

# **Economy against Prescriptivism: internal and external factors of language change<sup>1</sup>**

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## **1 Introduction**

In this paper, I'll provide a short overview of some principles of the Minimalist Program, as originally outlined in Chomsky (1995). Within this framework, sentences are constructed in as economic a way as possible, e.g. movement is restricted. I formulate a few of these economy principles more precisely and then go on to examine several cases of language change. Principles of economy fashion these changes, I argue. I will also study how language-external prescriptive rules and a typically human wish for linguistic innovation interact with the internal linguistic principles.

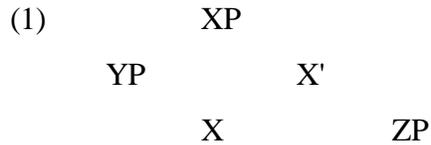
The outline is as follows. In section 2, a brief sketch of the derivation of a sentence is provided as well as a discussion of Economy. Section 3 and 4 examine a number of historical changes, and section 5 is a conclusion.

## **2 Economic derivations and language change**

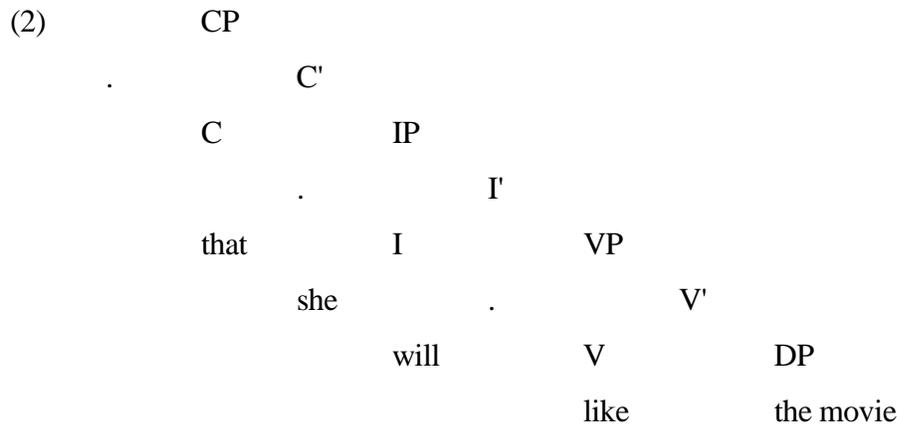
Language acquisition is helped by principles of Universal Grammar. Principles apply whenever possible, as we produce sentences. The Economy Principles I am talking about in this paper are of that kind. They help the acquisition process in that a child will acquire a grammar compatible with these principles but they also help the derivation of a sentence by an adult speaker. A derivation proceeds by selecting items from the Lexicon (into a Numeration), putting them in pairs (Merge), and then moving them if necessary for feature checking. The result is an output that is interpreted at the articulatory-perceptual interface and at the conceptual-intentional one (Chomsky 1995: 219). Variation between languages and historical stages of languages is due to the features of words in the

lexicon, not to differences in the derivation.

Within the generative tradition (e.g. Chomsky 1986), syntactic structures are built up using general rules (of Universal grammar), such as that each phrase consists of a head (X in (1)), a complement (ZP in (1)), and a specifier (YP in (1)):



This enables the speaker to use both heads and more elaborate phrases. Heads such as verbs (V), inflection markers (I), and complementizers (C) use the general schema in (1) to derive (2), representing the three layers of an English (subordinate) sentence:



In early work, this schema is quite strict, e.g. specifiers and complements are always full phrases. This strictness changes with the introduction of (minimalist) bare phrase structure in the 1990s (see Chomsky 1995). A verb and a pronoun object can merge with each other, as in (3), while one of the two heads projects, in this case V, to a higher VP:

- (3)
- |     |    |
|-----|----|
| VP  |    |
| V   | D  |
| see | it |

Phrase structures are built using merge and move. ‘Merge’ combines two items, e.g. *see* and *it*. The VP domain is usually seen as the thematic-layer, i.e. where theta-roles are determined. After functional categories such as I and C are merged to VP, ‘agree’ ensures that features in IP and CP find a noun or verb with matching (active) features to check agreement and Case.

Using general Minimalist principles, one can argue that checking between two heads, also referred to as incorporation, is more economical than between a specifier and a head. This is formulated in van Gelderen (2004) as (4):

- (4) **Head Preference Principle (HPP):**  
 Be a head, rather than a phrase.

Principle (4) is a UG principle at work in the internalized grammar and holds for merge (projection) as well as move (checking). This means that the speaker will prefer to build structures such as (5a) and (5b) rather than (5c). The FP stands for any functional category and a pronoun is merged in the head position in (5a), moved to it in (5b), but occupies the specifier position in (5a):

- |           |       |        |
|-----------|-------|--------|
| (5) a. FP | b. FP | c. FP  |
| F'        | F'    | pro F' |
| pro       | ...   | F ...  |
|           | pro   | F      |

As I show below, the Head Preference Principle is relevant to a number of historical changes: whenever possible, a word is seen as a head rather than a phrase. In this way, pronouns change from emphatic full phrases to clitic pronouns to agreement markers, and negatives from full DPs to negative adverb phrases to heads. This change is, however, slow since a child learning the

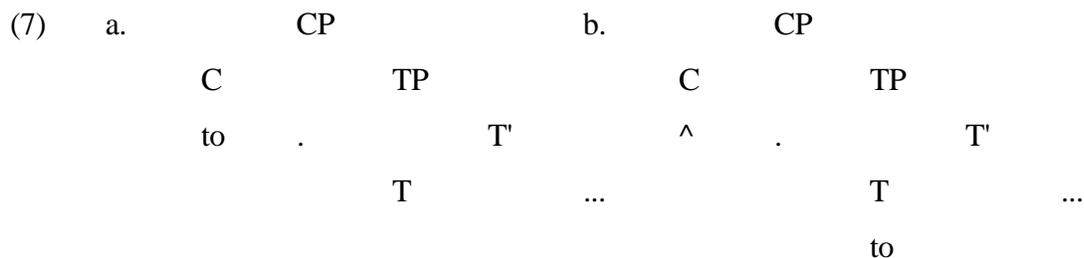
language will continue to have input of, for instance, a pronoun as both a phrase and a head. Lightfoot (1999) develops an approach as to how much input a child needs before it resets a parameter. In the case of pronouns changing to agreement markers, there will have to be a large input of structures that provide evidence to the child that the full phrase is no longer analyzed as that. I will come back to this in the next section.

Within recent Minimalism, there is a second economy principle (see e.g. Chomsky 1995: 348). Merge, as in (3) above, "comes `free' in that it is required in some form for any recursive system" (Chomsky 2001: 3) and is "inescapable" (Chomsky 1995: 316; 378). This means that it is less economical to merge early and then move than to wait as long as possible before merging. In van Gelderen (2004), this is formulated as (6):

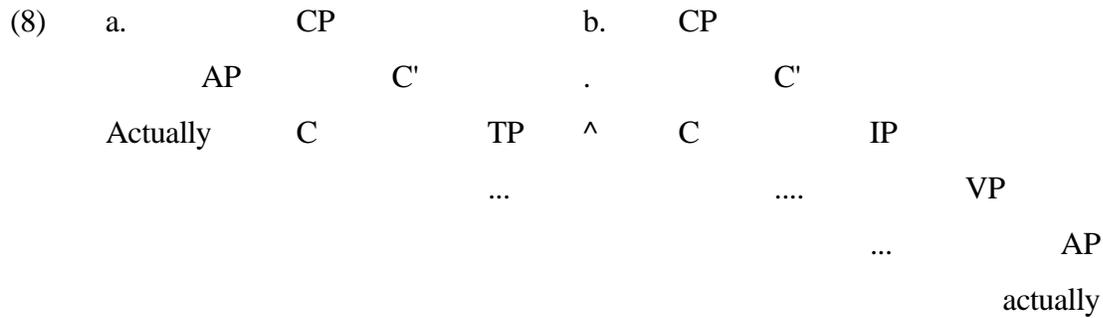
(6) **Late Merge Principle (LMP):**

Merge as late as possible

This principle works most clearly in the case of heads. Thus, under Late Merge, the preferred structure would be (a) with the P basegenerated in C, rather than (b) with the P in a lower position and moving to C. See also Kayne (1999). This accounts for the change from lexical to functional head or from functional to higher functional head so frequently described in the grammaticalization literature (e.g. Heine & Kuteva 2002):



Late Merge also accounts for lexical phrases becoming base generated in the functional domain. An example is a PP or AP that is initially a manner adverb, i.e. merged in the VP shell, and changes to being merged only by the CP-level:



Chomsky (2001: 7-8) reformulates the notions of merge and move as external and internal merge respectively. "Argument structure is associated with external merge (base structure); everything else with internal merge (derived structure)" (p. 8). The latter leaves a copy in place, but is otherwise similar to merge. In this system, internal and external merge are variants of each other. However, internal merge (i.e. earlier move) is still less economical since there is an additional copy (formerly a `trace') in the derivation.

How exactly does Late Merge account for language change? If non-theta-marked elements can wait to merge outside the VP (Chomsky 1995: 314-5), through external merge, they will do so. I will therefore argue that if, for instance, a preposition has fewer semantic features and is less relevant to the argument structure (e.g. *to*, *for*, and *of* in ModE), it will tend to merge higher (in IP or CP) rather than merge early (in VP) and then move. Like the head Preference Principle in (4), Late Merge is argued to be a motivating force of linguistic change, accounting for the change from specifier to higher specifier and head to higher head. Roberts & Roussou (2003), Wu (2004), and Simpson & Wu (2002) also rely on some version of Late Merge.

Many historical linguists see language change as determined by two kinds of factors. There are internal ones, such as (4) and (6) above, of economy or of `ease', as in Jespersen (1922). There are also external reasons for language change such as a `need' by speakers to be innovative and creative and a `need' by society to be conservative and prescriptive. Jespersen's formulates this tension as a `tug-of-war', and Lightfoot (1979) recognizes the difference between "changes necessitated by various principles of grammar" and those "provoked by extra-grammatical factors". In what follows below, I will give some examples of changes due to an `ease' principle (formulated

in minimalist terms) and show how this interacts with language external pressure such as prescriptive rules and creativity/innovation.

### **3 Some changes from phrase to head**

In this section, I provide two examples of a change brought about by the HPP. In 3.1, relative pronouns are argued to be replaced by complementizers (or conjunctions). In 3.2, it is shown that subject pronouns are reanalyzed as agreement markers.

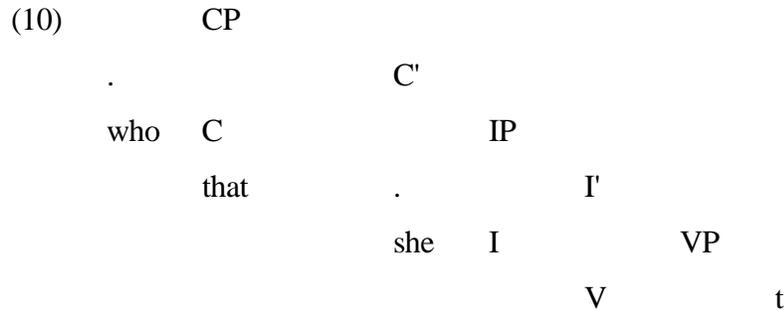
#### *3.1 Relative Clauses*

I will first give a relatively traditional analysis of English relative clauses. Two strategies (one with a *wh*-pronoun and one with *that*) are used in Modern English. However, I show that in spoken English the one that obeys (2) above is preferred.

There are many languages, varieties of English included, that have relative pronouns or full phrases as well as complementizers, as (9) shows:

(9) I wonder [which dish] [that] they picked (Henry 1995: 107).

As is well-known, 'standard' English allows either a *wh*-phrase or *that*, but not both. The structure given for English relatives is as in (10), where the *wh*-pronoun is in a specifier position (since it can be a full phrase) and *that* is in the head position (since it can never be expanded into a phrase). These elements are in complementary distribution:



The evidence for the respective positions is that prepositions accompany the *wh*-pronoun and render it a phrase, but *that* cannot be expanded and used as a phrase, as shown in (11):

(11) The man to whom/\*to that they spoke.

The reason that English has both positions is an external one: in Middle English, there is a period of just *that* but then in special circumstances such as formal letters the *wh*-form is introduced. I won't go into that here, but see van Gelderen (2004). In Modern English, it is uncontroversial that *that* is preferred over the *wh*-pronoun. This is evident from sentences such as (12) and (13), where *that* replaces a *from which* and *whose* respectively:

(12) I haven't been to a party yet that I haven't got home the same night.

(13) The girl that her eighteenth birthday was on that day (both from Miller 1993: 111-2).

Change is always more obvious in the spoken than in the written language and if there is a huge difference between the two, this is most often due to external pressure. Since relative clauses display quite a difference between spoken and written patterns, as I will now show, a prescriptive rule is very likely at work.

Montgomery & Bailey (1991: 155) analyze relative clauses in academic speech and writing. Of the 200 relative clauses in speech, 138 use *that* (=69%), 36 have no marker (=18%), and 26 (=13%) use a *wh*-pronoun. In writing, the percentages are reversed. Of the written relative clauses that are examined, 22 use *that* (=11%), 6 have no marker (=3%), and 172 (=86%) use a *wh*-pronoun.

College students (e.g. in a 300-level grammar course) report that they are told to avoid *that*, in favor of *who* and *which*, and this shows in the data collected by Montgomery & Bailey. This means that the HPP is hindered by prescriptive rules.

Many current prescriptive rules for relative clauses involve human antecedents. For instance, Fowler (1926[1950]: 716) says "at present there is much more reluctance to apply *that* to a person than to a thing. Politeness plays a great part", and a more recent guide says: "*who* refers to people or to animals that have names. *Which* and *that* usually refer to objects, events, or animals and sometimes to groups of people" (Kirszner & Mandell 1992: 381). It is therefore not surprising that Montgomery & Bailey find 67% *wh*-pronouns used in the written data but only 18% *wh*-pronouns in the spoken sample.

My corpus data corroborate the findings regarding the preference for *that* in spoken data. The spoken part of the British National Corpus (see <http://sara.natcorp.ox.ac.uk>) shows that the pattern of [the N *that*] is much more frequent than [the N *who/whom/which*] with 11,722 *that* (=77.5%) against 3409 *who*, *whom*, and *which* (=22.5%). There may be a slight difference between British (as in the BNC) and American tendencies (as in Montgomery & Bailey's data). Thus, in a relatively formal spoken corpus of American English, the 2-million-word Corpus of Professional Spoken American English (hence CSE, [www.athel.com](http://www.athel.com)), the percentages of *wh*-pronouns are in between those of Montgomery & Bailey and the BNC, as table 1 shows:

Table 1: *That versus wh- in the CSE*

	the N	a(n) N
<i>that</i>	5637 (=82%)	1758 (=81%)
<i>wh</i> -form	1199 (=18%)	414 (=19%)
total	6836 (=100%)	2172 (=100%)

This corpus contains transcriptions of committee meetings, faculty meetings, and White House

briefings and the numbers are expected to be more extreme in other studies of spoken American varieties. Having shown that a tendency exists in Modern English to use the relative clause marker that is in a head position rather than the one that is in a specifier position, I'll now return to the status of Principle (2). It is clear that (2) accounts for the preference but where is (2) at work? A child acquiring a language will use a head *that* over a specifier *wh*-pronoun, all things being equal, and so will adult speakers. If adult speakers are to use the Head Preference Principle often enough, the *wh*-pronoun will disappear in the language the children are using to build their grammar. This seems to be the case based on the results cited above. Only in writing is there still robust evidence for having a *wh*-pronoun in relatives.

It may be that since the *wh*-pronoun is frequent in questions, where it also is in the Specifier of CP, may help retain it in relatives. There is another complicating factor in that a potentially ambiguous word such as *who* could be analyzed as a head in C and therefore have the same status with respect to (2) as *that*. Thus, the question is whether or not the child will have enough linguistic evidence that *who* is not always a head but sometimes part of a larger phrase. The evidence in favor of the *wh*-form as phrase would be sentences such as (14):

(14) this Tory high flyer, about whom er, my friend over there speaks with such admiration and envy (BNC J9M-596).

However, relative clauses such as (14) are rare in the spoken corpora (two with *about* and 23 with *to* in the BNC). It may be the case that *who* is already considered a head and that's the reason the case distinction between *who* and *whom* typical of a specifier is typically no longer made. Thus, even though there are 1269 instances of *who*, there are only 23 of *whom* (=1.8%) in the CSE; the same is true in the spoken BNC, with 18,405 instances of *who* and only 271 of *whom* (=1.8%). The written BNC has 12,325 instances of *whom* (=6.3%) and 182,586 instances of *who*. There are also some interesting hesitations, as in (15), where the initial head *who* is 'corrected' to the phrase *for whom*:

(15) But there are erm others who, for whom teaching is the major aspect and the important role that they perceive for themselves (BNC KRH-2182).

In conclusion, I have shown that the HPP predicts that speakers will use *that* over the *wh*-pronoun but that there are other factors that keep the *wh*-pronoun 'alive'. There are a number of other changes that can be described as going from phrase to head, e.g. Early Germanic demonstrative pronouns 'become' complementizers, demonstrative pronouns are reanalyzed as articles, negative adverbs are reanalyzed as negation markers, and adverbs end up as aspect markers (see van Gelderen 2004 for more instances). In the next subsection, I examine another such case.

### 3.2 *Pronouns changing to agreement markers*

Since Jelinek (1984), it has become possible to see the gradations in strong, weak, independent and clitic pronouns as determined by whether these elements are arguments or not. If agreement markers are obligatory and (pro)nominals are not, the language may be a pronominal argument language, with the (pro)nominals as adjuncts and agreement markings as arguments. Without actually worrying about the status of agreement in French, I will argue in this section that the pronouns in varieties such as Swiss French are in fact agreement.

Lambrecht (1981) and others have argued convincingly that the subjects in Colloquial French are no longer fully independent pronouns but are dependent on the verb and need to be immediately adjacent to the verbal complex, as the data in (16) show:

- (16) a.     \**Je lis et écris*  
          I read and write.  
      b.     *Je lis et j'écris*  
          I read and I-write

In structural terms, this means that pronouns such as *je* 'I' are heads rather than being in the specifier position as in (5c) above. That also explains why they cannot be modified or coordinated (\**je et tu* 'I and you').

The renewal of the subject by an emphatic pronoun, as in (17), is very common as well, expected if the former subject is reanalyzed as agreement morphology:

- (17) *et on voit que lui il n'apprécie pas tellement la politique*  
And one sees that him he not-appreciates not so the politics  
'and it can be seen that he doesn't appreciate politics that way'. (Corpus of Spoken French, CSF, p. 15-466)

From the code switching literature, it is well-known that Arabic-French switches as in (18a) are perfectly well-formed, since the Arabic *nta* 'you' is treated as an emphatic pronoun, but that it cannot take the place of French *tu* 'you', as in (18b) since the latter has become agreement:

- (18) a. *nta tu vas travailler*  
you you go work  
'You go to work' (from Bentahila and Davies 1983: 313).  
b. *\*nta vas travailler*

There is a lot of prescriptive pressure from Standard French, and in most varieties, the change has not been completed in most varieties. For instance, in colloquial french French, doublings such as (17) do not (yet) occur with indefinite subjects, suggesting the change is not complete. Swiss French is further 'ahead'.

Fonseca-Greber (2000: 127) in her study of Swiss Spoken French shows that forms such as *je* 'I' always precede the finite verb. If they were anything else than agreement, this wouldn't be the case. She also shows (p. 314) that all emphatic pronouns (except for *eux* 'them') are accompanied by the subject pronoun. Definite NPs (p. 329) have additional pronouns around 60% of the time, with human singulars the highest. Indefinites are surprising in that doubled 'pronouns' occur very frequently, average 77%. Examples are:

- (19) *une omelette elle est comme ça*

an omelette it is like that

`an omelette is like that' (Fonseca-Greber 2000: 335).

(20) *si un: un Russe i va en france*

if a a Russian he goes to France

`if a Russian goes to France, ... ' (Fonseca-Greber 2000: 335).

Quantifiers are the least likely to have doubling, namely about 20%, but they do occur, as in (21):

(21) *c'est que chacun il a sa manière de ...*

it is that everyone he has his way of ...

`It is that everyone has his/her own way' (Fonseca-Greber 2000: 338).

The changes in French show that subject pronouns change from full phrases to heads, in accordance with the HPP. Early on, I stated that all variation between languages and varieties is in the lexicon. This means that the HPP guides the language learner, all things being equal, to analyze the pronoun in French as a head. Due to external pressure from Standard French (e.g. 16a being used), the pronoun remains ambiguous and listed in the lexicon as either phrase or head. I will now turn to the second Economy Principle, namely the LMP.

#### **4 From head to higher head**

In this section, I examine two structural changes but this pattern is extremely wide-spread across languages. The changes are due to the LMP, a principle I will first discuss a little more before turning to the two changes, one change that has met with a lot of prescriptive opposition (i.e. *to*) and one that has not (i.e. *for*). I'll start with the latter.

#### 4.1 The LMP

In section 2, Merge was introduced. It takes two items and connects them, which is represented by means of branches, as in (3) above. The first words merged will be those that have some relevance for argument structure. Thus, the verb merges with its subject and object and the result is a VP. After the grammatical layer IP (sometimes referred to as TP) is merged with the VP, the subject may move to that layer for the checking of certain grammatical features. To the IP, the C is merged, which constitutes the discourse layer, where e.g. questions or topics are marked, resulting in a structure like (2) above.

The situation where Late Merge becomes relevant to the derivation is, for instance, when an AP or PP that is important to the theta-structure (expressing a Goal or Source) is moved to the CP-layer to indicate the Force (purpose) of the sentence. I will go into two such examples here.

#### 4.2 For from P to C

In Old English, *for* functions as a preposition of location and cause in examples such as (22) to (25). Quite early on, PPs containing these prepositions are preposed, as in (23) and (24), typically when they are causal in meaning (see also van Dam 1957):

(22) *þæt he for eaxlum gestod*

that he before shoulders stepped (*Beowulf* 358).

(23) *for werefyhtum ... ond for arstafum usic sohtest*

for fighting ... and for support (you) us sought (*Beowulf* 457-8).

(24) *forþan ic hine sweorde swebban nelle*

therefore I him sword-DAT kill not-want (*Beowulf* 679).

(25) *ouper for untrumnisse ouper for lauertes neode ouper for haeleste ouper 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).

The LMP predicts that the PP rather than first being merged in the VP and then moved to the Specifier of CP, would be reanalyzed as merging directly in the Specifier of the CP. That accounts for use with pronoun objects as in (26) and (27) where the PP is not moved from the VP to the CP, but starts as part of the CP, as in (8a) above:

(26) *forþam Trumbriht was adon of þam biscopdome*

`because T had been deprived of his biscopric' (Peterborough Chronicle, anno 685).

(27) *ac for þæm þe 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 122.18-9).

The use of *for þam* as complementizer is frequent. The next step is one where *for* is reanalyzed as the head, in accordance with the HPP. First as a finite C in sentences such as (28) and (29) and later as a non-finite one, as in (30) and (31):

(28) *for æuric man sone ræuede oþer þe mihte*

because every man soon robbed another that could

`becasue everyone that could robbed someone else' (Peterborough Chronicle, 1135, 8).

(29) *for agenes him risen sona þa rice men*

(30) *Locrin 7 Camber to þon scipen comen. for to habben al þa æhte*

Locrin and Camber to the ships came for to have all the goods (Layamon, Caligula 1113-4).

(31) *moche he lofde echn(e) cniht. þat lofde for to segg(e) riht*

Much he loved every knight that loved for to say truth (Layamon, Otho, 5523).

The change from the preposition *for* to complementizer is expected given the LMP: a causal PP is moved to the CP from the VP but subsequently is merged in the higher position without movement. Unlike other cases, I know of no external pressure hindering this change. That is not quite the same

with the infinitival *to* discussed in the next section.

### 4.3 *To from P to C*

In Modern English, the following near-minimal pair occurs:

- (32) a. It would be unrealistic not to show them to be human (BNC-CBF 14312).  
b. It would be unrealistic to not expect to pay higher royalties (BNC-CSS 245).

If the position of the negative *not* is fixed, *to* in (32b) has moved to a higher position from the one *to* occupies in (32a). The LMP would predict that (32b) is more economical. Prescriptive rules against this 'split infinitive' are still so powerful that this change will take time.

## 5 Conclusions

In this paper, I have examined some changes in the (recent) history of English and French and accounted for them by means of two Economy Principles. Most of the cases I have looked at display an interesting interplay between internal and external factors.

### Abbreviations

BNC	British National Corpus
CSE	Corpus of Spoken English
CSF	Corpus of Spoken French
F	Functional, any functional category
HPP	Head Preference Principle
LMP	Late Merge Principle

## Notes

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