

## CHAPTER 8

# Principles and parameters in change\*

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### 1. Introduction

In this paper, I examine variation in use between pronouns and nouns, between differently case marked pronouns and nouns, and between the different persons. These differences do not constitute absolute tendencies, or splits, and they are only detectable when looking at large numbers of instances. I show how this variation has theoretical implications, in particular for Economy Principles, thus providing insights into I(nternalized)-language. I also consider historical data which show that fast change (e.g. the loss of morphological case) is suggestive of a parameter resetting, but that slow change (e.g. the noun pronoun split) is indicative not of a change in a principle but of a change in pronominal status. Using three corpora, I also raise some questions concerning the nature of linguistic data.

#### 1.1 Background

Some variationist work within generative grammar has revolved around invoking different parametric settings to account for different varieties (e.g. Henry 1995; Kayne 1989). I will look at nominal and pronominal variation in terms of a (Minimalist) Economy Principle that guides speakers to build the syntactic structure up to just a head rather than to a phrase. This predicts that personal pronouns are less often coordinated (since coordinates are phrasal) than nouns and this is borne out consistently in the corpora used. I call these differences 'splits', adapting a phrase from typology. Looking at these contrasts in a diachronic corpus, there is very little change in 400 years, which is to be expected if we are dealing with an (invariable) principle. The changes that do occur are

indicative of pronominal change. The loss of morphological case, in contrast, is a fast change, it being a parameter resetting rather than a principle at work.

The paper helps to show that variation is relevant to theory building (cf. also Wilson & Henry 1998; Cornips & Corrigan to appear). It also discusses where electronic texts and corpora are helpful and where they are not. The outline is as follows. In Section 1.2 immediately below, I provide some background to the use of statistics and corpora in generative grammar. In Section 2, evidence for some noun-pronoun, case, and person splits in a modern corpus is given. A theoretical account for this split is presented in Section 3. In Section 4, I compare Shakespearean English to Modern English. In Section 5, I examine a pronominal change in case marking that shows quite a fast rate of change.

## 1.2 The use of corpora and statistics

I will first briefly discuss the corpora and texts I use. Then, I assess some generative attitudes towards the use of statistics and corpora, and justify how numbers of occurrences do indeed say something about internalized language, also known as I-language or competence, the object of generative inquiry.

In this paper, three corpora are used (see references for URLs). The rather formal (2 million-word) *Corpus of Spoken Professional American English* (hence *CSE*) consists of three parts: White House briefings (WH), Faculty Meetings at UNC (FAC), and Committee Meetings held all around the United States to discuss tests (COM). The *British National Corpus* (hence *BNC*) consists of a spoken and written part. It is a much larger corpus than the *CSE* with the spoken part comprising 10% of the 100 million-word corpus. The *BNC* is a lot less formal than the *CSE*. However, the use of the *BNC* is sometimes not practical. For instance, in the spoken *BNC*, there are 89,390 instances of *he* and *him* and 332,315 of *I* and *me*.

The *Helsinki Corpus of English Texts* (hence *HC*) is a diachronic corpus using many different text types. Old English (OE) is usually considered to be the form of language dating between 450 and 1150; Middle English (ME) between 1150 and 1500; and Early Modern English (EMOD) after 1500. The *HC* divides each further into OE1-2 from before 950; OE3 from 950 to 1050; OE4 from 1050 to 1150; ME1 from 1150 to 1250; ME2 from 1250 to 1350; ME3 from 1350 to 1420; ME4 from 1420 to 1500; EMOD1 from 1500 to 1570; EMOD2 from 1570 to 1640; and EMOD3 from 1640 to 1710.

In addition to the corpora, I have used electronic texts (made available by the *Oxford Text Archive*): the Old English *Beowulf*, the Early Middle English versions of Layamon's *Brut*, and the 1623 *First Folio* (henceforth *F1*) edition

of Shakespeare's plays. I have also used the *Dictionary of Old English Corpus* (DOE), available through the University of Toronto).

Generative linguists working on 'living' languages often view work with corpora and statistics as not indicative of the I-language but rather of the E(xternalized)-language (also known as performance). Wasow (2002) reviews Chomsky's views on the use of quantitative data. Some of the quotes he chooses show that what Chomsky has in mind is word choice or word concordances, not grammatical phenomena. For instance, the choice of *Nevada* over *New York* seems irrelevant to underlying linguistic structures in:

It seems that probabilistic considerations have nothing to do with grammar, e.g. surely it is not a matter of concern for the grammar of English that 'New York' is more probable than 'Nevada' in the context 'I come from-?.'

(Chomsky 1962: 128)

In this paper, I try to get at subtle grammatical variation and I find that data obtained from corpora and other electronic texts show systematic differences that are indicative of features and parameters of the internalized grammar. For instance, when coordination is more frequent with a particular word class, i.e. pronouns, it indicates an important fact about the status of pronouns in the I-language.

In contrast to synchronic linguists, historical generative linguists have embraced work with e.g. the *HC*, the *DOE*, the *Penn-Helsinki Parsed Corpus of Middle English*, and the *Brooklyn-Geneva-Amsterdam-Helsinki Parsed Corpus of Old English* (e.g. Pintzuk 1999; van Bergen 2003; Trips 2002; and Wood 2003). Notable exceptions exist of historical linguists not making use of these corpora, e.g. Lightfoot (1999). Lightfoot argues that change in language (E-language) is gradual, but change in grammar (I-language) is abrupt. The latter is due to parameter resetting. His interest in abrupt changes may be the reason for his non-use of the corpora. I uncover grammatical splits and find that data obtained from corpora and other electronic texts show systematic differences that are indicative of principles and parameters of the internalized grammar.

Principles are "language-invariant statements" (Chomsky 1995: 25) whereas parameters must be set for certain values. A possible parameter is whether *wh*-movement applies overtly (so it is visible) or covertly (so it looks as if the *wh*-element is not moved) in a particular language. Examples of principles include a 'locality condition' on movement, 'Full Interpretation', and an 'Economy of Derivation' Principle (see Chomsky 1995: 28). The principle I assume in Section 3 belongs under Economy of Derivation.

## 2. Noun/pronouns splits

In this section, I first show that pronouns are less often coordinated than nouns. They are also less often modified by relative clauses or adjectives. For practical purposes, I focus on first and third person pronouns mostly, and on coordination rather than modification. Auxiliaries also cliticize more readily to pronouns. The reason for the lack in coordination and more frequent cliticization is given in Section 3, namely pronouns can be heads more readily.<sup>1</sup> Second, nominative pronouns are less often coordinated than accusative ones (even though this is only statistically significant in larger, less formal corpora such as the *BNC*, as shown in Section 4). Third, first person singular is less often coordinated as compared to third person singular. The reason behind these two facts is addressed in Section 3.

### 2.1 Pronouns vs. nouns

From the *Corpus of Spoken Professional American English* (as mentioned, from now on *CSE*), I have selected the 161,000-word Faculty Meetings' part, but the other parts are very similar. These transcripts show a split between nouns and pronouns. Thus, nouns such as *faculty*, *departments* and *school(s)* are coordinated over 10% of the cases, e.g. *faculty* occurs 353 times and is coordinated with *and*, as in (1), 62 times, i.e. 17.6%. As will get clearer later on, when I use 'noun', technically this means a D(eterminer)P(hrase):<sup>2</sup>

- (1) to try to tap into what *students and faculty* have an interest in doing.  
(CSE-FAC97)

*Faculty* occurs much more often than 353 times but I have disregarded the modifying uses of *faculty*, as in (2):

- (2) but for the grieving *faculty* member who feels that he or she was dismissed  
... (CSE-FAC95)

For the noun *school(s)* in the same part of the *CSE*, the percentage coordinated is 16.4, namely 55 instances of *school(s)* with nine coordinated. In the same part, *students* are coordinated 51 times out of 367, which is 13.9%. *Departments* occurs 52 times of which 12 are coordinated, i.e. 23%. This use is very different from that of pronouns, as Table 1 shows. Thus, first person singular pronouns are coordinated less than 1% of the time and third person singular less than 2%.

A second difference between nouns and pronouns is cliticization of an auxiliary. This is common with pronouns, as Table 2 shows for cliticization of *am*,

Table 1. First and third person pronouns versus nouns in CSE-FAC

	Uncoordinated	Coordinated	Total
<i>I/me</i>	3024	20 (= 0.66%)	3044
<i>s/he, her/him</i>	227	4 (= 1.73%)	231
<i>faculty, student(s), school(s), departments</i>	693	134 (= 16.2%)	827

$\chi^2$  is 418.061  $p < 0.001$  for first persons against nouns and 33.340  $p < 0.001$  for third persons against nouns.

Table 2. Cliticization to pronouns in CSE-FAC

	Uncliticized	Cliticized	Total
<i>I</i>	2037	685 (= 25.%)	2722
<i>you</i>	1176	162 (= 12.1%)	1338
<i>he</i>	128	19 (= 12.9%)	147

Significant between first and second as well as first and third at  $p < 0.001$  (respective Chi-squares are 41.801 and 11.284).

*will, would, has* etc to the pronoun. It occurs quite frequently with first person pronouns, as in (3), but it never occurs with *faculty, student, department, and school*:

- (3) *I'm* concerned that this perception came across. (CSE-FAC95)

## 2.2 Case and person

In order to come to a better understanding of what makes pronouns behave differently, I will examine case and person in this subsection.

In Table 1, nominative and accusative forms are not separated. If one separates the nominative pronoun from the accusative in CSE-FAC, as in Table 3, a difference can be observed but not one that is statistically significant. The CSE is a relatively formal corpus and that shows in the adherence to prescriptive case rules such as having nominatives in subject position. As a result, *me* is never used as subject in e.g. *The president and me held a press conference*, unlike in e.g. the BNC as shown in Section 4. This may influence the results.

An example of a coordinate nominative pronoun is (4):

- (4) *Barbara and I* are very excited and optimistic about the work we are undertaking. (CSE-FAC96)

**Table 3.** Case and coordination: first and third person pronouns in CSE-FAC

	Uncoordinated	Coordinated	Total
Nominative	2884	21 (= .73%)	2905
Accusative	367	3 (= .8%)	370

$\chi^2 = 0.035$ ,  $p > 0.50$ .

**Table 4.** Coordination and function of the noun 'faculty'

	Uncoordinated	Coordinated	Total
Subject	69	7 (= 9%)	76
Non-subject	222	55 (= 19.9%)	277
Total	291	62 (= 17.6%)	353

$\chi^2 = 4.667$ ,  $p < .05$ .

Nouns are hard to distinguish in terms of subject or object in electronic unparsed texts such as the *CSE*. Hence, the 16% that is coordinated e.g. in Table 1 constitutes all functions. In Table 4, they are divided between subject and non-subject function. I have only considered cases where *faculty* is clearly the head, as in (5), and have also taken out the uses of *faculty* that were clearly modifying, as in (2) above:

- (5) One of these barriers is that *faculty* do not know what *other faculty* are doing. (CSE-FAC97)

This Table shows that nouns such as *faculty* are significantly more often coordinated in non-subject position than in subject position, unlike (first and third person singular) pronouns where the difference between nominative and accusative is not significant.

Having shown where case or position is relevant in the *CSE* and where not, I now turn to person. As mentioned, I will not deal with second person pronouns. The results for all first and third person singular pronouns are given in Table 5. I have added the case as well.

Table 5 shows that third person is more often coordinated than first person. I think the reason is that pronouns are becoming agreement markers and that the first person is 'ahead'. I'll come back to this below.

The figures presented in this section indicate (a) that the pronoun versus noun difference is very definite, as shown in Table 1, for all first and third person singular pronouns against four frequent nouns. The data also indicate (b) that pronominal subjects (i.e. nominatives) and non-subjects (i.e. accusatives)

Table 5. Coordination and person in the CSE-FAC<sup>1</sup>

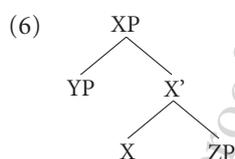
		Uncoordinated	Coordinated	Total
first	NOM	2704	18	
	ACC	320	2	
<i>total 1st</i>		3024	20 (= .66%)	3044
third	NOM	180	3	
	ACC	47	1	
<i>total 3rd</i>		227	4 (= 1.73%)	231
<i>total</i>		3251	24 (= .73%)	3275

are almost as likely to be coordinated, but that nominal subjects and nominal non-subjects differ. Lastly, (c) there is a person split since first person is less often coordinated than third, but this is not statistically significant. I'll now turn to an account of these data.

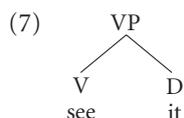
### 3. Theoretical account

What do the differences in coordination tell us? I'll argue that they indicate that pronouns have less structure than nouns. I will first provide some general background on phrase structure (but see e.g. Radford 1997 for more) before showing the difference in structure between nouns and pronouns.

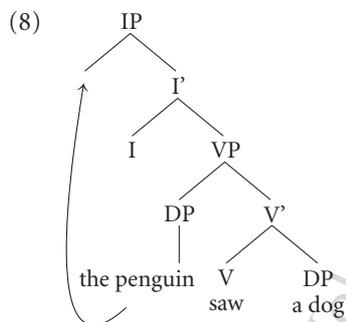
Within the generative tradition (e.g. Chomsky 1986), syntactic structures are built up using general rules, such as that each phrase consists of a head (X in (6)), a complement (ZP in (6)), and a specifier (YP in (6)):



So, in (6), the X could stand for V(erb) and the YP and ZP for DPs, as in *the penguin saw a dog*. In that case, we say that a V projects up to a VP. In early work, this schema is quite strict, e.g. specifiers and complements are always full phrases, such as NPs or P(repositional) Ps, but heads are 'single words', such as V or P. With the introduction of (minimalist) bare phrase structure in the early 1990s, this changes. A verb and a pronoun object can connect, also known as 'merge', as in (7). One of the two heads has to project, i.e. putting its characteristics on the higher phrase, in this case V:<sup>3</sup>



Phrase structures are built using merge and move. Merge combines two items, e.g. *see* and *it* in (7), of which one projects into a phrase. The VP domain is usually seen as the thematic-layer, i.e. where theta-roles are determined. One can think of theta-dispersion as a motivating factor behind merge, or having the structure determine them (as in Hale & Keyser 2002). After functional categories such as I(nflection) and C(omplementizer) are added to VP, a movement rule (e.g. Chomsky 1995:250) raises heads and phrases so that features (e.g. nominative case) can be checked in the IP and CP layers, as in (8), for the IP layer:



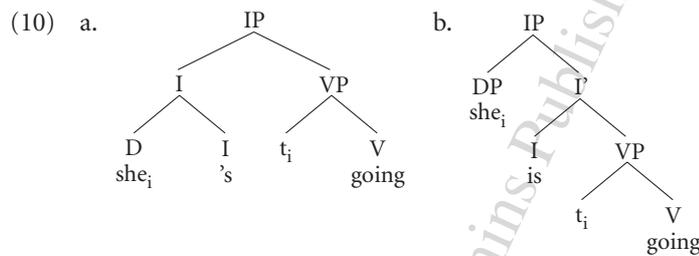
In this article, using general Minimalist principles, I argue that merging and checking between two heads is more economical than between a phrase and a head. This is formulated in van Gelderen (2004, in press) as (9), as a principle on both merge and move:

- (9) *Head Preference Principle*  
‘Be a Head, rather than a Phrase.’<sup>4</sup>

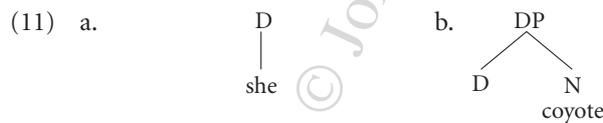
Cardinaletti and Starke (1995:36), following an older literature, analyze pronouns as being of three kinds: clitics are ‘deficient heads’, weak pronouns are ‘deficient XPs’, and strong pronouns are ‘non-deficient XPs’ (XPs being full phrases). In their discussion of, for instance, French, they argue that “the strong variant can be used only if the deficient variant is not accessible” (p. 33 bold type omitted), e.g. if an adverb separates it from a verb or when coordinated. The weak pronoun “remains an XP on the surface . . . , while . . . resisting coordination or modification” (p. 36). Being a phrase while resisting modification

seems incompatible and I will therefore reformulate Cardinaletti and Starke's three-fold distinction as a two-fold one: elements are either heads or phrases, but whenever possible heads.

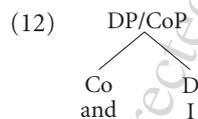
When coordinated or modified, pronouns are forced to be phrases. If (9) is correct, we expect them to be heads as often as possible. The way they check as heads could be through head head checking, as in (10a), rather than spec head checking, as in (10b), hence the frequent cliticization of the auxiliary:



I will argue that, unlike pronouns, nouns do not have the option to be constructed as a head in (10a). Nouns, if they are to be argumental, have to have a D. Pure NPs occur as predicates, vocatives, and adverbials, but not as subjects or objects, see e.g. Higginbotham (1985), Rothstein (1983), and Longobardi (1994). This is the reason why most researchers assume a D even in languages that do not have an overt one. Comparing pronouns and nouns gives (11ab):



When pronouns are coordinated or modified, they lose the ability to be heads. A possible structure for a coordinate pronoun is given in (12). This is the stage in the derivation when the pronoun has just been combined with the coordinator *and*. The result is a Coordinator Phrase (as in Munn 1992; van Gelderen 1997) or a DP:



The phrase marker in (12) will still combine with a D or DP but this won't make any difference to the final result which has to be a phrase. Thus the dif-

ferences between nouns and pronouns seen in Tables 1 and 2 of Section 2 can be explained through their respective structures.

I'll now turn to the theoretical relevance of the case and person data discussed in Tables 3 to 5. Table 4 shows that the subject function is less frequent with nouns than the non-subject function, whereas Table 3 shows that pronouns are more frequent in subject function. This difference is due to a discourse constraint that old or given information – and pronouns are – typically occur in the beginning of the sentence, and new or focused information, i.e. nouns, comes towards the end. As to the coordination facts, nouns are a lot more coordinated than pronouns, but with the pronouns there is no difference between accusative and nominative forms whereas with the nouns there is: more coordination in non-subject position. This could again be the old versus new information constraint: new information is more complex.

The CSE never has [N(oun) *and me*] in subject position and this indicates the non-colloquial nature of the corpus. It is after all a corpus of spoken *professional* English. Prescriptive grammar says that subjects have to have nominative case, as in (13). The pied piped preposition in (13) also exhibits this. Less formal English might have (14) with the stranded preposition. The grammatical reason is that default case is needed in coordinate phrases (see van Gelderen 1997; Johannessen 1998 for examples of default case in coordinates). Prescriptive grammar lags behind changes taking place in day-to-day speech. The data in the CSE exhibit that lag:

- (13) the change of pace *to* which *Barbara and I* are looking forward with real relish. (CSE-FAC95)
- (14) the change of pace *Barbara and me* are looking forward *to*.

Sentence (13) seems awkward and this is confirmed by the figures from a much more colloquial corpus, the spoken *BNC*, that due to its size is harder to search. In the *BNC*, there are 304,612 instances of *I* with 656 coordinated (= .2%). There are 27703 instances of *me* with 492 coordinated (= 1.8%), so a huge difference exists between nominatives and accusatives. I will come back to this in Section 4.

Returning to Tables 3 and 4, if checking the case of subjects was different from checking that of objects, we'd expect a difference. For instance, subject pronouns if they indeed incorporate, as in (10a), would be expected to show less coordination, but this is not borne out by the data in this corpus. So, the checking seems similar. As mentioned, non-subject nouns are more often coordinated than subject nouns, as shown in Table 4, due to discourse reasons.

The difference in person, as exemplified in Tables 1 and 5, shows that first person is more likely to be a head than third person. Van Gelderen (2000) shows that in Old English, the first person is the first to lose the pro-drop possibility and also lacks agreement on the verb. This means that the Old English first person pronoun subject is seen as a real argument whereas the other subjects are adjuncts and the 'agreement' counts as argument. If the trend seen in Table 5 is correct, this shows that again the first person is changing ahead of second and third person and is developing into agreement.

#### 4. Principles and change: Pronouns as agreement markers

In Section 4.1, I will look at the 1623 *First Folio* edition of Shakespeare's plays. The e-version I use (from the *Oxford Text Archive*) contains all plays and keeps the spelling and grammar of the original. This text demonstrates that around 1600 the noun/pronoun split exists, as well as a person and case one. I will not discuss the clitic situation since that depends heavily on the compositor working in the publishing house (cf. Hinman 1963). Comparing *CSE* and the Shakespeare materials shows that both are in accordance with principle (9) above. This is a good indicator that principles do not change. The slight difference is either due to the texts used (see Section 4.2), since both *CSE* and *F1* are archaic, or to a change in the status of pronouns.

##### 4.1 Shakespeare

The figures for a few nouns as against first person pronouns are given in Table 6. These nouns are not typically used as modifiers or as verbs (even though Shakespeare is famous for converting nouns into adjectives and verbs). Comparing the figures for the nouns to those in Table 1, the difference between Shakespeare and Modern English is significant (at  $p < 0.001$ , Chi-square 25.298). The difference in pronoun use is also significant (at  $p < .001$  Chi-square 12.880), i.e. pronouns are less often coordinated in the earlier text, so are used as heads more often.

The data on a possible person split are provided in Table 7, the difference not being significant between first and third person. Again a comparison with Table 5 shows that the Shakespeare data contains fewer coordinated pronouns, hence more heads.

There is a very noticeable case split, as shown in Table 8, for first and third person. The difference is statistically significant at  $p < 0.02$  ( $\chi^2 = 6.007$ ). As

Table 6. First person pronouns vs. nouns in F1 Shakespeare

	Uncoordinated	Coordinated	Total
<i>I/me(e)</i>	21291	57 (= .26%)	21348
<i>sonne, wife, seruant, daughter</i>	390	26 (= 6.25%)	416

$\chi^2 = 384.476$ ,  $p < 0.001$ .

Table 7. Pronoun and person in Shakespeare's F1 (singular and plural; nominative and accusative)

	Uncoordinated	Coordinated	Total
first	24921	66 (= .26%)	24987
third	13186	43 (= .33%)	13229

Table 8. Pronouns and case in Shakespeare's F1

	Uncoordinated	Coordinated	Total
<i>I+3 NOM</i>	27132	66 (= .24%)	27198
1-NOM	18896	43 (= .23%)	18939
3-NOM	8236	23 (= .28%)	8259
<i>I+3 ACC</i>	10975	43 (= .39%)	11018
1-ACC	6025	23 (= .38%)	6048
3-ACC	4950	20 (= .4%)	4970

we'll see later, this brings the figures in the same range as those of the *BNC*, and confirms that accusative pronouns have more often been coordinated, at least since 1600. If accusative is the default case and if pronouns in coordinate phrases get default case, this fits since they don't check case in a configuration where being a head is more economical.

So far, it has been shown that Shakespeare's plays show the same tendencies as the Modern English *CSE*. This is accounted for by (9).

The reason that (9) is not predicting a change is that it is a principle. Of course, there is the possibility that the differences noticed may have to do with the texts used. As mentioned, in the case of the *CSE*, even though it comprises transcripts of spoken American English, the English is very formal with the result that very few 'errors' occur. For instance, *me* is never used in a subject coordinate, whereas in the *BNC* that use, as in (15), is a lot more frequent than the nominative *I* (interestingly [*me and N*] is more frequent than [*N and me*], going against another prescriptive rule and the same holds for the nominative):

Table 9. First person singular pronouns in HC, F1, BNC, and CSE

	Coordinated/total <i>nominative</i>		Coordinated/total <i>accusative</i>		Coordinated/total <i>all</i>	
<i>HC</i>	45/8166	(= 0.55%)	34/1446	(= 2.35%)	79/9612	(= 0.82%)
<i>F1</i>	43/18939	(= 0.23%)	23/6048	(= 0.38%)	66/24987	(= 0.26%)
<i>BNC</i>	656/304612	(= 0.2%)	492/27703	(= 1.8%)	1148/332315	(= 0.34%)
<i>CSE</i>	18/2722	(= 0.66%)	2/322	(= 0.62%)	20/3044	(= 0.66%)

(15) *me and my mother* have erm arranged it all (BNC-KC8 920)

The *BNC* is much less formal than the *CSE* and will therefore be used next. Shakespeare's plays may also not be the right kind of text and I have therefore examined the Early Modern English section (EMOD1-3) of the *Helsinki Corpus*, which contains a more balanced set of texts.

#### 4.2 *BNC* and *HC*

Putting the figures from the *BNC* and the *Helsinki Corpus* (EMOD1-3) section together with the earlier *CSE* and the Shakespeare figures shows the following for first person nominative and accusative. Later research will have to consider third person.

Comparing the *HC* (made up of formal and informal writings) and the spoken *BNC* reveals that there is a change towards less coordination where pronouns are concerned. The difference between the *BNC* and *HC* is statistically significant (at  $p < 0.001$ ,  $\chi^2 = 39.776$ ). The reason that the *CSE* and the *F1* text are contrasting has probably to do with the kind of English used. It could be argued that the English of the *CSE* is artificial, especially where pronouns are concerned. This brings up the more general question of the nature of data, as addressed in Weiss (2001) and Schütze (1996). Weiss argues that standard languages, learned by special instruction, e.g. in schools, have properties which may not entirely be due to Universal Grammar. The language used in the *CSE* may be an example of such a language.

In conclusion to Section 4, the contrast between nouns and pronouns is robust in all texts of all periods. This is explained by (9) being a principle in speakers' grammars. Depending on the naturalness of the corpus, the use of pronouns as heads can also be seen to have increased over time. Nominative pronouns are less often coordinated in texts of all periods, presumably because the accusative is a default case, used if case cannot be assigned properly (cf. van Gelderen 1997; Johannessen 1998). The difference in person is not investigated

in all corpora but in the *CSE*, the first person is most likely a head, possibly becoming agreement (see Table 5) and in the *BNC*, *he* is coordinated in 4% of the cases whereas *I* in only 0.2% (these percentages are based on samples since the numbers are so large).<sup>5</sup> As mentioned, it is interesting in this respect that first person loses agreement on the verb early on and is least likely dropped in pro-drop in Old English. With the contemporary change from pronoun to agreement marker, the first person is again the frontrunner. The reason for this change is not clear but shows that it is not a functional principle, as e.g. in Ariel (2000) who argues that first person has pro-drop more frequently because of the accessibility of the referent.

### 5. Parametric change is fast

The changes I will now discuss are not related to the Head Preference Principle, but to the loss of morphological case, a parameter setting change from morphological case to checking case in a Functional Category such as I(nflection). This change is fast, or ‘catastrophic’, as Lightfoot calls it. I show that first person is the first to lose the special morphological case. This has to do with checking and reveals another change going on in Old English ‘favouring’ first person. Splits in corpora data cannot tell us anything about the change since it is very fast.

In Old English, nouns and pronouns can be marked genitive, dative, or accusative depending on the character of the governing verb. This case is not related to position but to theta-marking (cf. Kiparsky 1995). Chomsky (1995) refers to it as inherent case, as opposed to structural case which is related to positions such as the specifier of the IP. By 1200, the different cases in English fall together (at least morphologically), and just nominative and accusative are used (for sentential arguments). As a result of the change to structural case, word order becomes stricter since e.g. subjects have to be in certain structural positions. This change in case is related to the changes discussed in Section 2. If agreement marking in Old English is actually an argument, as in pronominal argument languages, checking in a higher functional category is not necessary. As endings (both agreement and case) disappear, checking becomes necessary and overt arguments occur. I now show what corpora say about the case change.

As shown in Table 10 below, between OE1-2 and OE3 of the *HC*,<sup>6</sup> i.e. around 1000, the relationship between the specially marked accusative *mec* and

Table 10. First person changes in the Helsinki Corpus

	OE1-2 (-950)	OE3 (950-1050)	OE4 (1050-1150)	ME1 (1150-→)
<i>me</i>	597	1282	234	669
<i>mec</i>	90 (= 13%)	194 (= 13%)	0	0
total	687	1476	234	669

the dative/accusative *me* remains stable. An example with both is given in (16) from Mercian *Vespasian Psalter*:

- (16) *ða ðe swencað mec... monge arisað wið me*  
 that that oppress me-ACC many rise with me-DAT  
 “that oppress me ... many rise with me”.

(*Vespasian Psalter*, 3.1, Kuhn edition)

By OE4, again, shown in Table 10, i.e. from 1050 on, *mec* has disappeared, however. So, even though the ratio stays the same between OE1 and OE3, one form suddenly disappears. This means that the change is rapid and the corpus data does not help predict it.

There may be problems in using the OE part of the *HC* (see Note 6). Using the complete Old English corpus (*DOE*) is, however, even harder. The percentage of *mec* compared to all accusative and dative forms is 6.3%. Even though in Modern English (e.g. in the *BNC*), the percentage of *me* as opposed to *I* is much lower, we would not predict the demise of *me* and the survival of *I*. Hence, one could not have predicted the instability of *mec* either.

Third person data are more difficult to work with since the forms are so numerous. For instance, *he* and *him* are spelled in many different ways and the latter represents different numbers. The accusative *hine/hyne* is only used for masculine singular and that makes the comparison harder. In Tables 11a/b, I have compared the general ‘dative’ with the accusative (and have ignored e.g. *heom*). The latter’s demise seems to occur between ME1 and ME2.<sup>7</sup>

So, just based on the variety of the forms, Tables 10 and 11a/b demonstrate that morphological case is disappearing. I’ll now show that a special (impersonal) construction, making use of morphological case, exhibits the same direction of change.

Apart from morphology, another indicator that shows that morphological case is disappearing is the loss of constructions such as (17) and their replacement by (18), a slightly more modern version of the same original:

Table 11a. Third person changes in the HC (OE1-2→OE4)

	OE1-2 (-950)	OE3 (950–1050)	OE4 (1050–1150)
<i>him</i>	922	2166	631
<i>hine</i>	411 (= 31%)	985 (= 31%)	259 (= 29%)
total	1333	3151	890

Table 11b. Third person changes in the HC (ME1→ME3)

	ME1 (1150–1250)	ME2 (1250–1350)	ME3 (1350–1420)
<i>him/hym</i>	1054	1158	1544
<i>hine/hyne</i>	209 (= 17%)	10 (= .86%)	0
total	1263	1186	1544

- (17) *þer-fore him ofte scomede. 7 his heorte gromede*  
 therefore him often shamed and his heart angered  
 “therefore he often felt ashamed and enraged”. (Caligula 6868)
- (18) *þar-fore he ofte samede. and hi heorte gramede*  
 therefore he often shamed and his heart angered  
 “therefore he often felt ashamed and enraged”. (Otho 6868)

From Jespersen (1894) and van der Gaaf (1904) on, (17) has been referred to as an impersonal. It could also be seen as ergative, since the ‘subject’ has object characteristics.

As expected, considering the changes displayed in Tables 10 and 11a/b, the first person is the frontrunner in the change from (17) to (18) as well. The ratio of impersonal or ergative uses out of the total number of dative forms for all persons together results in Table 12 for *Beowulf* (taken from van Gelderen 2000:238), an early Old English text. Statistically, the difference between 1S and 3S ( $\chi^2$  is 5.342,  $p < 0.005$ ), and between 1S/2S versus 3S ( $\chi^2$  12.018,  $p < 0.001$ ) is significant, but not between 1S and 2S, which is not unexpected. Only for third person is number statistically relevant.

An alternative to Table 12 is Table 13 (again taken from van Gelderen 2000:238), with the percentage of impersonal or ergative use as against the personal or non-ergative use of the nominative form. The difference between 1S and 3S ( $\chi^2$  is 14.269,  $p < 0.001$ ), and between 1S/2S versus 3S ( $\chi^2$  17.285,  $p < 0.001$ ) is significant, but, as before, not between 1S and 2S. Again only for third person is number statistically relevant.

**Table 12.** Ergative versus non-ergative uses of first, second and third person dative pronouns in 'Beowulf' (S = singular; P = plural)

	Ergative	Non-ergative	Total
first-S	7 (= 12.7%)	48	55
second-S	3 (= 6.8%)	41	44
third-S	47 (= 28.1%)	120	167
first-P	1 (= 10%)	9	10
second-P	1 (= 16.7%)	5	6
third-P	3 (= 9.1%)	30	33
total	62 (= 19.7%)	253	315

**Table 13.** Ergative versus nominative in 'Beowulf'

	Ergative	Nominative	Total
first-S	7 (= 3.7%)	181	188
second-S	3 (= 4.6%)	62	65
third-S	47 (= 14.3%)	282	329
first-P	1 (= 4%)	24	25
second-P	1 (= 7.7%)	12	13
third-P	3 (= 4%)	71	74
total	62 (= 13.9%)	632	694

The problem with this Table is that third person pro-drop is more prevalent than first and second person and that would reduce the percentage for third person anyway (cf. e.g. Berndt 1956 and van Gelderen 2000).

To conclude Section 5, I have briefly shown that the specialized case system is lost, starting with the first person. This change is fast and due to a parameter resetting, and not predictable by shifts in the corpora. I would also argue that this change is, in fact, connected to that discussed in Section 4. Since first person is the first to lose verbal agreement and pro-drop, i.e. pronominal argument-hood, it is the first to start checking in a functional category such as I (see (10) above). The modern change towards incorporating the first person in the verb is just another step in that cycle.

## 6. Conclusion

In this paper, I have shown how corpora can be used to 'get at' phenomena not (yet) very visible. Pronouns and nouns in Modern English behave differently where coordination is concerned and the reason for this is the Head

Preference Economy Principle. Nominative and accusative pronouns also behave slightly differently, as do the different persons, at least in the *BNC*. The differences regarding the pronoun-noun split between the *HC* and the *BNC* are very slight and I argue this is due to the Head Preference Economy Principle being a principle rather than a parameter. The paper demonstrates that changes due to the resetting of parameters are different in nature from those due to principles: principles shouldn't change but parameters can be reset. With the latter change, they are characteristically fast, 'catastrophic' in Lightfoot's terms, and not predictable in a corpus. The parameter setting examined is the loss of morphological case. The loss of this case means that case becomes checked in inflectional categories (hence inducing stricter word order in Modern English).

## Notes

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1. There are a number of aspects I do not go into. For instance, pronouns can be emphatic or in focus, i.e. the bolded pronouns in (i) and (ii) respectively. I assume these to be full phrases, but I have not looked at them:

(i) *Me*, I don't want to do that.

(ii) *She* perhaps might be doing that.

2. The numbers for coordinated nouns and pronouns include 'and X' as well as 'X and'. I have not taken into account instances where 'and' functions as an adverb introducing new sentences. For Table 1, I have selected the nouns in the text that are the most frequent, and have not taken into consideration their status as mass or count noun.

3. Strictly bare phrase structures have no labels, but I will continue to use them for convenience.

4. It may be that just moving features is even more economical, as Chomsky (1995:262ff.) suggests, or Agree between a probe and goal, as in later work. Stated as in (9), the principle holds for merge (projection) as well as move (checking).

5. I examined the first 1000 instances of each.

6. As a reviewer points out, *Beowulf* is a poetic text and so are some of the texts in the *HC*; others are glosses. Some people feel these don't represent Old English very well. There are some problems in using the *HC* the way I have since the OE periods are based on the dates of the manuscripts, not necessarily on the dates of composition.

7. Plural pronouns are less often coordinated for reasons I don't go into. For instance, first person plurals occur 2561 times, of which 3 (or .12%) are coordinated. Third person ones occur 658 times and are coordinated only once (or .15%).

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