Features in reanalysis and grammaticalization

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This chapter discusses this volume's contributions by Roberts, De Smet, and Denison because they cover a wide range of explanations of gradience and gradual change. These three approaches can be accounted for in a similar way and I offer an account of gradual change using a Feature Economy Principle. This view is slightly different from that in Roberts' chapter but contributes to the spirit of his chapter in seeing language variation as determined by feature variation. I then provide some new data on the grammaticalization of *for* that adds to De Smet's data and that fits with a view of gradual change as feature economy. Finally, I suggest that the cases discussed by Denison as non-structural are really structural and again fit in a framework of Feature Economy.

1.   Introduction[1]

This volume examines the connection between gradience and the gradual change so typical of grammaticalization. Gradience involves synchronic continua whereas gradualness and grammaticalization are diachronic. Aarts (2007) and Denison (2001) have given many examples of gradience, where one word is a 'better' category than another. Gradience can of course arise through grammaticalization but need not. Thinking about their exact relationship provides an excellent tool to think about grammatical change, as Rosenbach emphasizes in her contribution. Traugott and Trousdale, the editors, "do not consider diachronic processes themselves to be gradient [but] argue that most instances of change involve small micro-steps that are in fact abrupt" (Traugott and Trousdale, this volume, p. XX). I agree and will argue that an emphasis on micro-steps suggests that grammaticalization is in fact reanalysis. My view of language change emphasizes acquisition and thereby reanalysis. I will phrase this in terms of features.

Within Minimalism, there are currently two major views, which I sketch in Section 2, on how languages come to be different. One of these is quite compatible with gradual change and micro-reanalyses. The role of features in reanalyses is mentioned by Roberts in his contribution in this volume, and I discuss that proposal in Section 3. Section 4 uses Economy Principles and Feature Reanalysis to re-examine the data on changes involving *for* from De Smet (this volume). I then consider some of the instances of gradient categories that Denison mentions in Section 5, again using a feature approach. In a number of the contributions in this volume, directionality is not taken into account and I think that part is crucial to gradual change. I will therefore link the issue of micro-changes with directionality in Section 6. Section 7 is a conclusion.

2.   Where have parameters gone?

Since the early 1980s, parameters (and principles) have played a crucial role in generative grammar in that they account for cross-linguistic variation. In this section, I outline the debate on what parameters look like and how they are relevant to language change. I start with a very brief discussion on the role of principles.

Recent Minimalism (e.g. Chomsky 2004, 2007) attempts to reduce the role of Universal Grammar and to ascribe more to the general cognitive principles. Van Gelderen (2004, 2008a, b, c) formulates several such economy principles that help the child acquire a grammar. The effect of these principles is perhaps the most obvious in unidirectional syntactic change. This change is always from phrase to head and from lower head to higher head and has to have an explanation in internal principle that the language learner employs. Van Gelderen (2004) proposes the Head Preference Principle and Late Merge. If the child encounters input that can be either a head or a specifier, s/he will choose the former. Hence, reanalyses such as from demonstrative to article take place. Late Merge expresses that it is more economical to merge in a higher position than in a lower position and then to move. In Section 4.2, I will phrase Late Merge as a Feature Economy Principle. Technically, we cannot speak of reanalysis by the child, but of the acquisition of grammatical structures and rules on the basis of an input but using principles to build the most economical grammar. I continue to speak of reanalysis, however, for convenience.

Within the Minimalist Program, one encounters two views where parameters are concerned. Baker (2001, 2008), on the one hand, has suggested macro-parameters. Baker (2001), following Sapir, argues that a language has a basic character. Thus, the choice of polysynthesis, for example, implies that the language will have many other characteristics. Chomsky (2004, 2007), Lohndal (2009), and many
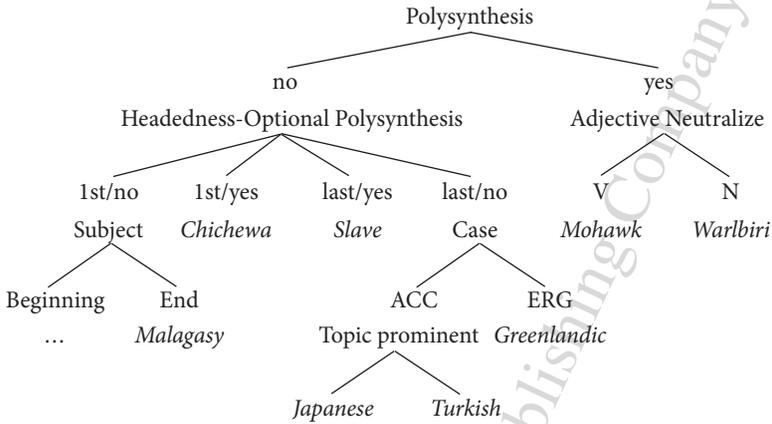
Figure 1. Baker's simplified macroparameter hierarchy

others, on the other hand, attribute as little as possible to the role of parameters and to Universal Grammar in general. Minimalist parameters consist of choices of feature specifications as the child acquires a lexicon, as in Borer (1984), dubbed the Borer Chomsky Conjecture by Baker (2008). All parameters are lexical and determine linearization; therefore, they account for the variety of languages.

Baker's (2001) macroparametric hierarchy is given in Figure 1. There is very little room for gradual reanalysis here: if a language is reanalyzed as polysynthetic, it suddenly has to decide on headedness and subject position as well. There is in this model no way to account for unidirectionality either.

The model also has a flavor of arbitrariness and is difficult to envision as part of Universal Grammar (see also Baltin 2004: 551). As I show in van Gelderen (2009), the settings can change relatively 'fast' in some languages without too many other characteristics changing. For instance, the Northern Athabascan languages lack object polysynthesis whereas the Southern ones have it; otherwise, the two branches are quite similar. This kind of change presents a problem for the hierarchy of macroparameters. In addition, the question arises how this would have come about as an evolutionary shift.

Baker (2008: 155) suggests two macroparameters, as in (1) and (2). The choices are 'shallower' than those in Figure 1 and one choice can be easily made, without having to go down a set of choices, as one does in Figure 1.

(1)   The Direction of Agreement Parameter (DAP)
       F agrees with DP only if DP asymmetrically c-commands F.
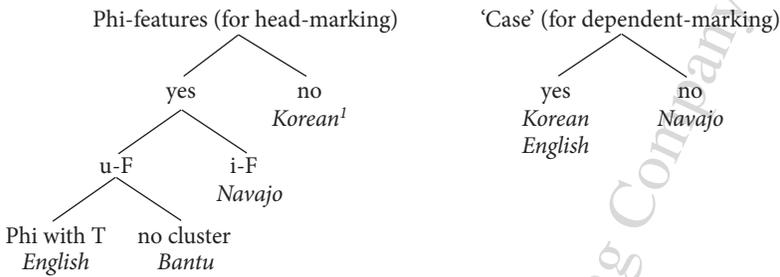   (Yes: most Bantu languages; No: most Indo-European languages)

Phi-features (for head-marking)

        yes   no
                Korean[1]

     u-F   i-F
           Navajo

Phi with T no cluster
English   *Bantu*

'Case' (for dependent-marking)

      yes   no
    Korean *Navajo*
    English

Figure 2. Feature macroparameters (van Gelderen 2009)

(2)   The Case Dependence of Agreement Parameter (CDAP)
        F agrees with DP/NP only if F values the Case feature of DP/NP (or vice versa).
        (No: most Bantu languages; Yes: most Indo-European languages)

The 108 languages that Baker (2008) examines fall into four groups and that is predicted by the DAP and CDAP: those with yes/yes, yes/no, no/no, and no/yes. Therefore, according to Baker, the DAP and CDAP "cannot be recast as the assignment of special feature values to individual lexical items; that view would allow different kinds of agreement to be found within a single language" (Baker 2008). Baker needs minor parameters too, such as if T is a probe in a particular language and how often it may agree, so that is a problem.

The standard Minimalist approach is to account for linguistic diversity in terms of parametrized features. That framework assumes that Case and agreement are always linked which is unlikely given the many languages with agreement and no Case and vice versa. I have provided a possible alternative in Figure 2, using features. This model allows for micro-reanalyses.

This means that languages could be head-marking, dependent-marking, both, or neither. It has to be coupled with a Feature Economy Principle to derive unidirectionality. If certain features (e.g. uninterpretable) are more economical – perhaps because they keep the derivation going – features will be reanalyzed accordingly.

Other attempts involving parametric features are found in Biberauer and Richards (2006), Richards (2008), and Biberauer, Holmberg, Roberts and Sheenan (2009). Initially, a child would use lexical categories (as well as demonstrative pronouns) with interpretable features (see Radford 2000). S/he would then hear evidence in English for Phi-features but would have a preference principle and, if not enough external data were available, s/he would analyze the features differently from a previous generation.

In approaches such as those represented in Figure 2, the choices are not as deep and are feature-based. This means that the child may get hints to pay attention to certain features. For instance, if modals are around, a child might postulate a M(ood)P and then needs to decide on the types of features connected to it. The parametric differences expressed in Figure 2 are also in accordance with the view that parameters are only relevant to lexical and grammatical items.

In this section, I have outlined some Minimalist approaches to linguistic diversity and how these relate to gradual, unidirectional language change. Baker's macroparametric approach is hard to use to account for grammaticalization and unidirectional reanalyses; feature-based accounts fare better since they allow for micro-shifts, as I will show below. I first discuss Roberts's contribution since it uses a featural approach.

3.   Features

Roberts thinks of a category in the traditional sense, either as one or the other. However, for him categories come as micro-categories, as in Cinque (1999). In common with much current generative thinking on grammaticalization, Roberts shows that certain heads move upwards as they grammaticalize. In this section, I will quickly summarize some of the main points in Roberts's feature-based approach; in the next section, I show how some of the cases described by De Smet (this volume) can be accounted for using a (slightly different) featural approach.

Cinque (1999), as is well-known, proposes a fine-grained cartography, part of which is given in (3a), and which might look like (3b) in a structural representation.

(3) a. TP-Layer
         Tpast Tfut Moodir Modnec   Modpos ASPhab ASPrep ASPfreq
         once then perhaps necessarily possibly usually again   often
     b.

Roberts outlines the Cinquean model and argues that features are the key to gradience even though he does

> not attempt a featural breakdown of these categories, but it is clear that … differences may be rather subtle. Moreover, a single lexical item may be able to instantiate several categories: *can*, for example, may be Mod$_{Ability/Permission}$, Mod$_{Possibility}$, Mod$_{Epistemic}$ and perhaps Mood$_{Evidential}$. These incremental differences among categories, combined with the possibility of multiple exponence for many lexical items, may give rise to the impression of synchronic gradience.
> (Roberts, this volume, p. XX)

Roberts then goes on to discuss the well-known grammaticalization of Romance futures and argues for a change from verb to deontic modal to future marker. In other languages, there can be a further change to epistemic modals, as in (4).

(4)   (Knock at door): That'll be John.   (from Roberts, this volume, example (21))

This is in accordance with moving to the left and up in the tree in Cinque's hierarchy and should be put in terms of features.

Roberts then introduces a second mechanism relevant to upwards grammaticalization, namely permutation invariance. Certain nouns become determiners and quantifiers, e.g. 'thing' in French and Arabic becomes a negative. This change can be represented as one from (5a) to (5b), certainly a loss of lexical meaning but not of semantic complexity.

(5)   a.   *λx (thing (x))* ("the set of x such that x is a thing")
      b.   *λPλQ¬∃x[P(x) & Q(x)]* ("the sets P and Q such that nothing is in both").

He attempts to link this to the reanalysis of a lower word as a higher one. The change of a verb to a modal to a future marker may involve such an increase but not all cases of grammaticalization do. As Roberts himself puts it: "it remains unclear whether we can consider the higher functional categories to be *featurally* simpler" (p. XX).

According to Roberts, we need "an appropriate feature system which breaks down major categories (N, V, etc.) into smaller ones (count noun, transitive verb, etc.) up to a fairly fine-grained level. In the case of functional categories, which will be the major concern in what follows, we will be dealing with categories such Modal, which can be divided into epistemic, alethic, deontic, etc." (p. XX). Such a refinement definitely is needed.

For me, one question is what motivates the upwards movement. If the features of the higher position are simpler, there is a reason why a language learner would simplify the item. In agreement with Roberts and Roussou (2003), Roberts (this volume), and van Gelderen (2004, 2008a, b, c) and others, it seems that, in all cases where we have upwards reanalysis, the reanalyzed element is at some

point associated with two positions but the higher position has different features. A good example of that is the shift of *for* from preposition to complementizer. I will therefore discuss the case as presented in De Smet (this volume) and then reanalyze it in terms of upward reanalysis and feature simplification.

4.   From P to C

De Smet (this volume) examines the phenomenon of grammatical interference, the "diachronic process by which a grammatical item is attracted to a different category without being absorbed by it" (p. XX). De Smet's assumptions and mine are very different. He is very structuralist in his emphasis on a word's "journey through a language's categorical space" (De Smet, this volume, p. XX) whereas I see grammaticalization as the consequence of internal pressure on the language learner. I will therefore focus on the data rather than on theoretical differences. De Smet's case studies involve the subject marker *for* and the particles *out* and *forth*. I will focus on the former in Section 4.1 and argue that the changes involving *for* present a clear instance of upward grammaticalization. De Smet examines *for* from Middle English on. I will add the picture for Old English in Section 4.2 and show how *for* turns from a preposition into a complementizer. This is much updated from van Gelderen (1993, 1998, 2008c). In Section 4.3, I then add the reanalyses in Middle English.

4.1   De Smet

De Smet's aim is to examine "the simultaneous associations with different categories that items under change can maintain, and what this can reveal about decategorialization and persistence in grammaticalization" (De Smet, this volume, p. XX). The category of *for* is, of course, both a P and a C in contemporary (and Middle) English. De Smet emphasizes the original purpose function and argues that the complementizer arose as a reinforcer of the *to*-infinitive and is not reanalyzed from the preposition *for* (p. XX). It is never clear what category this reinforcing *for*, e.g. in Middle English (6) or (7), is.

(6)   *for ðe folke   to kastin*
       to the people to chastise
       'to chastise the people.'   (from De Smet, this volume, example (4))

(7)   *se kyng hit dide for to hauene sibbe of se earl Angeow*
       'the king did it (for) to have a relation from Earl A.'
                                    (*Peterborough Chronicle* 1127; from Visser 1972:1001)

De Smet says that the disappearance of this reinforcing use of *for* "roughly fits" (p. XX) with the disappearance of OV-order, but that's not the case in (7) which is VO and which continues in a second clause, given as (8), i.e. with an OV. Although one might argue the NP *sibbe of se earl Angeow* in (7) is 'heavy' and therefore extraposed, there are lots of other early *for to* examples with VO, as in (9), where the object is not heavy.

(8)   *se kyng hit dide <u>for to hauene</u> sibbe of se earl Angeow*
      <u>*for helpe to hauene*</u> *togænes his neue Willelm*
      'to have help against his nephew William.'
                (*Peterborough Chronicle* 1127, Thorpe edition, from Visser 1972: 1001)

(9)   *me brekeð þe nute <u>for to habbene</u> þene curnel*
      'One breaks the nut for to have the kernel.'
                                        (*OE Homilies* I, 79, Visser 1972: 1001)

How did *for* get reanalyzed as a subject marker? According to De Smet, "similarity to other sequences [such as the ACI] generated by the grammar made *for... to* infinitives a passable English construction" (p. XX). Then, this construction starts looking like a preposition and that is the reason "that *for...to*-infinitives have never been very successful with verbs not already taking *for*-objects" (p. XX). An example of a subject marker from De Smet is given in (10).

(10) *And this me semeth shuld be sufficient instruction <u>for</u> the husbande to kepe measure.*   (from De Smet, this volume, example (5))

The earliest instance of a structure such as (10) that Visser provides is from the mid 15th century. Having *for* be a reinforcer early on (in (6) to (9)) and not a preposition and having it look like the preposition later (in (10)) seems to me ad hoc in De Smet's account. Another quotation from De Smet (this volume) emphasizes this shifting allegiance of *for* again:

> Subject-marker *for* and the preposition *for* are syntactically and semantically sufficiently different to treat them as homonyms, yet something – we may assume formal similarity – causes the subject-marker to keep gravitating toward the preposition and to model its distribution after that of the preposition.   (p. XX)

So, before 1400, *for* is a reinforcer and cannot be a preposition or complementizer, according to De Smet, but after 1400 it starts to look to the preposition as a model to gravitate towards. This part is not well argued.

I turn to an earlier stage of the development of *for* and show how it was reanalyzed as a complementizer, and then speculate how a similar account could work for the later stages, i.e. the introduction of the subject marker.

4.2   From PP to C

As is well known, the earliest use in English of *for* is as preposition and only after 1150 is it a complementizer. In early Old English, e.g., *Beowulf's* (11), a spatial/ locational meaning can be observed. There is also an early temporal meaning for *for(e)* in (12), but this is infrequent.

(11)   *hlynode*   <u>*for   hlawe*</u>
        made-noise before mound
        'It made noise before/around the gravehill.'   (*Beowulf* 1120, Klaeber edition)

(12)   *ða   geworden aron in iuh <u>for long</u> in asca … dydon 7   worhton*
        which become   are in you for long in ashes … did   and made
        'which were done in you (they) long ago would have repented.'
                                                        (*Lindisfarne Matthew* 11.21, Skeat edition)

More frequent, already at that point, is the use as a purpose marker, as in (13) and (14). Note that the PPs in both (13) and (14) are preposed and this is very frequent as well.

(13)   *wen   ic þæt ge <u>for wlenco</u> nalles   for wræcsiðum. ac*
        expect I   that you for daring not.at.all for misery/exile but
        <u>*for higeþrymmum*</u>   *Hroðgar sohton.*
        for greatness.of.heart Hrothgar sought
        'I expect you were seeking Hrothgar for daring and greatness of heart rather than for being exiled.'   (*Beowulf* 338–339, Klaeber edition)

(14)   <u>*for*</u> *werefyhtum … ond* <u>*for*</u> *arstafum   usic sohtest*
        for fighting …   and for support (you) us   sought
        'You wanted us to help fight.'   (*Beowulf* 457–458, Klaeber edition)

Visser (1972: 1001) cites an early example of a possible complementizer *for* expressing purpose, as in (15).

(15)   *we … sægdon, þæt he in Ibernia þæm londe in elðiodignisse lifde*
        we … said   that he in Ireland the   land in exile   lived
        <u>*for*</u> *ðæm ecan   eðle   in heofonum to betanne*
        for the   eternal home in heaven   to make-amends
        'we said that he lived in Ireland to make amends for an eternal home in heaven.'   (Bede VIIII, Miller 1891: 408.15, from Visser p. 1001)

The purpose marker in e.g. (14) is typically a predecessor of the cause meaning in (17). Heine et al. (1991: 157), Traugott and König (1991), and Sweetser (1990)

provide examples of this cline, which I have given in (16). In the history of English, we only have evidence for the last part of this cline.

(16)   Change in *for*
       space   >   time   >   purpose   >   cause

(17)   *ouþer for untrumnisse ouþer for lauerdes neode ouþer for haueleste ouþer for*
       hwilces cinnes oþer neod he ne muge þær cumon
       'either from infirmity or from his lord's need or from lack of means or from
       need of any other kind he cannot go there.'
       (*Peterborough Chronicle* anno 675, Thorpe edition)

The meanings connected to *for* in (6), (7), (13), and (14) are purpose, but in later Old English, e.g., the *Peterborough Chronicle*'s (17), *for* is also used as a preposition of causation. The passage from which (17) is taken is a twelfth century addition to the entry for the year 675, one which the other versions lack. The preposing of the PP continues into Middle English, as in (18), again with a cause meaning.

(18)   *For þan*   *weorldes scome; &   for þan muchele grome …*
       for/because of worldly shame and for the great   blame
       þat Dardanisc kun   þe   we beoð of   icomene. heo
       that Dardanian tribes that we are   from come   they
       woneð in þisse londe … beoð to-gadere icumene
       live   in this land … are   together come
       'They have come together because of the worldly shame and great blame
       which our ancestors the Dardanian tribes live in.'
       (Layamon, Caligula 226–230, Brook and Leslie edition)

In Old and Middle English, *forðæm* and its variants also function as 'because', as in (19). This shows that what was originally an entire PP is functioning as C.

(19)   *Theodorus archiepiscopus hine gehalgode on Eoferwic þam forman Eastordæge to*
       biscope to Hagustaldesham. forþam Trumbriht wæs adon of þam biscopdome
       'Archbishop Theodorus hallowed him at York on Easter to bishop of Hexham,
       because Trumbyrht had been deprived of his bishopric.'
       (*Peterborough Chronicle* anno 685)

Table 1 shows the early and late situation that indicates grammaticalization towards a C.

The earliest instance of *for* as a finite causal complementizer in English seems to be in the *Peterborough Chronicle*, if the *OED* is correct, and is from the entry for the year 1135, as in (20). There are two others from the entry for 1135, e.g. (21).

Table 1. Numbers and percentages of demonstrative objects (Dem) with *for* and fronting and complementizer use (van Gelderen 2008c)

	Beowulf	*Peterborough Chronicle*
Dem objects and *forðan*	16/54 = 30%	67/150 = 45%
Fronting	18/54 = 33%	80/150 = 53%
C	0	

(20) <u>for</u> *þæt ilc gær warth þe king ded*
     'because (in) that same year was the king dead.'

(*Peterborough Chronicle*, 1135, 6)

(21) <u>for</u>   *æuric man sone ræuede oþer   þe   mihte*
     because every man soon robbed another that could
     'because everyone that could robbed someone else.'

(*Peterborough Chronicle*, 1135, 8)

This locates the first use of the causal complementizer *for* with the second scribe of the *Peterborough Chronicle*, who starts adding information from 1132 on. Between 1135 and 1154, the use increases dramatically compared to the period before 1135, since the next year that has an entry, 1137, has 7 instances.

The Middle English of one hundred years later of course has many variants, as in (22) to (24), which according to De Smet would be instances of reinforcers, but which I think are a natural progression of the preposition, from purpose preposition to purpose complementizer.

(22) *þet is umbe <u>forte</u> leaden in-to þe worldes þeowdom, Syones dohter,*
     'that is about to lead into the world's slavery, Syon's daughter.'

(*Hali M* Bodley, 24)

(23) *Locrin 7 Camber to þon scipen comen. <u>for to</u> habben al þa æhte*
     'Locrin and Camber came to the ships to take all the goods.'

(Layamon, Caligula 1113–1114)

(24) *Þe king me bi-tahte þis ard <u>for to</u> beon his stiward*
     'The king me granted this land (for the purpose) to be his steward.'

(Layamon, Caligula 6724)

Variants of *forte* are also used as finite complementizers with the meaning of 'until', as in (25) and *for* is used in the Otho version of Layamon where *to* is used in Caligula, as in (26).

(25) <u>forte</u> *hii to see come*
     'until they came to sea.'   (Layamon, Otho 5971)
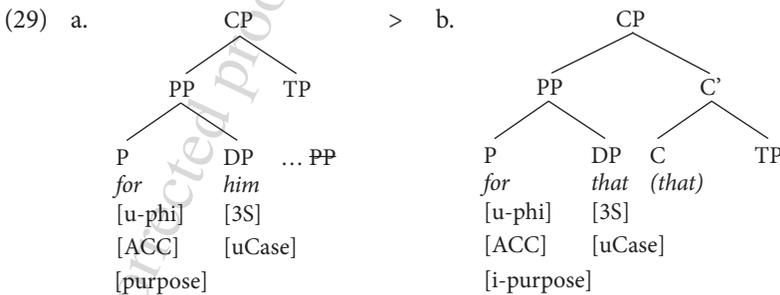
(26) a. <u>*to habben þat meiden to wiue*</u>
          'to have that maiden as wife.'   (Layamon, Caligula 7171)
      b. <u>*for habbe hire to wifue*</u>
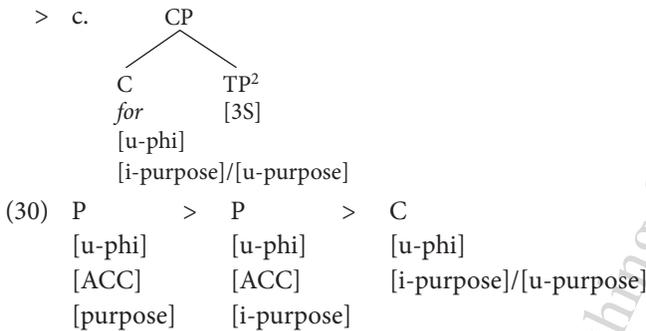   'to have her as a wife.'

So, the main syntactic changes of the PP headed by *for* are (a) preposing of the PP,
(b) reanalysis of the PP as a CP specifier, and (c) reanalysis of *for* as a C head. A PP
occupies the specifier position of the CP, whereas *for* occupies the head position. In
Old English, *for* occurs in combinations such as *for ðon ðe, for ði, for ðæm ðe*, as in
e.g. (27). With *ðe* present, there is no verb-second, indicating *ðe* is in C and the PP
for þæm in the specifier position, as shown in (28).

(27) *ac* <u>*for þæm þe*</u> *hie us near sint, we … ne magon*
      but for that   that they us close are,   we … not may
      'but because they are near to us, we can't …   (*Orosius*, Bately 122.18–19)

(28)
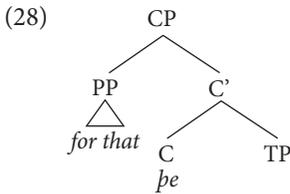
If the PP is topicalized and functions as complementizer, what happens to the
features? I have put the developments in (29). I assume the C (when the PP is topi-
calized) is not specified for purpose (yet) or isn't even present, as in (29a), but that
the semantic features of [purpose] connected to *for* express that. When the PP is
base generated in the CP, [purpose] is analyzed as an [iF] on *for,* as in (29b). After
the reanalysis of *for* as C in (29c), *for* may keep those [iF] features. Alternatively,
if it loses them, a new purpose element (e.g. an adverbial) inside the VP has to be
added. A complete picture of the changes is given structurally in (29) and in terms
of Feature Economy in (30):

(29) a.   > b.

> c.   CP
          /   \
        C   TP²
        for   [3S]
        [u-phi]
        [i-purpose]/[u-purpose]

(30) P   >   P   >   C
      [u-phi]   [u-phi]   [u-phi]
      [ACC]   [ACC]   [i-purpose]/[u-purpose]
      [purpose]   [i-purpose]

A similar development would have to be sketched for the causal P and C but I will not go into that here due to space constraints.

Concluding so far, Feature Economy is argued to be a motivating force of linguistic change, accounting for the change from specifier to higher specifier (in the case of the PPs) and head to higher head (in the case of modals). The reason is that these principles help a child reanalyze their linguistic input. I have reformulated the Late Merge Principle as a Feature Economy Principle in (30) (see also van Gelderen 2008c). Feature loss, I argue, can then be responsible for certain changes. One can think of feature loss as happening through the addition of certain words to the lexicon with different features. I will now turn to the change to *for* as a subject marker.

4.3   *For* as subject marker

De Smet provides (10) above and (31) as examples of *for* as marking the subject of the infinitive.

(31) *Also it ys a certayn techinge <u>for</u> hele to be keped, þat a man vse metys þat accordyn to his complexioun and nature*
      'Furthermore, it is certain advice for health to be kept that a man must use food that accords to his constitution and nature.'

                                                   (from De Smet, this volume, example (3))

We have discussed De Smet's account of the introduction of structures like (31) above. How could we account for this in terms of Feature Economy? I think we could go back to early explanations, e.g. Visser (1972), that make use of the
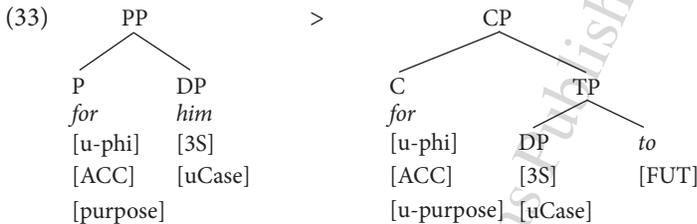
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2.   Note that only a non-finite TP is compatible with a purpose C. As far as I know, there is no complementizer agreement on non-finite Cs and hence, the [u-phi] features may be absent too.

ambiguity of *for* in (10), (15), and (31).[3] The earliest instance of *for* as a subject marker that I know is (32) and that *for* certainly is ambiguous.

(32) *make 3e redi a hors <u>for</u> poul to ride on*
      'Make ready a horse for Paul to ride on.'
                          (Wycliff Acts 23, from Visser 988; see van Gelderen 1993:133)

Since *for* is available as a preposition and a complementizer, the reanalysis in (33) is not strange.

(33)   PP   >   CP
        /   \   /   \
      P   DP   C   TP
     for   *him*   *for*   /   \
     [u-phi] [3S]   [u-phi] DP   *to*
     [ACC]   [uCase]   [ACC]   [3S]   [FUT]
     [purpose]   [u-purpose] [uCase]

In this section, I have shown how one might go about using Feature Economy to account for the changes involving the preposition *for*. I now turn to some other category switches.

5.   Small changes or gradient ones?

Denison (this volume) further considers cases that are challenges for strict categories. In this section, I show how some of the changes Denison discusses are clear reanalyses in higher positions with a loss of phi-features (in accordance with Late Merge/Feature Economy). Denison says of the changes he discusses: "[t]his is gradience – micro-steps rather than abrupt saltation from N to A" and "non-structural" (Denison, this volume, p. XX). I don't think anyone argues for an abrupt saltation from N to A or from A to D but I do think the small changes are structural. Here, I just discuss Denison's data in the light of work by Adamson (2000, not cited by Denison) and by Breban (2008, cited by Denison) on adjectives.

Adamson (2000:46) provides some examples, such as *rotten* and *dark,* that change over time to have more subjective meanings. For instance, the early meaning of *rotten* is 'sense of decay' and the later one is 'worthless'. Most of her article is about the adjective 'lovely'. In Old English, it meant 'loving' and 'amiable'; in Middle English, it had become 'physically beautiful' and that value judgment was

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3. There are many subsequent accounts which I do not have space to go into here.

extended past the physical in later stages. Adamson emphasizes the position of the adjectives. As they become more subjective, they move to the left (or 'up the tree'). In the period between 1500 and 1600, 34% are leftmost and after 1900 91% are. She also looks at the Ns modified by 'lovely'. They change from 'face, creature' to 'laziness' and 'letters' in the 1950s. This is clearly a category change, but one that goes through small stages. There are, of course, a number of proposals for the ordering of adjectives, e.g. Dixon (1982) and Cinque (to appear), and the changes follow a path upwards and leftwards.

Breban (e.g. in Breban 2008) looks at adjectives of difference, namely *different, distinct, diverse, several, sundry*, and *various*. Like Adamson, she tests what she calls the leftward movement hypothesis (Breban 2008: 298) and says that the adjectives of difference provide additional evidence for Adamson's claim. Her tables for each of these adjectives show a gradual change from 1250 to now, where some, e.g. *several* and *sundry* are now only used as quantifiers. Hence, the change is structural.

Denison says that "[w]hile the conversion A > N can be brought about by ellipsis (*hopeful*, *daily, bitter*), which is an abrupt process, I suggested that N > A was stepwise" (Denison, this volume, p. XX). I agree with this distinction between the two changes. One of Denison's examples of a change from Noun to Adjective is *rubbish*, as in (34), where it is used as predicative adjective modified by an adverb.

(34)   The light seems very <u>rubbish</u>.

Denison posits as conditions for this reanalysis a possibility of the noun to appear without D and to be gradable. This change involves loss of content. It might be helpful to consider Baker (2003), who argues that difference between nouns and adjectives is that the former have referential features. If that is correct, we could again think of this change as a reanalysis up the tree (from N to A) and with a loss of referential features. The same is true with the change from adjective to determiner, so frequent in the history of English, and discussed by Denison in Section 1.3, again as a "non-structural change."

There are a number of times when I realize definitions are so differently used. For instance, what is to Denison a non-structural change (his Section 1) seems to me clearly structural. This must also be the reason that I don't understand the sentence "strict structuralism isn't *always* the most insightful way of looking at things, and grammatical change is one domain where it does less well" (Denison, this volume, p. XX).

In Section 5, I have briefly mentioned the problem that what looks nonstructural to one linguist (e.g. Denison) looks structural to another (e.g. me).

Furthermore, the changes involving nouns, adjectives, and demonstratives follow usual pathways of change (e.g. Late Merge).

6.   Directionality and renewal

Not many in the volume discuss the directionality of the changes. The grammaticalization literature is of course full of such examples. What I would like to point out here is that Feature Economy provides an account of the unidirectionality and also where the renewal will come from.

In Table 2, typical instances of grammaticalization are provided and the sources of renewal are the left-most elements. They can be full phrases as well as single lexical items and are more clearly provided in Table 3.

These examples are familiar from the vast literature on grammaticalization, e.g. Heine and Kuteva (2002). The reason for the choice of sources of renewal mentioned in Table 3 is that they provide new semantic features for what was 'grammaticalized away': person and number (phi-features) in the case of agreement and copulas, negative features in the case of negatives, spatial features in the case of prepositions, and so on.

Table 2. Examples of cyclical change

Negative
negative argument > negative adverb > negative particle > zero
negative verb > auxiliary > negative > zero
Subject (and Object) Agreement Cycle
demonstrative/emphatic > pronoun > agreement > zero
Copula Cycle
demonstrative > copula > zero
verb/adposition > copula > zero
Definiteness
demonstrative > definite article > 'Case' > zero
Place/time
Noun > Adposition > Complementizer

Table 3. Examples of renewal

Agreement:	Emphatic pronoun/noun
Copula:	Demonstrative/verb
Modal:	Verb/adverb
Negative:	Minimizer/Negative DP/Negative AP
Preposition:	Noun

In van Gelderen (2008c, 2009), I provide an account of grammaticalization in terms of Feature Economy. It can be stated in (35) (see also (30)).

(35)   Feature Economy

a.	Adjunct/Argument		Specifier (of NegP)		Head (of NegP)		affix
	semantic	>	[iF]	>	[uF]	>	–
b.	Head	>	(higher) Head	>	0		
	[iF] / [uF]		[uF]				

Once the functional element has lost its semantic and interpretable features, this would be formulated within a Minimalist framework as becoming a probe looking for an element to value its features. Some elements are straightforward renewers: demonstratives have phi-features and can renew agreement and adverbs have temporal or spatial features and renew prepositions and complementizers.

7.   Conclusion

In this commentary, I have discussed three chapters that deal with micro-reanalyses and have suggested a way to look at these in terms of Feature Economy. I think we should stop worrying about whether change is gradual or not (it seems to be agreed by most that it is) or directional or not.

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