MIcrocomparative MOrphosyntactic REsearch (MIMORE): Mapping partial grammars of Flemish, Brabantish and Dutch[☆]

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Abstract

In this paper we discuss and analyze a set of correlations that we discovered using two of the large-scale Dutch dialect syntax databases available in the online tool MIMORE (the abbreviation of the MIcrocomparative MOrphosyntactic REsearch tool) (www. meertens.knaw.nl/mimore), i.e. DiDDD and DynaSAND. These correlations lead to the identification of several larger dialect groupings, basically to a typology of dialects. In particular, we investigate the following four empirical phenomena: subject doubling, demonstrative doubling, complementizer agreement and D-pronoun fronting in imperatives. We furthermore provide an analysis of these phenomena and for the typology, showing that the syntactic base structures are identical in the dialect groups and the derivations are highly similar. Parametrization arises at two points: lexical properties with respect to the spell out of ϕ and the trigger of subject doubling.
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1. Introduction

In recent years, the macro- and microcomparative syntax research community increasingly has been building and using online databases and tools. Some examples of microcomparative syntax research infrastructure can be found at www.dialectsyntax.org. Some examples of macrocomparative research infrastructure can be found at http://languagelink. let.uu.nl/tds/index.html.

One of the central research questions motivating the building of these infrastructures is: *Do we find clusters of correlating syntactic properties and if so, is it possible to reduce such clusters to abstract underlying building principles that explain the clusterings?* The hypothesis behind this question is that the syntax of a language or dialect is not an accidental collection of syntactic constructions but a system of interdependent interacting principles and/or constraints,

as has been the common assumption in structuralist linguistics (cf. Weinreich, 1954) and in generative grammar throughout.

Before the advent of linguistic databases and tools it was only possible to investigate this question by looking at small sets of language varieties for which it was hard to determine whether the attested correlations were accidental or systematic. The online linguistic research infrastructure with data on large sets of language varieties has changed this now. It is to be expected that its availability will enhance the empirical basis of theoretical linguistic research considerably.

In this paper we discuss and analyze a set of correlations that we discovered using two of the large-scale Dutch dialect syntax databases available in the online tool MIMORE (the abbreviation of the MIcrocomparative MOrphosyntactic REsearch tool) (www.meertens.knaw.nl/mimore), i.e. DiDDD and DynaSAND.[1] These correlations lead to the identification of several larger dialect groupings, basically to a typology of dialects. In particular, we will investigate the following four empirical phenomena: subject doubling, demonstrative doubling, complementizer agreement and D-pronoun fronting in imperatives. We have provided an example from each of these phenomena in (1).

(1) a. Demonstrative doubling (from Brabantish)
         Ik zag ***de* dieje**.
         I   saw the that
         'I saw that one.'
     b. Subject doubling (from Brabantish)
         He-*de*   **gij**   da   gezien?
         have-you.w you.s that   seen
         'Have you seen that?'
     c. Complementizer agreement (from Flemish)
         A-*n*   ze   vur under werk leven, . . .
         if-agr they for   their   work live, . . .
         'If they live for their job, . . .'
     d. D-pronoun fronting (from Brabantish)
         Da   lees   maar!
         That read   part
         'Read that!'

The paper is organized as follows. We start with a brief description of MIMORE, showing that such data collections and tools are indispensible if we want to discover and investigate correlations such as the ones at hand. Then a description is provided of the correlating morphosyntactic phenomena and their geographic distribution which is illustrated with maps. Finally, a syntactic analysis is provided that explains the typology that follows from these correlations. In turns out that the different surface varieties do not differ with respect to their underlying structures and the corresponding derivations. The differences are due to lexical properties, i.e. the possibility to spell out a head, a full projection or neither, and the specification of C as a generalized φ-Probe. On the basis of this analysis, South-Brabantish (i.e. the dialects spoken in the Belgian provinces of Antwerp and Belgian Brabant) can be characterized as a transitional zone between the dialects of Flemish and those of North-Brabant. In turn, the whole Brabantish area can be characterized as a transition zone between Flemish and northern Dutch.

2. MIMORE

2.1. MIMORE

MIMORE was developed to enable the researcher to search three Dutch dialect databases, GTRP, DiDDD, DynaSAND, at once and in a uniform way. In this way phonological and morphological properties (GTRP database), (morpho-)syntactic properties at the level of the nominal group (DiDDD database) and (morpho-)syntactic properties at the clausal level (DynaSAND database) can be related to each other. We will first describe the general functionality of MIMORE and then each of the individual databases.[2]

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[1] DiDDD is an abbreviation of Diversity in Dutch DP Design, see Corver et al. (2007, 2013) for more information. DynaSAND is short for Dynamic Syntactic Atlas of the Dutch Dialects, see www.meertens.knaw.nl/sand.
[2] The MIMORE Educational Module (Pots et al., 2014; http://www.meertens.knaw.nl/mimore/educational_module/ gives an extensive description of the background and functionality of MIMORE, instructions and a number of exercises.
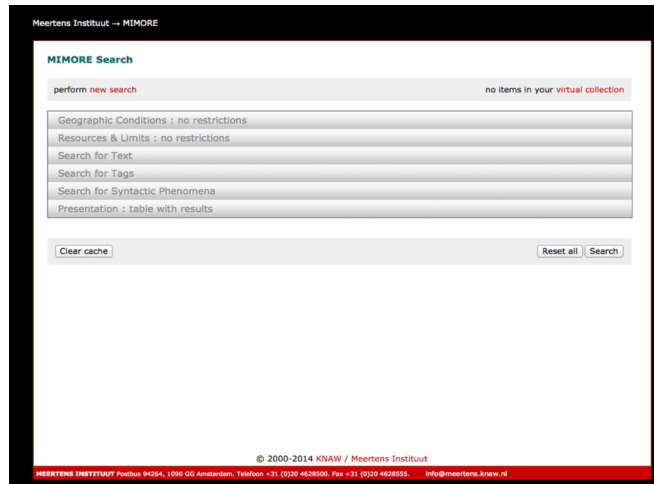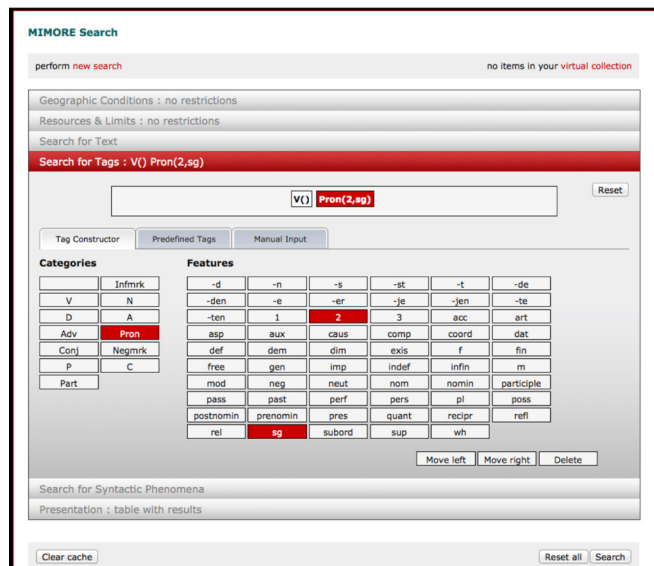
Fig. 1. The MIMORE search tool.

Fig. 2. Search for tags: a verb followed by a second person singular pronoun.

The opening screen of MIMORE (Fig. 1) provides the following functions from top to bottom. It is possible to restrict a search to one or more locations, regions, provinces or countries. One can select one or more of the dialect databases to be used for the search. It is also possible to restrict the number of search results. This may be useful when the number of search results make the program too slow.

MIMORE allows for three types of searches: with character strings (max. one word), tag strings and syntactic phenomena. The tag search function comes with a tag constructor with which one can construct a complex tag by combining primitive syntactic categories and features (Fig. 2). It is also possible to use a list of predefined complex tags. All categories and features have been registered in the data category registry Isocat (www.isocat.org) such that their definitions are explicit and to ensure standardization and interoperability with other databases. This was all done in the framework of the research infrastructure program CLARIN (www.clarin.nl), of which the MIMORE project is a part. MIMORE and its databases have been integrated in the CLARIN research infrastructure.[3]

The third way of searching is by syntactic phenomenon. This is a bit of a misnomer, as only DynaSAND and DiDDD provide lists of syntactic phenomena to search with. In the case of GTRP, a list of test items is provided, i.e. individual

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[3] Cf. CLAPOP (https://portal.clarin.nl/) for an inventory of data, tools and services provided by CLARIN. The data in MIMORE can also be accessed through the CLARIN Virtual Language Observatory (VLO; http://catalog.clarin.eu/vlo/?4).

Fig. 3. Search results in MIMORE: a relevant result from Midsland.

words, e.g. *diep* 'deep', phrases, e.g. *ik dacht* 'I thought' and short clauses. The informants translated these test items into their local dialect during the GTRP interviews. In the future, this search function will be split into two for all three databases: (i) search with syntactic phenomenon; and (ii) search with test item.

The result of a search is a list of geo-referenced sentences or sentence fragments with their POS-tags, English glosses and translations and the corresponding sound fragments, if available (Fig. 3). Geo-referencing is by location or location code. There are also options to show longitude and latitude, context and the test sentence corresponding to the search result. In the case of search results from GTR, phonetic representations are given as well, which is relevant for researchers who need to compare pronunciation in detail. Geographic maps are an alternative way of presenting search results.

Selections of search results can be exported to Excel, CSV or PDF. Selections of search results can also be exported to a so-called virtual collection which makes further operations possible (Fig. 4).[4] It is possible to derive the intersection, union and complement set of sets of selected search results (i.e. of their locations). This way potential correlations between two or more phenomena can be investigated. Sets of search results can also be presented on geographic maps. The cartographic tools in MIMORE and DynaSAND provide a very easy and user-friendly way to visualize complex linguistic data and the relations between them.

2.2. GTRP

The GTRP database within MIMORE includes the results of a data collection project carried out between 1979 and 2000 under the responsibility of the linguists Ton Goeman, Johan Taeldeman and Piet van Reenen. Users who understand Dutch can access the data at www.meertens.knaw.nl/mand/database/. Other users should use the MIMORE tool. For GTRP, data were collected in 611 locations across The Netherlands (including Frisia), Flanders (i.e. the Dutch speaking part of Belgium) and French Flanders, a small part of North-West France. The informants in these locations were asked to translate a list of 1876 items. These items were mainly individual words and phrases and, sometimes, complete sentences. All informants had to meet the following requirements: (i) the informant speaks the dialect of the community; (ii) the informant is born in the place of residence and has lived there preferably his/her whole life; the same goes for his/her parents; (iii) the informant is between 50 and 75 years old; (iv) the informant is preferably low educated but with considerably high literacy skills.

Given the goal of the project, to chart phonological and morphological variation in the Dutch language area, these informant requirements were necessary to ensure that there was a relation between linguistic variable and geographic location and to reduce the potential influence of other sociolinguistic variables such as social class and age.

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[4] By the time this paper will be published it will be possible to register these virtual collections in CLARIN's virtual collection registry, along with the assignment of CMDI metadata and PIDs. This is necessary to enable other researchers to evaluate claims based on databases and tools such as the ones provided by MIMORE.

Fig. 4. MIMORE virtual collection.

Atlases resulting from this project include the phonological atlas of the Dutch dialects FAND (three volumes; FAND I: Goossens et al., 1998; FAND II + III: Goossens et al., 2000; FAND IV: De Wulf et al., 2005) and the morphological atlas of the Dutch dialects MAND (two volumes: MAND I: De Schutter et al., 2005 and MAND II: Goeman et al., 2008). Together the three FAND volumes give a detailed overview of variation in the vowel and consonant systems of the Dutch dialects and the geographic distribution of this variation. The two MAND volumes give an overview of the variation in plural formation, diminutives, gender, comparatives and superlatives, possessive pronouns, subject and object pronouns, verbal inflection, participles and verb stem alternations.

2.3. DynaSAND

For an extensive description of DynaSAND and its background see Barbiers et al. (2007) and Barbiers and Bennis (2007). DynaSAND can be accessed at www.meertens.knaw.nl/sand and in MIMORE. The data in DynaSAND were collected between 2000 and 2003 in 267 locations in The Netherlands, Flanders and North-West France. The basis of the selection of locations was an even distribution across the language area, with higher density in areas where the dialects are still very strong and numerous, in transitional zones and in locations with special circumstances, e.g. (former) islands. The goal of the project was to chart the geographic distribution of (morpho-)syntactic variation at the clausal level. Therefore the informants in the fieldwork stage had to meet more or less similar requirements as the GTRP informants.

The methodology of data collection for DynaSAND was different from GTRP, though. There were three stages, a postal pilot study, oral interviews and telephone interviews. The atlases (SAND I, Barbiers et al., 2005; SAND II, Barbiers et al., 2008a,b) are based on the oral and the telephone interviews. In the oral interviews in The Netherlands, there were two informants in each location and they did the interview together in the local dialect without interventions by the field worker. This was to reduce accommodation as much as possible and to avoid judgments based on phonetic and lexical differences. As opposed to the Dutch interviews, the Flemish interviews were carried out by linguists who spoke the dialect or regiolect of the area and there were at least two informants in each location.

Around 150 different syntactic properties in 424 test sentences were investigated. Most sentences were translation tasks that asked informants to translate standard Dutch sentences into their dialect and concealed judgment tasks. The latter did not ask for the grammaticality but for the commonality of a construction in a particular dialect, to avoid influence of normativity on the judgments. Often translation and judgment tasks were combined, also to check whether translation and judgment were consistent. Other types of tasks include cloze tests, completion tasks and picture response tasks.

The data available in DynaSAND and the two SAND volumes include the left periphery (complementizer system, complementizer agreement, Wh-questions, relative clauses, other fronting constructions), subject pronouns, subject pronoun doubling and cliticization, reflexive and reciprocal pronouns, morphosyntax of verbal clusters and auxiliaries, verb cluster interruption, negation and quantification.

With the DynaSAND software tool it is possible to search the database with text strings, strings of POS tags, test sentences, syntactic phenomena, locations, areas. The results of these searches are lists of geo-referenced sentences with tagging, English glosses and translations and the corresponding sound fragments. This makes it possible to check the validity of the data and to select the locations that have a particular syntactic phenomenon. This selection can then be fed into a cartographic tool that depicts the geographic distribution of the phenomenon and in the case of multiple phenomena, the correlations between them. Most of the maps of the printed volumes SAND I and II are also available in DynaSAND (by searching with syntactic phenomenon).

2.4. DiDDD

The data for the Diversity in Dutch DP Design database were collected between 2005 and 2009 in around 220 locations in various rounds and with a methodology comparable to that of DynaSAND. For a more extensive description see Corver et al. (2007, 2013). The DiDDD data can be accessed through MIMORE. The goal of DiDDD was to describe the variation in nominal groups in the Dutch dialects. Phenomena investigated include noun phrase internal pronouns, substantivized pronouns, combinations of definite articles, demonstratives and possessive pronouns/phrases, number, negation, quantification. For an overview of attested variation, cf. Corver et al. (2013).

The fieldwork for the DiDDD-project consisted of two parts: a written questionnaire that only contained translation questions which was sent out to a large number of informants and 53 in depth interviews that were partly done orally and partly written. We will use the data from both sources in this paper, but the data from the translation questionnaire are mostly uninformative for the current purpose: if a certain phenomenon is used in the questionnaire it shows that the phenomenon is part of the grammar of the informants, but if it is not used, it does not tell us that it is not part of their grammars, and that is crucial information to be able to establish the correlations between certain phenomena. For that reason, we focus on the 53 in depth interviews in this paper. For the SAND-project we make use of the data from the oral interviews. The Map in (2) shows the distribution of SAND and DIDDD in depth interview locations. 47 out of 53 DIDDD locations are also SAND locations, which makes it possible to investigate correlations between phenomena at the clausal level and phenomena at the level of the noun phrase. It will be clear that the number of DIDDD locations is too small for statistical analysis.

(2) Map of SAND and DIDDD locations

- SAND locations (267)
- DIDDD locations (53)
- (47)
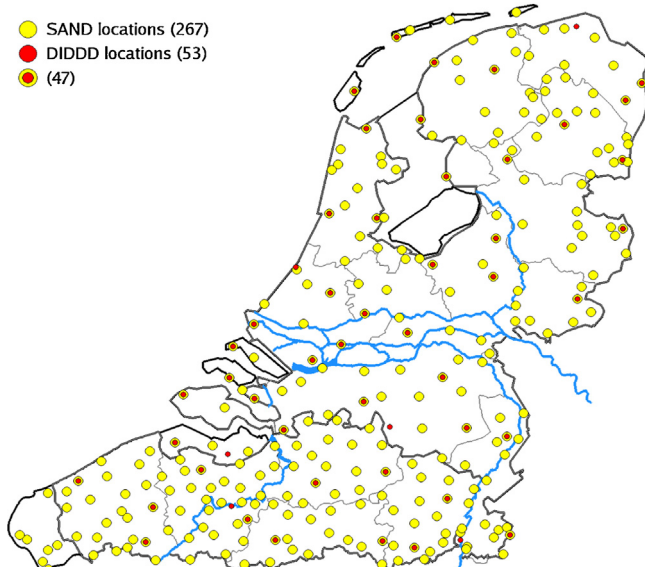
3. Establishing dialect areas

This section explores the correlations between (i) pronominal doubling in the nominal domain (DP), (ii) pronominal doubling in the clausal domain (CP), (iii) complementizer agreement and (iv) fronting in imperatives, by searching for the first phenomenon in the DiDDD part of MIMORE and for the latter three in the DynaSAND part of MIMORE, constructing the intersection of the locations of the four result sets and mapping them on a geographic map. This will lead to the identification of four different dialect areas.

This paper will focus on Flemish (spoken in Belgium, in the provinces of West and East Flanders), Brabantish (spoken in the Dutch province of North-Brabant and the Belgian provinces of Antwerp and Brabant) and Northern Standard Dutch (the standard language spoken in the Netherlands). For the convenience of readers who are not familiar with the Dutch language area we provide a map below in (3) with the names of the provinces that will be discussed in this paper.

(3) Map of provinces in the Dutch language area discussed in this paper

This section is organized as follows. We start out in sections 3.1 and 3.2 with the properties of pronominal doubling in the DP and the CP domain. Section 3.3 discusses the empirical correlations between these two types of doubling. On the basis of the correlating and non-correlating properties we reach the conclusion that there are three major dialect areas, then we add the two other empirical phenomena to the mix in section 3.4, showing that there are actually at least four distinct dialect areas.

3.1. Pronominal doubling in CP

The SAND project and the DiDDD project both identified pronominal doubling as a point of variation between the Dutch dialects. The SAND project showed that doubling of subjects is found in a subset of the Dutch dialects (see Barbiers et al., 2005: map 3.1.3.10), and the DiDDD project found DP internal doubling of demonstrative pronouns as a point of variation between the dialects (see Corver et al., 2013). Let us first look at doubling in the clausal domain. Consider the example in (4).[5]

(4)　… dan　leef-**de**　　**gij**　　　langer.
　　　　then　live-you.clitic　you.strong　longer.
　　　　'…than you will live longer.'　　　　　　　　　　　　　　　　　　　　　　[Boutersem Dutch]

The strong subject pronoun (i.e. a full form of the pronoun that can bear stress, see van Craenenbroeck and van Koppen, 2002, 2008) in the example in (4), *gij* 'you', is doubled by a clitic pronoun *de* 'you'. This subject doubling pattern is described extensively in the literature, see among others De Geest (1990, 1995), Haegeman (1992, 2004), Barbiers et al. (2005), De Vogelaer (2005), van Craenenbroeck and van Koppen (2008). It is found with all person/number/gender combinations (see Barbiers et al., 2005: map 3.1.3.10). The doubled structure in these sentences adds a focalized meaning on the subject. We provide a map for doubling of second person singular and plural subjects in (5). We can clearly see that second person subject doubling is restricted to the southern Dutch province of North-Brabant, the Belgian provinces of Antwerp, Flemish-Brabant, East- and West-Flanders, and French Flanders (to the west of West-Flanders).

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[5] Data are taken from the MIMORE database unless indicated differently.

(5) Map of subject doubling in the second person singular and plural
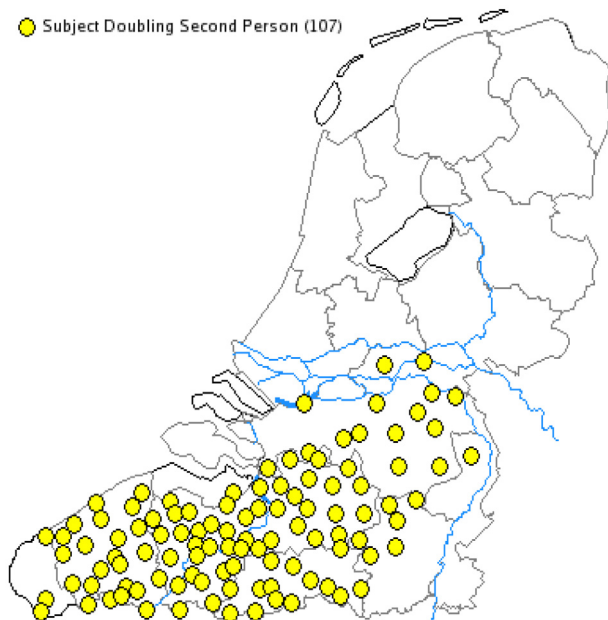
Doubling in Dutch dialects is only possible with subjects, not with objects (van Craenenbroeck and van Koppen, 2002). The type of subject doubling we are mainly concerned with in this paper shows the pattern: finite verb – clitic subject pronoun – strong subject pronoun.[6] More specifically, the first element of the doubled subject is necessarily a clitic pronoun (i.e. a phonologically reduced form of the pronoun that cannot be stressed), and the second one is always a strong pronoun. Hence, doubling cannot target a proper name or a full DP, see for instance the ungrammatical example in (6).

(6) * Vandemergen ei-se   dei doktores   de patient gezien.
        this.morning   has-she that female.doctor the patient seen
        Intended: 'this morning, that female doctor has seen the patient.'   [Wambeek Dutch]

To summarize: pronominal subject doubling is found in a subset of the Dutch dialects. Doubling can only target pronouns and it always follows the same pattern where there is one weak element, the clitic pronoun, followed by a strong subject pronoun.

3.2. Demonstrative doubling in DP

Now let us consider demonstrative doubling in the DP domain. Consider the example in (7).

(7)   Die   akkers zien beter dan **de deen** doar.
       these fields are better than the those there
       'These fields are better than those.'   [Oostende Dutch]

This example shows that the demonstrative pronoun *deen* 'those' can be doubled by the definite article *de* 'the'. This type of doubling resembles pronominal subject doubling discussed in the previous section in a couple of respects.

One resemblance between subject doubling and demonstrative doubling concerns the meaning of doubling. Demonstrative doubling, just like subject doubling, leads to a focus interpretation of the pronoun (see Corver and van Koppen, in press).

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[6] There are at least two other doubling patterns in clauses. The first involves doubling in which the doubled clitic pronoun appears on the complementizer in subordinate clauses (complementizer doubling); we will discuss this pattern below. The second involves doubling in subject initial main clauses. This type of doubling is significantly different from the pattern discussed in this paper in that it has different syntactic and semantic properties. We leave subject doubling in subject initial main clauses out of consideration in this paper. We refer the reader to van Craenenbroeck and van Koppen (2008) for a detailed discussion of the differences between these two types of subject doubling.

Another similarity with subject doubling is that demonstrative doubling always follows the pattern in which a weaker element (the definite article) precedes the stronger pronominal form (the demonstrative pronoun). We could even go one step further. Since definite articles are generally thought to have developed out of demonstrative pronouns in Dutch (see Van der Horst, 2008 among others), it patterns exactly the same as subject doubling: the strong version of the pronoun is doubled by a weaker version of the same element. Moreover, demonstrative doubling is restricted to pronouns and cannot take place with full DPs, as shown in (8) (from Corver and van Koppen, in press).

(8)   (*de)   dien   opa
        the   that   grandfather
        'that grandfather'   [Asten Dutch]

Investigating this phenomenon through the MIMORE database it turns out that the geographic distribution is quite similar to the distribution of subject doubling. Consider the map in (9).

(9)   **Map of demonstrative doubling**
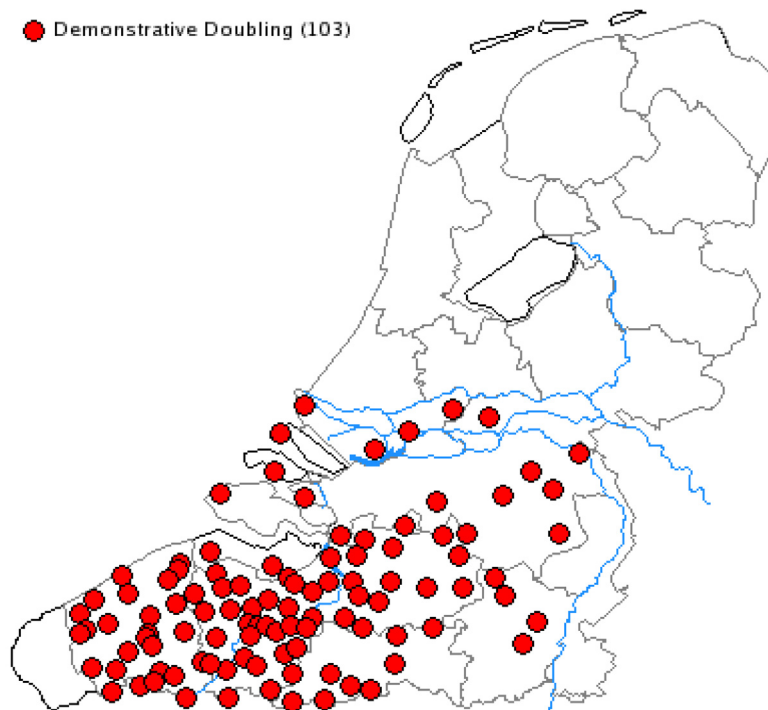
This map shows that demonstrative doubling occurs in the Dutch provinces of North-Brabant, Sealand and South Holland and the Belgian provinces of West- and East-Flanders, Antwerp and Flemish Brabant. There is a substantial overlap between the geographical distribution of demonstrative doubling and subject doubling, i.e. between the maps in (5) and (9).

3.3. Distinguishing three dialect areas: empirical correlations between subject doubling and demonstrative doubling

3.3.1. Introduction

The previous subsection already showed that there are several empirical and geographical similarities between pronominal doubling in the CP domain and demonstrative doubling in the DP domain. This section shows how the MIMORE tool can help to further our understanding about these similarities by combining data from the different databases.

First of all, let us look at the map in (10) that combines demonstrative doubling in DP and subject doubling in CP.

(10) Map of subject doubling in the second person and demonstrative
doubling
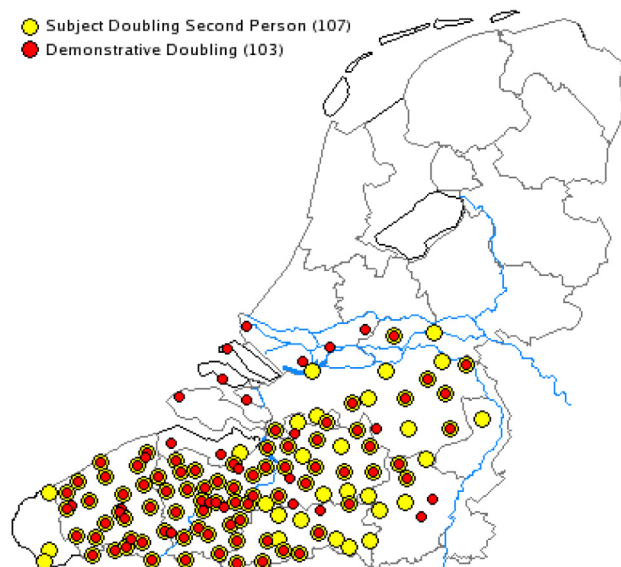
This map shows that the geographical overlap of the dialect areas with demonstrative doubling and subject doubling is almost perfect, including the Belgian provinces of East- and West-Flanders, Brabant and Antwerp and the Dutch province of North-Brabant.

There are dialects that do not show both properties on this map. First of all, there is a rather large cluster of dialects in Sealand and South Holland that have demonstrative doubling, but not subject doubling. We will come back to those dialects in the next subsection. There is also quite a large group of dialects that seems to have subject doubling but not demonstrative doubling. These dialects were part of the investigations performed for the SAND-project but not for the DiDDD-project. The DiDDD-project had a lot of translation and judgment tasks in which demonstrative doubling was targeted. The SAND-project, on the other hand, asked only one question targeting demonstrative doubling, namely a judgment and translation task of the sentence in (11) below. This probably explains why the dialects that were only part of the SAND-project do not show a uniform pattern concerning demonstrative doubling.

(11)   De   die   zou   ik   niet   durven   opeten.
         the that would   I   not   dare   up.eat
         'I wouldn't dare to eat that one.'

Demonstrative doubling was not questioned as part of the SAND-project in French Flanders and the Dutch province of North-Brabant, which explains that these dialects do not appear to have this type of doubling on the map in (11). For the other Flemish and Belgian Brabantish dialects we assume that informants judged this sentence as ungrammatical because of the lack of context in which this sentence was asked. As already indicated above, demonstrative doubling requires a strong contrastive context. Confronting informants with this sentence without the required contrastiveness might result in ungrammaticality for some speakers.[7]

An indication that the correlation is robust and restricted to the Flemish and Brabantish area comes from the data from the written questionnaire that served as a pilot study within the SAND project. These data show that 21 dialects in North-Brabant which are not on the map in (11) because they were neither part of the oral interviews of SAND nor of the DIDDD

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[7] An anonymous reviewer notes that the dialects that seem to lack demonstrative doubling are mainly found in the Brabantic dialects of Belgium and not in the Flemish ones. We do not think that the pattern found on the map displays a real difference between these two dialect groups. We rather think that this might have something to do with the difference in methodology between these two dialect areas: it is very well possible that the fieldworker(s) in the Flemish area pushed the informants a bit further when they said the sentence in (11) was ungrammatical, whereas the one (s) in the Brabantic area did not. Although more research into this is necessary, we also know from our own informal observations that demonstrative doubling is as pervasive in the Brabantic area as it is in West- and East-Flanders.

project do have demonstrative doubling. For Antwerp the number of additional demonstrative doubling dialects is 11, for Belgian Brabant 5, East-Flanders 7 and West-Flanders 6.[8]

3.3.2. Apparent exceptions to the correlation

As was noted in the previous subsection, one group of dialects that have demonstrative doubling but not subject pronoun doubling (dialects with only red dots on map 11) cluster together to the north-west of the core doubling area, namely the Sealandic islands Schouwen-Duiveland and Tholen and the South Hollandic islands of Goeree-Overflakkee and Voorne Putten, including the dialects of Scherpenisse, Zierikzee, Ouddorp and Oostvoorne.

The demonstrative doubling pattern in these dialects differs from that in the core doubling area. More in particular, demonstrative doubling in these dialects appears to be a non-productive relict. To see this, we will compare a dialect from the core doubling area, the Northern Brabantish dialect of Asten in (12) with a representative dialect from the exceptional area, the Sealandic dialect of Zierikzee in (13).

(12) a. die-n   /dizzen   opa
          that-$_{masc}$ this-$_{masc}$ grandpa
          'that/this grandpa'

      a′. de-n   die-n   / de-n   dizze-n
           the-$_{masc}$ that-$_{masc}$ the-$_{masc}$ this-$_{masc}$
           'that/this one'

      b. die   / dees   tante
          that-$_{fem}$ this-$_{fem}$ aunt
          'that/this aunt'

      b′. de   die   / de   dees
           the-$_{fem}$ that-$_{fem}$ the-$_{fem}$ this-$_{fem}$
           'that/this one'

      c. da   / di   kind
          that-$_{neut}$ this-$_{neut}$ child
          'that/this child'

      c′. da   / di
           that-$_{neut}$ this-$_{neut}$
           'that/this one'   [Asten Dutch]

(13) a. die / deze opa
          that this grandpa
          'that/this grandpa'

      a′. den diejen / $^{??}$den dizzen
           the that   the this
           'that/this one'

      b. die / deze tante
          that this aunt
          'that/this aunt'

      b′. den diejen / $^{??}$den dizzen
           the that   the this
           'that/this one'

      c. dat   / dit   kind
          that-$_{neut}$ this-$_{neut}$ child
          'that/this child'

      c′. den diejen
           the that
           'that/this one'   [Zierikzee Dutch]

The demonstrative pattern in the dialect of Asten is completely regular. There are different forms of the demonstrative pronouns depending on gender (and number) on the one hand and proximal/distal features on the other. The demonstrative pronouns in attributive (i.e. modifying a noun) (12)a–c and substantive use (i.e. occurring without a(n overt) noun) (12)a′–c′ are exactly the same. The definite article in the substantive use shows the same difference between masculine and feminine as the demonstrative pronoun, namely an additional n-affix for the masculine form. This n-affix is also found on definite articles in regular masculine DPs, like *den timmerman* 'the carpenter'. In short, the demonstrative doubling pattern in this dialect is completely transparent indicating that we are dealing with a true instance of doubling in this case where feminine definite articles double feminine demonstrative proximate or distal pronouns and masculine definite articles double masculine proximate or distal demonstrative pronouns.[9]

The Zierikzee dialect, on the other hand, shows a different pattern. The demonstrative pronouns in attributive contexts (13) a–c are not the same as the ones used in substantive contexts (13)a′–c′. The attributive context makes a distinction between neuter and non-neuter contexts, but not between masculine and feminine gender, just as in Standard Dutch. The substantive forms of the demonstrative do not seem to make a gender difference at all. They use the form *den diejen* both for common and neuter nouns. This form shows an n-affix, as we also just saw in the Asten paradigm. However, this n-form does not seem to signal gender (anymore). There is no productive use of the n-form in this dialect, i.e. masculine singular words such as *timmerman* 'carpenter' do not get the form *den* as a definite article, but rather the non-neuter definite article *de*. Furthermore, the informants are unsure about the use of demonstrative doubling with proximate rather than distal demonstratives. This all seems to suggest that we are not dealing with a case of doubling here, but rather with a lexicalized relic form of the demonstrative pronoun that is used in all substantive contexts, irrespective of the gender and proximal/distal features of the DP.

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[8] The relevant data can be found at http://www.meertens.knaw.nl/sand/zoeken/lijst_met_testzinnen.php?zins_id=317&sortering=nr_ nieuw&testzin_tekst=de+die&en_of=en. It will be clear that a statistical analysis of the correlations is impossible given that the set of locations involved in SAND-written, SAND-oral and DIDDD only partly overlap. Although the written data are usually considered to be less reliable than the oral data, for many phenomena they show a very similar geographic distribution which is why we think it is important to mention them as additional support for the correlation.

[9] There is no doubling in the neuter in this dialect. We refer the reader to Corver and van Koppen (in press) for a detailed discussion of this.

In short, we assume that the Sealandic dialects do not display demonstrative doubling, but rather have a lexicalized substantive pronoun that has the appearance of demonstrative doubling. We will leave these dialects out of consideration in the remainder of this paper.

3.3.3. Three dialect areas

The map in (10) already shows that there is a geographical correlation between subject doubling and demonstrative doubling. This leads us to a first split of dialect areas: those that allow doubling and those that do not, like Northern Standard Dutch, but also the Dutch dialects spoken in the other regions of The Netherlands and Belgium. In this section we will show that we have to make the correlation more precise. The doubling area should be split into two distinct areas.

First of all, dialects differ in the extent to which they allow subject doubling. More precisely, it is not the case that all dialects allow subject doubling in all person/number combinations. Consider the map in (14) that shows subject doubling in the second person, the third person and demonstrative doubling.

(14) Map of demonstrative doubling and subject doubling in the second person and third person plural
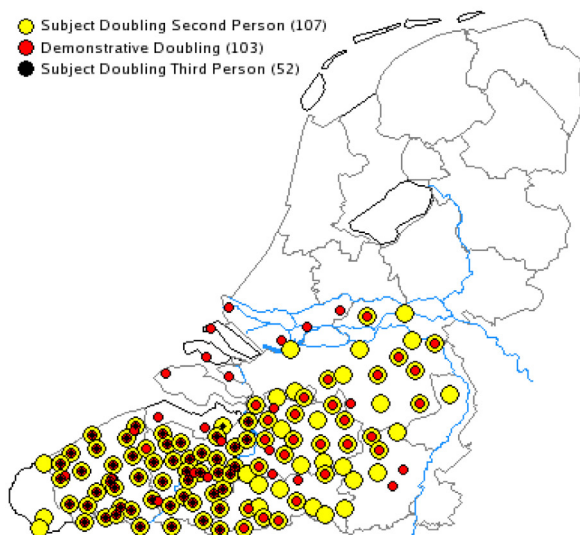
This map clearly shows that doubling in the third person plural is only possible in East- and West-Flanders, whereas doubling in the second person and demonstrative doubling cover a much wider area.[10] In general it seems to be the case that Flemish (spoken in East and West Flanders) has a complete subject doubling paradigm, whereas Brabantish (spoken in North-Brabant, Antwerp and Brabant) only shows doubling in the second person (see also van Craenenbroeck and van Koppen, 2014). We illustrate this with two representative examples from the relevant dialect areas, i.e. the North-Brabantish dialect of Asten in (15) and the Flemish dialect of Lokeren in (16).[11]

(15)				(16)			
	a.	Leef	ik		a.	Peize-**k**	**ik**
		live	I			think-I	I
	b.	Leef-**de**	**gij**		b.	dee-**de**	**gij**
		live-you	you			did-you	you
	c.	Leeft	ze		c.	dee-**se**	**sij**
		live	she			did-she	she
	d.	Leve	we		d.	dee-**me**	**wij**
		live	we			did-we	we
	e.	Leef-**de**	**gullie**		e.	dee-**de**	**gulder**
		live-you	you			did-you	you
	f.	Leve	ze		f.	deen-**ze**	**zulder**
		live	they			did-they	they

---

[10] Recall that we are not looking at subject initial sentences in this paper (see footnote 6).

[11] We are aware of the fact that the verbs in these examples are not minimal pairs. This is so because the SAND-project (where the data are from) does not provide us with minimal pairs in this case. We have no reason to think, however, that the lexical content of the verb has any bearing on the possibility of subject doubling.

We identify a split within the doubling dialects between the Flanders dialects (generalized doubling) and the others (second person doubling only). This means that descriptively we can distinguish between two dialect areas within the region that allows doubling: (i) the Brabantish area with demonstrative doubling and pronominal doubling in the second person and the Flemish area with demonstrative doubling and pronominal doubling in all person/number combinations.[12]

The extent to which Flemish and Brabantish allow subject doubling is not the only difference between these two dialect areas. The type of sentences that allow subject doubling also differs. As we have seen subject doubling can take place after a finite verb. However, subject doubling is also possible in subordinate clauses in which case the clitic pronoun attaches to the complementizer. An example is given in (17).

(17)   …da-**de**   **gij**   eerder   thuis   zult   zijn   dan   ikke.
        that-you_clitic you_strong sooner   home   will   be   than   I
        '…that you will be home sooner than me.'   [Ossendrecht Dutch]

This type of subject doubling is similar to subject doubling in main clauses with respect to meaning, order and the restriction to pronominal subjects (cf. section 3.1). However, here again we see a difference between East- and West-Flanders and the rest of the doubling area, as is shown on the map in (18).

(18)   Map subject doubling after V and after C

- ○ Subject Doubling 2nd after V (106)
- ● Subject Doubling 2nd after C (66)
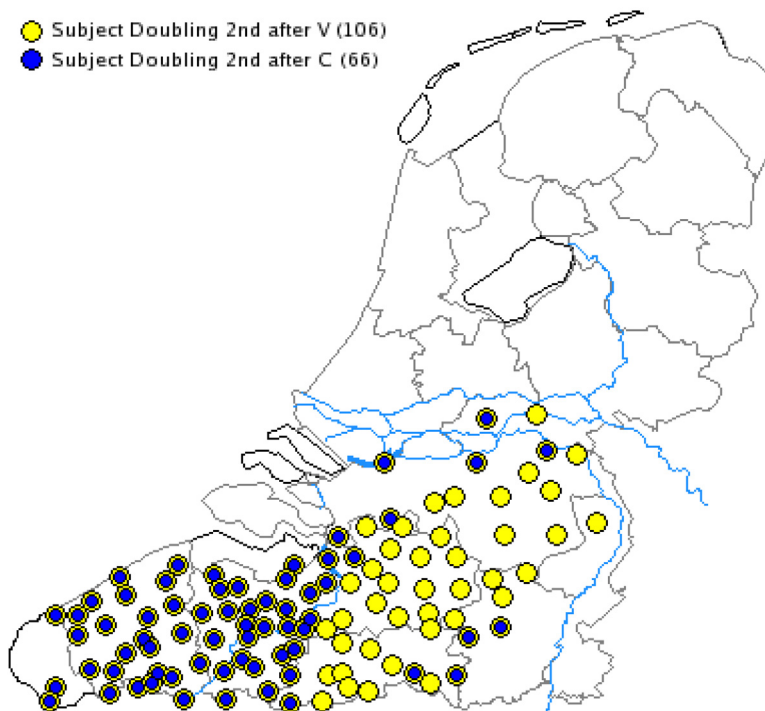
This map clearly shows that Brabantish has demonstrative doubling and subject doubling in the second person singular in VS-sentences (i.e. Verb-Subject sentences, main clauses in which the finite verb precedes the subject). Flemish, on the other hand also allows subject doubling in embedded clauses.[13]

3.3.4. Summary

We have seen that there are three types of dialects. The first division is between doubling dialects, displaying both doubling of the subject and doubling of the demonstrative pronoun, and non-doubling dialects, such as standard Dutch

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[12] De Vogelaer (2005/2008 and references cited there; cf. also SAND I, map 52a) notes that the Brabantish dialects also seem to have doubling in the first person singular. However, closer inspection reveals that what looks like doubling on the surface can be argued to be a relict form of the pronoun, rather than an instance of doubling. De Vogelaer also discusses work by De Schutter (1997, 2005) who claims that doubling in the second person in Brabant are actually also relict forms of the pronoun rather than instances of true doubling. De Vogelaer (2005:253–258) shows that although this hypothesis might be justified for some Brabantish dialects, there are also clear cases of doubling in these dialects.

[13] There are some exceptions in North Brabant and Belgian Limburg where there appears to be doubling in embedded contexts. We will leave the examination of these individual dialects for future research and concentrate on the more general pattern we can observe here.

and the northern/eastern Dutch dialects. The doubling dialects can be further split up with respect to their subject doubling behavior, into: (i) Brabantish where subject doubling is restricted to the second person in inverted main clauses, (ii) Flemish with generalized subject doubling (in all person/number combinations and both in inverted main clauses and embedded clauses). Although there are differences between the two doubling areas, we have also identified some empirical similarities between subject doubling and demonstrative doubling that hold for all doubling dialects: (i) in both cases there is a strong and a weak version of the same pronoun, (ii) the pronouns appear in the order weak-strong, and (iii) subject doubling and demonstrative doubling involve a focalized meaning.

3.4. From three to four dialect regions: adding complementizer agreement and fronting in imperatives

This subsection will add two more empirical phenomena, independent from doubling, that will further clarify the properties of the dialect areas under consideration: the first is complementizer agreement and the second fronting in imperatives. The latter property shows furthermore that the Brabantish dialect area should be further divided into two dialect regions: North-Brabantish and South-Brabantish.

3.4.1. Complementizer agreement

Complementizer agreement, already illustrated in (1)c above and repeated here as (19), is the phenomenon whereby the complementizer carries subject agreement inflection, similar to the finite verb.[14]

(19)   **A-*n***   ze   vur   under   werk   leven, . . .
        if-agr   they   for   their   work   live, . . .
        'If they live for their job, . . .'   [Lokeren Dutch]

Complementizer agreement is found in several Dutch dialects, as is illustrated in the map in (20).[15]

(20) **Map of Complementizer Agreement**

- ○ Subject Doubling Second Person (107)
- ● Demonstrative Doubling (103)
- ● Complementizer Agreement (77)

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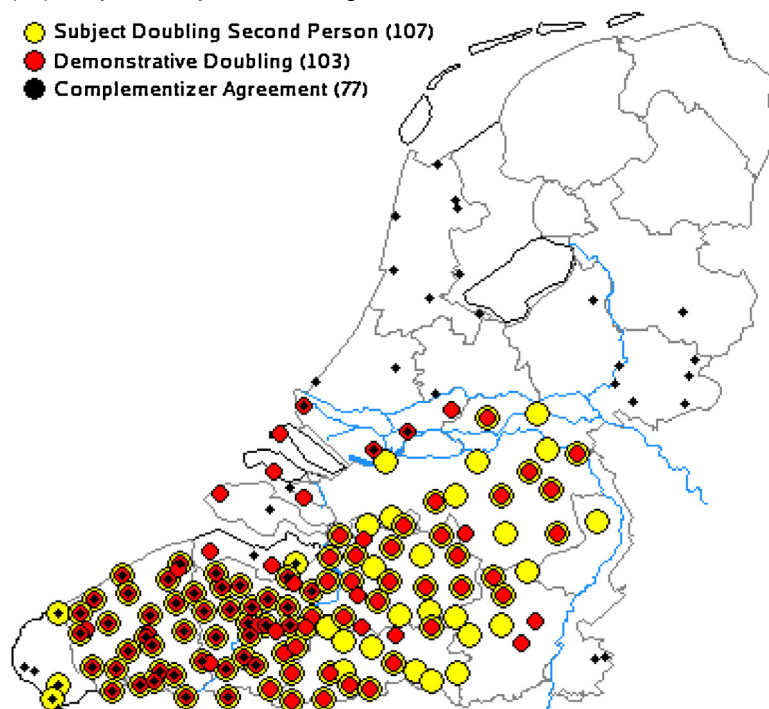
[14] For an in depth discussion of the properties of complementizer agreement in the Germanic dialects we refer the reader to van Koppen (in press).
[15] This map provides complementizer agreement in the third person plural and not for the complete paradigm, because that would needlessly complicate the picture. Cf. De Schutter (1994) for a discussion of the potential correlation between complementizer agreement and subject doubling. As can be observed from the maps in Barbiers et al. (2005), the Brabantish dialects do not show complementizer agreement in any person/number combination.

This map shows the correlation between the doubling dialects and complementizer agreement in the third person plural: The Flemish doubling dialects display complementizer agreement, whereas the Brabantish dialects do not. This confirms our earlier finding that the Flemish doubling dialects and the Brabantish doubling dialects have slightly different properties.[16]

3.4.2. D-pronoun fronting in imperatives

The second property that we discuss concerns the possibility to front distal D-pronouns in imperative clauses. Although this phenomenon appears to be unrelated to pronoun doubling at first sight, we will demonstrate in section 5.2 that it is crucial for the understanding of doubling from a theoretical perspective. Consider the data in (21) (from Barbiers, 2013).

(21)   a.   Da/*Da   boek   lees   maar!
            That/that   book   read   PARTICLE
            'Read that!'   [North-Brabantish]
       b.   *Dat/Dat boek   lees   maar!
            That//that book   read   PARTICLE   [standard Dutch]
       c.   Das/Das Buch   lies   besser   nicht!
            That book/That   reads   better   not
            'You better not read that book.'   [German]

German generally allows fronting in imperatives, see (21)c. This means that it can front DPs such as *Das Buch* 'that book' but also all sorts of other elements. This is categorically ruled out in most varieties of Dutch, see (21)b. North-Brabantish and some other Dutch dialects are in between German and the other varieties of Dutch in this respect, because this dialect can front distal pronouns, see (21)a. The distribution of this phenomenon correlated with subject doubling has been provided in the map in (22) below. This map shows that the doubling dialects can be further divided into those that do and those that do not show fronting in imperatives. In particular the Brabantish doubling dialects should be split up into the North-Brabantish dialects (spoken in the Dutch province of North-Brabant) that have doubling and fronting in imperatives and the South-Brabantish dialects (spoken in the Belgian provinces of Antwerp and Brabant) that have doubling but do not allow fronting in imperatives.[17]

(22)   Map of Fronting in imperatives and subject doubling
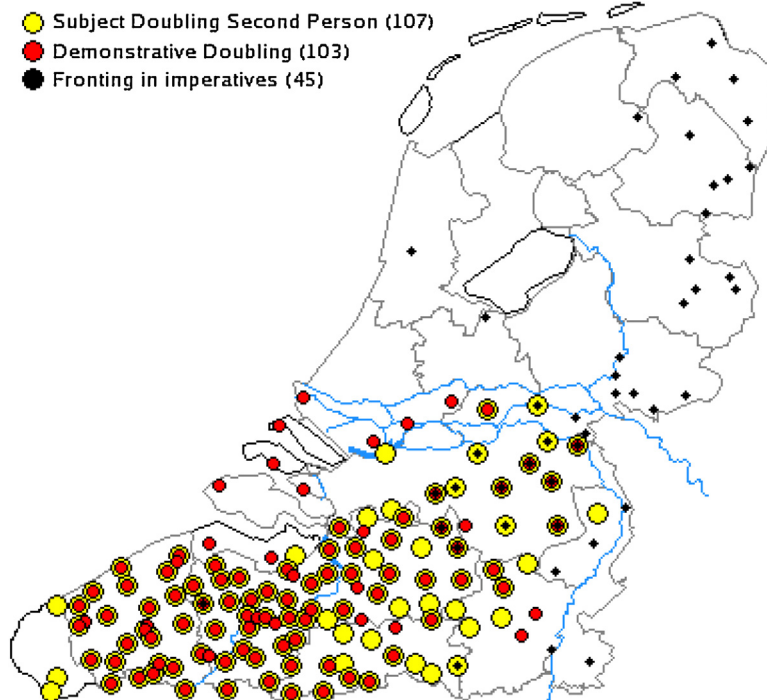
[16] As map 20 shows, we also find complementizer agreement outside of the core dialect area under consideration in this paper, for example in dialects spoken in South Holland and the dialects spoken on the border with Germany.

[17] Cf. Barbiers, 2013 for the status of the eastern and north-eastern dialects on map 21 outside the doubling area that have distal D-pronoun fronting in imperatives.

3.5. Summary

To summarize, we have identified four different dialect areas, with the following properties:

Dutch

- No subject doubling
- No demonstrative doubling
- No fronting in imperatives
- No complementizer agreement

Flemish

- Generalized subject doubling
- Demonstrative doubling
- No fronting in imperatives
- Complementizer agreement

South-Brabantish

- Only subject doubling in the second person
- No subject doubling after a complementizer
- Demonstrative doubling
- No fronting in imperatives
- No complementizer agreement

Northern Brabantish

- Only subject doubling in the second person
- No subject doubling after a complementizer
- Demonstrative doubling
- Fronting in imperatives
- No complementizer agreement

The remainder of this paper aims to provide an explanation for the variation between these dialects by proposing two parameters. The first parameter, introduced in section 4, distinguishes the doubling dialects, Flemish and Brabantish, from the dialects that do not allow doubling at all, i.e. for instance standard Dutch. This parameter also accounts for the fact that only the North-Brabantish dialects have fronting in imperatives. The second parameter, discussed in section 5, differentiates between the dialects with a generalized doubling pattern, i.e. Flemish, and the dialects with the more restricted pattern, i.e. Brabantish.

4. The doubling parameter

In the previous section we reached the conclusion that there is a correlation between dialects that allow doubling of the demonstrative pronoun and dialects that allow subject doubling in the second person singular. But we also saw that subject doubling comes in two flavors: (i) the Flemish type, i.e. generalized subject doubling in all person/number combinations and sentence types and (ii) the Brabantish type, i.e. subject doubling restricted to the second person and to inverted main clauses. This section will provide an account for this variation pattern. However, before we can go into the exact nature of the variation, we first have to establish our view on the internal structure of DPs in general and doubled demonstrative and subject pronouns in particular.

4.1. Prerequisite of the analysis: the internal structure of doubling

Before we provide the parameters underlying the variation discussed in this paper, we will first discuss our view on the internal structure of pronouns. We basically follow among others Déchaine and Wiltschko, 2002 (2002), Barbiers et al. (2008, 2009), van Craenenbroeck and van Koppen (2008) in assuming that pronouns are complex and consist of the

following layers: DP, φP and NP.[18] We furthermore assume that the DP is dominated by a CP level, basically proposing a complex left periphery in the nominal domain parallel to the clausal domain (cf. Szabolcsi, 1994). To avoid confusion and to distinguish this CP from the CP at the clausal level we will speak of nominal vs. clausal CPs, or CnP vs. CP. This leads to the structure in (23).

(23) **Base structure of pronouns**
 $[_{CnP} [_{Cn} [_{DP} [_{D} [_{φP} [_{φ}[NP]]]]]]]$

One function of the CnP layer in nominal groups is similar to the CP layer in the clausal domain, namely for focus, topic and ellipsis (cf. Szabolcsi, 1994; Giusti, 1996; Bernstein, 1997, 2001; Bennis et al., 1998; Haegeman, 2004; Aboh, 2004; Aboh et al., 2010).

Following van Craenenbroeck and van Koppen (2008) we assume that the internal base structure of a clitic doubled pronoun is as in (24). The weak pronominal *de* is a spell out of the pronominal features in φP and the strong pronoun *gij* is generated in SpecDP.

(24) **Base structure of doubled subjects**
 $[_{CnP} [_{Cn} [_{DP} gij [_{D} [_{φP} [_{φ} de [NP]]]]]]]$

Given that subject doubling implies focus of the subject (see section 3), part of the doubled subject should be moved into the CnP. We will argue below that it is either φ or φP that moves into the left periphery of the nominal domain.

In regular nominal projections with a lexical noun and modifiers, φP contains the projections for the noun and attributive modifiers and DP contains the determiners. This means that in a normal attributive construction, the demonstrative pronoun is in SpecDP and the noun and adjectival modifiers are within φP. This is illustrated in (25).

(25) **Base structure of 'regular' DPs**
 $[_{DP}$ die $[_{D} [_{φP} [_{φ} [_{NP}$ leuke opa$]]]]]$
    that   nice   grandfather

Now let us consider the internal structure of doubled demonstratives. As already introduced above, the demonstrative doubling construction is only possible when there is no overt noun in the nominal group. Dialects that do not have this construction (such as Standard Dutch) use a bare demonstrative in such cases. This is illustrated in (26) and (27).

(26) a. Die man gaat naar huis.
       that man goes to house   [All Dutch dialects]
       'That man is going home.'
    b. *De die man gaat naar huis.
       the that man goes to house   [All Dutch dialects]

(27) a. De dieje gaat naar huis.
       the that goes to house
       'That one is going home.'   [Doubling dialects]
    b. (*De) die gaat naar huis
       the that goes to house
       'That one is going home.'   [Non-doubling dialects]

The information structure of the sentences in (27) is such that the noun is silent and will be interpreted through contextual information only. The demonstrative doubling construction in (27)a does not allow nominal modifiers such as numerals and attributive adjectives (28)a. On the other hand, *die* 'that' without *de* (27)b does allow the presence of numerals and adjectives, as is shown in (28)b.

(28) a. De   dieje   (*twee) (*rode) liggen op de   tafel.
        the   those   two   red   are   on the   table
     b. Die   (twee) (rode) liggen op   de tafel.
        those two   red   are   one   the table

---

[18] φ refers to the set of pronominal features, such as person, number and gender. φP is the projection that contains those features in a nominal phrase. NP, with the base position of the noun as its head, is embedded in φP.

Following Corver and van Koppen (2009, in press) we take this to mean that *de* replaces the functional and lexical structure that host numerals, adjectives and nouns, capturing the observations in (26)–(28). This leads to the structure in (29).

(29) **Base structure of demonstrative doubling**
      [$_{CnP}$ [$_{Cn}$ [$_{DP}$ die [$_{D}$ [$_{φP}$ de]]]]]

(30) **Base structure of doubled subjects**
      [$_{CnP}$ [$_{Cn}$ [$_{DP}$ gij [$_{D}$ [$_{φP}$ de]]]]]

The structure in (29) is identical to the one in (24), repeated here for convenience as (30), capturing the similarities between these constructions: the strong pronoun in the doubling construction starts out in SpecDP and the weaker version realizes φP. We assume that the *de*-element we see in second person subject doubling is actually the same element as the *de*-element in demonstrative doubling, pulling the analyses of these two constructions together even more. The only difference between (29) and (30) is the pronominal element in SpecDP: a strong pronoun in (30) and a demonstrative in (29).

4.2. Part 1 of the doubling parameter: doubling vs. non-doubling dialects

We hypothesize that the main difference between doubling and non-doubling dialects is that the former have a spell-out for φP, whereas the latter do not. Put differently, the doubling dialects have a pronoun in their lexicon that can realize the φP level, such as *de* in (29) and (30), whereas in the non-doubling dialects all pronouns, including the weaker ones are spelled out at the DP-level (see also van Craenenbroeck and van Koppen, 2008 for a similar line of reasoning).[19] We will start with a discussion of doubling in West- and East-Flemish in this subsection. We return to doubling in the Brabantish area (i.e. the area where subject doubling is restricted to the second person singular) in the next subsection. The somewhat simplified derivation of a Flemish example of subject doubling in (31) is illustrated in (32).

(31) Leef-de   gij   langer?
      live-you$_{clitic}$ you$_{strong}$ longer
      'Do you live longer?'   [Oosteeklo]

(32) **Derivation for Flemish dialects (subject doubling and demonstrative doubling)**
      (i) **base structure**
           [$_{CnP}$ [$_{Cn}$ [$_{DP}$ *die/gij* [$_{D}$ [$_{φP}$ *de*]]]]]
      (ii) **φP to SpecCnP**
           [$_{CnP}$ [$_{φP}$ *de*] [$_{Cn}$ [$_{DP}$ *die/gij* [$_{D}$ [$_{φP}$ *de*]]]]]
      (iii) **φP extraction from nominal CnP (subject doubling only)**
           [$_{CP}$ [$_{φP}$ *de*] [$_{TP}$ [$_{VP}$ . . . [$_{CnP}$ [$_{φP}$ *de*] [$_{Cn}$ [$_{DP}$ *gij* [$_{D}$ [$_{φP}$ *de*]]]]]]]]

The crucial step is the movement of φP (*de*) to SpecCnP in (32)ii. This derives the *de-gij* and the *de-die* order.[20] We need one additional step, however. We know from previous work (see van Craenenbroeck and van Koppen, 2008 and references cited there) that the clitic and the strong pronoun in subject doubling do not form one constituent at the end of the derivation, as the two pronouns can be separated from each other by an object clitic implying that the subject clitic *de* has been moved into the clausal CP-domain, see the example in (33). We therefore assume that φP is extracted from CnP, moving into some clausal position (e.g. clausal CP). We will return to this issue below.

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[19] van Craenenbroeck and van Koppen (2002, 2008) provide several arguments that show that the pronominal inventory of the non-doubling dialects is different from that of the doubling dialects. They furthermore show that this difference is responsible for the lack of doubling in the non-doubling dialects. The same reasoning also accounts for the fact that doubling is restricted to subjects in the relevant dialects: the pronominal structure of object pronouns is such that doubling is not possible.

[20] Note that the movement of the subject clitic *de* into the left periphery is motivated by the later movement operation from this clitic into the clausal left periphery (for reasons that are orthogonal to this paper, but see van Craenenbroeck and van Koppen (2008)). The movement of the demonstrative *de* to the left periphery of CnP is not followed by a later step into the nominal left periphery. As a result one might expect that dialects differ in whether they move the clitic or the demonstrative to the nominal left periphery. If the demonstrative would move, rather than the clitic, we expect demonstrative forms of the type *die-de*. There are indeed dialects, as Corver and van Koppen (to appear) show where the demonstrative precedes the definite article, resulting in exactly this form.

(33) da   se   t   zaai   nie geduin eit.
      that she$_{clitic}$ it$_{clitic}$ she$_{strong}$ not done   has
      'that she hasn't done it.'

<div align="right">[Wambeek Dutch]</div>

Now let us turn to the bare demonstrative construction in (27)a, repeated here as (34).

(34) (*De) dieje gaat naar huis
      the   that   goes to   house
      'That one is going home.'   [Non-doubling dialects]

This is the only option in varieties of Dutch that do not have *de-gij* and *de-die*. The derivation of this example is provided below:

(35)   **Derivation of the bare *die/gij* constructions in varieties of Dutch**
   (i)   **base structure**
         [$_{CnP}$ [$_{Cn}$ [$_{DP}$ *die/gij* [$_D$ [$_φ$ ø]]]]]
   (ii) **φ to Cn**
         [$_{CnP}$ [$_{Cn}$ ø [$_{DP}$ *die/gij* [$_D$ [$_φ$ ~~ø~~]]]]]
   (iii) **Pronoun movement from SpecDP to SpecCnP**
         [$_{CnP}$ [$_{DP}$ *die/gij*] [$_{Cn}$ ø [$_{DP}$ ~~die/gij~~ [$_D$ [$_φ$ ~~ø~~]]]]]

We assume that the non-doubling dialects have basically the same structure as the doubling dialects. The difference is that the doubling dialects have a spell-out for φP, in contrast to the non-doubling dialects. We assume that the non-doubling dialects have movement of φ to Cn, as in (35)ii.[21] Movement of φ to Cn does not take place in the derivation of pronoun doubling in Flemish because there is phrasal spell out of φP. As a consequence, φ is not available for movement in Flemish and φP must move as whole (as in (32)ii). Finally, we assume that the demonstrative and the strong pronoun move into the CnP-domain in the non-doubling varieties of Dutch (35)iii. It is generally assumed that a focalized meaning is the result of the movement of the focalized phrase into the left periphery of a clause. This is established in doubling dialects by movement of the weak pronoun (*de*) to the Cn-domain, whereas it is the result of the movement of the (strong) pronoun to SpecCnP in non-doubling dialects.

In short, the difference between the doubling and the non-doubling dialects has been brought back to a parameter related to the functional lexicon: dialects that have a lexical realization of the φP, and dialects that have no lexical item to express the feature set in φ. This is in line with the Minimalist ideas that variation is encoded in the lexicon, i.e. the so-called Borer-Chomsky conjecture (see Borer, 1984; Chomsky, 2000).

5. Parametric variation within the doubling dialects

5.1. Introduction

In this paragraph we discuss the occurring varieties of doubling in the southern dialects in Dutch language area: North-Brabantish, South-Brabantish and Flemish, with the following properties:

(36)	North-Brabantish	South-Brabantish	Flemish
Subject doubling	Restricted	Restricted	Non-restricted
Comp agreement	-	-	+
D-fronting imperatives	+	-	-

---

[21] The exact formulation is that φ moves to D and subsequently to Cn. We abstract away from this intermediate step since it is not crucial for our analysis here.

South-Brabantish has properties in common with both North-Brabantish (restricted subject doubling and the absence of complementizer agreement) and with Flemish (no distal D-pronoun fronting in imperatives). We will argue that the difference between these dialects boils down to (i) the type of movement that the *de* element undergoes and (ii) the trigger for this movement. In particular, we argue that *de* undergoes head movement in North-Brabantish, but phrasal movement in South-Brabantish and Flemish, explaining the option of fronting in imperatives in the former.[22] Furthermore, we argue that the Flemish dialects have a generalized requirement for the left periphery of the clause to be specified for the φ-features of the subject – a generalized φ-Probe in the CP-domain –, whereas the Brabantish dialects have the verb as a trigger for clitic movement, restricting the movement to clauses with verb-subject order and second person contexts.

The variation between Flemish on the one hand and Brabantish on the other will be discussed in section 5.3. The remainder of this paragraph discusses the split between North-Brabantish on the one hand and Flemish and South-Brabantish on the other. We argue that North-Brabantish distal pronoun fronting in imperatives and subject clitic doubling can be tied together if we assume that the subject clitic moves from the nominal left periphery into the clausal left periphery via head movement rather than XP-movement.

5.2. Specifying the doubling parameter: fronting in imperatives

In this subsection we will make the doubling parameter more specific by incorporating the data from *distal pronoun fronting in imperatives*, discussed in section 3.4.2. Reconsider the data in (21), repeated here as (37).

(37) a. {Da/*Da boek} lees   maar!
          That/that book read   PARTICLE
          'Read that!'   [North-Brabantish]
      b. *{Dat/Dat boek} lees   maar!
          That//that book   read   PARTICLE   [standard Dutch]
      c. {Das/Das Buch} lies   besser nicht!
          That book/That   reads   better   not
          'You better not read that book.'   [German]

Recall that German allows fronting in imperatives, standard Dutch does not and North-Brabantish is in between these languages, only allowing a subset of elements to undergo fronting in imperatives, namely distal pronouns. The explanation for these contrasts is based on the idea that an imperative clause must be marked for second person (cf. Portner, 2004; Zanuttini, 2007; Bennis, 2007) and the idea that second person must be analyzed as a combination of the interpretable variants of the features [Distal] and [Person] (Barbiers, 2013).

Barbiers (2013) provides the following analysis for the difference between Dutch, German and North-Brabantish. The imperative C-position has to be marked for second person, hence it has to acquire the feature set [iPerson, iDistal] (i.e. interpretable Person and Distal features) in the course of the derivation. There are various ways to accomplish that. There are, for instance, languages where the verb has the features [iPerson, iDistal] and moves to C. Such languages have unique forms for the imperative in the verbal paradigm. German is such a language, as is illustrated in (38).

(38) a. ich nehme
          I take
      b. du nimmst
          you take
      c. sie/er nimmt
          she/he takes
      d. wir nehmen
          we take
      e. ihr nehmt
          you take
      f. sie nehmen
          they take
      g. nimm!
          take!

---

[22] Recall that we have argued in section 4.2 that the φ-features of northern Dutch dialects, which do not have a lexical spell out of φ, move to the Cn position as an instance of head movement as well. We thus observe a distinction between dialects in the Netherlands and Belgian dialects in the type of movement to the C-domain: head movement in the Netherlands and phrasal movement in Belgium.

In these languages, SpecCP is still available and as a result fronting is freely available. In languages that do not have unique forms for the imperative, however, such as Dutch and most of its varieties, movement of the finite verb into C is not enough to provide C with the relevant feature set. Consider the paradigm of the Dutch verb *nemen* 'to take' in (39) which clearly illustrates this point.

(39) a. ik neem
          I take
      b. jij neemt
          you take
      c. zij/hij neemt
          she/he takes
      d. wij nemen
          we take
      e. jullie nemen
          you take
      f. zij nemen
          they take
      g. Neem!
          take!

As a consequence, the second person *pro* subject, i.e. a silent pronoun with the feature bundle [iPerson, iDistal], must move to SpecCP. SpecCP shares its features with the C-head and consequently C will be marked for second person. As a result, SpecCP is unavailable in these dialects and hence fronting of other constituents is blocked. We have schematically represented the difference between German and standard Dutch in (40).

(40) Schematic representation of imperative fronting in German and Dutch

		Spec,CP	C	Spec,IP	I
a.	German no fronting		V {iPerson,iDistal} nimm	pro	~~V~~
b.	German with fronting	Das Buch	*lies*	pro	
c.	Dutch	*pro* {iPerson,iDistal}	V neem	~~pro~~	~~V~~

In North-Brabantish, there is no specific form of the verb for imperative clauses either. However, as illustrated in (17) above, the North-Brabantish dialects have the clitic pronoun *de* in the second person. Now, if we assume that this clitic moves into the CP-domain (see below)[23] in these dialects, we can explain why North-Brabantish has fronting in imperatives. Recall that the only category that can be fronted in North-Brabantish is a distal D-pronoun (37)b. Another option is that nothing is fronted. Barbiers (2013) takes this to mean that there are two possible scenarios, capturing the fact that distal D-pronoun fronting is optional in North-Brabantish and fronting of other constituents is impossible. The first derivation is exactly the same as that of standard Dutch, resulting in a structure without a fronted constituent. In this case *pro* with the bundle [iPerson, iDistal] moves to SpecCP correctly marking the clause as second person, and no further fronting is available. The second derivation is that a distal D-pronoun moves up to SpecCP. As a result we have the feature [iDistal] in SpecCP. This means that the clitic pronoun *de* must have the feature [iPerson] in C. Together they are able to mark the imperative clause as [iPerson, iDistal], i.e. as second person. These analyses are summarized by the derivations in (41).

_____

[23] In this paper we will leave the question open why *de* is not spelled out overtly in North-Brabantish imperatives.

(41) Schematic representation of imperative fronting in North-Brabantish

		Spec,CP	C	Spec,IP
a.	NB no fronting	*pro* {iPerson,iDistal}	V {iPerson} *lees*	~~pro~~
b.	NB with fronting	*Da* {iDistal}	*lees* {iPerson}	pro

The conclusion is that Fronting in imperatives is possible in Brabantish because the *de*-pronoun has the feature specification [iPerson] and moves to C via head movement. The other dialects with subject doubling do not have head movement of the second person clitic pronoun, but XP-movement, preventing fronting in imperatives.

To summarize, we can formulate the following parameter:

(42) Doubling parameter
   a.   Dialects do or do not have a spell-out for the clitic part of the (demonstrative or personal) pronoun
   B.   If they have a spell-out, the clitic moves via X° or via XP movement

The table below summarizes what the settings for this parameter are in the dialects under discussion:

(43) Table summarizing the relation between doubling parameter and dialect regions

No doubling	standard Dutch, South Hollandic, Sealandic
Doubling + XP movement	Flemish, South-Brabantish
Doubling + X° movement	North-Brabantish

5.3. The C-agreement parameter

The doubling parameter captures a substantial part of the behavior of the dialects under discussion: the fact that they have doubling or not and the way in which they behave in imperative clauses. The set of data we have not accounted for at this point is the way these dialects behave with respect to subject doubling (generalized in Flemish or restricted in Brabantish) and with complementizer agreement (possible in Flemish and impossible in Brabantish). We propose that the presence of complementizer agreement in a dialect signals the presence of a generalized φ-Probe in the CP-domain. For argumentation that this agreement Probe is in the CP domain and that it is different from the one resulting in verbal agreement, see van Koppen, 2005, 2012; Haegeman and van Koppen, 2012. Flemish dialects have complementizer agreement and consequently also this φ-probe, Brabantish dialects do not have complementizer agreement, and hence they do not have a generalized φ-Probe in the left periphery (for a similar suggestion see van Craenenbroeck and van Koppen, 2014).

We formalize this by introducing the φ-in-C parameter provided below.

(44)   **φ-in-C parameter**
         Dialects do or do not have a φ-Probe in C.

(45) Table summarizing the relation between φ-in-C parameter and dialect regions

+ φ-in-C	Flemish
- φ-in-C	Brabantish, standard Dutch

How this parameter explains the differences with respect to subject doubling in these dialects will become clear in the next section.

5.4. Summary

To summarize, we have reduced the properties described in section 3 above of the three dialects under discussion to two parameters: the doubling parameter and the φ-in-C-parameter. We have provided a table below showing how the dialects under discussion and the parameters interact:

(46) Table summarizing the relation between the parameters
and dialect regions

	-doubling	+doubling X-movement	+doubling XP-movement
+ φ-in-C	South Hollandic		Flemish
- φ-in-C	standard Dutch	North-Brabantish	South-Brabantish

The doubling parameter is provided in the horizontal dimension of this table, the φ-in-C-parameter in the vertical dimension. We have shown that standard Dutch has neither doubling (demonstrative or subject doubling) nor complementizer agreement and hence has a negative value for both parameter settings. South Hollandic has no doubling but it does have complementizer agreement. Therefore it has a positive setting for the φ-in-C-parameter but a negative setting for the doubling parameter. Flemish and South-Brabantish both have doubling and in subject doubling the clitic moves into the left periphery via XP-movement. This correlates with the fact that neither of these dialects have the option of fronting in imperatives. They differ with respect to complementizer agreement, however. Flemish does and (North- and southern) Brabantish do not have it. This means that the φ-in-C-parameter is set positively in Flemish, and negatively in Brabantish. There is one cell of the table not filled, namely the one in which there is a positive setting for doubling and subject doubling takes place via head movement and a positive setting for the φ-in-C-parameter. There are probably some individual dialects that belong in this cell, but we leave that for further research.

6. Derivations

This section discusses the derivation of the doubling configurations in Flemish (section 6.1) and North- and South-Brabantish (section 6.2). We will furthermore show how the φ-in-C-parameter explains the differences in doubling between Flemish and Brabantish.

6.1. Doubling in Flemish

We argue that the difference between Flemish and Brabantish with respect to subject doubling, boils down to the fact that Flemish requires the left periphery of the clause (the C-domain) to contain a φ-probe (see also van Craenenbroeck and van Koppen, 2014). Recall that whereas subject doubling in Flemish is generalized to all clause types and all person/number combinations of the subject pronouns, Brabantish only allows doubling in the second person in inverted main clauses. This φ-Probe in the left periphery of the clause in Flemish is present in all sentence types and hence always attracts a subject clitic (see Bennis, 2007). As argued for above, the subject clitic moves as an XP in these dialects. We have provided the derivation of subject doubling and demonstrative doubling in these dialects in (47).

(47) **Derivation for Flemish dialects**
(i) **base structure (see also (35) above)**
[$_{CnP}$ [$_{Cn}$ [$_{DP}$ *die/gij* [$_D$ [$_{φP}$ *de*]]]]]
(ii) **φP to SpecCnP**
[$_{CnP}$ [$_{φP}$ *de*] [$_{Cn}$ [$_{DP}$ *die/gij* [$_D$ [~~$_{φP}$ *de*~~]]]]]
(iii) **φP extraction from nominal CnP (subject doubling only)**
[$_{CP}$ [$_{φP}$ *de*] [$_{TP}$ [$_{VP}$ … [$_{CnP}$ [~~$_{φP}$ *de*~~] [$_{Cn}$ [$_{DP}$ *gij* [$_D$ [~~$_{φP}$ *de*~~]]]]]]]]

Flemish dialects do not have fronting in imperatives, because they does not allow the head movement of the [iPerson] features of the second person pronoun into C. This means that the only way in which the requirements of the imperative C can be fulfilled is by moving an empty subject into the SpecCP, thereby preventing fronting (see section 5.2).

6.2. Doubling in North- and South-Brabantish

The derivation of *de-die* and *de-gij* in these dialects runs as follows. In line with general theoretical assumptions (cf. Chomsky, 1995), there is a lexically determined option for the φ-features to move as a maximal projection [$_{φp}$ *de*] or as a head [$_φ$ *de*]. We assume, based on the behavior of North-Brabantish of fronting in imperatives, that Flemish and South-Brabantish take the first option and North-Brabantish takes the second. In the North-Brabantish area [$_φ$ *de*] moves to Cn, see (48)ii. This derives the surface orders *de-gij* and *de-die.*

(48)   Derivation for North-Brabantish dialects – to be continued
(i)   **base structure**
[$_{CnP}$ [$_{Cn}$ [$_{DP}$ *die/gij* [$_D$ [$_φ$ *de*]]]]]
(ii)   **φ to Cn**
[$_{CnP}$ [$_{Cn}$ *de* [$_{DP}$ *die/gij* [$_{φ}$ ~~de~~]]]]]

As already mentioned above, the derivation of *de-gij* does not stop here. The next step of the derivation differentiates between *de-die* and *de-gij*. As was already noted (see (49)iii) *de* in subject doubling moves from the nominal CnP into the clausal domain.

(49)   (iii)   *de* to clausal C
[$_{CP}$ [$_C$ V-*de* [$_{TP}$ . . . [$_{CnP}$ [$_{Cn}$~~de~~ [$_{DP}$ *gij* [$_D$ [$_φ$~~de~~]]]]]] [T . . ..

The question is what triggers the movement of *de* into the clausal domain.[24] It is clear that verb-subject orders are crucial for *de* to move out of the CnP. We suggest that this left peripheral Probe is made available by the movement of the finite verb into the clausal C-position. This verb contains an element with the feature [uPerson] (an uninterpretable feature Person) if it is second person. Let us explain that. In the second person, the person feature of the finite verb is uninterpretable – [uPerson] – as its form coincides with the third person in regular order and with the first person in inverted order. This is shown in (50)b.

(50)   a.   Ik   loop   /   loop   ik
              I   walk   /   walk   I
        b.   Jij   loopt   /   loop   jij
              you   walk-t /   walk   you
        c.   Hij   loop-t /   loop-t hij
              he   walk-t /   walk-t he

In order to allow [uPerson] in clausal C to become interpretable, V in C attracts [iPerson], i.e. *de*, from the nominal Cn position, giving rise to partial subject incorporation. This is shown in (51)iv.

(51)   Derivation for North-Brabantish dialects – final step
(iv)   **de to clausal C (final)**
[$_{CP}$ [$_C$ V$_{uPerson}$ −*de*$_{iPerson}$ [$_{TP}$ [$_{CnP}$ [$_{Cn}$~~de~~ [$_{DP}$ *gij* [$_D$ [$_φ$~~de~~]]]]]] [T . . ..

We thus explain the properties of North-Brabantish that we presented in (36) above:
The only context in which the C-domain contains a trigger (the finite verb with a [uPerson] feature) to attract *de* is found in verb-subject orders with a second person finite verb.

Demonstrative doubling follows from the regular derivation of doubling in (48). The weak element *de* remains within CnP and is spelled out independent of clausal structure. Distal D-pronoun fronting in imperatives is also derived because this dialect (in contrast to the others), has [iPerson] incorporation into V when V is in the C-position.

The South-Brabantish dialects, finally, have properties of both dialects. They do not have a generalized φ-probe in the C-domain (and consequently no complementizer agreement), which means that subject doubling is restricted to contexts in which the verb with a [uPerson] feature moves to C, i.e. in second person VS-clauses. However, since they have phrasal movement of the clitic *de* rather than head movement inside nominal CnP, the C-position will not be marked as [iPerson]. Consequently, they do not allow distal D-pronoun fronting in imperative clauses. That would leave the imperative verb underspecified (only [iDistal]). These dialects thus have to resort to the general Dutch strategy for imperatives to move the silent pronoun [iPerson, iDistal] into SpecCP.

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[24] There appears to be a related issue. In subject doubling, the strong pronoun *gij* is optional, whereas the strong pronoun *die* is obligatory present in demonstrative doubling. In our view this difference is directly related to the fact that *de* moves out of the nominal CnP in subject doubling, but remains within the CnP in demonstrative doubling. We leave this issue for further research.

7. Conclusions

Using the databases in MIMORE, we discovered the correlation that Flemish, South-Brabantish and North-Brabantish dialects have both second person subject pronoun doubling and demonstrative doubling and that dialects outside of this area have neither. We propose an analysis in which both constructions are derived from the same underlying nominal structure [$_{CnP}$ [$_{Cn}$ [$_{DP}$ die/gij [$_D$ [$_{\varphi P/\varphi}$ de]]]]]. In Flemish and South-Brabantish, the order *de-dieje* and *de-gij* is the result of φP movement to nominal SpecCnP. Subsequently, φP (*de*) moves out of the nominal CnP into the left periphery of the clause in the case of subject doubling. In Flemish this is due to the requirement that the φP of the subject should show up in the C-domain of the clause (φ-Probe), in South-Brabantish because of the uninterpretable person feature of the second person verb. In North-Brabantish, doubling is the result of movement of φ to Cn, with subsequent movement of φ to the finite verb in the clausal C in the case of subject doubling, again due to the uninterpretable person feature of the second person verb.

The syntactic base structures are identical in the three dialect groups and the derivations are highly similar. Parametrization arises at two points.

(a) lexical properties with respect to the spell out of φ
 - Flemish has phrasal spell out for φP for all persons.
 - South-Brabantish has spell out for φP in the case of second person only.
 - North-Brabantish has spell out for the head φ in the case of second person only.
 - Other varieties of Dutch, the fourth group of dialects under discussion, neither have spell out for φP nor for φ.
 These lexical differences cause syntactic differences, i.e. differences in movement patterns.
(b) trigger of subject doubling
 Flemish has a generalized φ-probe in C which attracts the subject clitic both in embedded clauses and in main clauses with and without inversion. This correlates with the fact that Flemish, but not Brabantish, has complementizer agreement. The Brabantish dialects do not have generalized subject doubling, so attraction of a subject clitic is generally absent, with the exception of second person singular inverted main clauses. We argued that this is due to a [uPerson] feature on the finite verb. When this verb moves to C it acts as an attractor for the head *de* in North-Brabantish and for the phrase *de* (φP) in South-Brabantish. In the former group of dialects, the head *de* with the feature [iPerson] incorporates into V in C, making fronting of distal D-pronouns in imperatives possible. In the latter group of dialects, the phrase *de* moves to a Spec position and therefore does not mark V in C as [iPerson]. Therefore fronting of distal D-pronouns in South-Brabantish imperatives is not sufficient to mark a clause as second person and therefore ruled out.

(52) Table summarizing the relation between formal property and phenomenon in the three dialect regions

	Formal Property	Phenomenon
Flemish	generalized φ-Probe	Comp-Agreement
	phrasal spell-out of φP	subject pronoun doubling
	φP subextracts from CnP	no distal D-pron. fronting
B. Brabantish	no generalized φ-Probe	no Comp-Agreement
	phrasal spell out of φP	subject pronoun doubling 2P
	φP subextracts from CnP	no distal D-pron. fronting
N. Brabantish	no generalized φ-Probe	no Comp-Agreement
	V-2p has [uPerson] and spell out of φ-head 2p	subject pronoun doubling 2P only in inversion.
	φ subextracts from CnP	distal D-pron. fronting

All together this paper has shown that the MIMORE databases and tools enable us to uncover intricate patterns of (morpho-)syntactic (anti-)correlations that can be reduced to a small set of lexical parameters.

References

Aboh, E., 2004. Topic and focus within D. Linguist. Neth. 21 (1), 1–12.
Aboh, E., Corver, N., Dyakonova, M., Van, M., Koppen, 2010. DP-internal information structure: some introductory remarks. Lingua 120 (4), 782–801.
Barbiers, S., 2013. Geography and cartography of the left periphery: the case of Dutch and German imperatives. In: Carrilho, E., et al. (Eds.), Current Approaches to Limits and Areas in Dialectology. Cambridge Scholars Publishing, Newcastle, pp. 267–292.
Barbiers, S., Bennis, H.J., 2007. The Syntactic Atlas of the Dutch Dialects. A discussion of choices in the SAND-project. Nordlyd 34, 53–72.
Barbiers, S., Bennis, H.J., de Vogelaer, G., Devos, M., van der Ham, M.H., 2005. Syntactische Atlas van de Nederlandse Dialecten, (Syntactic Atlas of the Dutch Dialects).vol. I. Amsterdam University Press, Amsterdam.
Barbiers, S., Cornips, L., Kunst, J.P., 2007. The Syntactic Atlas of the Dutch Dialects: a corpus of elicited speech and text as an on-line dynamic atlas. In: Beal, J.C., Corrigan, K.P., Moisl, H.L. (Eds.), Creating and Digitizing Language Corpora. Volume 1: Synchronic Databases. Palgrave Macmillan, Hampshire, pp. 54–90.
Barbiers, S., van der Auwera, J., Bennis, H.J., Boef, E., De Vogelaer, G., van der Ham, M.H., 2008. Syntactische Atlas van de Nederlandse Dialecten Deel II (Syntactic Atlas of the Dutch Dialects Volume II). Amsterdam University Press, Amsterdam.
Barbiers, S., Koeneman, O.N.C.J., Lekakou, M., 2008. Syntactic doubling and the structure of chains. In: Chang, C.B., Haynie, H.J. (Eds.), Proceedings of the 26th West Coast Conference on Formal Linguistics. Cascadilla Press, Somerville, pp. 77–86.
Barbiers, S., Koeneman, O.N.C.J., Lekakou, M., 2009. Syntactic doubling and the structure of wh-chains. J. Linguist. 45, 1–46.
Bennis, H., 2007. Featuring the subject in Dutch imperatives. In: van der Wurff, W. (Ed.), Imperative Clauses in Generative Grammar. John Benjamins, Amsterdam/Philadelphia, pp. 113–135.
Bennis, H., Corver, N., den Dikken, M., 1998. Predication in nominal phrases. J. Compar. Ger. Linguist. 1, 85–117.
Bernstein, J., 1997. Demonstratives and reinforcers in romance and Germanic languages. Lingua 102, 87–113.
Bernstein, J., 2001. Focusing the 'right' way in romance determiner phrases. Probus 13, 1–29.
Borer, H., 1984. Parametric Syntax: Case Studies in Semitic and Romance Languages. Foris Publications, Dordrecht.
Chomsky, N., 1995. The Minimalist Program. The MIT Press, Cambridge, MA.
Chomsky, N., 2000. Minimalist inquiries: the framework. In: Martin, R., Michaels, D., Uriagereka, J. (Eds.), Step by Step: Essays in Minimalist Syntax in Honor of Howard Lasnik. The MIT Press, Cambridge, MA, pp. 89–155.
Corver, N., van Koppen, M., 2015. Pronominalization and variation in Dutch demonstrative and possessive expressions. In: Veenstra, T., et al. (Eds.), Demonstratives. John Benjamins (in press).
Corver, N., van Koppen, M., Kranendonk, H., Rigterink, M., 2007. The noun phrase: diversity in Dutch DP design (DiDDD). Nordlyd 34, 73–85.
Corver, N., van Koppen, M., Kranendonk, H., 2013. De nominale woordgroep vanuit dialect-vergelijkend perspectief: variaties en generalisaties. Ned. Taalkd. 18, 107–138.
De Geest, W., 1990. Universele grammatica op de Gentse toer. Taal Tongval 42, 108–124.
De Geest, W., 1995. Cliticisation and clitic doubling in East Flemish. In: Shannon, T.F., Snapper, J.P. (Eds.), The Berkeley Conference on Dutch Linguistics 1993, Dutch Linguistics in a changing Europe. University Press of America, Lanham, pp. 151–170.
De Schutter, G., 1994. Voegwoordflexie en pronominale clitisering. Waarin Vlaams en Brabants (bijna) elkaars tegengestelden zijn. Taal Tongval 46, 108–131.
De Schutter, G., 1997. Incorporatie-in-C in de Vlaamse en Brabantse dialecten. In: Hoekstra, E., Smits, C. (Eds.), Vervoegde Voegwoorden. P.J. Meertensinstituut, Amsterdam, pp. 31–49.
De Schutter, G., 2005. De studie van syntactische dialectgegevens – tussen taaltheorie en taalgeografie. Ned. Taalkd. 10, 246–261.
De Schutter, G., Goeman, T., van den Berg, B.L., de Jong, T., 2005. MAND Morfologische Atlas van de Nederlandse Dialecten Deel I (MAND Morphological Atlas of the Dutch Dialects Volume I). Amsterdam University Press, Amsterdam.
De Vogelaer, G., 2005/2008 Subjectsmarkering in de Nederlandse en Friese dialecten (Ph.D. Dissertation Ghent University). KANTL, Gent.
De Wulf, C., Goossens, J., Taeldeman, J., 2005. Fonologische Atlas van de Nederlandse Dialecten. Deel IV. De consonanten. Koninklijke Academie voor Nederlandse Taal-en Letterkunde, Gent.
Déchaine, R., Wiltschko, M., 2002. Decomposing pronouns. Linguist. Inq. 33 (3), 409–442.
Giusti, G., 1996. Is there a FocusP and a TopicP in the noun phrase? UVWPL 6 (2).
Goeman, A., van Oostendorp, M., van Reenen, P., Koornwinder, O., van den Berg, B.L., Van Reenen, A., 2008. Morfologische atlas van de Nederlandse dialecten Deel II (Morphological Atlas of the Dutch Dialects Volume II). Amsterdam University Press, Amsterdam.
Goossens, J., Taeldeman, J., Verleijen, G., 1998. Fonologische Atlas van de Nederlandse Dialecten. Deel I. Koninklijke Academie voor Nederlandse Taal en letterkunde, Gent.
Goossens, J., Taeldeman, J., Verleijen, G., 2000. Fonologische Atlas van de Nederlandse Dialecten. Deel II. De Westgermaanse korte vocalen in open lettergreep. Deel III. De Westgermaanse lange vocalen en diftongen. Koninklijke Academie voor Nederlandse Taal-en Letterkunde, Gent.
Haegeman, L., 1992. Theory and Description in Generative Syntax, A Case Study in West Flemish. Cambridge University Press, Cambridge.
Haegeman, L., 2004. Verdubbeling van subjectpronomina in de Zuid-Nederlandse dialecten: een reactie uit Lapscheure. Taal Tongva 56, 119–159.
Haegeman, L., van Koppen, M., 2012. Complementizer agreement and the relation between T and C. Linguist. Inq. 43 (3), 441–454.
Portner, P., 2004. The semantics of imperatives within a theory of clause types. In: Watanabe, K., Young, R.B. (Eds.), Proceedings of SALT 14. CLC Publications, Ithaca, NY. http://semanticsarchive.net
Pots, C., Wiedenhoff, N., Barbiers, S., 2014. MIMORE Educational Module Linguistic Microvariation. http://www.meertens.knaw.nl/mimore/educational_module/

Szabolcsi, A., 1994. The Noun Phrase. In: Kiefer, F., Kiss, K.E. (Eds.), The Syntactic Structure of Hungarian. Syntax and Semantics Series, vol. 27. Academic Press.

van Craenenbroeck, J., van Koppen, M., 2002. Pronominal doubling and the structure of the left periphery in southern Dutch. In: Barbiers, S., et al. (Eds.), Syntactic Microvariation www.meertens.knaw.nl/books/synmic

van Craenenbroeck, J., van Koppen, M., 2008. Pronominal doubling in Dutch dialects. Big DPs and coordinations. In: Barbiers, S., et al. (Eds.), Microvariation in Syntactic Doubling. Emerald, Bingley, pp. 207–250.

van Craenenbroeck, J., van Koppen, M., 2014. When Flanders met Brabant: microvariation in the Dutch C-domain. Talk Presented at the Variation in C Workshop, October 21–22, Venice.

Van der Horst, J., 2008. Geschiedenis van de Nederlandse Syntaxis. Universitaire Pers, Leuven.

van Koppen, M., 2005. One Probe – Two Goals. Aspects of Agreement in Dutch Dialects (Ph.D. Dissertation Leiden). LOT Publications, pp. 105.

van Koppen, M., 2012. The distribution of phi-features in pronouns. Nat. Lang. Linguist. Theory 30 (1), 135–177.

van Koppen, M., 2015. Complementizer agreement In: Blackwell Companion to Syntax. Blackwell (in press).

Weinreich, U., 1954. Is a structural dialectology possible? Word 10, 388–400.

Zanuttini, R., 2007. Encoding the addressee in the syntax: evidence from English imperative subjects. Nat. Lang. Linguist. Theory 26, 185–218.