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Inflectional economy and politeness : morphology-internal and morphology-external factors in the loss of second person marking in Dutch

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Chapter 6

Synchronic variation and the economy hypothesis

1 Introduction

In chapter 3, we concluded that the loss of a second person singular pronoun is cross-linguistically rare and not understandable from a socio-pragmatic angle. In chapter 4, we saw that inflectional economy provides the missing link in explaining the loss of the pronoun *du* and the suffix *-s*. We hypothesized that the pronoun *du* was not only replaced by the polite pronoun *gi* because of politeness reasons, but also as a means of feature reduction in the inflectional paradigm. If we take inflectional economy into account, we can understand why English and Dutch lost the original second person singular pronoun whereas other languages have not. English and Dutch belong to the small group of languages where replacing the T suffix with the V suffix leads to a more economical paradigm. This is in line with the observation that the diachronic development of both English and Dutch is characterized by deflection.

In chapter 5, we compared thirteenth and sixteenth century Dutch texts. We found two types of evidence for the role of inflection in the loss of T. First, we saw that subject T was lost before non-subject T. Since only subjects trigger agreement, the early loss of subject *du* is understandable if inflectional economy plays a role in the loss of T. Secondly, we saw that, if subject T was used in the sixteenth century, it almost always combined with a high frequency verb. Since high frequency verbs are least affected by deflection, the preference for the selection of high frequency verbs in combination with *du* in the sixteenth century texts corroborates the claim that deflection plays a role in the loss of T.

In this chapter, we will investigate the claim (that *du* and the suffix *-s* were lost because of inflectional economy) by looking at synchronic variation in Dutch dialects. Before looking at the actual data, we will, in section 2, describe how we selected and encoded the data. In section 3, we will spell out our hypotheses for the dialectal data. There are two primary goals in section 4. First, we will make predictions about what we expect to find in the geographical spread of *du*, and second, we will look more closely at the syncretism between second person singular and second person plural. According to our definition of economy, the homophony between second person singular and second person plural is not economical. The conclusion of section 4 is that many dialects which had a syncretism between second person singular and second person plural lost this syncretism again. This result

confirms our hypothesis that the neutralization of number features in the context of person is not economical. Section 5 concludes the chapter.

2 Selection and encoding of dialect data

The goal of this section is to show how we selected the data for this chapter. In 2.1, we describe the database we used for this chapter, namely the *Morphological Atlas of Dutch dialects*. In 2.2, we show how we selected which dialects to use, and in 2.3, we illustrate how the data was analyzed.

2.1 *The Morphological Atlas of Dutch Dialects (MAND)*

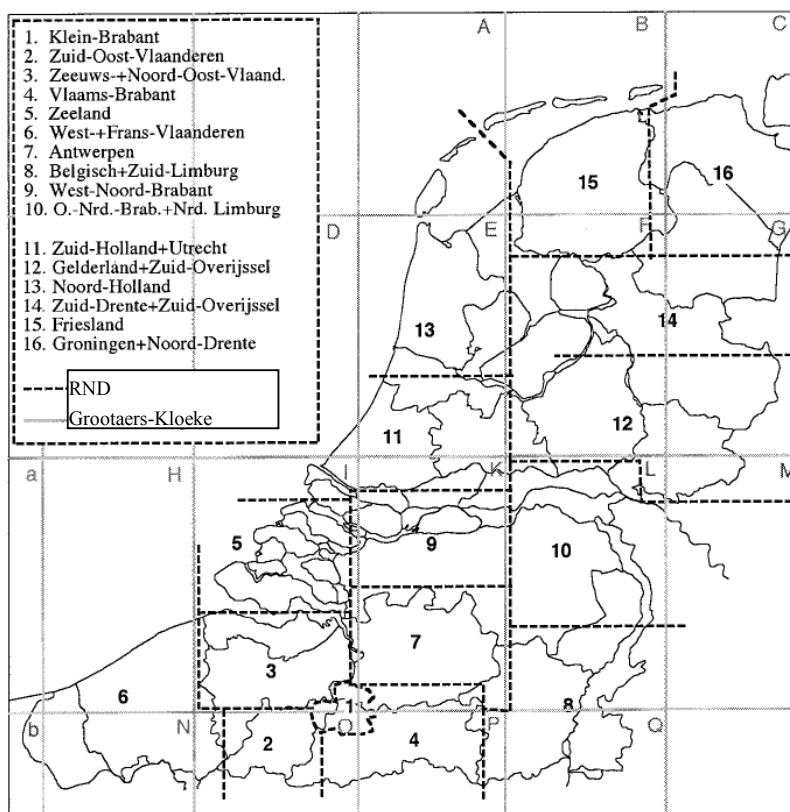
Data from this chapter are taken from the electronic version of the *Morphological Atlas of Dutch dialects* (MAND). Van den Berg (2003) also refers to the MAND as the Goeman, Tældeman & Van Reenen Project (GTR-project). The MAND includes data from 560 villages, towns and cities in the Dutch-speaking language area in the Netherlands, Belgium and France. In addition, the atlas includes data from 53 Frisian dialects.

The main criterion for the selection of respondents for the MAND was that the respondents and their parents were indigenous inhabitants of the village, town or city in question, who still frequently used their dialect in every day life. Both males and females were questioned, mostly between fifty and seventy-five years old. Preference was given to lower educated respondents. Speakers from both cities and rural areas were questioned. The fieldwork took place between 1980 and 1995.

The questionnaire consisted of 1900 items, which consisted of single words or small sentences. This allows researchers to gather information about the speakers' pronunciation of words in isolation, rather than in the context of a sentence. It took respondents approximately half a day to answer the full oral questionnaire. The results of the questionnaire are transcribed in keyboard IPA, which is based on ASCII font. All IPA transcribed data are digitalized. The spoken recordings are available but have not yet been integrated in the electronic version.

Like in other Dutch dialect atlases (for example, SAND (*Syntactic Atlas of Dutch Dialects*) (cf. Barbiers, et al. 2006) and the FAND (*Phonological Atlas of Dutch Dialects*) (Goeman & Tældeman 1996)), all place names are referred to with 'Kloeke-codes.' This means that a special letter and number combination is assigned to all measure points that were researched. Every 'Kloeke-code' begins with a letter that refers to a particular section of the map of the Netherlands, Flanders, or France. For example, the 'Kloeke-code' C041a' refers to the location Leermens in the province of Groningen which is located in the quadrant which is in row C and

column (1). The ‘Kloeke-code’ L214p refers to the location: Wanssum, which is in the province of Limburg which is in section L in the map in (1). This coding system was developed by Kloeke and Grootaers and described in their 1926 work (Kloeke & Grootaers 1926). When we refer to a measure point in this chapter, we always put the ‘Kloeke-code’ of the measure point between brackets, which makes it possible for readers to easily look up the data for themselves.



- (1) Map of the Netherlands and Belgium with a section classification according to Grootaers-Kloeke and according to volume number of the RND (*Reeks Nederlandse dialectatlassen, 'series of Dutch dialect atlases'*) (taken from Goeman 1999: 48).

2.2 Data selection for this chapter

There were three main inclusion criteria for the data. First, we only considered Dutch data in the Netherlands. The data from this chapter, however, are in line with data from Dutch spoken in Flanders and France as presented in De Vogelaer (2005) and in Aalberse & Don (to appear). Second, we chose to look only at the present indicative tense. This means that past tense is excluded. Thirdly, we chose to look at the inflection in the single verb: *kloppen*. In the MAND, the full inflectional paradigm is described for eight verbs, namely: *krijgen* ('to receive'), *zijn* ('to be'), *hebben* ('to have'), *doen* ('to do'), *kloppen* ('to knock'), *leven* ('to live'), *breken* ('to break') and *zwijgen* ('to remain silent'). From the list above, *leven* ('to live') and *kloppen* ('to knock') are the only two regular verbs. Our main goal was to select a verb that had gone through the deflection process. Knowing that infrequent verbs tend to deflect faster than frequent verbs, we decided to select an infrequent regular verb.

In addition, we are interested in an abstract system of person and number features that applies to a large group of verbs. Verbs that are used frequently are more likely to go through item-specific changes which are unrelated to the general deflection pattern. The subject verb combination *laten we* ('let us'), for example, can be reduced to *lawe* in the spoken language. This formal reduction is an item-specific change that we can relate to the high frequency of the subject verb combination *laten we* ('let us'). The formal reduction occurs independent of the relation between other finite forms of the verb *laten*. Since we are interested in abstract paradigms in this study, we are not concerned with these types of item-specific change.

In order to find out more about the frequencies of the verbs *kloppen* ('to knock') and *leven* ('to live'), we consulted two corpora, namely the Dutch Celex corpus (cf. Baayen, Piepenbrock & Van Rijn 1993) and the Spoken Dutch corpus (cf. Goedertier, Goddijn & Martens 2000). The Dutch Celex corpus is based on written texts, including a wide variety of fictional and non-fictional topics published between 1970 and 1988. The Spoken Dutch corpus consists of 10 million tokens, derived from different types of Spoken Dutch and spoken Flemish collected, and analyzed between 1998 and 2004.

As we can see in (2), the frequency of the verb *leven* ('to live') is much higher than the frequency of the verb *kloppen* ('to knock'). *Leven* ('to live') is attested 26,762 times and *kloppen* ('to knock') only 4,350 times. In the Spoken Dutch corpus however, the verb frequency of the verb *kloppen* ('to knock') is higher than the frequency of the verb *leven* ('to live'). The verb *kloppen* ('to knock') is attested 2,086 times and the verb *leven* ('to live') is attested 1,368 times.

- (2) Frequency of the verbs *hebben* ('to have') *kloppen* ('to knock') and *leven* ('to live') in Celex and CGN (Spoken Dutch corpus)

	Celex	CGN
Hebben	474,965	146,522
Kloppen	4,350	2,086
Leven	26,762	1,368

It is interesting to note that the verb *kloppen* ('to knock') is only more frequent than the verb *leven* ('to live') in the third person singular present tense form. As a third person singular present tense form, the expression *dat klopt* ('that is correct') yields a high number of incidences of the verb *kloppen* ('to knock'). Out of the total of 2,086 instances of *kloppen* ('to knock'), 1,432 were third person singular forms. This means that 69% of the uses of *kloppen* ('to knock') are third person singular forms. In contrast, only 235 of the total 1,368 occurred in the third person singular for the verb *leven* ('to live'). This means that third person singular forms represent only 16% of the total uses.

The different proportion of third person singular present tense forms in the verbs *kloppen* ('to knock') and *leven* ('to live') is statistically significant ($p < 0.0001$). In all contexts where *kloppen* ('to knock') is not singular, third person, present tense, the verb *leven* ('to live') is more frequent than the verb *kloppen* ('to knock'). For example, first person singular is attested 40 times in the verb *leven* ('to live') and 7 times in the verb *kloppen* ('to knock').

The relatively high frequency of the verb *kloppen* ('to knock') in the Spoken Dutch corpus can thus be related to one frequent colloquial expression *dat klopt* ('that's right'). If we disregard this particular use of *klopt*, the verb *kloppen* ('to knock') is less frequent than the verb *leven* ('to live') in the Spoken Dutch corpus. This is also the trend we saw in Celex. The goal was to look at the least frequent verb available in the MAND. Therefore, I chose to look at the verb *kloppen* ('to knock').¹ Since the verb *kloppen* ('to knock') is only attested in a small number of cases, I expect that changes in the inflectional encoding of the verb *kloppen* ('to knock') will reflect changes in a larger group of verbs. We further expect that inflectional changes for the word *kloppen* ('to knock') will reflect changes in a more

¹ Additional information on the spoken Dutch corpus can be found via the CGN-website <<http://lands.let.kun.nl/cgn/home.htm>> and via the TST-centrale <<http://www.tst.inl.nl>> (via "Producten"). Additional information on the CELEX corpus can be found via the website of the Max Planck institute <<http://celex.mpi.nl>>.

abstract rule system that generates finite verbs. The paradigm of the present indicative of the verb *kloppen* ('to knock') in combination with a subject pronoun consists of items 1641 through 1647 in the MAND.

In addition to the present indicative paradigm of the verb *kloppen* ('to knock'), I will also discuss whether dialects still have a possessive pronoun that is cognate with the form *dijn* ('thine') on the basis of item 1861 '*dat is dijne*' ('that is thine'). The choice to discuss item 1861 relates to one of the predictions that follow from the economy hypothesis as formulated in chapter 5. In chapter 5, we saw that Standard Dutch lost subject *du* before non-subject *du*. The order of loss of subject *du* and non-subject *du* corroborates the hypothesis that the non-economical inflection with which subject *du* combined, played a key role in the loss of second person singular. In the dialect data, we expect evidence for the same hierarchy between subject and non-subject forms of *du*; we expect that there are more measure points that have lost subject *du* than there are that have lost non-subject *du*.

2.3 Encoding the data

The electronic version of the MAND includes a search engine that links searches directly to a device that creates geographical maps. The search engine is form-oriented. Meaning that it is, for example, very easy to see what the distribution is of measure points that encode first person with *-en*. The search engine, however, cannot search for syncretic patterns. We have therefore chosen to use the raw data in the MAND and we coded the data in an Excel file, which will make it possible to search for syncretic patterning.

The MAND describes the phonological properties of respondents answers in great detail. This means that we find form variation in the verbs described which are not always related to systematic morphological distinctions. For this study, only formal distinctions that reflect morphological distinctions are relevant. We chose to encode the MAND data in a more abstract manner. The abstract encoding makes it possible to perform systematic searches for syncretic patterning. In order to calculate syncretisms, we coded all suffixes by assigning them numerical values. For example, I have numbered all suffixes that occur in first person singular '1', suffixes that appear in second person singular '2', third person singular gives '3', first person plural gives '4', second person plural gives '5' and third person plural gives '6'. Suffixes with the same form receive the same number. The lowest number wins. For example, if first person singular and first person plural are both marked with homophonous suffixes, we have the choice between the '1' for first person singular and the '4' for first person plural. Since '1' is smaller than '4' I have encoded both

forms with ‘1’. In order to better understand the coding schema, let us look at three examples.

In (3) the paradigm of the verb *kloppen* (‘to knock’) is given. The third column indicates the phonetic transcription of the verb in Lochem (G246p). In (4), we present the more abstract Excel file variant of this paradigm.

(3) The verb *kloppen* in Lochem (G246p) as presented in the MAND

English	Standard Dutch	Lochem (G246p)
I knock	Ik klop	ɪklɔpə
You knock	Jij klopt	i klɔpʰtʰ
He knocks	Hij klopt	he klɔpʰtʰ
We knock	Wij kloppen	vilø klɔpʰtʰ
You (all) knock	Jullie kloppen	ɣlø klɔpʰtʰ
They knock	Zij kloppen	zilø klɔpʰtʰ

(4) Abstract encoding of the verbal paradigm in Lochem (G246p)

G246p	1 sing	2 sing	3 sing	1 plur	2 plur	3 plur
	1 klɔpə	i klɔpʰtʰ	he klɔpʰtʰ	vilø klɔpʰt	ɣlø klɔpʰt	zilø klɔpʰt
	1	2	2	2	2	2

First person singular in the MAND gives the form *klɔpə*. I numbered this form ‘1’ as shown in paradigm (4). Second person singular yields the form *klɔpʰtʰ* I numbered this form ‘2’. The form *klɔpʰtʰ* also occurs in third person singular and therefore it is also numbered ‘2’. The only difference between the plural form and the second and third person singular is aspiration. They are otherwise homophonous forms. I follow De Vogelaer (2005) and Bennis & Maclean (2006) who assume that aspiration is morphologically irrelevant in Dutch dialects. The claim that aspiration is not morphologically systematic is in line with the observation that in measure point (G246p) in contrast to the verb *kloppen* aspiration of *-t* is attested throughout the paradigm in the verb *leven*. There is no measure point in the MAND where the presence or absence of aspiration on *-t* is systematically linked to morpho-syntactic features across different verbs. Therefore I have treated all forms with and without aspiration as similar. All plural forms are therefore also numbered ‘2’.

In (5) we present the verbal paradigm of *kloppen* ('to knock') in Dongen (K163p), following the MAND coding technique. The paradigm in (6) shows the same data coded using our own schema.

(5) The verb *kloppen* in Dongen (K163p) as presented in the MAND

English	Standard Dutch	Dongen (K163p)
I knock	Ik klop	ɪklɔp
You knock	Jij klopt	xɛi_klɔpt
He knocks	Hij klopt	hɛi_klɔpt
We knock	Wij kloppen	wɛi_klɔpə
You (all) knock	Jullie kloppen	x_θli klɔpə
They knock	Zij kloppen	zθ_li klɔpə

(6) Abstract encoding of the verbal paradigm in Dongen (K163p)

K163p	1 sing	2 sing	3 sing	1 plur	2 plur	3 plur
	ɪ klɔp	xɛi_ klɔpt	hɛi_ klɔpt	wɛi_ klɔpə	x_θli klɔpə	zθ_li klɔpə
	1	2	2	4	4	4

In Dongen (K163p), first person singular is encoded as klop. I have numbered this form '1'. Second person singular is encoded with klopt, I have numbered this form '2'. Second and third person are syncretic and thus both numbered as '2'. All plural forms are encoded as klɔpə. The lowest number that is assigned to a form that appears only in the plural is 4. Therefore, all plural forms are also encoded as 4.

Let us now look at the inflectional paradigm of Loon op Zand (K164p). The data from the MAND for this measure point are presented in (7). My encodings are given in (8).

(7) The verb *kloppen* in Loon op Zand (K164p) as presented in the MAND

English	Standard Dutch	Loon op Zand (K164p)
I knock	Ik klop	ʔɪk klɔph
You knock	Jij klopt	jɛi_klɔpth
He knocks	Hij klopt	hɛi_klɔpth
We knock	Wij kloppen	vɛi_klɔpə
You (all) knock	Jullie kloppen	xəli klɔpth
They knock	Zij kloppen	zəli klɔpen

(8) Abstract encoding of the verbal paradigm in Loon op Zand (K164p)

K164p	1 sing	2 sing	3 sing	1 plur	2 plur	3 plur
	ʔɪk klɔph	jɛi_ klɔpth	hɛi_ klɔpth	vɛi_ klɔpə	xəli klɔpth	zəli klɔpen
	1	2	2	4	2	4

In the singular, the paradigm in Loon op Zand is very similar to the paradigm in Dongen which we just looked at. In the plural, however, we see that second person plural is syncretic with second and third person singular. It is therefore encoded with the same number as second and third person singular, namely 2. First person plural is encoded as klɔpə and third person plural is encoded as klɔpen. Although the two forms are not fully homophonous, I have treated both forms as equivalents. Likewise, both first person plural and third person plural are coded with the number ‘4’. The assumption that the alternation between *-e* and *-en* is morphologically irrelevant is supported by Bennis & MacLean (2006) and De Vogelaer (2005). The deletion of *-n* in word final position is optional for many speakers of Dutch (De Vogelaer 2005: 21-23, Van de Velde & Van Hout 2001). The claim that *-e* and *-en* are two variants of one underlying suffix is supported by the observation that, in Loon op Zand, the alternation between *-e* and *-en* in the plural form of the verb *leven* (‘to live’) is the mirror image of the verb *kloppen* (‘to knock’). In the verb *leven* (‘to live’), we find the suffix *-en* in first person plural and *-e* in third person plural. In the verb *kloppen* (‘to knock’), we found *-en* for third person plural and *-e* in first person plural. The observation that the alternation between *-e* and *-en* is not systematically related to specific morpho-syntactic features in one dialect supports the assumption that the distinction is not morphologically relevant.

Although the alternation between *-e* and *-en* in the plural does not seem to be morphologically systematic, the alternation between *-e* in first person singular and *-en* in the plural forms does seem to be systematic. Unlike in the plural, the division between *-e* and *-en* in the singular is stable within and across dialects. If we compare paradigms of different verbs in the same dialects, or, if we compare different dialects, we always see that the suffix *-e* encodes the singular and that the suffix *-en* encodes the plural. The use of *-e* for first person singular and *-en* for plural forms is reported as systematic for many variants of Dutch including Middle Dutch (Van Gestel, Nijen Twilhaar, Rinkel & Weerman 1992), and in present day northern dialects in Groningen and Drenthe (De Vogelaer 2005: 50).

Thus far, we have considered distinctions in the paradigm that I have abstracted away from. We mentioned the distinction between *-e* and *-en* within the plural and the distinction *-t* versus *-t^h*. In these cases, the number of reported distinctions in the paradigm was larger than the actual morphologically systematic distinctions in the paradigm. Mismatches between the number of reported distinctions and the number of distinctions in the actual underlying system are also attested in the reverse situation. In some dialects, the suffix *-e* is reported for first person singular and for all plural forms. The data indicate that we are dealing with homophony. But it is also possible that underlyingly the *-e* in the plural is *-en* and is in fact distinct from the suffix *-e* in first person singular. If the suffix *-e* was reported for first person singular and for first person plural in the MAND, I encoded both *-e*'s with the same number.

Now that we have a general understanding of the corpus we used and of the coding schema we followed, we would like to make some predictions regarding what we expect to find based on our hypothesis.

3 The geographical distribution of T

In this section, we test whether the predictions we made with the diachronic data also hold for synchronic data, with respect to the geographical spread of *du*. In 3.1, we will formulate predictions and we will compare our predictions to the actual geographical distribution of *du* retention areas in 3.2.

3.1 Predictions on the geographical distribution of T

In order to formulate predictions on the geographical distribution of *du*, let us first recapitulate the deflection hypothesis. The deflection hypothesis states that T is lost in Dutch and English as a means of deflection. T-loss depends on two factors:

inflectional economy, and the level of deflection in the language. V can only replace T as a form of deflection if V combines with more economical inflection than T. Economical inflection is only preferred when the inflectional system is under pressure.

Issues that play a role in the pressure on the inflectional system are, for example, learnability factors and language contact. In chapter 2, we saw that phonological salience and semantic complexity are possible factors that affect the speed of acquisition of an inflectional paradigm. Inflection is acquired slower in fusional languages than in agglutinative languages and phonologically salient suffixes are acquired faster than less phonologically salient suffixes (Polišenská 2008). The longer it takes a language learner to acquire an inflectional paradigm, the more vulnerable the inflectional system becomes. Apart from speed of acquisition, the level of language contact also plays a role in the pressure on the inflectional system. Since, in general, second language learners are less successful in mastering inflection than first language learners and since language contact involves second language acquisition, the chance of deflection increases when languages are in contact with one another.

If we consider the two factors (economy and inflectional pressure) in relation to T-retention and T-loss, we arrive at four types of languages that are summarized in (9). The first type of language has an inflectional system under pressure which is reflected by the label '+deflection'. In the first type, replacement of T by V does not yield a more economical paradigm. This is indicated with the label '-economy'. An example of a language that belongs to this first category is Swedish. Since loss of T does not result in a more economical verbal paradigm, T is retained. In the second type of language, the inflectional system is not under pressure. This is indicated by the label '-deflection'. Here, V does not combine with more economical inflection, hence the label '-economy'. Italian is an example of a language which fits into this category. Since there is no pressure on the inflectional system and since T-loss does not result in a more economical paradigm, there is no trigger for T-loss and T is retained. The third type of language is where T-loss yields a more economical paradigm (labeled '+economy'), but where there is not enough pressure on the inflectional system to trigger T-loss. German is one example of this type of language. Only in the fourth type of language, do we see T-loss. In this situation, the inflectional system is under pressure and the V-form combines with more economical inflection than the T-form. We consider English an example of this type of language.

(9) T-retention in relation to the factors economy and level of deflection

I	+deflection, -economy	Swedish	T retained
II	-deflection -economy	Italian	T retained
III	-deflection +economy	German	T retained
IV	+deflection +economy	English	T lost

In the preceding chapters, we saw a correlation between the deflection and the two factors: inflectional economy and the loss of T. We predict that the correlation will also hold in cross-dialectal comparison. We predict that T is always retained in those dialects where T-loss does not yield a more economical paradigm. Dialects that are like Italian and Swedish will retain T, since loss of T does not result in a more economical paradigm. T will also be retained in dialects that are like German, because they lack of pressure on the inflectional paradigm. The only type of dialect where we do expect loss of T is the English type dialect, where there was both pressure on the inflectional system (due to language contact) and, where T-loss yielded a more economical paradigm.

The question we aim to answer is this: Under what type of languages, should we classify Dutch dialects? Let us compare inflectional paradigms from Middle Dutch (see (10)-(13)).

(10) Middle Dutch I *-en/-t/-en* plural

	Singular	Plural
1	-e	-en
2	-s	-t
3	-t	-en

(11) Hypothetical: Middle Dutch I: replacement of 2s by 2p

	Singular	Plural
1	-e	-en
2	-t	-t
3	-t	-en

In (10), we see the most famous inflectional paradigm in Middle Dutch. Standard Dutch derived from this paradigm. In paradigm (10) both third person singular and second person plural combine with the suffix *-t*. As we can see in (11), replacement of the second person singular by the second person plural implies that second and third person singular become homophonous. It also means that second person singular is no longer distinctively marked. The loss of the distinction between second and third person singular is in line with our definition of inflectional economy. Thus, dialects that are based on paradigm (10) comply with our first property for T-loss, namely, the increase of inflectional economy after replacement of T by V.

Not all Middle Dutch dialects exhibit the paradigm in (10). Goeman (1999) describes variation in verbal inflection in historical documents from the eastern provinces. He finds three suffixes in the plural: *-n*, *-t* and *-nt*. The suffix *-n* is mostly associated with first person plural, *-t* with second person plural and *-nt* with third person plural, but he finds all suffixes in all plural forms. In the documents for the province of Groningen, dated between 1370-1499, Goeman (1999: 255-256) finds the suffix *-n* is generally used for all plurals. The most frequently attested paradigm in the northern provinces of Groningen is described in (12).

(12) Middle Dutch II : *-en* plural

	Singular	Plural
1	-e	-en
2	-s	-en
3	-t	-en

As we can see in (13), the replacement of second person singular by second person plural only leads to the neutralization of number features in the context of second person, a neutralization that is not economical in terms of feature structure. The feature addressee remains distinctively marked in the singular and therefore, the dialects based on paradigm (13) belong to the Swedish type dialects. We expect *du* retention in these dialects, because replacement of second person singular inflection by second person plural inflection does not provide a more economical paradigm.

(13) Hypothetical: Middle Dutch II: replacement of 2s by 2p

	Singular	Plural
1	-e	-en
2	-en	-en
3	-t	-en

In the province of Overijssel, Goeman (1999) finds stable variation between the suffixes *-t* and *-n* throughout the plural. This means that first, second and third person plural are all encoded both by *-t* and by *-n*. The proportion of *-t* and *-n* remains stable overtime: Documents from 1300-1350 and documents from one century later show a similar distribution of *-t* and in *-n* in the plural. Preferences for *-t* is also related to geographical distribution: eastern localities have a greater preference for *-t* as a plural suffix. The paradigm with *-t* as a general plural marker is shown in (14).

(14) Middle Dutch III : *-t* plural

	Singular	Plural
1	-e	-t
2	-s	-t
3	-t	-t

In the dialects that are based on the paradigm in (14), third person singular and second person plural are both encoded with *-t*. As we can see in (15), the replacement of the original second person singular suffix by a second person plural results in the neutralization of the distinction between second and third person singular. This type of neutralization is in line with feature structure. Since replacement of T by V triggers a paradigm that is more economical, deflection via loss of T is possible in dialects with a verbal paradigm like (14).

(15) Hypothetical: Middle Dutch III: replacement of 2s by 2p

	Singular	Plural
1	-e	-t
2	-et	-t
3	-t	-t

In sum, we predict that most Dutch dialects belong to the English-type, where the T-pronoun is lost as a means of deflection. We predict two areas of *du* retention. We expect *du* retention in the Swedish type dialect of Groningen, where replacement of the original second person singular by second person plural does not yield a more economical paradigm. And second, we expect *du* retention (and retention of the suffix *-s*) in the German-like areas where there is not enough pressure on the verbal inflectional paradigm to yield deflection.

We should also consider the extent to which dialects resist deflection. There is, for example, no Dutch dialect that has retained case marking. There are, however, differences in speed of deflection in dialects. For example, Standard Dutch encodes two genders on determiners and adjectives. Other dialects still encode three genders. The encoding of three genders is attested in the north-east in Twente, Salland, and the Achterhoek (Nijen Twilhaar 2005). The dialects in the southern provinces of Limburg and Noord-Brabant also encode three genders (Taedeman 1980). The dialects that encode three genders share two geographical features, namely, they are all approximately the same distance from the river area and they are all relatively far from the economic centre in the western part of the Netherlands. The geographical positioning of these areas implies less dialect contact.

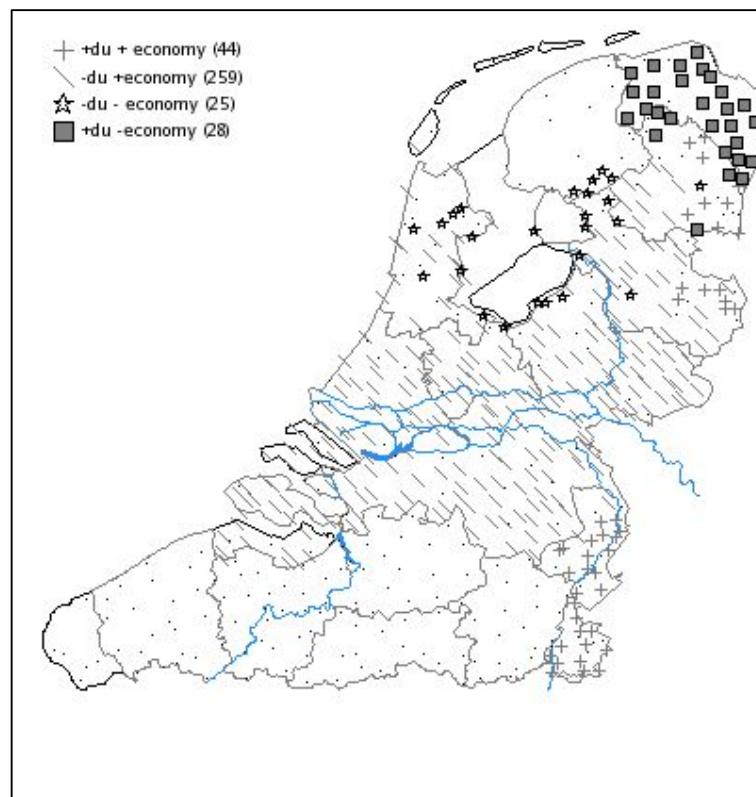
A second prediction that we tested on the diachronic data in chapter 5 concerns the hierarchy in the loss of subject *du* and non-subject *du*. We saw that subject *du* was lost before non-subject *du*. Again, the early loss of subject-*du* corroborates the economy hypothesis since only subjects trigger agreement. The diachronic hierarchy between loss of subject *du* and non-subject *du* will help us make predictions regarding the geographical distribution of subject *du* and non-subject *du* in the dialects under investigation. We expect that the area with non-subject *du* is larger than the area with subject *du*.²

3.2 The geographical distribution of T

Let us consider the first prediction from 3.1 on the geographical distribution of T. We expect loss of T in most Dutch measure points. In two groups of dialects, we expect T-retention. We expect *du* retention in the measure points in the province of Groningen, because these measure points belong to the Swedish type: replacement of T by V does not yield a more economical paradigm. Secondly, we expect *du* retention in the southern provinces of Limburg and Brabant and in the eastern parts of Gelderland and Overijssel, because these areas show characteristics of the German-type; T yields a more economical paradigm, but there is less pressure on the

² Apart from the chronological order in the loss of subject *du* versus loss of non-subject *du* and the relation between economy and loss of *du* we also looked at the type of verb that combined with *du* most frequently in chapter 5. There we saw that *du* combines longer with high frequency verbs than with low frequency verbs. Since deflection is one motivation for the loss of *du* we expect the preference for the pronoun *du* for high frequency verbs, since high frequency verbs are least affected by deflection. We expect that the results from chapter 5 are mirrored in the dialect data. This means that we expect that measure points that are located in the border region of *du*-retention will show preference for co-occurrence with high frequency verbs. Since the MAND does not contain frequency information, we cannot test this prediction in the dialect data.

inflectional paradigm. The observation that southern and eastern dialects have retained a three way gender distinction suggests that the speed of deflection in these areas is relatively slow.



Map 1 T-loss related to (potential) inflectional economy

In map 1 T-loss is related to inflectional economy. Four categories are distinguished: (i) measure points where T is lost and where this loss yields a more economical paradigm (encoded with '+'), (ii) measure points where T is lost and where this loss does not yield a more economical paradigm (encoded with a star), (iii) measure points where T is not lost and where loss of T would not yield a more economical paradigm (encoded with a gray square) and (iv) measure points where T is not lost but where T-loss would yield a more economical paradigm (encoded with '+').

As predicted, T is lost in most measure points. Of the total of 356 measure points, T was lost in 284 cases. As expected, T is retained in all measure points in the province of Groningen. The measure points in Groningen belong to the Swedish-type dialect where loss of T does not yield a more economical paradigm. We also observe that T is retained in the east and in the south. Two areas that we grouped under the German-type measure points. Despite the observation that T-loss would imply a more economical paradigm, T is retained in these areas because there is less pressure on the inflectional paradigm.

The retention of the pronoun *du* implies the retention of the suffix $-(t)s(t)$. All measure points that have *du* encode second person singular with $-(t)s(t)$. There are measure points where *du* seems to combine with a zero suffix, as in G180p (Rossum) and L267p (Maasbree). However, we find that all other verbs in this measure point also encode second person singular with *-s*.

We expect that the loss of *du* results in a more economical paradigm. From the 284 measure points where *du* was lost, 259 measure points show a more economical paradigm. In 25 measure points, *du* is lost despite the fact that this loss does not yield more inflectional economy. These measure points are located either in the former South Sea area or in the northern part of the province of Noord-Holland. The measure points are encoded with a star map 1.

In these measure points, second person singular and all plural forms are encoded with $-e(n)$ (see (13)). The appearance of the suffix $-e(n)$ in second person singular implies that the verbal paradigm of these measure points resembled the paradigm in Groningen as described in (12), where all plurals were encoded by $-en$. We predicted that *du* was only lost in dialects where *gij* combines with a more economical suffix than *du*. The suffix $-en$ in second person singular is not more economical than the suffix $-s$ because it is not homophonous with first or third person singular. At first sight, one might interpret this as evidence against the economy hypothesis. Upon further review, however, this is not actually the case. We will now argue that West-Frisian dialects and the dialects spoken in the area around the former South Sea are the result of a very specific form of language contact known as bilingual mixed languages.

Thomason (2001) uses the term bilingual mixed languages for a special case of language contact. Whereas in general contact languages serve as a means of communication between speakers with different language backgrounds, bilingual mixed languages are created by speakers who have at least two languages in common. Speakers identify with both languages. The function of the new mixed language is not communication, but instead it serves as an identity marker that reflects the shared bilingual background of the speakers. The grammar of the

bilingual mixed language is taken directly from one of the source languages. Whereas we often observe levelling and loss of inflectional distinctions in language contact situations where a new language is created as a means of communication, marked structures are retained in the situation of bilingual mixed languages.

It is likely that the history of the West-Frisian dialects resembles the bilingual mixed languages scenario. Boekenoogen (1897), Daan (1950) and Karsten (Karsten 1931) compared the lexicons of Frisian, West-Frisian and other dialects from the province of Noord-Holland. They concluded that the West-Frisian dialects should be categorized as a subgroup of Hollandic dialects. Hoekstra (1993), however, shows that dialect grouping based solely on the basis of the lexicon is problematic. He argues that in some cases, a new language might incorporate more vocabulary from one language and more grammar from the other. He further argues that this is the case in this situation, whereby the lexicon of the West-Frisian dialect is closely related to other dialects in the provinces of Noord-Holland. The morphosyntax of the West-Frisian dialects, however, is more similar to the morphosyntax of Frisian dialects. The examples in (16) and (17) illustrate that West-Frisian is morphosyntactically more similar to Frisian than Hollandic (Hoekstra 1993).

(16) Ordering of bare infinitives

West-Frisian	Dat	had	je	wel	lete (A)	kennen (B)
Hollandic	Dat	had	je	wel	kunnen (B)	laten (A)
Frisian	Dat	hiest		wol	litte (A)	kinnen (B)
	Thad	had	you	PART	refrain from (A)	can (B)

‘You did not have to do that’

(17) Aspectual infinitives

West Frisian	ik	blaiif	te	slapen
Hollandic	ik	blijf	Ø	slapen
Frisian	ik	bliuw	te	sliepen
	I	stay	to	sleep

‘I will sleep over’

In (16), we see that both Frisian and West-Frisian place the modal verb *kunnen* (B) (‘can’) after the matrix verb *laten* (A) (‘refrain from’). In contrast, Hollandic dialects place the modal verb before the matrix verb. In (17), we see that the aspectual verb *blijven* (‘to stay’) triggers an infinitive with the particle *te* in Frisian and West-Frisian. Standard Dutch does not use the particle *te* in this context.

Examples of noun-incorporation also show how the three dialects differ from one another, morphosyntactically. In Frisian, a noun can be incorporated between the particle *te* ('to'), and the infinitive (shown in example (18) for West-Frisian and (19) for Frisian). In Hollandic, the object-noun is placed before the particle *te* ('to') and the infinitive (shown in (20)). Again, we see that West-Frisian morphosyntax is similar to Frisian syntax.

(18) Ik kom te ov ouwen (West-Frisian)
 I come to pig cut out
 'I am here to cut out the pig'

(19) Ik kom te kou slachtsjen (Frisian)
 I come to cow slaughter
 'I am here to slaughter the cow'

(20) Ik kom om de koe te slachten (Hollandic)
 I come for the cow to slaughter
 'I am here to slaughter the cow'

The similarities between the grammar of Frisian and West-Frisian suggest that there is a historical link between the provinces of Frisia and the northern part of Noord-Holland, where West-Frisian is spoken. Hoekstra (1993) uses onomastic research to further his claim that the areas are historically related.

If Hoekstra (1993) is correct and if West-Frisian has a Frisian grammar with a Hollandic lexicon, we can understand the loss of *du*, despite the fact that this loss does not yield a more economical paradigm. First, *du* was lost in other Hollandic dialects as the result of a deflection strategy. When speakers from the northern part of Noord-Holland adapted their lexicon to other Hollandic dialects, they replaced the second person singular pronoun *du* with the second person plural pronoun *jij*.

Ji/jij was already part of the West-Frisian lexicon. In West-Frisian, *ji/jij* was only a second person plural pronoun. Because of dialect mixing with Hollandic West-Frisian, *ji* became associated with Hollandic *jij*. The Hollandic semantics were adopted, and *jij* also became a singular pronoun. Whereas the semantics of *jij* was influenced by dialect mixing, the morphology remained Frisian. In other words, the lexical item *jij* as a second person singular pronoun, was borrowed from the

Hollandic dialects. However, the pronoun retained the West-Frisian plural suffix *-en*.

There is another group of dialects which goes contra our initial hypothesis (which states that T will be retained because T-loss does not yield economy). This is true for the dialects around the former South Sea. The language contact situations in former South Sea dialects and West Frisian dialects have many things in common. For example, although permanent immigration (which usually leads to new means of communication) is limited in this area, there is a good deal of military and economical contact between Amsterdam and the cities located around the former South Sea (Nijen Twilhaar & Scholtmeijer 1989: 10). The frequent contact between the areas brings speakers into contact with the Amsterdam dialect. The fact that many inhabitants of the former South Sea towns are able to speak two dialects encourages the creation of a bilingual mixed language. In this situation, *du* is lost, despite also yielding a more economical inflectional paradigm.

If we look at map 1, we observe that loss of *du* occurs in two other measure points where the loss does not yield a more economical paradigm in Schoonoord (G032b) and in Raalte (F120p)). Raalte is located in an area where the suffixes *-t* and *-en* alternate throughout the plural paradigm. For example, the verbs *leven* ('to live') and *breken* ('to break') in Raalte, are encoded with *-t*. In these verbs, the replacement of second person singular by second person plural did yield economy. Moreover, all the measure points that surround Raalte have lost *du*. Thus, when considered in more detail, our hypotheses can also accommodate the situation in Raalte. This will be discussed in more detail in section 4.

The situation in Schoonoord (G032b) is surprising. Schoonoord is surrounded by localities that have maintained the pronoun *du*. None of the eight verbs described in the MAND exhibit the suffix *-t* in the plural in Schoonoord, nor is variation between *-t* and *-n* found in Schoonoord's surrounding areas. Thus, neighbouring dialects nor partial economy can explain loss of *du* in the dialect of Schoonoord. This suggests that there is something special about Schoonoord. This is indeed the case.

The town Schoonoord was founded in 1854 after the creation of the Oranjekanaal (a canal dug to gain better access to the peat rich soil in the area). The first inhabitants from Schoonoord came from Assen, Smilde, Stellingwerven, Steenwijk and Appelscha (Goeman 1999: 223). The *Morphological Atlas of Dutch dialect* does not give information on the inflectional paradigms in Assen and Appelscha. The dialect of Smilde (G002p) mixes the suffixes *-t* and *-n* in the second person singular and in plural contexts. In Steenwijk (F060p) and in Stellingwerven (Bloemhoff 2002: 54), second person singular and all plural forms are encoded with

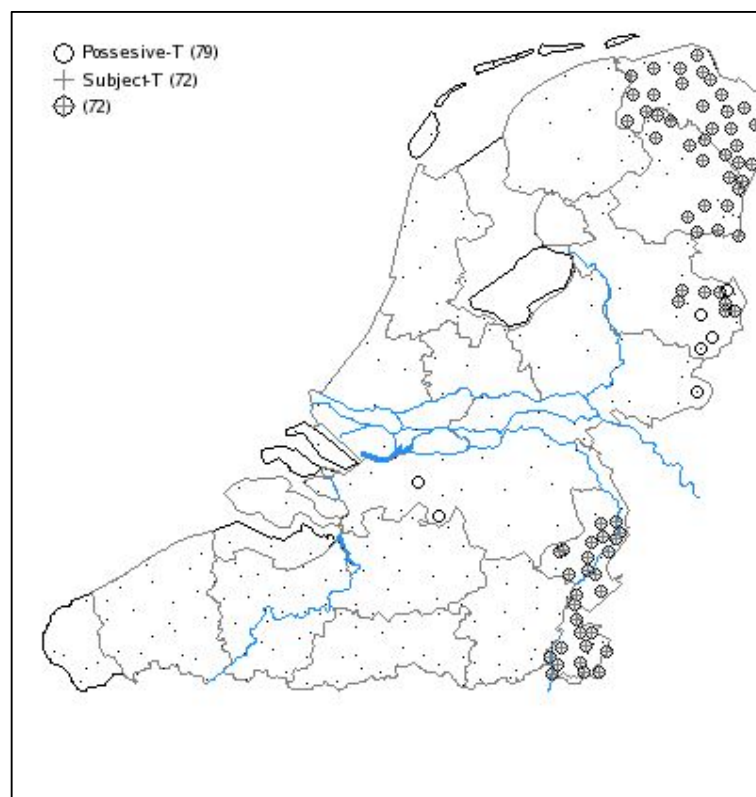
the suffix *-en*. Stellingwerven is located in the south-east of the province Friesland and Steenwijk is located around the former South Sea. The fact that second person singular is encoded with *-en* in the dialect of Schoonoord can be traced back to the dialects of Steenwijk and Stellingwerven.

In short, we have seen that, in most places, the economy hypothesis holds. *Du* is retained in the Swedish type dialects of Groningen and it is retained in the German like dialects in Limburg and the eastern part of Overijssel. *Du* in Drenthe is retained in those dialects that border towns which also use *du*. As predicted, *du* is lost in other areas where this loss implied a more economical paradigm. We related the absence of *du* in the Old South-sea area and in the northern part of Noord-Holland to bilingual mixed dialect situations.

Now that we looked at the geographical distribution of subject *du*, let us look at the geographical distribution of non-subject-*du*. In the diachronic data described in chapter 5, we saw that subject *du* was lost before non-subject *du*. We related the early loss of subject-*du* to the fact that avoiding uneconomical inflection is only directly relevant in combination with a subject. We expect that the results from the diachronic data are mirrored in the dialect data in terms of geographical distribution. We further predict that non-subject T has a wider geographical distribution than subject T.

In the MAND, the only non-subject form of the second person singular that was questioned is the possessive pronoun *dijn*. Look at item 1821 *dijn moeder* ('thy mother') and item 1861 *dat is dijne* ('that is thine'). In most measure points, both items yield the same result. In two measure points the results differ. In Borne (G201p), the respondent uses V for item 1861 *dat is dijne* ('that is thine') and T for item 1821 *dijn moeder* ('thy mother'). In Usselo (G233p) there is no information available on the item 1821 *dijn moeder* ('thy mother') but item 1861 *dat is dijne* ('that is thine') is questioned. Map 2 incorporates results from items 1821 and 1861. In many measure points the possessive T-form is not questioned. It is likely that if the item had been questioned we would find more measure points with possessive T.

The prediction is that we will find *dijn* in all areas where *du* is also used. Additionally, we expect to find *dijn* in localities where subject *du* was retained in neighbouring areas. These predictions are confirmed. As expected, *dijn* occurs in all areas where we find subject *du* and in where subject *du* is not attested. There are no measure points where the reverse situation is true, i.e. we do not find dialects with subject-*du* that do not have a possessive form *dijn*. Localities where possessive T is observed but subject-T is absent include: Tilligte (G177b), Borne (G201p), Usselo (G233p), Haaksbergen (G257p), Winterswijk (M013p), Breda (K160p) and Baarle Nassau (K195p).



Map 2 Subject-*du* versus possessive *du*

With the exception of Breda and Baarle Nassau, all localities that have possessive T but not subject T are located in close proximity with dialects with subject T. In order to make sure that the absence of *du* in combination with finite verbs is not an accident, the interviewer in Haaksbergen (G257p) explicitly asked the respondent whether subject-*du* is part of his dialect. The respondent denied that subject *du* is part of his dialect. The possessive form *dijn* is unproblematic for the respondent.

The measure points Breda en Baarle Nassau are not located more distant from measure points with T. Items 1821 and 1861 with possessive T have not been included in the questionnaires for the surrounding measure points. This means that there is a possibility that there are more measure points where possessive *dijn* is still in use than is indicated.

The data in the MAND corroborate dialect research by Kloeke (1926), who looks at vocatives rather than possessives. Kloeke reports that the radius of the area of dialects with vocative *du* (such as *doe lief kind* ('thou sweet child')) is 40 kilometres wider than region of dialects that have retained subject *du*. Neither vocatives nor possessives trigger inflection. The wider geographical spread of vocatives as opposed to subjects as described by Kloeke (1926) and the wider distribution of possessive *du* as opposed to subject *du* as attested in the MAND is predicted by the economy-hypothesis.

4 Neutralisation of number in the context of person

In the last section, we looked at areas that retained subject *du* and non-subject *du*. We looked at the correlation between inflectional economy and loss of *du*. A central claim in the economy hypothesis is that, in a language like Dutch, the feature person depends on number. The collapse of second and third person singular is thus morphologically systematic whereas the homophony between second person singular and second person plural is accidental.

We argued for the dependency of person on number as follows. Third person is the most unmarked form. Unmarked forms are relatively stable. If number marking is retained on third person, it follows from the animacy hierarchy that number should also be encoded on first and second person. Absence of number marking on second person goes against the animacy hierarchy if number is marked on third person. The neutralization of number marking in second person is thus a form of accidental homophony.

In this section, we will look into the relation between number and person features in Dutch dialects. We predict that we will either find only neutralization of person features, or we predict that number marking is absent. We do not expect number neutralization in the context of specific person features. If we do find neutralization of number features only in the context of certain person features, the neutralization is expected to be a form of accidental homophony.

In section 4.1, we will discuss the stability of the accidental homophony between second person singular and second person plural in Dutch dialects. We shall see that, quite often, the syncretism between second person singular and second person plural is lost in favour of a general plural marker *-en*. The massive loss of the syncretism between second person singular and second person plural corroborates our hypothesis that this syncretism is merely accidental.

In section 4.2, we will look at homophony between first person singular and first person plural. If we find homophony, we will investigate if it might be due

to external sources. Absence of number marking in the context of first person goes against the animacy hierarchy if number is encoded on third person. In 4.3, we will discuss homophony between third person singular and third person plural. In chapter 2, we hypothesized that third person plural inflection is the most unmarked plural form. Unmarked forms resist deflection longest. We do not expect feature structure driven loss of number in this unmarked context unless the feature number is lost all together.

4.1 Homophony between second person singular and second person plural

The replacement of T by V yielded a syncretism between second person singular and second person plural. This syncretism is not in line with feature structure. We predict that accidental syncretisms are unstable and this is indeed the case. In many measure points the syncretism between second person singular and second person plural is lost in favour of general plural marking.

Map 3 shows an overview of plural marking in the Netherlands.³ We can observe four groups. In groups one through three, plural marking does not depend on person. All plurals are encoded with either *-t* (group 1), *-en* (group 2), or both *-t* and *-en* (Group 3). In the fourth group, second person plural is encoded with *-t* and first and third person plural are encoded with *-en* (Group 4).

Let us first consider Group 4. This group consists of 69 measure points. In 23 of these points, *du* is retained and second person singular is encoded with *-s*. This yields the paradigm in (21).

³ I focus on syncretic patterning, which means that I do not discuss the rise of new agreement markers. For a discussion on the rise of, for example, the new first person plural suffix *-me* see De Vogelaer (2005).

- (21) Second person singular is encoded with *-s*, second person plural is encoded with *-t*,

	Singular	Plural
1	-∅	-en
2	-s	-t
3	-t	-en

In the paradigm in (21), second person plural marking is unrelated to second person singular. In the other 46 dialects from Group 4, there is homophony between second person singular and second person plural. This paradigm is presented in (22).

- (22) Second person singular and plural encoded with *-t*

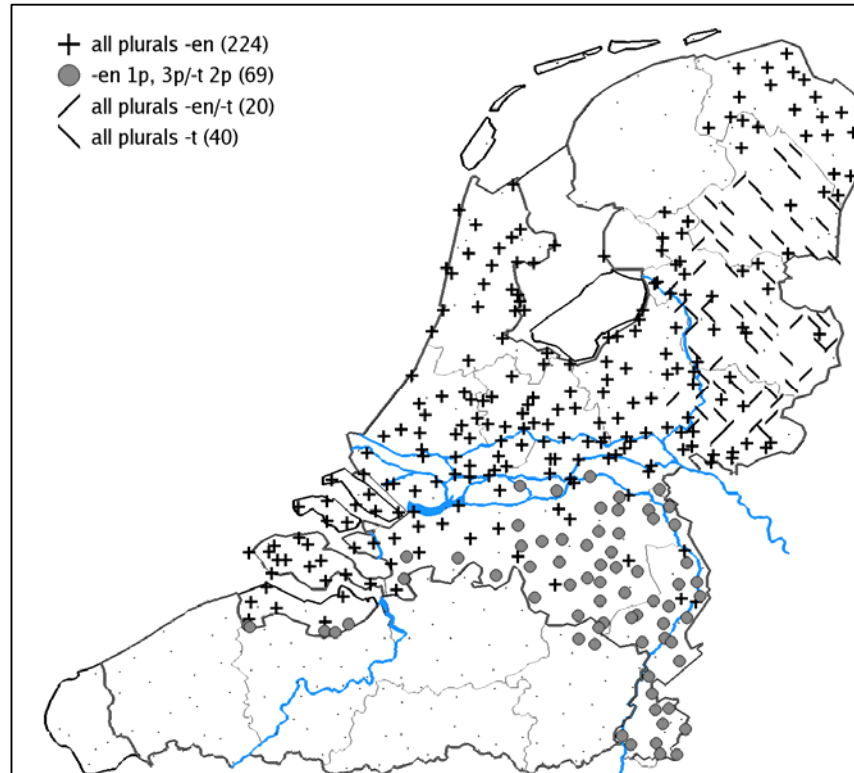
	Singular	Plural
1	-∅	-en
2	-t	-t
3	-t	-en

Now that we have looked at the measure points that distinguish second person plural from other plural forms, let us move to dialects where all plurals are encoded with *-en*. There are 230 measure points where all plurals are encoded with *-en*. 28 of these localities occur in the province of Groningen, where the pronoun *du* and the suffix *-s(t)* are retained. In these measure points, there was no homophony between second person singular and second person plural. In 25 measure points (West-Frisian and the former South Sea), second person singular and all plurals are encoded with *-en*. Since all plurals and second person singular are homophonous, there is no competition between person marking and number marking. In the remaining 187 measure points, there was homophony between second person singular and second person plural. This implies that in these cases, there was competition between the homophony of second person singular and second person plural on the one hand and

a general plural marker on the other. These 187 measure points encode second person singular with *-t* (or $-\emptyset$) in combination with the pronoun *jij* (or a form variant). *Jij* was originally a plural form. The observation that the original plural form combined with the suffix *-t*, suggests that second person plural was also encoded with *-t*. This means that there was, at one point, a paradigm like in (21). Consequently, there were 187 measure points that lost this syncretism in favour of a general plural marker.

In the measure points where all plurals are encoded by *-t*, the competition between the syncretism of second person singular and second person plural on the one hand and a general plural marker on the other hand is irrelevant, since both second person singular and all plurals can be encoded with *-t*. We thus find both syncretic patterns at the same time and therefore there is no competition.

If we now focus on the 256 measure points where there was competition, we find that, of these 256 measure points, 187 have lost the homophony between second person singular and second person plural. It was retained in 46 points. All these measure points are located in the south. The retention of this pattern can be related to conservatism. If we consider data in Flanders (Aalberse & Don to appear, De Vogelaer 2005), we find more conservative measure points. The interesting observation is that via politeness there was homophony between second person singular and second person plural. In many measure points, the homophony between second person singular and second person plural was unstable. The homophony between second person singular and second person plural was lost in favour of a general plural marking. This spontaneous morphology-internally motivated change is in line with feature structure.



Map 3 Plural marking in the Netherlands

The question is whether the massive loss of the syncretism between second person singular and second person plural is the result of feature structure or an external source. Van Aken (1996) defends the latter position. She claims that the introduction of a new second person plural pronoun *jullie* (> *jij lui* ‘you people’) is the source for a new suffix for second person plural. The plural marker *lui* ‘people’ in *jullie* has third person qualities and therefore, it is natural that these third person characteristics trigger third person inflection. On the other hand, Goeman (1999: 251) and De Vogelaer (2005: 88-89) argue that there is no direct link between the appearance of the suffix *-lie* and plural suffixation. There are plural pronouns that do not combine with *-lie* which trigger the general plural suffix *-en* and there are pronouns that do combine with *-lie* which trigger the suffix *-t*.

In Standard Dutch, the pronoun *jullie* combined with the suffix *-t* until mid-way through the nineteenth century, where it was gradually replaced by the general plural suffix *-en* (Buitenrust Hetteema 1891, Van Loey 1970: 170). Replacement of a general second person marking by a general plural marker began in the inverted order. The observation that a change begins in the inverted order gives additional support to the claim that replacement of general second person marking by general plural marking is motivated by feature structure rather than by external sources. Ackema & Neeleman (2004: 193-205) show that the choice for inflectional economy is more frequently made in the inverted order than in other word orders. Ackema & Neeleman (2004) argue that in the inverted order the pronoun and the finite verb are in the same prosodic domain. Being in the same prosodic domain makes agreement weakening, that is the use of a more economical form of inflection, possible. We expect deflection motivated by feature structure to be sensitive to prosodic domains, whereas this type of sensitivity is unlikely for morphology-externally motivated syncretism.

The deflection path in combination with the pronoun *jullie* is depicted in (23). The label ‘+INV’ indicates the inverted order in subjects and finite verbs. The label ‘-INV’ indicates a non-inverted order.

(23) Verbal inflection in combination with the pronoun *jullie*

	Stage 1	Stage 2	Stage 3
- INV	jij loopt (‘you walk’) jullie loopt (‘you all walk’)	jij loopt (‘you walk’) jullie loopt (‘you all walk’)	jij loopt (‘you walk’) jullie lopen (‘you all walk’)
+INV	loopØ jij? (‘Walk you?’) (Do you walk?) loopØ jullie? (‘Walk you all?’) (Do you all walk?)	loopØ jij? (‘Walk you?’) (Do you walk?) lopen jullie? (‘Walk you all?’) (Do you all walk?)	loopØ jij? (‘Walk you?’) (Do you walk?) lopen jullie? (‘Walk you all?’) (Do you all walk?)

In the first stage, the pronoun *jullie* combines with the exact same suffixes as the pronoun *jij*. In the second stage, the pronoun *jullie* combines with a suffix *-en* in the inverted order; the suffix that also marks first and third person plural. In the non-inverted order, second person singular and second person plural still form a

syncretism. In the third stage, *jullie* always combines with the marker *-en* and the syncretism between second person singular and second person plural no longer remains. Instead, there is now a general plural marker. This deflection path that begins in the inverted order supports the claim that rise of this plural marker is related to internal sources. This supports our hypothesis that the change in inflection was morphologically motivated. In 4.2 and 4.3, we will further explore the relation between number and person features by looking at the neutralization of number features in the context of first and third person.

4.2 Homophony between first person singular and first person plural

A crucial claim that underlies the economy hypothesis is that we do not expect neutralization of number in the context of first or second person if number is encoded on second or third person. Following the animacy hierarchy described in chapter 2, number must be marked on first person if it is encoded on second or third person. No known Middle Dutch dialect shows a syncretism between first person singular and first person plural. We predict that if a Dutch dialect exhibits homophony between first person singular and first person plural, this overlap in form is related to phonology. If phonology is the only source for homophony between first person singular and first person plural, we can make precise predictions on the form of the suffix that encodes all first persons. Moreover, we can predict the geographical distribution of the syncretism between first person singular and first person plural based on the geographical distribution of phonological rules and on the basis of information on dialectal differences in Middle Dutch.

Let us first consider the form of the syncretism between first person singular and first person plural. In Middle Dutch, first person singular and first person plural were not homophonous. In most Dutch dialects, first person singular is encoded with *-e* and first person plural is encoded with *-en* (as shown in (10) and (12)). In these dialects, *-n* deletion in combination with retention of *-e* would yield homophony between first person singular and first person plural. In this case, both forms would take the suffix *-e*. There are also north-eastern dialects, where first person is encoded with *-e*, and where plural forms are encoded with *-t*. In these dialects, the combination of *-t* deletion and *-e* deletion would yield a syncretism between first person singular and first person plural in the form of zero.

Although conceivable, there are no measure points where *-t* is deleted in the plural and where *-e* is deleted in word final position in the singular. Of the measure points that encode first person plural with *-t*, only two show *-t* deletion in the plural (in Heerde (F113p) and in Apeldoorn (F151p)). In both these localities, first person

singular is encoded with *-e*. A syncretism between first person singular and first person plural encoded by $-\emptyset$ is thus never actually attested.

Let us now consider the possible homophony between first person singular and first person plural as the result of *-e* retention in first person singular and *-n*-deletion in the plural. Word final *-e* was lost in most Dutch nouns, prepositions and verbs. Van Reenen & Mulder (2003) describe the process of schwa deletion in the noun *some* ('son'). They date the beginning of the process of *-e* deletion in word final position around the thirteenth century. *-E* deletion is first attested in the south-eastern provinces (Limburg and the east of Noord-Brabant) and in Holland (Leiden, the Hague, Amsterdam). During the fourteenth century, the *-e* apocope area extends to all parts of the Netherlands except for the north-east and the south-west. If the geographical spread of *-e* deletion verbs is similar to *-e*-deletion in nouns like *some*, this means that the possibility of a syncretism between first person singular and first person plural is restricted to the north-east and the south-west.

The next question is: In which areas, was *-n* deleted in word final position? De Wulf & Taeldeman (2001) show that the dialects that retain *-n* in word final position show remarkable geographical overlap with dialects that have retained *-e* in word final position. In most dialects, there is a formal distinction between first person singular and first person plural. The formal distinction is either encoded by opposing first person *klop* to plural *kloppe* or by opposing *kloppe* to *kloppen*. There is only one area (in the south-west) which does not obey this general tendency. In this area, *-e* in word final position is retained and *-n* in word final position is deleted. In the south-west, we have thus found an area that qualifies for phonologically motivated homophony between first person singular and first person plural. In the south-west, we expect that the first person singular and first person plural will both use the homophonous suffix: *-e*.

If we look at the geographical distribution of the homophony between first person singular and first person plural, our prediction is correct. Homophony between first person singular and first person plural is attested in 10 south-western measure points in the province of Zeeland (see map 4).



Map 4 first person neutralizes number

Our prediction on the geographical distribution of the homophony between first person singular and first person plural is thus confirmed. The homophony between first person singular and first person plural is only attested in the south-west. In these areas, *-e* is retained in word final position and the suffix *-en* is often reduced to *-e*. Let us now move to our prediction on the form of the suffix that encodes first person singular and first person plural. We expect both feature bundles to be encoded by the suffix *-e*. This prediction is correct for six measure points, however, there are four measure points where first person singular and first person plural are encoded with *-en*.

We can understand the appearance of the suffix *-en* in first person singular as the result of an extension of the competition between the suffixes *-e* and *-en* in the plural to the singular. Since *-n* deletion is a gradual process, we expect that the suffixes *-e* and *-en* were, for a while, in competition in the plural. Competition between *-e* and *-en* in the plural is depicted in the paradigm in (24).

(24) Hypothetical: competition between *-e* and *-en* in the plural

	<i>Singular</i>	<i>Plural</i>
1	-e	-e/-en
2	-t	-e/-en
3	-t	-e/-en

If the two forms *-e* and *-en* are alternates in the plural, then it is possible that the language users assume that *-e* and *-en* are alternates in the full paradigm via a superficial analogy rule. This would lead to a paradigm like in (25). Taldeman (2001) refers to these situations as *spiegelregels* ('mirror rules') and Maiden (1992) uses the notion of *amplification* (cf. Aalberse 2007). If the suffix *-e* wins over *-en*, we get a paradigm where first person singular and plural are encoded with *-e*. If *-en* wins, we get a paradigm where both first person singular and first person plural are encoded with *-en*.

(25) Hypothetical: full syncretism between first person singular and all plural forms

	Singular	Plural
1	-e/en	-e/en
2	-t	-e/en
3	-t	-e/en

In short, the geographical distribution of the homophony between first person singular and first person plural is exactly like we predicted. The pattern is only attested in south-western measure points, which were the areas where *-e* in first person was retained and where *-e* and *-en* were in competition in the plural. As expected, the majority of the measure points encode this set with the suffix *-e*. There are, however, also measure points that encode first person singular and first person plural with the suffix *-en*. We related the appearance of the *-en* to the

alternation between *-e* and *-en* in the plural paradigm and the extension of this alternation pattern to the singular via a superficial analogy rule.

4.3 Homophony between third person singular and third person plural

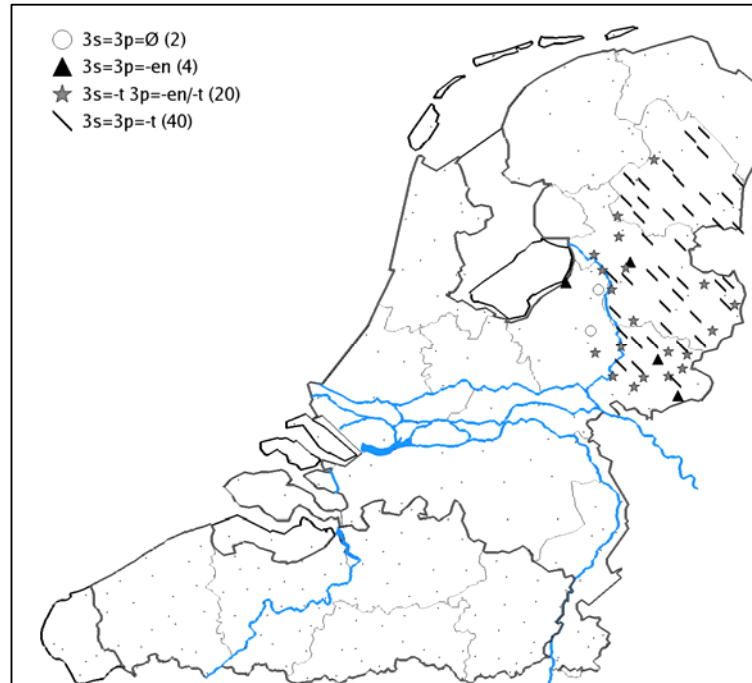
Absence of number marking on third person is in line with the animacy hierarchy. However, once a language does encode number on third person, it is not likely to lose number marking again in the context of third person, because third person is unmarked. Remember that unmarked features are less prone to deflection.

If we look again at the Middle Dutch paradigms in (10) and (12), we see that in most Dutch dialects, third person plural is encoded with *-en* and third person singular is encoded with *-t*. There are no independent phonological processes described for Dutch that yield homophony between these two suffixes.

However, already in Middle Dutch, we observe homophony between third person singular and third person plural in the eastern dialects, as shown in (14). Goeman (1999: 228-230) shows that some north-eastern dialects mix the paradigm presented in (12) and the paradigm presented in (14). This mix entails that the suffixes *-en* and *-t* are interchangeable in the plural. So first, second and third person plural can be encoded either by *-en* or by *-t*. Goeman (1999: 228-230) shows that variation between *-t* and *-en* as plural markers is stable over time. That is, the proportion of *-en* and *-t* marking for all plural forms is the same between 1300-1350 as it is between 1400-1450. Historically, the mixed dialects are attested in the eastern provinces. In mixed dialects, there is a partial homophony between third person singular and third person plural, since both can be encoded with *-t*.

If modern Dutch dialects exhibit homophony between third person singular and third person plural, we expect to find this syncretism in the north-eastern dialects as a continuation of the historical variation. Since third person singular is always encoded with a *-t*, and never with another suffix, we expect that third person singular and third person plural are both encoded with the suffix *-t*.

If we look at map 4, we see that our predictions concerning the geographical distribution of the homophony between third person singular and third person plural are borne out. This pattern of homophony between third person singular and third person plural is only attested in the north-eastern measure points.



Map 4 Neutralization of number in the context of third person

There are 46 measure points with a complete syncretism between third person singular and third person plural. In 20 measure points, there is partial overlap between third person singular and the plural forms: third person is encoded with *-t* and the plural is encoded with both *-t* and with *-en*. This pattern is shown in (26).

(26) Partial number neutralization in the context of third person: *-t/-en* (20x)

	Singular	Plural
1	-e	-t/-en
2	-t	-t/-en
3	-t	-t/-en

The partial overlap between third person singular and the plural forms is already described in documents between 1300-1350 (cf. Goeman 1999). The homophony between third person singular and third person plural (encoded by *-t*) (attested in 40 measure points) is also already attested in earlier time periods. This pattern is repeated in (27).

(27) Number neutralization in the context of third person: suffix *-t* (40x)

	Singular	Plural
1	-e	-t
2	-t	-t
3	-t	-t

In two cases, third person singular and third person plural are marked with $-\emptyset$, as shown in (28). This is true for the measure point in Heerde (F113p) and for the measure point in Apeldoorn (F151p). The paradigm in (28) is exactly like the paradigm in (27), except for the fact that *-t* is deleted.

(28) Partial number neutralization in the context of third person: suffix $-\emptyset$ (2x)

	<i>Singular</i>	<i>Plural</i>
1	-e	$-\emptyset$
2	$-\emptyset$	$-\emptyset$
3	$-\emptyset$	$-\emptyset$

In four cases, third person singular and third person plural are marked with *-en* (see (29)). This is true for Dalfsen (F098p), Doornspijk (F099p), Ruurlo (G248p) and Aalten (M009p).

(29) Number neutralization in the context of third person: suffix *-en* (4x)

	Singular	Plural
1	-e	-en
2	-en	-en
3	-en	-en

Again, the abstract pattern in (29) is a copy of the pattern in (27). At first sight, the appearance of *-en* in third person singular is puzzling. There is no phonological rule that transforms *-t* into *-en*. However, Goeman (1999: 228-230) shows that some north-eastern dialects mix the suffixes *-en* and *-t* in the plural. This mix is stable over time. The proportion of *-en* forms in the period between 1300-1350 is similar to the proportion of *-t* and *-en* forms in the period between 1400-1450. There are 20 measure points in the MAND where *-en* and *-t* are also mixed in the plural. The mixed dialects are attested in the eastern provinces of Drenthe, Overijssel and Gelderland.

Since V was originally a plural form, the replacement of T by V in mixed dialects yielded the alternating two suffixes *-en* and *-t* from the plural to the second person singular. The alternation between *-t* and *-en* in the plural and in second person singular is, for example, attested in the measure point Smilde (G002p), which is shown in (30).

(30) Verbal inflection in the measure point of Smilde (G002p)

	Singular	Plural
1	-Ø/-e	-en/-t
2	-t/-en	-en/-t
3	-t	-en/-t

If the two forms *-t* and *-en* are alternates in the plural and in second person singular, it is possible that the language users assume that *-t* and *-en* are alternates in the full

paradigm via a superficial analogy rule leading to (31), where *-t* and *-en* are in competition. If the suffix *-t* is lost in paradigms like (31), this yields the paradigm in (29). Note that in the map in figure 5, measure points that encode third person singular with *-en* are adjacent to measure points that encode the plural with *-en* and with *-t*.

(31) Hypothetical: Extended *-en/-t* alternation into full paradigm

	Singular	Plural
1	-Ø/-e	-en/-t
2	-t/-en	-en/-t
3	-t/-en	-en/-t

In short, we have seen a similar picture for the homophony between third person singular and third person plural as for the homophony between first person singular and first person plural. On the basis of our knowledge of Middle Dutch phonological and morphological variation, we could predict the geographical distribution of the homophony. There was more variation in the suffixes that encoded the pattern than we initially expected. This variation could be interpreted as the extension of the competition between two suffixes.

For the homophony between first person singular and first person plural, we could predict the geographical distribution of the pattern on the basis of phonological knowledge and information on verbal paradigms. There are two conditions for homophony between first person singular and first person plural: first, word final *-e* retention and second, a plural form that ends in *-e(n)*. Van Reenen & Mulder (2003) show that retention of word-final *-e* in the fourteenth century is restricted to the north-east and the south-west. We know from Goeman (1999) that, in the eastern dialects, plurals are often also encoded with *-t* as early as the fourteenth century. Therefore, the only area that obeys both criteria is the south-west. We do find homophony between first person singular and first person plural, but in the south-west only. We find that if first person singular and first person plural are homophonous, they are encoded with either *-e* or *-en*. We can understand the rise of the suffix *-en* for first person singular as the extension of the competition between *-e/-en* in the plural to the singular.

We expected homophony between third person singular and third person plural in areas where all plurals could be encoded with *-t*. This prediction is borne out. We expected the suffix *-t*, only as a homophonous form for third person singular and third person plural. Instead we also attested the suffixes *-∅* and *-en*. We can explain the suffix *-∅* as the result of *-t* deletion. The suffix *-en* for third person singular can be understood as the result of the extension of the competition between *-en* and *-t* in the plural to the singular.

4.4 Summary

The claims concerning the relation between number and person features that we formulated in chapter 2 are corroborated by the Dutch dialect data. We claimed that in a language like Dutch, person features depend on number features. We have seen that, in the majority of the measure points in the MAND, person features are neutralized whereas number features are expressed. Out of the 353 measure points, we find 284 instances of person neutralization in the plural.

Homophony between first person singular and first person plural and homophony between third person singular and third person plural has a limited geographical distribution and can be directly related to morphology-external sources of syncretism. In total, there were 46 measure points out of 353, where second person singular and second person plural are homophonous.

At first sight, this seems to counter our claim that in a language like Dutch, person depends on number. The crucial point is the motivation for the homophony and the relative instability of the overlap in form between second person singular and second person plural. There were 256 measure points where there was competition between homophony (between second person singular and second person plural) and general plural marking (*-e/-en*). The homophony between second person singular and second person plural is motivated by politeness and supported by the input. The homophony between second person singular and second person plural was retained in 46 Dutch measure points and is also attested frequently in Flanders. The retention of this pattern can be related to conservatism. In 187 measure points, the homophony between second person singular and second person plural is lost in favour of a general plural marker. The massive loss of the homophony between second person singular and second person plural supports the claim that in languages like Dutch, person depends on number.

5 Conclusion

In this chapter, we used data from the MAND to test the economy hypothesis in relation to synchronic variation in Dutch. In section 3, we established predictions regarding synchronic variation. These predictions were based on the economy hypothesis in the diachronic data in chapters 4 and 5. As was the case in chapter 4, we saw that deflection via pronouns depends on two issues: economy and the level of deflection in the language. A new pronoun can only replace an old pronoun as a means of deflection if the new pronoun combines with more economical inflection than the old pronoun. Economical inflection is only preferred when the inflectional system is under pressure.

The measure points in Groningen resemble languages like Swedish, whereby T is retained, because replacement of T by V does not yield a more economical paradigm. The measure points in the provinces of Limburg and Overijssel resemble languages like German, where T is retained due to a lack of pressure on the inflectional paradigm. Most Dutch dialects are like English: T loss yields a more economical paradigm and the inflectional paradigm is under pressure. Consequently the T-pronoun is lost from most Dutch dialects.

The measure points surrounding the former South Sea and the West-Frisian measure points showed T-loss, despite the fact that loss of T did not yield a more economical paradigm. We interpreted T-loss in West-Frisian and in the Former South Sea area as the result of bi-dialectal mixed dialects. In these dialects, we see Frisian morphosyntax with a Hollandic lexicon. Here, T was not lost as a form of deflection but instead, as the result of relexification.

The loss of subject-*du* before the loss of non-subject-*du* (described in chapter 5) was also evidenced in the dialect data. We saw that there are more measure points where T is retained as a non-subject than as a subject. This trend is also predicted by the economy hypothesis since inflectional economy is only directly relevant to subjects.

In section 4, we zoomed in on an assumption that underlies the economy hypothesis. Specifically, we looked into the claim that neutralization of number in the context of second person is not supported by feature structure, whereas person neutralization in the context of number is. We also saw, that person neutralization in the context of number is much more frequent than number neutralization in the context of person. There were only a few instances where number was neutralized in the context of person. Each of these instances could be related to external sources. We also saw that syncretisms which were motivated by external sources were lost from the paradigm faster than syncretism motivated by other sources. As predicted, the accidental syncretism of second person singular and second person plural is

unstable. As a result, the syncretism is lost in 187 measure points in favour of general plural marking.