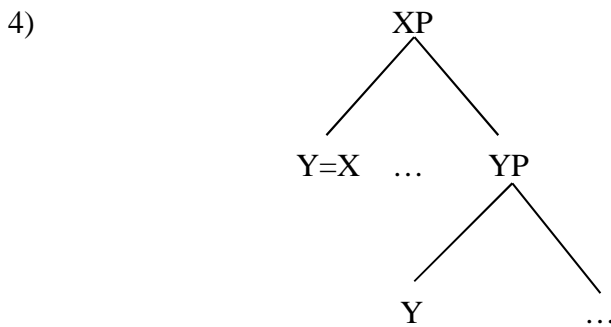
In all three types, features in a lower syntactic position (Y) are re-analysed onto a higher functional position (X). Roberts (2010:50-1) generalises between *Move* and *Agree* in that both involve probe and goal features where the former checks feature-values with the latter, and in *Move* the former also attracts the latter to its functional projection. Grammaticalization therefore involves the loss of probe features and an upward shift of lower goal features. Van Gelderen (2011:16-17, 20-21, 41) further proposes that functional categories hold uninterpretable features whereas lexical ones hold interpretable features, and the former are preferred in language acquisition as they are 'simpler' than the latter in having no feature-values (van Gelderen (2011:4, 17, 41-43)). In the next section, I test R & R and van Gelderen's hypotheses with 'lateral grammaticalization'.

3   'lateral grammaticalization' (S & W (2002), Wu (2004:chapter 4)
3.1   Chinese *de*

The following alternation is found in some northern dialects of Mandarin Chinese (S & W (2002:169), Wu (2004:120)):

1)	wo	shi	zuotian	mai	piao de
	I	be	yesterday	buy	ticket DE
2)	wo	shi	zuotian	mai	de piao
	I	be	yesterday	buy	DE ticket

'It was yesterday that I bought the ticket.'[1]

S & W (2002:175-177) and Wu (2004:125-126) argue that these constructions often imply that the action of the embedded clause (here *mai piao* 'to buy ticket') has already

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[1] 2) is argued to be derived from 1), since examples like 1) are attested earlier and are pan-Chinese (S & W (2002:171), Wu (2004:122)). One is therefore investigating why *de* has been preposed from sentence-final position to a postverbal position (… *mai piao de* > …*mai de piao*) rather than the other way round.

occurred, and so past tense is implied for the verb *mai* with *de* being alternatively analysed as a past tense marker (T(past)). There are therefore two representations for 1) (S & W (2002:189-197), Wu (2004:140-148)):

1a)

```
                          TP
                    ┌──────┴──────┐
                  SpecT          T'
                   wo       ┌─────┴─────┐
                            T          VP
                           shi         │
                                       V'
                                 ┌──────┴──────┐
                                 V            DP
                                 Ø       ┌─────┴─────┐
                                       SpecD        D'
                                      AspP/IP i ┌────┴────┐
                                        △       D        NP
                               zuotian mai piao de        │
                                                          N'
                                               [i-D]  ┌───┴────┐
                                               [u-N]  N      AspP/IP
                                               [i-phi] Ø      t i
```
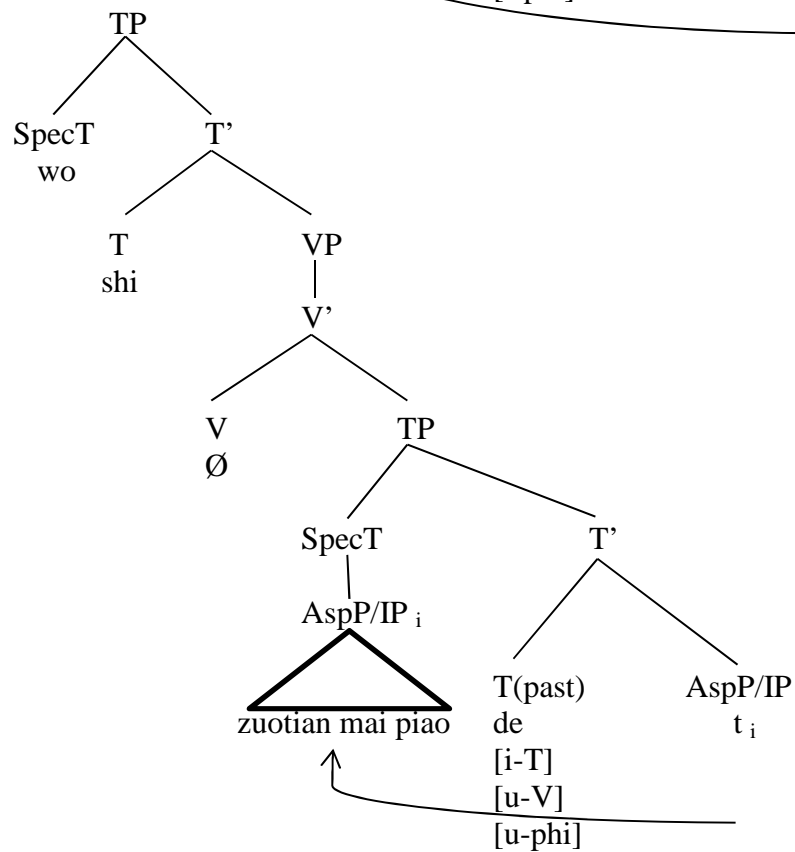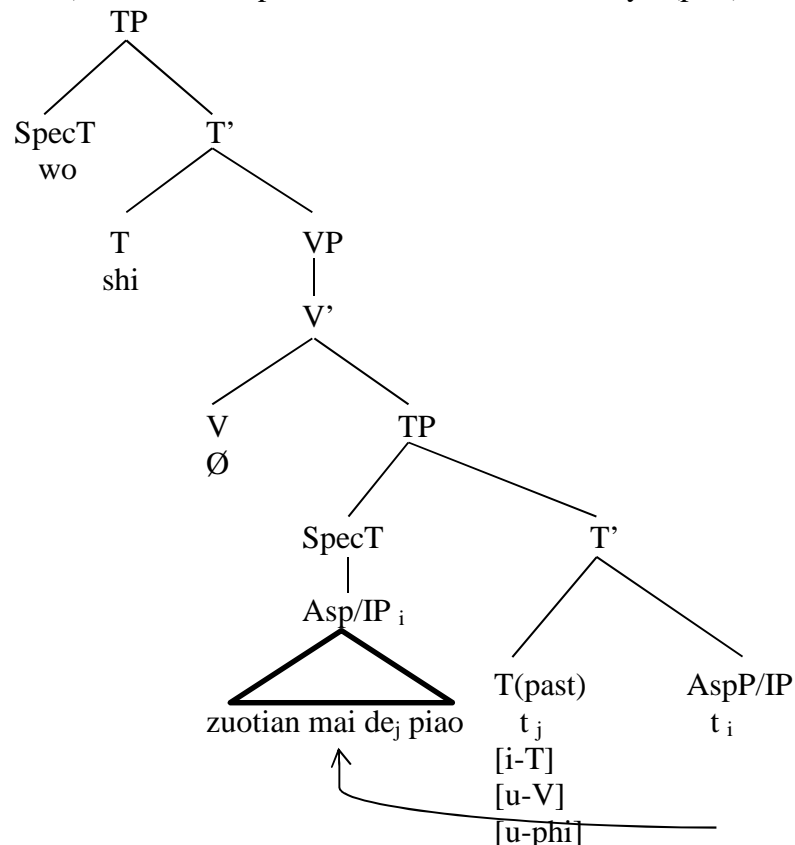
1b)

```
                          TP
                    ┌──────┴──────┐
                  SpecT          T'
                   wo       ┌─────┴─────┐
                            T          VP
                           shi         │
                                       V'
                                 ┌──────┴──────┐
                                 V            TP
                                 Ø       ┌─────┴─────┐
                                       SpecT        T'
                                      AspP/IP i ┌────┴────┐
                                        △     T(past)   AspP/IP
                               zuotian mai piao de        t i
                                               [i-T]
                                               [u-V]
                                               [u-phi]
```

3
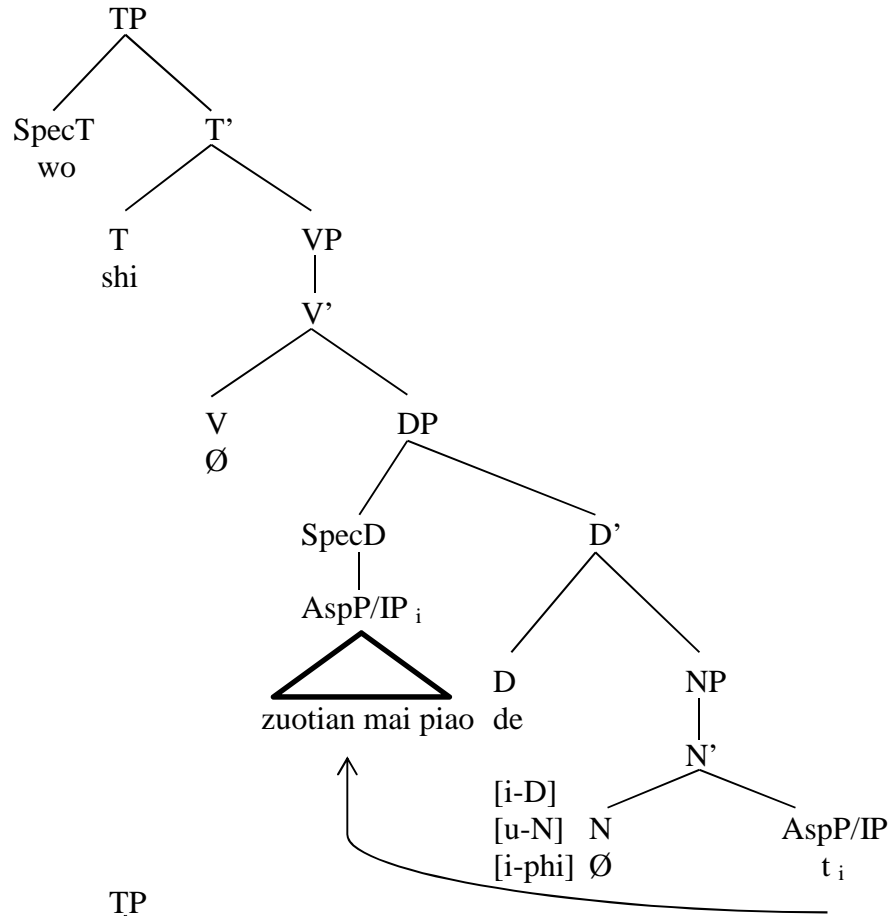
1b) has fewer 'feature syncretisms' than 1a) since in 1a) *de* as a determiner has an *Agree* relation with its (empty) nominal complement, whereas in 1b) this *Agree* is lost since the nominal complement is eliminated and there are fewer feature place-holders (S & W (2002:189-190), Wu (2004:140-142)). Furthermore, while *de* as a determiner holds interpretable phi-features (i-phi), given its origins as a complex noun phrase (S & W (2002:180-185), Wu (2004:132-141)), *de* as a tense marker holds uninterpretable phi-features (u-phi), which are 'simpler' (van Gelderen (2011:4, 17, 41-43)). 1b) is hence preferred.

Examples like 2) only permit past-time interpretations (S & W (2002:176-177), Wu (2004:127)), and so *de* in 2) must be interpreted as a T element, namely T(past):

2)

$$
\begin{array}{l}
\text{TP} \\
\quad \diagup \diagdown \\
\text{SpecT} \quad \text{T'} \\
\text{wo} \\
\qquad \diagup \diagdown \\
\qquad \text{T} \quad \text{VP} \\
\qquad \text{shi} \quad | \\
\qquad\qquad \text{V'} \\
\qquad\qquad \diagup \diagdown \\
\qquad\qquad \text{V} \quad \text{TP} \\
\qquad\qquad \text{Ø} \quad \diagup \diagdown \\
\qquad\qquad\qquad \text{SpecT} \quad \text{T'} \\
\qquad\qquad\qquad | \quad \diagup \diagdown \\
\qquad\qquad\qquad \text{Asp/IP}_i \quad \text{T(past)} \quad \text{AspP/IP} \\
\qquad\qquad\qquad \text{zuotian mai de}_j \text{ piao} \quad t_j \quad t_i \\
\qquad\qquad\qquad\qquad \text{[i-T]} \\
\qquad\qquad\qquad\qquad \text{[u-V]} \\
\qquad\qquad\qquad\qquad \text{[u-phi]}
\end{array}
$$

Chinese *de* therefore conforms to R & R and van Gelderen's definitions of 'feature economy'. However, it does not conform to R & R's 'upward feature analysis', since the features in *de* under T ([i-T], [u-V], [u-phi]) are not re-analysed from a lower syntactic position but are rather the results of pragmatic implicature, namely the tendency for *shi-de* constructions to imply that the embedded action is past. More will be said about this below.
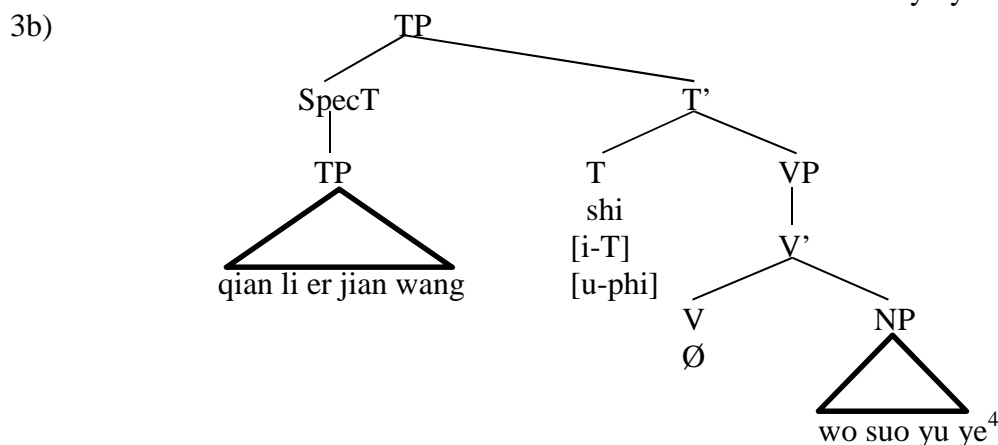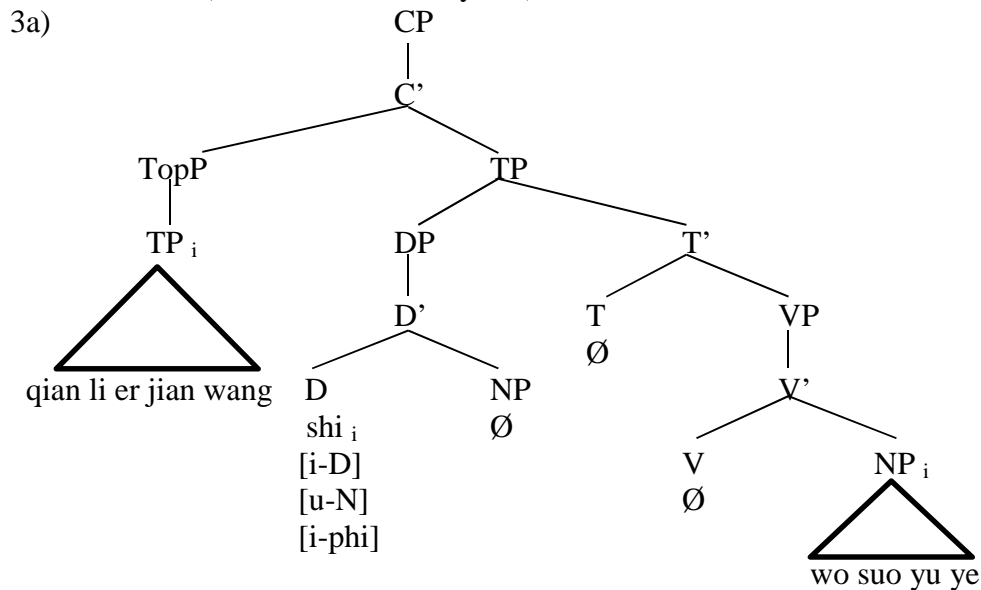
3.2 cross-linguistic distribution

The 'feature economy' in the 'lateral grammaticalization' of Chinese *de* makes one expect cross-linguistic distribution, and S & W (2002:199-202) and Wu (2004:149-153) do indeed give cross-linguistic counterparts that also undergo 'feature economy', namely copula verbs derived from (demonstrative) pronouns e.g. Chinese *shi* (Li and Thompson (L & T) (1977)).[2] Chinese *shi* is originally used in equational constructions where it is the subject of

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[2] As L & T (1977:436) argue that copula verbs are often omissible cross-linguistically and are often used only to bear tense, all copula verbs in this paper are analysed as auxiliary verbs under T. This might also explain the subsequent development in Panare of copula verbs becoming auxiliary tense markers (Gildea (1993:63ff)).

the clause in apposition with the topic[3] and the predicate (3a) (L & T (1977:420), van Gelderen (2011:130), Feng (1993:284)), and since identity is implied, *shi* can be re-analysed as a copula verb linking the two and the topic is hence re-analysed as the subject (3b) (van Gelderen (2011:130-131), Feng (1993:301)):

3)   qian   li   er   jian   wang
        thousand   mile   then   see   king
        shi   wo   suo   yu   ye
        this   I   NOMINALISER   desire   DECLARATIVE.PARTICLE
        'To see the king after travelling a thousand miles, this (is) what I want.' (3a)
        OR 'To see the king after travelling a thousand miles is what I want.' (3b)
        (Mencius, 4th century BC)

3a)
```
                          CP
                          |
                          C'
                 ┌────────┴────────┐
               TopP                TP
                |           ┌───────┴───────┐
              TP_i         DP              T'
               △           |          ┌────┴────┐
     qian li er jian wang  D'          T        VP
                       ┌───┴───┐       Ø         |
                       D       NP                V'
                      shi_i    Ø            ┌────┴────┐
                      [i-D]                 V        NP_i
                      [u-N]                 Ø         △
                      [i-phi]                    wo suo yu ye
```

3b)
```
                     TP
              ┌──────┴──────┐
            SpecT           T'
              |        ┌────┴────┐
             TP        T         VP
              △       shi        |
   qian li er jian wang [i-T]    V'
                     [u-phi] ┌───┴───┐
                             V       NP
                             Ø        △
                                 wo suo yu ye[4]
```

3b) is 'simpler' than 3a), since the *Agree* relations in 3a) between *shi* and its (empty) nominal complement[5] and between the three constituents are lost, and there are fewer feature holders in 3b), namely the elimination of the empty NP and the TopP. Furthermore, like Chinese *de*, the original interpretable phi-features of *shi* as a demonstrative pronoun become uninterpretable in 3b). 3b) is therefore preferred in language acquisition.

[3] According to Rizzi (1997), topics are part of the CP layer.
[4] My representations differ from van Gelderen's (2011:129-132) since she represents copula verbs as raising verbs under V while I represent them as auxiliary verbs under T for the reasons given in note 2.
[5] As *shi* in Middle Chinese is attested with nominal complements (L & T (1977:422-423)), the DP it heads should contain an empty NP complement.

Similar changes have occurred in several other languages (L & T (1977), van Gelderen (2011:chapter 4), Heine and Kuteva (2002:108-109)) e.g. Panare, where there are two such copula verbs, though Panare is head-final and shows leftwards complementation and right dislocation (Gildea (1993:57-58)):
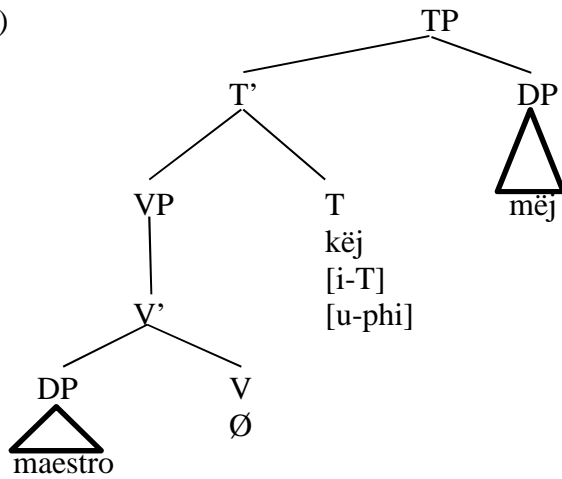
4ai)   maestro   këj   mëj
        teacher   DEM.PRO.PROXIMAL   PRO.PROXIMAL
        'A teacher (is) he here, this guy.' (4ai) OR 'This guy here is a teacher.' (4aiii)

4aii)   maestro   nëj   kën
        teacher   DEM.PRO.DISTAL   PRO.DISTAL
        'A teacher (is) he there, that guy.' (4aii) OR 'That guy there is a teacher.' (4aiv)

4ai)
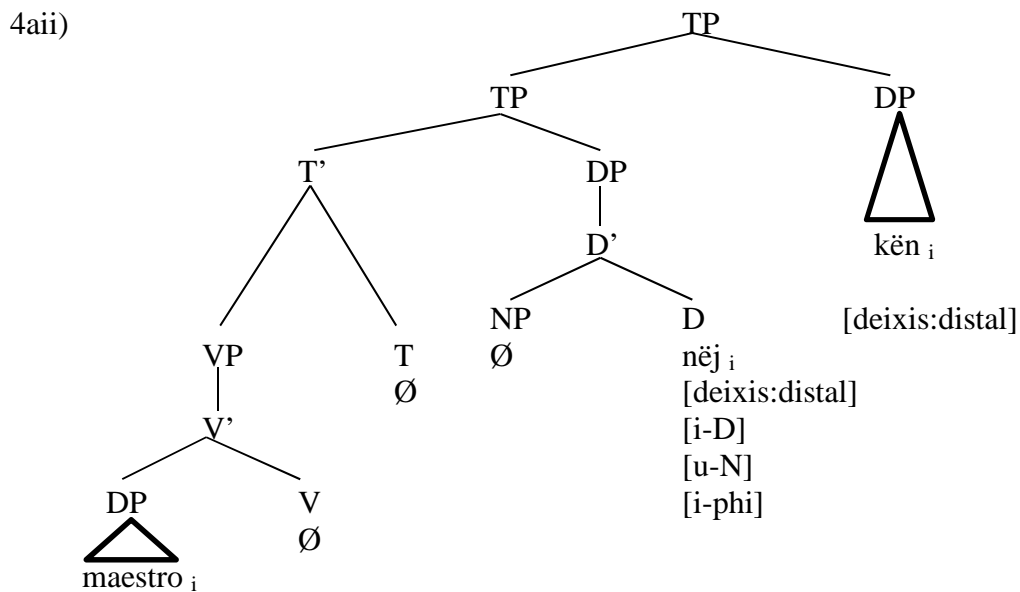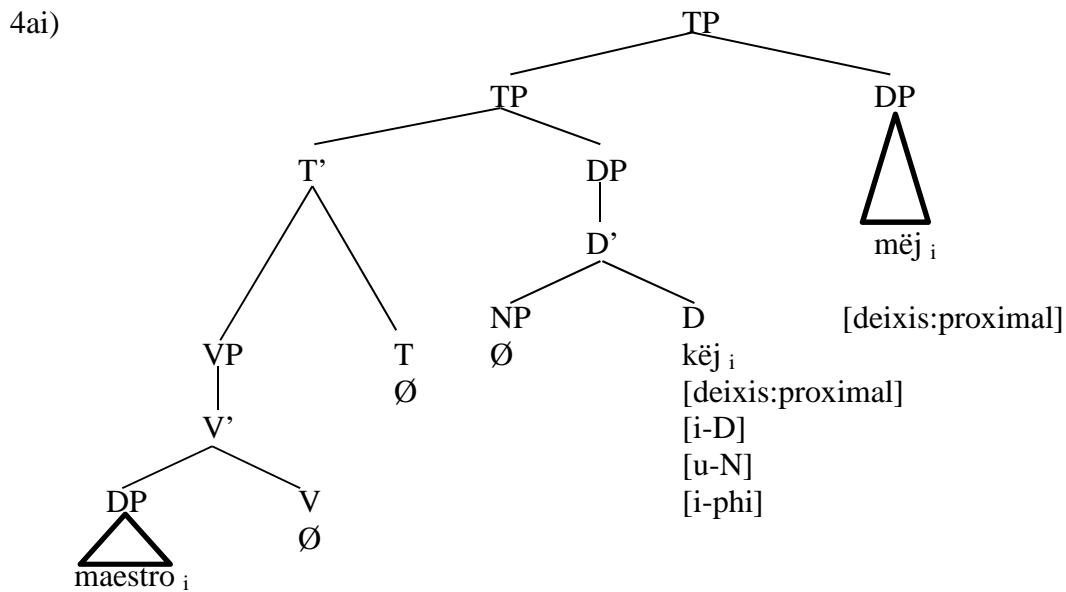
4aii)

Alternatively, these two demonstrative pronouns could be re-analysed as copula verbs, since identity between the topic and the predicate is implied:
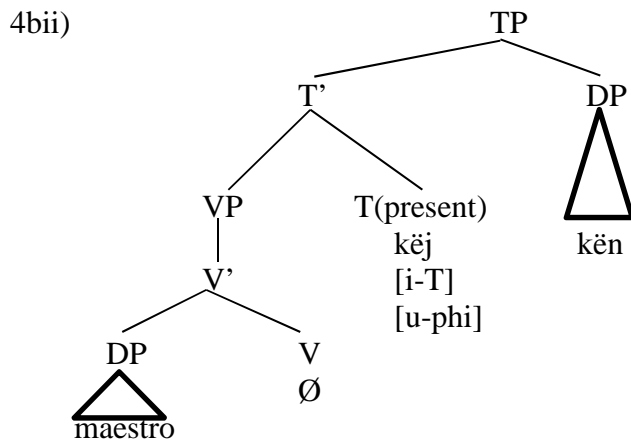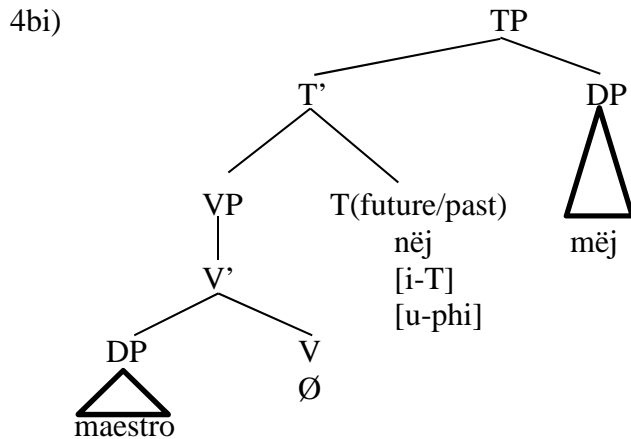
4aiii)

```
                                 TP
                         _____|_____
                       T'                  DP
                   ____|____                △
                 VP         T              mëj
                  |         këj
                 V'         [i-T]
              ___|___       [u-phi]
            DP       V
            △        Ø
         maestro
```

4aiv)

```
                                 TP
                         _____|_____
                       T'                  DP
                   ____|____                △
                 VP         T              kën
                  |         nëj
                 V'         [i-T]
              ___|___       [u-phi]
            DP       V
            △        Ø
         maestro
```
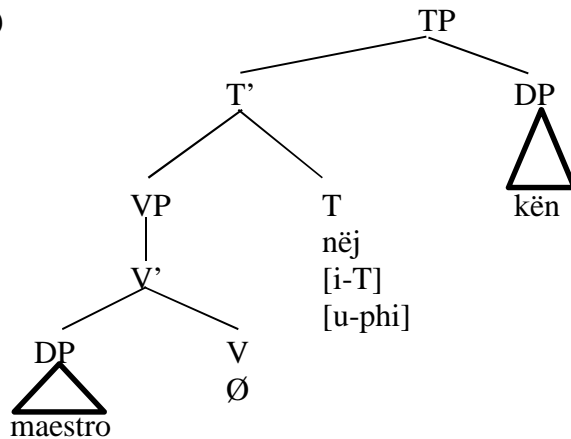
4aiii) and 4aiv), like 3b), have fewer 'feature syncretisms', since the *Agree* relations between the demonstratives and their (empty) nominal complements and between the demonstratives, the dislocated constituents (*mëj* and *kën*) and the predicate (*maestro*) are lost, and formerly interpretable phi-features ([i-phi]) have become uninterpretable ([u-phi]). There are also fewer feature place-holders, namely the elimination of the empty NP and the dislocated constituent. 4aiii) and 4aiv) are therefore preferred in language acquisition, which is evidenced by examples (4b) where there is a conflict of deixis between the dislocated constituents and the demonstratives and so there cannot possibly be *Agree* between them. Furthermore, the deixes of the demonstrative pronouns in these examples must be interpreted temporally and not spatially: *këj*, which is a proximal demonstrative pronoun, must be interpreted as a present tense verb, whereas *nëj*, a distal demonstrative pronoun, must denote either past or future tense (Gildea (1993:57, 59, 61-62)). All this suggests that these demonstrative pronouns are re-analysed as copula verbs:

4bi)   maestro   nëj   mëj
             teacher   DEM.PRO.DISTAL   PRO.PROXIMAL
             'This guy here was/will be a teacher.'

4bii)   maestro   këj   kën
             teacher   DEM.PRO.PROXIMAL   PRO.DISTAL
             'That guy there is being a teacher right now.'

7

4bi)

```
                              TP
                         ┌────┴────┐
                        T'          DP
                   ┌─────┴─────┐     △
                  VP      T(future/past) mëj
                  │           nëj
                 V'          [i-T]
              ┌───┴───┐      [u-phi]
             DP       V
             △        Ø
          maestro
```

4bii)

```
                              TP
                         ┌────┴────┐
                        T'          DP
                   ┌─────┴─────┐     △
                  VP      T(present)  kën
                  │           këj
                 V'          [i-T]
              ┌───┴───┐      [u-phi]
             DP       V
             △        Ø
          maestro
```

'Lateral grammaticalization' is therefore strongly cross-linguistic,[6] and this conforms to the fact that all its examples display 'feature economy' and are hence natural changes. This is powerful evidence in support of R & R and van Gelderen's account, since their hypotheses have independently and coincidentally predicted and explained the cross-linguistic distribution of 'lateral grammaticalization'.

However, like Chinese *de*, these copula verbs acquire features that are not re-analysed from a lower syntactic position, since the uninterpretable phi-features [u-phi] and the interpretable auxiliary verbal features [i-T] do not exist in the original equational constructions (3a), 4ai), 4aii)) where there is no verb. These are also the results of pragmatic implicature, namely the implied identity between the topic and the predicate. This also puts them at odds with R & R's 'upward feature analysis'.

4   'lateral grammaticalization' and grammaticalization

There are some empirical differences between 'lateral grammaticalization' and grammaticalization, namely 'phonological weakening', 'univerbation' and 'semantic bleaching', all of which are diagnostic traits of grammaticalization (Campbell (2001), Campbell and Janda (2001)) and are displayed by grammaticalization but not by 'lateral grammaticalization.

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[6] See L & T (1977), Heine and Kuteva (2002:108-109) and Van Gelderen (2011:chapter 4) for more examples of pronouns > copula verbs which go through the same mechanisms of 'feature economy'.

4.1 'phonological weakening' and 'univerbation'[7]

In section 2, ex. 1-4, R & R's grammaticalization is defined as an upward shift of goal features as the result of probe features, which formerly caused *Move* or *Agree*, being lost, and nearly all of their examples display 'phonological weakening' and even 'univerbation' (see note 7).[8] The underlying factor in R & R's model is that goal features are shifted upwards, either along with the grammaticalized item (if *Move* is lost) or onto the grammaticalized item (if *Agree* is lost), and so 'phonological weakening' and 'univerbation' of the grammaticalized item can be defined as the effect of features being shifted upwards, since the grammaticalized item always holds upwardly shifted features.

With 'lateral grammaticalization', however, the evidence for 'phonological weakening' and 'univerbation' is much harder to find. Chinese *de* is already 'phonologically weak' (i.e. toneless) and 'univerbated' as a determiner, as is its use as a past tense suffix (S & W (2002:173-174, 186, 190-194), Wu (2004:123-124, 138-139, 142-144)). Chinese *de* as a past tense suffix can be said to be more 'univerbated' than as a determiner, since while the former is a lexical suffix attached to a verb (see section 3.1, ex. 2), the latter is a syntactic suffix attached to a clause (see section 3.1, ex. 1). However, this is not necessarily the result of 'phonological weakening', since in both cases Chinese *de* is phonetically realised as toneless with no perceptible difference.[9] The greater 'univerbation' of Chinese *de* as a verbal suffix is probably best seen as the syntactic reflex of the [i-T] and [u-V] features of *de* under T, since verbal affixes marking tense and aspect (T) are typically attached to the main verb in Chinese (S & W (2002:174-175)). 'Phonological weakening' is therefore a sufficient, not necessary, condition for 'univerbation' (see note 7).

I find no evidence for copula verbs in L & T (1977), Gildea (1993), Heine and Kuteva (2002:108-109) or Van Gelderen (2011:chapter 4) undergoing 'phonological weakening' or 'univerbation' either, and this is supported by native speakers of some of these languages.[10][11] The absence of 'phonological weakening' and 'univerbation' is perhaps due to the fact that there is no 'upward feature analysis' in 'lateral grammaticalization' (see section 3).

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[7] In Minimalism, the interfaces and spell-out options of syntax only include 'Phonetic Form' (PF) and 'Logical Form' (LF) (R & R (1999:1017-1018, 2003:27-30), Chomsky (1995:21-23), Chomsky (2000:90-91, 94-98)), and so 'univerbation' is best seen as the consequence of 'phonological weakening' i.e. the weakening of PF, since it is caused by bound morphemes like clitics and affixes which are phonologically weak and coalesce with phonological hosts (Zwicky (1985:286-287)).

[8] R & R (2003:224-232)) give all the relevant evidence for 'phonological reduction' and 'univerbation' in all of their examples.

[9] I have consulted two speakers of northern Mandarin dialects (Beijing and Dalian), both of whom agree with me (Chinese is my L1 too) that *de* is toneless in both examples with no perceptible phonetic difference.

[10] Chinese *shi* is still toned (tone 4) in modern Mandarin i.e. phonologically and syntactically independent, as far as I know. I am grateful to two anonymous L1 speakers of Palestinian Arabic for confirming the <u>absence</u> of 'phonological reduction' and 'univerbation' for *hiyye* and *huwwe* (L & T (1977:431-433)), to Joanna Kowalik for that of Polish *to* (van Gelderen (2011:134-135)), to two Russian speakers for that of Russian *eto* (van Gelderen (2011:134-135)), and to Anat Greenstein for that of Hebrew *hu* and *ze* (L & T (1977:427-431)), since they inform me that their native pronunciation of these words as pronouns and as copulas is the same.

[11] Campbell (2001:121-122) argues that 'phonological weakening' is not a necessary (nor a sufficient) condition for grammaticalization, since its occurrence in grammaticalization is probabilistic rather than absolute (cf van Gelderen (2011:6)). Nonetheless, the total absence of 'phonological weakening' in the entire corpus of copula verbs is striking and is a real empirical difference that must be accounted for.

4.2   'semantic bleaching'

The upward shift of features in grammaticalization is caused by the loss of the probe features which formerly triggered *Move* or *Agree*. 'Semantic bleaching' can therefore be defined as the relative number of features in the cue, since with the loss of probe features the grammaticalized structure necessarily contains fewer features than before and is hence 'semantically bleached'.[12]

With 'lateral grammaticalization', however, although it does undergo 'feature economy', Chinese *de* and copula verbs also gain features that were not in the original cues but were implied by pragmatics, namely auxiliary verbal ones ([i-T], [u-V]) (see section 3).[13] 'Lateral grammaticalization' involves gaining new features from pragmatics, despite also undergoing 'feature economy'. It therefore cannot be said to involve 'semantic bleaching'.

5   Conclusions

The relationship between grammaticalization and 'lateral grammaticalization' is such that it depends on the relative positions and number of features. In grammaticalization, features are re-analysed upwards, whereas in 'lateral grammaticalization' features are re-analysed from pragmatics and discourse. This upward shift of features allows us to account for 'phonological weakening' and 'univerbation' while the cause for this upward shift (loss of probe features) accounts for 'semantic bleaching', all of which occur in grammaticalization but not in 'lateral grammaticalization'.

My analysis significantly revises Minimalism as a model for grammaticalization. S & W (2002:200) and Wu (2004:151) define 'lateral grammaticalization' as the re-analysis from one functional category (e.g. D) to another (e.g. T),[14] and they regard the grammaticalization of English complementiser *that* as 'lateral', since in certain dialects the complementiser *that* shows T-to-C raising (Pesetsky and Torrego (2001)), and given that it was originally a demonstrative pronoun (D), it may have gone through the same categorial change as Chinese *de*, namely D-to-T re-analysis. However, the grammaticalization of English *that* as a complementiser displays 'upward feature analysis' (R & R (2003:110-121, 196)):

5) $[_{TP}$ T $[_{VP}$ V *that*$_i$] [CP$_i$]] > $[_{TP}$ T $[_{VP}$ V $[_{CP}$ *that* $[_{TP}$…]]]

6) $[_{CP}$ *that*$_i$ $[_C$ $[_{IP}$ …t$_i$…]]] > $[_{CP}$ $[_C$ *that*]

This 'upward feature analysis' ties in with the fact that English *that* is phonologically reduced as [ð t] when it is used as a complementiser whereas as a demonstrative pronoun it is not (R & R (2003:111, 224)). English *that* is best seen as an example of grammaticalization, even though it is the same as 'lateral grammaticalization' in terms of syntactic categories (D > T).

Conversely, van Gelderen (2011:chapter 4) classifies (demonstrative) pronouns > copula verbs as grammaticalization, since it undergoes the same feature re-analysis (interpretable phi-features > uninterpretable phi-features (see ex. 1-4)) as the development of subject markers (van Gelderen (2011:chapter 2)) and negative cycles (van Gelderen

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[12] This conforms with R & R's model (1999:1017, 2003:4-5, 27-29, 218)) which only admits features that are LF-interpretable. If a structure has fewer features, it is necessarily semantically weaker.
[13] My analysis here differs from van Gelderen's (2011:131-132) since in the grammaticalization of copula verbs she argues that there is [i-T] even in the original equational constructions (3a), 4ai), 4aii)) where T is empty. This is an extremist position since she is postulating verbal features in constructions which do not even have a verb. In any case, the features of copula verbs are not re-analysed from a lower position, which separates them from R & R's grammaticalization.
[14] Vincent and Borjars (2010:293) also define 'lateral grammaticalization' thus.

(2011:chapter 8)), when the latter two are analysed by R & R (2003:136ff, 175ff) as grammaticalization (7)-10)), given their 'upward feature analysis' (cf van Gelderen (2011:42-43, 295)):

7) French n-words:

$[_{DP} [_D \emptyset] [_{NumP} [_{Num} rien] [_{NP} t_{rien}]]] > [_{DP} [_D \emptyset] [_{NumP} [_{Num} rien] NP]]$

8) French Stage-Two negation of Jespersen's Cycle:

$V [_{DP} mie/pas/point ([_{PP} de\ DP)]] > V [_{Neg} mie/pas/point] [_{VP} ([_{DP} \emptyset\ de\ NP)]]$

9) Northern Italian subject clitics:

$[_{PersP} DP_i [_{Pers} V] [_{NumP} \ldots [_{VP} t_i \ldots > [_{PersP} [_{Pers} D [_{NumP} [_{Num} V] \ldots$

10) Welsh agreement:

$[_{Agr} V + D [_{YP} \ldots > [_{Agr} V [_{YP} \ldots$

These examples display 'phonological weakening' (R & R (2003:224)) and 'semantic bleaching' (R & R (2003:218-224)), while copula verbs do not (see sections 4.1-4.2). It is therefore theoretically sound to consider the grammaticalization of copula verbs from pronouns a different change altogether i.e. 'lateral grammaticalization'.

The key towards understanding the relationship between grammaticalization and 'lateral grammaticalization', therefore, lies in the relative positions of features, which is always shifted upwards in grammaticalization but re-analysed from pragmatics in 'lateral grammaticalization', despite also going through 'feature economy' in both.

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