‘**We have** had very Pearlous times and lost Much But through Devine Providance **is** Blessed with sufficent of the Nessarys of Life’:

A study of subject-verb concord in 18th-century Ulster

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Summary in Norwegian

Denne masteroppgaven utforsker samsvarsbøyning mellom subjekt og verbal i irsk engelsk i provinsen Ulster i perioden 1741-1800. Det engelske språket omfatter flere ikke-standard samsvarsbøyningssystemer. Særlig utbredt er varierende bruk av verbbøyningsendelsen *-s* (heretter *s*-form) i kontekster der standard engelsk krever at stammen av verbet står uten suffiks, for eksempel i setninger med flertallssubjekt (som i *The boy/they writes/is/was*).

Tidligere studier av samsvarsbøyning i Ulster på 1700-tallet er basert på små datasett, tar kun et fåtall mulige faktorer i betraktning og tester ikke resultat for signifikans. Denne studien søker å gi økt kunnskap om samsvarsbøyning i Ulster på 1700-tallet. Studien er basert på 4747 forekomster av samsvarsbøyning i brev hentet fra *Corpus of Irish English Correspondence* (McCafferty & Amador-Moreno, under bearbeidelse). For å gi en grundig beskrivelse av fenomenet, utforsker studien i hvilken grad frekvensen av ikke-standard *s*-form påvirkes av en rekke lingvistiske og sosiale faktorer nevnt i tidligere studier av samsvarsbøyning i historiske og nåtidige dialekter i og utenfor Ulster.

Hovedfunn i studien er at bruk av ikke-standard *s*-form i dataene fungerer i henhold til det opprinnelig nord-britiske samsvarssystemet *the Northern Subject Rule* ('den nordlige samsvarsregelen', NSR). Ifølge NSR kan *s*-form forekomme i setninger med entalls/flertalls substantivfrasesubjekt, men ikke pronomenfrasesubjekt (den såkalte NP/PRO-forskjellen eller Type of subject constraint), med mindre pronomenfrasen står adskilt fra det finitte verbet i setningen (såkalt Position to subject constraint). I motsetning til studier som bruker data fra 1800-tallet (McCafferty 2003) og 1900-tallet (Pietsch 2005a), finner denne studien at PSC ikke har noen innvirkning på frekvensen *s*-form i kontekster med substantivfrasesubjekt i flertall. Det foreslås at dette antyder at bruken av PSC har endret seg over tid i Ulster.

Studien viser videre at faktorene *type substantiv-subjekt* og lengden på substantiv-frasen i et subjekt (*subject heaviness*) påvirker frekvensen av ikke-standard *s*-form. Det blir ikke funnet noen sammenheng mellom det relative pronomenet og *s*-form. Dette bryter med tendenser i rapportert i tidligere forskning (f.eks. Montgomery 1995; Pietsch 2005a) og antyder at det relative pronomenet ikke bør behandles som et subjekt i fremtidige studier.

NSR blir videre funnet å være solid i data fra områder som antas å ha vært dominert av etterkommere av skotske bosettere, samt i områder hvor engelske etterkommere antas å ha vært i flertall. Resultatet støtter hypotesen om at NSR ble brakt til Ulster med skotske og engelske bosettere på 1700-tallet (*the founder population hypothesis*, McCafferty 2003), og bidrar dermed til forståelsen av hvordan dette grammatiske systemet oppsto i irsk engelsk.

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Abbreviations

X^2	Chi-square value
CORIECOR	*Corpus of Irish English Correspondence*
CORIECOR 1741-1800	subcorpus of the *Corpus of Irish English Correspondence*, the data used in this study
df	degree(s) of freedom
HCIE	*Hamburg Corpus of Irish English*
IrE	Irish English
MUE	Mid-Ulster English
n.a.	not applicable
NITCS	*Northern Irish Transcribed Corpus of Speech*
NP	noun phrase
NP/PRO	noun phrase/pronominal phrase distinction; noun phrase/personal pronoun constraint
n.d.	not enough data to run the Chi-square test
n.s.	not significant (in the Chi-square test)
NSR	the Northern Subject Rule
OE	Old English
p	probability
PSC	position to subject constraint
-s	verbal *-s* form, i.e. inflected verb (e.g. *writes/does/has/is/was*)
STC	subject type constraint, equals TSC. In this study I use the latter term
SUE	South-Ulster English
SVC	subject-verb concord
$S_{ø}$	zero subject
TSC	Type of subject constraint
USc	Ulster Scots
Ø	verbal zero form, i.e. uninflected verb (e.g. *write/do/have/are/were*)
$Ø_r$	zero relative pronoun

CHAPTER 1 INTRODUCTION

1.1 The study of subject-verb concord

This study investigates subject-verb concord (hereafter referred to as SVC) in varieties of Irish English (IrE) in Ulster during the 18th century.[1]

SVC is defined as the relationship between the subject and the predicate of a clause. Central to the rule in present-day Standard English (StE) is that subject and finite verb in a clause agree in the properties they reflect (Quirk et al. 1985: 755-7). In the Standard, concord is overt only with the verb BE, which in the indicative agrees with the singular clause subject in person and number, giving 1st person singular *I am/was,* 2nd person singular *you are/were* and 3rd person singular *he/she/it/the boy is/was* and plural *we/you/they/the boys are/were* (Chambers 2012: 265). With all other verbs, standard SVC is restricted to present indicative clauses with third person subjects, where number agreement is shown by the use of the verbal affix *-s* in the singular, and zero form *-Ø* in the plural, giving *he/ she/ it/ the boy writes/does/has,* vs. plural lexical verb *they/the boys write/do/have*. In all other contexts the *-Ø* form is used, thus showing no number or person marking.

The English language comprises a rich amount of variability in its SVC patterns (Quirk et al. 1985: 757; Filppula 1999: 150; Chambers 2012: 274). Particularly widespread is nonstandard alternation between the verbal inflectional *-s* form and the zero (-Ø) form, giving several nonstandard systems. The use of verbal *-s* with plural subjects has received considerable attention in the literature. Apart from a few syntactic-theoretic discussions on SVC (e.g. A. Henry 2002; Adger 2006) most of the studies fall within the variationist paradigm, and a number of dialect, sociolinguistic and historical linguistic studies have in recent years been conducted on the phenomenon in different varieties in the English-speaking world (for outlines of studies I refer to Cole (2008, 2014), Childs (2012) and Clarke (2015)).

[1] A comment on language/dialect terms in the thesis:
Irish English (hereafter IrE) refers to all varieties of English spoken on the island of Ireland. Another term referring to the English as spoken in Ireland is Hiberno-English.
Ulster Scots (hereafter USc). The status of USc is much debated. USc has been recognised under the European Charter for Regional or Minority Languages. Although USc is not listed among the varieties of English in the *Electronic World Atlas of Varieties of English* (Kortmann & Lunkenheimer (eds.) 2013a, accessed 10 August 2015), it is frequently treated as an English variety in linguistic studies. In this thesis USc refers to the Scots-influenced varieties that are spoken in the counties Down, Antrim, Londonderry and Donegal (Harris 1984, see Map 2.2 page 17 for other present-day varieties in Ulster).
Irish is the term used with reference to the Celtic language that was original in Ireland before Scots and English settlements and that is still used in pockets on the island.
Standard English refers to the British English standard norm.

In line with the variationist approach, the studies seek to explain what factors govern the use of plural verbal *-s*.[2]

Studies of SVC in Ulster focus on verbal *-s* and the Northern Subject Rule (hereafter the NSR).[3] The NSR is the nonstandard SVC system in which the verbal inflections (*-s*/*-Ø*) reflect the type of subject in a clause (i.e. whether the subject is a noun phrase or a personal pronoun, hereafter NP/PRO constraint) and the degree of proximity between subject and verb (the Proximity to subject constraint, hereafter PSC) (see examples 2.1-2.4, page 10), thus licensing verbal *-s* in contexts with plural noun phrase (NP) subjects, but not with personal pronouns (*I, we, you, they*) that are positioned adjacent to the finite verb of the clause. The NSR appears in Ulster data originating from the late 16th century to the present (e.g. J. Milroy 1981: 12-13; Policansky 1982; Kallen 1991, Montgomery 1994, 1995, 1996, 1997a, 1997b, 2006; Montgomery & Robinson 1996, 2000; Corrigan 1997; McCafferty 2003, 2005a, 2005b; Pietsch 2005a, 2005b, 2012).

Seen as a whole, the literature on SVC in varieties in Ulster between the late 16th century and the present shows different results regarding the co-variation of specific verb types and verbal *-s* across data sets. There is further a trend in data from the 17th century to the present for verbal *-s* to co-occur with certain subject types, e.g. existential *there* with plural logical subject (Montgomery 1995, 1996, 1997a; McCafferty 2003; Pietsch 2005a) conjoined NPs (Kallen 1991; Montgomery 1995, 1997a; McCafferty 2003), the collective noun (McCafferty 2003), the plural demonstrative (L. Milroy 1987: 152; A. Henry 1995; Pietsch 2005a; Montgomery 2006: 312-13) and the relative pronoun (Montgomery 1995; Hickey 2007a: 182; McCafferty 2003). Studies on present-day varieties in Ulster introduce the factors clause type, time and sex of language user to the study (Pietsch 2005a).

[2] Other terms used in the literature for the co-occurrence of a plural subject and verbal *-s* are *default singulars* (Chambers 1995; Tagliamonte 2009), *obtrusive -s* (Bliss 1979) *plural -s* (Clarke 1997), *singular concord* (A. Henry 1995, 2002), *plural subject with singular verb* (Visser 1963), *nonconcord* (Montgomery 1989), *(non)concord* (Cesiri 2012: 30) and *nonconcordance* (Kallen 1991). Policansky (1982) uses the term *mixed concord* to refer to variable use of verbal *-s* and *-Ø* with plural subjects. Childs (2012: 328) uses the term *non-concord verbal -s* for constructions where verbal *-s* combines with plural subjects or the 1st person singular pronoun, *I*. In this thesis I use the term *verbal -s* with reference to the use of verbal inflection *–s* on lexical verbs, DO, HAVE and BE with any kind of subject (singular and plural) (giving *writes/does/has* and analogous *is/was*). I further use the term *nonstandard verbal -s* with reference to the use of verbal *-s* with plural subjects and with the 1st person singular pronoun, *I* (the standard use of *I + was* is not treated as nonstandard verbal *–s*). Conversely, the term verbal zero or verbal *-Ø* is used with reference to the zero inflection with any subject, giving *write/do/have* and analogous *are/were*.

[3] In this study I use the term *the Northern Subject Rule*, as coined by Ihalainen (1994: 221). Other terms referring to this system are *the personal pronoun rule* (McIntosh 1983), *Northern present-tense rule* (Montgomery 1994: 83, 1995; Schendl 1996) and *the northern paradigm* (McIntosh 1989). Based on findings of the feature in 16th and 17th-century English in London, Wright (2002: 242) claims that the term *Northern Subject Rule* is inappropriate. Cole (2014) corroborates this notion, and uses the term *the (Northern) Subject rule*.

Studies on SVC in the 18th century are few and based on relatively small data sets (Montgomery 1995, 1996, 1997a, 1997b; Montgomery & Robinson 1996, 2000). Apart from the NSR-related factors (NP/PRO constraint and the PSC), verbal *-s* appears to be sensitive to the factors verb type and type of NP subject in the 18th-century data sets. The studies do not test the statistical significance of the factors. Other factors shown to affect the frequency of verbal *-s* in later varieties on are not included in these studies.

A discussion in the literature regards the question *how* the NSR emerged in Ulster. The NSR in Irish English may have emerged as a substrate feature transferred from Irish (*the Irish contact hypothesis*) (Bliss 1979: 291); however a more widely accepted explanation is that it was brought to Ulster with British colonists. British language input in Ulster arrived with the systematic planting (i.e. colonisation) during the late 16th and 17th centuries. The colonists originated mainly in Scotland, northern England and the Midlands (Robinson 1994: 107; McCafferty 2005b: 190). The NSR has traditionally been solid in these areas (McIntosh 1983, 1989: 119-8, de Haas & Van Kemenade 2015). Previous studies (Montgomery & Robinson 1996, 2000) show that the NSR existed in 17th-century data produced by Scottish settlers and that it continued as a feature in regions with predominately Scottish descendants and where the Scots dialect is found today (McCafferty 2003; Pietsch 2005a, 2012; Montgomery 2006; Tagliamonte 2009). The strong NSR in data produced by 17th-century Scottish settlers in Ulster (Montgomery & Robinson 1996) may indicate that Scottish settlers brought the NSR with them to Ulster. According to the *diffusion hypothesis* (Montgomery 1997b), the NSR would have diffused from areas with Scots settlers to regions with English settlements. However, due to the geographic spread of the NSR in England, also settlers originating in Northern England and the Midlands had the NSR as part of their vernacular (McCafferty 2003). Even minority settler groups originating in southern England may have been familiar with the NSR, as NSR-like patterns are found in historical data representing those areas (e.g. Bailey & Ross 1988; Bailey, Maynor & Cukor-Avila 1989; Schendl 1996, 2000; Wright 2002). Adequate evidence of the NSR in areas where the English originally outnumbered the Scots is found in 19th-century data (McCafferty 2003; Pietsch 2012) and later (J. Milroy 1981: 12-13; Policansky 1982; Corrigan 1997; Pietsch 2005a). Given that the English colonists originated in regions where the NSR was strong (McIntosh 1983, 1989: 119-8, Robinson 1994: 107; McCafferty 2005b: 190; de Haas & Van Kemenade 2015), and that the NSR is found in 19th-century data representing places where the English were dominant, McCafferty (2003) claims the likelihood for both English and Scots planters to have introduced the NSR to Ulster (*the founder population hypothesis*).

This study seeks to increase our knowledge about SVC in 18th-century Ulster. The aim of the study is to answer the following research questions:

1) *How strong was the NSR in Ulster during the period 1741-1800?*

2) *What other factors than the NSR-related NP/PRO distinction and Proximity to Subject constraint (PSC) affected the distribution of verbal -s during the period?*

3) *What can the geographic distribution of the NSR during the period 1741-1800 tell us about how the NSR emerged in Ulster?*

The study produces a quantitative analysis of SVC in Ulster between 1741 and 1800. The study is based on the 4747 occurrences of subject-verb concord in personal correspondence collected from the *Corpus of Irish English Correspondence* (CORIECOR) (McCafferty & Amador-Moreno in preparation). This is to the best of my knowledge the largest data set available for the study of SVC from the period prior to the 19th century. The data set covers seven counties (Donegal, Londonderry, Antrim, Down, Tyrone, Monaghan and Armagh) in addition to the city of Belfast. The study seeks to describe the concord system used in Ulster during the period. Particular focus is on the variable use of verbal *-s* and zero forms, including analogous *is*/*was* and *are/were*, in the letters. A central task is to identify the contexts where nonstandard verbal *-s* was used and the degree to which linguistic and extralinguistic factors govern the distribution. A major hypothesis underlying the study is that the use of verbal *-s* in the data set reflects the NSR, as defined by the NP/PRO distinction and the PSC. I further propose that verbal *-s* in the 18th-century data will be sensitive to factors previously found to impact the distribution of verbal *-s* in studies of past and present varieties in Ulster, i.e. verb type, type of plural NP subject, time and sex of letter writer. I suggest that the frequent collocation of relative pronoun + *-s* may be due to a combination of type of antecedent (NP/PRO) to the relative pronoun and the position between the antecedent and the verb (PSC). I introduce two factors that to my knowledge have not been included in the study of SVC in Ulster, and investigate if verbal *-s* is sensitive to subject heaviness and level of intimacy between letter writer and letter recipient. A detailed account of the hypotheses of this study is given in the Background chapter (Section 2.4). The impact of the independent variables is tested for statistical significance using *GoldVarb* binomial up-down analysis (Sankoff, Tagliamonte & Smith 2005, downloaded 10 October 2014) and Chi-square tests (Preacher 2001).

This study is interesting as it investigates the impact of several variables on verbal *-s* using a large data set. The study thereby gives a detailed account of the SVC in a century that

has received moderate attention in previous research. While some results confirm those of previous studies, others add new insight into SVC during the early history of IrE in Ulster. The most striking result of my study regards the overwhelming impact of the NP/PRO constraint and the PSC, contrasted with other factors. This shows that the NSR is solid in the 18th-century data. However, my results contrast with those of McCafferty (2003) and Pietsch (2005a) in showing that the PSC operates only in contexts with personal pronoun subjects, and not with plural NP subjects. The results further contrast with Pietsch (2005a) in showing that the relative clause, and thereby the relative pronoun, does not favour verbal *-s* when plural NPs are treated separately.

As this is the first study to investigate the geographic spread of the NSR during the 18th century, it makes a contribution to the discussion on *how* the NSR emerged in the region. The study shows that the NSR is solid in regions where Scots settlers dominated and in regions where English settlers dominated during the 18th century, i.e. approximately 100 years after the English and Scots input to Ulster. This new finding adds support to the hypothesis that the NSR arrived in Ulster with Scots and English founder populations (cf. McCafferty 2003).

1.2 Structure of the thesis

The thesis is organised as follows:

Chapter 2 summarises the background to the study. Central topics are SVC patterns that exist in varieties of English in regions that are historically connected with Ulster (Section 2.1), the historical-linguistic context to the study (Section 2.2) and previous research on SVC in past and present varieties in Ulster (Section 2.3). Hypotheses based on previous research are formulated in Section 2.4.

Chapter 3 presents the data (Section 3.1), preparation of the data for the analysis (Section 3.2) and explains the statistical analyses (Section 3.3).

In chapter 4 the results from the quantitative analyses are outlined. Section 4.1 presents the overall results. Sections 4.2.1 and 4.2.2 give the results of the frequency analyses and Chi-square tests in relation to linguistic and extralinguistic factors, respectively. The results of the *GoldVarb* analysis are outlined in section 4.3.

In chapter 5 I discuss the findings related to the research questions of this study in the context of previous research and knowledge about the language situation in Ulster prior to and during the 18th century. Chapter 6 summarises the study and draws conclusions.

CHAPTER 2 BACKGROUND TO THE STUDY

This thesis seeks to answer a number of questions: 1) How strong was the Northern Subject Rule (NSR) in Ulster during the period 1741-1800?; 2) What other factors than the NSR-related NP/PRO distinction and Proximity to subject constraint (PSC) affected the distribution of verbal *-s* during the period?; 3) What can the geographic distribution of the NSR during the period 1741-1800 tell us about how the NSR emerged in Ulster?

The present chapter presents the background to the study. The chapter has three main sections: Section 2.1 is concerned with the phenomenon of subject-verb concord (hereafter SVC) variation. Focus is on SVC systems in the British Isles that involve variable use of the verbal inflection *-s* and the verbal zero form (*-Ø*). Given the historical connection between Ireland and the north of England as well as Scotland, the vernacular system of these regions, i.e. the Northern Subject Rule (hereafter the NSR) is of particular interest. The NSR therefore receives particular attention in Sections 2.1.2-2.1.3.

Section 2.2 presents the historical-linguistic context to the study. Focus is on historical events leading up to the language situation in the 18th century, and possible implications on the diversity of SVC patterns in Ulster during that period. Key words are input varieties and input SVC features, degree of language contact and attitudes connected with the different varieties in Ulster prior to and during the period of interest.

Section 2.3 reviews most studies on SVC in material from Ulster dating from the 16th to the 20th century. Significant constraints identified in these studies are interesting to the present study as they indicate patterns that may exist in my data.

The background information in Sections 2.1-2.3 is discussed in Section 2.4. This section also presents the discussion on *how* the NSR emerged in Ulster, along with the hypotheses to the study.

2.1 Nonstandard subject-verb concord systems in varieties of English

2.1.1 SVC phenomena involving variable usage of *-s*/*-Ø* in the British Isles

The English language comprises a rich amount of variability in its SVC patterns. In the British Isles at least four nonstandard SVC systems involving the verbal inflections *-s* and *-Ø* exist. These systems are frequently explained as reflexes of developments that date back to Old English (hereafter OE), namely the loss of person contrast in the plural, giving the

paradigm 1st singular *–e;* 2nd singular *-(e)st*; 3rd singular *-eþ*; 1st/2nd/3rd plural *–aþ* (Lass 1994: 172; de Haas 2011: 63). From this paradigm syncretism took place in several varieties during the Middle English period (Pietsch 2012). Affix reduction or loss, combined with the low functionally load of the remaining inflections, made the agreement systems unstable and susceptible to variation. As a result processes of levelling (i.e. simplification and homogenisation of patterns, Muysken 2010: 274) took place in different dialect areas in Great Britain (Pietsch 2005a: 51, 2012: 358). The developments resulted in the following SVC systems and intermediate variants in the British Isles.

Generalised -s is the SVC system in which the verbal inflection *-s* is used across the whole present paradigm regardless of person, number or position (e.g. singular/ plural personal pronoun subjects *I/you/he/she/it/we/they writes*; singular/plural noun phrase (NP) *the boy/the boys writes* (Pietsch 2005b: 147, 2012: 360) The system is historically associated with Southern/South-Western England (Ihalainen 1994: 214; Klemola 2000: 329). The system is reported in Devon in the south-west (Godfrey & Tagliamonte 1999: 100), but Peitsara (2002: 226) suggests that the system is disappearing in that region. Attestations beyond the south stem from the southwest Midlands (Pietsch 2012: 360), northern Wales (Penhallurick 1996: 316-318) and in the Southeast (Cheshire 1982: 31; Edwards 1993: 222-223). Generalised *-s* is also found in Newfoundland English (Clarke 1997: 234), in English spoken at Tristan da Cunha (Schreier 2002: 85) and in Euro-Caribbean English (Williams 2010: 152).

Generalised zero is the SVC system in which zero verbal inflection, i.e. the base form (hereafter *-Ø*), is used across the whole present paradigm regardless of subject person, number or position (e.g. pronoun subject *I/you/he/she/it/we/they + write*; NP subject *the boy/ the boys + write*). This concord system is associated with East Anglia (Trudgill 1974: 55, 2013; Edwards 1993: 222), but is found in 18th-19th-century data from both East Anglia and South-West England (Ihalainen 1994: 214-5, 226). Generalised *-Ø* still exists in South-West England (Klemola 2000: 329; Wagner 2013), and is reported in contemporary Welsh English (Penhallurick 2013) and British Creole (Sebba 2013). Attestations from beyond the British Isles are e.g. Inner Sydney English (Eisikovits 1991: 236).

The SVC system known as the ***Standard norm*** (i.e. the system based on person and number) developed in the Midlands, where the OE plural inflection was replaced by *–en* (McIntosh 1989: 116). This inflection competed with the northern plural *–(e)s* form and the southern plural *–(e)th* form in a mixed system that may have persisted in the region until the 17th century (Schendl 1996: 144). The plural *–en* form later developed into the inflection *-Ø*

(Pietsch 2005a: 51), while the –(*e*)*th* and -(*e*)*s* forms were lost with all subjects, except the third person singular, giving the standard SVC system as we know it today.

Levelling with BE is a widespread phenomenon in English. It is commonly explained in terms of its complex origin as a three-stem verb in OE. This made it susceptible to variation. While in the southeast midland dialects the OE paradigms ultimately developed into the standard paradigm (Lass 1992: 134-141) other developments took place in other regions, resulting in a 'myriad of locally differing systems' (Britain 2002: 33). According to Schreier (2009: 72) the trend is levelling with pivot form *was* with all plural subjects, i.e. both noun phrase subjects (hereafter NP subjects) and personal pronoun subjects. Attestations of such regularisation to *was* are found in the English Midlands and the South (Montgomery 2001: 146), American English (Montgomery 2001: 146) Inner-Sydney English (Eisikovits 1991) and on Tristan da Cunha (Schreier 2002: 84). Indeed, levelling to *was* is so common in varieties of English around the globe that the phenomenon has been labelled a *vernacular universal* (Chambers 1995: 242) and a *world-wide trend* (Schreier 2009: 68-72). A related phenomenon is the *Was/weren't split*. This mixed generalisation system is governed by polarity of the clause, giving the use of *was* with all persons and numbers in the affirmative clause (e.g. *They was*…), and *were* with all persons and numbers in the negative clause (e.g. *They weren't*…) (Anderwald 2001: 19). The system is widespread in southern England (Anderwald 2001: 12; Pietsch 2005a: 81), particularly in East-Anglia (Trudgill 2013) and Reading (Cheshire 1982: 45). Observations further north are made in varieties in the north of England (Trousdale 2013) in the Fens (Britain 2002: 33-4) in York (Tagliamonte 1998: 164) and in Yorkshire and Lancashire (Pietsch 2005a: 81). The feature is pervasive in Southeast American enclave dialects (Wolfram 2013) and is found in communities along the eastern coast of the US (Hazen 1996: 37; Wolfram & Schilling-Estes 2003).

Plural verbal -s refers to the nonstandard use of verbal *-s* with plural subjects (giving plural *you/we/they/the boys + writes/is/was*. The phenomenon dates back to OE (Visser 1963: 72; Sweet 1981: 378; Pietsch 2005a: 52), and was frequent during the 16th and 17th centuries (Visser 1963: 71-2). Plural verbal *-s* is today widespread across the English-speaking world, and studies report the use in e.g. Appalachian English (José 2007), African American Vernacular English and Southern White English (Aguilar 2005), Newfoundland English (Clarke 1997), Sydney English (Eisikovits 1991) and Tristan da Cunha English (Schreier 2002: 82).

The Northern Subject Rule **(NSR)** is the system by which verbal *-s* variably applies with any subject depending on the context of the verb. The system was first commented on by Murray, who noted that in Scots

> in the PRESENT TENSE, aa *leyke*, wey *leyke*, yee *leyke*, thay *leyke*, are used only when the verb is accompanied by its proper pronoun; when the subject is a noun, adjective, interrogative or relative pronoun, or when the verb and subject are separated by a clause, the verb takes the termination *-s* in all persons (Murray 1873: 211-12; original upper case letters and italics)

This system was later described according to two constraints:

1) The *Type of subject constraint* (hereafter TSC) (Poplack & Tagliamonte 1989: 65; Montgomery 1996) 'marks a verb with *-s* if its subject is anything but an adjacent personal pronoun, even if it is another type of pronoun' (Montgomery 1994: 86).[4]
2) The *Proximity to subject constraint* (hereafter PSC), 'marks with *-s* any verb having a personal pronoun subject not adjacent to the verb' (Montgomery 1994: 88). Elements separating subject and verb may be long clauses or short adverbials (Montgomery 1994: 89).

In effect, the NSR differs from the standard system and the general phenomenon of plural verbal *-s* in not depending on person or number of the subject. Rather, according to the NSR, verbal *-s* is licensed with plural NP subjects as well as with personal pronoun subjects that are separated from the finite verb in a clause (Examples 2.1 and 2.2, respectively). Personal pronoun subjects in adjacent position to the verb take verbal *-Ø* (Example 2.3). The NSR traditionally applied also in contexts with the 1st person singular pronoun subject (*I*) when this was separated from its verb (Ledesma 2013: 160; Cuesta 2014: 345) (Example 2.4).

(2.1) **thunder storms is** verry dangese [dangerous] in this countrey (from Ulster-Australian letters, Fitzpatrick 1994:158, in McCafferty 2003: 109)
(2.2) **we** all **hes** mater to thank God and ascribe (from Scots, Montgomery 1994: 89; my emphasis)
(2.3) **thy [they] go** out for the winter hunt (from Armagh, Ireland, Montgomery 1997b; my emphasis)
(2.4) **I** orden and **makys** (from Yorkshire, Cuesta 2014: 343; my emphasis)

As the NSR is found to be solid in past varieties of Irish English (IrE), this system is particularly interesting to the present study.

[4] Other terms for this constraint is the 'Subject type constraint' (STC) (Montgomery 1989) and the 'SING-CON rule' (J. Milroy 1981: 12-13). In this study I use the term the NP/PRO distinction when referring to the constraint in NSR-dialects that allows verbal *-s* to apply with NPs, but not with personal pronouns. The term 'Type of subject constraint' (TSC) is used with reference to the varying ability of different NP subjects to take verbal *-s*.

2.1.2 The Northern Subject Rule - origin

There is general agreement that the NSR emerged in the north of Great Britain, and that the process involved the innovation of verbal *–es/ -as* (later verbal *-s*) in the 3rd person singular and in the plural (Pietsch 2005a: 52). However, *how* the NP/PRO constraint (TSC) and the PSC came to govern the variable use of the forms *–es/as*, and later *-s*, is debated. Three hypotheses are presented in the literature (McCafferty 2003; Pietsch 2005a).

The Celtic hypothesis holds that the NP/PRO constraint and PSC emerged in English as the result of substratum influence from the Brythonic Celtic languages, which in turn possibly got the variant from mainland Celtic (Vennemann 2001). The main argument to the hypothesis is based on typological parallels in NSR-varieties and in the Celtic languages (Klemola 2000). The hypothesis rests on language contact theory, and the assumption that imperfect learning of the target language in the language shift context fosters language change (Romaine 1989: 70). *The Scandinavian* hypothesis similarly assumes that the NSR, at least to some extent, emerged in English due to influence from Old Norse during the Danelaw period. The hypothesis is tempting, given that the regions where language contact took place (i.e. the north) overlap with the areas where the NSR emerged (Pietsch 2005a: 57-59). Whereas Old Norse possibly had an influence on the invention of verbal *-s* in the northern varieties, the Scandinavian hypothesis remains problematic as Old Norse does not offer a model for variable agreement patterns according to the NP/PRO constraint and PSC (Pietsch 2005a). A criticism of the contact-based Celtic and Scandinavian hypotheses concerns the temporal aspects: Until recently, the earliest evidence of the NSR stems from Middle English material (Mustanoja 1960: 481-2; Montgomery 1994). This gives a much later dating of the NSR than the critical periods of contact between Celtic or Old Norse and English. However, recent studies (e.g. de Haas 2011: 67; Cole 2012, 2014) have shown that the TSC and PSC affected plural verbal inflections in the OE Northumbrian Lindisfarne and Rushworth glosses. This early dating solves the temporal problems with the Celtic and Scandinavian hypotheses.

Against the contact-based hypotheses, the *language-internal hypothesis* (Pietsch 2005a: 53-56) explains the emergence of the TSC and the PSC in English in terms of a chain of linguistic changes, involving 1) the innovation of the 3rd singular and plural verbal *-s*, 2) the emergence of the zero verbal form with personal pronouns, giving two possible verbal inflections (*-s*/*-Ø*) with pronoun subjects), 3) the use of verbal *-Ø* with preverbal pronoun subjects, as well as the spread of verbal *-s* to the nonadjacent 1st person singular (*I*), and 4) the extension of the TSC and the PSC to the verb BE (see Montgomery 1994 on the development in step 4).

2.1.3 The Northern Subject Rule - geographic spread

The NSR has been traced in written documents from OE to the present. The system is rare; NSR, or NSR-like SVC patterns are found in 9% of the present-day varieties listed in the *Electronic World Atlas of Varieties of English* (Kortmann & Lunkenheimer (eds.) 2013b, accessed 20 October 2015). In many cases the shared patterns are explained as the output of language contact and diffusion. The geographic distributions of the NSR in British varieties are interesting given that the majority of the settlers in Ulster during the 17th century originated in regions where the NSR was either solid or existed as a minority variant (input varieties in Ulster will be presented in Section 2.2.2).

The NSR in Scotland and northern England. The NSR is traditionally regarded as a dialect marker, separating the northern English and Scots varieties from the southern English varieties (Ihalainen 1994: 221; Montgomery 1994). According to McIntosh (1983, 1989: 117-8), during late Middle English the NSR existed to the north of the Chester-Wash line, with local NSR-adhering inflectional systems along the southern border of the line. de Haas & Van Kemenade (2015) confirm that the NSR was solid in the north, especially in Yorkshire, but also in the Northern Midlands during the Middle English period.

The NSR in southern England. The traditional account of the NSR as a northern variant does not tell the full story as the northern affixes (*-s*) are believed to have diffused southward (Nevalainen & Raumolin-Brunberg 2000: 310) and NSR-like SVC is attested in material originating in the south of England. Such NSR-like patterning is found in Early Modern English prose and verse in the Midlands (Schendl 1996: 152, Schendl 2000), in data from London produced during the 15th century (Bailey, Maynor & Cukor-Avila 1989), during the 16th and early 17th centuries (Wright 2002: 242), and in 17th-18th-century 'Ship English', a variety that was heavily influenced by Southwestern English (Bailey & Ross 1988: 195, 199). According to Godfrey & Tagliamonte (1999: 106) and Pietsch (2012: 362), the NP/PRO constraint still operates in present-day English in the Southwest (but see Peitsara 2002: 218).[5] Most scholars (e.g. Schendl 1996; Godfrey & Tagliamonte 1999; Nevalainen & Raumolin-Brunberg 2000: 319; Wright 2002) agree that the NSR emerged in the south of England through the process of diffusion, as the result of migration of northerners to London and elsewhere, where dialect contact took place. The model rests on dialect contact theory, specifically the hypothesis that speakers in the bi-dialectal context accommodate their speech

[5] Pietsch (2012: 358, 364) argues that results from 20th-century South-West English may not represent the 17th-century SVC pattern as the NSR-like conditioning on verbal *-s* may be a recent innovation here.

to their addressee(s) by making certain code choices (c.f. *accommodation hypothesis* (Trudgill 1986); *audience design hypothesis* (Bell 1984: 145)).

The presence of NSR-like conditioning in the north and south of Great Britain is interesting for the present study. As we will see in section 2.2.2, 17th-century colonists in Ulster largely came from the north of Great Britain, i.e. regions where the NSR was solid. However, settlers originated also in the South-west, West Midlands and London. The identification of NSR-like patterning in data from the south of England cannot prove that the NSR was widespread in southern varieties before or during the period of settlement in Ireland. As Montgomery (1997a: 137) notes, the NSR may be overestimated in Bailey, Maynor & Cukor-Avila (1989) as the data set in this study may contain texts produced by northerners, who would have the NSR as part of their speech. Furthermore, attestations of NSR-like patterning in recent varieties in the Southwest (Godfrey & Tagliamonte 1999; Pietsch 2012) are relevant only if we assume that they represent the continuation of use that existed during the period of input into Ulster. However, the remaining studies on older varieties of English in the south of England show that NSR-like patterning *existed* in the south. We can therefore assume that settlers in Ulster who originated in various parts of the south of England would have been familiar with the NSR; possibly because it formed part of their speech, and certainly because it was a feature used by individuals or speaker groups in the south of England. As we will see in Section 2.3, the NSR is identified as a solid feature of historical varieties in Ulster. In this study I propose that the existence of the NSR in several input varieties is crucial to the story of the NSR in Ulster.

The Northern Subject Rule beyond the British Isles. The NSR was a stable feature of varieties in the British Isles during periods of colonisation. This has made the NSR useful to the comparative study on British and transatlantic varieties that are historically related (Tagliamonte 2013: 128-142). A number of studies (e.g. Montgomery 1989; Poplack & Tagliamonte 1989: 66; Montgomery, Fuller & de Marse 1993; Hazen 1996: 46; Godfrey & Tagliamonte 1999: 109) identify the NP/PRO distinction (and occasionally the PSC) in colonial varieties and argue that this is inherited from NSR-varieties in the British Isles. Studies that draw parallels between SVC in Ulster and in transatlantic destinations (e.g. Montgomery & Robinson 1996, 2000; Montgomery 1997a) probe interesting results from the US, suggesting how varieties of Irish English may have contributed to the formation of varieties of English in the US. However, as this study focuses on SVC in IrE in Ulster, this topic is not discussed any further.

2.2 The historical-linguistic context to the study

The previous section outlined different SVC systems in England, and commented on the geographic spread of the NSR in historical varieties. The present section focuses on the historical-linguistic context to the study of SVC in 18th-century Ulster material. Important background topics are 1) the varieties that existed in Ulster prior to and during the 18th century and the SVC systems that these varieties comprised; 2) The degree of dialect/language contact in Ulster prior to and during the 18th century and implications of such contact on the SVC patterns in Ulster during the 18th century.

There exists no study that defines the dialect zones in Ulster during the 18th century. However, based on settler patterns in Ulster and later historical developments, the demographic situation during the 17th and 18th centuries can be sketched. The places of origin of the settlers during the 17th century further suggest which SVC patterns were brought to different parts of Ulster. In the following, important events in the history of English input to Ireland are presented briefly. We then turn to Ulster and present 17th-century settler patterns, including the SVC systems that possibly existed as part of the input varieties. This suggests the diversity of SVC systems in the region during the 17th century. Next, we discuss the degree of language/dialect contact in the region prior to and during the 18th century. The degree of language contact is interesting because it suggests the degree of language mixing and levelling in SVC patterns in Ulster prior to and during the period of interest. Together, these topics give a hint about what SVC systems can be expected in my data. In the next section we will see what SVC systems are identified in previous studies of SVC in Ulster.

2.2.1 The history of English input in Ireland

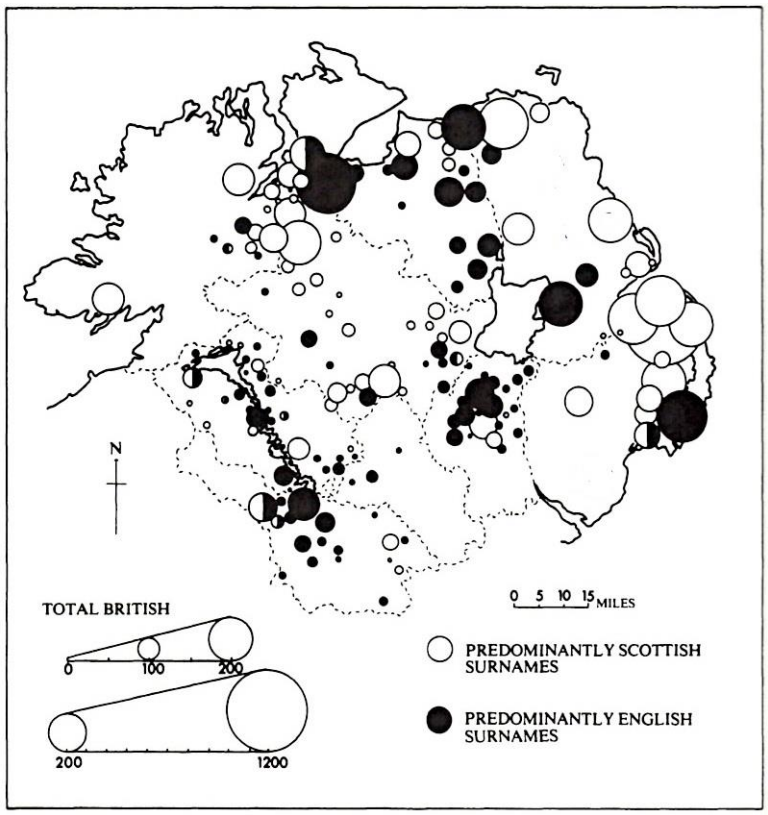
Prior to the English arrival in Ireland, the languages in Ireland were Old Irish and Old Norse (Hickey 2003: 249, 2011: 6). The first input of English to Ireland took place during the 12th century, when the Anglo-Normans gained military power in an area along the south-eastern coast of Ireland. However, due to loose political contact with England and the fact that English enjoyed no status in Ireland, the impact of English on the development of IrE was probably not long-lasting (Lass 1990: 139; Hickey 2003: 246). Among few syntactic features suggested to stem from the early period are variable verbal *-s* and periphrastic *do* (Hickey 2011: 31; Cesiri 2012: 29). Furthermore, as English was restricted to the south-east of Ireland, it is unlikely that English input during this early period had much influence on the language situation in Ulster.

In contrast, the second period of English input to Ireland had major impact on the language situation in Ulster. The historical events leading up to the period took place in the late 16th century, when native lords were defeated by the English (this historical event is referred to as 'the Flight of the Earls') and King James filled the political positions (Hickey 2003: 248; Hickey 2011: 16). As a result, during the 17th century, large scale forced settlements by groups of English and Scots took place in so called 'plantations' in the better land areas of Ulster (Hickey 2003: 248). The settlements (i.e. colonisation) involved a systematic displacement of the Irish population, and soon made English the superstrate variety across the whole of Ireland, and the language used for political and administrative purposes (Montgomery 1991: 63).

2.2.2 Scottish and English settlements in Ulster and input SVC patterns

Early 17th-century planting of Ulster included large scale immigration by English and Scots undertakers (Robinson 1994: 91). According to Robinson (1994: 97) the greatest influx of settlers had taken place by 1622; however in parts of Ulster English and Scottish settlement continued spasmodically during that century, gradually superseding the original Irish population in east and central Ulster. Number estimates for the groups of settlers during the period are 80,000-130,000 Scots settlers and 40,000-65,000 English settlers (Perceval-Maxwell 1990: 289; Smout, Landsman & Devine 1994: 85-90, in McCafferty 2003: 117).

We do not have exact information about the demographic structures in different regions of Ulster. There was a tendency for the undertakers to bring tenants from their home ground; however planters could be recruited from elsewhere (Braidwood 1964: 6). Map 2.1 (Robinson 1994: 94) illustrates the general spread of Scottish (white circles) and English (black circles) settlements in Ulster around 1630, when most of the settlements had taken place (cf. Map 2.2, page 17, for positions of counties).

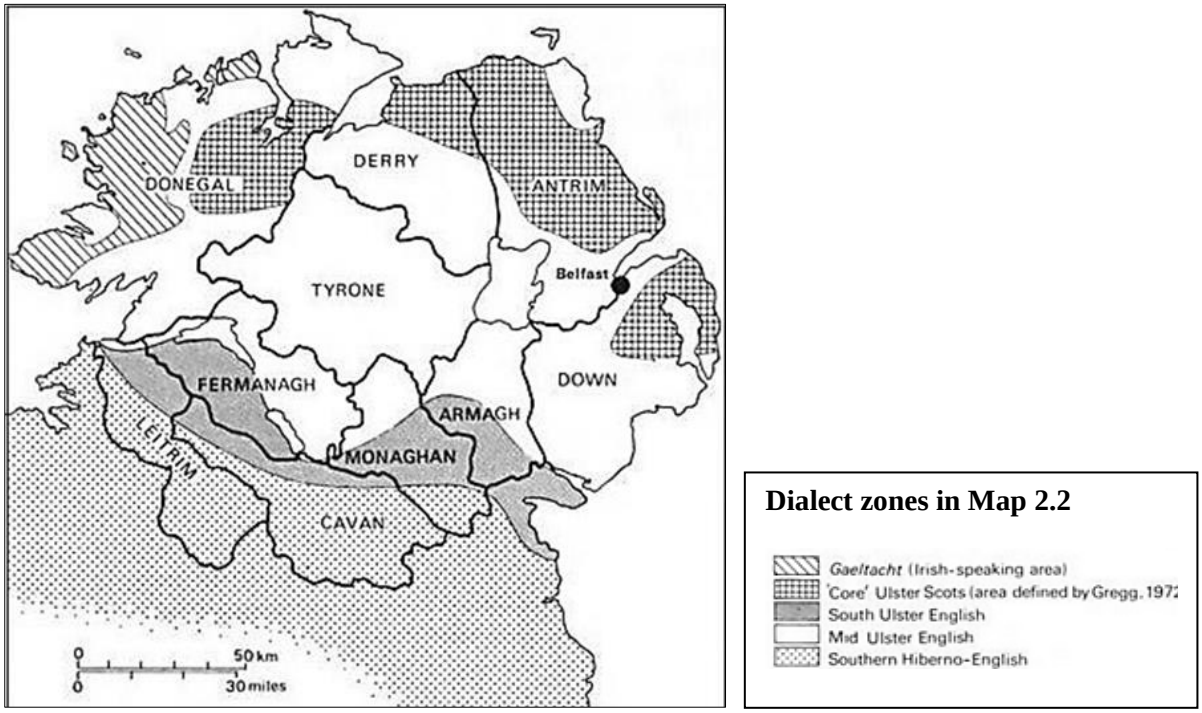


Map 2.1 Scots and English settlements in Ulster based on surnames in the Munster rolls c. 1630. Source: Robinson (1994: 94)

Scots settlement (Map 2.1) was initially confined to northern Co. Down, the south and the northern coast of Antrim, an area along Lough Foyle in Co. Londonderry and in parts of Donegal (P. L. Henry 1958: 55; Braidwood 1964: 33-35; Corrigan 2010: 115). By the 1630s the Scots were dominant in the city of Londonderry (Robinson 1994: 94, 115). From there, Scottish settlers navigated by the river Foyle to the area around the border of present-day north Tyrone/ Donegal. Clusters of Scots settlement emerged also in south Tyrone (Robinson 1994), and in central Armagh (Braidwood 1964: 23; Corrigan 2010: 115). A number of Scots descendants settled in this region also during the late 18th century (Braidwood 1964: 25). The Scots outnumbered the English in Down (Braidwood 1964: 8).

English settlement was originally confined to the area around Belfast and northern Armagh, from where it rapidly spread to the west and south of Ulster (see Map 2.1 above). London companies were granted smaller areas in Londonderry, however, these plantations were less successful and the Scots dominated in this region by the 1630s (Robinson 1994: 91, 115). With the growth of the Belfast port from the mid-17th century, the English in Belfast were in competition with the Scots in Londonderry for the trade in south Tyrone. By the late 17th century the colonial pressure in south Tyrone came from the English rather than the Scots (Robinson 1994: 116).

When the late 17th-century English input to Tyrone is accounted for, the settlements during the 17th century broadly overlap with present-day dialect zones in Ulster (Map 2.2).



Map 2.2 Dialect zones in present-day Ulster. Source: Harris (1984: 117, Map 7.1)

Map 2.2 shows the present-day dialect zones in Ulster. Comparison of this map with Map 2.1 reveals that the contemporary Core Ulster Scots (hereafter Ulster Scots or USc) dialect zone in the north broadly overlaps with the 17th-century Scots settlement; the Mid-Ulster English (MUE) dialect zone to a large degree overlaps with the areas where the English were numerous in the 17th century. The sociolinguistically complex city of Belfast lies within the MUE dialect zone (Hickey 2007b: 142). The third dialect zone in Ulster today is South-Ulster English (SUE).[6] Due to its geographically isolated position, it is believed that SUE preserves original English phonetic features more than does MUE (Corrigan 2010: 17). In addition there is the Gaeltacht (Irish-speaking area, i.e. area with Irish-English bilingualism) in west Co. Donegal. This fourth dialect is also called *contact Ulster English* (Hickey 2007a: 94). The fact that the borders between the Scots-influenced USc and the relatively English-influenced MUE and SUE dialect zones broadly overlap with the 17th-century settlements is interesting, as it suggests that the varieties may have remained relatively stable over the centuries.

[6] As Hickey (2007a: 93) notes, the SUE dialect zone is less clear than the other zones in Ulster, and suggestions are made that SUE is not a distinct variety. However, Corrigan (2010: 120) shows that the SUE dialect zone was established in the 17th century.

What SVC patterns did the 17th-century planters introduce to Ulster? The English language that the Scottish and English planters brought with them to Ulster during the 17th century was heterogeneous, reflecting the vernacular of their place of origin. Knowledge of the origin of settlers gives us an impression of the diversity of SVC input systems in Ulster.

The Scots planters originated in the Scottish Highlands and Lowland areas (Robinson 1994). As Barry (1981: 59) points out, the first Scots settlers would speak conservative Scots, i.e. the distinct variety spoken in Scotland before Scotland and England had been united by the Acts of Union (1603 and 1707). As we saw in Section 2.1.3, Scotland is historically one of the hotspots for categorical use of the NSR. Likewise, as McCafferty (2003) notes, the majority of the English planters originated in Northern England and the North Midlands (Robinson 1994: 107; McCafferty 2005b: 190). As seen in Section 2.1.3, the NSR has traditionally been regarded the hallmark of English varieties in these regions (McIntosh 1989). The English settlers originating in these regions would therefore have the NSR as part of their vernacular. Given that both the Scots settlers and the majority of the English settlers would use the NSR, the NSR would have been used by the majority of the settlers in Ulster.

Apart from the large number of English settlers originating in Northern England and the Midlands, minority groups of settlers originated in the south of England. Source areas of English colonists were South-West England, e.g. Devonshire (Harris 1984: 15; Robinson 1994: 123), the Midlands (Robinson 1994: 123) and London (Robinson 1994: 124). As seen in Section 2.1.3, NSR-like patterning is identified in past and present varieties in these regions (Bailey & Ross 1988; Bailey, Maynor & Cukor-Avila 1989; Schendl 1996, 2000; Godfrey & Tagliamonte 1999; Wright 2002; Pietsch 2012).[7] The NSR would therefore probably be familiar to English settlers originating in these regions.

Drawing on the outline of SVC patterns in different parts of England (Section 2.1.1), we may also infer that minority input varieties from South-West England possibly would comprise generalised verbal *-s*, as this system is historically solid in this area (Ihalainen 1994). Generalised verbal *-s* possibly was introduced also with the settlers originating in Hampshire in the Southeast of England (Robinson 1994: 123; Klemola 2000: 334-5). Likewise, the strength of *was/were* levelling and the *was/weren't* split in present-day Midlands (Pietsch 2005a: 81) may indicate that these features formed part of the vernacular of groups of English settlers in Ulster. Finally, settlers originating in Wales (Robinson 1994:

[7] That the NSR is identified in the South-West is, of course, relevant to the argument only if we assume that the feature existed in that region during the period of colonisation in Ulster (see Pietsch (2012) for the suggestion of a later dating).

113) possibly introduced generalised *-s* and generalised *-Ø*, e.g. generalised *was*/ *weren't*, as these systems exist in Wales (Penhallurick 1996, 2000; Anderwald 2001).

In sum, the 17th-century settler patterns established the demographic structure in Ulster. The speech of groups of the population would comprise the SVC patterns of their place of origin. The SVC pattern introduced by the majority of the settlers would be the NSR. Other possible SVC patterns introduced by the settlers were generalised *-s*, generalised *-Ø*, *was/were* levelling, and the *was/weren't* split. We may assume that all these nonstandard SVC systems from the beginning of the 17th century competed in the SVC *feature pool* (Mufwene 2001: 30) in Ulster. The degree of contact between settler groups and between the Scots/English and the Irish during the 17th and 18th centuries suggests the degree of levelling in the SVC patterns in Ulster prior to and during the period investigated in this study.

2.2.3 Degree of dialect/language contact in Ulster

The Scots and English colonisation in Ulster during the 17th century brought a dramatic change to the linguistic ecology in this region. The situation is characterised as 'a *two-language* contact situation, involving a large-scale and fairly rapid *language shift* on the part of the vast majority of the population' (Filppula 2001: 26). In addition, contact between the input varieties would inarguably take place. Studies within the framework of language variation and change frequently propose language contact or dialect contact as the driving force behind levelling changes that involve *-s*/*-Ø* variation in varieties of English.

Dialect contact between Scots and varieties of English was during the 17th century restricted to central Ulster, i.e. the region where MUE today is found (see Map 2.2 above). As seen in Section 2.2.2, this region hosted both Scots and English settlers, and dialect contact would have occurred here (Braidwood 1964: 8). However, as 17th-century plantations commonly functioned as separate communities consisting of either Scots or English settlers, the degree of dialect mixing during the period may have been moderate. In the topographically isolated South Ulster, settlers were mainly English (Robinson 1994, see map 2.1 above) and contact between the Scots and English was possibly marginal here. Similarly, in the north of Ulster, Scots settlers, due to their resistance to the Church of Ireland, probably had little contact with the English. Lack of contact in the north and south is used to explain the conservative nature of the varieties in these areas (Corrigan 2010: 17, 121). During the 18th century, the contact between Scots and varieties of English probably increased with the creation of the turnpike roads, which linked areas with USc and English settlements in the east of Ulster, and by the co-employment of Scottish and English descendants in the same

linen production (Corrigan 2010: 9, 122-3). Despite these developments, the degree of dialect mixing in Ulster is uncertain. As noted by McCafferty (2003: 118) the Ordnance Survey of Ireland conducted in the 1830s shows that Scots and English settler patterns remained stable during the 18th century. Likewise, the fact that the Scots vs. English cultural zones that existed in 17th-century Ulster to a large extent overlap with the present-day dialect zones (cp. Maps 2.1-2.2 above) (Harris 1984; Robinson 1994: 109-128) suggests that dialect contact through migration was not widespread.

Language contact between English and Irish obviously took place, and led to the language shift in Ireland. The shift was relatively rapid in Ulster. By the late 18th century English or Scots was spoken by the majority of the population in east and central Ulster, while speakers of Irish were in majority only in Donegal and in pockets in south Ulster (Fitzgerald 1984). Due to the displacement policy of the plantation period, which forced the Irish westward, or required them to cluster in less fertile and isolated areas, the degree of contact between the Irish and the British was minimal at first (Robinson 1994: 102; Harris 1991: 195). During the 18th century the language contact increased, as the Scots/English and Irish were occupied in the same linen industry in industrialised villages (Corrigan 2010: 122). In rural areas, however, low degree of contact, coupled with lack of formal education and general illiteracy, gave a bilingual situation in which Irish adults learnt English in an unguided manner (Filppula 2001: 28; Hickey 2007b: 139). In line with language acquisition theory, this language learning context facilitates cross-linguistic transfer (Romaine 1989: 69). In Donegal, substratum influence has contributed to the formation of a distinct contact-based dialect (Hickey 2007a: 94; cf. Map 2.2). Syntactic features in IrE that most certainly are due to Irish substratum influence are e.g. different constructions to express the perfective and *it*-clefting (Filppula 1997: 946-948). To what degree Irish has influenced the SVC system in Ulster is a topic discussed in the literature. We return to this discussion in Section 2.4.3.

2.2.4 Summary of the historical-linguistic context and a comment on the status of the varieties in the contact situation in Ulster

Within sociolinguistic theory, language change is regarded as the output of changes in the demographic composition in the speech community (Labov 2001: 503-4). Colonisation during the 17th century brought a radical change in the linguistic landscape in Ulster. The input varieties Scots and varieties of English represented different SVC systems, which competed in the *feature pool* (Mufwene 2001: 30) in Ulster. The stability in settler patterns and moderate dialect contact during the 17th and 18th centuries in most parts of Ulster suggest

that SVC patterns within each input variety have remained stable. Nevertheless, deciding how well input varieties were preserved in different parts of Ulster is problematic, as pockets of Scots existed among the English in virtually every county of Ulster (Braidwood 1964: 5-45).

Apart from language contact, we may assume that language attitudes had an impact on the outcome of the feature competition in Ulster. Superstrate English was the language of administration and education and enjoyed high prestige as the key to job opportunities, future and progress (Harris 1991: 194; McCafferty 2005a: 340). It was further a door-opener for the ca. 250.000 who emigrated to America (Miller & Kennedy 2003: 657). In contrast, Irish was associated with poverty and famine (Hickey 2011: 17). These status differences inarguably accelerated the language shift. The attitudes towards English also affected the position of USc. Soon after the introduction to Ulster, USc was replaced by English as the language of education and commerce. USc remained the language in the homes of the Scots population and in the countryside (Montgomery 2006: 297; Ulster-Scots Agency 2015, accessed 23 September 2015), but the 'intolerable Scoto-Hibernic jargon which pierces the ear so unmercifully' (Carleton 1834: viii) encountered prejudices throughout the 18th and 19th centuries. That USc had such low prestige in the contact situation makes it less likely that USc comprised the prestigious SVC system on which changing SVC systems in other varieties were modelled (cf. theory on prestige of features, Labov 1972: 319-20). In the next section we present SVC identified in previous studies on data from Ulster.

2.3 Previous research on SVC in Ulster

2.3.1 Approaches to the study of SVC

SVC in Irish English has received moderate attention compared to that of other varieties. Publications before the 1980s are few: Among the early treatments of English in Ireland, only Hume (1878) comments on SVC, and notes the existence of an NP/PRO distinction and the PSC (see Section 2.1.1 for definitions). Later, P.L. Henry (1958: 130-131) confirms the existence of plural verbal *-s*, but does not mention the NSR.

The literature on SVC in Ulster comprises more recent comments and quantitative studies on present-day and historical varieties. Apart from a few generativist studies (e.g. A. Henry 1995; Corrigan 1997), most studies are conducted within the theoretic framework of language variation and change. Language variation and change is based on the view that language is inherently variable (Labov 1969), and that language users have access to alternative forms that are conditioned by environment (Nevalainen 2009: 80). The variationist studies of SVC in Ulster are therefore 'descriptive-interpretive' (Sankoff 1988: 143) as they

seek to determine *how* and to *what degree* the variability of verbal *-s/-Ø* is embedded in context (Tagliamonte 2013: 129).

As becomes apparent, studies on SVC in 18th-century Ulster are few and based on relatively small data sets (Montgomery 1995, 1996, 1997a, 1997; Montgomery & Robinson 1996, 2000). The studies further take few factors into account, and do not test the *probability* of finding verbal *-s* in a certain linguistic or extralinguistic environment. This literature review therefore includes studies on SVC in data produced between the late 16th century and the present.[8] Particular focus is on findings that are relevant to the research questions of this study. As we will see, the studies investigate the strength of the NSR, as defined by the workings of the NP/PRO distinction and the PSC.[9] We further see that different studies find that factor groups other than the NSR-related NP/PRO constraint and the PSC affect the distribution of verbal *-s*, e.g. type of NP subject, verb type and clause type. Some studies investigate the co-variation of verbal *-s* and social factors. Sociolinguistics rests on the view that different social evaluations are associated with the variants (Chambers 2002: 4). Whereas studies of SVC in historical varieties in Ulster primarily deal with geographic variation (e.g. McCafferty 2003, Pietsch 2012), some studies on contemporary varieties (e.g. Policansky 1982; Pietsch 2005a; Tagliamonte 2009) include social factors such as sex. Finally, a few studies using historical data (Montgomery 1997b; McCafferty 2003, 2005b; Pietsch 2012) are concerned with the question of how the NSR emerged in parts of Ulster.

In the review the studies are presented according to the century in which the data originate. Quantitative results are compared in tables. As most studies focus on verbal *-s* with plural 3rd person subjects (NPs vs. *they*) frequencies with these subjects are compared in the tables. Section 2.4 discusses the literature and presents the working hypotheses of this study. A presentation of the discussion on how the NSR emerged in Ulster closes Section 2.4.

[8] Studies and comments on SVC in past and present varieties in the south of Ireland (P.L. Henry 1958: 143; Kallen 1991; Montgomery 1996, 1997b; Moylan 1996: 311-12; Filppula 1999, 2000; Boling 2003: 654-655; McCafferty 2004, 2005b; Hickey 2007a: 184, 2007b: 145; Cesiri 2012: 30; Corrigan, Edge & Lonergan 2012; Pietsch 2012) are interesting, as varieties in the south of Ireland received English input from the north of England, the North Midlands and Southern England (and not Scotland). NSR-like patterns in the southern Irish material therefore suggest that the NSR was transplanted to Irish English (IrE) from sources outside Scotland. However, due to the scope of this analysis, focus is on Ulster.

[9] Studies on SVC in data from Ulster and beyond that attempt at giving theoretical accounts of the TSC and/or the PSC are e.g. Kallen 1991; A. Henry 1995; Corrigan 1997; Börjars & Chapman 1998; Pietsch 2005a; Adger 2006; Adger & Smith 2010; de Haas 2011; Buchstaller et al. 2013 and Clarke 2015. Central to the theoretical accounts offered is the treatment of verbal *-s* as the non-agreeing default form that applies when subject-verb concord cannot take place. It follows from this interpretation that certain environments trigger the agreement marker (i.e. the zero form). In order to explain the workings of the constraints, the theoretical accounts therefore try to define a common feature of the environments that do not trigger agreement. The proposed accounts are interesting. However, it is beyond the scope of this study to comment on possible underlying explanations of the TSC and PSC in the 18th-century Ulster data. This could be done in a later study.

2.3.2 Studies on subject-verb concord in 16-17th-century data

The literature on SVC during the late 16th century and 17th century comprises one comment on Irish English in general (Bliss 1979: 291), in addition to a handful of quantitative studies that focus on the NSR in Scotland and Ulster during the plantation period (Montgomery 1994, 1997a; Montgomery & Robinson 1996, 2000). In the following I review the quantitative studies.

The quantitative studies use different types of data, and data that originate in different regions: Montgomery (1994) compares the SVC of nine mainland Scots texts from the 14th to the mid-17th century. The two latest text samples are relevant to this study: The 'Memorials of the Montgomeries (late 16th-early 17th-century letters) and 'The Red Book of Grandtully' (letters dating from 1639-1672) represent Scots during the period of heavy Scots emigration to Ulster. These sources are therefore expected to reflect the Scots input SVC in Ulster. Montgomery & Robinson (1996, 2000) is further based on four sets of data produced in different parts of Ulster. The Duntreath letters (1609-1631) are written by the household of Stirlingshire, north of Glasgow, and family members who have emigrated to Antrim.[10] The McClelland Papers (1612-1624) are leases, receipts and other documents that represent first generation Ulster Scots in Antrim (Montgomery & Robinson 1996: 415). Due to the origin of the Plantation Papers (1611-1622, official reports and letters from Londonderry), Montgomery & Robinson (1996, 2000), assume that this data set reflects the continuation of English as used in the south of England. As seen in Section 2.2.2, London companies were granted areas in Londonderry. However, these plantations were not successful, and Scots dominated here by the 1630s (Robinson 1994: 91, 115). Accordingly, the Plantation Papers may reflect Ulster Scots SVC. The final data sample in Montgomery & Robinson (1996, 2000) is the Templepatrick Session Book (1646-1647, minutes of the Presbyterian Church in Antrim), which is assumed to represent language of second generation planters in an area with both Scots and English influence.

Table 2.1 compares the results on the distribution of verbal *-s* across the relevant data sets in Montgomery (1994) and Montgomery & Robinson (1996, 2000). The results are in general based on few tokens. However, the comparison highlights certain tendencies in the SVC patterns in different parts of Ulster during the plantation period.

[10] SVC in a smaller sample of the Duntreath letters is investigated in Montgomery (1997a).

Table 2.1 Verbal *-s* in 16-17th-century data

16-17th-century data	Text origin, text type	Verb type	NP subjects		*They*	
			N *-s*/ total	% *-s*	N *-s*/ total	% *-s*
Memorials of the Montgomeries, late 16th century, early 17th century. Source: Montgomery (1994: 87-92, Tables 1, 4, 5). [a]	Scotland. Letters.	BE [b]	27/73	37	0/17	0
		Other verbs	31/34	91 [c]	1/13 [d]	8
		BE + other verbs	58/107	54	1/30	3
Grandtully letters, 1639-1672. Source: Montgomery (1994: 87-92, Tables 1, 4, 5). [a]	Scotland. Letters.	BE [b]	14/92	15	0/9	0
		Other verbs	46/65	71	2/21 [e]	10
		BE + other verbs	60/157	38	2/30	7
Duntreath Letters, 1609-31. Source: Montgomery & Robinson (1996: 418, Table 1; 2000: 49, Table 1).	Scotland and Co. Antrim, Ulster (area with Scots settlement). Letters.	BE	6/13	46	0/6	0
		Other verbs	19/44	43 [f]	0/9	0
		BE + other verbs	25/57	44	0/15	0
McClelland Papers, 1612-1624. Source: Montgomery & Robinson (1996: 418, Table 1; 2000: 49, Table 1).	Co. Antrim, Ulster (Area with Scots settlement). Leases, receipts and other documents.	BE	3/17 [g]	18	0/0	0
		Other verbs	6/30	20	0/7	0
		BE + other verbs	9/47	19	0/7	0
Plantation Papers, 1611-1622. Source: Montgomery & Robinson (1996: 418, Table 1; 2000: 49, Table 1).	Londonderry (origin uncertain). Business letters, reports and official surveys	BE	7/13 [h]	54	0/3 [h]	0
		Other verbs	0/14 [i]	0	0/3	0
		BE + other verbs	7/27	26	0/6	0
Templepatrick Presbyterian Session book, 1646-1647. Source: Montgomery & Robinson (1996: 418, Table 1; 2000: 49, Table 1).	South Antrim (area with Scots and English influence). Minutes.	BE	8/26	31	0/7	0
		Other verbs	18/33 [j]	55	2/6 [e]	33
		BE + other verbs	26/59	44	2/13	15

NOTES:

a Tokens of *-s* in existential constructions are excluded in the original study (Montgomery 1994: 87-92, Tables 1, 4 and 5). These tokens are included in Table 2.1 to make comparison possible.

b Results of BE past and present are collapsed to make comparison possible. Source: Montgomery 1994: 90-92, Tables 4, 5.

c In Montgomery (1994: 88, Table 1) total NP with verbal *-s* is 90%. Assuming that the numbers given in Montgomery (1994: 88, Table 1) are correct, the percentage is changed to 91% in this table.

d Token of *they* with verbal *-s* is with adjacent verb and subject.

e Token(s) of *they* with verbal *-s* are with nonadjacent verb and subject.

f In Montgomery & Robinson (1996) total NP with verbal *-s* is 19/44, 41,9%; in Montgomery & Robinson (2000) it is 19/44, 41,0%. Assuming that the numbers are correct, the percentage is changed to 43%.

g In Montgomery & Robinson (1996) totals for plural NP subject with verbal *-s* is 3/1, 17.6%. In Montgomery & Robinson (2000) it is 3/17, 17.6%. I insert the latter numbers in Table 2.1 above.

h Totals include two instances of BE (Montgomery & Robinson 1996: 418, Table 1).

i Totals include four verbs ending in *-eth* (Montgomery & Robinson 1996: 418, Table 1).

j In Montgomery & Robinson (1996), the totals given are 8/33, 54.5%. In Montgomery & Robinson (2000) the totals are 18/33, 54.5%. I insert the latter numbers.

Sources: Montgomery (1994), Montgomery & Robinson (1996, 2000).

The most striking similarity that emerges from the comparison in Table 2.1 is the near-categorical NP/PRO split in all data sets. In the mainland Scots material (Montgomery 1994)

distributions of verbal *-s* (tokens with BE and 'other verbs' collapsed) with plural NPs range between 58/107, 54% in the Memorials of the Montgomeries and 60/157, 38% in the Grandtully letters. Montgomery (1994: 93) suggests that the decrease in verbal *-s* with NP subject reflects Anglicisation (see also Montgomery 1991). In the mainland Scots data verbal *-s* is rare with the personal pronouns *they* (Table 2.1).

The data sets produced in Ulster demonstrate the continuation of the NP/PRO constraint in Ulster (Table 2.1). In these data sets the distribution of verbal *-s* with plural NP subjects range between 9/47, 19% in the Ulster Scots McClelland Papers and 26/59, 44% in the Templepatrick Presbyterian Session book. The lower rate of verbal *-s* in the McClelland Papers may be an effect of genre; while letters are repeatedly found to reflect nonstandard language (Montgomery 1995: 28; Schneider 2002: 75-77), legal documents such as those in the McClelland Papers could be expected to be more formal and thus approach the Standard. As Table 2.1 shows, the plural personal pronoun *they* occurs with verbal *-s* in the Templepatrick Session book only, in which case the PSC applies.

Another tendency in Table 2.1 is the preference for verbal *-s* with 'other verbs' compared to the verb BE in the mainland Scots Memorials of the Montgomeries and Grandtully letters, and in the Templepatrick Session Book. This shared feature could suggest a Scots verb type constraint on the distribution of verbal *-s*. However, as the Duntreath letters and McClelland Papers (which originate in areas with heavy Scots settlement) do not show such patterning, this is less likely.

Considering the Plantation Papers, two observations are interesting: 1) the preference for verbal *-s* with the verb BE (Table 2.1), and 2) the claim that the PSC does not operate in the Plantation Papers (Montgomery & Robinson 1996: 418-20). The authors interpret the special behaviour in the Plantation Papers as evidence that this data represents a distinct southern English input SVC system in Ulster during the 17th century. As mentioned, the southern English origin of this data set is questionable. However, if Montgomery and Robinson (ibid.) are right concerning the southern English origin of the Plantation Papers, this is support for a categorical NP/PRO distinction being a southern English input feature in Ulster during the plantation period. Considering that NSR-like patterning is identified in historical material in the south of England (e.g. Bailey, Maynor & Cukor-Avila 1989; Schendl 1996, 2000; Wright 2002) (Section 2.1.3), the link suggested in Montgomery & Robinson (1996, 2000) is possible.

The impact of type of NP subject is investigated in Montgomery (1994), but not in Montgomery & Robinson (1996, 2000). However, in Montgomery (1997a: 130) a smaller

sample of the 17th-century Duntreath letters demonstrates a similar tendency as in Montgomery's (1994) Mainland Scots Memorials of the Montgomeries and Grandtully letters (see Table A1 in Appendix 1 for comparison of the distribution of verbal *-s* across subject types included in quantitative studies. Note that distributions of verbal *-s* with relative pronouns are quantified in Montgomery (1994) and mentioned in Montgomery (1997a)). This tendency regards the co-occurrence of verbal *-s* with the subject types existential *there* with plural logical subject (hereafter existential *there*), conjoined NPs, and relative pronouns, presented in Examples 2.1-2.3 respectively.

(2.1) ***their hes*** *bin* ***servants of my Lord Cheichesters*** *heir* (Montgomery 1997a: 130, my emphasis)

(2.2) ***Adam McBurnie and James Morison says*** *you have overcharged them…* (Montgomery 1997a: 130, my emphasis)

(2.3) *I have this day reseved letters from Scotland* ***quhich urgis*** *me to go over …* (Montgomery 1997a: 130, my emphasis)

The correlations between these NP subjects and verbal *-s* represent widespread phenomena. The use of existential *there* + verbal *-s* dates from Middle English (Visser 1963: 74; Fisher 1992: 367), and is according to Biber et al. (1999: 186) today more frequent than the standard zero form in conversation. Attestations in studies on varieties far apart in time and space include Schreier (2002) and Tagliamonte (2009) for varieties across the world; Tagliamonte (1998: 162), Nevalainen (2009: 84), Childs (2012: 335) and Buchstaller et al. (2013:105) for varieties in England; Montgomery (1994: 87) for Scots; Corrigan (1997: 217), Filppula (1999), A. Henry (2002: 269) and McCafferty (2003, 2004) for Irish English; Eisikovits (1991: 243) for Inner-Sydney English; Clarke (1997: 237) for Newfoundland English; Clarke (2015) for Standard English. Eisikovits (1991: 245) suggests that the collocation *there* + verbal *-s* is frequent because *there* takes up the preverbal, adjacent position of the subject in the unmarked SV-clause in English. Accordingly, the language user interprets *there* as the singular subject of the clause, and nonstandard verbal *-s* applies. The widespread construction has led to the suggestion that existential *there* + *-s* in fact is a universal in English (Chambers 2004), or at least a fixed expression (Biber et al. 1999: 191). Accordingly, during the last decade scholars (e.g. Pietsch 2005a; Cole 2008) have claimed that existential *there* should not be confused with the workings of the NSR, and thus be excluded from the study of the NSR.

Similarly, examples of the construction *Conjoined NPs* + *-s* are found in OE (Visser 1963: 80; Traugott 1992: 179). It is identified in both traditional NSR-varieties and non-NSR varieties (e.g. Montgomery, Fuller & DeMarse 1993; A. Henry 1995: 18; Eisikovits 1991:

249; Hazen 1996: 34; Godfrey & Tagliamonte 1999; Beal & Corrigan 2000; McCafferty 2003; Cole 2008: 108; Buchstaller et al. 2013: 106), and in Standard English (Clarke 2015). The widespread phenomenon is frequently explained in terms of cognitive processing and the closest conjunct hypothesis (see e.g. Quirk et al. 1985: §7.24, 7.30, 7.32; Clarke 2015: 87). Accordingly, plural NPs may take verbal *-s* because the language user use the verb form (*-s*/*-Ø*) that shows concord with the closest conjunct, and not the subject head.

Finally, the relative pronoun cannot be said to have the semantic function of a subject in a clause. Rather, the *antecedent* to the relative pronoun signals the number of the clause. Nevertheless, examples of co-occurrence of relative pronoun + *-s* are found throughout the history of English, see e.g. Cole (2014: 110) for OE, Visser (1963: 91) for Middle English, and McCafferty (2003, 2004), Pietsch (2005a: 152-153, 2012: 371), Hickey (2007a: 181) and Cole (2008, 2014) for past and present varieties across the British Isles.

To summarise, the literature on SVC during the 17th century suggests the strength of the NSR in Scotland and Ulster prior to and during the period of heavy plantation in Ulster. The studies are based on small data sets. However, when interpreted together, they show that the NSR was transplanted in Ulster with the Scots settlers. As the origin of the Plantation Papers is uncertain, we cannot readily accept that this data reflects input of the NP/PRO distinction from southern English. As no study is based on 17th-century data that represents regions where English settlement dominated (e.g. the south of Ulster, see Section 2.2.2) we do not have evidence of the SVC used by English settlers during this early period.

2.3.3 Studies on subject-verb concord in 18th-century data

The literature on SVC in 18th-century Ulster (Montgomery 1995, 1996, 1997a, 1997b; Montgomery & Robinson 1996) documents the strength of the NSR during a century characterised by massive emigration, particularly to North America. The studies are based on personal correspondence written during different periods of the 18th century (two data sets extend into the 19th century, see Table 2.2) by speakers of IrE who had emigrated to the US.

Place of origin of writer is specified in Montgomery's (1996, 1997b) studies of the NSR in George Galphin's (1710-1780) business letters and letters written to government officials (Montgomery 2000: 381).[11] Galphin grew up in northern Armagh, an area that was populated mainly by English settlers from the Southeast and Northwest Midlands in England during the plantation period (Corrigan 1997: 67, 70, in McCafferty 2003: 124). Montgomery (1997b: 249-50) nevertheless claims that Galphin's writings reflect the USc SVC pattern. As

[11] A smaller sample of the Galphin letters is analysed in Montgomery (1996) (see Table A1 in Appendix 1).

seen in Section 2.2.2, Map 2.1 (Robinson 1994: 94), northern Armagh was in relative close position to regions with Scots settlement (i.e. South Antrim (across Lough Neagh) and Central Armagh). Armagh was further connected to southern and northern Antrim by the turnpike roads (Corrigan 2010: 11). It is therefore possible that the Galphin data reflects levelling induced by dialect contact between descendants of English and Scots.

The remaining studies on SVC in 18th-century Ulster are based on emigrant/ immigrant letters that represent Ulster. As place of origin of these data sets are not further specified, we do not know if they represent Ulster Scots, varieties of English or a mix of both. The degree of representivity is also uncertain as e.g. the Ulster emigrant letters, 1736-1871, were chosen with the criterion that they comprised nonstandard language use and the NSR (Montgomery 1995). Table 2.2 compares the results from the studies on 18th-century data.

Table 2.2 Verbal *-s* in 18th-century data

18th-century data	Text origin, text type	Verb type	NP subjects		*They*	
			N *-s*/ total	% *-s*	N *-s*/ total	% *-s*
Ulster emigrant letters, 1736-1871. Source: Montgomery (1995: 38-39, Tables 1-3).	Ulster. Letters.	Copula BE, present tense	95/176	54	1/61 [a]	2
		Other verbs	88/119	74	1/66 [b]	2
		BE + other verbs	183/295	62	2/127	2
Ulster emigrant letters, 1737-97. Source: Montgomery (1996: 226, Table 5).	Ulster. Letters.	Copula BE	42/73	58	0/11	0
		Other verbs	31/41	76	0/13	0
		BE + other verbs	73/114	64	0/24	0
Emigrant letters, 1737-99. Source: Montgomery & Robinson (1996: 418, Table 1).	Ulster. Letters.	Copula BE	36/62	58	0/11	0
		Other verbs	30/40	75	0/14	0
		BE + other verbs	66/102	65	0/25	0
Ulster immigrant letters, 1736-1871. Source: Montgomery (1997a: 132, Table 7; 136, Table 13).	Ulster. Letters.	BE (copula, auxiliary), present tense	53/97	55	1/10 [b]	10
		Other verbs	28/55	51	0/22	0
		BE + other verbs	81/152	53	1/32	3
Galphin, 1752-1755. Source: Montgomery (1997b: 236, Table 3).	Northern Armagh, Ulster. Letters.	BE, present tense	43/46	93	0/20 [c]	0
		Other verbs	47/50	94	0/62 [c]	0
		BE + other verbs	90/96	94	0/82	0

NOTES:

a In the text in Montgomery (1995: 38) total of *they* with verbal *-s* is 1/62, 2%. In Montgomery (1995: 38, Table 1) the total is 1/61, 2%. Inserted here is the result in Montgomery (1995: 38, Table 1). The token of *they* taking verbal *-s* is with non-adjacent subject and verb.

b Token of *they* taking verbal *-s* is with non-adjacent subject and verb.

c Totals include adjacent *they* only.

Sources: Montgomery (1995, 1996, 1997a, 1997 b), Montgomery & Robinson (1996).

The comparison of numbers in Table 2.2 suggests the continuation of the NSR in Ulster. The NP/PRO distinction is categorical or near-categorical in all data sets. Frequencies of verbal *-s*

with plural NP subjects range between 81/152, 53% (tokens of BE and 'other verbs' collapsed), in the Ulster immigrant letters (Montgomery 1997a) and 90/96, 94%, in the Galphin data (Montgomery 1997b). The high frequency of verbal *-s* in the Galphin data may reflect interspeaker preference. The PSC applies in the only three cases in the 18th-century data sets where *they* takes verbal *-s* (Table 2.2, notes *a, b*).

Comparing the distributions of verbal *-s* according to verb type (Table 2.2) we find the preference for verbal *-s* with 'other verbs' in the Ulster emigrant letters 1736-1871 (Montgomery 1995), Ulster emigrant letters 1737-97 (Montgomery 1996) and Emigrant letters 1737-99 (Montgomery & Robinson 1996). This matches the results in the 17th-century mainland Scots Memorials of the Montgomeries and Grandtully letters (Montgomery 1994) and in the Ulster Scots or English Templepatrick Session book (Montgomery & Robinson 1996, 2000). In contrast, the Ulster immigrant letters 1736-1871 (Montgomery 1997a) and Galphin data (Montgomery 1997b) display an equal distribution of verbal *-s* with the verb BE and 'other verbs' (Table 2.2). This matches the 17th-century Mainland Scots/Ulster Scots Duntreath letters (Montgomery & Robinson 1996, 2000; Montgomery 1997a) and Ulster Scots McClelland Papers (Montgomery & Robinson 1996, 2000) (see Table 2.1). As the origin of the 18th-century 'emigrant' data in Table 2.2 is not specified, we do not know if the result on verb type reflects a mean average based on data from several regions.

Most studies on 18th-century data (Montgomery 1995, 1996 and 1997a, see Table A1 in Appendix 1) distinguish between subject types. Montgomery (1995: 38-39) uses most subject categories, and finds internal variation in the distribution of verbal *-s* depending on the verb that is used in the clause: With BE, existential *there* is the subject that most frequently co-occurs with verbal *-s* (18/30, 60%), followed by common noun (53/95, 56%), conjoined NPs (20/37, 54%) and the relative pronoun (4/14, 29%). The hierarchy is somewhat different with 'other verbs'. The correlation between existential *there* and verbal *-s* is corroborated in Montgomery (1996: 225-6; 1997a: 136) (Table A1 in Appendix 1). Montgomery (1997b: 234-235) provides examples of verbal *-s* with the same subject types mentioned above, and adds the indefinite quantifying pronoun (*several*) to the list of subject types taking verbal *-s*. The use of verbal *-s* with indefinite pronouns that denote plurality is recorded in data from early Old English (Visser 1963: 79).

In sum, the studies on data from the 18th century are few. As all studies apart from those on the Galphin data (Montgomery 1996, 1997b) fail to specify the origin of the data, and presumably treat data from different regions together, these studies do not give us much information on the distribution of the NSR in regions across Ulster during the 18th century.

2.3.4 Studies on subject-verb concord in 19th-century data

The literature on SVC in Ulster during the 19th century comprises comparative quantitative analyses (Kallen 1991; McCafferty 2002, 2003 2005a, 2005b; Pietsch 2012) based on data from different regions of Ulster. Presented here are Kallen (1991), McCafferty (2003) and Pietsch (2012).

Kallen (1991) analyses SVC in the literary texts of Ulster-born William Carleton. Carleton (1794-1869) is a bilingual speaker of Irish and English born in Clogher, south Co. Tyrone (Kelly 2007). As seen in Section 2.2.2, this area was initially settled by the Scots (Robinson 1994: 94, see Map 2.1); however, English settlement dominated in the area from the late 17th century (Robinson 1994: 116). Language contact may therefore have taken place in this region. Today the region is associated with the dialect MUE (Harris 1984: 117, see Map 2.2, Section 2.2.2). Literary dialects are claimed to be less reliable than other sources because the writer may exaggerate certain features (Maynor 1988: 110-111). However, McCafferty's (2005a) comparison of SVC in the Carleton data and in texts written by a close contemporary, shows that Carleton is representative.

McCafferty (2003) is a study of the NSR in letters written by emigrants from Seagoe in northern Co. Armagh, Moira in west Co. Down and Ballinamallard in Co. Fermanagh. These places were dominated by English settlement from the 17th-century plantation period and are today associated with the MUE dialect zone. The study also includes data from Greyabbey in east Co. Down, which lies within the main area of Scots settlement during the 17th century and is today associated with the dialect USc (Harris 1984: 117; Robinson 1994: 94, see Section 2.2.2, Maps 2.1-2.2).

Finally, Pietsch (2012) is a diachronic study of verbal *-s* in NSR-environments in data collected from the *Hamburg Corpus of Irish English* (HCIE) representing the Northeast Ulster, i.e. an area settled by the Scots (Robinson 1994: 94, see Section 2.2.2, Map 2.1) and Central Ulster (the remaining areas of Ulster) between 1820 and 1920 (Pietsch 2012: 367).[12] The results from Kallen (1991), McCafferty (2003) and Pietsch (2012) are compared in Tables 2.3 and 2.4.

[12] Pietsch (2012) does not define what characterises the 'NSR-environment', but explains that the analysis is based on the traditional TSC and PSC (Pietsch 2012: 357-358), and regards 'all those environments where it [i.e. verbal *-s*] is licensed by the NSR but not by the standard system' (Pietsch 2012: 367). The NSR-environment in Pietsch (2012) thus probably comprises clauses where the subject is either a plural NP or a non-adjacent personal pronoun. As a consequence of this procedure, Pietsch's (2012, see Table 2.4) results are not strictly comparable with others' (e.g. Kallen 1991; Montgomery 1995; McCafferty 2003). Pietsch (2012) nevertheless reflects the same trends as e.g. Kallen (1991) and McCafferty (2003).

Table 2.3 Verbal *-s* in 19th-century data

19th-century data	Text origin, text type	Verb type	NP subject		*They*	
			N *-s*/ total	% *-s*	N *-s*/ total	% *-s*
Carleton, W., 1845. Source: Kallen (1991: 26, Table IV).	Tyrone, Ulster. Literary text.	BE (present, past)	35/55	64	0/33	0
		Other verbs	20/31	65	0/26	0
		BE + other verbs	55/86	64	0/59	0
Ulster-Australian emigrant letters, 1843-1881 Source: McCafferty (2003: 130, Table 7).	Fermanagh, Armagh, Moira and Greyabbey in Ulster. Personal letters.	All verbs	169/236	72	4/105 [a]	4

NOTE*:*
a Tokens of *they* with verbal *-s* are with non-adjacent subject and verb.
Sources: Kallen (1991), McCafferty (2003).

Table 2.4 Verbal *-s* in 19th-century HCIE data

19th-century data	Text origin, text type	Verb type	N *-s*/ total NSR-environments	% *-s* in NSR-environments
HCIE corpus, Northeast Ulster, 1820-1920. Source: Pietsch (2012: 368-70, Tables 1-2).	Northeast Ulster (Scots settlement) Mostly emigrant letters.	BE (present and past)	268/526	51
		Other verbs	170/306	56
		BE + other verbs	438/832	53
HCIE corpus, Central Ulster, 1820-1920. Source: Pietsch (2012: 368, 368-70, Tables 1-2).	Ulster areas beyond areas with Scots settlement. Mostly emigrant letters.	BE (present and past)	431/789	55
		Other verbs	266/523	51
		BE + other verbs	697/1312	53

NOTE:
In this table numbers for all decades in Pietsch (2012: 369-70, Table 2) and numbers for BE past and present (Pietsch 2012: 369-70, Table 2) are collapsed for comparison.
Source: Pietsch (2012).

Tables 2.3 and 2.4 suggest the continuation of the NSR in Ulster during the 19th century. With plural NP subjects, the frequency of verbal *-s* ranges between 55/86, 64% (numbers for BE and 'other verbs' collapsed) in Kallen (1991) and 169/236, 72% in McCafferty (2003). The four violations of the NP/PRO distinction in McCafferty (2003) are accounted for by the PSC. Interestingly, McCafferty (2003: 130) finds that the PSC operates with plural NPs subjects (with plural NP subjects the rate of verbal *-s* in the non-adjacent environment is 26/32, 81%, compared to 143/204, 70%, in the adjacent environment). This tendency is found also in present-day Ulster (Policansky 1982; Pietsch 2005a: 113-115).

The studies investigate the impact of verb type. McCafferty (2003: 130) finds that past BE is most likely to take verbal *-s* (30/52, 58%, factor weight .703), followed by HAVE/DO (20/42, 48%) and lexical verbs (25/55, 45%). BE present is least likely to occur with verbal *-s* (98/192, 51%, factor weight .404). Pietsch (2012: 369-70) uses other verb categories. However, his result corroborates the hierarchy in Northeast Ulster material. In the data from Central Ulster, Pietsch (2012) finds that verbal *-s* is more frequent with past BE, while there is an equal distribution of verbal *-s* with 'other verbs' and present BE. Kallen (1991: 30) reports

a preference for verbal *-s* with BE in opposition to 'other verbs'. A closer look at the numbers in Kallen (1991: 26, Table IV) reveals that his result is a consequence of tokens of personal pronoun subjects and NP subjects being collapsed. When NP and personal pronoun subjects are treated separately, as in Table 2.3, verb type becomes irrelevant in the Carleton data.

The studies investigate the impact of type of subject (see Table A1 in Appendix 1). Kallen (1991: 26) and McCafferty (2003, 130) agree that existential *there* is the subject type that takes verbal *-s* most frequently (14/15, 93% in Kallen (1991); 30/35, 86% in McCafferty (2003).[13] This is in line with the general trend found in studies of English in Ireland and beyond (see Section 2.3.2 and Table A1, Appendix 1). McCafferty (2003: 127) further introduces the subject type collectives (e.g. ***Cattle is*** *cheap*) to the study of SVC in Ulster, and finds that this subject type takes verbal *-s* at the same rate (23/27, 85%) as existential *there*. The use of verbal *-s* with collectives has a long history in English: During Middle English there was an increasing tendency to treat collectives as plural, although some collectives (e.g. *people*) were frequently treated as singular (Fisher 1992: 365). In Standard British English, collective subjects variably take verbal *-s* and *-Ø* according to whether they are singular or plural in reference (Quirk et al. 1985: 19). In Standard American English verbal *-s* is the rule with collectives.[14] In McCafferty (2003: 128- 130) the subject types 'other NPs' (this category comprises common NPs, NPs with quantifier and embedded questions with inverted word-order), conjoined NPs and relative pronoun with plural antecedent occur with verbal *-s* in 60%-70% of the cases (see Table A1 in Appendix 1). Kallen (1991: 26) confirms the frequent collocation of verbal *-s* with NPs that denote mass/quantifier and conjoined NPs. Notably, Kallen's (1991) study contrasts with other studies (e.g. Montgomery 1995; McCafferty 2003; Pietsch 2012) in treating the antecedent to the relative pronoun, and not the relative pronoun itself, as the clause subject. Consequently, the relative pronoun in e.g. *it's* ***they that does*** *come round uz* (Kallen 1991: 28) becomes an intervening element between the antecedent and the verb, thus making this a non-adjacent environment. Kallen (1991: 23, 26) adds that NPs with determiner *them* (e.g. ***them potatoes is*** *nice*) take verbal *-s* in Carleton's texts.

Pietsch (2012: 370-371) analyses verbal *-s* in NSR-environments across syntactic environments rather than subject types and confirms the impact of conjoined NPs, plural NPs and the relative clause with plural antecedent, in addition to the conjoined verb phrase (e.g. ***they*** *sing and* ***dances*** (Pietsch 2012: 371; my emphasis). This environment is defined by the PSC in other studies (e.g. Montgomery 1994, McCafferty 2003, *inter alia*).

[13] Pietsch (2012) excludes tokens with existential *there* from his study of verbal *-s* across types of subjects.
[14] Notably, Kallen (1991: 23) treats the noun *people* as a mass noun; McCafferty treats it as a collective.

McCafferty (2003) and Pietsch (2012) investigate geographic variation in the 19th-century data and investigate the significance of dialect zones to the distribution of verbal *-s*. As no maps showing the dialect zones during the period exist, present-day dialect zones are used in the studies (cf. Map 2.2, Section 2.2.2). As mentioned, 17th-century geographic patterns of Scots and English settlements broadly overlap with present-day dialect zones, thus indicating that the dialect zones have remained stable through the centuries. Table 2.5 compares the distributions of verbal *-s* in data representing places that are today associated with USc and MUE.[15]

Table 2.5 Verbal *-s* across geographic region/ dialect zone in 19th-century data

19th-century data	Region	Dialect zone	N *-s*/ total	% *-s*	Factor weight [a]
Ulster-Australian emigrant letters, 1843-1881 (Source: McCafferty 2003: 130, Table 7).	Fermanagh	MUE	61/102	60	.583
	Greyabbey, Co. Down	Usc	47/103	46	.528
	Armagh	MUE	51/91	56	.490
	Moira, Co. Down	MUE	14/45	31	.281
HCIE corpus, 1820-1920. (Source: Pietsch 2012: 368-70, Tables 1-2).	Northeast Ulster	USc	438/832	53	
	Central Ulster	MUE	697/1312	53	

NOTES:
a Factor weights are given only in McCafferty (2003).
b In Table 2.5 numbers for all verb types (Pietsch 2012: 369-70, Table 2) are collapsed to make comparison possible.
Sources: McCafferty (2003), Pietsch (2012).

Table 2.5 shows that area rather than dialect zone seems to be the relevant factor to variation in 19th-century Ulster, as the rate of verbal *-s* ranges between 31% in in Moira, Co. Down to 60% in Fermanagh, both areas within the MUE dialect zone (McCafferty 2003: 131-132). The distribution of verbal *-s* in Greyabbey, an area that lies within the USc dialect zone, is 46%. Given that the NSR is solid in the data from regions that are associated with English input varieties and MUE, McCafferty (2003) argues that it is likely that the NSR was introduced to these regions with English settlers. We return to this discussion in Section 2.4.3. Pietsch (2012) finds equal distribution of verbal *-s* in NSR-environments in the Northeast Ulster (USc) and in the Central Ulster (MUE) data (53%) (Table 2.5). Pietsch (2012) does not study variation within dialect zones for these 19th-century data. However, Pietsch (2005a) identifies variation within the MUE dialect zone in Northern Ireland in data from the 1970s. This will be described in the following section.

[15] The results in McCafferty (2003) and Pietsch (2012) are not strictly comparable as McCafferty reports the frequencies of verbal *-s* in all environments, while Pietsch reports the frequencies of verbal *-s* in NSR-environments.

2.3.5 Studies on subject-verb concord in present-day varieties

The literature on SVC in present-day varieties in Ulster comprises a number of comments and quantitative studies that confirm the continuation of verbal *-s* and the NP/PRO distinction in MUE in Belfast (J. Milroy 1981: 12-13; Policansky 1982; L. Milroy 1987: 144, 152; A. Henry 1995, 2002), South Ulster English in south Armagh (Corrigan 1997), USc in Antrim (Montgomery 2006; Tagliamonte 2009) and in Down (Tagliamonte 2009), and in the north of Ireland in general (Pietsch 2005a, 2005b). Quantitative studies report different rates of verbal *-s*, (e.g. less than 12% in Belfast (L. Milroy 1987) compared to more than 95% in South Antrim (Corrigan 1997: 221). An adjacency effect is occasionally mentioned (J. Milroy 1981:12; Policansky 1982: 41-42; Corrigan 1997: 219; Pietsch 2005a: 100, 133-115).

Pietsch's (2005a) study of SVC in the *Northern Irish Transcribed Corpus of Speech* (NITCS) is more detailed than other studies and therefore presented here (Table 2.6).

Table 2.6 Verbal *-s* according to type of subject and degree of proximity in the NITCS

	Adjacent		Near-adjacent [a]		Non-adjacent		Total	
Type of subject	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***
I [b]	0/2209	0			2/80	2.5	2/2289	0.1
we, you, they [c]	18/5308	0.3			14/408	3.4	32/5716	0.6
Plural NPs	265/817	32.4	26/71	36.6	25/50	50.0	316/938	33.7

NOTES:
a Distributions in the near-adjacent environment are quantified only with plural NP subjects in Pietsch (2005a).
b Pietsch (2005a) excludes collocations *I was/I were* and *I says/says I* from the study.
c Pietsch (2005a) excludes the comment phrase *you know* from the study.
Source: Pietsch (2005a: 100, 113-115).

Pietsch (2005a) identifies a solid NP/PRO in NITCS (Table 2.6). He further shows that the PSC is operative with both personal pronoun subjects and plural NP subjects. This is in line with Policansky (1982) and McCafferty (2003). Interestingly, Pietsch (ibid.) introduces a three-step adjacency criterion, and finds that verbal *-s* is more frequent in the non-adjacent environment (i.e. clauses where a longer element such as a relative clause or a prepositional phrase intervenes between the subject head and the verb) than in the near-adjacent environment (i.e. clauses where a short element such as an adverbial intervenes) (Table 2.6).

Considering internal grading effect according to the TSC, we have seen that studies on historical varieties have found verbal *-s* to be frequent with existential *there*. Pietsch (2005a: 124-127) treats SVC with the subject existential *there* separately and reports that the geographic distribution of verbal *-s* in existentials is at odds with the zones where the NSR

strongly operates in present-day Northern Ireland. He further reports that verbal *-s* with existential *there* is sensitive to a different set of linguistic constraints than verbal *-s* that is related to the NSR (Pietsch 2005a: 134). Pietsch (ibid.) thus claims that 'existential *there* is … [an] area of variation which should be kept separate from the NSR'. Recent studies on verbal *-s* in other varieties of English, both where the NSR traditionally was robust (e.g. Cole 2008: 105; Childs 2012: 339) and elsewhere (e.g. Kirk, Butcher & King 2010: 18) have reached the same methodological conclusion.

Pietsch (2005a: 116-17) includes demonstratives into the analysis of the NSR and reports that verbal *-s* is particularly frequent with nonstandard demonstrative pronoun/determiner *them/thae* in NITCS. The result corroborates L. Milroy (1987: 152), who observes that nonstandard *themuns* takes verbal *-s* in present-day Belfast English, and Montgomery (2006: 312-13), who reports that verbal *-s* is preferable with the plural demonstratives *them* and *them yins* in USc in Antrim. A. Henry (1995) notes that verbal *-s* is favoured with the standard plural demonstrative pronouns (*these, those*) in Belfast English. Cole (2008: 99) observes the phenomenon in present-day varieties in England.[16]

Pietsch (2005a) analyses the co-occurrence of verbal *-s* and the relative pronoun. As seen, treatments of SVC in historical and present-day varieties in Ulster repeatedly list the relative pronoun with plural antecedent among the subjects that favour verbal *-s* (e.g. Policansky 1982; Harris 1993; Montgomery 1994, 1995; McCafferty 2003, 2004; Hickey 2007a). In line with Kallen (1991), Pietsch (ibid.) treats the antecedent to the relative pronoun as subject of the clause. He then cross-tabulates the distribution of verbal *-s* with plural NP antecedent subjects with clause type (relative clause vs. non-relative clause) (Table 2.7).

Table 2.7 Verbal *-s* according to clause types in NITCS

Type of subject (antecedent subject in the relative clause)	Relative clause		Non-relative clause		Total	
	N *-s*/total	% *-s*	N *-s*/total	% *-s*	N *-s*/total	% *-s*
Plural NP subjects, interrogatives and zero subject [a]	85/181 [b]	47	229/754 [b]	30	314/934 [b]	34

NOTES:

a Pietsch (2005a: 117, Table 5.10) distinguishes between several types of plural NP subjects. Numbers for these subject types are collapsed in Table 2.7.

b In Pietsch (2005a: 117, Table 5.10) the total numbers for all subject categories in the relative clause and non-relative clause are 84/181, 47%, and 231/757, 30%, respectively. Assuming that the numbers given for each subject category in Pietsch's table (2005a: 117, Table 5.10) are correct, I change the totals.

Source: Pietsch (2005a: 117).

[16] Note that Pietsch (2005a) in contrast to most studies does not treat existential *there*, relative pronouns, collectives and conjoined NPs among the subjects in the study.

As seen in Table 2.7, Pietsch reports a higher rate of verbal *-s* with plural NP antecedent subjects in relative clauses (85/181, 47%) as opposed to non-relative clauses (229/754, 30%). At first sight this contrast makes a strong argument for the impact of the relative clause environment on the realisation of verbal *-s*. However, the result may reflect an overlap between the factors clause type and PSC. This is so because the overt relative pronoun necessarily separates the antecedent subject from the finite verb in a normal SV-clause in English (e.g. *They wanted* ***the real boys*** *that* ***was*** *good at it.* (Pietsch 2005a: 111)). Accordingly, it could be posited that what Pietsch identifies as a 'relative clause-effect' in fact is a 'near-/non-adjacency effect'. In addition it is possible that the type of antecedent to the relative pronoun in the relative clause (i.e. whether it is a personal pronoun or a plural NP (NP/PRO distinction) may impact the occurrence of verbal *-s* in the relative clause. My thesis modifies Pietsch's (2005a) procedure slightly and investigates the impact of the relative clause/ type of relative pronoun vs. the type of antecedent subject and PSC on the distribution of verbal *-s* in the 18th-century data.

Pietsch (2005a) concludes that the NSR exists in all parts of Northern Ireland, and is particularly persistent in a northwest-to-southeast belt that covers both USc and MUE dialect zones (Pietsch 2005a: 104-105). Interestingly, Pietsch (2005a: 107) finds that females use verbal *-s* to a lesser extent than men in the north and in the south of the region. In line with network theory and the assumption that women have weaker network ties and therefore lead on in language changes (J. Milroy 1992: 89, 177-183; J. Milroy & L. Milroy (2014 [1985]: 89), Pietsch (2005a: 107) interprets the sex split as an indication that the NSR is in decline in these regions.

2.4 Discussion of background research and formulation of hypotheses

The aim of this thesis is to investigate the strength of the NSR in Ulster during the 18th century and to identify the degree by which verbal *-s* is constrained by other linguistic and extralinguistic factors than the NSR-related NP/PRO constraint and PSC. The thesis further seeks to add insight into the question of how the NSR emerged in parts of Ulster (c.f. Questions 1-3 in the Introduction).

The previous sections presented the relevant background to the study. The present section discusses results in previous research according to the research questions of this study. Based on topics introduced in this chapter, certain hypotheses can be formulated.

2.4.1 Discussion of research relevant to research question 1: The strength of the NSR

As seen in Section 2.1, nonstandard SVC is widespread. Several systems exist in the British Isles and beyond. Varieties in the north of England and Scotland have traditionally conformed to the NSR. Consequently, in these regions the distribution of verbal *-s* has been governed by the NP/PRO distinction and the PSC. Input varieties in Ulster from the 17th century mainly originated in regions where the NSR has traditionally been solid (Section 2.2). Settlers in Ulster originating in parts of southern England would also be familiar with NSR-like SVC.

As seen in Section 2.3.3, the amount of studies on data from the 18th century are few. Only Montgomery (1995) distinguishes between several subject types. In addition, the studies on the 18th-century data fail to present the variation according to region, and are therefore inconclusive as to the geographic distribution of verbal *-s*, and the strength of the NSR across regions in Ulster.

Reviewing the body of literature on SVC in Ulster, the strength of the NSR in 17th century-mainland Scots varieties as well as varieties in Ireland from the plantation period to the present becomes clear: An NP/PRO distinction is identified throughout the literature and in varieties from all centuries (e.g. J. Milroy 1981: 12-13; Policansky 1982; L. Milroy 1987: 144, 152; Kallen 1991, Montgomery 1994, 1995, 1996, 1997a, 1997b, 2006; A. Henry 1995, 2002; Montgomery & Robinson 1996, 2000; Corrigan 1997; McCafferty 2003; Pietsch 2005a, 2012; Tagliamonte 2009).

The literature review further shows that the PSC is reported in most past and present varieties (J. Milroy 1981: 12; Policansky 1982: 41-42; Montgomery 1994, 1995, 1997a; Montgomery & Robinson 1996, 2000; Corrigan 1997: 219; McCafferty 2003; Pietsch 2005a: 100, 2012: 371). McCafferty (2003) and Pietsch (2005a) identify a proximity effect in clauses with both personal pronoun subjects and plural NP subjects. Pietsch (2005a) further shows that a longer distance between subject and verb is more likely to give verbal *-s* than a shorter distance.

Based on these findings, I hypothesise that I will find a solid NP/PRO split in the distribution of verbal *-s* in the 18th-century data and also that degree of adjacency between the subject and verb will affect the realisation of verbal *-s*. The identification of both the NP/PRO distinction and the PSC will be taken as an indication that the NSR operates in the 18th-century data, in line with the traditional definition of the NSR (Montgomery 1994: 86, 88, Section 2.1.1) (*Hypothesis 1*).

2.4.2 Discussion of research relevant to research question 2: Other factors than the NSR-related factors (NP/PRO, PSC) that may affect the distribution of verbal *-s*

Linguistic factors

Reviewing the literature, we have seen that various studies identify graded distribution of verbal *-s* according to **verb type**. There is no apparent pattern in the co-variation of verbal *-s* and verb type (BE vs. 'other verbs') according to geographic region or the variety that the texts are assumed to represent: A preference for verbal *-s* with 'other verbs' is found in 17th century-mainland Scots (Montgomery 1994) and in the Ulster Scots/English Templepatrick Session book (Montgomery & Robinson 1996, 2000) (Table 2.1 in Section 2.3.2), as well as in different samples of 18th-century emigrant/immigrant letters (Montgomery 1995, 1996; Montgomery & Robinson 1996) (Table 2.2 in Section 2.3.3). As we do not know the exact origin of these emigrant sources, we do not know whether they represent Ulster Scots, English, or both. It is unlikely that the preference for verbal *-s* with 'other verbs' reflects an Ulster Scots (in comparison to an English) pattern, as verb type is irrelevant in 17th-century mainland Scots/Ulster Scots Duntreath Letters and McClelland Papers (Montgomery & Robinson 1996, 2000) (Table 2.1, Section 2.3.2). Verb type is also irrelevant in the 18th-century Galphin data (Montgomery 1997b) and in the 19th-century Carleton data (Kallen 1991) (see Tables 2.2-2.3 in Sections 2.3.3-2.3.4).[17] These two sources are assumed to represent north Armagh and south Tyrone respectively, both places are historically dominated by the English and are today associated with the MUE dialect (see Sections 2.2.2). As language contact between Ulster Scots and English may have taken place in both regions (see Sections 2.3.3 and 2.3.4), it is not possible to determine whether the use of verbal *-s* regardless of verb type reflects Ulster Scots or English heritage, or a mix of both. In contrast, the 17th-century Plantation Papers (Montgomery & Robinson 1996, see Table 2.1 in Section 2.3.2) show a preference for verbal *-s* with the verb BE. As the origin of this data set is uncertain (see Section 2.3.2), and as the data set comprises few tokens, the Plantation Papers do not prove that verbal *-s* was favoured with the verb BE in any of the input varieties. Finally, McCafferty (2003) and Pietsch (2012) demonstrate the preference for verbal *-s* with BE past in 19th-century data from regions associated with either Scots settlement or English settlement. It becomes clear from the summary that similar co-variation between verbal *-s* and verb type exists in regions with Ulster Scots and English settlements. A future diachronic study using

[17] The Ulster immigrant letters 1736-1871 (Montgomery 1997a) (Table 2.2) share with the Galphin data the use of verbal *-s* irrespective of verb type. However, as we do not know the exact origin of the Ulster immigrant letters, this cannot be taken to represent neither Ulster Scots nor the continuation of an English input variety.

data from across Ulster from the plantation period could be conducted in order to identify possible differences in the verb type constraint in different input varieties in Ulster. This study briefly touches upon the issue, and hypothesises that verb type will constrain the distribution of verbal *-s* (*Hypothesis 2*).

Most studies investigate the impact of **type of NP subject (TSC)** on the distribution of verbal *-s*. As seen in the comparison in Table A1 in Appendix 1, the studies differentiate between different subject types, operate with different categories, and identify different hierarchies of subject types co-occurring with verbal *-s*. The trend is nevertheless clear: Verbal *-s* frequently operates with **existential *there*** (Kallen 1991; Montgomery 1994, 1995, 1996, 1997a; McCafferty 2003; Pietsch 2005a) and **conjoined NPs** (Kallen 1991; Montgomery 1994, 1995, 1997a; McCafferty 2003). McCafferty (2003) demonstrates that the **collective noun** is as likely to take verbal *-s* as existential *there* in 19th-century Ulster emigrant letters. In addition, the **plural demonstrative** is found to co-occur with verbal *-s* in present-day Ulster (L. Milroy 1987; A. Henry 1995; Montgomery 2006; Pietsch 2005a). Based on these studies I therefore hypothesise that the 18th-century data will display variation according to the types of plural NP subjects identified in the previous research (*Hypothesis 3*).

Several studies identify a correlation between **the relative pronoun** and nonstandard verbal *-s*. Different treatments of the relative pronoun are found: Montgomery (1994, 1995), McCafferty (2003) and Pietsch (2012) treat the relative pronoun with plural antecedent as a subject type or environment that favours verbal *-s*. Kallen (1991) and Pietsch (2005a), on the other hand, treat the antecedent to the relative pronoun as the clause subject, in which case the relative pronoun in the normal SV-clause becomes an intervening element between the antecedent subject and finite verb of the clause. In this study I hypothesise that the frequent collocation of relative pronoun + *-s* found in previous studies is not due to the existence of the relative pronoun in the clause. I rather hypothesise that it is due to a combination of two factors, namely type of antecedent to the relative pronoun (i.e. whether it is an NP or a personal pronoun) and the position between the antecedent and the verb (PSC) (*Hypothesis 4*). I argue that this is so because the NP/PRO distinction, which is solid in other contexts, is likely to operate when the semantic subject of a clause functions as antecedent to the relative pronoun. Moreover, given the strong impact of the PSC in other contexts, it is probable that this constraint operates in clauses where the antecedent subject and the verb are separated by the intervening relative pronoun.

As seen in Section 2.3.5, Pietsch (2005a) finds that verbal *-s* is graded across three adjacency levels. Although he does not use the term, it is clear from the examples provided

that non- and near-adjacency in many cases reflect the **subject heaviness**. Studies on varieties outside Ireland (e.g. Poplack & Tagliamonte 1989: 66; Schendl 2000: 271; Clarke 2015) have found that heavier NP subjects, as in Examples 2.4-2.5, take verbal *-s* to larger degree than other subjects.

(2.4) But see where **Somerset and Clarence comes** (Schendl 2000: 271)
(2.5) **The one what [that – A.M] he follows has** uh – sixty-three years (Poplack & Tagliamonte 1989: 66)

In some cases the heaviness constraint overlaps with the TSC. For example, conjoined NPs (Example 2.4) necessarily are heavy NPs. In other cases the heaviness constraint overlaps with the PSC. For instance, in the normal SV-clause a subject NP head that is postmodified by a relative clause (Example 2.5) will necessarily be separated from its verb by the post-modifier. Clarke (1997: 238, 2015) explains the heaviness effect in terms of cognitive processing and the closest conjunct hypothesis. This is so because language users may use the verb form (*-s*/*-Ø*) that agrees with the closest conjunct, instead of the head of the subject. In order to identify possible co-variation between the PSC, TSC and heaviness constraint, I hypothesise that the distribution of verbal *-s* will be sensitive to heaviness of subject (*Hypothesis 5*).

Extra-linguistic factors

The need to include extralinguistic factors in the study of language variation and change in contemporary and historical material is forcefully demonstrated (see e.g. Fairclough 1992: 6-9; Chambers 1995; Nevalainen &Raumolin-Brunberg 1996; Tagliamonte 2009, 2012; Childs 2012). Below we review results regarding variable use of verbal *-s* according to time, sex and writer-recipient intimacy. Geographic variation is discussed in the next section.

Comparing the overall distribution of verbal *-s* with plural NP subjects from the plantation period to the 19th century (Tables 2.1-2.4) we observe that the rates for verbal *-s* vary. The fluctuation may be due to genre differences or the fact that the data is collected from regions where verbal *-s* is more or less frequent. Pietsch's (2012) diachronic analysis shows a drop in the frequency of verbal *-s* from the 1870s. In this study I hypothesise that there will be **diachronic variation** in my data (*Hypothesis 6*).

Verbal *-s* is found to be sensitive to **sex of language user** in a few previous studies (e.g. Policansky 1982; Pietsch 2005a). In line with network theory (J. Milroy 1992; J. Milroy & L. Milroy 2014 [1985]) Pietsch (2005a) interprets the sex split in the distribution of verbal

-s in present-day speech as an indication of language change. Within sociolinguistics another widely accepted claim is that 'women use linguistic forms associated with the Standard more frequently than men' (Trudgill 1972: 179), at least when women and men have equal access to the Standard (Hudson 1996: 195). Interestingly, studies on verbal *-s* in present-day varieties (e.g. Eisikovits 1991; Tagliamonte 1998; Childs 2012) find that verbal *-s* is a social marker among women. This contradicts Trudgill's (1972) claim. If I find variation according to sex in the 18th-century data this may tell us about the social function of verbal *-s*: If men use verbal *-s* more it may suggest that the feature is stigmatised. Similarly, if women use verbal *-s* more, it may indicate that the feature is a social marker among women. Equal distribution between the sexes may suggest that the feature was widespread.

Similarly, sociolinguistic variation induced by power relations and **level of intimacy between letter writer and recipient** may reflect the social function of a feature (Raumolin-Brunberg 1996: 175; Palander-Collin 2002: 118-119). The topic is connected with language style and the theory that attention to speech is among the interspeaker factors in the communication context (Bell 1984). Accordingly, language users that are socially distant to the recipient will use more formal features than when addressing a socially close recipient (Chambers 1995: 4-7). To my knowledge, no study on SVC in Ulster takes the factor writer-recipient intimacy into account. Potential variation in the distribution of nonstandard verbal *-s* according to degree of writer-recipient intimacy is interesting as it may tell us about the social embedding of the feature. Accordingly, I hypothesise that verbal *-s* is more frequent in texts directed to individuals that are socially close rather than distant, and that sex of the writer influences the distribution of verbal *-s* (*Hypothesis 7*).

2.4.3 Discussion of research relevant to research question 3: Geographic spread of the NSR and the discussion on how the NSR emerged in Ulster

As seen in Section 2.3, previous studies show the existence of the NSR in different regions of Ulster. The NSR is shown in 17th-century data produced by Scottish settlers in Antrim (Montgomery & Robinson 1996, 2000) (Table 2.1). The continuation of the NSR in regions where the Scots dominated is shown in studies using 19th-century data (McCafferty 2003; Pietsch 2012) (Table 2.5) as well as in present-day data (Pietsch 2005a; Montgomery 2006; Tagliamonte 2009).

Evidence of the NSR in areas where the English outnumbered the Scots is less solid. Montgomery & Robinson (1996, 2000) show the NP/PRO split in the early 17th-century Plantation Papers, and argue that this reflects the feature of a southern English input variety

(Section 2.3.2). However, the origin of the Plantation Papers is uncertain, and the data set could represent Scots. Similarly, the NSR identified in the 18th-century Galphin data might reflect the outcome of contact-induced levelling and therefore cannot be taken as evidence that the NSR existed in the language of English descendants. Studies investigating SVC in various 18th-century Ulster emigrant/immigrant data sets (Montgomery 1995, 1996, 1997a; Montgomery & Robinson 1996, 2000) (Table 2.2) are less useful to the discussion, as these studies do not analyse geographic variation. Therefore, the NSR is adequately demonstrated in regions where the English were numerous only in McCafferty's (2003) and Pietsch's (2012) studies on 19th-century data. Studies on present-day varieties (e.g. J. Milroy 1981: 12-13; Policansky 1982; Corrigan 1997; Pietsch 2005a) confirm the existence of both the NP/PRO distinction and the PSC in regions associated with the MUE or SUE dialect zones (Section 2.3.5).

A current discussion in the literature regards *how* and *from where* the NSR emerged in different parts of Ulster. As seen in section 2.2.2, the plantation period introduced a complex language situation in Ulster. In general, the contact between Irish, English and Ulster Scots makes it difficult to determine the origin of grammatical features in IrE (Filppula 1999: 275; Corrigan 2011: 39-40). Different suggestions are made as to the origin of the NSR in Ulster (and in Irish English in general).

The Irish contact hypothesis is proposed by Bliss (1979: 291) as the explanation to the emergence of nonstandard verbal *-s* and the NSR in Irish English. As mentioned in Section 2.2.3, marginal contact between Irish and the British varieties during the 17th century formed an ideal context to cross-linguistic transfer. Indeed, a topological parallel to plural verbal *-s* exists in Irish, as 'the third person singular of the verb is used with a plural subject, and (in the analytic form of the verb) with pronouns of all persons. This may be the origin of the Hiberno-English [i.e. Irish English – A.M.] usage' (Bliss 1979: 291). Corrigan (1997: 200-31) investigates typological parallels in Irish, Old Scots, Early Modern English and present-day South Armagh English, and finds that the varieties behave in similar ways when the subject consists of conjoined NPs. As conjoined NP + *-s* exists in varieties that have not been in contact with Irish, Corrigan (1997: 231) nevertheless concludes that the feature in South Armagh English is not due to substrate and superstrate convergence. In general, contact sceptics such as Harris (1991: 209) and Lass (1997: 200-201) argue that IrE grammatical and phonetic features are more likely to have emerged as the result of retention from British varieties. The British origin is also used to explain the emergence of the NSR in Ulster.

However, Filppula (1999: 159) and Harris (1991: 209) stress that the Irish substratum may have been a reinforcing effect on features in IrE.

The more widely accepted explanation as to the emergence of the NSR in Ulster is that it was brought to Ulster with colonists during the plantation period. As there is adequate evidence that the NSR was brought to northern Ulster with Scots settlers during the plantation period (Montgomery 1996, 1997a; Montgomery & Robinson 1996, 2000), the relevant question regards how the NSR emerged in other regions of Ulster, i.e. regions with mainly English settlers.

According to the traditional account proposed by Montgomery (1997b: 237, 249), the NP/PRO distinction had spread from regions with Scottish settlements in the north of Ulster to regions with mainly English settlements already by the third decade of the 18th century. The spread of the NSR from the north and across Ulster is explained as a process of *diffusion*.[18] This model presupposes face to face contact between speakers of Ulster Scots and English. As seen in section 2.2.3, such contact was restricted to central Ulster and Londonderry during the 17th century. However, the degree of contact is questionable even in this area as the plantations functioned as isolated communities. During the 18th century the degree of contact increased as agriculture was replaced by manufacturing in areas along waterways. In typologically isolated areas in the south of Ulster the degree of contact possibly remained minimal. This is reflected in the present-day dialect there (Corrigan 2010).

Against the diffusion hypothesis, McCafferty (2003, 2005b) suggests that the NSR in regions outside areas with Ulster Scots settlement is a *founder population effect.* Developed by Mufwene (1996: 123), the *founder principle* holds that features of the founder population in a particular area have selective advantage over other features in the feature pool competition. McCafferty (2003, 2005b) shows that the NSR is solid in 19th-century data originating in parts of Ulster that were inhabited mainly by English from Northern England and the north Midlands. Based on the strong presence of the NSR in these regions (Mustanoja 1960: 481-2; McIntosh 1989: 117-8), McCafferty (2003: 132, 2005b: 196-197) argues that the NSR is likely to have formed part of the vernacular of the English founding colonists during the 17th century. In line with the founder principle, the NSR has remained solid in these regions. McCafferty (2005b: 188-9) adds that NSR-like conditioning in southern English varieties (e.g. Bailey & Ross 1988; Bailey, Maynor & Cukor-Avila 1989; Schendl 1996,

[18] The *diffusion hypothesis* is used to explain the existence of the NSR or NSR-like conditioning in the south of Ireland (Montgomery 1989, 1996, 1997b; Kallen 1991; Filppula 1999: 158-9; Boling 2003: 655; Pietsch 2012: 366-7). McCafferty (2004: 51) argues that the NSR was introduced to the south of Ireland by founder populations originating in Northern England, i.e. in the same manner as in Ulster.

2000; Wright 2002) indicates that the NSR would have been familiar to settlers from the south of England. Later contact between varieties of English and Ulster Scots in Ulster therefore is likely to have reinforced a shared concord system. As seen in the above, contact with Irish possibly also contributed to this reinforcement. Pietsch (2005a: 106, 133) confirms the strength of the NSR in present-day IrE within the MUE dialect and claims that this supports McCafferty's (2003) proposal that the NSR was introduced to Ulster by both Scots and English settlers.

This study contributes to the discussion on the origin of the NSR in Ulster by investigating the geographic spread of the NSR in 18th-century data. This is the earliest data set used for the study of geographic variation in the use of the NSR in Ulster. Following McCafferty (2003) I hypothesise that the NSR exists both in regions where English settlers have dominated as well as in regions where Scots settlers have dominated (*Hypothesis 8*). If Hypothesis 8 is confirmed, this will support the founder principle hypothesis offered by McCafferty (2003, 2005b).

CHAPTER 3 DATA AND METHODS

This study asks the following research questions. First, how strong was the Northern Subject Rule (NSR) in Ulster during the period 1741-1800? Secondly, what factors apart from the NSR-related NP/PRO constraint (TSC) and Proximity to subject constraint (PSC) affected the distribution of verbal *-s* during the period? Thirdly, what can the geographic distribution of the NSR during the period 1741-1800 tell us about how the NSR emerged in Ulster?

In the previous chapter I hypothesised that the distribution of verbal *-s* in 18th-century data from Ulster would be sensitive to the linguistic factors NP/PRO constraint and the PSC (also when verbal *-s* co-occurs with the relative pronoun), verb type, type of plural noun phrase (NP) subject and subject heaviness. I further hypothesised that verbal *-s* would be sensitive to the extralinguistic factors time, sex of letter writer and degree of writer-recipient intimacy. The final hypothesis is that the NSR will be found in regions with Scottish settlements and in regions with English settlements. The present chapter presents the data and method used to test the hypotheses. Section 3.1 presents the corpus used for this study and the text sample. Sections 3.2 and 3.3 present the methods and analyses, including the choice of variables in the study and definitions of categories that were used during the coding procedure. Notes on the treatments of tokens with I + BE past, *you* + *was* and existential *there/it* with plural logical subjects (hereafter existential *there*), as well as a description of the analysis of the collocation of the relative pronoun and verbal *-s*, close the chapter.

3.1 Data

3.1.1 The *CORPUS OF IRISH ENGLISH CORRESPONDENCE* (CORIECOR)

In line with the variationist paradigm, the present study is interested in what subject-verb concord (SVC) patterns existed in the language used in Ulster during the 18th century. The data available for the study of historical linguistics is written texts. In general, written texts are associated with a more invariant, formal and standard language than is speech (Culpeper & Kytö 1999: 172, 183; Lakoff 1982: 242). This is so because the language user in the writing context pays more attention to language use and adjusts her language style accordingly (Chambers 1995: 4-7; Schilling-Estes 2002: 379). In that way, when doing historical linguistics we are faced with the same 'observer's paradox' (Labov 1972: 61) as if doing a study on a contemporary variety: We want to know what the writer's language is like

when the person is least self-conscious. At the same time we need to rely on written material, which is likely to reflect some degree of self-consciousness imposed by the writing situation. Therefore, in order to be able to study language in use, we need to identify data that is less affected by the writing situation.

Within historical (socio-)linguistics, personal correspondence is frequently found to be a good source of vernacular language (e.g. Montgomery 1995; Meurman-Solin 1999; Filppula 1999: 43; Fairman 2003; McCafferty 2003, 2004; Raumolin-Brunberg 2005). In particular letters written to family members are found to reflect features of speech (Montgomery 1995: 28; Schneider 2013: 64). This is so because one assumes that speakers are more likely to use their vernacular when writing to someone that is socially close than when the recipient is socially distant (cf. the theory of interspeaker context and audience design (Bell 1984)).

Drawing on these considerations, the present study is based on data collected from personal correspondence in the *Corpus of Irish English Correspondence* (CORIECOR, ca. 1700-1940) (McCafferty & Amador-Moreno in preparation). This specialised corpus currently comprises more than 3 million words, of which ca. 2.7 million words are personal letters. The letters are written to and from Ulster-born speakers of Scots or English who have emigrated to the United States, Canada, Great Britain, New Zealand, Australia and Argentina (McCafferty & Amador-Moreno 2012: 267). The corpus gives us access to a lot of texts. Metadata includes names and addresses of letter writer and recipient. Additional information about several writers (e.g. writer's occupation and the relationship between the letter writer and the letter recipient) is given in separate Excel files. The amount of metadata makes CORIECOR suitable for sociolinguistic study. The texts are machine-readable (Word format), but otherwise original and non-annotated, presenting original line division, capitalisation and punctuation. Recent publications (e.g. McCafferty & Amador-Moreno 2012; McCafferty & Amador-Moreno 2014) have demonstrated the advantages of using CORIECOR in diachronic studies.

3.1.2 Criteria for the selection of texts from CORIECOR

Three criteria were used in the selection of the texts from CORIECOR.[19] First, the texts were selected by date. Texts written during 1741-1800 were included. Secondly, the texts were

[19] At the outset I wanted to do an analysis on SVC on data from the whole island of Ireland. Originally, the text sample therefore included 7897 words in texts from CORIECOR representing the south of Ireland, and 29.799 words in texts with origin unknown. Initially, tokens from these sources were coded and analysed. However, as there was little data from the south, and as I was not certain if the "origin unknown"-data represents Ulster or the south of Ireland, it was decided that these data sets were excluded from the analysis in order to do a detailed analysis of the SVC in Ulster. Described here is therefore the text sample that represents Ulster.

selected by genre. Only letters were included, leaving out wills, songs, poetry, diary texts and business memorandums. It might be argued that business letters conform more to the Standard, and therefore should be excluded from the sample. However, this is not easily done as multiple letters discuss both personal and business issues. By selecting letters only, I believe that the text sample is fairly homogenous, thus minimising variation caused by genre.

The third criterion is authenticity of the data. Some letters in CORIECOR are collected from printed sources, e.g. the *Belfast Newsletter*. We do not know whether these texts may have undergone editorial changes. In order to make sure that the texts represent authentic writings, copies of letters collected from newsletters, newspapers or pamphlets were excluded.

It must be noted that while Montgomery (1995) pre-selects data using the criterion that it comprises vernacular language and the NSR, the present study uses all available texts that meet the criteria above. Accordingly, the text sample comprises vernacular texts and texts that have more standard traits.

3.1.3 Qualities of the data

As a result of the selection criteria above, the text sample in this study exceeds 91.000 words in 204 letters written between 1741 and 1800. This is more data than in any previous study on SVC in 18th-century Ulster. The text sample used for this study will hereafter be referred to as 'CORIECOR 1741-1800'.

The number of writers is 73. There is an overrepresentation of texts written by males (cp. N of words in texts by males=71.617, vs. N of words in texts by females=19.416). As shown in Table A2 in Appendix 2, the data representing several areas (e.g. Antrim) is collected from texts written by members of the same family networks.

As seen in Figure 3.1, the number of words is unevenly distributed in CORIECOR 1741-1800. The numbers of words from the periods 1781-1790 and 1791-1800 are considerably higher than those from the periods 1741-1750 and 1751-1760.

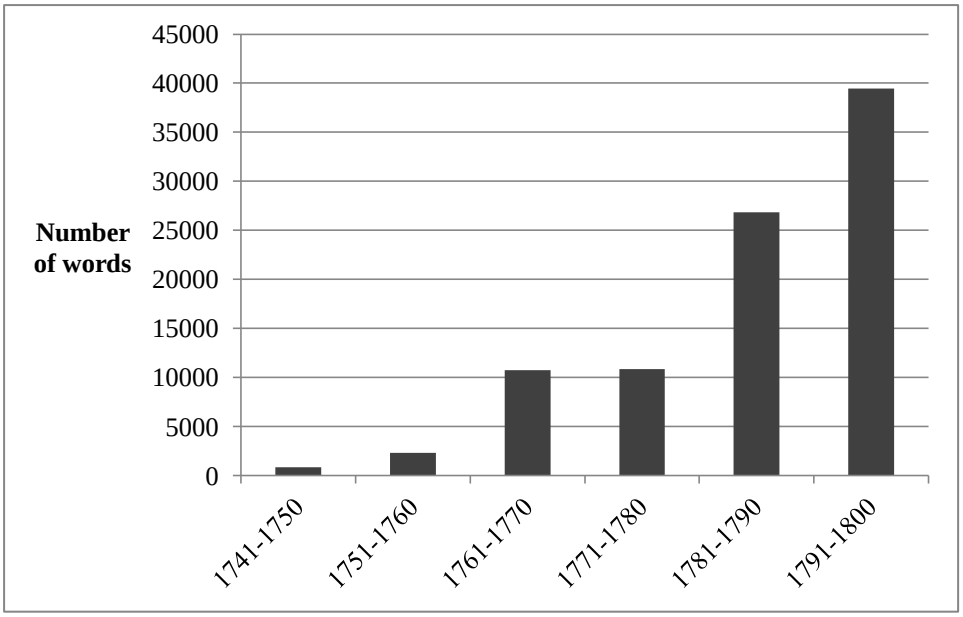
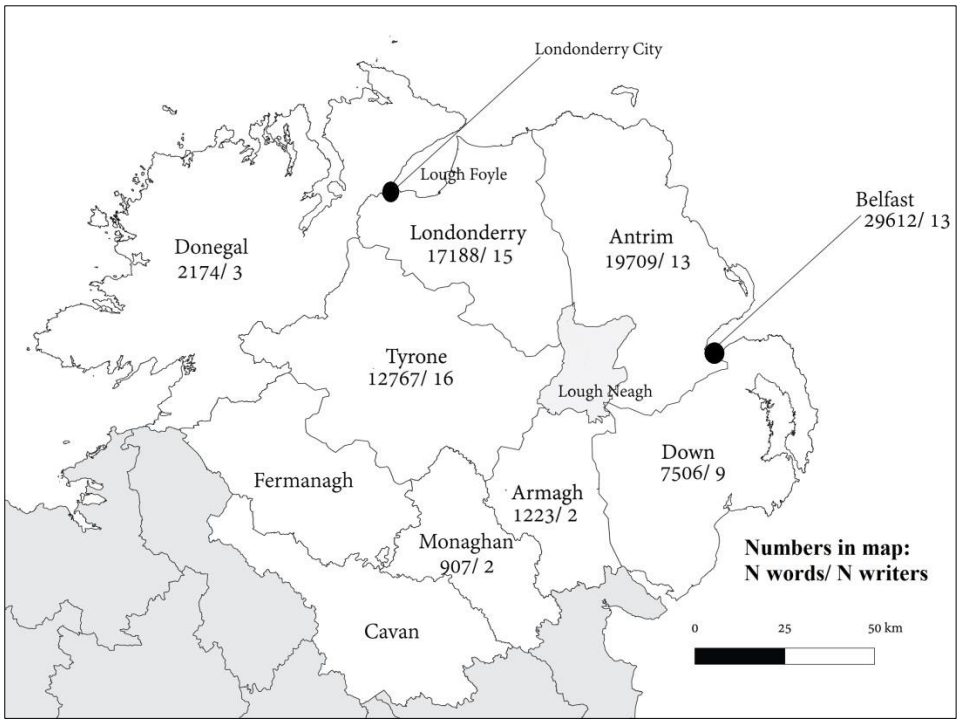


Figure 3.1 Total number of words per decade in CORIECOR 1741-1800

The data set covers seven counties (Donegal, Londonderry, Antrim, Down, Tyrone, Monaghan and Armagh) in addition to the city of Belfast (Map 3.1). Map 3.1 presents the total number of words and letter writers per region in CORIECOR 1741-1800.



Map 3.1 Total numbers of words and writers per region in CORIECOR 1741-1800

As seen in Map 3.1, there is most data from writers originating in Antrim. Counties Londonderry and Tyrone are also well represented in the study. There is least data from Donegal, Armagh and Monaghan.

Sections 2.2.2-2.2.4 discussed the language situation in 17th and 18th-century Ulster. We noted that the Scots probably outnumbered the English in Antrim, Down and Londonderry, while the English possibly were dominant in areas that overlap with the present-day Mid-Ulster English dialect zone (see Maps 2.1 and 2.2 in Section 2.2.2). As pockets of Scots settlers existed among the English across Ulster, intermingling between Scots and English probably took place to varying degrees in the geographic areas included in the study (the seven counties, plus Belfast) (Braidwood 1964: 5-45). Consequently, the texts cannot be taken to represent the continuation of the Ulster Scots or English varieties in the different regions. Furthermore, as writers may be of Irish descent, or may originate in areas where language contact between Irish and Scots/English took place, we do not know to which degree the texts reveal substratum influence from Irish.

3.1.4 Considerations regarding representativeness of the data

The data in this study is collected from authentic texts produced by individuals that originate in different regions in Ulster. The texts selected comprise vernacular features, represented by e.g. phonetic spellings and repetition of clause elements. The amount of vernacular features indicates that the text sample is appropriate for the quantitative variationist study.

Nevertheless, we cannot make assumptions about whether CORIECOR 1741-1800 *represents* speech. This is so because the writing context is likely to have raised the level of self-awareness of even the most vernacular-speaking writer. In addition, the general prescriptivism of the 18th century, as manifested in for instance the Fordyce letter manuals (Bannett 2003: 60), gives reason to believe that at least some of the letter writers in CORIECOR 1741-1800 sought to conform to the Standard. However, Montgomery (1997a: 228) reminds us that 'the absence of evidence for a linguistic feature in writing must never be mistaken as evidence of its absence from speech'. Accordingly, it is possible that the spoken language in 18th-century Ulster comprised much more variation than that preserved in CORIECOR 1741-1800.

Furthermore, as the texts in CORIECOR 1741-1800 are produced by the literate, we cannot claim that the sample represents the Ulster population. Nevertheless, nonstandard SVC identified in CORIECOR 1741-1800 is valid evidence that the form existed in the language used by people in this region.

3.2 Methods

This study seeks to examine SVC patterns in CORIECOR 1741-1800 and to explain which factors trigger the different patterns. The study uses quantitative methods. The present section details the procedure by which the tokens were extracted from CORIECOR 1741-1800, coded and analysed. During the process the linguistic software programs *WordSmith Tools 6.0* (Scott 2012, downloaded 9 September 2014) and *GoldVarb X* version *3.0b3* (Sankoff, Tagliamonte & Smith 2005, downloaded 10 October 2014) were used. *WordSmith Tools* makes it possible to retrieve and sort data from a large text sample. In *GoldVarb* tokens may easily be coded according to a set of factors, before being analysed using cross-tabulations and multivariate analyses.

3.2.1 Delimiting the variables

Nonstandard SVC systems in the British Isles (see Section 2.1.1) are characterised by the nonstandard use of the verbal inflection *-s* and verbal zero form *-Ø*. In order to investigate the SVC in CORIECOR 1741-1800, the *dependent variables* in the study are

- Verbal inflectional *-s*, e.g. *writes, does, has*, and analogous forms of BE (*is* and *was*).
- Verbal zero inflection (hereafter verbal *-Ø*), e.g. *write, do, have*, and analogous forms of BE (*are* and *were*).
- In addition, I include the 1st person singular form of BE, *am*, in order to be able to account for all patterns with BE.

The *independent variables* included in the study are such linguistic and extralinguistic factors that have proven relevant in previous studies (see Section 2.3). In order to test the hypotheses summarised in the introduction to this chapter, the *independent variables* in the study are

- Verb type
- Subject type
- Subject heaviness
- Subject-verb adjacency (proximity to subject)
- Clause type (relative clause vs. non-relative clause)
- Type of relative pronouns used (relevant in cases where the verb occurs in the relative clause)
- Decade
- County/city (origin of writer)
- Sex of writer
- Degree of intimacy between letter writer and recipient

Using multiple factors makes it possible to do a more accurate study and to give a more complete picture of SVC in CORIECOR 1741-1800.

3.2.2 Procedure for extracting data and coding

The extraction of verbs that reflect the dependent variables (*-s*/*-Ø* or *am*) was done using *WordSmith Tools.* First, using the *WordSmith* frequency tool, the finite verbs that take verbal *-s* in 10 or more cases were identified. These verbs were the auxiliary or lexical verbs in (3.1), and the lexical verbs in (3.2), in total 29 verbs.

(3.1) BE, DO, HAVE.

(3.2) APPEAR, COME. CONTINUE, DESIRE, GET, GIVE, GO, HOPE, INTEND, JOIN, KNOW, LIVE, LOOK, MAKE, REMAIN, RETURN, SAIL, SAY, SEEM, SEND, TAKE, TELL, THINK, WANT, WISH, WRITE.

The extraction of data (i.e. *-s/-Ø* and *am* forms of the 29 verbs selected) from CORIECOR 1741-1800 was done using the Concord tool in *WordSmith Tools*. In order to be able to sort the data according to writer, the texts from each writer were imported into *WordSmith Tools* separately. Using the search strings in (3.3) and (3.4) tokens of BE/DO/HAVE (including vernacular forms) and lexical verbs were extracted from the texts.

(3.3) Search string 1: BE, DO, HAVE
DO/DOO/DON'T/DONT/DOES/DOTH/HAVE/IVE/HAS/HATH/HES/HASN'T/HASNT/AM/I'M/IAM/IM/ARE/ANT/IS/HE'S/HES/SHE'S/SHES/IT'S/ITS/THERE'S/THAT'S/THATS/WAS/WASNT/WERE/WEARE/WARE/WORE/WORRE/WHERE/WHATS/WHAT'S

(3.4) Search string 2: lexical verbs
APPEAR/APPEARS/COME/COMES/CONTINUE/CONTINUES/DESIRE/DESIRES/GET/GETS/GIVE/GIVES/GO/GOES/HOPE/HOPES/INTEND/INTENDS/JOIN/JOINS/KNOW/KNOWS/LIVE/LIVES/LOOK/LOOKS/MAKE/MAKES/REMAIN/REMAINS/RETURN/RETURNS/SAIL/SAILS/SAY/SAYS/SEEM/SEEMS/SEND/SENDS/TAKE/TAKES/TELL/TELLS/THINK/THINKS/WANT/WANTS/WISH/WISHES/WRITE/WRITES

Using the Concord tool in *WordSmith Tools* the search hits were sorted alphabetically by entry word and the first and second elements to the left of the entry word. From this list duplicate tokens and hits that are not relevant to this study (e.g. non-finite verbs, as in *did **write***) were removed. The remaining hits were saved as plain text.

Finally, all token strings from each writer were imported into one token file in *GoldVarb*. In *GoldVarb* codes for each factor connected with the dependent and independent variables (Section 3.2.1) were typed manually (see Table A3 in Appendix 3 for coding schema).

3.2.3 Coding categories for independent variables in *GoldVarb*

Most previous studies do not explain which linguistic structures are included in each of the factors in the study. The lack of definitions in some previous research makes it difficult to do a fully comparable study. Presented below are definitions of the 10 independent variables (i.e. linguistic and extralinguistic factor groups) and the factor categories (in bold and underlined) used during the coding in *GoldVarb.* See also Table A3 in Appendix 3 for coding schema. As far as possible I operate with categories used in previous studies. Defining the categories makes it possible to replicate the study. In the examples subject and verb are in bold.

Factor group 1: Verb type

In this study I follow McCafferty (2003) and distinguish between lexical verbs and BE (present and past forms), DO, HAVE. Different codes are used for the *-s* forms and *-Ø* forms, thus giving 11 subgroups: *-Ø* forms of lexical verbs, *-s* forms of lexical verbs, *do/does, have/has, am, are, is, was, were.*

Factor group 2: Subject type

In this study I include most plural subject types differentiated in previous research on SVC in Ulster (see Table A1 in Appendix 1). Subject type is decided by the type of head of the phrase that functions as the subject of a clause. In the case of relative clauses I follow Kallen (1991) and Pietsch (2005a) and code the antecedent to the relative pronoun in the relative clause as subject. Presented below are the 15 subject type factors included in the study. As singular and plural subjects are coded separately, this gives a total of 29 codes for all the subject types (see coding schema in Table A3 in Appendix 3). Methodological considerations related to the inclusion of existential *there/it* with plural logical subject are discussed in Section 3.3.4.

Personal pronoun subjects are the expressed 1st person singular (*I*), 2nd person singular/plural (*you*), 2nd person singular (*thou*), 3rd person singular (*he, she, it*), 1st person plural (*we*), 2nd person plural (*ye*) and 3rd person plural (*they*). Third person singular *it* comprises personal pronoun *it*, empty *it* and *it* in cleft-constructions.

Indefinite pronouns are subjects consisting of compounds using *some/any/no/every* + *body/one/thing/where*. In Standard English these pronouns take singular verbs (*Cambridge Dictionaries Online* 2014a, accessed 18 November 2014). Indefinite pronouns (singular and plural) that denote mass/quantity are coded separately (see below).

Existential *there/it* includes tokens with dummy subject *there/it* where the logical subject has singular (3.5) or plural reference (3.5-3.6; dummy subjects, verb and logical subjects in bold). Different codes are used according to whether the head of the logical subject of the clause is singular or plural. Two tokens of existential *there/it* (both with singular logical subjects) with HAVE/SEEM are excluded. See comment on the inclusion of existential *there/it*, Section 3.3.4.

(3.5) Since that time **there is nothing** here but disturbance (Ken Johnston, 5 May 1800)
(3.6) Respecting the affairs of Ireland I know but little but that **there is frequent skirmishes between the Protestants and Catholics originating from their religeous opinions** (William Wade, 3 May 1796)
(3.7) people that live on the low land near the Sea are subject to fevers and agues but up high in the country, **it is healthy and fine springs of good water** (John Rea, 15 May 1765)

Collective noun phrases (NPs). In this study I follow the *Oxford advanced learner's dictionary* (2010: 289) and define a collective NP according to semantic and syntactic criteria as 1) a noun that does not carry plural marking (inflectional *-s*) but refers to a group of people or things, and 2) that can take singular or plural verbs in British English. Species nouns (e.g. *sheep*) and abstract group words (e.g. *majority*) are not included by the definition. During the coding, the *Oxford English Dictionary* (2013) was consulted in order to determine whether a noun had collective reference during the 18th century. Subjects in CORIECOR 1741-1800 with a possible collective reference were coded as common nouns when *The Cambridge dictionaries online, British English* (2014b) did not confirm that the subject could take both verbal *-s* and -Ø. The nouns treated as collectives are

(3.8) *army, assembly, body, company, congress, corps, countryfolk, family, fleet, government, mankind, ministry, order, organisation, party, people, regiment, set, the United States, wages.*

Conjoined NPs are units that consist of two or more paratactic NPs coordinated by a coordinating conjunction (*and, or*), zero coordinator or comma (*Oxford dictionary of English grammar* 2003abc, accessed 21 November 2014). The conjoined NPs may have nouns or personal pronouns as heads. In this study conjoined NPs connected by *and* are coded as plural NPs (3.9), while conjoined NPs connected by *or* are coded as singular NPs (3.10).

(3.9) their is no death amongst us since except Children but **my Mother and Smith William is** Dead (John Patterson, 2 August 1770)
(3.10) I often wish **old Susay Patrick or Peggy Fergusson was** here (Hester Habersham, 14 May 1775)

Common noun subjects have a common noun as head. Titles (e.g. *Lordship*) are coded as common nouns, except when the title refers to the deity (*The Lord*, coded as a proper noun). Common nouns are normally inflected for plurality by the affix *-s* or *-en* (3.11). Common nouns not inflected for plurality are treated as singular or plural according to the *Cambridge dictionaries online*, *British English* (2014b). Accordingly, uncountable nouns (e.g. *time*) are coded as singular except when carrying plural inflection (e.g. *times*), in which case it is coded as a plural countable (3.12). Following Quirk et *al*. (1985: 299) uncountables ending in *–ics* (e.g. *politics*) are coded as singular when referring to science and plural when referring to 'the practical application of results' (e.g. *politics* in the meaning political views).

(3.11) Nancy Hety Percivel is dead and **their children is** all maried (John Johnston, 18 April 1790)
(3.12) **the times** has been so very disagreeable sins I came here (Samuel Brown, 23 December 1793)

NP denoting mass/quantity is a subject that reflects quantity. It 1) has a quantifying indefinite pronoun (e.g. *many, a number of, several*) or a numeral (e.g. *one, two, sixty*) as its head, or 2) consists of an NP head modified by a quantifying indefinite pronoun or a numeral. I distinguish between singular and plural NPs denoting mass quantity (see 3.13 and 3.14 respectively). Some quantifiers have singular or plural reference according to the noun they combine with (e.g. *a lot of*) (Bækken 2006: 231-2). In such cases the number of the noun they combine with decides number of the subject.

(3.13) You mention that **one of yourselves is** disposed to come abroad (William Wylly, 30 March 1799)
(3.14) the fishing did no good last season so that **most of them is** in a poor way (Mrs Elizabeth Blair, 5 May 1774)

Relative 'what' and the forms in *–ever/-else* (*whatever, whoever, whichever*) are coded as subject of the clause when used in the sense of 'that which' (3.15). An exception is when relative *what* initiates the nominal relative clause, in which case the subject is coded as a clause (see subject type clause below).

(3.15) I think Mr Pitt has great Names & if **what appears** in the Papers is true, the Prince seems badly advised (Hamilton Young, 8 April 1789)

Demonstrative pronoun subjects are the singular *this, that*, and the plural *these, those* (3.16).

(3.16) my Desire is of you that you will not write to many in these parts Except it be to **those** that **has** a great relation to you (Patterson, John, 2 August 1770)

Interrogative pronouns (*what, who, which,* and forms in *–ever/ -else*) are coded as subjects in questions according to the definitions in Quirk et al. (1985: 818-23) (3.17).

(3.17) you had best see Mr Joace & inquire of him **what** is proper to be done (Hamilton Young, 6 September 1786)

Proper noun subjects have a noun with specific reference to a person (3.18) or persons (3.19) or a place/country (3.20) as their head. When proper nouns occur with an apposition, these elements are grammatically parallel and have the same referent (*The Oxford dictionary of English grammar* 2003d, accessed 22 November 2014). Following Acuña-Fariña (2009: 462) this study treats the proper noun as subject and the apposition as a modifier.

(3.18) I hope **Bob Rowan has** remembered my catalogue of Trees seeds (Arthur Dobbs, 1 January 1750)
(3.19) **The Holmes has** been a fortunate family (Hamilton Young, 6 January 1789)
(3.20) …then I shall have a chance to see him as he must land at **Cork** which **is** but nine miles from Kinsale (Sarah Gaylard, 13 September 1781)

Clause subjects are nominal finite and non-finite clauses (3.21). These take verbal *-s* in Standard English.

(3.21) I hope **his seeing her has** mead him consider her the more in his will (Sarah Gaylard, 17 February 1769)

'**Other subjects'** comprise all subject types not treated by any of the definitions above, e.g. the nominal adjective *the poor*.

Zero subjects (here indicated by $S_{ø}$) are subjects in independent clauses that have undergone deletion (3.22).

(3.22) I am apt to think Billy must come over here if [**S$_{ø}$**] **is** a good boy (James Dunlap, 12 May 1785)

Subject ambiguous are subjects that do not fit any of the definitions presented above. The category also includes cases when it is uncertain which of the NPs in a clause functions as the subject.

Factor group 3: Subject heaviness

In this study I follow Clarke (1997: 237-8) and code the subjects according to heaviness as pronominal, light NP or Heavy NP. Clarke does not explain the treatments of premodified NPs, NP with appositions and nominal clauses. In these cases I expand Clarke's definitions.

Pronominal subjects are one-word, non-modified personal pronouns (e.g. *I, we*), indefinite pronouns (e.g. *nothing*), demonstrative pronouns (e.g. *those*), interrogative pronouns (e.g. *what*), relative *what* and existential *it.*

Light NP subjects (light NPs) comprise NPs that consist of the noun head (possibly preceded by a premodifier or determiner) (3.23), personal pronouns with postposed adjectives (3.24), existential *there/it* (3.25), and subjects consisting of a restrictive apposition, i.e. where the apposed elements of the subject receive equal stress (Acuña-Fariña 2009: 455) (3.26).

(3.23) Nancy Hety Percivel is dead and **their children is** all married (John Johnston, 18 April 1790)
(3.24) it gives me a great Deal of pleaser to hear that **you all are** alive (John Johnston, 18 April 1790)
(3.25) **there is** Ileven Eleven Ships Intended to sail from Newry and Belfas for Philadelphia and Newcastle (Henry Johnston, 20 April 1773)
(3.26) **brother James Lindsey is** married again to one Hoskins (David Lindsay, 19 March 1758)

Heavy NP subjects (heavy NPs) comprise NP heads that are postmodified by a relative clause (3.27, here with a zero relative pronoun), a prepositional phrase (3.28); conjoined NPs (3.29), nominal clauses (3.30) and subjects consisting of a non-restrictive apposition, i.e. where the apposed elements of the subject receive different stress (Acuña-Fariña 2009: 455) (3.31).

(3.27) **The sensations Flora and I feel at the idea of seeing America so soon is** easier imagined than described (Anne Caldwell, 1 August 1798)
(3.28) **Mr. Gregg's Field at the Long Bank is** yet unsettled in the Rent role (John Alexander, 30 September 1771)
(3.29) **Sarah Gaylard Mary and Sally desires** their duty to you (Sarah Gaylard, 17 February 1769)
(3.30) **May you live happily & enjoy many returns of the New Year is** the Sincere wish of H Gillis (Hamilton Young, 8 January 1787)
(3.31) **Mr Holland, a very good actor, does** the part of Macbeth (Margaret Craig, 1 January 1800)

Factor group 4: Subject-verb adjacency (position to subject constraint, PSC)

Subject-verb adjacency refers to the distance between the subject head and the finite verb in a clause. Following Clarke (1997: 235, 239) and Pietsch (2005a), I operate with three categories defined by the number of words that intervene between the subject head and verb.

Adjacent subject and verb are contexts where the subject head and finite verb are positioned side by side (3.32).

(3.32) **I hope** if **I lives** to writ agaen that our Contrey will be in asetled steat and that the french will Drop ther hostill designs (John MacArthur, 1798)

Near-adjacent subject and verb are contexts in which the subject head and finite verb are separated by a single word, e.g. a one-word postmodifier (3.33) or an expressed relative pronoun (3.34). In clauses where only a zero relative pronoun splits the subject and the verb, the distance is coded as adjacent.

(3.33) **the Inhabitants** here **give** their cattle salt (Job Johnson, 2 March 1767)
(3.34) **the people** that **is** exposed to the sun is subject to what they call fever & ague (Hester Wylly, 14 December 1768)

Nonadjacent subject and verb are contexts where the subject head and finite verb are separated by two or more words, typically a postmodifying relative clause (3.35) or prepositional phrase (3.36), or when the verb occurs in a second conjoined clause where the subject has undergone deletion (3.37).

(3.35) **The sensations Flora and I feel at the idea of seeing America so soon is** easier imagined than described (Anne Caldwell, 1 August 1798)
(3.36) **The good bargains of your lands in that country doe** greatly encourage me to pluck up my spirits and make Redie for the Journey (David Lindsey, 19 March 1758)
(3.37) **I** have no more to write at this present but **desires** you to mis no oppertunity but to write … (John Patterson, 2 August 1770)

Factor group 5: Clause type

In order to investigate the impact of the relative clause environment on verbal *-s*, I modify Pietsch's (2005a) procedure and code clauses as relative (3.38) or non-relative (3.39).

(3.38) If any **person that comes** here can bring money to purchase a slave or two, they may live very easy and well (John Rea, 15 May 1765)
(3.39) I may have Time if **my health continues** to take a trip to Carolina and take over some families with me (Arthur Dobbs, 1 January 1749)

Factor group 6: Type of relative pronoun used
Relative pronouns occurring in relative clauses are coded as relative *that/at/as* (3.40), relative starting with *wh-* (3.41), zero relative (3.42, indicated by [$Ø_r$]) or not relevant (in non-relative clauses).

(3.40) **A young man that is** a good scholar may not fear a good living in this country (John Rea, 15 May 1765)
(3.41) I have sent Mrs Gaylard **some green oranges which is** the produce of this country (Hester Wylly, 14 December 1768)
(3.42) I will give you **all the little news** [**$Ø_r$**] **has** happened since nancy wrote (Mrs Elizabeth Blair, 5 May 1774)

Factor group 7: Decade
The data was coded according to the decade of letter production.

Factor group 8: County/city (origin of writer)
The data is coded according to the county (or city, in the case of Belfast) where the writer originates. The background Excel documents in CORIECOR and external sources (Good 1921; Miller et al. 2003) were consulted for information. In several cases the letters of a writer were read closely in order to determine place of origin. When no information on place of origin could be found in these sources, it was assumed that the writer's address in Ireland or family member recipient's address in Ireland equals the writer's place of origin. Data from letters sent from abroad to a friend/business partner in Ireland was coded as 'origin unknown'. The 'origin unknown' data was later excluded from the analysis.

Factor group 9: Sex of letter writer
Sex of writer is coded as either *female*, *male* or *sex unknown*.

Factor group 10: Degree of writer-recipient intimacy
Intimacy refers to social closeness between writer and recipient. The categories used are *Close nuclear family* (including the subcategories *from son/daughter to parent*(*s*), *from parent*(*s*) *to child, to spouse, to sibling*), *other distant family, close personal friend, other distant, social superior* and *unknown*. The CORIECOR background Excel documents and external sources (Good 1921; Miller et al. 2003) were consulted for information on relationships. In the remaining cases writer-recipient intimacy is decided from the writer's mode of addressing the recipient (e.g. *Dear mother*). A letter addressed to *Sir* is coded as *distant* when it closes with *From your friend*; when a letter to *Sir* closes with *From your humble servant* I code for *social superior.*

3.3 Analyses

SVC in CORIECOR 1741-1800 is investigated via a quantitative frequency analysis and quantitative binomial multivariate analyses. This was done using the variable rule program *GoldVarb 3.0b3* (Sankoff, Tagliamonte & Smith 2005, downloaded 10 October 2014, see Tagliamonte 2006 for detailed procedure) and Chi-square testing (Preacher 2001). The study uses a three-step analysis procedure.

3.3.1 Procedure analysis (steps A-C)

Analysis step A. Getting an impression of overall patterns

Using the 'no recode' option in *GoldVarb*, the frequencies of the dependent variables *-s*/*-Ø*/ *am* across factor groups 1-10 (previous section) were studied. Overall distributions of the variants *-s*/*-Ø* and *am* were observed. As the aim was to study nonstandard SVC patterns, subject types that gave no variable use of verb forms, or subjects that were ambiguous in terms of number reference, were excluded from the analysis. At this early stage the *GoldVarb* binomial one-level regression analysis was done in order to get an impression of the strength of verbal *-s* within different factor groups. Prior to the *GoldVarb* binomial one-level analysis Knock Out (K.O.) factors, i.e. factors that do not combine with the dependent variables set as application values (in this case *-s* and *-Ø*) were removed. Since there is complete overlap between the different verb type factors and the variables *-s*/*-Ø*, the verb types were K.O. factors that were excluded prior to the analysis. The *GoldVarb* binomial one-level analysis calculates a factor weight for each factor. Factor weights above .550 show that verbal *-s* is likely to occur in those environments, while factor weights below .450 show that verbal *-s* is not likely to occur. Factor weights between .450 and .550 indicate that the environment has a neutral impact on the realisation of verbal *-s*.

Analysis step B. Frequency analysis and Chi-square tests

Using the cross-tabulation function in *GoldVarb*, a distributional analysis of verbal *-s*/*-Ø* by the 10 linguistic and extralinguistic factor groups included in the study was done. The distribution of nonstandard verbal *-Ø* was investigated first. However, as there was considerably more variation with verbal *-s*, this received focus in the analysis.

The results in the frequency analysis were tested in Chi-square tests. This was done using Preacher (2001). The Chi-square test was done in two ways: First, the frequencies of verbal *-s* and *-Ø* with each factor in a factor group were analysed. When there is enough data, the Chi-square test uses Pearson's Chi-square equation to calculate a Chi-square value

(hereafter X^2), and the degrees of freedom (hereafter *df*). The latter refers to the number of possible choices given the sums of the factors (Rietveld & van Hout 2005: 22). The level of probability (*p*-level, or *p*) is decided according to the degree to which the X^2 value exceeds a critical value of statistical significance. In this study the *p*-value <0.05 was regarded as statistically significant, meaning that the null hypothesis of independence between observed frequencies of the variables (-*s*/-Ø) was rejected.[20]

Pearson's Chi-square equation is less accurate when there are less than 5 observations in more than 20% of the cells (Preacher 2001). In order to avoid underestimation of probability in such cases, Yates' modified Chi-square equation (Yates 1934) is used in 2x2 square tests.[21] Tests run with Yates' correction in cases with degrees of freedom (*df*) of two or more is less accurate and must be interpreted with caution. In cases where one or more expected frequencies are <1, I do not cite the level of probability, as neither Pearson nor Yates' Chi-square tests are appropriate in these cases (Preacher 2001).

By typing the frequencies of verbal -*s* and -Ø with each factor in a factor group into the calculator in the manner presented above, I test whether there is statistically significant variation within a factor group. However, in order to identify what factors in a factor group give significant variation, a second Chi-square test was done (Preacher 2001). The test was done by testing the frequencies of -*s*/-Ø within two factors in a factor group against each other at the time. For instance, in order to identify whether the variation between plural NP subjects with existential *there/it* and conjoined NPs was significant, the frequencies of verbal -*s* and -Ø with existential *there/it* (42 -*s* forms; 20 -Ø forms) and conjoined NPs (86 -*s* forms; 70 -Ø forms) were inserted into the 2x2 Chi-square table. This gave a non-significant result (Pearson's X^2=2.912, *df*=1, *p*=0.0879). Later, the frequencies of -*s*/-Ø with every other plural NP subject were tested against each other in the same manner. In this way I was able to see what factors in a factor group caused significant variation within the factor group. The result from the test on plural NP subjects is presented in the cross table in Table 4.5.

[20] The five percent level ($p<0.05$) is frequently used in linguistics studies. Herdan (1964: 138) argues that a lower level of probability ($p<0.01$ or $p<0.005$) is required. A lower *p*-level gives higher probability that the null hypothesis is rejected. Using a lower significance level is more relevant when many tests are run. Reported in this study are the results from less than 40 Chi-square tests. I therefore conclude that the significance level at <0.05 is adequate. In the Results chapter, *p*-values are given to indicate the strength of the result.

[21] In Chapter 4, information is given whenever Yates' X^2 is used. When no information is provided, the X^2 is Pearson's X^2.

Analysis step C. *GoldVarb* binomial up-down analysis

The frequency analyses and the results of the Chi-square tests presented above suggest what factors have an impact on the distribution of verbal *-s*. In order to test the combined impact of all factors, the *GoldVarb* binomial up-down analysis was used. This variable rule analysis models 'the simultaneous operation of factor effects, reveals the relative importance of each one to the other, and selects which ones are significant' (Tagliamonte 2006: 215). The analysis is considered the 'gold standard' within variationist linguistics (Tagliamonte 2006: 226) and is used by larger studies on SVC in Ulster (McCafferty 2003; Pietsch 2005a). Prior to the analysis K.O. factors (e.g. verb types) were removed. The personal pronouns *we, you, they* were recoded into one group. The *GoldVarb* analysis simultaneously analyses the impact of all factors on the realisation of verbal *-s*. The analysis calculates a factor weight for each factor (weights>.550=verbal *-s* is likely to occur; weights <.450 = verbal *-s* is not likely to occur; weights .450-.550=the environment has a neutral impact on the realisation of verbal *-s*). The factor groups selected as significant in the *GoldVarb* analysis are those in which there is largest range in the factor weights applied to the factors in a factor group. In this study I rely on the result of the *GoldVarb* analysis regarding what factors are significant to the distribution of verbal *-s*.

3.3.2 Treatment of tokens with *I* + BE past

The 1st person singular pronoun (*I*) gives a special verbal paradigm in the Standard: Despite the singular reference of *I*, this subject takes verbal *-Ø* (e.g. *I write*) or *am* in the present tense in the Standard (where the 2nd person singular *thou* and 3rd person singular *he, she, it* would take the *-s* form, i.e. *is/was/has/does/writes*. With DO, HAVE and lexical verbs the 2nd person singular/plural *you* takes the same *-Ø* form as *I* in the present tense, i.e. *you do/have/write*). In the past tense *I* takes the verbal *-s* form of BE (e.g. *I was*) in the Standard.

The present analysis investigates nonstandard use of verbal *-s*/*-Ø*. In order to be able to investigate the use of nonstandard verbal *-s* with the 1st person singular pronoun *I*, tokens of *I was* are excluded from the frequency tables (Tables 4.2-4.17) in the results chapter. Tokens of *I were* are also excluded (cf. Pietsch 2005a). As *I were* is nonstandard when occurring in the indicative, it could be argued that these tokens should be included. As tokens with *I + was* cannot be excluded automatically from the *GoldVarb* analysis, tokens with BE past (*was/were*) with all subjects are excluded from the *GoldVarb* analysis (Section 4.3). This exclusion gives modified rates of verbal *-s* in the *GoldVarb* analysis compared to the rates in the frequency tables (Tables 4.2-4.17).

3.3.3 Treatment of tokens with *you + was*

The 2nd personal pronoun *you* has both singular and plural reference. In the Standard, singular/plural *you* takes verbal *-Ø* (e.g. *you write, you are/were*). In traditional NSR-varieties, verbal *-s* could apply with *you* in the same manner as with the plural personal pronouns (*we* and *they*) if the PSC operated. However, not all use of *you* taking verbal *-s* may be accounted for by the NSR: Up until the mid-18th century, *you was* was the preferred form, even among individuals with university education (Laitinen 2009). Collocations with *you was* in CORIECOR 1741-1800 may therefore not reflect the NSR. In the present study I treat the 2nd person singular/plural pronoun *you* together with the plural personal pronouns *we, they*. When investigating the frequencies of verbal *-s* with these subjects according to verb type, I comment on the frequency of *you was* in order to point at use that possibly reflects the contemporary norm.

3.3.4 Treatment of tokens with existential *there*

In the last decade scholars have claimed that existential *there* should be excluded from the study of the NSR. For instance, Cole (2008: 104-108) claims that existential *there* + *-s* is a cross-dialectal universal that developed independently of the NSR. As the distribution of verbal *-s* with existential *there* does not reflect variability imposed by the NSR, existential *there* should be excluded from the NSR-analysis, according to Cole (ibid.). Pietsch (2005a: 134) further reports that verbal *-s* with existential *there* is sensitive to other linguistic constraints than NSR-related verbal *-s* in present-day Northern Ireland. He therefore argues that existential *there* + *-s* is a separate phenomenon that should be excluded from the NSR-analysis. For similar reasons, Pietsch (2005a: 119) argues that conjoined NPs and collectives should be excluded from the study of the NSR.

A third problem is that existential *there* + plural NP behaves differently from most other plural NP subjects in two ways: 1) It cannot vary in terms of heaviness (existential dummy subject *it* is inherently 'pronominal', dummy subject *there* is inherently 'light NP'); 2) existential *there* does not function as antecedent to the relative pronoun in the relative clause. As existential *there* frequently takes verbal *-s*, the inclusion of existential *there* may have an impact on the overall result regarding the factors groups subject heaviness and relative clause.

McCafferty (2003: 127) justifies the inclusion of existential *there*, conjoined NPs and collectives as these subjects comply with the NP/PRO pattern in 19th-century Ulster data. The present study seeks to produce results that are comparable with e.g. McCafferty (2003).

Tokens with existential *there*, conjoined NPs and collectives are therefore included in the frequency tables and in the *GoldVarb* analysis. In order to get an impression of the impact of existential *there/it* on the overall results, a separate frequency analysis of the distribution of verbal *-s* with plural NP subjects *excluding* existential *there/it* was done in relation to the linguistic factors. The results of this additional analysis is summarised in Section 4.2.1.7.

3.3.5 The analysis of the collocation of relative pronoun + verbal *-s*

In the present study I hypothesise that the frequent collocation of the relative pronoun + *-s* is not licensed by the relative pronoun or the relative clause environment. I rather suggest that the frequent collocation is due to a combination of the NP/PRO distinction and the PSC (*Hypothesis 4*). I argue that this may be so because the NP/PRO distinction is likely to apply when the semantic subject of the clause functions as antecedent to the relative pronoun. Similarly, given the strong impact of the PSC in other contexts, it is likely that this constraint operates in clauses where the antecedent subject and the verb are separated by the intervening relative pronoun. In order to determine which of the competing factors (the PSC, Type of subject constraint (TSC), the relative clause or type of relative pronoun) licenses verbal *-s* in CORIECOR 1741-1800 I follow Pietsch (2005a), and treat the antecedent to the relative pronoun in the relative clause as the subject of the clause. In order to investigate the impact of the relative clause environment on verbal *-s*, the factor groups TSC, PSC, clause type (relative clause vs. non-relative clause) and type of relative pronoun used (vs. no relative pronoun in the case of a non-relative clause) are then coded separately. The result regarding what causes the frequent collocation of the relative pronoun and verbal *-s* is based on the result of the *GoldVarb* analysis and the cross-tabulations in the frequency analysis.

CHAPTER 4 RESULTS

The present chapter reports the results from the analyses. Section 4.1 presents overall distributions of the verb forms *am*/verbal -*s*/-Ø, and explains what variation is interesting to the analysis and what data is excluded. Section 4.2 details the results from the frequency analysis. Section 4.2.1 presents the results regarding the NP/PRO distinction (or Type of subject constraint, TSC), the Proximity to subject constraint (PSC) and other linguistic factors. Section 4.2.1.7 summarises the results from the separate frequency analysis done when tokens with existential *there/it* with plural logical subject (hereafter existential *there/it*) were excluded, as explained in Section 3.3.4. The results regarding the extralinguistic factors are outlined in Section 4.2.2. Finally, Section 4.2.3 presents the results from the *GoldVarb* binomial up-down analysis (hereafter referred to as the *GoldVarb* analysis) and summarises the results.

4.1 Presentation of overall distributions and exclusions

The data collected from *The Corpus of Irish English Correspondence* (CORIECOR for 1741-1800) renders a total of 4747 tokens of subject-verb concord (SVC) with the dependent variants *am, -s/is/was* and *-Ø/are/were* from Ulster.[22] Table 4.1 presents the overall distributions of the dependent variants *am*/verbal -*s* and verbal -*Ø* across subject types in the data set. The table shows that the data comprises 358 tokens of *am*, 2522 tokens of verbal -*s* (including the analogous forms *is, was*), and 1867 tokens of verbal -*Ø* (including the analogous forms *are, were*). The distributions of verb forms vary according to type of subject.

Table 4.1 shows great variation in the use of nonstandard verbal -*s* with plural noun phrase (NP) subjects. The first person pronoun subject, *I*, and 'other personal pronouns' (*we, you, they*) rarely take nonstandard verbal -*s* (see Table 4.1, note *a*, to exclusions). The distribution of verbal -*s* with plural NPs and the personal pronouns *I, we, you, they* in Table 4.1 indicates that an NP/PRO distinction exists in our data (cf. the Northern Subject Rule, NSR).

[22] At the outset a total of 6543 tokens of *am, -s* and -Ø were included in the study and coded in *GoldVarb*. In order to make a detailed analysis of SVC in Ulster it was decided that 405 tokens of *am, -s* and -Ø from the south of Ireland were excluded from the analysis, as well as 1391 tokens of *am, -s* and -Ø collected from writers with unknown origins.

Table 4.1 Overall distributions of *am*, verbal *-s* and verbal -Ø across broad subject types

Subject types		**N *am***	**% *am***	**N *-s***	**% *-s***	**N -Ø**	**% -Ø**	**Total N**
Personal pronouns	1st person singular (*I*)	337	26	**105** [a]	**8**	**855** [a]	**66**	**1297**
	Singular (*thou, he, she, it*)	n.a.[b]	n.a.	702	99	8	1	710
	Other personal pronouns (*we, you, they*) [c]	n.a.	n.a.	**10**	**2**	**567**	**98**	**577**
NPs	Singular NPs	n.a.	n.a.	1244	97	40	3	1284
	Plural NPs [d]	n.a.	n.a.	**288**	**47**	**330**	**53**	**618**
Remaining subjects	Relative *what*	n.a.	n.a.	22	100	0	0	22
	Interrogative pronoun	n.a.	n.a.	7	100	0	0	7
	Clause	n.a.	n.a.	47	100	0	0	47
	Other subjects	n.a.	n.a.	29	69	13	31	42
	Zero subject	21	21	45	45	34	34	100
	Subject ambiguous	n.a.	n.a.	23	53	20	47	43
SUM		358	8	2522	53	1867	39	4747

NOTES:

a This table includes tokens with the 1st person singular (*I*) and BE past. Of these are 75 tokens of *I + was.* This use reflects the standard norm, and the tokens are therefore excluded in the following (see comment in Section 3.3.2). The table also includes 3 tokens of *I + were* that are excluded in the following. Of the three tokens of *I + were,* two are in the subjunctive mood, and thus reflect the standard norm. The third token of *I + were* is nonstandard as it occurs in the subjunctive. It was decided that this single token of nonstandard *I + were* was excluded from the analysis. It could be argued that this token should be included in the following.

b Most persons are not possible with the verb form *am*. The abbreviation n.a (= not applicable) indicates cases where *am* cannot occur.

c There were no tokens with the subject type 2nd person plural *ye* in the data.

d Numbers include tokens with the subject type existential *there/it* with plural logical subject.

As seen in Table 4.1, the use of nonstandard verbal -Ø is rare: Singular NPs and singular personal pronouns (*thou, he, she, it*) take verbal -Ø at low rates. There is no evidence of a *was/weren't* split. It was found that the tokens of nonstandard verbal -Ø are spread across the data set, and there is no tendency in any region for verbal -Ø to occur with singular NPs. I therefore exclude these tokens from the following analysis.

Variation is found with the zero subject. It was nevertheless decided that the phenomenon is excluded from further study. Other 'Remaining subjects' either take verbal *-s* categorically or are miscellaneous as far as number is concerned (Table 4.1). These tokens are therefore excluded.

Finally, the variant *am* is restricted to contexts with the 1st person pronoun subject (*I*) and zero subjects. Tokens with *am* are therefore excluded from the analysis.

As a consequence of these exclusions, focus in this analysis is on nonstandard use of verbal *-s* (bold in Table 4.1) with the subjects plural NPs and personal pronouns *I, we, you* and *they* in CORIECOR 1741-1800.

4.2 Frequency analysis of nonstandard verbal *-s* in CORIECOR 1741-1800

The data sample from Ulster comprises a total of 2077 contexts where nonstandard verbal *-s* is possible. Of these are 618 clauses with plural NP subjects (including tokens with existential *there/it*), and 1459 clauses with personal pronouns subjects (1st person pronouns singular, *I,* and other personal pronouns, *we, you, they*). Verbal *-s* applies in 328/2077 (16%) of the cases.

4.2.1 Distribution of verbal *-s* according to linguistic factors

4.2.1.1 The Type of subject constraint (TSC)
The NP/PRO distinction

Table 4.2 compares the distribution of verbal *-s* with personal pronoun subjects (*I, we, you* and *they* collapsed) and plural NP subjects in CORIECOR 1741-1800.

Table 4.2 Distribution of verbal *-s* with personal pronoun subjects vs. plural NP subjects

Subject type	**N *-s*/ total**	**% *-s***
Total personal pronoun subject (*I, we, you, they*) [a]	40/1459	3
Total plural NP subjects [b]	288/618	47
TOTAL	328/2077	16

NOTES:
a Tokens of 1st person singular pronoun *I + was/ were* are excluded from the table.
b The numbers include tokens with existential *there*/*it*.

The table documents an NP/PRO split in the data. The Chi-square test shows that plural NPs have a significantly higher frequency of verbal *-s* than personal pronouns (Pearson's X^2= 628.001, df= 1, p< 0.001).

Further differentiation in distribution of verbal *-s* according to type of subject

Table 4.3 presents the distribution of nonstandard verbal *-s* with personal pronoun subjects.

Table 4.3 Distribution of verbal *-s* with personal pronoun subjects

Subject type	**N *-s*/ total**	**% *-s***
1st person singular (*I*), [a]	30/882	3
1st person plural (we)	4/164	2
2nd person singular/plural (*you*) [b]	4/259	2
3rd person plural (*they*)	2/154	1
Total	40/1459	3

NOTES:
a Tokens of 1st person singular pronoun *I + was/ were* are excluded from the table.
b Up until the 19th century the combination of *you + was* was considered the norm in certain varieties (Laitinen 2009). See Section 4.2.1.6 for further explanation of tokens of *you was* in the data.

Verbal *-s* occurs at a low frequency with all personal pronouns (Table 4.3; Examples 4.1.4.4). The percentages range from 1% (2/154) with personal pronoun *they*, and 3% (30/882) with 1st person singular pronoun *I*.[23] In most tables in this chapter, numbers of verbal *-s* with the personal pronouns *we, you, they* are collapsed and contrasted with numbers with the 1st person singular (*I*).

The following examples of verbal *-s* with personal pronouns (subjects and verbs in bold) are exceptions from the NP/PRO split.

(4.1) **I** knit myself and 3 pair worsted but **is** advised not to send them as you cant wear them in that warm climate (Mrs Elizabeth Blair, 5 May 1774)

(4.2) **we was** in no business the times being so uncertain (Hannah Dodd, 24 November 1788)

(4.3) I think **you was** right mentioning what you did to Mr Morris, also in taking the Mortgage you mention (Hamilton Young, 3 September 1788)

(4.4) there is every open door in many places amongst other people, **they** seem Hungary & Thirsty & **comes** great distances to Meeting, especially in Virginia (Samuel Neale, 7 May 1771)

Table 4.2 shows that verbal *-s* is frequent with plural NP subjects. Table 4.4 presents the distribution of nonstandard verbal *-s* across types of plural NP subjects in the study.

Table 4.4 Distribution of verbal *-s* with plural NP subjects

Subject type	**N *-s*/ total**	**% *-s***
Existential *there/ it*	42/62	68
Conjoined NP	86/156	55
Collective noun	24/48	50
NP denoting mass/ quantity	51/117	44
Proper noun	2/5	40
Demonstrative pronoun	4/11	36
Common noun	79/219	36
Total	288/618	47

A total of 288/618 (47%) tokens of NP plural subjects take verbal *-s* (Table 4.4). The distribution of verbal *-s* is graded across types of plural NP subjects. Verbal *-s* is most

[23] Concerning the relative proportion of verbal *-s* with 1st person pronoun singular *I*: It could be argued that tokens of *am* be included in the totals. If tokens with *am* are included, the relative proportion of verbal *-s* with *I* drops to 30/1219, 2.5%, and thereby approaches the distributions of the other personal pronouns. In this analysis of verbal *-s*/*-Ø*, tokens with *am* are excluded.

frequent with the subject type existential *there/it* (42/62, 68%). Verbal *-s* is favoured also with the subject types conjoined NPs (86/156, 55%) and collective nouns (24/48, 50%). The lowest rates for verbal *-s* are found with the plural demonstrative pronoun (4/11, 36%) and common nouns (79/219, 36%). Examples of verbal *-s* with each plural NP subject are provided in Examples 4.5-4.11.

(4.5) *Existential* there *with plural NP*:
there was upwards of 50 of the yourk Fenceabls killed in the action and many wounded, and **there was** about 12 or 14 reabels rebels killed at said time and on the 13 of said Instant (Thomas Clandinen, 25 April 1799)

(4.6) *NPs conjoined with* and:
their is no death amongst us since except Children but **my Mother and Smith William is** Dead (John Patterson, 2 August 1770)

(4.7) *Collective noun*:
In Compliance with your Request I would Inform you that **Our Little family** at preasent **is** two sons John & Henry Both Promising Children (David Pollock, 18 December 1794)

(4.8) *NP denoting plural mass/quantity*:
The Hearts of Oak Steel Gold or what ever you please to call to call them are all Quiet; **some few was** tried in Carrickfergus and Down (Henry Johnston, 20 April 1773)

(4.9) *Plural proper noun*:
The Holmes has been a fortunate family (Hamilton Young, 6 January 1790)

(4.10) *Plural demonstrative*:
my Desire is of you that you will not write to many in these parts Except it be to **those** that **has** a great relation to you (John Patterson, 2 August 1770)

(4.11) *Plural common noun*:
our wives Joynes us in dear Love to self &Cousin Sally & all other Relations (Samuel & John Morton, 25 November 1769)

The distribution of verbal *-s* vs. *-Ø* across types of plural NP subjects turns out highly significant in the Chi-square test (Pearson's X^2= 26.648, *df*= 6, *p*= 0.0001). Comparing the frequency of verbal *-s/-Ø* between each subject type (Table 4.5), I find that 1) existential *there/it* has a statistically significant higher frequency of verbal *-s* compared to NPs denoting mass/quantity (X^2= 9.47, *df*= 1, *p*= 0.002); 2) existential *there/it* has a statistically significant higher frequency of verbal *-s* compared to common nouns (X^2= 19.765, *df*= 1, *p*= 0.0001), and 3) conjoined NPs has a statistically significant higher frequency of verbal *-s* compared to

common nouns (X^2=13.425, *df*= 1, *p*= 0.0002). The remaining subject types do not differ significantly in their ability to take verbal *-s*.

Table 4.5 Chi-square test of distribution of verbal *-s* vs. *-Ø* according to type of plural NP subject [a, b, c, d]

	Conjoined NPs		**Collectives**		**NPs denoting mass/ quantity**		**Proper noun**		**Demonstrative**		**Common noun**	
	X^2=	*p*=	X^2=	*p*=	X^2=	*p*=	X^2=	*p*=	X^2=	*p*=	X^2=	*p*=
Existential *there/it*	2.912	n.s.	3.548	n.s.	9.47	0.002	*0.589*	*n.s.*	*2.715*	*n.s.*	19.765	0.0001
Conjoined NPs			0.389	n.s.	3.56	n.s.	*0.045*	*n.s.*	1.456	n.s.	13.425	0.0002
Collectives					0.564	n.s.	*0.002*	*n.s.*	0.667	n.s.	3.223	n.s.
NPs denoting mass/ quantity							*0.091*	*n.s.*	*0.021*	*n.s.*	1.816	n.s.
Proper noun									*0.175*	*n.s.*	*0.084*	*n.s.*
Demonstrative											*0.091*	*n.s.*

NOTES:

a Numbers inserted in the 2x2 Chi-square test are the totals of the plural NPs from Table 4.4, i.e. numbers for verbal *-s* and *-Ø* with plural NP subject (including existential *there/it*).

b Degree of freedom (*df*) in the table is 1.

c Chi values in italics in the table are Yates' X^2. The remaining Chi values are Pearson's X^2.

c Abbreviation n.s. = not significant.

In sum, CORIECOR 1741-1800 displays a clear NP/PRO distinction and further internal variation according to type of plural NP subject (TSC).

4.2.1.2 The Proximity to subject constraint (PSC)

Personal pronoun x degree of adjacency

Table 4.6 shows the distribution of nonstandard verbal *-s* with personal pronouns according to the degree of adjacency between the subject head and finite verb in the clause.

Table 4.6 Distribution of verbal *-s* with personal pronoun subjects in adjacent, near-adjacent and non-adjacent contexts

	Adjacent		**Near-adjacent**		**Non-adjacent**		**TOTAL**	
Subject type	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***
1st person singular (*I*) [a]	2/781	0.3	0/24	0	28/77	36.4	30/882	3.4
1st person plural (we)	1/147	0.7	0/4	0	3/13	23.1	4/164	2.4
2nd person singular/plural (*you*)	3/250	1.2	0/4	0	1/5	20.0	4/259	1.5
3rd person plural (*they*)	1/141	0.7	1/8	12.5	0/5	0.0	2/154	1.3
Total	7/1319	0.5	1/40	2.5	32/100	32.0	40/1459	2.7

a Tokens of 1st person singular pronoun *I + was/ were* are excluded from the table.

Table 4.6 shows a clear PSC effect with personal pronoun subjects: Verbal *-s* with a personal pronoun subject is more frequent in the non-adjacent environment (32/100, 32%) than in the near-adjacent context (1/40, 2.5%) and adjacent context (7/1319, 0.5%) (see examples 4.12 and 4.13 below). Personal pronoun subjects rarely occur in the near-adjacent environment. The distribution of verbal *-s*/*-Ø* with all personal pronoun subjects collapsed (totals in bottom line in Table 4.6) across the three adjacency levels is highly significant (Yates' X^2=333.679, *df*= 2, *p*=< 0.001). Yate's Chi-square is less accurate when the degrees of freedom (*df*) is two or more. Therefore I collapse the numbers in the near-adjacent and non-adjacent contexts into one near/non-adjacent category (giving *df*=1). This gives a total of 7/1312 (0.5%) tokens of verbal *-s* in the adjacent context, vs. 33/140 (23.6%) tokens of verbal *-s* in the near/non-adjacent context. Using Yates' correction in the Chi-square test, this adjacent/non-adjacent split in the data is highly significant (Yates' X^2= 242.096, *df*= 1, *p*<0.001). Most studies operate with the adjacent and non-adjacent categories only (e.g. McCafferty 2003; Montgomery 1994).

(4.12) *The application of verbal -Ø in the adjacent context and verbal* -s *in the non-adjacent context*
I intend to return to the North this Week & **hopes** to meet with thee (John Morton, 14 April 1767)

(4.13) *The application of verbal* -s *in the near-adjacent context*
none can tell the Loss of a dear husband but **they** that **has** suffered it (Hannah Dodd, 24 November 1788)

Plural NP subject x degree of adjacency

The distribution of verbal *-s* with plural NP subjects that are positioned adjacent, near-adjacent or non-adjacent to the verb is presented in Table 4.7.

Table 4.7 Distribution of verbal *-s* with plural NP subjects in adjacent, near-adjacent and non-adjacent contexts

	Adjacent		**Near-adjacent**		**Non-adjacent**		**TOTAL**	
Plural NP subjects	**N *-s*/ total**	**% *-s***	**N *-s*/total**	**% *-s***	**N *-s*/total**	**% *-s***	**N *-s*/ total**	**% *-s***
Existential *there/ it*	42/62	68	0/0	0	0/0	0	42/62	68
Conjoined NPs	79/138	57	2/6	33	5/12	42	86/156	55
Collectives	13/20	65	5/9	56	6/19	32	24/48	50
NPs denoting mass/ quantity	20/44	46	10/14	71	21/59	36	51/117	44
Proper nouns	2/5	40	0/0	0	0/0	0	2/5	40
Demonstratives	2/3	67	2/8	25	0/0	0	4/11	36
Common nouns	47/141	33	12/26	46	20/52	39	79/219	36
Total plural NP subjects	205/413	50	31/63	49	52/142	37	288/618	47

Table 4.7 shows that verbal *-s* is not more frequent in the non-adjacent and near-adjacent environments than in the adjacent environment in CORIECOR 1741-1800: In the totals (bottom line in the table), there is a higher relative proportion of verbal *-s* in the adjacent and near-adjacent environments (49-50%), than in the non-adjacent environment (52/142, 37%). The overall variation of verbal *-s*/*-Ø* with the totals in Table 4.7 across the three levels of adjacency is statistically significant (Pearson's X^2= 7.386, *df*= 2, *p*= 0.025).

If tokens of verbal *-s* with plural NP subjects in the near and non-adjacent contexts are collapsed, as in McCafferty (2003), we observe an adjacent vs. near/non-adjacent split in which the adjacent environment takes verbal *-s* 205/413 (50%) of the cases and the near/non-adjacent environment takes verbal *-s* in 83/205 (40%) of the cases. This variation is significant at the five percent level (Pearson's X^2= 4.608, *df*= 1, *p*= 0.032).

If the subject types existential *there/it*, conjoined NPs and collectives are excluded from the analysis, as in Pietsch (2005a), the rate in the adjacent environment drops to 71/193, 37%, while the rate of verbal *-s* in the near-adjacent environment remains stable (24/48, 50%). Verbal *-s* in the non-adjacent environment also remains stable (41/111, 37%).

The result shows that the PSC does not apply in clauses with plural NP subjects in CORIECOR 1741-1800.

4.2.1.3 Subject heaviness

Table 4.8 presents the distribution of verbal *-s* with the 1st person pronoun subject (*I*), other personal pronouns (*we, you, they*) and plural NP subjects according to heaviness of subject.

Table 4.8 Distribution of verbal *-s* according to subject heaviness (pronominal/ light NP/ heavy NP subjects)

	Pronominal		Light NP		Heavy NP		Total	
Subject type	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***
1st person singular (*I*) [a]	30/882	3	0/0	0	0/0	0	30/882	3
Other personal pronouns (*we, you, they*)	10/572	2	0/5 [b]	0	0/0	0	10/577	2
Plural NPs [c]	5/12	42	161/344	47	122/262	47	288/618	47
Total	45/1466	3	161/349	46	122/262	47	328/2077	16

NOTES:

a Tokens of 1st person singular pronoun *I + was/ were* are excluded from the table.

b Tokens of *we, you, they* appearing in the Light NP heaviness group are pronouns with postposed modifying adjective, cf. definition in Section 3.2.3, Factor group 3, Example 3.24.

c The numbers include tokens with existential *there*/*it*.

Table 4.8 (totals in bottom line) shows that the distribution of verbal *-s* is graded across the heaviness levels pronominal (45/1466, 3%), light NP (161/349, 46%) and heavy NP (122/262, 47%) This variation is highly significant (Pearson's X^2= 606.588, *df*= 2, *p*<0.001).

There may be overlap between subject heaviness and subject type. This is because the following subject types in terms of heaviness are inherently pronominal, light or heavy NPs: Personal pronouns are inherently pronominal (except when modified, as in 5 cases in my data, see note *b* to Table 4.8); existential *there/it*' is inherently a 'light NP' when the dummy subject is *there* and 'pronominal' when the dummy subject is *it*; conjoined NPs are inherently 'heavy NPs'. Given this overlap, it is likely that there will be co-variation between subject heaviness and the TSC. I therefore remove these subject types and do a second analysis on the remaining NP subjects, i.e. those that may vary in terms of heaviness (Table 4.9).

Table 4.9 Distribution of verbal *-s* with light plural NP subjects vs. heavy plural NP subjects (personal pronoun subjects, existential *there/it* and conjoined NPs excluded)

	Light NP		Heavy NP		Total	
Subject type	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***
Plural NPs	120/283	42	36/106	34	156/389	40

Table 4.9 shows that verbal *-s* is more frequent when occurring with a light NP subject than with a heavy NP subject. The variation is insignificant (Pearson's X^2= 2.287, *df*= 1, *p*= 0.130).

4.2.1.4 Clause type

Table 4.10 presents the distributions of verbal *-s* with personal pronoun subjects (*I* and *we, you, they*) and plural NP subjects in relative clauses vs. non-relative clauses. What I actually investigate is whether verbal *-s* is favoured with subjects that function as antecedents to the relative pronoun in a relative clause.

Table 4.10 Distribution of verbal *-s* in relative clause vs. non-relative clause

	Relative clause		Non-relative clause		TOTAL	
Subject type	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***
1st person singular (*I*) [a]	0/0	0	30/882	3	30/882	3
Other personal pronouns (*we, you, they*)	1/2	50	9/575	2	10/577	2
Total plural NPs [b]	39/79	49	249/539	46	288/618	47
Total	40/81	49	288/1996	14	328/2077	16

NOTES:

a Tokens of 1st person singular pronoun *I* + *was/ were* are excluded from the table.

b The numbers include tokens with existential *there*/*it*.

As seen in Table 4.10, the overall distribution of verbal *-s* in the relative clause is considerably higher (40/81, 49%) than in the non-relative clause (288/1996, 14%). At first sight this looks as if the relative clause (and therefore the relative pronoun) gives verbal *-s*, while the non-relative clause does not give verbal *-s*.

However, there is great internal variation according to type of antecedent in the relative clause: As seen in Table 4.10, personal pronouns rarely function as antecedents to the relative pronoun in a relative clause (there are only two cases of this in CORIECOR 1741-1800). In the non-relative context, personal pronouns rarely take verbal *-s*.

Considering plural NP subject types we see that the rate for verbal *-s* is 39/79, 49% when the subject functions as antecedent to the relative pronoun, compared to 249/539, 46% when the subject has no such function. The variation with plural NP subjects within the relative clause context and non-relative clause context is not significant in the Chi-square test (Pearson's X^2= 0.278, *df*= 1, *p*= 0.598).

4.2.1.5 Type of relative pronoun used

Table 4.11 presents the distribution of verbal *-s* in relative clauses according to type of relative pronoun used in the relative clause.

Table 4.11 Distribution of verbal *-s* in relative clauses by type of relative pronoun

Type of relative pronoun	**N *-s*/ total**	**% *-s***
that/at/as	19/28	68
zero relative pronoun	3/5	60
Pronoun starting with *wh-*	18/48	38
Total	40/81	49

NOTE:
Table 4.11 is based on numbers from Table 4.10 (i.e. tokens for personal pronoun subjects, *I, we, you, they*) and plural NP subjects are collapsed) The frequencies therefore include tokens with the subject existential *there/it*, but exclude tokens with *I + was/were.*

Table 4.11 shows that verbal *-s* is most frequent in clauses with the relative pronoun *that/at/as* (19/28, 68%), followed by clauses with zero relative pronoun (3/5, 60%), and pronouns starting with *wh-* (18/48, 38%). The variation in distribution according to type of relative pronoun used is not significant in the Chi-square test (Yates' X^2= 5.377, *df*= 2, *p*= 0.068).

4.2.1.6 Verb type

Table 4.12 presents the distribution of verbal *-s* according to type of finite verb in the clause.

Table 4.12 Distribution of verbal *-s* across verb types

	BE present [a]		BE past [b]		DO		HAVE		Lexical verbs		TOTAL	
Subject types	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***
1st person singular (*I*) [c]	3/3	100	-	-	1/40	3	13/374	3	13/465	3	30/882	3
Personal pronouns (*we, you, they*)	1/158	1	7/64	11	0/21	0	2/183	1	0/151	0	10/577	2
Plural NPs [d]	164/349	47	38/86	44	11/16	69	39/91	43	36/76	47	288/618	47
Total	168/510	33	45/150	30	12/77	16	54/648	8	49/692	7	328/2077	16

NOTES:
a With BE present, the variables are *is/was*.
b With BE past, the variables are *was/were*.
c Tokens with 1st person singular pronoun *I* + *was/ were* are excluded from the analysis.
d The numbers include tokens with existential *there*/*it*.

The overall distribution of verbal *-s* according to verb type shows that verbal *-s* is more frequent with BE present (168/510, 33%), closely followed by BE past (45/150, 30%), and then DO (12/77, 16%), HAVE (54/648, 8%) and lexical verbs (49/692, 7%). The variation is highly significant (Pearson's X^2= 202.158, *df*=4, *p*<0.001).

However, the cross-tabulation in Table 4.12 shows that there is no clear pattern in the rate of verbal *-s* across verb types with personal pronoun subjects and plural NPs.

With the 1st person pronouns subject (*I*), verbal *-s* is more frequent with BE present (3/3, 100%) compared with DO (1/40, 3%), HAVE (13/374, 3%), and lexical verbs (13/465, 3%) (Table 4.12). Due to low numbers in cells, the variation across the four verb types cannot be tested in the Chi-square test.

With the other personal pronoun subjects (*we, you, they*), Table 4.12 shows a higher relative proportion of verbal *-s* with BE past (7/64, 11%) than with BE present (1/158, 1%) and HAVE (2/183, 1%). Verbal *-s* does not apply with DO and lexical verbs with any of the 'other personal pronouns' (*we, you, they*). Due to low numbers in cells, the variation across the four verb types cannot be tested in the Chi-square test. It must be stressed that four out of the seven cases when 'other personal pronouns' take the *-s* form of BE past, the subject is actually *you* (i.e. *you was*). This use may reflect the 18th-century norm and not impact of verb type.

With plural NP subjects, the relative proportion of verbal *-s* ranges between 43% (39/91) with the verb HAVE and 69% (11/16) with the verb DO. The variation with plural NP

subjects according to verb type is not significant in the Chi-square test (Pearson's X^2= 3.908, *df*= 4, *p*= 0.419).

If tokens with Plural NPs and *they* are isolated and the frequency of verbal -*s* with BE present is contrasted with that of 'other verbs', as in previous studies on SVC in Ulster during the 18th century (see Table 2.2, Section 2.3.3), the distribution of verbal -*s* is as shown in Table 4.13. This table shows an equal distribution of verbal -*s* with plural NP subjects whether the verb is BE present or a verb within the category 'other verbs'. The result matches the non-significant variation found with plural NP subjects in table 4.12 above. The plural personal pronoun *they* takes verbal -*s* with 'other verbs' in 1/65 cases (2%).

Table 4.13 Distribution of verbal -*s* with BE present vs. 'other verbs' with the subject types plural NPs and *they*

18th-century data	Text origin, text type	Verb type	NP subjects [a]		*They*	
			N -*s*/ total	% -*s*	N -*s*/ total	% -*s*
CORIECOR 1741-1800	Ulster, Letters.	BE, present tense	164/349	47	0/63	0
		Other verbs	86/183	47	1/65	2

NOTE:
a The numbers include tokens with existential *there/it*.

4.2.1.7 A note on existential *there/it*

As seen in Section 2.3.2 and 2.3.5, Cole (2008) and Pietsch (2005a) advise that tokens with existential *there* are excluded from an NSR-analysis. In Section 3.3.4 I also mentioned that due to the special behaviour of existential *there*, the inclusion of this subject may skew the results related to some factors that possibly govern the distribution of verbal -*s*.

In the above analysis, tokens with the subject type existential *there/it* are treated together with the other plural NP subjects. In order to test the impact of the inclusion/exclusion of existential *there* to the result, the distribution of verbal -*s* with plural NP subjects with the exclusion of existential *there/it* was analysed in relation to all linguistic factors. As expected, the exclusion of tokens of verbal -s/-Ø with the subject type existential *there/it* gave modified frequencies of verbal -*s* in relation to all linguistic factor groups. Notably, in relation to every factor group, the exclusion of existential *there/it* gave the same result concerning what factor groups showed significant variation in the Chi-square test as when existentials were included. Consequently, the inclusion or exclusion of existential *there/it* does not alter the main findings of the frequency analysis. The decision to include existentials in the *GoldVarb* analysis (Section 4.3) was grounded on this result.

4.2.2 Distribution of verbal *-s* according to extralinguistic factors

4.2.2.1 Geographic distribution of the NSR

The NP/PRO distinction across geographic regions (counties and Belfast)

Table 4.14 and Figure 4.1 present the distribution of verbal *-s* with subject types plural NPs, 1st person singular pronoun (*I*) and personal pronouns (*you, we, they*) per region.

Table 4.14 Distribution of verbal *-s* (NP/PRO) across regions

Region	Dialect zone [a]	Plural NPs [b]		1st person singular (*I*) [c]		Other pronouns (*you, we, they*)		TOTAL	
		N *-s*/ total	% *-s*	N *-s*/ total	% *-s*	N *-s*/ total	% *-s*	N *-s*/ total	% *-s*
Monaghan	**MUE/ SUE**	18/21	86	0/5	0	1/11	9	19/37	51
Donegal	**MUE/ USc**	18/22	82	3/15	20	1/21	5	22/58	38
Armagh	**MUE/ SUE**	13/17	77	1/11	9	0/10	0	14/38	37
Down	**MUE/ USc**	65/88	74	3/59	5	1/67	2	69/214	32
Tyrone	**MUE**	50/92	54	8/98	8	2/81	3	60/271	22
Belfast	**MUE**	71/163	44	10/316	3	3/160	2	84/639	13
London-derry	**MUE/ USc**	40/112	36	3/185	2	2/106	2	45/403	11
Antrim	**USc**	13/103	13	2/193	1	0/121	0	15/417	4
Total		288/618	47	30/882	3	10/577	2	328/2077	16

NOTES:

a Dialect zones indicated are the present-day dialect zones USc (Ulster Scots), MUE (Mid-Ulster English) and South-Ulster English (SUE) (Harris 1984: 117, cf. Map 2.2 in Section 2.2.2).

b The numbers include tokens with the subject type existential *there/it*.

c Tokens of 1st person singular pronoun *I* + *was/ were* are excluded from the table.

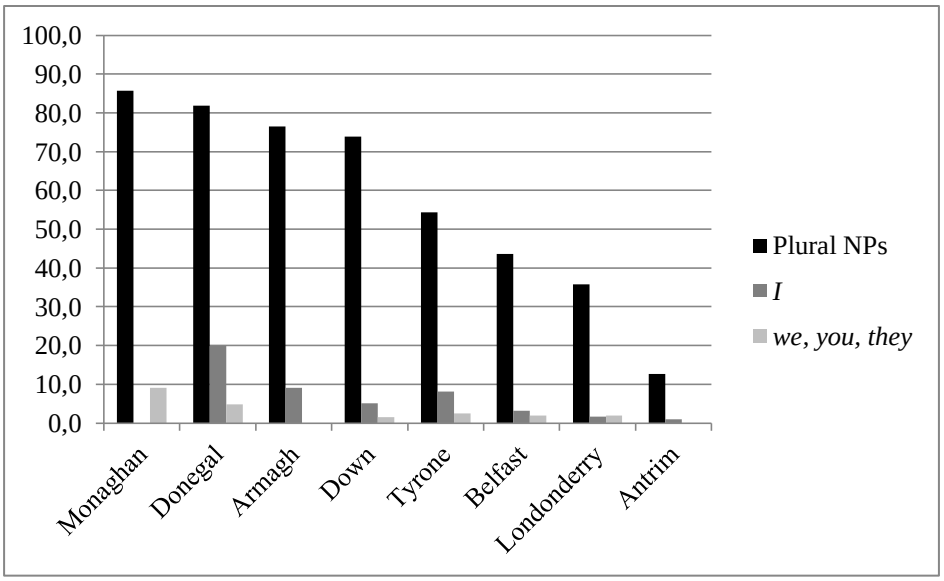


Figure 4.1 Distribution of verbal *-s* (NP/PRO) across regions

Verbal *-s* with plural NP subjects and personal pronouns is found in all regions included in the study. As shown in Table 4.14 and Figure 4.1, verbal *-s* is far stronger with plural NP subjects than personal pronoun subject in all regions:

The rates for verbal *-s* with plural NPs range between 86% (18/21) in the data from Monaghan and 13% (13/103) in the data from Antrim. In the data from Donegal, Armagh, Down and Tyrone plural NP subjects take verbal *-s* in more than 50% of the cases. This makes verbal *-s* a solid feature in regions that were initially settled by the Scottish as well as in regions that were initially settled by the English (see *Settlement patterns*, Section 2.2.2). In Belfast and Londonderry, plural NPs take verbal *-s* in more than 36% of the cases.

In all regions verbal *-s* is considerably less frequent with personal pronouns than with plural NPs: The rates for verbal *-s* with the 1st person pronoun (*I*) range between 0% (0/5) in Monaghan and 20% (3/15) in Donegal. The rates for verbal *-s* with the personal pronouns (*we, you, they*) range between 0% in Armagh and Antrim and 9% (1/11) in Monaghan.

Plural NPs give significantly more verbal *-s* than personal pronouns in the Chi-square tests for each region (NP/PRO split): In Monaghan, Donegal, Armagh, Down, Tyrone, Belfast and Londonderry Pearson's X^2 ranges between 20.761 and 177.265, df= 1, p<0.001. Due to low values in cells in the region Antrim, Yate's correction is used here, proving the variation significant also in this area (Yates' X^2= 28.76, df= 1, p< 0.001).

The Proximity to subject constraint across regions (counties and Belfast)

Table 4.15 presents the distribution of verbal *-s* with personal pronouns in adjacent vs. near/non-adjacent contexts across regions. The PSC is observed in all regions. I have more data from the regions Tyrone, Belfast, Co. Londonderry and Antrim. The results from these regions are therefore more reliable. In these regions the personal pronouns (numbers for *I, we, you, they* in Table 4.15 collapsed) take verbal *-s* in less than 1% in the adjacent environment, while between 7.1% and 52.9% in the near/non-adjacent environment.

Donegal shows a slightly different tendency as personal pronouns (*I, we, you, they*) take verbal *-s* in 2/34 (5.9%) of the cases in the adjacent environment (Table 4.15). Both tokens of the 1st person pronoun (*I*) + verbal *-s* in the adjacent context in CORIECOR 1741-1800 occur in letters written by members of the MacArthur family in Donegal. As numbers are low, this could be a coincidence.

The solid NP/PRO distinction in all regions, combined with the effect of the PSC in most cases where the NP/PRO split is violated, shows that the NSR existed in all regions in Ulster included in this study.

Table 4.15 Distribution of verbal *-s* with personal pronoun subjects in the adjacent context vs. the near/non-adjacent context (PSC) across regions

		Verbal *-s* with 1st person pronoun (*I*) [a]						Other personal pronouns (*we, you, they*)						TOTAL personal pronouns (*I, we, you, they*)					
		Adjacent		Near/non-adjacent		Total		Adjacent		Near/non-adjacent		Total		Adjacent		Near/non-adjacent		Total	
Region	Dialect zone [b]	N *-s*/ total	% *-s*	N *-s*/ total	% *-s*	N *-s*/ total	% *-s*	N *-s*/ total	% *-s*	N *-s*/ total	% *-s*	N *-s*/ total	% *-s*	N *-s*/ total	% *-s*	N *-s*/ total	% *-s*	N *-s*/ total	% *-s*
Monaghan	**MUE/ SUE**	0/4	0.0	0/1	0.0	0/5	0.0	0/9	0.0	1/2	50.0	1/11	9.1	0/13	0.0	1/3	33.3	1/16	6.3
Donegal	**MUE/ USc**	2/14	14.3	1/1	100.0	3/15	20.0	0/20	0.0	1/1	100.0	1/21	4.8	2/34	5.9	2/2	100.0	4/36	11.1
Armagh	**MUE/ SUE**	0/9	0.0	1/2	50.0	1/11	9.1	0/9	0.0	0/1	0.0	0/10	0.0	0/18	0.0	1/3	33.3	1/21	4.8
Down	**MUE/ USc**	0/54	0.0	3/5	60.0	3/59	5.1	1/62	1.6	0/5	0.0	1/67	1.5	1/116	0.9	3/10	30.0	4/126	3.2
Tyrone	**MUE**	0/86	0.0	8/12	66.7	8/98	8.2	1/76	1.3	1/5	20.0	2/81	2.5	1/162	0.6	9/17	52.9	10/179	5.6
Belfast	**MUE**	0/282	0.0	10/34	29.4	10/316	3.2	2/152	1.3	1/8	12.5	3/160	1.9	2/434	0.5	11/42	26.2	13/476	2.7
London-derry	**MUE/ USc**	0/160	0.0	3/25	12.0	3/185	1.6	1/96	1.0	1/10	10	2/106	1.9	1/256	0.4	4/35	11.4	5/291	1.7
Antrim	**Usc**	0/172	0.0	2/21	9.5	2/193	1.0	0/114	0.0	0/7	0	0/121	0.0	0/286	0.0	2/28	7.1	2/314	0.6
Total		2/781	0.3	28/101	27.7	30/882	3.4	5/538	0.9	5/39	12.8	10/577	1.7	7/1319	0.5	33/140	23.6	40/1459	2.7

NOTE:

a Tokens of 1st person singular pronoun *I + was/ were* are excluded from the table.

b Dialect zones indicated are the present-day dialect zones USc (Ulster Scots), MUE (Mid-Ulster English) and SUE (South-Ulster English) (Harris 1984: 117, cf. Map 2.2 in Section 2.2.2).

4.2.2.2 Decade

Figure 4.2 presents the distribution of verbal *-s* with plural NP subjects, 1st person pronoun (*I*), and other personal pronouns (*we*, *you*, *they*) during the period 1751-1800. The texts from the decade 1741-1750 comprised 9 tokens with plural NP subjects, all taking verbal *-Ø*. This decade is therefore excluded from the figure, and from the *GoldVarb* analysis (Section 4.3).

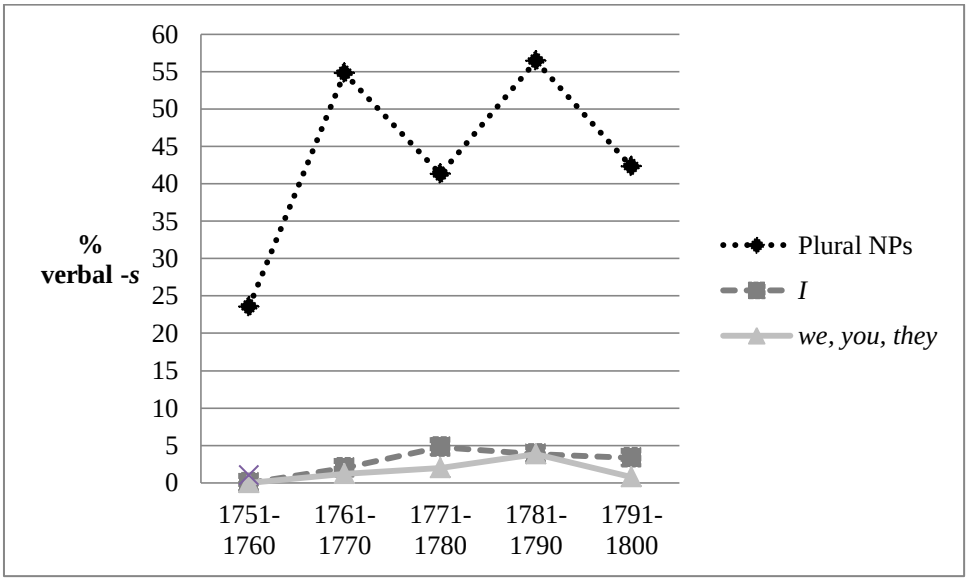


Figure 4.2 Distribution of verbal *-s* across decades
NOTES:
a The numbers include tokens with the subject existential *there/it*.
b Tokens of 1st person singular pronoun *I + was/ were* are excluded from the figure.

Figure 4.2 shows an increase in the use of verbal *-s* with plural NP subjects in the data from 1751-1770: During the first decade verbal *-s* applies with this subject type in 4/17 cases (24%). Between 1761 and 1800 the proportion of verbal *-s* with plural NP subjects fluctuates between 56% and 41%. The variation in *-s*/*-Ø* with plural NP subjects across the decades (1751-1800) is highly significant in the Chi-square test (X^2= 15.252, *df*= 4, *p*= 0.004).

Personal pronoun subjects (*I*, *we*, *you*, *they*) take verbal *-s* at a low rate in the data from the period 1761-1770. The highest relative proportion of verbal *-s* co-occurring with personal pronouns is found in data from 1771-1780, where the 1st person pronoun (*I*) takes verbal *-s* in 5/104 (5%) cases. Due to few tokens of verbal *-s* with personal pronouns, significance of the distribution of verbal *-s* across decades cannot be tested for any of the personal pronouns.

4.2.2.3 Sex of writer

Table 4.16 and figure 4.3 present the distribution of verbal *-s* in Ulster according to the sex of the letter writer.

Table 4.16 Distribution of verbal *-s* according to sex of writer

	Male		Female		TOTAL	
Subject type categories	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***
Plural NPs [a]	239/509	47	49/109	45	288/618	47
1st person singular (*I*) [b]	26/677	4	4/205	2	30/882	3
Other personal pronouns (*we, you, they*)	8/424	2	2/153	1	10/577	2
Total	273/1610	17	55/467	12	328/2077	16

NOTES:

a The numbers include tokens with existential *there*/*it*.

b Tokens of 1st person singular pronoun *I* + *was/ were* are excluded from the table.

There is a slight tendency across all subject categories for male writers to use verbal *-s* more than female writers (cp. totals for males, 273/1610 (17%), vs. totals for females, 55/467 (12%). However, the variation according to sex is statistically insignificant with all three subject type categories in Table 4.16 and Figure 4.3.

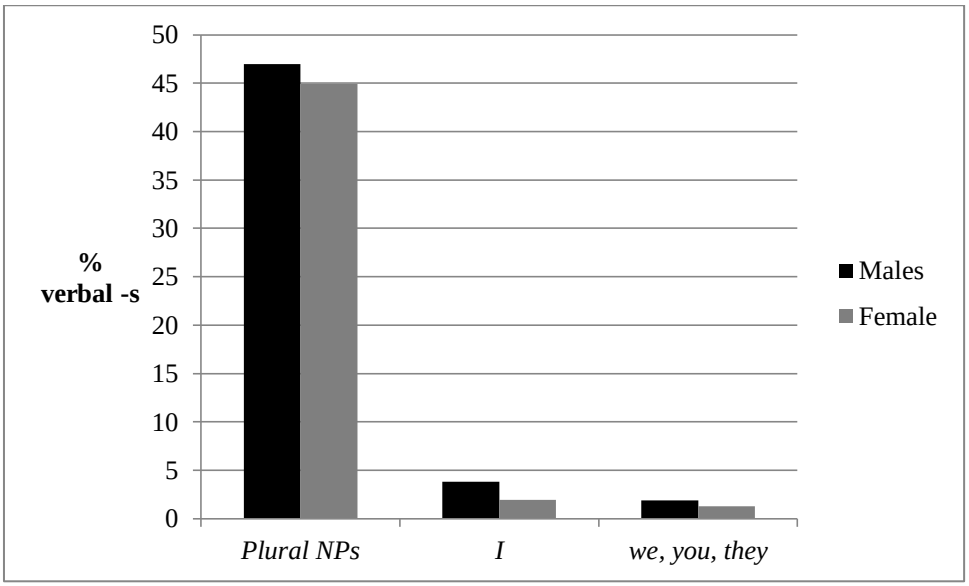


Figure 4.3 Distribution of verbal *-s* according to sex of writer

4.2.2.4 Degree of writer-recipient intimacy

Table 4.17 and Figure 4.4 present the distribution of verbal *-s* with plural NP subjects, the 1st person singular pronoun (*I*) and other personal pronouns (*we, you, they*) according to level of intimacy between letter writer and letter recipient.

Table 4.17 Distribution of verbal *-s* according to degree of intimacy between letter writer and letter recipient

Degree of intimacy between letter writer and letter recipient	Plural NPs [a]		1st person singular (I) [b]		Personal pronouns (*we, you, they*)		Total all subject types	
	N *-s*/ total	% *-s*	N *-s*/ total	% *-s*	N *-s*/ total	% *-s*	N *-s*/ total	% *-s*
Parent(s) - child	21/30	70	2/44	5	0/36	0	23/110	21
Son/daughter - parent(s)	32/60	53	4/76	5	0/46	0	36/182	20
Sibling	170/338	50	17/534	3	7/318	2	194/1190	16
To close personal friend	24/39	62	0/12	0	1/15	7	25/66	38
To distant family	28/95	29	6/117	5	1/112	1	35/324	11
To other distant	8/32	25	1/71	1	0/31	0	9/134	7
To social superior	2/11	18	0/17	0	0/1	0	2/29	7
unknown	3/13	23	0/11	0	1/18	6	4/42	10
Total	288/618	47	30/882	3	10/577	2	328/2077	16

NOTES:

a The numbers include tokens with the subject existential *there*.

b Tokens of 1st person singular pronoun *I + was/ were* are excluded from the table.

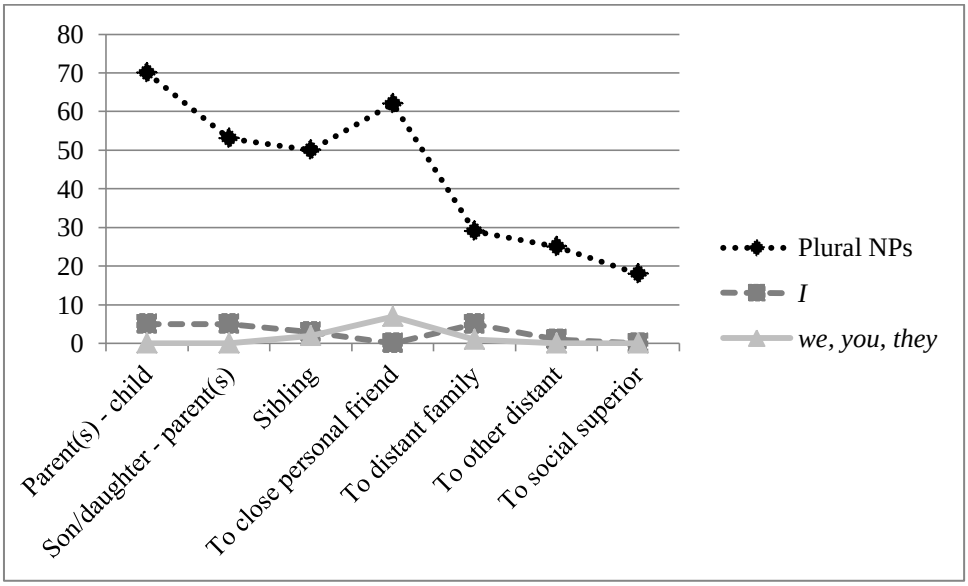


Figure 4.4 Distribution of verbal *-s* according to degree of intimacy between letter writer and letter recipient

Table 4.17 and Figure 4.4 suggest a difference in the distribution of verbal *-s* with plural NP subjects according to whether the letter recipient is socially close or distant to the writer: In contexts with plural NP subjects verbal *-s* is most frequent in letters written by parent(s) to a child (21/30, 70%), and occurs at rates of at least 50% in letters to members of the nuclear family (son/daughter-parent(s)/sibling) and 'to close personal friend' (Figure 4.5). In contrast, the relative proportion of verbal *-s* with plural NP subjects in letters to socially distant recipients (i.e. 'distant family', 'other distant' and 'social superior') ranges between 18% (2/11, to social superior) and 29% (28/95, to distant family). The variation across all intimacy levels (the numbers with 'Level of writer-recipient intimacy unknown' disregarded) is highly significant (Pearsons' X^2= 33.709, *df*= 6, *p*= 0.000008).

The distribution of verbal *-s* according to degree of intimacy with personal pronoun subjects (*I, we, you, they*) does not show such a *close/distant* split (Table 4.17, Figure 4.4). Due to small numbers, the distribution of verbal *-s* with the subject categories 1st person pronoun (*I*) and other personal pronouns (*we, you, they*) cannot be tested using the Chi-square test, whether treated separately or collapsed.

4.3 *GoldVarb* binomial up-down analysis and summary of results

The preceding sections have presented the frequency analysis of verbal *-s* across different linguistic and extralinguistic environments. Some of the factors may overlap (see Sections 2.3.5, 2.4.2, 4.2.1.3). Inter-correlation between the factors is therefore likely. The *GoldVarb* binomial up-down analysis (hereafter referred to as the *GoldVarb* analysis) helps determine the relative importance of each factor to the distribution of verbal *-s* (Table 4.18). The result in the *GoldVarb* analysis is based on tokens with plural NP subjects and the personal pronouns *I, we, you* and *they*. Note that tokens with the past forms of BE (*was/were*), and the factor group verb type had to be excluded from the *GoldVarb* analysis (see procedure analysis Section 3.3.1 and Section 3.3.2). The exclusion of tokens with BE past accounts for the modified rates of verbal *-s* in the *GoldVarb* analysis.

Table 4.18 *GoldVarb* binomial up-down analysis of the contribution of linguistic and extra-linguistic factors to the probability of verbal *-s* to occur [a, b]

Input	0.030
Log likelihood	-416.495
Total N	1927

Factor group	N *-s*/ total	% *-s*	Factor weight
Type of subject [c]			
Conjoined NPs	82/139	59	.989
Existential *there/it*	32/51	63	.960
Proper noun	2/5	40	.947
Demonstrative	4/11	36	.909
NP denoting mass/quantity	45/96	47	.874
Collective noun	19/41	46	.872
Common noun	66/189	35	.847
1st person singular pronoun *I*	30/882	3	.426
Other personal pronouns *we, you, they*	3/513	1	.095
Range			*894*
Region [c]			
Donegal	19/53	36	.900
Monaghan	19/36	53	.883
Armagh	13/36	36	.814
Down	54/190	28	.767
Tyrone	52/247	21	.672
Belfast	76/604	13	.542
Londonderry	38/377	10	.432
Antrim	12/384	3	.158
Range			*742*
Subject heaviness [c]			
light NP	129/292	44	.738
pronominal	38/1404	3	.489
heavy NP	116/231	50	.260
Range			*478*
Proximity to subject [c]			
non-adjacent	78/219	36	.898
near-adjacent	26/94	28	.582
adjacent	179/1614	11	.422
Range			*476*
Type of relative pronoun			
that	14/23	61	[.718]
zero relative pronoun	3/5	60	[.603]
not relevant (not relative clause)	250/1855	14	[.500]
relative pronoun starting with *wh-*	16/44	36	[.365]
Range			*353*
Writer-recipient intimacy			
Parent(s) - child	22/106	21	[.685]
Son/daughter - parent(s)	33/166	20	[.514]
To other distant	9/127	7	[.513]
To distant family	32/297	11	[.493]
To close personal friend	22/60	37	[.487]
Sibling	160/1116	14	[.483]
To social superior	2/26	8	[.398]
Range			*287*

Decade [d]			
1761-1770	38/246	15	[.615]
1781-1790	106/620	17	[.522]
1791-1800	107/765	14	[.491]
1771-1780	28/209	13	[.381]
1751-1760	4/62	7	[.337]
Range			*278*
Sex of writer			
females	44/427	10	[.548]
males	239/1500	16	[.486]
Range			*62*
Clause type			
relative clause	33/72	46	[.501]
non-relative clause	250/1855	14	[.500]
Range			*1*

NOTES:

a Factor groups appear in the table in decreasing order of strength (strongest factor group presented at the top). Weights of non-significant factor groups are presented in square brackets.

b *Range* for each factor group refers to the range in weight between the most significant and the least factors (see Tagliamonte 2006: 251).

c Factor group selected as significant.

d The decade 1741-1750 is a Knock Out factor as it comprises no -*s*/-Ø variation. This factor is excluded from the *GoldVarb* analysis.

The following factor groups are selected as significant in the *GoldVarb* analysis (from most likely to impact the distribution of verbal -*s* to least likely:

(4.14) Type of subject (c.f. Section 4.2.1.1) > geographic region (c.f. Section 4.2.2.1) > subject heaviness (c.f. Section 4.2.1.3) and proximity to subject (c.f. Section 4.2.1.2).

The variation between factors within these factor groups was found to be significant in the Chi-square tests too.

Type of subject was selected as the most significant factor group in the *GoldVarb* analysis. We observe that different NPs give verbal -*s* at rates between 35% and 63% and factor weights between .847 and .989 (Table 4.18). On the other hand, the personal pronouns give verbal -*s* at 1-3% (factor weights .095-.426). This suggests a clear NP/PRO distinction. We find the following hierarchy of subject types according to factor weights (from most likely to take verbal -*s* to least likely):

(4.15) Conjoined NPs > existential *there/it* > proper noun > demonstrative pronoun > NP denoting mass/quantity> collective noun > common noun > 1st person singular pronoun (*I*) > other personal pronouns (*we, you, they*).

The second most significant factor group in the *GoldVarb* analysis is geographic region (Table 4.18). Verbal *-s* is more likely to occur in data from Co. Donegal, followed by (in the order of most to least likely) Co. Monaghan, Co. Armagh, Co. Down, Co. Tyrone, Belfast city, Co. Londonderry, and finally Co. Antrim. This hierarchy broadly overlaps with the one obtained in the frequency analysis (Table 4.14).

The third most important factor group in the *GoldVarb* analysis is subject heaviness (Table 4.18). The *GoldVarb* analysis shows that verbal *-s* is more likely to occur with light NP subjects, followed by pronominal subjects and heavy NP subjects. This internal hierarchy of factors does not resemble the hierarchy of frequencies in Table 4.8.

The last variable to be selected as a significant factor in the *GoldVarb* analysis is proximity to subject (PSC). Table 4.18 shows that the non-adjacent environment gives significantly more verbal *-s* (factor weight .898) than the near-adjacent environment (factor weight .582) and the adjacent environment (factor weight .422). In the *GoldVarb* analysis NP subjects and personal pronouns are collapsed. Thus the *GoldVarb* analysis probably reflects the tendency for personal pronouns to take verbal *-s* in the non-adjacent environment (Table 4.6). It does not reflect that plural NP subjects do not take more verbal *-s* in the non-adjacent environment (Table 4.7).

The factor groups clause type, type of relative pronoun, decade, sex of writer and level of writer-recipient-intimacy were not selected as significant in the *GoldVarb* analysis.

Whenever there are conflicting results between the *GoldVarb* analysis and the Chi-square tests I rely on the results of the *GoldVarb* analysis regarding what factors are significant to the distribution of verbal *-s.*

CHAPTER 5 DISCUSSION

The present study identifies nonstandard verbal *-s* in the data set. This is in line with previous research, which has found the Northern Subject Rule (NSR) to be solid in past and present varieties in Ulster. The overall results of the study (*GoldVarb* binomial up-down analysis, hereafter referred to as the *GoldVarb* analysis, Table 4.18, Section 4.3) show that verbal *-s* in the data collected from the *Corpus of Irish English Correspondence* (CORIECOR 1741-1800) is governed by Type of subject, geographic region, Subject heaviness and Proximity to subject. The factor groups clause type, type of relative pronoun, decade, sex of writer and intimacy between letter writer and recipient were not selected as significant in the *GoldVarb* analysis. The present chapter compares the results from this study with the existing literature and interprets the findings in relation to the three research questions of this study, i.e.: 1) How strong was the NSR in Ulster during the period 1741-1800?; 2) What other factors than the NSR-related NP/PRO distinction and Proximity to subject constraint (PSC) affected the distribution of verbal *-s* during the period?; 3) What can the geographic distribution of the NSR during the period 1741-1800 tell us about how the NSR emerged in Ulster?

Section 5.1 addresses question 1 and discusses the distribution of the NSR in CORIECOR 1741-1800. Section 5.2 discusses the results regarding other factors found significant to the distribution of verbal *-s* in CORIECOR 1741-1800 (Question 2). That several factors were not selected as significant in the *GoldVarb* analysis is interesting as it supports the solidness of the NSR in Ulster and suggests the social status of this system. Section 5.3 summarises the geographic distribution of the NSR and contributes to the discussion of how the NSR emerged in Ulster (cf. Section 2.4.3) (Question 3).[24] Some methodological considerations close the chapter in Section 5.4.

[24] Note that the frequency tables in Section 4.2 include tokens with BE past in contexts with plural NP subjects and 'other personal pronoun' subjects (*we, you, they*) (tokens of 1st person singular pronoun *I + was/ were* are excluded from the frequency tables). Tokens with past BE are excluded from the *GoldVarb* analysis (Table 4.18). In the discussion I rely on the overall result in the *GoldVarb* analysis (Table 4.18 in Section 4.3) regarding what factors are selected as significant. When interpreting the results regarding individual factors I further refer to results presented in Tables 4.1-4.17 and Figures 4.1-4.4 in Sections 4.1-4.2 in order to point at different distributions of verbal *-s* with different subject types.

5.1 Indication of the NSR

The present section interprets the strength of the NSR in CORIECOR 1741-1800. In line with the traditional definition (Montgomery 1994, see Section 2.1.1), the NSR is identified when the distribution of verbal *-s* can be explained by the operation of both the NP/PRO constraint (or Type of Subject Constraint) and the PSC.

The overall rate of verbal *-s* with plural noun phrase (NP) subjects is lower in CORIECOR 1741-1800 than found in previous studies of subject-verb concord (SVC) in 18th-century data (Montgomery 1995, 1996, 1997a, 1997b; Montgomery & Robinson 1996, 2000) (cp. frequencies in Table 4.2, Section 4.2.1.1 vs. Table 2.2, Section 2.3.3). The relatively low rate of verbal *-s* in this study probably is an outcome of the sampling procedure: While e.g. Montgomery (1995) pre-selects data using the criterion that it comprises vernacular language and the NSR, the present study uses all available data. The inclusion of texts that conform better to the standard pattern is likely to give diminished frequencies of verbal *-s*.

More interesting to the present study than the overall rate of verbal *-s* is that CORIECOR 1741-1800 displays a clear NP/PRO distinction. Type of subject was selected as the most significant factor group in the *GoldVarb* analysis. Various NPs gave significantly higher rates of verbal *-s* than personal pronouns (35-63%, factor weights .847-.989 vs. 1-3%, factor weights.095-.426, Table 4.18, Section 4.3). The same result was obtained in the Chi-square tests related to the numbers in Table 4.2 (Section 4.2.1.1). This result echoes virtually every study on SVC in Ulster material from the plantation period to the present (J. Milroy 1981; Policansky 1982; L. Milroy 1987; Kallen 1991; Montgomery 1994, 1995, 1996, 1997a, 1997b, 2006; A. Henry 1995, 2002; Montgomery & Robinson 1996; 2000; Corrigan 1997; McCafferty 2003; Pietsch 2005a; Tagliamonte 2009).

The PSC is also found to operate in CORIECOR 1741-1800. Following Pietsch (2005a), this analysis uses a three-step adjacency criterion. When personal pronoun and plural NP subjects are treated together in the *GoldVarb* analysis (Table 4.18, Section 4.3), the distribution of verbal *-s* is graded along an adjacent > near-adjacent > non-adjacent continuum (c.f. the totals in Pietsch 2005a: 100, see Table 2.6, Section 2.3.5). The same tendency is found in the frequency table (Table 4.6, Section 4.2.1.2) showing that verbal *-s* with personal pronouns occurs almost exclusively in the non-adjacent environment. In NSR-dialects the PSC may override the NP/PRO distinction, thus making verbal *-s* apply in contexts where the

personal pronoun subject and verb are separated by one or more elements (Montgomery 1994: 88-89).

The impact of the PSC on tokens with plural NP subjects was investigated separately in the frequency analysis (Table 4.7, Section 4.2.1.2). Unexpectedly, the result obtained from CORIECOR 1741-1800 contradicts e.g. McCafferty (2003) and Pietsch (2005a, see Table 2.6 in Section 2.3.5) as verbal *-s* is found to be more frequent with plural NPs in the adjacent (205/413, 50%) and near-adjacent (31/63, 49%) environments than in the non-adjacent environment (52/142, 37%). Thus, the PSC effect is observed only with personal pronouns and not with plural NPs in CORIECOR 1741-1800. In data from the 19th century (McCafferty 203) and the present (Pietsch 2005a), the PSC effect is observed with both subject types.

The contrasting results may be due to the use of different methods. I can think of three methodological differences, however, none of them can readily account for the differing results. First, Pietsch (2005a) excludes existential *there*, conjoined NPs and collectives from his study. These subject types are included in the present analysis, where they frequently occur in the adjacent position (Table 4.7, Section 4.2.1.2). These subject types are also those that most frequently take verbal *-s* (Table 4.4, Section 4.2.1.1).[25] However, even when these subject types were excluded (see Section 4.2.1.2, page 72), the rate of verbal *-s* in the near-adjacent environment remains stable at 50%, while the rates in the adjacent and the non-adjacent environments are both 37%. Thus, although using the same method as Pietsch (2005a) I do not obtain increased verbal *-s* with near and non-adjacent NP subjects, as shown by Pietsch (2005a) (see Table 2.6 in Section 2.3.5 for the result in Pietsch 2005a). Secondly, the result is probably not due to my treatment of the relative pronoun. If the relative pronoun had been treated as a clause subject in my study, as in McCafferty (2003), the relative pronoun subject would in most cases be adjacent to the verb. As the relative pronoun frequently co-occurs with verbal *-s* in my data (as in McCafferty 2003) this treatment would account for the higher rate of verbal *-s* in the adjacent environment. However, I treat the antecedent to the relative pronoun as subject and the relative pronoun as an element that intervenes between the antecedent subject and the verb. Accordingly, most clauses with a relative pronoun in my data are clauses in which the subject and verb are near/non-adjacent. Thus, we would expect a higher rate of verbal *-s* in the near-adjacent/non-adjacent environment in CORIECOR 1741-1800 than found in McCafferty (2003), or at least a similar

[25] The subject type hierarchy is modified in the *GoldVarb* table (Table 4.18, Section 4.3).

patterning with verbal *-s* being more frequent with NPs in the near/non-adjacent environment. The fact that we get the opposite result, i.e. that plural NPs take verbal *-s* in the adjacent environment more frequently than in the near/non-adjacent environment, suggests that the diverging results of the study of CORIECOR 1741-1800 vs. McCafferty (2003) cannot be explained by different treatments of the relative pronoun.[26] Thirdly, one could argue that the diverging results reflect data source differences. The present study includes writings that conform to the Standard. These writings are likely to diminish the overall impact of the PSC in CORIECOR 1741-1800. However, it is plausible that the standard writings would diminish the PSC with all subject types. As the PSC is found to operate strongly with personal pronoun subjects in CORIECOR 1741-1800, I argue that the diverging result is not due to data differences.

From these considerations we may claim that there is no support for non-adjacency to favour verbal *-s* in clauses with plural NP subjects in CORIECOR 1741-1800. That the opposite is found in data from the 19th century (McCafferty 2003) and the present (Pietsch 2005a) is intriguing as it may suggest that the use of the PSC with plural NPs is a more recent development in Ulster. Interestingly, McCafferty (2004) found that the PSC operates in clauses with personal pronoun subjects but not with plural NP subjects in 19th-century data from Southern Ireland. That we find the same tendency in 18th-century Ulster data suggests that the PSC originally applied only to contexts with personal pronoun subjects in Ireland, but that there was a change in Ulster in which the PSC expanded to clauses with plural NP subjects. Thus the 19th-century Ulster-Australian emigrant data (McCafferty 2003) and present-day speech (Pietsch 2005a) may reflect the outcome of this change in Ulster.

An alternative hypothesis that may explain why the PSC does not operate with plural NPs in my data but in later varieties (McCafferty 2003; Pietsch 2005a) is the existence of geographic variation in the operation of the PSC in CORIECOR 1741-1800. A later study could examine the distribution of verbal *-s* with plural NPs according to the PSC in different regions in order to identify if such geographic variation exists.

In any case, the identification of the clear NP/PRO distinction and the PSC with personal pronouns in CORIECOR 1741-1800 meets the criteria for NSR given by Montgomery (1994) and demonstrates that the NSR was a solid feature in Ulster during the

[26] The zero relative pronoun may allow the subject and verb to be in adjacent position in the surface structure in a SV-clause. As there are only 5 tokens with the zero relative pronoun in CORIECOR 1741-1800 (Table 4.11) it is unlikely that these tokens can explain why I get a high relative proportion of verbal *-s* in the adjacent environment.

18th century, supporting Hypothesis 1. The result echoes findings in historical varieties (Kallen 1991; Montgomery 1994, 1995, 1996, 1997a, 1997b; Montgomery & Robinson 1996, 2000; McCafferty 2002, 2003, 2005a, 2005b; Pietsch 2012), as well as those reported in several contemporary varieties (e.g. J. Milroy 1981; Policansky 1982; Corrigan 1997; Pietsch 2005a; Montgomery 2006). In Section 5.3 I discuss the geographic spread of the NSR in CORIECOR 1741-1800.

5.2 Factors other than the NP/PRO constraint and the PSC

This section discusses the results regarding other factors than the NSR-related NP/PRO constraint and the PSC. Factors that are discussed are type of plural NP subject, subject heaviness, the collocation of the relative pronoun and verbal *-s*, decade, sex of writer and degree of writer-recipient intimacy. Geographic distribution is discussed in Section 5.3.

Internal grading of verbal -s according to type of plural NP subject (TSC) is reported throughout the literature. As seen in Section 2.3 and in Table A1 in Appendix 1, studies include different subject types and present different hierarchies of plural NPs taking verbal *-s*. The present study includes most subject types found to take verbal *-s* in previous studies of SVC in Ulster (cf. Method Section 3.2.3). Rather than operating with a large 'other NPs' group (cf. Montgomery 1996, 1997a) I differentiate between all the subject types in order to test the impact of each of them on the frequency of verbal *-s*. Similar results are found in CORIECOR 1741-1800 as in studies of SVC in data produced before, during and after the 18th century.

First, the different plural NPs were all significantly related to verbal *-s* in the *GoldVarb* analysis (factor weights with plural NPs range between .847-.989, Table 4.18, Section 4.3). We further observe a grading in the likelihood for verbal *-s* to apply with different subject types (Table 4.18). In the Chi-square test (Table 4.5, Section 4.2.1.1) existential *there/it* has a statistically significant higher frequency of verbal *-s* compared to NPs denoting mass/quantity and compared to common nouns. We further see that the subject type conjoined NPs has a statistically significant higher frequency of verbal *-s* compared to common nouns. The different impact of different NPs on the distribution of verbal *-s* supports hypothesis 3.

The strong correlations between verbal *-s* and the subject types existential *there/it* (factor weight .960) and conjoined NPs (factor weight .989) obtained in the *GoldVarb* analysis (Table 4.18) agree with results based on various data sets from the plantation period

to the present (Kallen 1991; A. Henry 1995; Montgomery 1995, 1997a, 1997b; Corrigan 1997; McCafferty 2003; Pietsch 2005a) (see Table A1 in Appendix 1 for results in studies of historical varieties). The use of verbal *-s* with existential *there* and conjoined NPs has a long history and occurs in several English varieties (see Section 2.3.2).

Furthermore, the subjects NP denoting mass/quantity, collective noun and common noun receive factor weights between .874 and .847 in the *GoldVarb* analysis. The result confirms tendencies found in studies on Ulster data from the 18th century to the present (e.g. Kallen 1991; Montgomery 1995; McCafferty 2003; Pietsch 2005a) (cf. Table A1 in Appendix 1).

The demonstrative pronoun receives the factor weight .909, thus indicating the same tendency as in previous studies (L. Milroy 1987; A. Henry 1995; Pietsch 2005a; Montgomery 2006). However, due to few tokens (total N=11), this result should be interpreted with caution.

The subject type plural proper noun was introduced to the analysis of the TSC (e.g. ***The Holmes has*** *been a fortunate family*) (Section 4.2.1.1). This subject type receives a high factor weight in the *GoldVarb* analysis (.947) (Table 4.18), however due to few tokens (total N=5), this result must be interpreted with caution. If the plural proper noun is more likely to take verbal *-s* than the plural common noun this is interesting, as it might suggest reference to a group of people as a unit in the same manner as the collective.

Subject heaviness is the only linguistic factor group apart from the TSC and PSC selected as significant in the *GoldVarb* analysis, supporting hypothesis 5. Subject heaviness was not found significant in the Chi-square test when co-variables were deleted (Table 4.9; this is discussed in Section 5.4). However, the result from the *GoldVarb* analysis shows that verbal *-s* is favoured with light NP subjects only (Table 4.18, Section 4.3). The result contradicts the tendency for heavy NP subjects to favour verbal *-s* found in studies on varieties outside Ulster (e.g. Poplack & Tagliamonte 1989; Schendl 2000; Clarke 2015, see Section 2.4). As this to the best of my knowledge is the first quantitative test of the impact of subject heaviness on verbal *-s* in data from Ulster, the result from the *GoldVarb* analysis is interesting. We notice that the result from the *GoldVarb* analysis matches the finding that verbal *-s* in contexts with plural NP subjects is most frequent in the adjacent/near-adjacent environments (Table 4.7, Section 4.2.1.2). The result thus reflects the overlap between subject heaviness categories and the PSC. This overlap occurs because the head in a light plural NP subject (i.e. a subject that at most comprises a one-word postmodifier (see definitions in

Section 3.2.3) in the normal SV-clause frequently is in adjacent/near-adjacent position to the verb of the clause. However, that both the PSC and subject heaviness are selected as significant in the *GoldVarb* analysis suggests that the light NPs take verbal *-s* for another reason. I would like to propose that verbal *-s* with light NPs is a priming effect (i.e. repetition of a structural pattern, as described in Loebell & Bock 2003: 792); in this case the sound /s/ or /z/ (Hickey 2007a: 181). Accordingly, a light NP subject that is formally marked for plurality by the *-s* inflection tends to be followed by a verb with nonstandard *-s* in CORIECOR 1741-1800.

In the *GoldVarb* multivariate analysis (Table 4.18, Section 4.3), the TSC and PSC are selected as statistically significant while clause type and type of relative pronoun are not. The frequent collocation of the relative pronoun and verbal *-s* is reported in the literature on SVC in Ulster and beyond (e.g. Montgomery 1994, 1995; McCafferty 2003, 2004; Pietsch 2005a, 2012; Hickey 2007a; Cole 2008, 2014). Studies on SVC in Ulster (e.g. Montgomery 1995; McCafferty 2003; Pietsch 2012) tend to treat the relative pronoun as a subject and list this as one of the subjects that favour verbal *-s*. In this study I hypothesised that the frequent collocation of the relative pronoun and verbal *-s* is not due to the existence of the relative pronoun itself, but rather an effect of type of antecedent (NP/PRO) to the relative pronoun and the position between the antecedent and the verb (PSC). I argued that this may be so because the NP/PRO distinction is likely to apply when the semantic subject of the clause functions as antecedent to the relative pronoun. Similarly, given the strong impact of the PSC in other contexts, it is likely that this constraint operates in clauses where the antecedent subject and the verb are separated by the intervening relative pronoun. This study treats the antecedent to the relative pronoun as clause subject and investigates the impact of clause type (relative clause, and therefore relative pronoun vs. non-relative clause) (cf. Pietsch 2005a). In my study verbal *-s* occurs in 49% of the cases when the subject (totals for personal pronouns and plural NPs) functions as antecedent in the relative clause vs. in 14% of the cases when the subject has no such function (Table 4.10, Section 4.2.1.4). From this result alone, one could think that the relative pronoun gives verbal *-s* also in my data.

However, if we investigate the occurrences of verbal *-s* with plural NPs and personal pronouns separately (Table 4.10), a different conclusion can be drawn: The rate of verbal *-s* with plural NPs is not affected by clause type. Further, the number of personal pronouns is much higher in the non-relative clause compared to the relative clause. In line with the NSR, personal pronouns rarely take verbal *-s*. Accordingly, the lower rate of verbal *-s* (when tokens

with personal pronoun subjects and plural NP subjects are collapsed) in the non-relative clause is accounted for by the low number of occurrences of verbal *-s* with personal pronouns. Consequently, the overall higher co-occurrence of verbal *-s* in the relative clause (and thereby with the relative pronoun) may be accounted for by the different behaviour of the antecedent subject types (NP/PRO) in my data. The finding that clause type is irrelevant to the distribution of verbal *-s* with plural NPs (Table 4.10) contradicts Pietsch (2005a), who explains the frequent co-occurrence of the relative pronoun and verbal *-s* in present-day Northern Ireland as the result of clause type as verbal *-s* is favoured when the verb occurs in a relative clause in his data set. Considering the impact of the PSC, we know that the relative pronoun in normal SV-clauses creates a distance between the antecedent subject and the verb in a clause. However, as Table 4.10 shows, there is no difference for plural NPs to take verbal *-s* with or without the relative pronoun. This is in accordance with the results discussed in Section 5.1 that verbal *-s* with plural NPs is not affected by the PSC. To conclude, that verbal *-s* is more frequent in the relative clause (and thereby with the relative pronoun) is an effect of the different behaviours of the antecedent subjects (NP/PRO). On the other hand, the frequent collocation of the relative pronoun and verbal *-s* appears not to be an effect of the PSC in my data. Consequently, hypothesis 4 is in part supported.

Verb type. In the present study the factor group verb type could not be included in the *GoldVarb* analysis. The results regarding verb type are therefore rather suggestive. Nevertheless, the verbs included do not seem to differ much in their tendency to co-occur with verbal *-s* (Table 4.12, Section 4.2.1.6): When treating personal pronouns and plural NPs together (totals in Table 4.12), there is a significant trend for verbal *-s* to co-occur with BE present and BE past according to the Chi-square test. However, when personal pronouns and NPs are treated separately (Table 4.12) we observe that the lower occurrences of verbal *-s* with DO, HAVE and lexical verbs in the totals are associated with the tendency for personal pronouns to co-occur with these verbs. As verbal *-s* is not favoured by personal pronouns, this may account for the lower tendencies for verbal *-s* with these verbs in the totals.

We further observe that plural NPs give verbal *-s* with all verb types (Tables 4.12-4.13). This result matches the Ulster immigrant letters, 1736-1871 (Montgomery 1997a: 132) and the 18th-century Galphin data (Montgomery 1997b) (cp. Table 4.12, Section 4.2.1.6 and Table 2.2, Section 2.3.3).

Finally, Table 4.12 shows that verbal *-s* is more frequent with BE past in contexts with 'other personal pronouns' (*we, you, they*).[27] The preference for verbal *-s* with BE past is reported in studies on 19th-century data (McCafferty 2003; Pietsch 2012). However, four of the seven occurrences of BE past with 'other person pronouns' (*we, you, they*) are cases of *you + was*. Up until the mid-18th century, *was* was the preferred form of BE with the second person singular/plural *you* (Laitinen 2009). The result related to past BE above therefore may reflect a preferred collocation rather than the impact of a verb type constraint. Finally, we find no evidence of a general *was/weren't split* in CORIECOR 1741-1800 (Section 4.1).

Based on these considerations we may infer that verb type does not constrain the distribution of verbal *-s* in CORIECOR 1741-1800 (Hypothesis 2). As the analysis does not differentiate between geographic regions, the result possibly fails to reflect internal variation within Ulster, in the same manner as Montgomery's (1995, 1996, 1997a) and Montgomery & Robinson's (1996) studies on 18th-century Ulster emigrant/immigrant letters. Possible geographic differences in the manner that verb types correlate with verbal *-s* is interesting as it could reflect inheritance from input varieties. This could be investigated in a future study.

The extralinguistic factor *decade* was not selected as significant in the *GoldVarb* analysis (Table 4.18, Section 4.3). Thus hypothesis 6 is not supported in my data. That decade is not selected may be an outcome of the short time-frame of the data included in the study (1751-1800; the decade 1741-1750 was a K.O. factor and thus excluded from the *GoldVarb* analysis). Alternatively, it may reflect the fact that there are letters from different decades written by the same writer.

The extralinguistic factors sex and writer-recipient intimacy were not selected as significant factors for the variation of verbal *-s* in CORIECOR 1741-1800 (Table 4.18). That *sex of writer* is not found to be significant in the Chi-square test, nor in the *GoldVarb* analysis could suggest the social status of verbal *-s*: As mentioned in Section 2.4.2, it is a widely accepted claim within sociolinguistics that women adhere to the Standard more than men when these have the same access to the Standard (Trudgill 1972: 179; Hudson 1996: 193-4). The claim rests on the assumption that the standard form is associated with higher prestige than the nonstandard form. We have no information about the CORIECOR 1741-1800 writers' access to the Standard. Nevertheless, the lack of significant variation in the distribution of verbal *-s* in writings of men and women in CORIECOR 1741-1800 suggests

[27] With the first person singular (*I*), verbal *-s* was most frequent with present BE. Due to low numbers this result could not be tested in the Chi-square test.

that verbal *-s* was not a stigmatised feature used by men. On the other hand, it suggests that verbal *-s* was not a social marker among women, as in certain present-day varieties (e.g. Eisikovits 1991; Tagliamonte 1998; Childs 2012).

In the frequency analysis (Table 4.17, Figure 4.4) we observe a tendency for NPs to take verbal *-s* more often when letter writer and letter recipient are intimate (the rates of verbal *-s* in letters to members of the close nuclear family and to close personal friends range between 53-70%) than when they are socially distant (the rate of verbal *-s* in letters to distant family, other distant or someone that is social superior ranges between 18-29%). The distribution of verbal *-s* across the levels of intimacy was highly significant with plural NP subjects in the Chi-square test (Table 4.17, Figure 4.4). However, the factor group degree of intimacy was not selected as significant in the *GoldVarb* analysis (Table 4.18). This may be due by the combined treatment of tokens with personal pronouns and plural NPs in the *GoldVarb* analysis. If we rely on the result from the *GoldVarb* analysis, the lack of significant variation according to intimacy suggests that verbal *-s* was not sensitive to power differences in the communication setting (cf. Bell 1984, Chambers 1995: 4-7). If neither sex, nor level of intimacy is related with verbal *-s* in CORIECOR 1741-1800, hypothesis 7 is not supported. However, the observed variation of verbal *-s* according to intimacy in the frequency analysis (Table 4.17, Figure 4.4) might suggest that verbal *-s* was used more frequently within the intimate social sphere. The tendency is interesting and should be tested in later studies.

In sum, the result of this study shows that SVC in CORIECOR 1741-1800 was heavily constrained by the NP/PRO distinction and the PSC. Other significant factors were type of plural NP subject, subject heaviness and geographic region (to be discussed below). That no other linguistic or extralinguistic factors were selected as significant in the *GoldVarb* analysis indicates the strength of the NSR in CORIECOR 1741-1800 and suggests that the system was widely used in different social contexts in 18th-century Ulster. In the next section I present the geographic distribution of the NSR in the Ulster data, and discuss the implications of this distribution for the understanding of the emergence of the NSR in Ulster.

5.3 Geographic distribution and the emergence of the NSR in Ulster

Geographic region was selected as the second most important factor group for the distribution of verbal *-s* in the *GoldVarb* analysis (Table 4.18, Section 4.3). Considering the impact of geography, our first observation is the uneven distribution of verbal *-s* across regions: In the *GoldVarb* analysis, Donegal is selected as the region where verbal *-s* is most likely to apply,

closely followed by Monaghan. Counties Armagh, Down and Tyrone receive factor weights above .670, and verbal *-s* is therefore likely to apply in these data sets. Verbal *-s* is least likely to apply in Belfast, Co. Londonderry and Antrim according to the *GoldVarb* analysis (Table 4.18, section 4.3).

At the outset, one could suggest that this result indicates that the NSR is weaker in a north-northeast belt than in the remaining parts of Ulster. This would be to jump to conclusions as studies from Antrim and regions in north-east Ulster have found considerably more verbal *-s* than that found in my data: As seen in Table 2.1, Section 2.3.2, the percentages of verbal *-s* in 17th-century data representing Antrim range from 19% (the McClelland Papers) to 44% (the Duntreath letters and Templepatrick Session book) (Montgomery & Robinson 1996, 2000). Further, in northeast Ulster 19th-century data, verbal *-s* ranges between 46% (McCafferty 2003) and 53% (Pietsch 2012) (Table 2.5, Section 2.3.4). A north-northeast belt also conflicts with the present-day spread of the NSR in Ulster (c.f. Pietsch 2005a: 104-5). It is therefore more likely that the distribution of verbal *-s* in regions such as Antrim, Londonderry and Belfast in CORIECOR 1741-1800 is diminished by other social factors, e.g. social network (J. Milroy & L. Milroy 2014 [1985]). In the case of Antrim, we observe (Table A2 in Appendix 2) that eight of the thirteen writers represent three networks: Three writers belong to the Caldwell network; three belong to the Craig network, while two writers belong to the Parks network. We further see that these writers account for 14591/19709 (79%) of the words in the Antrim data set. It is possible that the low rate of verbal *-s* in the Antrim data in CORIECOR 1741-1800 reflects a preference for the standard verbal inflection with plural NP subjects within these networks more than a general trend in Antrim.

What is more interesting to the present study than the rate of verbal *-s*, is the degree by which the distribution of verbal *-s* is explained by the NP/PRO distinction and the PSC in each region.

The NP/PRO distinction exists in all regions (Table 4.14, Figure 4.1, Section 4.2.2.1): Verbal *-s* occurs in more than 50% of the cases with plural NP subjects in Monaghan, Donegal, Armagh, Down and Tyrone; in Antrim, Londonderry and Belfast the rate ranges between 13% and 44%. In contrast, verbal *-s* is considerably less frequent with personal pronoun subjects than with plural NP subjects in all regions: Overall distributions of verbal *-s* with personal pronoun subjects range between 0.6% in Antrim and 11.1% in Donegal (Totals for all personal pronouns in Table 4.15).

There is a trend for the PSC to operate in all regions (Table 4.15, Section 4.2.2.1). Most reliable are the results from the regions Tyrone, Belfast, Co. Londonderry and Antrim as the numbers of tokens from these regions are large. In these regions the personal pronouns (numbers for *I, we, you* and *they* in Table 4.15 collapsed) take verbal *-s* in less than 1% of tokens in the adjacent environment, while it occurs between 7.1% and 52.9% in the near/non-adjacent environment.

In sum, the analysis of SVC in CORIECOR 1741-1800 shows that the NSR is a solid feature in data from all regions included in the study: It is solid in regions where the Scots probably outnumbered the English and where the present-day language is associated with Ulster Scots (USc) (Antrim, Down and Co. Londonderry (Braidwood 1964: 8; Harris 1984: 117)). The NSR is equally solid in regions where the English were numerous and where the present-day language is associated with Mid-Ulster English (MUE) or South-Ulster English (SUE) (Braidwood 1964: 5-38; Harris 1984: 117; Robinson 1994: 94). This result supports hypothesis 8.

According to the *diffusion hypothesis* (Montgomery 1997b), the NSR that we observe in regions with English settlements in central, south and west Ulster (Belfast, Armagh, Monaghan, Tyrone and Donegal) would be explained in terms of diffusion from Scots (Montgomery 1997b) (see Section 2.4.3). As dialect contact between descendants of Scottish and English settlers probably took place in these regions (Braidwood 1964: 8; Robinson 1994: 94; Corrigan 2010: 122-3, see Sections 2.2.2-2.2.3), diffusion between varieties would be possible. Therefore, the geographic spread of the NSR identified in this thesis cannot in itself disprove that the NSR diffused from USc and into other varieties in Ulster. However, considering the historic-linguistic context and knowledge about input varieties in Ulster it is unlikely that the NSR emerged to parts of central, south and west Ulster in the manner of diffusion.

Rather, the result that the NSR is found to be solid in data sets representing regions where the Scots were dominant as well as where the English were dominant approximately 100 years after the arrival of Scottish and English settlers in these regions, supports McCafferty's (2003) hypothesis that the NSR was introduced to Ulster by Scots and English founder populations (*the founder hypothesis*). As mentioned in Section 2.1.3, the NSR has traditionally been solid in Scotland (McIntosh 1983, 1989: 117-8; Montgomery 1994). Studies of the 17th-century Duntreath letters 1609-31 and the McClelland Papers 1612-24 (Montgomery & Robinson 1996, 2000; Montgomery 1997a) (see Table 2.1) show that the

NSR existed in the vernacular of Scottish colonists in Ulster during the early 17th century. Furthermore, we know that the majority of the English planters originated in Northern England and the North Midlands (Robinson 1994: 107; McCafferty 2005b: 190). These areas are traditional hotspots for the NSR (e.g. McIntosh 1983, 1989; de Haas & Van Kemenade 2015). It is therefore likely that the NSR would be a feature in the vernacular of English colonists during the 17th century. Minority groups of settlers originating in South-West England (Harris 1984: 15), the Midlands (Robinson 1994: 123) and London (Robinson 1994: 91, 115, 124) probably also were familiar with the NSR, as studies have identified NSR-like SVC patterns in past and present data representing these regions (Bailey & Ross 1988; Bailey, Maynor & Cukor-Avila 1989; Schendl 1996: 152, 2000; Godfrey & Tagliamonte 1999; Wright 2002; Pietsch 2012).[28] Given the strength of the NSR in England at the time of English colonisation in Ulster, coupled with the finding that the NSR is solid in 18th-century data representing regions where the English probably were numerous, makes it highly likely that the NSR was introduced to these regions by English founding populations during the plantation period. In regions with Scottish settlements in the north of Ulster and in pockets in the remaining regions, the NSR would have been brought by a Scottish founding population.

Why is the NSR so solid in the 18th-century data? Why are none of the other SVC systems that presumably were brought to Ulster during the plantation period found in CORIECOR 1741-1800? The major part of the colonists originated in Scotland, Northern England and the North Midlands (Robinson 1994; McCafferty 2005b: 190). These settlers are likely to have introduced the NSR to Ulster. However, English colonists probably brought with them other nonstandard SVC systems to Ulster as well. Based on what we know about the origin of the settlers and the SVC systems that exist in parts of England we may assume that generalised verbal *-s*, generalised verbal *-Ø*, *was/were* levelling and the *was/weren't* split were SVC systems introduced to Ulster by English planters (see section 2.2.2). The present study finds no evidence of a generalised verbal *-s* or generalised verbal *-Ø* system in CORIECOR 1741-1800 (Table 4.1, Section 4.1). We further find no strong indication of *was/were* levelling, nor of a general *was/weren't split* in CORIECOR 1741-1800 (Section 4.1). The reason why we do not find any evidence of the input systems mentioned above probably has to do with the language situation that emerged in Ulster during the plantation period and continued in the aftermath: In the complex contact situation, the settlers that that

[28] Godfrey & Tagliamonte's (1999) and Pietsch's (2012) identification of the NSR in the South-West is relevant to the argument only if we assume that the feature existed in that region during the period of colonisation in Ulster (see Pietsch 2012 for the suggestion of a later dating).

had the NSR as part of their vernacular (i.e. settlers originating in Scotland, northern England and the North Midlands) would outnumber the settlers from southern England greatly. That the NSR existed in other input varieties than the low-prestige Ulster Scots (see Section 2.2.4), and was not a foreign feature to planters originating in parts of southern England, probably served to reinforce the position of the NSR in the SVC competition in the Ulster feature pool (Mufwene 2001: 30). The existence of typological parallels in the substratum Irish (Bliss 1979: 291) possibly strengthened the position of nonstandard verbal *-s* in the language shift context. As a result of this contact situation, it is likely that minority input SVC systems were lost due to levelling. Accordingly, I propose that the solid NSR observed in the CORIECOR 1741-1800 data representing all regions in Ulster reflects the result of this levelling process.

5.4 Methodological considerations

The present study is based on data collected from personal correspondence. Only authentic letters are included, thus minimising variation caused by genre. However, although personal correspondence is regarded as one of the written sources that displays vernacular language best, it is likely that it reflects more standard SVC use than would speech (c.f. Section 3.1.4).

The study is based on more data than any previous study of SVC in Ulster during the 18th century and includes a number of factors that are tested for significance in the multivariate *GoldVarb* analysis. Included are factors found to be significant in previous studies of past and present varieties of SVC in Ulster, as well as factors that have not previously been tested (subject heaviness, degree of writer-recipient intimacy). The factors selected as significant in the *GoldVarb* multivariate analysis therefore give a good account of the SVC in CORIECOR 1741-1800. The *GoldVarb* analysis used in the study is widely applied in studies of SVC in different varieties, including in Ulster (McCafferty 2003; Pietsch 2005a).

Two approaches proved promising: First, following Pietsch (2005a) this study uses a three-step adjacency criterion. It was found that the rate of verbal *-s* in clauses with plural NP subjects varies greatly according to whether the subject and verb are near-adjacent or non-adjacent. This shows that it is probably better to operate with three adjacency categories than a dual adjacent vs. non-adjacent criterion, which is done in most studies (e.g. Montgomery 1995; McCafferty 2003). Secondly, it was suggested that the frequent collocation of the relative pronoun and verbal *-s* in the data is not due to the existence of the relative pronoun or the relative clause itself. Rather it may be accounted for by the fact that plural NP subjects

(and not personal pronouns) function as antecedent subjects in the relative clause, and the general ability of plural NPs to take verbal *-s* (i.e. an NP/PRO effect). This result has methodological implications for future research, as it suggests that it is not the relative pronoun, but rather the type of antecedent to the relative pronoun that should be treated as clause subject.

In the frequency tables in Section 4.2 all tokens of nonstandard verbal *-s* were included. Tokens of *I* + *was* reflect the standard norm. These tokens were therefore excluded from the frequency tables. As standard forms of *I* + verbal *-s* (i.e. *I was*) and nonstandard forms of *I* + verbal *-s* (i.e. *I is*) could not be distinguished automatically in the *GoldVarb* up-down analysis, all tokens with BE past were excluded from the *GoldVarb* analysis. It is uncertain whether the inclusion of BE past in the *GoldVarb* analysis would have given another result. (The inclusion of BE past would have demanded that tokens with the 1st person pronoun (*I*) were excluded from the *GoldVarb* analysis.) Further, the result regarding verb type is based on tokens of *you* + *was*. As *was* was the preferred form of BE with the second person singular/plural *you* up until the mid-18th century (Laitinen 2009), it would possibly have been better to exclude tokens with *you was* from the analysis in order to test the impact of verb type and the NP/PRO constraint. However, as there were only four tokens of *you was* this would probably not have given another result.

In line with previous studies (e.g. McCafferty 2003), tokens with personal pronoun subjects and plural NP subjects are treated together in the *GoldVarb* analysis of factors other than the TSC. In the frequency tables in Section 4.2 we found that several factors had different impacts on the rate of verbal *-s* in contexts with personal pronoun subjects and plural NP subjects. For instance, while personal pronouns did not show any patterns in the use of verbal *-s* according to degree of intimacy between letter writer and recipient, significant variation in the use of verbal *-s* according to intimacy was found with plural NPs in the Chi-square test. In order to investigate the impact of different factors it is possible that it would be better to run two separate *GoldVarb* analyses (one for tokens with personal pronoun subjects and one for plural NP subjects). Separate analyses might have given a clearer picture of the impact of factors such as the PSC and subject heaviness with personal pronoun subjects vs. plural NP subjects. This could be done in a later study.

There are three methodological considerations connected with the analysis of subject heaviness: First, the factor group subject heaviness was selected as significant in the *GoldVarb* analysis (Table 4.18). *GoldVarb* models 'the simultaneous operation of factor

effects, reveals the relative importance of each one to the other, and selects which ones are significant' (Tagliamonte 2006: 215). We would therefore assume that the *GoldVarb* analysis takes possible overlap between subject heaviness and type of subject into account. However, when the subject types that may co-vary with subject heaviness (personal pronouns, existential *there/it* and conjoined NPs) were removed in a second Chi-square test, the variation in frequency of verbal *-s* with light NPs and heavy NPs was not significant (Table 4.9, Section 4.2.1.3). A later study might consider treating plural NPs separately in a *GoldVarb* analysis, excluding tokens with existential *there*/*it* and conjoined NPs. Secondly, we may expect overlap between subject heaviness and the PSC (see e.g. Clarke 2015). This is so because heavy NPs frequently consist of a postmodified head. In these cases the postmodifier necessarily separates the subject and the verb, thus making the environment non-adjacent. Conversely, non-modified subject heads are frequently in adjacent position to the finite verb. The third consideration regards the definitions of the heaviness categories used in this study. As seen in Section 3.2.3, the heavy NP category is comprised by postmodified subject heads. However, a light NP subject may be preceded by (sometimes multiword) premodifiers and thus approach the heavy NP in terms of heaviness. The definitions blur the distinction between the heavy NP category and the light NP category. I suggest a later study treats premodified and postmodified NP subject heads together in a 'heavy NP' category, distinguishing these from one or two-word 'light NP' subjects.

The aim of this study is not to argue for the inclusion or exclusion of tokens with existential *there*. However, in line with the advice that existential *there* be excluded from the NSR-analysis (e.g. Pietsch 2005a; Cole 2008), a separate frequency analysis on the distribution of verbal *-s* was conducted in relation to the linguistic constraints in the study. It was found that the exclusion of existential *there/it* does not give a markedly different result concerning which factor groups show significant variation in the Chi-square tests (Section 4.2.1.7). Nevertheless, considering the special behaviour of existential *there* and conjoined NPs in relation to e.g. type of plural NP subject and subject heaviness, it might perhaps have been methodologically safer to exclude existential *there* and conjoined NPs from the study in order to give a better account of the workings of different factors on the distribution of verbal *-s*.

CHAPTER 6 CONCLUSIONS

The present thesis investigates subject-verb concord (SVC) in varieties of Irish English in Ulster between 1741 and 1800. The quantitative study is based on the 4747 occurrences of subject-verb concord in personal correspondence in a subcorpus of the *Corpus of Irish English Correspondence* (CORIECOR) (McCafferty & Amador-Moreno in preparation). In line with the variationist paradigm, the study seeks to increase our knowledge about the SVC in language use in Ulster during the 18th century. In general, studies on SVC in 18th-century Ulster are few and based on relatively small data sets (Montgomery 1995, 1996, 1997a, 1997; Montgomery & Robinson 1996, 2000). Apart from the factors related to the Northern Subject Rule (NSR), i.e. the NP/PRO constraint and the Proximity to subject constraint (PSC), these studies report a tendency for verbal *-s* to be sensitive to verb type and type of plural noun phrase (NP) subject. The statistical significance of the results of these studies is not tested, thus making the findings suggestive rather than conclusive. Other factors shown to affect the frequency of verbal *-s* in later varieties are not included in these studies either. As the studies do not distinguish between geographic areas in the analyses, they provide little insight into the geographic spread of the NSR in Ulster during the 18th century.

In order to fill the gaps in our knowledge about SVC in the 18th century, this study seeks to answer the following research questions, as presented in the Introduction.

1) *How strong was the NSR in Ulster during the period 1741-1800?*

2) *What other factors than the NSR-related NP/PRO distinction and Proximity to Subject constraint (PSC) affected the distribution of verbal -s during the period?*

3) *What can the geographic distribution of the NSR during the period 1741-1800 tell us about how the NSR emerged in Ulster?*

Chapter 2 presents the background to the study of SVC in 18th-century Ulster. Relevant topics are SVC patterns in varieties in parts of Britain that are historically connected with Ulster (Section 2.1) and the historical linguistic context of the study (Section 2.2). Section 2.3 provides a thorough review of previous research on SVC in Ulster. Studies on data sets from the 17th century until the present day report influence of various factors on the use of verbal *-s*. In order to give a good overall account of SVC in the 18th-century data, I decided to include nearly all these factors in the same study and test them for significance.

Chapter 3 outlines the data and statistical methods used to test the impact of multiple factors on variable use of verbal *-s*/-Ø (including analogous *is*/*was* and *are/were*). The main empirical findings presented in Chapter 4 indicate that verbal *-s* in CORIECOR 1741-1800 is sensitive to the factor groups type of subject (TSC), geographic region, subject heaviness and degree of proximity between subject and verb (PSC). The results are discussed in relation to my research questions in Chapter 5. Methodological considerations close chapter 5.

The study identifies a clear NSR pattern in the data, as defined by the NP/PRO split and the operation of the PSC in clauses with personal pronoun subjects (cf. the traditional definition by Montgomery 1994: 88-89). This is in line with previous research on varieties in Ulster between the 17th century and the present (e.g. J. Milroy 1981; Montgomery 1995, 1996, 1997a; Montgomery & Robinson 1996; Corrigan 1997; McCafferty 2003; Pietsch 2005a, 2012). The PSC appears not to constrain verbal *-s* with plural NP subjects in my data from the 18th century. This contrasts with studies on data from the 19th (McCafferty 2003) and 20th centuries (Pietsch 2005a). The result is intriguing as it may suggest that the use of the PSC with plural NPs is a more recent development in Ulster.

The study further investigates the impact of factors other than the NSR-related NP/PRO constraint and PSC on the distribution of verbal *-s*. Different subject type factors have been included in different studies on SVC in Ulster. This study includes nearly all of them and finds that all plural NP subjects are likely to give verbal *-s*. Existential *there/it* and conjoined NPs are the subject types most likely to take verbal *-s*. This is in line with previous research (e.g. Montgomery 1997a; McCafferty 2003).

Whereas other studies (e.g. Montgomery 1995; McCafferty 2003) list the relative pronoun among the subject types that favour verbal *-s*, the present study finds no correlation between the relative clause (and therefore the relative pronoun) and verbal *-s* in the *GoldVarb* analysis (cp. Pietsch 2005a). Rather, it is suggested that the frequent collocation of the relative pronoun and verbal *-s* in the data is the outcome of the fact that plural NP subjects (and not personal pronouns) function as antecedent subjects in the relative clause, and the general tendency of plural NPs to take verbal *-s* (the NP/PRO distinction). The finding has implications for future research as it indicates that it is the antecedent to the relative clause, and not the relative pronoun that should be treated as the clause subject.

In this thesis the factor group *subject heaviness* is studied in data from Ulster for the first time. In the 18th-century data, verbal *-s* is favoured by light NP subjects only. This contradicts findings from varieties outside Ulster (e.g. Poplack & Tagliamonte 1989; Schendl

2000; Clarke 2015). It is proposed that verbal *-s* with light NPs reflects a priming effect (cf. Loebell & Bock 2003: 792), i.e. that light NP subjects that are formally marked for plurality by the *-s* inflection are followed by a verb with nonstandard verbal *-s* in CORIECOR 1741-1800.

None of the extralinguistic factors – decade, sex of letter writer and degree of intimacy between letter writer and letter recipient – turned out to be significant in the *GoldVarb* analysis. This could suggest that verbal *-s* was widely used in different social contexts in 18th-century Ulster.

Considering the geographic spread of the NSR, the study shows that it was widespread in all areas included in the study, i.e. in regions where the descendants of Scottish settlers probably outnumbered the descendants of English settlers and which are today associated with the Ulster Scots dialect (USc) (Braidwood 1964: 8; Harris 1984: 117), as well as in regions where English settlers were numerous and the present-day dialects are Mid-Ulster English or South-Ulster English (Braidwood 1964: 5-38, Harris 1984: 117; Robinson 1994: 94). That the NSR is solid in data representing areas where descendants of English settlers were probably numerous a century after the period of British colonisation of Ulster makes McCafferty's (2003) hypothesis that the NSR was introduced to Ulster by both Scots and English founder populations highly likely (*the founder hypothesis*).

There is no evidence of other possible input SVC systems (i.e. generalised verbal *-s*, generalised verbal *-Ø*, levelling with BE or a *was/weren't* split) in the data. I tentatively suggest that this reflects the outcome of levelling caused by the contact situation that emerged with the 17th-century planting of Ulster: The majority of the settlers would have had the NSR as part of their vernacular. This would have served to reinforce the position of the NSR in the SVC feature pool competition (Mufwene 2001: 30), at the expense of other systems.

Whereas this study increases our knowledge about certain aspects of SVC in Ulster during the 18th century, some new topics that may be relevant for future research have emerged. First, the study finds that the PSC does not constrain verbal *-s* with plural NP subjects in the 18th-century data. As the result contrasts those found in later varieties in Ulster (McCafferty 2003; Pietsch 2005a), it is suggested that the use of the PSC with plural NPs is a more recent development in Ulster. A later study might use 19th-century data representing the same regions as the present study in order to discover a possible change in the use of the PSC.

Secondly, the present study suggests that verbal *-s* is constrained by subject heaviness. A later study could modify the coding definitions used in this study (cf. Section 5.4) and test if the use of verbal *-s* with light NP subjects reflects a priming effect.

Finally, the study shows that the NSR is solid in regions across Ulster. This lends support to the founder population hypothesis that the NSR was introduced to Ulster by both English and Scottish settlers (McCafferty 2003). A future study might find it worthwhile to pinpoint the origin of the writers in CORIECOR 1741-1800 and use historical records to determine the demographic structure of each place prior to and during the 18th century. If the NSR is identified in data representing areas known to have had predominately English colonists and where later contact between descendants of English and Scots was marginal, e.g. in isolated areas in south Ulster (Corrigan 2010), this will add further support to the founder population hypothesis.

This study has increased our knowledge of SVC used in Ulster during the 18th century by elucidating the most important factors to the distribution of nonstandard verbal *-s* using a large data set and clearly defined variables. While some results confirm those of previous studies, others add new insight into SVC during the early history of Irish English in Ulster. Finally, the study discusses methodological implications along with new topics, proving that the phenomenon of SVC in Ulster remains highly interesting to future research.

APPENDENCES

Appendix 1 Distribution of verbal *-s* by type of subject in studies on 17th-19th-century data

Table A1 details the distribution of verbal *-s* across types of subjects in historical varieties in Ulster. Empty cells indicate that the distribution of verbal *-s* with that particular subject type is not distinguished in the study. The subject types included in the 'other NPs' category varies according to the study.

Table A1 Distribution of verbal *-s* across types of subjects in studies on 17th-19th-century data from Ulster

		Existential *there*		Conjoined NPs		Relative pronoun		Common noun		Collective noun		Them + NP		Mass/ quantifier		Other NPs		Total plural NP subjects		*They*	
Data	**Verb type**	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***
STUDIES ON 17TH-CENTURY DATA																					
Memorials of the Montgomeries, late 16th century, early 17th century. Source: Montgomery (1994: 87-92, Tables 1, 4, 5). [a]	BE [b]	4/6	67	2/4	50	8/14	57	13/49	27									27/73	37	0/17	0
	Other verbs	0/0	0	9/9	100	5/5	100	17/20	85									31/34	91 [c]	1/13	8
Grandtully letters, 1639-1672. Source: Montgomery (1994: 87-92, Tables 1, 4, 5). [a]	BE [b]	4/9	44	5/14	36	0/11	0	5/58	9									14/92	15	0/9	0
	Other verbs	1/2	50	4/4	100	14/19	74	27/40	68									46/65	71	2/21	10
Duntreath Letters, 1609-31. Source: Montgomery (1997a: 130, Table 5). [d]	BE (copula and auxiliary) present	2/2	100	2/4	50											2/14	14	6/20	30	0/5	0
	Other verbs present tense	1/1	100	2/6	33											14/42	33	17/49	35	1/9	11
Duntreath Letters, 1609-31. Source: Montgomery & Robinson (1996: 418, Table 1; 2000: 49, Table 1).	Copula verbs																	6/13	46	0/6	0
	Non-copula verbs																	19/44	43 [e]	0/9	0
McClelland Papers, 1612-1624. Source: Montgomery & Robinson (1996: 418, Table 1; 2000: 49, Table 1).	Copula verbs																	3/17 [f]	18	0/0	0
	Non-copula verbs																	6/30	20	0/7	0
Plantation Papers, 1611-1622. Source: Montgomery & Robinson (1996: 418, Table 1; 2000: 49, Table 1).	Copula verbs																	7/13 [g]	54	0/3 [g]	0
	Non-copula verbs																	0/14	0	0/3	0
Templepatrick Presbytarian Session book, 1646-1647. Source: Montgomery & Robinson (1996: 418, Table 1; 2000: 49, Table 1).	Copula verbs																	8/26	31	0/7	0
	Non-copula verbs																	18/33 [h]	55	2/6	33

TABLE A1 CONTINUED.

		Existential *there*		Conjoined NPs		Relative pronoun		Common noun		Collective noun		Them + NP		Mass/ quantifier		Other NPs		Total plural NP subjects		*They*	
Data	**Verb type**	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***	**N *-s*/ total**	**% *-s***
STUDIES ON 18TH-CENTURY DATA																					
Ulster emigrant letters, 1736-1871. Source: Montgomery (1995: 38-39, Tables 1-3.	Linking verb, present tense	18/30	60	20/37	54	4/14	29	53/95	56									95/176	54	1/61 [i]	2
	Other verbs	0/0	0	18/21	86	24/31	77	46/67	69									88/119	74	1/66 [j]	2
Ulster emigrant letters, 1737-97. Source: Montgomery (1996: 226, Table 5).	Copula verb	6/11	55													36/62	58	42/73	58	0/11	0
	Other verbs	1/1	100													30/40	75	31/41	76	0/13	0
Emigrant letters, 1737-99. Source: Montgomery & Robinson (1996: 418, Table 1).	Copula verbs																	36/62	58	0/11	0
	Non-copula verbs																	30/40	75	0/14	0
Ulster immigrant letters, 1736-1871. Source: Montgomery (1997a: 132, Table 7, 136, Table 13).	BE present	22/25	88	2/9	22											29/63	46	53/97	55	1/10	10
	Other verbs	1/2	50	7/13	54											20/40	50	28/55	51	0/22	0
Galphin, 1752-1755. Source: Montgomery (1997b: 236, Table 3).	BE present																	43/46	93	0/20	0
	Other verbs																	47/50	94	0/62	0
Galphin (Ulster letters, 1752-75. Source: Montgomery (1996: 225, Table 3). [k]	BE copula present	19/21	91													20/21	95	39/42	93	0/17	0
	Other verbs	5/5	100													38/41	93	43/46	93	0/51	0
STUDIES ON 19TH-CENTURY DATA																					
Carleton, W., 1845. Source: Kallen (1991: 26, Table IV).	BE (present, past)	14/15	93	7/10	70							3/4	75	2/3	67	9/23	39	35/55	64	0/33	0
	Other verbs	0/0	0	4/8	50							1/3	33	2/2	100	13/18	72	20/31	65	0/26	0
Ulster-Australian emigrant letters, 1843-1881 Source: McCafferty (2003: 130, Table 7).	All verbs	30/35	86	56/87	64	6/10	60			23/27	85					54/77	70	169/236	72	4/105	4
HCIE corpus, Northeast Ulster, 1820-1920. Source: Pietsch (2012: 368-70, Tables 1-2). [l]	All verbs																	438/832	53		
HCIE corpus, Central Ulster, 1820-1920. Source: Pietsch (2012: 368, 368-70, Tables 1-2). [l]	All verbs																	697/1312	53		

NOTES TO TABLE A1:

a Tokens of *-s* in existential constructions are excluded in original study (Montgomery 1994: 87-92, Tables 1, 4 and 5). These tokens are included in Table A1 to make comparison possible.

b Results of BE past and present are collapsed to make comparison possible. Source: Montgomery 1994: 90-92, Tables 4, 5.

c In Montgomery (1994: 88, Table 1) total NP with verbal *-s* is 90%. Assuming that the numbers are correct, the percentage is changed.

d Results from this data set is not included in Table 2.1 (Verbal *-s* in 17th-century data), Section 2.3.2.

e In Montgomery & Robinson (1996) total NP with verbal *-s* is 19/44, 41,9%; in Montgomery & Robinson (2000) it is 19/44, 41%. Assuming that the numbers are correct, the percentage is changed.

f In Montgomery & Robinson (1996) totals for plural NP subject with verbal *-s* is 3/1, 17.6%. In Montgomery & Robinson (2000) it is 3/17, 17.6%. I insert the latter numbers.

g Totals include two instances of BE (Montgomery & Robinson 1996: 418, Table 1).

h In Montgomery & Robinson (1996), the totals given are 8/33, 54.5%. In Montgomery & Robinson (2000) the totals are 18/33, 54.5%. I insert the latter numbers.

i In the text in Montgomery (1995: 38) total of *they* with verbal *-s* is 1/62, 2%. In Montgomery (1995: 38, Table 1) the total is 1/61, 2%. Montgomery (1995: 39) then mentions that in "three of nine (33 percent) cases *is* occur when they is its subject but is not adjacent". Inserted here is the result in Montgomery (1995: 38, Table 1).

j In Montgomery (1995: 39, Table 2) total of *they* with verbal *-s* is 1/66, 2%. Montgomery (1995: 39) then mentions that in 'three of nine (33 percent) cases *is* occur when *they* is its subject but is not adjacent'. Inserted here is the result in Montgomery (1995: 39, Table 2).

k Results from this data set is not included in Table 2.2 (Verbal *-s* in 18th-century data), Section 2.3.3.

l The numbers in Pietsch (2012: 367, Table 1) regards 'all those environments where it [i.e. verbal *-s*] is licensed by the NSR but not by the standard system' (Pietsch 2012: 367), and thus presumably clauses with NP subjects and non-adjacent personal pronoun subjects. As Pietsch (2012) does not present the numbers for verbal *-s*/*-Ø* across different syntactic environments, these cannot be inserted in Table A1 above.

m In Table A1 numbers for BE past and present (Pietsch 2012: 369-70, Table 2) are collapsed to make comparison possible.

Appendix 2 Overview writers per region and decade

Table A2 presents the 73 writers of the data from Ulster per region. Writers are further sorted according to the decade of letter production. In all the data from Ulster is collected from 204 letters that comprise 91.086 words. In the table numbers in parentheses indicate the number of letters per decade when we have more than one letter per decade by the same writer.

Table A2 Writers in Ulster 1741-1800

Writer's place of origin	Writer's name	Sex	N of letters	Total N of words	Decade(s) of letter production
ANTRIM	Dobbs, Arthur	m	4	2739	1741-1750 (1), 1751-1760 (3)
	Rea, John	m	1	929	1761-1770
	Hewitt, R.	m	1	290	1781-1790
	Caldwell, Anne	f	1	536	1791-1800
	Caldwell, John Junior	m	1	498	1791-1800
	Caldwell, John Senior	m	3	1826	1791-1800
	Cunningham, William	m	1	713	1791-1800
	Craig, Andrew	m	1	167	1791-1800
	Craig, Margaret (later Ward)	f	3	1651	1791-1800
	Craig, Mary (later Cumming)	f	2	1082	1791-1800
	King, Anna S.	f	1	447	1791-1800
	Parks, John	m	7	6996	1791-1800
	Parks, Flora	f	2	1835	1791-1800
ARMAGH	Chambers, John	m	1	864	1791-1800
	McNear, Robert	m	1	359	1791-1800
BELFAST	Alexander, John	m	5	1471	1771-1780
	Drennan, William	m	13	3265	1771-1780
	G.P.	m	1	208	1771-1780
	Greg, Thomas	m	2	498	1771-1780
	McTier Matty	f	1	138	1771-1780
	Capt. Hector	m	1	77	1781-1790
	Young, Hamilton	m	70	16965	1781-1790 (69), 1791-1800 (1)
	Brown, Samuel	m	2	1983	1791-1800
	Cunningham, John	m	1	796	1791-1800
	Cunningham, Sam	m	3	1790	1791-1800
	McKibben Hugh	m	1	304	1791-1800
	McTier, Martha	f	1	736	1791-1800
	Potts, Thomas	m	1	1381	1791-1800
DONEGAL	Patterson, John	m	1	756	1761-1770
	MacArthur, John	m	2	1156	1791-1800
	MacArthur, Joseph	m	1	262	1791-1800
DOWN	Blair, Anne	f	1	766	1771-1780
	Blair, Mrs Elizabeth	f	1	905	1771-1780
	Johnston, Henry	m	4	2061	1771-1780 (1), 1781-1790 (3)
	Denison, John	m	1	627	1781-1790
	Johnston, John	m	1	1154	1781-1790
	Martin, Andrew	m	1	362	1781-1790
	Clandinen, Thomas	m	1	615	1791-1800
	Gordon, John	m	1	471	1791-1800
	Johnston, Ken	m	1	545	1791-1800

CO. LONDON-DERRY	Johnson, William	m	1	872	1761-1770
	Wylly, Alexander	m	1	242	1761-1770
	Wylly, Hester	f	1	1245	1761-1770
	Wylly, S.	f	1	405	1761-1770
	Wylly, William	m	2	1690	1761-1770, 1791-1800
	Gaylard, Sarah	f	3	1583	1761-1770, 1771-1780, 1781-1790
	Johnson, Job	m	2	2787	1761-1770, 1781-1790
	Habersham, Hester	f	5	3125	1761-70 (1), 1771-80 (2), 1791-1800 (2)
	Shipboy, Thomas	m	1	623	1771-1780
	Dodd, Hannah	f	1	456	1781-1790
	Pollock, David	m	5	1333	1781-1790 (2), 1791-1800 (3)
	Brobston, William	m	1	359	1791-1800
	Lawrence, Thomas	m	1	795	1791-1800
	McClorg, Robert	m	1	607	1791-1800
	Wade, William	m	1	1066	1791-1800
MONAGHAN	Hinshaw, William	m	1	479	1781-1790
	Armstrong, Thomas	m	1	428	1791-1800
TYRONE	Lindsey, David	m	1	431	1751-1760
	Morton, John	m	3	1144	1761-1770
	Morton, Samuel & John	m	3	1321	1761-1770
	Greer, John	m	1	536	1771-1780
	Greer, Mary	f	1	320	1771-1780
	Wilson, John	m	1	291	1771-1780
	Dunlap, James	m	2	1138	1781-1790
	Dunlap, John	m	2	476	1781-1790
	Gibson, Andrew	m	2	998	1781-1790
	Greaves, R. (Robert)	m	1	133	1781-1790
	'Anonymous E'	un-known	1	53	1791-1800
	Bell, Susanna	f	1	114	1791-1800
	Robinson, Elanor (Mrs)	f	4	4072	1791-1800
	Robinson, James	m	1	431	1791-1800
	Wier (Weir?), Silas, E.	m	2	539	1791-1800
	Weir, W.	m	1	770	1791-1800
TOTAL	Number of writers: 73	17 females, 55 males, 1 un-known	N of letters: 204	N of words: 91086	

Appendix 3 Coding schema

Table A3 (following pages) presents the coding schema used for the factors included within the dependent variables and the 10 factor groups in the study.

Table A3 Coding schema for the factors included within the dependent variable and the 10 factor groups included in the study

Dependent variable			**Factor**	**Code**
Verb form			Verbal -Ø	Ø
			Verbal -*s*	s
			other (in the case of *am*)	o
Independent variables (Factor groups 1-10)				
Factor number	**Factor group**	**Factor subgroup**	**Factor**	**Code**
1	**Verb type**		zero form lexical verb/ -*s* form lexical verb	l/L
			do/DOES	d/D
			have/HAS	h/H
			AM	m
			ARE	r
			IS	s
			WAS	z
			WERE	w
2	**Subject type**	Personal pronoun	I (sg.)	1
			you (sg/ pl)	2
			he, she, it (sg.)	3
			we (pl)	4
			they (pl)	5
			thou (2nd person sg.)	6
			ye (2nd person pl.)	7
		Indefinite pronouns (*some any, no, every* + *-body/one/thing/where*)		i
		Existential constructions	Existential *there/it* with singuar logical subject	E
			Existential *there/it* with plural logical subject	e
		Collective NP	Collective singular (the family)	C
			Collective with -*s* (the families)	c
		Conjoined NPs	Conjoined NPs with *and*	a
			Conjoined NP with *or*	j
		Common NP	Singular/ uncountable (with or without -*s*)	T
			Plural	t
		NP denoting mass/ quantity	Singular	M
			Plural	m
		Relative *what* ('that which')/*whoever/whichever/whatever*		b
		Demonstrative pronoun	Singular (*this/that*)	D
			Plural (*these/those/thae*)	d
		Interrogative pronoun (*what, who, which* (*-ever/ else*) in question		w
		Proper noun	Singular	P
			Plural	p
		Nominal clause		#
		Other subjects		o
		Zero subject		z
		Subject ambiguous		x

3	**Subject heaviness**	Pronominal	p
		Light NP	l
		Heavy	h
		Not relevant (Zero subject/ subject ambigious)	z
4	**Subject-verb adjacency**	Adjacent subject head and verb	a
		Near adjacent subject head and verb	n
		Nonadjacent subject head and verb	Ø
		Not relevant (zero subject/ subject ambigious)	z
5	**Clause type**	Finite verb is in relative clause	r
		Finite is not in relative clause	Ø
6	**Type of relative pronoun used**	Relative pronoun *that*/*as*	t
		Relative pronoun starting with *wh-*	w
		Zero relative pronoun	z
		Not relevant: verb is not in relative clause	Ø
7	**Decade**	1741-1750	1
		1751-1760	2
		1761-1770	3
		1771-1780	4
		1781-1790	5
		1791-1800	6
8	**Origin of writer: County/ city**	Antrim	A
		Armagh	a
		Carlow	C
		Cavan	c
		Clare	x
		Cork	*
		Donegal	D
		Down	d
		Dublin	b
		Fermanagh	f
		Galway	g
		Kerry	k
		Kildare	K
		Kilkenny	#
		Laois	l
		Leitrim	&
		Limerick	8
		Londonderry	L
		Longford	e

			Louth	h
			Mayo	m
			Meath	M
			Monaghan	n
			Offaly	o
			Roscommon	r
			Sligo	s
			Tipperary	t
			Tyrone	T
			Waterford	w
			Westmeath	W
			Wexford	£
			Wicklow	$
			Belfast	B
			unknown	u
9	**Sex of writer**		Male	m
			Female	f
			unknown	u
10	**Degree of writer-recip. intim-acy**	Close nuclear family	From son/ daughter to parent(s)	+
			From parent(s) to child	-
			To spouse	w
			To sibling	s
		Other distant family		o
		Close personal friend		f
		Other distant		d
		Social superior		p
		unknown		u

NOTE:
Table A3 includes codes for counties in the south of Ireland. The study initially included data from the south of Ireland. Prior to the analysis it was decided that only data from Ulster was included in the analysis.

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