Clause-Typing by [2] - the loss of the 2nd person pronoun *du* 'you' in Dutch, Frisian and Limburgian dialects

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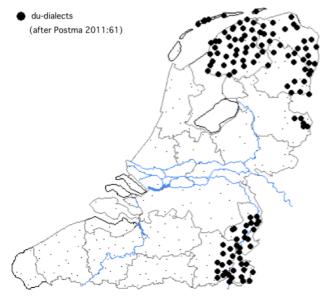
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Abstract

The 2nd person singular pronoun *du* 'thou' has been replaced by new pronouns *gij/jij/jii* 'you' in many Dutch dialects. The standard explanation attributes *du*'s decline to the emerging honorific plural pronouns such as *gij* 'you' in singular use. In this study we trace a purely syntactic trigger for this change, thus replacing sociolinguistic and paradigmatic explanations (deflection). Using dialect geographic tools of the GTRP dialect database, we found a significant correlation between the loss of *du* and the rise of double present tense paradigms (direct and inverse). By defining two types of Verb Second, C-type V2 (Den Besten) and C/T-type V2 (Zwart), we show that a transition between those types predicts the loss of position-dependent spelled out pronouns such as *du*. The factor that blocks Den Besten-type V2 structures in clauses with [2] in Dutch dialects is the clause-typing property of the feature [2], which generate a violation that is similar to the *that*-trace violations with the [WH] feature.

1. Introduction - the loss of Dutch *du* 'thou'

The loss of *du* 'you' is a general phenomenon in the Low Countries. The area of *du*-loss covers almost the whole of the Netherlands and Belgium, apart from Friesland and Groningen, small parts of Drenthe, small parts of Twente, entire Dutch Limburg (apart from four places on the border of Brabant), eastern parts of Belgian Limburg. Below I give a map drawn on the basis of the data in the GTRP-database. The dots are the dialects that have retained *du* or variants thereof. The result does not differ essentially from that of Kloeke (1926), and Barbiers *et al.* (2005, vol. I, p.38).

Map 1. Dialects with forms of *du*

Seemingly accusative forms of *du* such as *dich lèèfs* in Limburg (west of the Meuse river) are taken as forms of *du*. Not only the shape of the inflection points to this identification, but also the root of auxiliaries such as the *be*-root in *dich best.* On the other hand forms *dzje left* 'you live' in the extreme southwest of Belgian Limburg are not taken as forms of *du,* but as palatalized forms of *gij.* These dialects have lost *du.* This is not only indicated by the inflectional ending without morpheme *-s,* but also used the *z*-root of 'to be' in *dzje zèèt.* In the case of Twente and Achterhoek, the isogloss follows the state border, but Cleves (except Kalkar) in present-day Germany, belongs to the area without *du* (Wenker 1888-1924).

In this paper we will develop a syntactic explanation for the loss of *du* in Dutch. First we briefly discuss previous explanations (section 2). Then we present a new dialectological correlation between the loss of *du* and another unmistakably syntactic property: the rise of so-called double paradigms (direct and inverse) in section 3. Then we argue for the relevance of the fetaure [2], both in double paradigms and pronoun replacement (section 4). Section 5 and 6 form the central part of this article. In section 5 we sketch the theoretical framework that we will use, more specifically the V2 theories of Den Besten 1983) and Zwart (1993). We will show that these are not two competing theories of the left-periphery, but describe different language variants. We sketch a theory in global theoretical terms, both geographically and diachronically. In section 6, we provide a formal-syntactic theory of *du*-decay and link it to what was previously called *that*-trace effects. It links up with its recent minimalistic reformulation, as found in Pesetsky & Torrego (2001-2004). It turns out that sentences with [2] have a clause-typing head which probes for [2] pronouns. The pronouns *du* and

gij/jij both validate the feature [2], but are subject to distinct agreeing strategies, usually called +EPP and -EPP. This ingredient suffices to explain most of the data and the empirical generalizations. Section 7 elaborates on the similarity between [WH] and [2] and provides independent evidence for the model. Section 8 is more speculative and dwell on the nature of the EPP feature. The paper closes with the most salient conclusions.

2. Theories about the decline of *du*

The Indo-European pronoun for second person singular **tu* survives to this day in the rich diversity of its descendants, such as Swedish *du,* Czech *ty,* German *du,* French *tu,* Modern Greek *su,* Irish *tú,* and Farsi *to*. Admittedly, the root has undergone the necessary sound changes, as in Greek (Beekes 1995: 209), but the root is never gone. It may, therefore, be called a stable word. More remarkable is that only a few dialects of West Germanic around the North Sea has lost the West Germanic successor *du*: Flemish/Brabantish, the Dutch/Utrechtish and the dialects of Southeast England. In particular, the loss in the Dutch dialects have been very radical. While the English *thou or thee* are still preserved in a certain register, *du* is erased in Dutch from all registers. That required, and still requires an explanation.

A frequently heard explanation is sociological: the disappearance of *du* in Dutch would relate to the emergence of honorific forms as *gij/ge.* These originally plural forms were increasingly used as singular pronouns with honorific effect (the polite form). That would have undermined Middle Dutch *du*. Perhaps the prestige effect indeed played a role. But as Berteloot (1999) rightly observes, this approach explains the withdrawal of *du* to certain more limited contexts, but not its radical disappearance. An additional disadvantage of a purely sociological approach - not mentioned by Berteloot - is that this proposal does not predict in which languages or dialects it occurs. For, the sociolinguistic effects and their linguistic reflexes are also present in French (the honorific *vous),* German (the honorific *Sie)* and Frisian (honorific *jo),* but these have not resulted in the disappearance of respectively French *tu,* German *du* or Frisian *dou*. The sociological explanation, therefore, lacks predictive power.

Recently, therefore, additional language-internal explanations has been proposed (Berteloot 1999, Goossens 1994, Aalberse 2004, 2009). I only discuss the latter as we will use some ingredients from it.[1] Aalberse's account is a mixed grammatical-sociological explanation. Aalberse shows that the honorific use may have played a role in the disappearance of *du* but that it does not provide an exhaustive explanation. The additional cause is

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[1] For a more detailed discussion of the other accounts, cf. Postma 2011 (in Dutch).

situated by Aalberse in the ongoing process of reduction of verbal inflection or *deflection.* Aalberse has two direct pieces of evidence that the verbal inflection plays a role. Firstly, it appears that it is the nominative form *du* that is particularly subject to erosion. The non-subject forms, such as *di* 'you' and *din* 'your', remain unaffected at the outset (Aalberse 2009: 123). In Figure 1, I reanalyzed the frequency data of *du/dy/dyn* from Aalberse (2009) into fractions of du / (du + dy + dyn) and compared them with the ratio of 2nd person in 20th century Dutch prose (Uit den Boogaart 1975). The idea is that these values are independent of the use of honorific *gij* and *u* as singular forms.

Fig. 1. Word Frequencies of 2nd to the pers. subject pronoun (du) versus non-subject (di din*) (adapted from Aalberse 2009:123 and Uit den Boogaart 1975).*

	13th century		16th century		20th century	
	rhyme	prose	rhyme	prose	prose	
du	47%	60%	13%	14%	64%	**jij**
di(n)	53%	40%	87%	86%	36%	**jou(w)**

The table shows that *du/di/din* in early Middle Dutch prose had similar relative frequencies (60% vs 40%) as *jij/jou/jouw* in the contemporary written Dutch (64% vs. 36%). The 16th century texts, on the other hand, show a dramatically reduced incidence of the nominative form *du* (14%-86%). The new forms *gi* that took over the role of nominative *du* is responsible for the gap. This subject-nonsubject asymmetry will prove important in section 5.

Aalberse shows that *du* retains much longer whenever no verbal form follows, e.g. in vocatives such as *du valsche verrader!* 'thou false traitor!'. According to Aalberse, the complex 2p.sg *st* inflection disappears and in its wake *du.* She develops a detailed model that can determine the level of complexity of paradigms. The model determines which changes realize decreases or increases in complexity, i.e. what changes are 'economical' or 'uneconomical'. It appears that loss of the *st*-form, i.e. the new form that appears at the end of the Middle Ages, results in simpler paradigms and is therefore 'economical': in English and Dutch a replacement of the singular *thou/du* by the plural *you/gij* is economical and, hence, the change proceeds; in French the change form *tu* to *vous* is uneconomical, and hence it does not proceed. The white boxes in the next diagram visualizes the predictions.

Fig. 2. *Correlation chart of the loss of* du *and economy in Aalberse (2009)*

changes are **economical** **observed**	yes	no
yes	Dutch, English	West-Frisian
no	Frisian, German, Limburgian	French

As to English, Dutch and French, the predictions made by economy are correct. However, there are serious exceptions: the grayed boxes in Figure 2: Frisian, German, Limburgian and West-Frisian. Aalberse attributes the exceptions of the first type (economical but no change, the box with German), to an additional factor: "inflectional stability" (*op.cit.* p. 96-97, 100), an explanation that can handle by itself all cases and makes economy completely redundant. Even more serious for the theory are the exceptions of the second type (not economical but a change, the box with West-Frisian), where simplification occurs without being economical. In these cases, an explanation through relexification is proposed (pp. 158ff, "they say *jij,* but actually mean *du"*). Auxiliary hypotheses are no problem in themselves, but this explanation is so powerful that it can account for anything and makes economy superfluous. It is of course an important step forwards that Aalberse explains the behavior of Dutch and English versus French, but the main problem is that over the entire *jij-du* isogloss within the Netherlands, i.e. in the West Germanic dialect continuum, the difference must be explained by paradigmatic stability, and hence, nowhere on the isogloss is economy the determining factor.

3. Beyond economy - a new empirical generalization

In this study we study the isogloss of *du* decay by zooming in on this dialect border within the Netherlands. We take Aalberse (2009) as a starting point, and use the observation that *du* decays in conjunction with the verbal inflection. But we will not follow her in the extra step: that *du* disappeared because the *-st* inflection disappears (by verbal *deflection*). We will describe a *correlation* between the disappearance of *du* and other dialect-geographical morphosyntactic phenomenon that was neglected by Aalberse: the direct-inverse opposition in paradigms. It will provide us with a different cause for the loss of *du.*

3.1 Inversion Paradigms

As said, the loss of *du* sets the Dutch dialects apart from all other continental Germanic languages. There is a second phenomenon that

distinguishes Dutch dialects from the other continental Germanic languages, such as Frisian and German, namely the possession of a double verb paradigm in the present tense. Standard Dutch, for instance, has *jij loopt* 'you walk'*,* but in inversion contexts, it has *dan loop je* 'then walk you' without t-ending. It is generally assumed that phonology has favoured this *t*-drop, but a purely phonological explanation is, from a synchronous point of view, insufficient (Verdenius 1924: 82, Goeman 1999: 173). Although deletion in contexts with *-je* can be observed in other contexts, such as *puist-puisje/*puistje* 'pimple/small pimple'. It does not occur in *plaat-plaatje* 'plate/little plate'*,* but it does occur in *je gaat/ga je* 'you go/go you'. If analogy with *loop je* is at stake, it means that a structural force must be active that supports double paradigms. Its formal treatment is postponed to section 6. First, we will focus on the dialect geography. Much research has been done on the dialect geography of the different forms of the present tense in Dutch dialects (Goeman 1999, De Vogelaer 2005, Barbiers *et al* 2005). Goeman maps the different *forms* of the present tense to their geographical distribution. Also De Vogelaer (2005) and the SAND give many inversion *forms.* But what was missing so far, is a mapping of the dialects with a single or with a double paradigm. In other words, not so much the various *forms* of the verb paradigm are mapped, but the *internal oppositions* of direct and inverted forms as a structural phenomenon. In section 6 we discuss the justification of considering double paradigms a syntactic phenomenon.
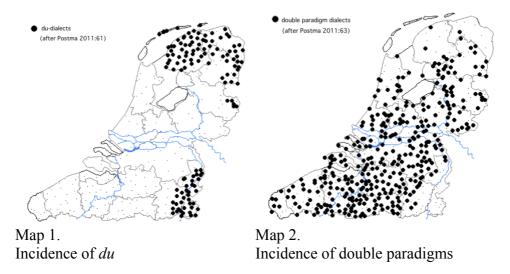
Below I have mapped dialects that exhibit such a double paradigm. For that purpose, the dialects were considered one by one and checked on this opposition.[2] It should be noted that the double forms in the paradigm in one dialect may occur in another person or number than in another dialect. For instance in Standard Dutch, the only place where a double form occurs is in 2nd person singular, but in substandard variants they often show up in the 1st person plural, especially in the verb *do, stand, go,* etc. (Van Haeringen 1962). Thus, the Amsterdam dialect has *wij doen/*doene dat* 'we do that'*,* but in inversion the long form is possible and even common: *dat doene we/dat doen we.* Eastern dialects often have in the present tense *wi leupt* for 'we walk', but in inversion *leupe wi.* Other dialects have *wi lopen/loop wi* 'we walk'. In southern dialects, the difference mostly occurs in the second person singular and plural: *gij lèèft/lèèfde gij* 'you live/lived', which were included into the counting. Notice that such oppositions sometimes show up in the past tense.

For the mapping we did a systematic dialect search based on data

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from the GTRP.[3] As test forms we have used *jij leeft/leef je* 'you live'[4] and *wij leven-leven wij* 'we live'.[5] We only counted differences in consonantism as sufficient reason to speak of different forms. Differences in vocalism (vowel reduction, diphtonguization level, etc.) are shaky and dependent on transcription, situation, speech rate, etc. Hence, an opposition *wi leve -lev wi* was not counted as such. The result is displayed on Map 2. For the sake of comparison we repeat Map 1 next to it.
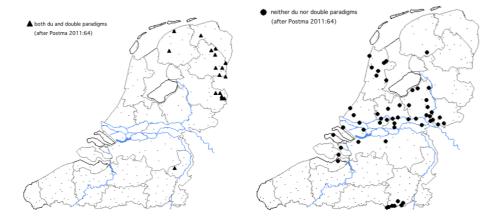

Map 1.
Incidence of *du*

Map 2.
Incidence of double paradigms

Map 1 and Map 2 show a neat complementary distribution. Dialects without *du* almost always have a difference between direct and inverse verbal form, *du* dialects almost never do.[6] Preservation of *du* and the double paradigm phenomenon anti-correlate. Of course, the anti-correlation is not absolute. There are some dialects with *du* and a double paradigm. We call the first type-1 exceptions. There are dialects without *du*, and without a double paradigm. Those are exceptions of type 2. The mapping of the dialects are given on the maps 3 and 4.

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[3] Database of the Goeman-Taeldeman-Van Reenen project, available online on the site of the Meertens Institute: http://www.meertens.knaw.nl/cms/nl/databanken

[4] GTRP test no. 1659 and 1671.

[5] GRTP test no. 1661 and 1673.

[6] Probably because traditional dialectology rarely maps form *oppositions* as Map2 does, but focus on mapping forms in isolation, this correlation was never observed.

Map 3.
Incidence +du, + double paradigm

Map 4.
Incidence -du, -double paradigm

The status of the exceptions in map 3 is complex. They typically occur in the area were the two dialect types meet. This suggests that bilingualism is at stake. Indeed, bilingualism becomes overt when the GTRP remarks with respect to the informant for Ootmarsum: *"Ootmarsumish is [i] 'you' according to the informant but his wife uses [du] 'thou', whence he added the [du] form"*. Yet there are also indications for a structural status. In four Twente *du*-dialects, the *jij* form seems favorite in inversion contexts. In the Oldenzaal-dialect, for instance, 'jij leeft' is translated as [du lɛ:ws] and 'leef je' as [lɛ:wi]. Similar data for 'je leefde' versus 'leefde je' ('you lived'). We encounter the same preference effect in a weaker form with *je bent/ben je* ('you are'), where in direct context only the *thou*-form is mentioned, but in inverse contexts both *thou* and *you*: [du bɪs] en [bɪstu/bɪni]. Those dialects are certainly inversion dialects because of the alternation *wi leeft-leef wi* 'we live'. In general, if a pronoun is lacking in direct contexts, it is 'you', if a pronoun is lacking in inversion contexts it is *thou*. This may point to a positional determinacy of these pronouns. We return to this in section 6.

The exceptions of type 2 are more problematic (Map 4). It is not a border area where two dialect types collide. The exception dialects are scattered across West-Friesland, Utrecht and the west of Gelderland. This makes bilingualism as an explanation unlikely. Secondly, the number of exceptions is much larger. Admittedly, the area where this occurs is subject to t-drop as a systematic process and the area where the difference between right and inverted is precisely *t*. The disappearance of a double paradigm could be a phonological side effect of *t*-deletion. From a synchronous perspective, however, these dialects remain a problem unless it can be shown that they still have underlying -*t*. One argument for this is the variety of factors that determine *t*-deletion. For an overview, see Goeman (1999:

199 and *passim).* Moreover, *t*-deletion sometimes returns on its steps
(Goeman *op. cit.:* 197). Anyway: the *t*-drop is a secondary effect and a
recent phenomenon. For the diachronic theory for the *du* decay, we may set
these dialects aside.[7] The overall correlation is given in the correlation table
in Figure 3.

Fig. 3. *Correlation chart of the loss of* du *and double paradigm*

Total	+ du	-du
+ Double paradigm	17	396
- Double-paradigm	121	53

The p-value is very significant (Fisher's exact test, one and two sided: p
<0.000000). This means that the exclusion effects in the shaded boxes (17)
and (53) deviate significantly from random. This significance does not
imply in itself a structural linguistic connection. Two cultural areas could be
involved and the correlation could be explained by cultural contact. If so,
these two dimensions must be linked indirectly through a sociological
factor. Although the disappearance of *du* may be sensitive to sociolinguistic
factors, it is difficult to see how the existence of double paradigms could be
sensitive to prestige. Although this should not strictly be ruled out, a
linguistic connection seems more attractive. The linguistic significance
depends therefore by the possibility of a plausible linguistic theory that ties
both phenomena together. To this end, an excursion to the formal grammar
is required.

4. A second correlation

Before we turn to the theory, it is useful to draw attention to another effect
that is closely related to the above. Double verbal forms are only observed
in 2nd person, singular or plural[8], and the 1st person plural, but never with
the 3rd person sg/pl or the 1st person singular. Exemplary forms are given in
Figure 3. This seems arbitrary with the traditional person and number
features of column 1, but if we use the features proposed in Postal (1969), a
different picture arises. Postal considered plurality a property that only had
meaning in third person forms. The traditional 1 and 2 "plural" forms are
combinations of different person features. This is shown in the fourth
column of Figure 3.

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[7] Verdenius (1942) and Kloeke (1926) point out that *du* was found in this area until the
19th century.

[8] In this study, second person plural forms have not been not investigated because they are
included in GTRP, unfortunately. Seperate inversion forms certainly occur, cf. Buitenrust-
Hettema (1891) for 19th century Standard Dutch: *jullie loopt/dan lopen jullie* 'you walk'.

Fig. 3 person dependencies of double paradigms in Dutch dialects

	double paradigm	example	Postal features	allowed readings
1sg	-	-	1	[1]
2sg	+	je leeft/leef je	2	[2]
3sg	-	-	3	[3]
1pl	+	wi leeft/leve wi	1+2 or 1+3	[1] [2] [3]
2pl	+	ge leeft/leefde ge jullie leeft/leven jullie	2 +3	[2] [3]
3pl	-	-	3	[3]

From this representation it appears that double paradigms associate with Postal's [2]-feature.[9] This would imply that a double paradigm only occurs with 1st person plural as far as it has the inclusive-we, i.e. we-reading that includes the addressee (Lyons 1968: 277, Cinque 1988, Filimonova 2005). Indeed, all the relevant example sentences in the GTRP on which our data are based, have an inclusive-we reading, but that may be accidental. It is also possible that these inversion forms 207have arisen in the inclusive *we*-reading and spread to other readings. No detailed data are available to my knowledge. Yet for some present-day speakers of the Amsterdam, inclusivity is a requirement in the double paradigm. For instance, the constructions in (1ab) have an inclusive reading. If the context forces an exclusive reading*,* i.e. 1+3, the separate inversion form *doene* is less felicitous.

(1) a. Dan gane we erheen
then go.$_{AGR2}$ we thereto
'I and you(guys) go there'
b. Dat doene we
that do.$_{AGR2}$ we
'I and you do that (together)'
c. Dat doen JULLIE misschien zo, maar
dat doen/*?doene WIJ niet zo
that do you.pl perhaps so, but that do.$_{AGR1}$/do.$_{AGR2}$ we not so
'You may perhaps do it that way, but we don't'

The judgments are mixed, though. For some speakers, the contrast is sharp. For others there is a relation with focus. For one informant, the obligation of inclusiveness is absent. Anyway, double forms appear only in the cells with [2], i.e. forms that allow for a second person reading. Permitted readings are shown in the last column.

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[9] For 2sg, 2pl and 1pl as a natural class, cf. Arregi & Nevins (2012:207).

There is another phenomenon that correlates with Postal's [2]. Consider the pronoun replacement as studied in Aalberse (2009), such as English *thou>you,* French *nous>on,* Brazilian Portuguese (*tu->você* (2sg), *vós>vocês* (2 pl), *nós>a gente* (1pl). For Dutch, we have *du> jij.* We have also put a plus sign in the box of 2 plural but it depends on whether the new plural *jij(lieden)/je-lie* form in Holland is original, or a substitute for the lost *gij*-form (Verdenius 1924, Van der Sijs 2004). Figure 4 shows the languages with pronoun replacement schematically.

Fig. 4 pronoun replacement	Dutch	Eng	Fr	BP	Postal features
1sg	-	-	-	-	1
2sg	+	+	-	+	2
3sg	-	-	-	-	3
1pl	-	-	+	+	[1] [2] [3]
2pl	+	-	-	+	[2] [3]
3pl	-	-	-	-	3

Once again, pronoun replacement only occurs in some forms. Once again, pronoun replacement seems to be connected to [2] in the sense of Postal.[10] We conclude that pronoun replacement as studied here and double paradigms in Dutch are tied to the feature [2].

5. Towards a language-internal explanation of *du*-decay

In this section we will not tie the disappearance of *du* to changes in verbal *paradigm,* but to changes in the verbal *syntax,* more particularly the cartography of left periphery. We will argue that varieties without *du* have another underlying syntactic verbal template, of which the rise of direct and inverse verbal forms is a manifestation. The two paradigms (direct and inverse) will be analyzed as a position-dependent spellout of the verb. The pronoun *du* will be analyzed as a position-dependent spellout of the 2-person pronoun. This position of *du* simply does not occur in the new syntactic template. This will offer an explanation for the disappearance of *du.*

5.1. The V2 effect

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[10] There is also pronoun replacement that is tied to the feature [number], especially changes in number neutralization, e.g. Du *hem> zich* 'himself' (Postma 2011), *zij>hun* 'they', and Eng *hio>they* (Postma 2006). For Du *men> je* 'one' and Eng. man>one, cf. Los (2005) and Weerman (2006).

A well-known phenomenon in Germanic languages is the so-called verb-second effect (V2), or the phenomenon that the finite verb in main clauses always occupies the second position in the sentence.

(2) a.   Jan   loopt ~~Jan~~ op straat ~~loopt~~   (direct context)
     b.   Daarom loopt Jan op straat ~~loopt~~   (inversion context)
     c.   -   dat   Jan op straat loopt
                  that John on the street walks

Den Besten (1983) shows that the bipolarity of Dutch (Paardekooper 1961) can best be understood by adopting an underlying SOV order in the clause. Main clauses are derived through a movement operation on the finite verb (the displacement rule V2). Zwart (1993), on the other hand, argues that the V2 effect in Dutch is a combination of *two* projections: the CP and TP-projection. Both CP and TP may trigger a V2 effect.[11]

For Zwart, CP is instantiated by discourse-oriented phrases, such as questions, topic, focus, and so on. In ordinary sentences, CP is not created. In the usual direct sequence of (2a), *Jan* does not in the same position as *daarom,* in (2b). This is shown in the bracketing structure (3).

(3) a.   [$_{TP}$ Jan loopt op straat   t]   (V2 in TP)
     b.   [$_{CP}$ Daarom loopt [$_{TP}$ Jan   t   op straat   t]]   (V2 in CP)

Zwart uses as an argument that weak pronouns such as '*t* can not be moved to the sentence peripheral position (specCP), as shown in (4a). Yet '*t* is possible as a subject (4b).

(4) a.   *'t wil ik
          it want I
          'I want it'
     b.   't verbaast me dat...
          it amazes me that

Zwart explains this by assuming that the subject '*t* in (4b) does not undergo fronting but remains in the structural position (specTP). The CP domain is simply not created in a direct structure without topicalization or focus, as shown in (3a). [12,13] These are the basic ingredients from the literature that

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[11] Zwart's original dissertation uses IP. We replaced the IP-notation to the TP-notation throughout this study.

[12] Zwart's analysis deviates from Den Besten's analysis in yet another point: the underlying structure is not head final but unedrlying SVO. This complication is not relevant for our discussion and has been ignored. For details, cf. Zwart (1993, 2008).

[13] At first glance, Zwart's analysis loses the complementarity of V2 and the complementizer. However, under the assumption, adopted here, that the complementizer

we will use.

5.2. Position-dependent spellout of verbal inflection

An important argument for the double positioning of finite verbs in (3) is the existence of a different spellout of the verb in C and T. This position-dependent spellout realizes in Dutch dialects in different forms. In Standard Dutch, it is observable in the double form of 2nd person singular of the present (5ab), in the dialect of Dedemsvaart it shows up in 1st person plural (6ab) of the present (Van Haeringen 1962).

(5) a. jij loopt   (Standard Dutch)
         you walk.$_{AGR1}$
     b. loop je
         walk.$_{AGR2}$ you
         'you walk'
(6) a. wi speult   (Dedemsvaart dialect)
         we play.$_{AGR1}$
     b. speule wi
         play.$_{AGR2}$ we
         'we play'

Zwart identifies the a-form (*loopt* en *speult*) as the T-infection and the b-forms (*loop* and *speule*) as the C-inflection. This is shown in (7ab). The separate C-inflection also shows up as complementizer inflection. If a dialect has two inflection systems and complementizer inflection, then the complementizer inflection is identical to the inflection of the inverted form. So *datte* and *speule* are C-forms with e-inflection.

(7) a.   [$_{TP}$ wi speult op straat   t]   (V2 in TP)
     b.   [$_{CP}$ - speul-e [$_{TP}$ wi   t   op straat   t]]   (V2 in CP)
     c.   datt-e [$_{TP}$ wi speul-t op straat   t]

In this way, Zwart provides a syntactic underpinning of the double paradigm phenomenon. The difference between *je loopt* and *loop je* may be of phonological origin, it is the morphosyntax that gives such forms a fertile soil, polishes it analogically, and keeps it alive.
       Silently, Zwart assumes that this double-V2 analysis also holds for

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dat 'that' is a joint spellout of T+C, as proposed in Pesetsky & Torrego 2004, this problem is resolved. For a early variant of this idea, cf. Postma (1997), where it is assumed that *dat* 'that' is composed of a C-part and a T-part (*d+at*). In this way, dialects with *at/az* such as Scandinavian and Yiddish get their natural place. For a new application of these ideas, cf. Haegeman (2010). Also see Zwart (2001) and Broekhuis (2008) for an alternative explanations.

other V2 languages than Dutch, such as German, Limburgian and Frisian. No double paradigms are reported for these languages, but Zwart takes it as a accidental identity, an accidental spellout matter. This seems to me an overgeneralization. For, the Limburgian and Frisian dialects are *systematic* in displaying no double paradigm, while the other Dutch dialects are systematic in displaying them. If we keep the structures as simple as possible, it seems better to describe Frisian and Limburgian by the Den Besten-template of (2b), and Dutch and its dialects with the Zwart-template of (3).[14] In the next section, an extra difference between these two analyses is developed, which can be used to solve the problem of the double paradigm and its correlation with the loss of *du*.

5.3. Position-dependent spellout of pronouns

As we have seen in the previous section, the verb is always in C according to Den Besten's analysis, and occupies two positions in Zwart's analysis: C and T. This has a counterpart in the position of the subject: in Zwart's analysis, the subject is always in the same position, specTP, both in direct and in inverse contexts, as represented in (3). In Den Besten's analysis, the subject is in specCP in direct contexts and in specTP in inversion contexts, cf. (2). So the verb is position dependent in Zwart's analysis, whereas the subject is position dependent in Den Besten's analysis. If the syntactic positioning of verbs leads to distinct φ-feature spellout, this could also be the case for the φ-feature spellout in subject pronouns: specCP-pronouns in direct contexts and specTP pronouns in inversion contexts. Interestingly, such position dependent spellout of pronouns can be observed. Frisian, for instance (that does not have a double verbal paradigm) has a double spellout in pronouns, cf. (8). Frisian has *dou* in direct contexts and *-e-*, *-ou* or null in inversion contexts. [15]

(8)   a.   {dou/*ou/*ø} giest   der hinne   (Frisian)
           you   go.2sg there to
      b.   dan giest {ø/-ou} der hinne
           then go.2sg you   there to

---

[14] In another context, I give more arguments why such a distinct analysis is useful (Postma 2006).

[15] At several places in the literature, it is suggested that Frisian is pro-drop in direct contexts (Barbiers *et al.* I, 23, De Vogelaer 2005:247).

(i)   (dou) komst moarn (= you come tomorrow)

This is an error. To the extent that (i) without *dou* can pass, topic drop has taken place (De Haan 1992) at sentence initial position. The correct testing sentence would be (ii).

(ii)   En komst moarn

This is only well-formed as a question, i.e. with a post-verbal pro. See also Hoekstra (1997, noot 4), Hoekstra & Tiersma (1994:526).

Synchronically, these forms cannot derive from enclisis by phonological rules. The Limburgian dialect of Maasbracht in (9) behaves parallel to Frisian. Preverbally, it has the pronominal form du¯ (¯ marks a level tone), but postverbally it has the weak form *-e* or the emphatic form *-tich*. From the ungrammaticality of *löpse* in clause final position in (9c), we can deduce that -e is not an inflectional element, but a weak pronoun.

(9) a.   du¯ löps   drèèr¯   (Limburgian, Maasbracht)
          you walk.2sg there
      b.   dæn¯ {löps-e/ löps-tich/*du¯} drèèr¯
          then   walk.2sg-you   there
      c.   ...dæts-e drèèr¯ löps/*löpse
          that.2sg there   walk.2sg

Dutch displays a mirror image. It has a double spellout in 2sg forms. The subject is positionally fixed. It may have different spellouts for the 2sg pronoun, *jij* and *je*, but the choice is not determined positionally.

(10) a.   {jij/je} gaat erheen   (Standard Dutch)
      b.   dan ga {jij/je} erheen

In other words: West Germanic dialects without a direct/inverse opposition always have the verb in C, and the subject in two positions (specTP and specCP), as represented in (11a) with possibly positionally-determined pronouns. West Germanic dialects with a direct/inverse opposition have the finite verb either in C or in T, but the subject always sits in specTP and lacks positional 2nd person pronouns, cf. (11b).

(11) a.   [$_{CP}$ dou rinst -
          [$_{CP}$ dan rinst [$_{TP}$ -ou ...]]   type A
      b.   [$_{TP}$ jij loopt] -
          [$_{CP}$ dan loop [$_{TP}$ jij ...]   type B

We will call (11a) type A, and (11b) type B. A caveat should be made here. Although one may call German, Frisian and Limburgian "Den Besten languages" and Dutch (and its dialects) "Zwart-languages", it must be noticed that Dutch (and its dialects) do have position dependent pronoun spellout in 3rd person context, i.e. Dutch dialects realize Den Besten-structures with [3]. This can be extracted from the fact that in 3rd person singular contexts, there is a positional pronoun spellout in Dutch, just as Frisian.

(11) c.   hij loopt/loopt-ie   Dutch   (type A)
      d.   hy rint/rint-er   Frisian   (type A)

he walks/walks he.

The type A nature of Dutch 3rd person constructions correlates with the fact that 3rd person singular contexts never show positional spellout in verbs and is, therefore, generated by the Den Besten template. So, while Frisian and Limburgian dialects only have Den Besten structures, Dutch has both Den Besten structures (without [2]) and Zwart structures (with [2]). This means that Den Besten structures and Zwart structures are not language properties but configurations produced or disallowed by the syntactic calculus. Only clauses with [2] develop Zwart-type structures in the history of Dutch. The derivation will be postponed to section 6.

5.4. The dialect geography of double paradigms

The Dutch dialects develop double paradigms in the beginning of the modern era. As Verdenius (1925: 23) shows, the Zwolle dialect has a double paradigm as early as 1550: *gii leeft* 'you live' versus *lyegii,* 'you lie', i.e. without *-t*. In Holland, such forms develop later. So there is a transition from type A to type B in the history of Dutch. The question then arises what happens if a dialect develops a double paradigm. The transition of type A structure to type B structure is a transition of a system with one verbal paradigm + two pronoun lexicalizations into a system with a double verbal paradigm + one single pronoun lexicalization. Upon such a transition, one pronoun form *must* disappear and one new verbal form *may* be created (double spellout is never obligatory). Consider the structures in (12) for that purpose.

(12) type A $\qquad\qquad\rightarrow\qquad$ type B
$[_{CP}$ pron$_1$ V $[_{TP}$ $\qquad\qquad\qquad$ $[_{TP}$ pron V$_1$
$[_{CP}$ X V $[_{TP}$ pron$_2$ [..] $\qquad$ $[_{CP}$ X V$_2$ $[_{TP}$ pron [..]…

These structures need a spellout. There are four positions involved: specCP, SpecTP, C° en I°. Let us first investigate the spellout rules for type A, which only require spellouts for specCP, specTP and C°. There is no spellout for T°. That virtual spellout is marked in gray in (13). In type B structures, we only have spellout rules for specTP, C° and T°. There is no spellout is needed for 2nd person features for CP. These spellouts are given in (14). The absent spellout rule is, once again, rendered in gray.

(13) a. pron$_{2sg}$ → du$_C$ / $[_{CP}$ — $[_{C°}$V] $\qquad$ (14) a. *pron$_{2sg}$ → du$_C$/$[_{CP}$ —$[_{C°}$V]*
　　 b. V$_{2sg}$ → verb$_C$ / $[_{C°}$—] $[_{TP}$ $\qquad\qquad$ b. V$_{2sg}$ → verb$_1$ / $[_{C°}$—] $[_{TP}$
　　 c. pron$_{2sg}$ → du$_T$ / V $[_{TP}$ — $\qquad\qquad$ c. pron$_{2sg}$ → du$_T$ / V $[_{TP}$ —
　　 d. *V$_{2sg}$ → verb$_T$ / $_{T'}[_{T°}$—]* $\qquad\qquad$ d. V$_{2sg}$ → verb$_T$ / $_{T°}$[—]

It may be clear that the configuration [$_{CP}$ du$_C$ [$_{C°}$ V]] in type B structures will not be activated. This configuration will, hence, become redundant upon a transition from type A to type B structures, under the presupposition that there was a positional spellout of the pronominal features. Spellout of C° and specTP in (13bc) could, in principle, be copied to the new implementation, as (14bc) is identical to (13bc). If, however, we draw into consideration that a new spellout of V in T° should be created, the picture changes.

For the details of the theory we got our inspiration in what at present can be observed dialectologically. If we draw a cross-section from Limburg in the East to Flanders in the West, we come across the following dialectal regions: German, Dutch Limburg, Belgian Limburg, Flemish/Brabantish, where the latter is split in a eastern and western variant.

(15)

region 1		region 2		region 3		region 4	
V du	→	V-dig	→	V-dze (gi)	→	V de (gi)	(East-Flemish)
					→	V je (gi)	(West-Flemish)

Upon the transition from region 2 to region 3, the inflection morpheme -s disappears. It seems, however, that this loss is compensated by a strong palatalization on the onset of the pronoun. We will, therefore, presume a conservatory behavior of the phonology and innovation of syntactic bracketing. This is what is called reanalysis. We then get the following picture. The enclitic domain /V+pron/ is the domain of reanalysis, while a complex pronoun dig=[d+iX] is reanalyzed. The pronominal part /d-/ is reanalyzed as part of the new inflection, and the functional part [iX] (more to the North /ii/ or /ij/) is reanalyzed as a new pronoun.

(16)

V	+ INFL	+ pron	+FOC	→	V$_{inv}$	pron
	|	|	|	|		|	|
leef +	s	+ d	ig		leefde	ghi

If we consider region 1, it appears that the enclitic nominative pronoun *dich* in region 2 is equal to the accusative pronoun in region 1. This indicates that the accusative morpheme has acquired another status, e.g. in the dialect of Maasbracht, as emphatic element, [+FOC] (Ben Hermans, p.c.). This emphatic element has subsequently been reanalyzed as an emphatic pronoun. Notice that the pronoun *ghi* is optional in some dialects. They have, therefore, the nature of a pro-drop language. In pro-drop languages, lexicalization of the pronoun has an emphatic effect. Reanalysis, therefore, proceeds under conservation of phonological and morphological features. Only the bracketing changes.

5.5. A diachronic scenario

Let us apply this scenario provided by dialect geography to the spellout pattern in the history of the Dutch dialects. In stage 1 of Germanic, no position dependent spellout of specTP existed. All positions still have an integrity of its own without context sensitive rules. This is represented in (17a).

(17) a.   specCP   C   specTP   T   stage 1
             | | | |
             du   V   du   V

By enclisis and changes that are connected to the rise of strict V2 and the rise of the structural subject position, a position dependent spellout of specTP emerges. This is represented in (17b) with a new enclitic pronoun du_T. The strict V2 property is represented by the strikethrough of the copy of V in T. This position is not feasible for spellout anymore. We will assume that the verb passes through this position on his way to C, because of the ban on nonlocal movement (the so-called Head Movement Constraint, Travis 1984).

(17) b.   specCP   C   specTP   T   stage 2
             | | | | (V2- Den Besten)
             du_C V_C du_T ~~V~~

By assumption, this stage undergoes a transition to the situation given in (17c), where specCP is not available anymore (apart from (discourse) operators), but where the underlying verbal position T can be lexicalized. This is represented by the strikethrough of specCP. This is a V2 stage, too, but only in the sense of Zwart 1993. These language varieties allow for a double spellout of V.

(17) c.   (specCP)   C   specTP   T   stage 3
             | | | | (V2- Zwart)
             ~~du_C~~ V_C du_T V_T

The question is, therefore, how the transition from (17b) toward (17c) proceeds. What is the path along which a structure with two pronominal spellouts and one verbal spellout can transform into a structure with one pronominal spellout and two verbal spellouts? It means that one position-dependent pronoun spellout will become redundant, and a new positional-dependent verbal spellout becomes available. It is reasonable to handle this problem from the perspective of reanalysis (Lightfoot 1979: 98ff, Van der Wurf 1990). The idea of reanalysis is that one and the same phonological

form allows for two structural analyses, i.e. we deal with surface structures that can be handled both by the old grammar and the new grammar. Reanalysis implies that individual language users can handle both grammars. Reanalysis finally means that no new ingredients can be added to the surface realization during the transition.

According to Minimalism (Chomsky 1995), differences between language varieties are not stored in abstract parameters but through properties of the interfaces, especially the phonological interface (PF). The syntactic domain that is overt both in the Den Besten stage and the Zwart stage is the enclitic domain C+specTP. We therefore assume that reanalysis proceeds through this enclitic domain, more precisely, through the position-dependent spellout in this domain. Consider (18). In (18a), the spellout structure of the Den Besten stage is given. There is position-dependent spellout of the pronoun *du*: du_C and du_T. We now consider the focused variant of du_T, realized as [diX] in the South. In (18b), only the bracketing is changed by contracting the pronominal part to the verb and reanalyze the non-pronominal (focus) part as a (focused) pronoun. The referential index in the pronoun V+[-d_i [ich]], hence, shifts from [d-] to [-X] and we get [V [-d] [ich_i]].

(18) a.
	specCP	C	specTP		(T)	stage 2
	|	|	|		|	(V2-Den Besten)
	du_C	V	du_T + (FOC)		~~V~~	

b.
	(specCP)	C	specTP		T	stage 3
	|	|	|		|	(V2- Zwart)
	~~du_C~~	V-du_2	(FOC)		V	

V_C du_T (=gij) V_T

Notice that language users that are reanalyzing, must be able to analyze both the structure in (18a) and the one in (18b) at the same time. This implies that the spellout for specCP-du_C cannot be "re used" for the new spellout of specTP, e.g. specTP-du_T, since this would not cover the stage in (18a). This is the situation present in the four exception dialects in Twente, such as the Oldenzaal-dialect that we discussed above (Map 3), which spell out the 2nd person pronoun as *du* in direct contexts but as *jij* in inversion contexts. The asymmetry in these mixture dialects (*du* in direct, *jij* in inversion and not the other way around) is immediately explained by the enclitic origin of the *jij*-form, as represented in (18). A further consequence of reanalysis through focus is that it predicts that the language passes through a pro-drop stage. This is indeed observed in Brabantish dialects, cf. (19).

(19)   leefde ø/ge/gij nog?   (De Vogelaer 2005: 247, 271)
              'leef je/JIJ nog?'

In other words: the two prevailing theories of the left periphery of the main clause, should not be taken as conflicting analysis but as describing two variants of V2. Only then does it provide us with a four-fold correlation: 1. the loss of *du*, 2. the rise of double paradigms, 3. the shape of the new pronouns (*gij* in the South, *jij* in the North, parallel to the accusative morpheme, *dich* in the south, *dij* in the North). Finally, the theory explains the observed skewness in the mixture dialects that have both *du* and *jij*: *du* in direct, *jij* in inverse contexts.

      It can be shown that Old Dutch had type A structures (Postma 2011) and that the present Dutch dialects have type B structures (Zwart 1993). So, there has been a transition between the structure (18a) into the structure of (18b) at some point in the history of Dutch, probably in the 16th century. As we have shown, the transition theory, going from type A to type B, predicts the loss of *du* (in the 16th century, Aalberse 2009), since [du] was the position-dependent spellout of 2nd person in specCP, as well as the rise of double paradigms (starting ±1550, Verdenius 1925).

(20) a.   double subject position   →   single subject position
            SU_C ...... SU_T SU_T
      b.   du   →   ø

In section 1 we gave a new empirical correlation between the loss of *du* and the emergence of double paradigms in Dutch dialects. This correlation could be attributed to a change in the syntactic template as well, from a Den Besten template to the Zwart template with a single structural subject position. This change consisted to the rise of two verb positions and the loss of a pronoun position schematized in (21).

(21) SU_C
        | →   ø
        du

Double pronoun spellout is a typical feature of Den Besten structures, in structures with [2] as well as in structures with [3] and [1]. Only clauses with [2] develop Zwart structures, with double verbal spellout as a result. Thus far we did not provide an explanation for this limitation of Zwart-structures to [2]. This will be handled in the next section.

6. *Du*-decay and *that*-trace effects

In the previous sections, we investigated the loss of the pronoun *du* and the rise of double paradigms. We have seen that this correlation derives from the grammatical theory of the left-periphery as developed by Den Besten and Zwart. The loss of *du* is related to the transition from one type to the other, i.e. of the multiple subject template towards the multiple verbal template in contexts with the [2] feature in the sense of Postal. It would be desirable if this insight would also shed light on the cause of *du*-loss and the cause of change in template. In this section we investigate which formal properties forces a construction to comply with the Zwart template. In order to sketch a formal theory of *du*-loss, we first list the relevant ingredients.

(22) Relevant ingredients for a theory of *du*-loss
      -subject-object asymmetry in pronoun replacement (section 2)
      -differences in verbal T-inflection and C-inflection (section 3)
      -activity of Postal's feature [2] in pronoun replacement (section 4)
      -activity of Postal's feature [2] in double paradigms (section 4)
      -differences in the Zwart-den Besten template (section 5)

The question is now how we can give these ingredients a natural place. Especially the first ingredient is interesting. For, in the generative tradition, ample attention has been paid to these subject-object asymmetries. One of the most important findings was that a *that*-trace interaction exists (Chomsky& Lasnik 1977). Long distance WH-extraction from an embedded clause is not possible from subject position, but is possible from object position, as illustrated in (23ab).

(23) a. *Who do you think that t   saw Mary   subject-extraction
      b.   Who do you think that Mary saw   t   object-extraction
      c.   Who do you think   -   t   saw Mary   subject-extraction
                                                        without *that*

These effects were derived from the Empty Category Principle (ECP, Chomsky 1981), that states that empty categories must be sufficiently identified. As subjects that follow a complementizer are not governed, they are problematic for extraction, said the old theory. Within Minimalism, this line of research got sidetracked, because the ECP could not get a place within an interface theory. Recently, this line of research has been picked up in a sequence of articles by Pesetsky and Torrego (2001, 2004, 2009), abbreviated as P&T. In these papers, *that*-trace effects are explained by taking nominative case as a realization of abstract tense (a so-called uninterpretable tense feature, uT). In that way, the interaction with elements in C (such as complementizers) can be understood. For, C carries a tense

feature (uT) as well, and therefore attracts T. In the footsteps of Koopman (1983), P&T draw a parallel with do-support in T and movement to C in main clauses:

(24) a.   *Who did t see Mary   subject-extraction
                                        (T→C + subject→specCP)
     b.   Who did Mary see t   object-extraction
                                        (T→C + object →specCP)

By taking the complementizer *that* in (28) as a joint spellout of C+T (T-to-C has taken place in (23a) but not in (23c), P&T are able to give a parallel structure to (23a) and (24a), as given in (25).

(25) a.   *[CP Who did [TP ~~who did~~ see Mary]]
     b.   *Who do you think   [CP ~~who~~ that [TP ~~who that~~ saw Mary]]

We, therefore, can speak of a C/T-trace violation. Both the presence of *do* and the presence of *that* signal the fact that T-to-C has taken place. Together with the subject trace, this gives rise to ungrammaticality. In this way, both the complementizer-trace effect and the appearance of *do* in nominative questions can be attributed to an incompatibility of V-movement from T-to-C and XP movement from specTP-to-specCP, rendered in the rule in (26).

(26)   *{ specTP-to-specCP + T-to-C }   C/T-trace violation
                                               after P & T (2001)[16]

Without the complementizer, i.e. without realization of T-to-C, the clause with subject extraction is well-formed, as in (27).

(27)   Who do you think - saw Mary

These that-trace effects are also observed in other languages than English (Rizzi 1982) or Dutch (Koopman 1984), where extraction from specTP is illicit (28ac) but is fine if extracted from a lower position showing up by the presence of the expletive subject *er* in (28bd) both in main and embedded clauses.

(28) a.   *Wie denk je dat t is gekomen
            who think you that is come
     b.   Wie denk je dat er is t gekomen
            who think you that EXPL is come

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[16] The name and formulation are mine. P&T formulate this property in strictly formal terms of the interaction of [WH] and [uT].

'Who do you think has come?'
c.   *Wie praat/loopt t ?
       who talks/walks
d.   Wie praat/loopt er .. t ?
       who talks/walks EXPL
       'Who is walking/talking?'

These insights provide us with the possibility to tie the subject-object asymmetries in the loss of *du/di/din* to T-to-C movement. To see how, it is good to return to the syntax of double verbal paradigms, as in Dedemsvaart *wi speult/speule wi*, where *speult* represents the T-inflection and *speule* the C-inflection. Now it turns out that even under heavy focus of the subject, i.e. if we assume that that a CP shell is created and the subject is fronted to specCP, the T-inflection (*speult*) shows up and not the C inflection (*speule*), as illustrated in (29).

(29)   <u>Dedemsvaart dialect</u>   <u>Standard Dutch</u>
    a.   wi speult/speule wi   jij speelt/speel jij
        we play.$_{AGR1}$/play.$_{AGR2}$ we   you play.$_{AGR1}$/play.$_{AGR2}$ you
    b.   WI speult/*speule   JIJ speelt/*speel
        we.$_{FOC}$ play.$_{AGR1}$/play.$_{AGR2}$ you.$_{FOC}$ play.$_{AGR1}$/play.$_{AGR2}$
        'WE play (and not Peter)'   'YOU play (and not Peter)'

The fact that the T-inflection shows up indicates that the inflected verb occupies the lower T-position even if the subject is fronted to specCP under focus. The question is, therefore, what prohibits verb fronting to C in languages with a double paradigm. In the Den Besten template, no such blockage is active. Consider, therefore, the relevant configurations in (30):

(30) a.   [$_{CP}$ wi   C   [$_{TP}$ ~~wi~~ speul-t [...
              |
           [+foc]

    b.   *[$_{CP}$ wi speul-e [$_{TP}$ ~~wi~~ ~~speul~~- [...   subject extraction
            | (in type-B structures)
           [+foc]

    c.   [$_{CP}$ XP speul-e [$_{TP}$ wi ~~speul~~- [... ~~XP~~.....   nonsubject
                                                extraction

Apparently, verbal movement to C is blocked if the subject is fronted to specCP (30b), but not if a nonsubject is fronted (30c). A similar blockage as in complementizer-trace and do-support holds. The ban to front the verb in direct contexts with the subject in specCP, therefore, freezes the verb in T in

(30a). The Dedemsvaart dialect and standard Dutch have verbs in C as well as in T. P&T's rule in (26) can, therefore, be held responsible for the emergence of double paradigms. Notice that double paradigms only show up with the feature [2]. We conclude that the C/T-trace effects, that has been observed in WH-extraction contexts also show up in double paradigms, i.e. in constructions with the feature [2].

(31)   *Parallelism between [2] en [WH] in Zwart-configurations*
         Second person-extraction is, just as WH-extraction, subject to
         the C/T-trace effect

Now, it is fundamental that P&T's generalization in (26) is derived from general principles of the grammar. The restriction in (30b), therefore, not only holds for languages with double paradigms but also for languages with single verbal paradigms. So, if we want to explain the inactivity of (26) in Den Besten structures, the only option is to assume that subjects do not pass through specTP in Den Besten structures, i.e. that these structure allow for nominative assignment within a lower domain, for instance within VP.[17] This option is often called the VP-internal nominative option. The theory, therefore, predicts that the transition form A-structures to B-structures correlates with changes in the assignment of nominative case, with consequences in the behavior of [2].

      We now have sufficient theoretical tools to describe the decay of *du* in terms of extraction effects of the [2]-feature. Let us assume that every clause with a second person modifies the hearer, i.e. the clause is a relative clause to an abstract second person head.[18] The head of such sentences, i.e. C, will have an interpretable [2] feature. This [2]-feature is, however, not yet validated (probably by acquiring a referential index). The validation proceeds through feature sharing with a [2] pronoun somewhere down in the clause. So, C must enter into a relation with a [2] pronoun. This can be done in two ways: displacement of the pronoun under internal merge to C or action at a distance (Agree). Within Minimalism this difference is formalized by means of the so-called ±EPP feature. We will assume that the difference between the *du*-sequence and the *jij*-sequence is a difference in

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[17] Any other strategy that avoids nominative case in specTP would do, for instance, the possibility that no nominative is assigned, e.g. through an incorporation process. One may think of so-called *undermerge* to C, by which V in C gets a new complement (Pesestky 2009). The apparent accusative form *-tich* might point into this direction.

[18] A similar hypothesis is found in Bennis (2006), who assumes a [2]-feature in C in imperatives that may identify empty subjects [+Force]=>[2] in C. On closer examination, however, Bennis only needs [+Force]=>[2, -EPP] in C. This opens the possibility to assign [2] to clauses with a 2-prounoun in general (with +EPP as default). For a more general projection of [2] in all main clauses, cf. Ross (1970), and a recent implementation Miyagawa (2011). Our approach of [2] clause typing extends to embedded contexts, just as WH.

EPP properties of the [2] feature.[19]

Fig. 5. Pure [2] pronouns	+EPP	-EPP
Frisian/Limburgian/13c Dutch	du/di/din	-u/-e/-ich/…
Oldenzaal dialect/16c Dutch	du/di/din	jij/jou/jouw/u/uw
Modern Dutch	-	jij/jou/jouw

In this scheme, the double spellout of subject pronouns in Den Besten structures (e.g. in Middle Dutch) is expressed by means of the +EPP and -EPP feature.[20] The single spellout of pronouns in Zwart structures (in modern Dutch for instance) is expressed by the single -EPP feature. Using this classification, I will review all the relevant cases to show how the EPP-characterization can describe all the facts discussed in this paper. Notice that we designed the theory in such a way that we built the facts of section 2 and 4 into the theory, whereas the facts of section 3 and 5 are derived from the thus created theory.

- **dou rinst** 'you+EPP walk'
  A-languages: *du* acquires nominative VP-internally and moves to specCP; there it will validate [+2] without need for landing in specTP. V goes to C. No C/T-trace effect occurs, hence ok.
  B-languages: *du* mus*t* move through specTP for nominative and must move further to specCP for [2]-checking. This causes a C/T-trace violation, hence *. It is this mechanism that kills *du*.

- ***rinst dou** (walk you+EPP)
  du sits in specTP and must, after spellout, go to specCP to validate [2] because it is +EPP. A C/T-trace effect emerges, hence *.

- ***rinst -ou** (walk you-EPP)
  -ou sits in specTP and has a -EPP feature. C checks [2] via Agree. No C/T-trace violation. The contrast with the previous case triggers the

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emergence of positional pronoun spellout in Den Besten-languages.[21]

• **ik seach di**   (I saw you+EPP)
di sits in object-position and must go (after spellout) to CP to validate [2]. No C/T-trace effect, as *di* departs from object position; hence ok. *di* can, in principle, be retained after loss of VP-internal nominative. This is the subject-object asymmetry observed by Aalberse.

• **loop jij**   (walk you-EPP)
jij sits in specTP and has a -EPP feature. It will check its [2]-feature via Agree. The verb can go to C without causing the C/T-trace effect, hence ok.

• **jij loopt**   (you-EPP walk)
jij sits in specTP and has a -EPP feature. C will check its [2]-feature via Agree. No C/T-trace violation, hence ok. The only difference with the previous case is the position of the verb, but this has no effect on [2]-checking by C. *jij* could eventually go to specCP, but the verb must stay in T (see next case).

• **JIJ loopt**
The focussed *jij* sits in specCP, but has been is departed from specTP because of nominative. In specTP the [2] feature will be checked against C under Agree. *jij* has been moved to specCP not because of the EPP feature on [2], but because of focus. Now, the verb cannot move to C because a C/T-trace violation would arise. The finite verb remains in T, hence *loopt*. The sequence *JIJ loop*, i.e. with C-inflection, is ill-formed because of a C/T-trace violation, upon T to C.

The loss of *du*, therefore, can be described as a loss of the +EPP feature on pronouns with the feature [2]: only -EPP remains. The cause of this switch [+EPP]=>[-EPP] is the loss of VP-internal nominative. A language with exclusive nominative in specTP in combination with the [+EPP] on [2] does not allow for 2nd person subject pronouns, as this always leads to a C/T-trace violation: all [2]-subjects would reduce to the ungrammatical *rinst dou configuration, as discussed above. Furthermore, Figure 5 shows in an elegant way that the new *jij/gij* singular pronouns form a natural class with the enclitic *-u/-e-ich* and can originate form these (see the discussion in section 5.4 and 5.5.). In view of the enclitic nature of these pronouns in the

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[21] It is attractive to take the +EPP feature as being encoded in the *d*-morpheme, while the second person feature is expressed with -u/-i, i.e. *du=d+u*. In view of the impossibility of extraction from specTP (because of the C/I-trace violation), it becomes understandable that this *d*-morpheme was already reanalyzed as verbal inflection in the Den Besten stage; this is the transition *-s>-st*.

Den Besten stage, this transition will have taken place in enclisis. Finally, it derives the C-orientation of the finite verb: the verb always goes to C, unless the subject receives nominative in specTP (Zwart structures). In this situation a C/T trace violation would occur, i.e. with 2sg, 2pl and 1pl. The verb therefore remains in T for the inflections 2sg, 2pl and 1pl and may receive a separate spellout. These coupled changes are described with the arrow between the two white boxes in Figure 2, repeated here as Figure 6.

Fig. 6. *Correlation diagram of loss of* du *and double present tense paradigm*

	+du	-du
+double paradigm	17	396
-double paradigm	121	53

The theory also describes the exception dialects, rendered in the grayed boxes. Consider first the exception in the -du column, 53 in number. These have lost *du* but do not have a double paradigm, contrary to the prediction. However, nothing in the theory forces different spellout in C and T: the configuration *allows* for it. We expect that different dialects opt for different spellouts. Some have a double paradigm in 2sg only (as standard Dutch), other in 1pl only (as North-eatsern dialects), some in both (as the Amsterdam dialect), etc. Some dialects do not have any double spellout by accident or have lost it because of phonological reasons. The exceptions of type 2 belong to this option, 53 in number. These dialect are, strictly speaking, no exceptions.[22] Consider now the exceptions in the grayed upper left box, 17 in number. These are the dialects of type 1 (map 3). Also these dialects are, strictly speaking, no exceptions: these dialects, such as the Oldenzaal-dialect, received a structural status as they represent the *reanalysis stage* with a double sequence of [2] pronouns (cf. Figure 5).

7. The interaction of WH and [2]

7.1. Relative pronouns and [2]

In section 6, we applied Pesetsky & Torrego's theory of nominative [uT] and [WH] to the features [uT] and [2]. A similar interaction holds: both [WH] and [2] are subject to (a extended version of) the *that*-trace filter, here coined the C/T-trace filter. The filter blocks simultaneous XP and head-

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[22] We resist the temptation to estimate the incidence of this box by taking it as a multiplicative chance (½ . ½ . ½ =1/8 =12%) for a Zwart language not to have an inversion spellout for 2sg, nor for 2pl, nor for 1pl. What such an "estimation" does illustrate is the structural status of this cell in Fig 6.

movement for specTP-to-specCP and T-to-C. WH-movement uses VP internal nominative assignment as an escape strategy in languages with exclusive nominative case assignment in specTP, under *there*-insertion (Du. *er*). This is not possible in the case of [2] because of the definite restriction on *er*, which holds in modern Dutch as in English. As personal pronouns are semantically definite, this escape hatch is not available.[23] Instead, Dutch changed to a -EPP strategy in the case of [2], which lead to the loss of *du* 'thou'. If so, we expect a similar block of T-to-C movement in the case of more definite versions of [WH] pronouns, e.g. relative pronouns. This expectation is fulfilled: in subject relative clauses the lexicalization of T in C (e.g. *dat* 'that') is indeed blocked in (32a), in contrast to embedded questions, where C can be filled, cf. (32b).

(32) a. De man die ø/*dat dit boek geschreven heeft, is overleden
          The man who ø/that this book written has, is died
          'the man who wrote that book, has died'
      b. Ik weet niet wie (of dat) dit boek geschreven heeft
          I know not who (if that) this book written has
          'I do not know who wrote this book'

The absence of *dat* shows that no T-to-C has taken place in Dutch subject relative clauses. This can directly be attributed to the definiteness of the WH-pronoun in relative clauses. It draws a parallel between [2] and the *definite* variant of WH-pronouns, i.e. relative pronouns. Indeed, English *thou*, and the Old-Germanic precursors of Dutch *du*, are the only words with a voiced *th-* onset without being part of the *this/that/there/thus/...* sequence. This opens the possibility that *du/thou* and *th*-pronouns forms a natural class, in being relative pronouns with a +EPP feature. This is what we meant in section 6 when we hypothesized that any clause with [2] is a relative clause that modifies the hearer, i.e. is a relative clause to an abstract head with [2]. An anonymous reviewer points out that if clauses with [2] are relatives, we would expect opacity effects in [2]-clauses, which are unattested. Instead, it is suggested to take pronouns with [2] as "compulsory topics". This is a good suggestion, but the differences are much smaller than assumed. For, in view of the root clause nature of the effects we discussed in this paper, the comparison between [2] and [WH] would not so much involve ordinary relative clauses, which are embedded in nature, but should relate to *main clause relatives*, for instance the Latin *relatif de liaison,* as exemplified with the school book example in (33). The relative pronoun *quos* takes *libros* as an antecedent in the previous clause and modifies it. Such a *relatif de liaison* is often translated by *and* + topic pronoun in Dutch

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[23] In Hongarian accusative person pronouns trigger indefinite agreement. This shows that the situation is far more complicated than sketched in this section.

and by *and* + personal pronoun in English (cf. the handbooks, Dankaert 2012, but see Bolkestein 1996).

(33)   multos libros <u>pulchros</u> scripsit; **quos** omnes diligenter legi
        many   books   beatiful   wrote.PERF.3sg; REL   all   carefully
        read.PERF.1sg
        'he has written many good books; and I have <u>them</u> read all'

Curiously, the semantic interpretation of a *relatif de liaison* is not sensible to islands, although they are not syntactically extractable out of islands. Being within islands, they move to the island's edge and trigger pied-piping of the entire island to the sentence initial position. As a result, the relative pronoun sits at the ultimate left edge of the utterance without having violated islands. This is illustrated in (34), where the relative pronoun *quae* is born within an adjunct, fronts to the adjunct's edge (even before the complementizer *ubi*), and triggers the entire adjunct to front under pied-piping.

(34)   Caesar ...   statuit   exspectandam <u>classem</u>;
        Caesar.NOM ...   determine.PERF await.GER   fleet.ACC;
        quae ubi   convenit ...   circiter   CCXX
        which when   gather.PERF   220
        naves eorum ...   nostris   adversae constiterunt.
        (B. G. iii. 14)
        ships   their   ...   ours.pl.ACC   opposite positioned.PERF.3pl
        'Caesar... decided that he must wait for <u>the fleet</u> ; and when <u>this</u> had come together, ... 220 of their ships... drew up opposite to ours.'

For an in-depth study of these structures, see Dankaert (2012, *passim*). The similarities of [2] and [WH], therefore, concern **main clause** relative pronouns, rather than embedded relatives. Extraction tests can, therefore, not be provided. Independent tests must be found in other domains.

7.2. Inclusive interrogative pronouns: [WH] +[2]

In order to provide a testing ground for the clause-typing theory of [2] in C, we present some new data on the interaction of WH and [2] in the interrogative domain. It provides supporting evidence, but imposes some problems as well, which we will not solve at this stage.
        While German and English interrogative pronouns are always singular, Dutch interrogative pronoun *wie* 'who' can be accompanied by the singular *-t* form and the plural *-en* form, cf. (35b).

(35)   a.   Wer kocht/*kochen jeden Tag?   German

b.   Wie **kook-t/kok-en** er elke dag?   Standard Dutch
c.   Who cooks/*cook every day?   English

WH interrogative subjects can be accompanied with a plural verb in English and German, but this is caused by verbal agreement with the predicate (or rather WH has undergone predicate inversion, Den Dikken 2006).

(36)   a.   Wer sind die Gewinner?   German
               who are the.pl winners
      b.   Who are the champions?   English

Similar data for Portuguese, French, etc. The pattern is cross-linguistic.[24] This makes it improbable that the *t-* and *en-*forms in Dutch are simply identifiable as singular and plural. Notice that it is semantically far from obvious that *wie kook-en* is a plural, since *wie kookt* 'who cook.sg' can equally be responded to by a plural answer. The plural nature can nevertheless be traced, namely by pronominal reference as in (37).

(37)   a. Wie_i denkt dat hij_i het af heeft?   [3]/[2]
               who think.3sg that he.3sg it ready have.3sg
      b. Wie_i denken dat ze_i het af hebben?   [3]/*[2]
               who think.3pl that they.3pl it ready have.3pl
               'who thinks that he has finished the job?'

In (37a) the embedded subject pronoun is bound by *wie* and shows up as a singular pronoun *hij* 'he'. In (37b), it shows up as *ze* 'they'.[25] Yet, there is more than just this number effect. There is a curious exclusive effect in (37b). While (37a) can be asked to a group requesting the eligible candidates within the addressee group, in the sense 'who of you', this is not possible with (37b). So, while (37a) is ambiguous between a pure 3rd person reading 'who in the world' (indicated with [3]), and an inclusive reading 'who of you' (indicated with [2]), (37b) only allows for the third person reading 'who in the world'. The possible readings are given in the last column of (37). With an overt inclusive WH-constituent *wie van jullie* 'who of you', we get ungrammaticality, illustrated in (38).

(38)   a. Wie_i van jullie denk**t** dat hij_i het af heeft?
               who of you think.3sg that he it ready have.3sg
      b.   *Wie_i van jullie denk**en** dat ze_i het af hebben?

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[24] Relative clauses do allow for plural forms, cross-linguistically. These derive plurality from the anteceding noun.

[25] No other proniminal dependencies are possible. The singular pronoun *zij/ze* 'she' is not possible here, not even upon addressing a group of female students. When used, the pronoun *zij/ze* causes disjoint reference with the interrogative pronoun.

who think.3pl   that they it ready have.3pl
'who thinks that he has finished the job?'

(38b) is only grammatical under disjunct reference of the pronoun. In view of the double paradigm phenomenon discussed in section 2.1, and the fact that *-en* is AGR$_C$ and *-t* is AGR$_T$ in various Dutch dialects, it is attractive to identify the *en*-form with the C-inflection and the *t*-form with the T-inflection. If so, the ungrammaticallity of structure in (38b) reduces to a C/T-trace violation, as indicated in (39).

(39)   *[$_{CP}$ [wie van jullie] denk-en [$_{TP}$ ~~wie van jullie~~ $_T$[~~denk-~~] [....   ]]]
         [2]

Notice that the identification of *-en* as a AGR$_C$ and *-t* as AGR$_T$ is similar to what happens of the North-Eastern dialects in the first person plural, *wi* 'we'. The reason that the [3]-reading is compatible with the C-inflection is that the [3]-readings can be indefinite and do not need to pass through specTP. Upon an inclusive reading, the WH-pronoun is definite, passes through specTP because of the definite restriction, and, hence, creates a C/T-trace violation. The verb must remain in the lower T-position. This shows a syntactic activity of [2] along the patterns discussed before.

        The problem of these data is that the ungrammaticalities disappears as soon we leave out the pronominal dependency, as in (40). In this case, both the *en*-form and the *t*-form are grammatical.

(40)   wie van jullie woont/wonen in de stad?   [2]
            who of you lives/live in the city?

This suggests that definiteness of the WH-constituent is partly inherited from the pronominal referent. More research is needed.

7.3 Rhetoric questions and [2]

A similar singular-plural contrast can be observed in rhetoric readings, which require the *-t* inflection. The *-en* inflection, which is possible with information questions, is ruled out in rhetorical questions.

(41)   a.   Wie zou niet wenen?   (rhetoric/informational)
             who would.sg not weep
       b.   Wie zouden (er) niet wenen?   (*rhetoric/informational)
             who would.pl (there) not weep
             'who would not weep?'

Now, a rhetoric question is standardly defined as an assertion in the form of

a question. What is generally not added is what the nature of the assertion is. Preferably, the propositional meaning is recoverable from the structure of the question. In Postma (1995), I suppose that a rhetoric WH-question has the propositional meaning of a universal quantifier with reverse polarity. More specific, the rhetorical question *who would not weep* corresponds to the assertion *anyone would weep*. I suggested that the universal quantifier was produced under amalgamation of the WH-operator in subject position with a lower negative quantifier, in the sense of Rizzi 1982: 123, Cinque 1990: 80). [who]+[not]=anybody, and its polarity reversed counterpart: [who]+[so]=nobody. The assertive nature of this amalgamated structure, immediately explains why the utterance cannot be answered. Barbiers (*pers. comm.),* however, suggested to me a more semantic approach in assuming that the shadow meaning *anyone would weep* is not produced by syntactic means but under logical entailment or presupposition. This makes a lot of sense, but this approach does not capture the fact that no answer is possible to rhetoric questions.[26] The amalgamation hypothesis, which produces an assertion, has a defect too, in that it does not capture that the hearer cannot respond with a propositional response, such as *indeed,* or *Aha!* So the semantic theory does not explain a *reduced* hearer's involvement *vis-à-vis* a informational question (the hearer may not answer), while the syntactic theory does not explain the *enhanced* hearer's involvement vis-à-vis an asssertion (he is too involved to say *Aha*). In view of the present discussion of the clause-typing of the hearer's involvement, a solution comes into sight. Suppose that Barbiers is right in that the shadow meaning *anyone would weep* is presupposed, the true meaning of *who would not weep* could be represented by merely adding [2] in C. This [2] in C passes over to the WH-constituent under feature sharing when [WH] in C probes the WH-argument, which would produce *you would weep too!* or *we_{incl} (you and I) would weep too!* For further reference, we repeat this in (42).

(42)   A WH rhetoric question involves a clause typing by [2] in addition to [WH]

> *e.g. Who would not weep?*
> • presupposition: anyone would weep
> • assertion: you would weep too!

In orther words, a rhetoric question has a [2] clause-typing on C. This reduces rhetoric questions to the anaylsis of [WH, 2] discussed above (38). Because of the definiteness of [WH, 2], the subject must move through specTP and moves through specCP because of the +EPP nature of WH. Now, the verb may not move from T to C beacuse this gives rise to a C/T-

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[26] Den Dikken & Ginnakidou (2002) call the shadow meaning "the anticipated answer" or "the preferred answer". This is an unfortunate terminology, since answering is infelicitous.

trace violation. As a result, the verb must remain in T and will be spelled out with AGR$_T$, which is ø in the past tense. The "plural" AGR$_C$ -*en* is blocked.

(43)   a.   [$_{CP}$ Wie$_i$ C   [$_{TP}$ t$_i$ zou [.....niet wenen?]]]
                        | (rhetoric reading)
                [WH, 2]

       b.   *[$_{CP}$ Wie$_i$ zoud-en [$_{TP}$ t$_i$ ~~zou~~- [....niet wenen?]]]
                        | (rhetoric reading)
                [WH, 2]

Without [2] on *wie* 'who', the subject is indefinite and both positions C and T are fine, and hence the verb can be spelled out as *zou* and *zouden*. These implicit [2] readings and their syntactic effects provides us with independent evidence for the clause-typing analysis of [2].

8. Lexical subfeatures: EPP and beyond

In section 6 we have analyzed the syntactic properties of Dutch *du* 'thou' and the newer form *gij/jij* 'you'. It turned out that *du* carries a +EPP feature, while the newer forms *gij/jij* carry a -EPP feature. It may come as a surprise that a change in such abstract features causes a change of the lexicalization in the history of Dutch. In section 5, we explained the change in spellout by reanalysis. It took the distinct phonological realization as an accidental side effect at the interfaces. There are, however, indications that the change in lexicalization has deeper causes. Because one may ask if it is really accidental that this (weak) movement triggering feature sits on a pronoun with an onset *th/d* which it shares with other deictic pronouns, such as *dit* 'this' and *dat* 'that' that carry a (weak) movement triggering feature as well (Postma 1984, Postma 2006). In the previous section, we encountered a pronoun with a strong movement triggering WH-feature, that lexicalized [2]. It shared its *w-* lexicalization with interrogative pronouns, such as *wie* 'who', *wat* 'what' etc, with strong movement-triggering features. In figure 7 we summarize the distinct realizations of [2] discussed in this paper.

Fig 7. Syntactic subfeatures

Goal		Probe	Dutch [2]-forms
WH:	strong feature	(+EPP)	wie
D:	weak feature	(+EPP)	du
Y:	in situ checking	(-EPP)	gij/jij

These subfeatures control the behaviour of semantic features and provide them with syntactic activity. As Den Dikken (2003) argues, the movement triggering WH feature can accompany semantic features like [Foc], [Topic], etc. which define the origin of the probing heads Foc, Top, etc and define the target of movement (specFocP, specTopP, ...). Instead of taking WH as an accompanying feature that sits on the same level as the semantic features as Den Dikken (2003) assumes, we take WH (and D and Y) as *subfeatures* in the sense of Pesetsky & Torrego's EPP feature. We will indicate subfeatures by σ (notation: σ(FOC)=WH).

In Chomsky (1995) and P&T (2001) these subfeatures are taken to be properties of the probe. However, if the identification given in fig. 7 is correct, these features receive lexicalization at the goal, not on the probe. It is, therefore, reasonable to assume either that the moving elements are probes and probe upward (as is assumed in Zeijlstra 2012) or to assume that these goals share this subproperty with the probe after having entered into the agree relation with it. The probe subsequently attracts the pronoun. Since we follow P&T in taking Agree as feature sharing, we take the second track and assume that subfeatures are shared parasitically upon interpretable feature sharing.

(44) *Probing*

probe	goal		probe	goal
Foc[α]	Foc[_]	→	Foc[α]	Foc[α]
σ=_	σ=WH		σ=WH	σ=WH

If so, we can in principle get rid of the EPP column in Figure 7, as these EPP-features are derived. It must be noticed that, if the scheme in Figure 7 is correct, not only semantic features receive spellout but also the syntactic subfeatures. In some cases, the semantic features even give priority to the subfeatures, for instance in the case of rhetoric questions, where only the movement triggering feature receives spellout (as well as gender, case, etc) and the semantic [2] feature remains silent.

(45)

σ	[2]	
d	u/i	*thou/du*
y	u/i	*you/jij/gij*
wh	-	*who/wie*

The task is then to find other instances where these subfeatures accompany semantic features and lexicalize these, for instance in the domain of tense, negation, aspect, etc. It is our hope that curious syncretisms might disappear if we take them as lexicalizations of subfeatures, instead of lexicalization of features.

9. Conclusions

On the basis of data drawn form the GTRP-dialect database, we established an new empirical correlation between the loss of *du* 'thou' and the emergence of double paradigms (direct versus inverse) within the Dutch dialect continuum. It provides us with new clues to the language-internal causes of the loss of *du*. Dutch underwent a change toward a language with an exclusive structural subject position, as described by the Zwart 1993's theory of the left-periphery. The theories of Den Besten (1983) and Zwart (1993) do not establish competing theories of the left periphery of V2 languages, but describe two types of structures. Zwart's structure describes the double spellout in C and T of Dutch dialects, while Den Besten describes structures with double pronoun spellout and without double verbal spellout. Dutch developed from a structure with only Den Besten configurations to a language that applies Zwart structures in sentences with [2]. Upon the transition from two subjects to one subject position, Dutch lost the pronoun *du* that typically lexicalizes specCP. Zwart's structures can be derived from the interaction between [2] and nominative assignment, very much parallel to what happens between [WH] and nominative, as described in Pestesky & Torrego (2001). This parallel can be understood, if [2] is, just like [WH], a clause-typing feature in C, in the sense of Cheng (1997), featuring the fact that the addressee is modified.

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