Inflectional economy and politeness: morphology-internal and morphology-external factors in the loss of second person marking in Dutch
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1 Introduction
The history of Dutch is characterized by deflection. Suffixes of nouns, verbs, and adjectives have eroded over time (De Vogelaer 2005, Franck 1910, Le Roux & Le Roux: 1969, Marynissen 1996, Van Loey 1970). Although all Germanic languages have deflected, the speed and the nature of the deflection process differs from language to language (Harbert 2007). The question is: “What motivates deflection and to what extent can we predict the direction of the deflection process?”

Roughly speaking, there are two approaches to studying deflection within a verbal paradigm, or more specifically, two approaches to studying syncretic patterns of inflection. In the first approach, from a morphological perspective, deflection is a historical accident. Morphology-external factors such as phonological erosion yield accidental homophony within the inflectional paradigm. In the second approach, deflection implies a systematic reduction in meaning. To illustrate the difference between these two approaches, let us compare two perspectives on change in verbal inflection in Dutch. In (1), the Middle Dutch paradigm of the present indicative is presented and in (2) its Modern Dutch counterpart.¹

¹ Please note that the alternation between -o and -oo is phonologically irrelevant. It merely reflects a spelling convention. The paradigm in (1) reflects the most frequently chosen form variant in the corpus of Middle Dutch texts that I describe in detail in chapter 4. In the corpora we find that the form hoort alternates with horet. The form hoores alternates with hores (Franck 1910: 113). In a much smaller number of cases, schwa is also deleted in first person, so hore can alternate with hoor (Franck 1910: 114, Van Bree 2007: 202, 225). The -e was originally part of the stem, which means that the stem of the verb horen (“to hear”) was hore. After -e was lost before -t and -s this part of the stem was most likely reanalyzed as a suffix in first person singular (but see Zonneveld 1978). The suffix -s alternates with the forms -st, -ts and -ste. This form variation does not yield changes in the abstract paradigm: second person singular remains distinctively marked.
Chapter 1

(1) Middle Dutch inflection of the present indicative of the verb *horen* ('to hear') based on Van Gestel, Nijen Twilhaar, Rinkel and Weerman (1992)

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<th>Singular</th>
<th>Plural</th>
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<tbody>
<tr>
<td>1</td>
<td>(ic) hore</td>
<td>(wi) horen</td>
</tr>
<tr>
<td>2</td>
<td>(du) hoors</td>
<td>(ghi) hoort</td>
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<tr>
<td>3</td>
<td>(hi) hoort</td>
<td>(si) horen</td>
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(2) Modern Dutch inflection present indicative

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<tr>
<td>1</td>
<td>(ik) hoor</td>
<td>(wij) hor-en</td>
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<tr>
<td>2</td>
<td>(jij) hoort</td>
<td>(jullie) hor-en</td>
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<tr>
<td>3</td>
<td>(hij) hoort</td>
<td>(zij) hor-en</td>
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If we compare the paradigms in (1) and (2), we can observe two changes which both involve second person. Second person singular –s in Middle Dutch is replaced by the suffix –t which also encodes third person singular in Modern Dutch. The suffix that encodes second and third person singular is thus homophonous in Modern Dutch. Second person plural is encoded by –t in Middle Dutch and by –en in Modern Dutch. The suffix –en also encodes first and third person plural. Now in the plural unique second person marking is lost, this time in favor of a suffix –en which encodes all plural forms. The boxes in (2) indicate syncretism within the paradigm: The second person singular and third person singular are both encoded by the same suffix –t and all plural forms are expressed by the suffix –en.

One approach to studying the changes within the Dutch verbal paradigm maintains that, from the perspective of morphology, the loss of second person inflection is a historical accident. Based on this approach, second person is still an underlying part of the morphological system. Due to morphology-external factors, it

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2 In Modern Dutch there is a difference in inflection between the inverted and the non-inverted order in second person singular. Whereas in the non-inverted word-order second person singular is encoded with –t, the inverted order shows zero marking (Buitenrust Hettema 1891, Verdenius 1924a, b).
is just not realized as a unique suffix anymore. This approach is supported by De Vogelaer (2005), who relates changes in the Dutch verbal paradigm to changes in the pronominal paradigm. Not only is the second person singular suffix –s in Middle Dutch lost, but the pronoun it combined with (namely du ‘thou’) is also lost. In Modern Dutch, the second person singular pronoun is jij. For second person plural, we also observe that the suffix itself (–t) is lost, as well as the pronoun with which it combined (gi,), resulting in the form in the second person plural form in Modern Dutch: jullie (< jij lui ‘you people’).

The hypothesis supported by De Vogelaer (2005) maintains that socio-pragmatic factors motivate the use of a new pronoun. Language users associate certain pronouns with certain suffixes. If, for pragmatic reasons, one pronoun is preferred over the other, the side effect of the use of a new pronoun is a change within the verbal paradigm. Lass (1999) advocates this view in his analysis of English. He shows that the original second person singular pronoun thou and the suffix –st which it combined with, are replaced by the pronoun you combining with the suffix –Ø. According to Lass (1999: 162) “the fate of the 2sing inflection is really part of the pronoun story; it falls away with the you/thou opposition.” Based on this perspective, the loss of second person singular is triggered by politeness strategies. We will refer to this type of change as politeness-induced change.

A different approach to the study of Dutch deflection maintains that loss of overt second person inflection is not merely a superficial change in form, but instead, a deeper systematic change in the underlying inflectional system. If we look at the modern Dutch paradigm (presented in (2)), we can relate all suffixes –en to the meaning [plural], -Ø to the feature [first person] and the suffix –t to a default form. We could say that the loss of formal distinctions corresponds with a loss in meaning. The feature [second person] is lost from the inflectional paradigm of Dutch. The claim that one form corresponds to one meaning in the inflectional paradigm is, for example, defended by Bennis & MacLean (2006).

There are good arguments in favor of the second approach where the loss of second person marking is considered systematic. Second person is a marked category. One indicator of markedness is inventory-based implication: a marked category is one that implies the presence of the unmarked category (Nevins 2007: 2). We can observe dependency of second person on other person markings in cross-linguistic studies: If we find in a language, that second person is encoded by a separate suffix, this usually implies that first and third person are also encoded separately (Baerman, Brown & Corbett 2005: 59, Cysouw 2003: 129-134, 2005: 59).
The dependency of second person on other person features is also observed in language acquisition data. The acquisition of second person depends on the acquisition of first person (Clahsen 1986: 95, Harley & Ritter 2002: 499, Katić 2003: 260, Schlichting 1996: 124-125). It is assumed that marked and dependent features are most prone to loss in language change (Jakobson 1941). The prediction that marked features are prone to loss is confirmed in the work of Weerman & De Wit (1999), who show that, despite being encoded by phonologically robust inflection, genitive case was lost before dative and accusative case which were encoded with phonologically less stable suffixes. Similar to second person, genitive case is a relatively marked and dependent feature. With respect to acquisition data, genitive case is acquired late and the presence of a genitive case in a language implies the presence of a nominative and an accusative case in that language.

The hypothesis that syncretisms reflect a systematic reduction in meaning is an interesting approach to studying deflection. The observation that marked features are more prone to deflection suggests an underlying system in deflection. If deflection is a systematic reduction of features, we can formulate predictions concerning the system that underlies syncretic patterning. The problem with the systematic approach is that almost every generalization that we can formulate concerning syncretic patterning can be overruled. Cross-linguistically, everything seems possible in inflectional paradigms (Baerman, Brown & Corbett 2005: 169-170, Cysouw 2005: 250).

Support for the claim that everything is possible in the patterning of syncretism is the observation that in Middle Dutch, third person singular and second person plural suffixes are homophonous as both feature sets are encoded by -t. This type of homophony between features sets that do not share person or number specifications is cross-linguistically rare (Cysouw 2005: 251-252). Still, we find this homophony in Middle Dutch. The question is: “What do we do with such rare syncretic patterns?” If we wish to incorporate all empirically attested syncretic patterns in a morphological theory, we cannot be restrictive.

Although cross-linguistically, the patterning of syncretisms can be quite diverse, not every syncretic pattern is equally likely to occur. Some syncretic patterns are much prevalent among the world’s languages than others. (Baerem, Brown & Corbett 2005: 169-170, Cysouw 2005: 250). A theory of syncretism should therefore also aim to explain why there are tendencies in the patterning of syncretism and why every generalization concerning syncretisms can be overruled.

Baerman, Brown & Corbett (2005) relate differences among the statistical distribution of syncretic patterns to different diachronic courses, which, inevitably, all yield syncretism. They relate rare patterns of syncretism to historical accidents,
while they relate the more common forms of syncretism to a systematic reduction of morphological features. The authors use the term feature structure to refer to the universal system that underlies syncretism that is common among the world’s languages.

Baerman, Brown & Corbett (2005: 170) claim that morphological patterns based on elements of feature structure are common cross-linguistically, because (i) they are available to all languages; (ii) they can arise spontaneously and (iii) they are self-generating in case of disruptions. By distinguishing different historical paths that yield syncretisms, Baerman, Brown & Corbett (2005) unite the strengths of the systematic syncretism approach and the historical accident approach. They are able to formulate general restrictions in syncretic patterning in terms of feature structure while simultaneously acknowledging the role of non-morphological factors in the formation of syncretism. Through this approach, the authors can also account for deviations that arise based solely upon feature structure.

Baerman, Brown & Corbett (2005) are successful in explaining why everything is possible in the formation of syncretism and why at the same time not every syncretism is equally likely to occur cross-linguistically. Since feature structure is available to all languages, structures that follow from it are common cross-linguistically. Since non-morphological sources are language specific, it follows that the patterns that emerge from non-morphological sources can result in cross-linguistically uncommon neutralization patterns. The question is, however: What does it mean to be available to all languages? In this study, we will interpret feature structure in terms of learnability. If feature structure guides language acquisition, it follows that syncretisms motivated by feature structure are cross-linguistically common. The assumption that features structure is related to learnability leads to the first research question that will be dealt with in this study, formulated in (3).

(3)  
Research Question 1
Can we understand cross-linguistically frequent patterns of syncretism in terms of learnability?

Whereas morphology-internal sources of syncretism can explain common patterns of syncretism across languages, morphology-external sources of syncretism can explain cross-linguistically infrequent patterns. Although there are universal tendencies in the process of phonological reduction, the effects of phonological rules on the inflectional paradigm can vary greatly per language. This variable effect can be related to the observation that the relation between the abstract features of an
inflectional marker and its phonological realization is arbitrary. To illustrate this claim, let us imagine two languages with -t deletion. If one language encodes first person with -t and the other language encodes third person with -t, then the phonological process of -t deletion in these two languages can be similar, but since the two languages encode different features sets with the suffix -t, the effect of the phonological rule on the inflectional paradigm differs between the two languages.

Allowing different types of explanatory factors in a theory of syncretism has the advantage that we can explain the statistical distribution of syncretic patterning. Cross-linguistically, common patterns can be explained in terms of feature structure and rare patterns can be explained as the result of historical accidents. However, it might be argued that incorporating several theories does nothing more than create a new theory which cannot be falsified. One objective of this study is to formulate a falsifiable theory of syncretism that allows for multiple sources of change. The research questions in (4) aims at finding independent empirical evidence that can support the claim that inflectional homophony results from a phonological rule.

(4) **Research Question 2**
What forms of independent empirical evidence can support the claim that inflectional homophony results from a phonological rule?

The loss of the original second person suffix -s within the pronominal in Middle Dutch was, at least in part, motivated by pragmatic factors. For example, the use of second person plural towards one addressee is a politeness strategy. We referred to changes motivated by politeness as politeness-induced change. The research question in (5) aims at finding independent empirical evidence for the claim that politeness plays a role in the neutralization of inflectional distinctions.

(5) **Research Question 3**
What forms of independent empirical evidence support the claim that inflectional homophony results from a politeness induced change?

The first objective of this study is thus to formulate a falsifiable theory of syncretism that allows for multiple sources of syncretism. After discussing more general aspects of syncretism and deflection, we will zoom in on a case study that we touched upon in this introduction, namely, the loss of the original second person singular suffix and pronoun in Dutch. As we will see, the loss of second person singular can be understood both in terms of morphology-internal and morphology-external factors.
The second objective of this study is to disentangle morphology-internal and morphology-external factors in the loss of the original second person singular pronoun and suffix in Dutch.

Independent evidence for the role of different sources of syncretism comes from language-specific information. For example, by studying diachronic and synchronic variants in Dutch, we can learn how changes within the pronominal and inflectional paradigms are related. Dutch offers an ideal testing ground because it is a well documented language: written texts of Dutch are available starting from 1200 onward. In addition, dialectal variation is documented in great detail. In this study, I will make use of the Morphological Atlas of Dutch Dialects, also referred to as the MAND (Van den Berg 2003). The MAND contains information about the morphology of Dutch and Frisian dialects spoken in the Netherlands, Flanders and France in 613 different measure points.

In order to find out if changes in the verbal paradigm are indeed related to changes in the pronominal paradigm, the first question that arises is whether changes in the verbal paradigm do indeed co-occur with pronominal changes in diachronic and synchronic variants of Dutch. The research question is formulated in (6).

(6) **Research Question 4**
To what extent are changes in the pronominal paradigm and the verbal paradigm connected in diachronic and synchronic variants of Dutch?

If we find that changes in the pronominal and verbal paradigm are indeed related, the question is: What triggers the change - the pronoun or inflection? We predict that changes in the pronominal paradigm are motivated by socio-pragmatic factors such as politeness. If a change is triggered by the pronoun, we expect the change to first occur in specific socio-pragmatic circumstances. These circumstances are expected to differ from the circumstances where we find morphology-externally conditioned deflection. The research question in (7) aims at finding out the extent to which changes within the pronominal paradigm are motivated by socio-pragmatic factors.

(7) **Research Question 5**
To what extent are the diachronic changes within the Dutch pronominal paradigm motivated by socio-pragmatic factors?

If the change in second person is triggered by inflectional economy rather than by socio-pragmatic factors, we expect a correlation between pronoun loss and its effects on the verbal paradigm. We expect loss of second person only, if this loss implies a
more economical paradigm. The research question in (8) aims at finding out if there is such a correlation between pronoun loss and its effects on the verbal paradigm.

(8) **Research Question 6**
Is there a causal relationship between pronoun loss and its effects on the verbal paradigm?

If we find that there is a causal relationship between pronoun loss and change within the verbal paradigm, we also expect to find evidence for the role of inflectional economy in the loss of pronouns in the distribution of the pronoun. For example, only subject pronouns trigger inflection. If inflectional economy plays a role in the choice between two pronouns, then we expect a different distribution of subjects and non-subjects. The research question in (9) aims at finding out if there are distributional effects that evidence the role of inflection in the loss of the original second person singular.

(9) **Research Question 7**
Do we observe effects of inflectional economy in the distribution of second person in synchronic and diachronic variants of Dutch?

2 **Outlook**

Having described the primary aims of the study, we can now look more closely into how this study is organized. In the last section we saw that, in order to theorize about syncretisms, we need to distinguish different routes to syncretism. The goal of chapter 2 is to provide a framework in which different sources of syncretism are systematically distinguished. First, the relation between language acquisition and feature structure is made more explicit. Common patterns of syncretism are related to Pinker’s (1996) theory of the acquisition of inflection. It is hypothesized that language learners acquire inflection in a piecemeal fashion on the basis of distinctions provided in the input. A hypothesis about the position of the features [person] and [number] in feature structure is formulated, since these two features are encoded in the Dutch verbal paradigm. Two morphology-external sources of syncretism are described that have been claimed to be relevant for Dutch, namely phonology and politeness. Forms of empirical evidence for the role of politeness and phonological reduction in deflection are formulated.

One piece of evidence that suggests politeness motivates deflection is based upon the observation that loss of inflection co-occurs with a change in the pronominal paradigm. We will expand on this relationship in Chapter 3 which
focuses on changes in the Dutch pronominal paradigm and the effect of these changes on the inflectional paradigm. One conclusion of chapter 3 is that there is indeed a link between the loss of the second person singular *du* and the inflectional marker *–s*. There is no direct link between the rise of the new pronoun *jullie* and the inflectional marker *–en*.

The link between the loss of *du* and the inflectional marker *–s* suggests that politeness contributes to the loss of second person singular. But in chapter 3, we observe a lack of evidence for the claim that politeness motivates deflection. The second form of independent empirical evidence for the role of politeness in deflection, namely evidence for socio-pragmatic conditioning of the loss, cannot be found. Although the rise of the use of second person plural as an address form fits into a more general trend and can be related to socio-pragmatic factors, the loss of a second person singular is not motivated by socio-pragmatic factors. Moreover, whereas many languages exhibit changes in the polite forms of address, second person singular non-polite pronouns are generally very stable. The loss of second person singular is cross-linguistically rare. Dutch and English belong to the small group of languages that have lost the original second person singular pronoun. The observation that loss of the second person singular pronoun is cross-linguistically rare and not understandable from a socio-pragmatic angle forms the impetus for chapter 4.

The central question in chapter 4 is whether the loss of the original second person singular is related to feature structure. In chapter 4, we see that feature structure indeed provides the missing link. Dutch and English belong to the small group of languages where the replacement of second person singular by second person plural yields a more economical paradigm. We formulate the hypothesis that the loss of the second person singular pronoun is a form of deflection. By choosing the second person plural pronoun, more economical inflection is available to language users without departing from the link between pronouns and inflection that is established in the input. Inflectional pressure thus provides an extra motivation not to use the original second person singular pronoun. We can then understand why the original second person singular form was lost from all domains. Moreover, the role of inflection explains why it is English and Dutch and not other languages that have lost the original second person singular pronoun.

In chapter 3 and 4, we compare developments in Dutch pronouns to developments in other languages. From this comparison, we formulate the hypothesis that the loss of the second person singular pronoun is a form of deflection. In chapter 5 and 6, we present additional language-specific evidence that deflection motivates the loss of second person singular.
In chapter 5, we compare the distribution of second person singular and second person plural in thirteenth and sixteenth century Dutch texts. We formulate diachronic predictions based on the model we developed. One prediction is that second person singular *du*- subjects are underrepresented in the sixteenth century since subjects trigger the inflection that needs to be avoided. This prediction is borne out. Knowing that high frequency verbs resist deflection the longest, we also predicted that we would find more instances where the original second person singular pronoun *du* combined with high frequency verbs. This prediction is also borne out.

In chapter 6, we consider dialectal variation in Dutch inflection in the verbal paradigm. The first part of the chapter concerns evidence for the role of inflectional economy in the loss of the original second person singular pronoun *du* and its form variants. We conclude this section by showing that, as expected, more dialects show a non-subject form variant of the original second person singular pronoun *du* than a subject form. The second part of the chapter concerns the relation between person and number features. On the basis of information presented in chapter 2, we predict that neutralization of number features in the context of person in Dutch dialects is always related to sources of syncretism outside morphology. Again, this prediction is borne out.

By considering different sources of syncretism, we can understand dynamics in second person marking. Politeness motivated the competition between second person singular and second person plural. Since both second person plural and third person singular are encoded with -*t*, the replacement of second person singular by second person plural yields a syncretism between third person singular and the new second person singular. This syncretic pattern is in line with feature structure. Because the syncretism between second and third person singular follows from feature structure, the politeness induced competition between second person singular and second person plural is boosted by feature structure. Many Dutch dialects lose the original second person singular in favour of the second person plural form.

Replacement of the second person singular suffix by the second person plural suffix yields two types of neutralization: the first is the neutralization between second and third person singular. This syncretism is in line with feature structure. The second neutralization pattern that follows from the replacement between second person singular by second person plural is the absence of number marking in second person. Absence of number marking in the context of second person in languages where person marking is present on third person, is in contradiction with the animacy hierarchy as will be shown in chapter 2. The overlap in form between
second person singular and second person plural is thus a form of accidental homophony in many Dutch dialects. Feature structure explains the massive spontaneous loss of this accidental number neutralization in favour of one general plural marker.

In chapter 7 the research questions listed in this chapter are answered. Moreover, the implications of this study for theories of inflectional morphology and language change are discussed.