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Gender and language change in Old Norse sentential negatives

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ABSTRACT

One consistent finding across sociolinguistic studies is the tendency for female speakers to lead in ongoing change. Different explanations have been proposed for this and a key method of testing these explanations is to identify whether the pattern occurs in the languages of a wider range of societies than have been studied thus far. Historical societies are relatively understudied in this regard, but undertaking variationist research into gender in historical varieties presents many challenges. One way to overcome these is to examine variation internal to fiction data. This paper presents an analysis of the effect of gender on the adverb selected for sentential negation in Old Norse prose fiction. It finds that female characters lead consistently in this change over time. In doing so, it demonstrates the feasibility of using fiction data when examining the effect of gender in historical varieties such as Old Norse.

The idea that female and male speakers exhibit distinct patterns of language use is a common one. Popular literature (famously Tannen, 1991; and Gray, 1992) has often proposed that there are huge psychological differences between men and women that are especially demonstrated in the realm of language use (see academic discussions in Baker, 2008:41–44; Cameron, 2007:1; Canary & Hause, 1993:136–137; Grob, Meyers, & Schuh, 1997:284–285; and Hyde, 2005:581; 2006). Countering the notion that female and male speakers speak quite different "genderlects," however, is research that has tended to suggest that differences are small in the context of variation between individual speakers more generally (Cameron, 2007:41–44; Canary & Hause, 1993:131–133; Grob et al., 1997:287; Hyde, 2005:581–586; Kiełkiewicz-Janowiak, 2012:317). Nevertheless, both the nature and extent of gendered usage can inform us about gender roles and cultural constructions of gender (Baker, 2008:49; Sunderland, 2004:16–17).

It has been observed that linguistic features that are associated with gender also have some other communicative purpose or are associated with some other external factor such as power possessed by the speaker (Baker, 2008:33–36; Cameron, 2007:48–49, 125–130, 133–140; Grob et al., 1997:195), even if the social-communicative purposes of such variables are not clear from their surface forms (Cameron, 2007:46–47). These observations are suggestive of the ways in which gendered language can illuminate the society behind it.

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Two general principles have emerged from research into the role of gender in language variation and change. These were summarized with particular clarity by Labov (1990:205–206):

(I) In stable sociolinguistic stratification, men use a higher frequency of nonstandard forms than women.
(II) In the majority of linguistic changes, women use a higher frequency of the incoming forms than men.

This paper will present an investigation into the role of gender in variation and change in Old Norse with particular reference to the second of these principles. The Theoretical Background section will summarize earlier sociolinguistic research into gender on the basis of historical data and data from fiction. The Language-specific Background section will discuss language- and corpus-specific background. The Variables Investigated and Negation in West Nordic sections will present the variables under consideration, and the Evaluation section will present a detailed analysis of one variable. The discussion will deal with the wider context of the work. All raw data is given in the appendices.

THEORETICAL BACKGROUND

Gendered language in historical varieties

In principle, it should be possible to use the same methodology to examine the effect of gender in conditioning variation in historical varieties as that used with modern languages. Some research into the earliest audio recordings has demonstrated this: for example, research into the first recordings of New Zealand English has shown female speakers born as early as the 1860s leading language change (Maclagan, 2000). However, in practice, most data from historical varieties present many particular challenges.

Historical datasets are typically closed. Even where additional historical texts exist awaiting preparation for use or where new discoveries occur, it is rarely possible to gather more data from a specific target register or variety of interest or to elicit more data from a specific group of speakers. Thus, creating balanced, focused samples or corpora is problematic. Additionally, metatextual information concerning historical texts is often obscure. Signatures or other intratextual features by which authors and scribes can be identified are rare in ancient and medieval manuscripts and, without such access to extralinguistic data, hypotheses about social distribution cannot be tested (Winter, 1999:75–79). Worse still, on the basis of the distribution of literacy in many ancient and medieval societies, we can reasonably assume that in most cases the available sample is hugely biased toward certain social groups: in short, wealthy, powerful men (Winter, 1999:76).

Historical data are further complicated by admixture between varieties. Mørck (1999:270), writing about the Norwegian Medieval Charters, notes that "many

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of the extant medieval texts are transcripts [of earlier written texts], and to a great extent the language of such a text is obviously dependent on the original. . . . Yet the scribes did not always painstakingly copy the original in ever fine detail—in fact it seems they felt quite at liberty to deviate from it." These comments are widely applicable to medieval texts of various genres and in various languages. Additionally, texts may contain formulaic phraseology that relate them to others (Mørck, 1999:270–271). The best that can be said in limiting the possible effects of these interactions is that "it is usually assumed that scribes more or less retained the word order and other syntactic features of the manuscript they were copying" (Rögnvaldsson, Ingason, Sigurðsson, & Wallenberg, 2012:1979).

Despite these problems, significant success has been achieved in identifying the role of gender in the history of English, for which corpus resources are particularly well-developed. Studies have shown female writers leading change in morphological variables such as the change of present third-person singular *-eth* to *-es* in lexical verbs (Kytö, 1993:128–129; Nevalainen & Raumolin-Brunberg, 2003:122–124, 195) and in the auxiliaries *have* and *do* (Nevalainen, 1996:83–84), the change from subject *ye* to *you* (Nevalainen, 1996:81–82; Nevalainen & Raumolin-Brunberg, 2003:118–119, 194–195), the change from prevocalic *mine* and *thine* to *my* and *thy* (Nevalainen & Raumolin-Brunberg, 2003:119–120, 195–196), the introduction of genitive *its* (Nevalainen & Raumolin-Brunberg, 2003:120), the replacement of indefinite pronouns in *-man* with forms in *-body* and *-one* (Nevalainen & Raumolin-Brunberg, 2003:124–125), and the change from univerbated *methinks* to analytic *I think* (Palander-Collin, 1999:245–246). Similarly, female writers have been shown to have led syntactic changes including the loss of subject-verb inversion after sentence-initial adverbs (Nevalainen, 1996:85–88), the expansion of the present progressive at the expense of the simple present (Arnaud, 1998:130, 139–140), the introduction of prop-word *one* (Nevalainen & Raumolin-Brunberg, 2003:120–121), a temporary expansion of unemphatic affirmative *do* in the mid-17th century (Nevalainen & Raumolin-Brunberg, 2003:125–126), the introduction of unemphatic negative *do* (Nevalainen & Raumolin-Brunberg, 2003:126–127, citing Nurmi, 1999:157), and the expansion of zero relatives (Huber, 2012). Several of these studies, in particular those of Nevalainen and Raumolin-Brunberg (2003), were able to show a statistically significant effect of gender consistently across multiple stages of a change. In most of these cases, the pattern is most clearly visible (and often only visible) once the incoming variant has reached a threshold of 20 to 30 percent and the change is in its fastest, most vigorous stage (Nevalainen & Raumolin-Brunberg, 2003:130).

Male writers have been identified leading in a much smaller number of changes, including the increase of the auxiliary *have* in the perfects of intransitive verbs from the 18th century (Kytö, 1997:69–70; Rydén & Brorström, 1987:200–207), the replacement of relative *the which* with *which* (Nevalainen, 1996:80–82; Nevalainen & Raumolin-Brunberg, 2003:129–130, 197–198), the loss of multiple negation (Nevalainen & Raumolin-Brunberg, 2003:128–129), the introduction of verb-subject inversion following negative conjunctions (Nevalainen &

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Raumolin-Brunberg, 2003:129), and the early stages of the change from focusing adverbial *but* to *only* (Nevalainen, 1991:178–181). The generalization across these studies is that male writers lead changes that began in educated or professional speech, domains to which women presumably had little access (Nevalainen, Raumolin-Brunberg & Mannila, 2011:13); the unusual status of these changes is confirmed by the finding of Nevalainen and Raumolin-Brunberg (2003:130–131) that the gender "affiliation" of these changes, unlike those led by female speakers, is typically visible from the very earliest stages of the change. Thus the principle that female speakers tend to lead in ongoing changes appears to hold for historical stages of English (Nevalainen et al., 2011:13), at least as regards changes from below. However, no such detailed, quantitative work has been carried out on other historical varieties.

Gendered language in fiction

One solution to some of the challenges of historical sociolinguistics is to examine texts that project their own social contexts and present a variety of different voices: works of fiction (Culpeper, 2009:186). By examining differences in the represented speech of groups of fictional characters instead of differences between the writings of different authors, the problems of sparse metatextual information and a skewed dataset can be addressed. Using data from fiction texts obviously entails its own particular problems. There is still likely to be interaction among the varieties used by the character, the author, and the scribe(s), in part as a result of intentional artistic expression (Kiełkiewicz-Janowiak, 1999:58); more fundamentally, the language examined is not actually that of the characters in question but a fictional representation of it created by the author. Nevertheless, such data may also have some advantages. Direct speech in fiction is often designed to highlight the very expressions of social categories in which we are interested and such expressions may represent an important literary tool to give a narrative a sense of reality and immediacy. We can be thus confident that there is likely to be variation to be found (Culpeper & Kytö, 2010:81, 307; Kiełkiewicz-Janowiak, 1999:59). Furthermore, as direct speech in fiction purports to be an attempt to represent spoken language, it is likely to represent a register closer to that of spoken language than that found in prototypically written genres, such as religious prose or legal texts. Work by Poplack and Malvar (2007:155–156) on the expression of futurity in Brazilian Portuguese provides an encouraging confirmation of this; their study demonstrates not only that variation in represented speech in fiction is conditioned by the same range of language-internal factors as in real speech, but that the coefficients of those factors match remarkably closely.

Work on Japanese sitcoms and novels has shown that many of the same features that are gendered in real speech are gendered in the represented speech of fictional characters, although stereotyping may play a role in this (Occhi, SturtzSreetharan, & Shibamoto Smith, 2010; Shibamoto, 1987; Shibamoto Smith, 2004). However, this work also highlights the complex range of factors that may be at work in conditioning variation in fiction. Interactions are found between features of the

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narratives and of the characters; for example, some fiction distinguishes the speech of the heroine from that of other female characters by more markedly gendered features (Shibamoto Smith, 2004; Shibamoto Smith & Occhi, 2009:524). Another complication is introduced in modern language varieties by the fact that, in a media-saturated life, real language, fictional language, and language ideology all mutually shape and inform one another (Shibamoto Smith, 2004:127–128; Shibamoto Smith & Occhi, 2009:525–528). In contrast, in a medieval society, the influence of fictional representations of language on real language ideologies and use was probably minimal.

Research into gendered language in fiction in historical varieties has examined languages other than English, but with far less success than the previously discussed work on nonfiction texts in English in obtaining large samples, demonstrating statistical significance, or examining variables undergoing change. Research on Latin texts seems to show gendered tendencies of lexical choice in the speech of male and female characters (Adams, 1984) and perhaps when dealing with stereotypically gendered topics (Adams, 2005). Work on Classical Greek drama has shown linguistic differences between male and female characters in the areas of lexical choice (Bain, 1984; Sommerstein, 1995), choice of topics, the rhetorical structures of utterances (Mossman, 2001), and frequencies of pronoun usage (Meluzzi, 2010). Willi's work on syntactic and lexical differences between male and female speech in Classical Greek comedy has furthered this research by demonstrating that those differences that do occur are closely in line with our expectations for gendered differences in modern languages: in addition to a greater frequency of politeness strategies, female characters used higher rates of innovative features which would later become general (Willi, 2003:176–195), and gendered features of speech were more pronounced in single-gender than in mixed groups (Meluzzi, 2010:96–98; Willi, 2003:196). Other features, such as the greater use by female characters of colloquial and affective language, instead seemed to point toward the stereotypes held by male authors (Willi, 2003:195); research into the language of Early Modern English drama presented similar findings (Nevalainen, 2005:139–141). In the Classical Greek data, as in the case of Modern Japanese, there appeared to be interaction between features of gendered speech and the literary demands of the narrative (Willi, 2003:196). However, the work by Willi on Classical Greek provides only a snapshot of a relatively small corpus in a single time period, and the variables were not additionally indexed against real or apparent time within the corpus to confirm that the change was ongoing. The nature of the historical data means that we can never be entirely sure that the changes in question were really taking place in the specific speech community and time period of interest unless they can be shown in the dataset itself.

In summary, while the historical sociolinguistic research that we have discussed has dealt with the effect of gender in language change, it has all focused overwhelmingly on the history of English. Work by Willi on Classical Greek data has demonstrated female characters selecting what is thought to be an innovative variant more frequently than male characters do; however, this is only

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a snapshot of a relatively small corpus in a single time period and the variables were not additionally indexed against real or apparent time within the corpus to confirm that the change was ongoing. The nature of the historical data mean that we can never be entirely sure that the changes in question were really taking place in the specific speech community and time period of interest unless they can be shown in the dataset itself.

LANGUAGE-SPECIFIC BACKGROUND

Medieval Iceland, Old Norse, and the Íslendingasögur

The work discussed here was carried out on Old Norse fiction, primarily the *Íslendingasögur* or 'Family Sagas'. These are narrative prose texts ranging from 10,000 to 100,000 words in length that functioned as genealogical and historical records for their composers as well as a source of entertainment. They concern the first few centuries after the settlement of Iceland in the late ninth century, but they were written primarily in the thirteenth and fourteenth centuries; their language can be considered representative of this later period. They depict a wide variety of characters, both male and female, of varying social ranks, although the main characters tend to be relatively wealthy, high-born Icelanders.

Icelandic society in this period was profoundly patriarchal, but in a way structurally dissimilar to modern Western cultures. Historian Jenny Jochens (1995:162–163) described a conception of society as comprising two types of individuals: the admired (strong, powerful, and wealthy men and the very wealthiest and most powerful women) and the rest (children, most women, and the weak and disabled). Old Icelandic gender roles should be seen in light of this conception. Women had certain material rights, including the right to inherit property, and so could occasionally occupy positions of influence; however, they had to rely on their male relatives for land administration, were limited in the rate at which they could acquire further property, and had no rights to participate in political or juridical processes (Jochens, 1995:162–163). Through the influence of Christianity, women were also increasingly excluded from religious roles (Jochens, 1995:163–164). Unlike in many other medieval European cultures, divorce was relatively common and women could initiate divorce proceedings. However, they had relatively few other sexual rights, and the bride's consent was not required for marriage until late in the 13th century (Jochens, 1995:162, 166–168). Medieval Iceland thus presents a quite different situation as regards gender roles from that found in modern Western societies as well as some differences from those gender roles found in other societies that have been subject to historical sociolinguistic research.

It has been argued that the genre most suitable for undertaking sociolinguistic analysis of written texts is drama (Biber & Finegan, 1997:260), as drama texts comprise "interactive, face-to-face, speech-related data, which has only a minimum of narratorial intervention" (Archer & Culpeper, 2003:43) and because the language of drama has been demonstrated in various languages to contain

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features characteristic of speech (Lutzky, 2012:178). Culpepr and Kytö (2010:401) demonstrated that drama texts are the most "speech-like" of several examined Early Modern English genres along several axes; however, they also show that "no speech-related text-type is speech-like on every count," and speech in prose fiction also exhibits speech-like properties. In the particular case of Old Norse, no drama texts exist. However, the *Íslendingasögur* are highly suitable for sociolinguistic analysis due to their extensive use of direct speech, their wide variety of characters, and the very large total dataset which they represent.

Several dialects of Old Norse existed in a continuum stretching across mainland Scandinavia, the Faroe Isles, the British Isles, and Iceland (Sandøy, 2005:1856; Schulte, 2005:873), although, as "Icelanders took the lead in the new literary culture of medieval Scandinavia" (Schulte, 2005:873), a disproportionate number of extant texts represent the speech of Iceland. Variation identified in Old Norse has traditionally been put down to these dialect distinctions without attention to explanations on the basis of other social factors (Thelander, 2005:1897), thus this research begins to address a gap in existing work on the language.

The corpus

The corpus used for this research was the *Fornrit* subcorpus of the *Mörkuð íslensk málheild* (Tagged Icelandic Corpus) (Helgadóttir, Valsdóttir, Rögnvaldsdóttir, & Stefánsdóttir, 2007–present). *Fornrit* contains all of the *Íslendingasögur*, as well as some texts of related genres (the Old Icelandic *þættir, Landnámabók*, the *Sturlungasaga,* and *Heimskringla*); these are in Modern Icelandic orthography (Rögnvaldsson & Helgadóttir, 2011:65) in order to facilitate comparison with Modern Icelandic. This orthography little resembles the manuscript orthographies of the time and so precludes undertaking any investigation of orthographic, phonological, or morphological variables. The corpus editions are based on the modernized Svart á Hvítu editions, themselves based on the normalized (but not modernized) Íslenzk fornrit editions that were based on earlier diplomatic editions. Thus these data have undergone at least three stages of textual transmission in the modern period, each introducing new opportunities for transmission errors. These caveats must be remembered when investigating this dataset.

Due to errors discovered in the corpus while tagging stretches of speech, *Heimskringla* and the *Sturlungasaga* were omitted. With these two texts omitted, the remaining corpus is made up solely of the *Íslendingasögur* and closely related Icelandic *þættir* and *Landnámabók*. It constitutes 1,140,925 tokens (words) of text. For this research the corpus was reencoded into the TEI XML encoding (TEI Consortium, 2007). All speech was tagged for the gender of the speaker. Plural speakers were tagged separately, as were occasional instances of supernatural beings; this speech associated with plural, indeterminate, and nonhuman characters represented too small a sample for investigation and was thus excluded. There were 13,561 utterances (comprising 281,229 tokens) tagged as male, 1596

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(comprising 34,932 tokens) as female, and 259 as plural; the remaining 60 were tagged either as indeterminate or as nonhuman.

VARIABLES INVESTIGATED

Three variables likely to have been undergoing change in the period in question were identified: subject-like argument of impersonal verbs, the forms of complex prepositions, and the expression of sentential negation.

First, Old Norse is known to have a series of verbs that, under some analyses, have non-nominative subjects. In Modern Icelandic these remain but are subject to variation and appear to be undergoing diachronic change: accusative and genitive subjects tend to shift to become dative ('þágufallssýki') and all nonnominative subjects tend to shift to become nominative (see Eythórsson, 2000, 2002a; Smith, 1994). In the continental Scandinavian languages, these verbs shifted to take nominative subjects. Accordingly, it seemed likely that they might show signs of this variation already in Old Norse. However, very little case variation was identified in instances in represented speech, and what variation occurred was not significantly associated with gender.

Second, a grammaticalization cline can be seen in Old Norse prepositions. Its stages of development are as follow: preposition + noun > preposition + noun with conventionalized meaning > complex preposition > simple preposition (only the original noun remains but functions as a preposition). Five such prepositions were identified that exhibited variation between complex and simple forms in the corpus. One example of these is *á/í/Ø milli* 'between'. It was found that female characters used the simple forms more frequently than male characters did.[1] However, this distribution was the result of different relative frequencies of the different lexical items investigated in male and female speech, and there were no significant differences in rates of simple and complex forms between female and male speech for any single lexical item. The third variable turned out to be promising. A series of changes are known to have taken place in the expression of sentential negation in Old Norse; these are discussed in Eythórsson (2002b) and in Willis, Breitbarth, and Lucas (2013:10–11), and are summarized herein. It was noted that a highly frequent negative adverb, *ekki*, occurred proportionately more frequently in female than in male speech in the corpus: of 1840 instances of *ekki,* 255, or 13.9%, occurred in female speech, whereas of 319,161 tokens of speech, 34,932, or 10.9%, are female speech ($p = .0000$). The remainder of this paper focuses on the distribution of negative adverbs over time in male and female speech.

NEGATION IN WEST NORDIC

Several negative verb phrase adverbs occurred in Old Norse: *eigi, ekki*, the vanishingly rare *þeygi* and the more emphatic *aldrei* 'never'. *Ei*, a contracted form of *eigi*, also occurred. A further negative adverb (or possibly prefix), *ne*,

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occurred in earlier Old Norse, but by the period of interest it had become archaic and occurred only in poetry. Two archaic suffixed negatives occurred, *-a* and *-at*, but were rare in prose (Eythórsson, 2002b:193–198). *Ekki* was also the neuter nomimative/accusative singular form of the negative pronoun/adjective *engi(nn)* 'nothing'; thus, unlike the other negatives mentioned, *ekki* was a nominal as well as verbal negator. Of these two uses of *ekki*, the nominal use was historically primary and the use as an adverb was innovative (Cleasby, Vigfússon & Dasent, 1894:120–121; Magnússon, 1989:149). The frequencies of occurrence of all of these negatives in each text in the corpus were calculated; these data are found in the appendix. Examples from the corpus demonstrating the use of the main two negative adverbs *ekki* and *eigi* are given in (1) and (2).

(1) Ekki dyl-st eg við skuldleik-a okkr-a.
NEG hide.PRS-REFL.1SG 1SG.NOM regarding relationship-M.ACC.PL our.DU-M.ACC.PL
'I don't deny our relationship.' (Laxdæla saga, chapter 14)

(2) Eigi þyk-ir mér þetta of miki-ð.
NEG seem.PRS-3SG 1SG.DAT this.N.NOM.SG too much-N.NOM.SG
'This doesn't seem too much to me.' (Brennu-Njáls saga, chapter 43)

In Modern Icelandic, *ekki* functions only as a negative adverb, no longer appearing as a nominal negator; *eigi, ei,* and *aldrei* also still occur (Magnússon, 1989:10, 146, 149). However, querying the *Morgunblaðið* newspaper subcorpus of the *Mörkuð íslensk málheild*, a corpus of 5,840,345 tokens of text from issues of *Morgunblaðið* published between 2002 and 2008 (Helgadóttir et al., 2007–present), demonstrated that these lexical items have a very different distribution in Modern Icelandic than in Old Norse. This is shown in Table 1. While the rate of *aldrei* has stayed relatively stable, the use of *ekki* has expanded, apparently at the expense of functionally equivalent *eigi* and *ei* almost to the point of replacing these adverbs altogether.

In Modern Norwegian, the reflex of *ekki, ikke* (Bokmål) or *ikkje* (Nynorsk), occurs only as an adverb. The reflex of *aldrei, aldri*, does occur, as does the reflex of syncoped *ei*, but no reflex of unsyncoped *eigi* is found (Torp, 1919:84, 241); *ei* is restricted to poetic use and fixed expressions (Hellevik, 1966:447). An examination of frequencies of these adverbs in corpora of Bokmål and Nynorsk newspapers and magazines[2] confirms that the reflexes of *ekki* have expanded still further relative to the other negatives; these frequencies are given in Table 2. Even when it is normalized, frequency over a stretch of text is a relatively poor measure as it is sensitive to distortion by effects of topic, genre, and other factors. However, if instead the proportion of negative adverbs represented by *ekki* is calculated, we find confirmation of the impressions given by the raw frequencies.

Modern Faroese also continues a reflex of *ekki, ikki*, as its main sentential negative (Eythórsson, 2002b:196–197) and retains a reflex of *ei* but not *eigi* (Magnússon, 1989:146). Thus it appears that in the West Nordic languages there

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TABLE 1. *Frequencies of sentential negatives in the Fornrit and Morgunblaðið corpora*

	Fornrit (1200–1510)			Morgunblaðið (2002–2008)		
	Actual Frequency	Frequency per Thousand Tokens[a]	% of Negatives	Actual Frequency	Frequency per Thousand Tokens	% of Negatives
ekki	3687	3.23	29.6	37,311	6.39	91.9
eigi	7749	6.79	62.2	102	.02	.3
ei	438	.38	3.5	128	.02	.3
aldrei	580	.51	4.7	3049	.52	7.5

[a]Throughout, frequencies of lexical items over stretches of text are given in instances per thousand tokens.

TABLE 2. *Frequencies of sentential negatives in the Oslo Corpus of Tagged Norwegian Texts*

	Bokmål				Nynorsk		
	Actual Frequency	Frequency per Thousand Tokens	% of Negatives		Actual Frequency	Frequency per Thousand Tokens	% of Negatives
ikke	76,986	8.00	94.4	*ikkje*	10,203	10.3	95.1
ei	58	.01	0.1	*ei*	0	.00	.0
aldri	4515	.47	5.5	*aldri*	527	.53	4.9

is a consistent trend in which *ekki* expands at the expense of the other sentential negatives *eigi* and *ei* and eventually replaces them. In this scenario, Old Norse represents the most conservative position, Modern Icelandic an intermediate position and Modern Norwegian the most innovative position.

EVALUATION

Assessing the effect of orthography

The orthography of the corpus has undergone multiple stages of normalization. Once the variable of interest had been identified, a check was undertaken to determine to what extent this interfered with the data. All instances of *ekki, eigi, ei,* and forms of *aldrei* in *Droplaugarsonar* and *Kormáks sögur* were checked against a diplomatic edition of their main manuscript, *Möðruvallabók* (Leeuw van Weenen, 1987) to identify the range of manuscript orthographies represented by each. The results are shown in Table 3. These data demonstrate that the distinction between *ei(gi)* and *ekki* is preserved consistently in the normalized editions: all instances of <ecki> and <ekki> in the manuscript are represented by *ekki* in the normalized editions and all instances of *ekki* in the

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TABLE 3. *Manuscript orthographies of negative adverbs*

Normalized Form				Normalized Form		
Manuscript Form	*eigi*	*ei*	*ekki*	Manuscript Form	*aldrei*	*aldri*
<ẽ>	136	0	0	<alldri>	4	1
<ecki>	0	0	53	<alld̃>	4	1
<ei>	0	1	0			
<eig̃>	2	0	0			
<ekki>	0	0	1			
Ø	2	0	0			

normalized editions reflect <ecki> or <ekki> in the manuscript. However, the distinction between *eigi* and *ei* is not straightforwardly maintained. The normalized editions show *ei* only when the manuscript shows <ei>; <eig̃>, and <ẽ> are always expanded as *eigi*, in the latter case relying on the assumption that the superscript <ⁱ> would not be used in place of normal <i> except to indicate that the word was also otherwise truncated. This assumption does not seem entirely unquestionable, and without it, the relative frequencies of *ei* and *eigi* in the normalized texts would be reversed. Accordingly, it is not possible to treat the distinction between *ei* and *eigi* as meaningful in the normalized texts. Similarly, no distinction between manuscript forms of *aldrei* is maintained in the normalized edition, and thus these distinctions must be ignored.

Excluding alternative scenarios

The finding that female characters in the corpus used *ekki* slightly more frequently than male characters did seems to suggest an effect of gender in language change. However, before this conclusion can be accepted, the reality of the change in the period of interest must be demonstrated and several other scenarios must be excluded:

1. that female characters produced more negative clauses than male characters;
2. that female characters produced negated noun phrases more frequently than male characters did; and
3. that the use of *ekki* was correlated with another grammatical feature associated with the speech of female characters.

To investigate the possibility that female characters produced negative clauses more frequently than male characters did, the distributions of the other common negative adverbs, *ei(gi)* and *aldrei*, were considered. It was found that neither of these nor any grouping of them occurred disproportionately frequently in female or male speech: of 4491 instances of *ei(gi)*, 478 (10.6%) are in female speech (whereas of 319,161 tokens of speech, 4491 [10.9%] are female speech [$p = .5205$]); of 252 instances of *aldrei*, 31 (12.3%) are in female speech ($p = .49$). Accordingly, this explanation could be excluded. To investigate the

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TABLE 4. *Correlation coefficients between frequencies of negatives and textual dates*

Frequency of	*n*	Pearson's ρ	*p*	Spearman's ρ	*p*
ei(gi) and date of composition	38	−.39	.02	−.39	.02
ei(gi) and manuscript date	37	−.09	.61	−.18	.29
ekki and date of composition	38	.39	.02	.40	.01
ekki and manuscript date	37	.17	.33	.23	.17
aldrei and date of composition	38	.47	.003	.58	.0001
aldrei and manuscript date	37	.29	.09	.44	.007

possibility that female characters produced more negated noun phrases[3] than male characters did, frequencies of the other forms of the negative adjective were examined. These also were found not to be used significantly more frequently by female or male characters. Of 741 instances of *engi(nn)* (excluding *ekki*), 82 (11.1%) are in female speech ($p = .92$). The collocates of *ekki* and *eigi* (the other negative adverb of comparable frequency) were considered in order to identify any grammatical or lexical features that might correlate with adverb choice. This analysis was undertaken using the AntConc concordance analysis software (Anthony, 2012). Personal pronoun collocates for male and female characters suggested no difference in rate of occurrence with a particular subject person. A copy of the corpus was created in which verbs were reduced to tense-aspect-mood annotation only and the collocates of these were examined. Neither did this show an association between any verbal feature and either *ekki* or *eigi*.

The language change account

The hypothesis that *ekki* was expanding at the expense of other negators over the period covered by the corpus entails two predictions. First, there should be a positive correlation between the frequency of *ekki* and either dates of composition or of manuscript production. Second, there should be a negative correlation between the frequencies of *ekki* and the strategies of negation it was replacing.[4]

Dates of composition and manuscript production for each text were taken from the literature; these are given in the appendix. The Spearman and Pearson correlation coefficients were calculated between the normalized rates of *ekki* and of *ei(gi)* per thousand tokens and the estimated dates of textual composition and manuscript production of each text; pairwise deletion was used. The results are shown in Table 4. Table 4's figures show that frequency of *ei(gi)* is negatively correlated with textual dates and frequency of *ekki* positively correlated with textual dates; in both cases, the correlation is significant only with dates of composition, not dates of manuscript production. Rates of correlation were calculated between each of the different negatives. The results are shown in Table 5. Table 5's figures indicate, as predicted, that *ekki* is significantly negatively correlated with *eigi*. In combination with the correlations between the

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TABLE 5. *Correlation coefficients between frequencies of negatives*

Frequencies of	*n*	Pearson's ρ	*p*	Spearman's ρ	*p*
ei(gi) and *ekki*	42	−.34	.03	−.31	.04
ei(gi) and *aldrei*	42	−.45	.003	−.49	.001
ekki and *aldrei*	42	−.07	.64	.30	.06

frequencies of negatives and dates of textual composition, this suggests that the use of *ekki* as a sentential negative was increasing at the expense of *ei(gi)* over the period represented by these texts. This is unsurprising, as *ei(gi)* is the most frequent negative overall and the only negative adverb that occurs with a frequency comparable to *ekki* in the corpus. The figures also show that *aldrei* was increasing in frequency over the period covered by the corpus. As *aldrei* cannot be treated as a strictly comparable variant of the sentential negation variable (as it means 'never' as opposed to simply 'not') and as its frequencies are too low to show significant association with male or female speech, it will not be dealt with further here. Binomial regression where the dependent variable is the occurrence of *ekki* versus *ei(gi)* confirms that later date of composition favors *ekki* over *ei(gi)* as does represented female speech compared with male speech (see the appendix).

Visual representation of data

To investigate whether the relationship between the choice of negative adverb and character gender remained constant throughout the time period covered by the corpus, scaled frequencies of *ekki* and *ei(gi)* in female and male speech and in the framing narration (that is, the text outside represented speech) were charted against date of composition, grouped into 20-year periods as shown in Figure 1. These visualizations relatively clearly confirm the hypothesis that frequency of *ekki* is increasing overall; it appears, however, that this change does not begin until the period 1280–1299 or perhaps 1260–1279. There is also evidence to support the hypothesis that female characters are represented leading this change once the change has begun. Note that the two periods that show results outside these overall patterns (1340–1359 and 1500–1519) each represent relatively little data: two texts with only seven negative adverbs in female speech in 1340–1359, and only a single text in 1500–1519.

Throughout all periods, frequency of *ekki* in narration is lower than in represented speech. Examination of the frequency of *ei(gi)* in narration and speech suggests that this does not reflect narration lagging in the change from *ei(gi)* to *ekki* but instead is an artifact of the fact that frequencies of all negative adverbs are lower in narration than speech; these frequencies are shown in Figure 2.

Examination of the proportion of negative adverbs represented by *ekki* removes the large difference between narration and speech; this can be seen in Figure 3, which shows the frequency of *ekki* as a proportion of *ekki* and *ei(gi)* in moving

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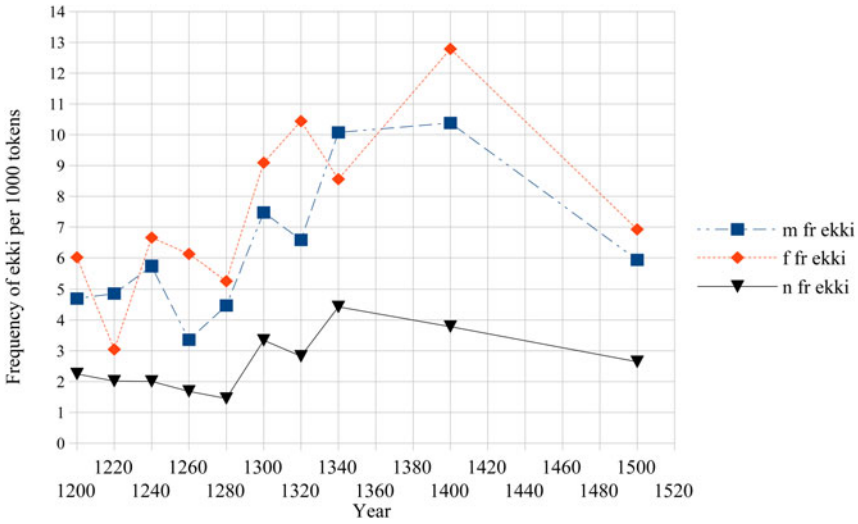


FIGURE 1. Normalized frequency of *ekki* per 1000 tokens in 20-year periods by year of composition and character gender.

60-year windows to effect greater smoothing than that of 20-year-period groupings. This figure again relatively clearly confirms the two main hypotheses. Generally there is not sufficient data from each individual period to achieve statistical significance, but it is worth noting that the difference in *ekki:ei(gi)* ratio between male and female speech is significant in the periods 1260–1319, 1280–1339, and 1300–1359.[5i] As this is exactly the period in which the change appears to have been progressing most quickly, this is in line with the findings of Nevalainen and Raumolin-Brunberg (2003) for changes in the history of English that gendered differences tend to emerge in the most vigorous stage of an ongoing change.[6]

DISCUSSION

Language and gender and the second principle

Numerous studies of language variation have shown two relatively consistent principles regarding the effect of gender. First, in stable variation, male speakers are found to use fewer standard, prestige forms than female speakers do. Two famous examples are found in variation in the progressive suffix between nonstandard /ɪn/ and standard /ɪŋ/ in studies of New York City English (Labov, 1966) and Norwich English (Trudgill, 1974). Second, in ongoing change, the incoming variant tends to occur more often in female than in male speech; that is to say, female speakers usually lead language change. Examples can be found in changes from above, such as in the introduction of rhoticity to New York City English (Labov, 1966). In such cases, this effect of gender might be explained

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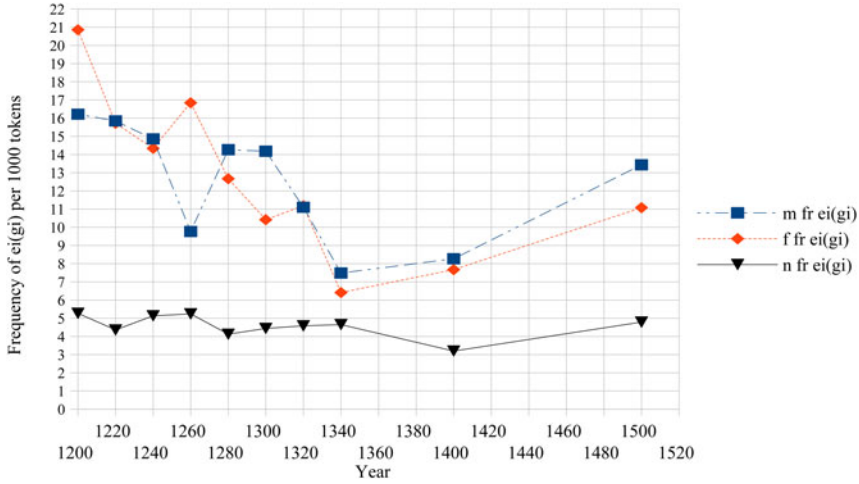


FIGURE 2. Normalized frequency of *eigi* per 1000 tokens in 20-year periods by year of composition and character gender.

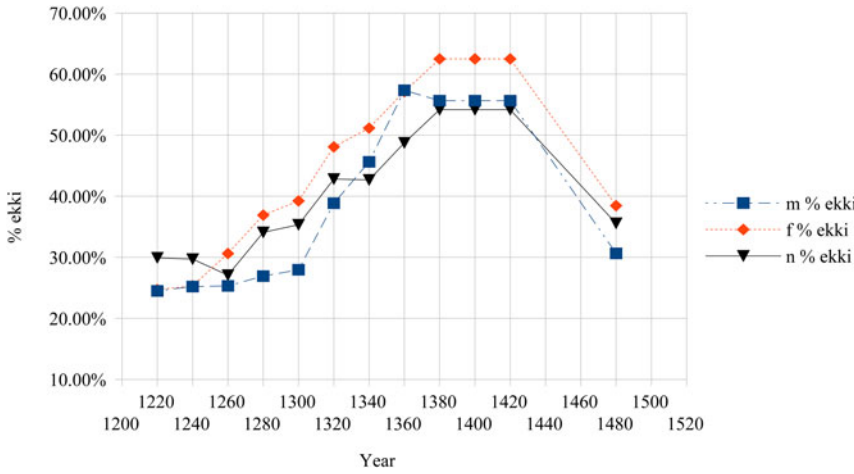


FIGURE 3. Frequency of *ekki* as a proportion of *ei(gi)* and *ekki* in moving 60-year windows by year of composition and character gender.

as an instance of the first principle, in which female speakers tend to use a variety closer to the prestigious standard. However, many other cases are found of female speakers leading in change from below. Examples include the monophthongization of /aw/ in one of the earliest investigations into linguistic change in progress, Gauchat's study of Charmey French (Gauchat, 1905); (ae)-tensing in New York City English (Labov, 1966); the change of /m̩/ to /ŋ/ in Hong Kong Cantonese (Bauer, 1982); and glottal-stopping of /t/ in Newcastle English (Docherty & Foulkes, 1999:293–294; Milroy, Milroy, Hartley & Walshaw, 1994:340–341).

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Only a small minority of studies have identified cases of male speakers leading language change; one example is the unrounding of /ɒ/ to [ɑ] in Norwich English (Trudgill, 1974). Other examples and exceptions identified in the history of English were noted in the Gendered Language in Historical Varieties section.

Both biological and social explanations have been put forward for this second principle; the type of explanation a scholar favors may often be related to whether they subscribe to a social-constructionist view of gender (see Brickell, 2006). Chambers (1992, 2003:147–153) proposed that the pattern is associated with biological sex and results from an inherent psychological advantage of women in (socio)linguistic processing that produces greater stylistic flexibility in female speakers' speech. Other scholars have put forward social explanations, either proposing that the pattern is a direct property of gender roles or that it is an indirect effect of another such property. Labov suggested that "the mechanism of change is not linked to sex differences in any clear and simple way" (2001:284) and argued that the pattern is a result of the greater role that women play in child-rearing in many societies (1990:219–220, 2001:306–307); thus he presented the pattern of female speakers leading change as an indirect effect of a (highly consistent) feature of the female gender role. In their account of the phenomenon, Tagliamonte and Darcy (2009:63–64) suggested that once an incoming form becomes associated with women, men resist or retreat from it, although they do not explain why it would be the case that most incoming forms become associated with women. Maclagan (2000:87) argued that "part of the female gender role is . . . setting new standards for language." In contrast to Labov's account, this theory sees the phenomenon of female speakers leading change (and also that of female speakers using a greater proportion of standard forms) as a direct feature of gender roles. This can be compared to Holmes's discussion of women leading change in New Zealand English. Holmes (1997:131–132) noted that women have historically been expected to provide models for proper behavior and suggests that in Maori society, where different conceptions of the relationship among language, behavior, and gender have applied, men tend to lead in the introduction of innovative linguistic forms. However, this suggestion is not backed up by evidence. Much attention has focused on the first principle, the greater use of standard forms by female speakers. Cameron (2003:191) gave a social account that implicates the fact that women tend be positioned as social subordinates, comparatively lacking in physical capital, and thus tend to be more reliant on symbolic social capital (such as self-presentation through language-use and dress) than men are. Such accounts have a long history in the literature; scholars including Trudgill (1972:182–183), Eckert (1998:67) and Eckert and McConnel-Ginnet (1999:192–197) have discussed similar explanations. A related observation is that the modern labor market tends to place women in roles with a strong emphasis on communication skills and standard language competence (teaching, nursing, customer service, etc.), which could further embed the pattern (Cameron, 2003:191; Eckert & McConnel-Ginnet, 1999:193–195). All of these accounts can offer a partial explanation for the second principle in that they can

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explain instances of female speakers leading in changes from above. As in the case of Labov's account, they see such patterns as indirect effects of the female gender role as constructed in certain societies.

Different accounts of these principles, whether biological or social, make different predictions about their universality. A biological explanation implies a uniform effect across societies and across time. Social explanations that see these phenomena as the indirect effects of other features of gender roles must predict that they would not occur in societies in which gender roles were constructed without those features. In particular, if the second principle is seen as an indirect effect of the position of women as social subordinates, mediated via the first principle, consider historical societies in which the position of women was still further subordinated but in which men and women also had differential access to education. In such cases it would be predicted that the second principle be even stronger for most changes while not applying at all to those stemming from educated speech (cf. the findings of Nevalainen et al. [2011] and Nevalainen and Raumolin-Brunberg [2003], as well as those in the Gendered Language in Historical Varieties section).

By contrast, if these patterns are a direct feature of gender roles as constructed in particular societies, we might expect them to vary significantly from society to society independently of other social factors, as other elements of constructions of gender vary. In particular, under such social explanations, it must remain a possibility that these patterns are particular features of modern (perhaps Western) gender roles. As modern sociolinguistic research in this area has focused somewhat disproportionately on English and other Indo-European languages, and historical sociolinguistic research highly disproportionately on English (as discussed), it is clear that searching for these patterns in additional languages of societies both historical and modern can provide further evidence to distinguish between different potential explanations.

CONCLUSIONS

This research has clearly demonstrated a gendered pattern in which an incoming variant occurs more frequently in female than in male represented speech in Old Norse fiction. Female characters could be seen leading the increase in frequency of the negative adverb *ekki*; other negative adverbs, most particularly *ei(gi)*, were also involved in this change, but did not clearly exhibit gendered patterns.

As the data used were taken from fiction texts, this result relies on the assumption that authors were able to represent changing patterns of male and female speech with considerable accuracy. However, there is good reason to believe this. Consistent differences in the frequencies of the negative adverbs examined were found between represented speech and narration; this points to a register difference between speech and narration. Furthermore, the very fact that a gendered pattern emerged from the data provides evidence that authors made an effort to characterize male and female speech. This fits the picture from

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earlier literature that suggests that such linguistic characterization is an important literary tool to render dialogue believable and can be expected in works of prose fiction. Finally, studies of speech in modern fiction have demonstrated patterns of gendered language reflecting those of spontaneous speech. Such evidence from modern varieties encourages us to take these findings for a historical variety seriously. Thus, this research has shown the effectiveness of examining represented speech in fiction where the extant data for a historical variety does not allow more direct consideration of external factors in language change and in doing so has expanded the range of historical varieties in which the effect of gender can be examined.

In demonstrating a pattern in which female characters lead language change in fiction in a historical variety, this study has made two advances over previous, similar studies (e.g., Willi, 2003). First, the dataset contains enough data spread over a sufficient time period that it has been possible to show ongoing change within it, rather than identifying variables undergoing change on the basis of other datasets. This is important to exclude the possibility of short-term shifts in direction of change that would introduce doubt as to whether a change was necessarily taking place in the particular speech community and period of interest. Second, the dataset is of a sufficient size to have allowed the use of statistical tests of significance, and both the ongoing change and the association with gender have been shown to be significant.

As the finding concerned only a single variable it cannot be considered conclusive evidence that Labov's second principle applied more generally in Old Norse. However, it represents a valuable first indication on this point. Finding that this principle applied in societies quite distant from the modern Western societies in which it was first identified and has been most thoroughly investigated may be seen as evidence against the view that it is a direct feature of socially constructed gender roles, which might be expected to vary freely. It leaves open the possibility that it is the indirect effect of another property of gender roles common to all the societies studied, such as the greater role played by women in child-rearing or gendered differential access to physical capital.

NOTES

1. Simple forms in female speech 31 of 33 = 93.9%; simple forms in male speech 163 of 237 = 68.8%; $p = .003$.

2. The frequencies were taken from *Frekvensordlister for norsk talespråk og skriftspråk* (*Tekstlaboratoriet*, 2001), based on the Oslo Corpus of Tagged Norwegian Texts. The Bokmål avis/ukeblade section of this corpus contains 9,626,760 tokens of text; the Nynorsk avis/ukeblade section contains 991,449 tokens of text. Newspaper corpora were selected rather than fiction because frequency lists were available for newspaper corpora for all three standard languages.

3. Of the type *ekki vopn* 'no weapon' in *þú hefir ekki vopn það er neytt sé* 'you have no weapon that is fit for use' (Grettis saga, chapter 17), where *ekki* can be parsed as the neuter accusative singular of the negative adjective agreeing with *vopn*.

4. In fact, this prediction is not specific to the hypothesis that *ekki* was expanding at the expense of other negatives. Instead, it tests the assumption that *ekki* was one of a series of functionally equivalent negatives between which speakers chose (that is, that they can be modelled as variants of a sociolinguistic variable). Thus it would be true of a situation of stable variation as well as a situation of ongoing change.

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5. When 20-year periods are examined, the only one in which the difference in *ekki:ei(gi)* ratio between male and female speech is significant is 1300–1319.
6. It is also interesting to note that this is the period directly following the acceptance by Icelanders of the overlordship of the Norwegian crown (Glauser, 2000:204) and so might be associated with the social change ongoing in that period and chaos and violence of the civil war before it.
7. It is not appropriate to use a nonbinary linear regression model by taking the frequency of *ekki* per thousand tokens for whole texts as the dependent variable, as such models assume the possibility of negative values for the dependent variable (Gries, 2009:292).

REFERENCES

Adams, James N. (1984). Female speech in Latin comedy. *Antichthon* 18:43–77.
_____. (2005). Neglected evidence for female speech in Latin. *Classical Quarterly* 55(2):582–596.
Andersson, Theodore Murdock. (2006). *The growth of the medieval Icelandic sagas (1180–1280)*. Ithaca: Cornell University Press.
Anthony, Lawrence. (2012). *AntConc: A freeware concordance program for Windows, Mactintosh OS X, and Linux*. Available at: http://www.antlab.sci.waseda.ac.jp/software.html. Accessed November 30, 2012.
Archer, Dawn, & Culpeper, Jonathan. (2003). Sociopragmatic annotation: New directions and possibilities in historical corpus linguistics. In A. Wilson, P. Rayson, & T. McEnery (eds.), *Corpus linguistics by the Lune*. Lódź Studies in Language 8. Frankfurt: Peter Lang. 37–58.
Arnaud, René. (1998). The development of the progressive in 19th century English: A quantitative survey. *Language Variation and Change* 10(2):123–152.
Bain, David. (1984). Female speech in Menander. *Antichthon* 18:24–42.
Baker, Paul. (2008). *Sexed texts: Language, sexuality and gender*. London: Equinox Publishing Ltd.
Bauer, Robert S. (1982). Lexical diffusion in Hong Kong Cantonese: "Five" leads the way. Paper presented at the 8th Annual BLS Meeting, Berkeley.
Biber, Douglas, & Finegan, Edward. (1997). Diachronic relations among speech-based and written registers in English. In T. Nevalainen & L. Kahlas-Tarkka (eds.), *To explain the present: Studies in the changing English language in honour of Matti Rissanen*. Helsinki: Société néophilologique. 253–275.
Blaxter, Tam T. (2013). *Sociolinguistic variation in the Old Icelandic Family Sagas*. MPhil dissertation, University of Oxford.
Brickell, Chris. (2006). The sociological construction of gender and sexuality. *Sociological Review* 54(1):87–113. doi:10.1111/j.1467-954X.2006.00603.x.
Cameron, Deborah. (2003). Gender issues in language change. *Annual Review of Applied Linguistics* 23:187–201.
_____. (2007). *The myth of Mars and Venus*. Oxford: Oxford University Press.
Canary, Daniel J., & Hause, Kimberly S. (1993). Is there any reason to research sex differences in communication? *Communications Quarterly* 41(2):129–144.
Chambers, Jack K. (1992). Linguistic correlates of gender and sex. *English World-Wide* 13:173–218. doi:10.1075/eww.13.2.02cha.
_____. (2003). *Sociolinguistic theory*. 2nd ed. Oxford: Blackwell Publishers Ltd.
Cleasby, Richard, Vigfússon, Guðbrandur, & Dasent, George Webbe. (1894). *An Icelandic-English dictionary, based on the ms. collections of the late Richard Cleasby*. Oxford: Clarendon Press.
Culpeper, Jonathan. (2009). Historical sociopragmatics: An introduction. *Journal of Historical Pragmatics* 10(2):179–186.
Culpeper, Jonathan, & Kytö, Merja. (2010). *Early Modern English dialogues: Spoken interaction as writing*. Studies in English Language. Cambridge: Cambridge University Press.
Docherty, Gerard, & Foulkes, Paul. (1999). Derby and Newcastle: Instrumental phonetics and variationist studies. In G. Docherty & P. Foulkes (eds.), *Urban voices*. London: Arnold.
Eckert, Penelope. (1998). Gender and sociolinguistic variation. In J. Coates (ed.), *Language and gender: A reader*. Malden: Blackwell Publishers. 64–75.
Eckert, Penelope, & McConnel-Ginnet, Sally. (1999). New generalizations and explanations in language and gender research. *Language in Society* 28(2):185–201.
Eythórsson, Thórhallur. (2000). Dative vs. nominative: Changes in quirky subjects in Icelandic. *Leeds Working Papers in Linguistics* 8:27–44.
_____. (2002a). Changes in subject case-marking in Icelandic. In D. Lightfoot (ed.), *Syntactic effects of morphological change*. Oxford: Oxford University Press. 196–202.

https://doi.org/10.1017/S0954394515000125 Published online by Cambridge University Press

_____. (2002b). Negation in C: The syntax of negated verbs in Old Norse. *Nordic Journal of Linguistics* 25(2):190–224.
Gauchat, Louis. (1905). L'unité phonétique dans le patois d'une commune. *Aus Romanischen Sprachen und Literaturen: Festschrift Heinrich Morf zur Feier seiner fünfundzwanzigjährigen Lehrtätigkeit von zeinen Schülern dargebracht*. 175–232.
Glauser, Jürg. (2000). Sagas of the Icelanders (Íslendinga sögur) and þættir as the literary representation of a new social space. In M. Clunies Ross (ed.), *Old Icelandic Literature and Society*, trans. John Clifton-Everest. Cambridge Studies in Medieval Literature 42. Cambridge: Cambridge University Press. 203–220.
Gray, John. (1992). *Men are from Mars, women are from Venus: A practical guide for improving communication and getting what you want in your relationships*. New York: Harper Collins.
Gries, Stefan Th. (2009). *Statistics for linguistics with R: A practical introduction*. Berlin: Mouton de Gruyter.
Grob, Lindsey M., Meyers, Renee A., & Schuh, Renee. (1997). Powerful/powerless language use in group interactions: Sex differences or similarities? *Communications Quarterly* 45(3):282–303.
Helgadóttir, Sigrún, Valsdóttir, Eyrún, Rögnvaldsdóttir, Auður, & Stefánsdóttir, Hjördís. (2007–present). *Mörkuð íslensk málheild*. Reykjavík: Stofnun Árna Magnússonar í íslenskum fræðum. Available at: http://mim.hi.is/index.php. Accessed May 12, 2012.
Hellevik, Alf. (1966). *Norsk ordbok: ordbok over det norske folkemålet og det nynorske skriftmålet*. Oslo: Norske samlaget.
Holmes, Janet. (1997). Setting new standards: Sound change and gender in New Zealand. *English World-Wide* 18(1):107–142. doi:10.1075/eww.18.1.06hol.
Huber, Magnus. (2012). The Old Bailey Corpus: spoken English in the 18th and 19th centuries. Seminar paper presented at the Digital History, Institute of Historical Research, University of London. Available at: http://www.history.ac.uk/podcasts/digital-history/old-bailey-corpus-spoken-english-18th-and-19th-centuries. Accessed March 20, 2014.
Hyde, Janet Shibley. (2005). The gender similarities hypothesis. *American Psychologist* 60(6):581–592. doi:10.1037/0003-066X.60.6.581.
_____. (2006). Gender similarities still rule. *American Psychologist* 61(6):641–642. doi:10.1037/0003-066X.61.6.641b.
Jochens, Jenny. (1995). *Women in Old Norse society*. Ithaca: Cornell University Press.
Kiełkiewicz-Janowiak, Agnieszka. (1999). Child-to-parent address change in Polish. In E. H. Jahr (ed.), *Language change: Advances in historical sociolinguistics*. Berlin: Mouton de Gruyter. 45–63.
_____. (2012). Class, age and gender-based patterns. In J. M. Hernández-Campoy & J. C. Conde-Silvestre (eds.), *The handbook of historical sociolinguistics*. Chichester: Wiley-Blackwell. 307–331.
Kytö, Merja. (1993). Third-person present singular verb inflection in early British and American English. *Language Variation and Change* 5(2):113–139.
_____. (1997). Be/have + past participle: The choice of the auxiliary with intransitives from Late Middle to Modern English. In M. Rissanen, M. Kytö, & K. Heikkonen (eds.), *English in transition: Corpus-based studies in linguistic variation and genre styles*. Topics in English Linguistics 23. New York: Mouton de Gruyter. 17–85.
Labov, William. (1966). *The social stratification of English in New York City*. Washington, DC: Center for Applied Linguistics.
_____. (1990). The intersection of sex and social class in the course of linguistic change. *Language Variation and Change* 2(2):205–254.
_____. (2001). *Principles of linguistic change*. Vol. 2: *Social factors*. Oxford: Blackwell Publishers Ltd.
Leeuw van Weenen, Andrea de. (1987). *Möðruvallabók, AM 132 fol*. Vol. 2. Leiden: Brill.
Lutzky, Ursula. (2012). Why and what in Early Modern English drama. In M. Markus, Y. Iyeiri, R. Heuberger, & E. Chamson (eds.), *Middle and modern English corpus linguistics: A multi-dimensional approach*. Amsterdam: John Benjamins Publishing Company. 177–189.
Maclagan, Margaret A. (2000). How long have women been leading language change? In J. Holmes (ed.), *Gendered speech in social context: Perspectives from gown and town*. Wellington: Victoria University Press. 87–98.
Magnússon, Ásgeir Blondal. (1989). *Íslensk orðsifjabók*. Reykjavík: Orðabók Háskólans: Mál og menning.
Meluzzi, Chiara. (2010). "You" and "me" in Ancient Greek: the case of three "female" comedies. In E. Hill & S. Schumacher (eds.), *Greek and Latin from an Indo-European Perspective 3 (GLIEP 3):*

https://doi.org/10.1017/S0954394515000125 Published online by Cambridge University Press

Proceedings of the Conference held at the Comenius University Bratislava July 8th–10th 2010. Vol. 2. Wien: International Journal of Diachronic Linguistics and Linguistic Reconstruction. 81–100.
Milroy, James, Milroy, Lesley, Hartley, Sue, & Walshaw, David. (1994). Glottal stops and Tyneside glottalization: Competing patterns of variation and change in British English. *Language Variation and Change* 6:327–357. doi:10.1017/S095439450000171X.
Mørck, Endre. (1999). Sociolinguistic studies on the basis of medieval Norwegian charters. In E. H. Jahr (ed.), *Language change: Advances in historical sociolinguistics*. Berlin: Mouton de Gruyter. 263–290.
Mossman, Judith. (2001). Women's speech in Greek tragedy: The case of Electra and Clytemnestra in Euripedes' "Electra." *Classical Quarterly* 51(2):374–384. doi:10.1093/cq/51.2.374.
Nevalainen, Terttu. (1991). *But, only, just: Focusing adverbial change in Modern English 1500–1900*. Mémoires de La Société Néophilolologique de Helsinki Tome 51. Helsinki: Société néophilologique.
_____. (1996). Gender difference. In T. Nevalainen & H. Raumolin-Brunberg (eds.), *Sociolinguistics and language history: Studies based on the Corpus of Early English correspondence*. Language and Computers: Studies in Practical Linguistics 15. Amsterdam: Editions Rodopi. 77–91.
_____. (2005). Gender stereotypes in Late Modern English. In K. McCafferty, T. Bull, & K. Killie (eds.), *Contexts—historical, social, linguistic: Studies in celebration of Toril Swan*. Bern: Peter Lang. 129–144.
Nevalainen, Terttu, & Raumolin-Brunberg, Helena. (2003). *Historical sociolinguistics: Language change in Tudor and Stuart England*. Longman Linguistics Library. Harlow: Pearson Education Limited.
Nevalainen, Terttu, Raumolin-Brunberg, Helena, & Mannila, Heikki. (2011). The diffusion of language change in real time: Progressive and conservative individuals and the time depth of change. *Language Variation and Change* 23(1):1–43. doi:10.1017/S0954394510000207.
Nurmi, Arja. (1999). *A social history of periphrastic DO*. Mémoires de La Société Néophilolologique de Helsinki 56. Helsinki: Société néophilologique.
Occhi, Deborah J., SturtzSreetharan, Cindi L., & Shibamoto Smith, Janet S. (2010). Finding Mr Right: New looks at gendered modernity in Japanese televised romances. *Japanese Studies* 30(3):409–425. doi:10.1080/10371397.2010.518605.
Palander-Collin, Minna. (1999). *Grammaticalization and social embedding: I think and methinks in Middle and Early Modern English*. Mémoires de La Société Néophilolologique de Helsinki 55. Helsinki: Libella Painotalo Oy.
Poplack, Shana, & Malvar, Elisabete. (2007). Elucidating the transition period in linguistic change. *Probus* 19(1):121–169.
Pulsiano, Philip, Wolf, Kirsten., Acker, Paul, & Fry, Donald. K. (eds.). (1993). *Medieval Scandinavia: An encyclopedia*. New York: Garland Publishing.
Rögnvaldsson, Eiríkur, & Helgadóttir, Sigrún. (2011). Morphological tagging of Old Norse texts and its use in studying syntactic variation and change. In C. Sporleder, A. van den Bosch, & K. Zervanou (eds.), *Language technology for cultural heritage*. Berlin: Springer. 63–76.
Rögnvaldsson, Eiríkur, Ingason, Anton Karl, Sigurðsson, Einar Freyr, & Wallenberg, Joel. (2012). The Icelandic Parsed Historical Corpus (IcePaHC). In N. Calzolari, K. Choukri, T. Declerck, M. U. Doğan, B. Maegaard, J. Mariani, J. Odijk, & S. Piperidis (eds.), *Proceedings of the Eighth International Conference on Language Resources and Evaluation (LREC'12)*. Istanbul, Turkey: European Language Resources Association (ELRA). 1977–1984.
Rydén, Matts, & Brorström, Sverker. (1987). *The be/have variation with intransitives in English. With special reference to the Late Modern Period*. Acta Universitatis Stockholmiensis: Stockholm Studies in English 70. Stockholm: Almqvist & Wiksell International.
Sandøy, Helge. (2005). The typological development of the Nordic languages I: Phonology. In O. Bandle, E. H. Jahr, A. Karker, H.-P. Naumann, U. Teleman, & K. Braunmüller (eds.), *The Nordic languages: An international handbook of the history of the North Germanic languages*. New York: Walter de Gruyter. 1852–1871.
Schulte, Michael. (2005). Phonological developments from Old Nordic to Early Modern Nordic I: West Scandinavian. In O. Bandle, E. H. Jahr, A. Karker, H.-P. Naumann, U. Teleman, & K. Braunmüller (eds.), *The Nordic languages: An international handbook of the history of the North Germanic languages*. New York: Walter de Gruyter. 1081–1096.
Shibamoto, Janet S. (1987). The womanly woman: Manipulation of stereotypical and non-stereotypical features of Japanese female speech. In S. U. Philips, S. Steele, & C. Tanz (eds.), *Comparative perspectives on gender, sex and language*. New York: Cambridge University Press. 26–49.

https://doi.org/10.1017/S0954394515000125 Published online by Cambridge University Press

Shibamoto Smith, Janet S. (2004). Language and gender in the (hetero)romance: "Reading" the ideal hero/ine through lover's dialogue in Japanese romance fiction. In S. Okamoto & J. S. Shibamoto Smith (eds.), *Japanese language, gender, and ideology*. Oxford: Oxford University Press. 113–130.
Shibamoto Smith, Janet S., & Occhi, Deborah J. (2009). The green leaves of love: Japanese romantic heroines, authentic femininity, and dialect. *Journal of Sociolinguistics* 13(4):524–546. doi:10.1111/j.1467-9841.2009.00422.x.
Smith, Henry. (1994). "Dative sickness" in Germanic. *Natural Language and Linguistic Theory* 12(4):675–736. doi:10.1007/BF00992930.
Sommerstein, Alan H. (1995). The language of Athenian women. In F. de Martino & A. H. Sommerstein (eds.), *Lo spettacolo delle voci*. Bari: Levante. 61–85.
Sunderland, Jane. (2004). *Gendered discourses*. London: Palgrave.
Tagliamonte, Sali A., & D'Arcy, Alexandra. (2009). Peaks beyond phonology: Adolescence, incrementation, and language change. *Language* 85(1):58–108. doi:10.1353/lan.0.0084.
Tannen, Deborah. (1991). *You just don't understand: Women and men in conversation*. New York: Ballantine Books.
TEI Consortium (ed.). (2007). TEI P5: Guidelines for electronic text encoding and interchange. 2.1.0. Last updated June 17, 2012. Available at: http://www.tei-c.org/Guidelines/P5/. Accessed August 16, 2012.
Tekstlaboratoriet. (2001). Frekvensordlister for norsk talespråk og skriftspråk. ILN, Universitetet i Oslo. Available at: http://www.tekstlab.uio.no/frekvensordlister/. Accessed September 13, 2013.
Thelander, Mats. (2005). Sociolinguistics structures chronologically. II: Swedish. In O. Bandle, E. H. Jahr, A. Karker, H.-P. Naumann, U. Teleman, & K. Braunmüller (eds.), *The Nordic languages: An international handbook of the history of the North Germanic languages*. Berlin: Walter de Gruyter. 1896–1906.
Torp, Alf. (1919). *Nynorsk etymologisk ordbok*. Kristiania: H. Aschehoug & O. (W. Nygaard).
Trudgill, Peter. (1972). Sex, covert prestige and linguistic change in the urban British English of Norwich. *Language in Society* 1(2):179–195.
_____. (1974). Linguistic change and diffusion: Description and explanation in sociolinguistic dialect geography. *Language in Society* 3(2):215–246. doi:10.1017/S0047404500004358.
Willi, Andreas. (2003). *The languages of Aristophanes: Aspects of linguistic variation in Classical Attic Greek*. Oxford: Oxford University Press.
Willis, David, Breitbarth, Anne, & Lucas, Christopher. (2013). *The history of negation in the languages of Europe and the Mediterranean*. Vol. 1: *Case studies*. Oxford: Oxford University Press.
Winter, Werner. (1999). Sociolinguistics and dead languages. In E. H. Jahr (ed.), *Language change: Advances in historical sociolinguistics*. Berlin: Mouton de Gruyter. 67–84.

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APPENDIX

Raw data

The sizes in tokens of the individual texts and the frequencies of the different negatives in those texts are given in Table 6, and the data grouped into periods are given in Table 7.

Textual dates

Estimated dates of textual composition were identified for each text on the basis of Andersson (2006); where Andersson offered no comment on the dating of a particular text, articles in Pulsiano, Wolf, Acker, and Fry (1993) were used; these articles were also used to identify dates of the earliest major manuscript for each text. Composition dates are given in Table 8; for manuscript dates, see Blaxter (2013:43–45).

Regression model

A binomial regression was used to model the choice between *ekki* and *ei(gi)*.[7] The dependent variable is the occurrence of *ekki* (TRUE) versus *ei(gi)* (FALSE) and the other factors were the estimated date of textual composition (a number or NA) and the gender of the character (masculine, feminine, or narrative; masculine was the reference value). The output of the model is given in Figure 4. Here it can be seen that all of the factors tested had a significant effect (for at least $p < .05$) on the outcome (running the regression again treating narrative as the reference value for character gender demonstrates that the distinction between narrative and feminine is not significant).

TABLE 6. *Frequencies of negatives by text in Fornrit corpus*

Text	Text Length in Tokens	Male Speech		Female Speech		Narration	
		ei(gi)	*ekki*	*ei(gi)*	*ekki*	*ei(gi)*	*ekki*
Grænlendinga saga	11,407	27	14	2	0	51	13
Gunnlaugs saga ormstungu	11,061	39	24	6	0	19	15
Hallfreðar saga vandræðaskálds	24,264	126	30	12	6	53	19
Heiðarviga saga	14,549	83	18	6	4	66	25
Kormáks saga	11,866	26	7	16	2	44	22
Víga-Glúms saga	21,531	140	35	10	3	84	32
Reykdæla saga	25,421	18	5	0	0	154	75
Ljósvetninga saga	40,466	329	48	28	0	115	26
Bjarnar saga Hítdælakappa	21,338	76	21	7	2	127	49
Droplaugarsona saga	10,574	22	7	6	0	27	16
Fóstbræðra saga	35,647	131	31	36	7	143	28
Egils saga Skallagrímssonar	68,521	121	85	15	6	141	130
Valla-Ljóts saga	7997	53	31	2	0	27	12

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TABLE 6. *Continued*

Text	Text Length in Tokens	Male Speech		Female Speech		Narration	
		ei(gi)	*ekki*	*ei(gi)*	*ekki*	*ei(gi)*	*ekki*
Vopnfirðinga saga	10,751	44	15	4	4	31	22
Gísla saga Súrssonar	47,363	131	78	30	22	200	85
Laxdæla saga	63,891	186	96	54	28	184	135
Ölkofra saga	3251	21	7	0	0	5	3
Eyrbyggja saga	42,320	138	3	28	2	212	12
Eiríks saga rauða	8619	8	2	5	3	35	11
Þorsteins saga Síðu-Hallssonar	5989	24	9	6	1	21	7
Bandamanna saga	10,919	98	50	0	0	19	17
Hænsna-Þóris saga	10,003	88	5	1	0	41	0
Hrafnkels saga Freysgoða	10,678	51	19	1	0	23	13
Vatnsdæla saga	32,625	220	5	16	1	171	7
Þorsteins saga hvíta	3906	14	2	0	0	22	1
Brennu-Njáls saga	114,153	428	201	47	26	195	128
Kjalnesinga saga	16,460	33	19	8	19	27	19
Finnboga saga ramma	26,518	88	40	5	3	117	53
Grettis saga Ásmundarsonar	68,365	194	107	34	19	232	211
Flóamanna saga	25,238	60	25	4	2	113	50
Gull-Þóris saga	12,104	11	9	0	0	48	18
Hávarðar saga Ísfirðings	17,343	42	33	11	12	37	54
Harðar saga og Hólmverja	22,169	47	27	6	7	105	70
Króka-Refs saga	12,528	8	47	0	1	18	47
Bárðar saga Snæfellsáss	14,576	14	22	3	5	32	46
Víglundar saga	13,135	21	20	5	10	35	48
Gunnars saga Keldugnúpsfífls	11,607	12	17	1	0	37	29
Fljótsdæla saga	30,407	120	53	16	10	96	53
Íslendinga þættir	124,680	570	232	40	14	333	182
Landnámabók	37,236	2	1	0	0	76	19
Svarfdæla saga	21,810	76	47	2	2	70	37
Þórðar saga hreðu	17,639	73	38	5	4	40	21

TABLE 7. *Frequencies of negatives in speech by period and character gender*

Period	Male Speech			Female Speech			Narration		
	Tokens	*ei(gi)*	*ekki*	Tokens	*ei(gi)*	*ekki*	Tokens	*ei(gi)*	*ekki*
1200–1219	28,303	459	133	2493	52	15	89,303	471	201
1220–1239	48,958	776	238	6233	98	19	140,103	611	283
1240–1259	32,032	476	184	7810	112	52	116,983	601	235
1260–1279	3275	32	11	653	11	4	10,680	56	18
1280–1299	63,021	899	282	5130	65	27	114,133	471	166
1300–1319	22,210	315	166	4510	47	41	84,623	376	283
1320–1339	10,177	113	67	1341	15	14	43,167	198	122
1340–1359	7346	55	74	935	6	8	26,416	123	117
1360–1399									
1400–1419	5683	47	59	1173	9	15	32,462	104	123
1420–1499									
1500–1519	8933	120	53	1444	16	10	20,030	96	53

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TABLE 8. *Composition dates of texts in the Fornrit corpus*

Text	Date Proposed[a]	Date Used
Bandamanna saga	"Generally dated in the middle or late thirteenth century . . . perhaps around 1280" (Andersson, 2006:162)	1280
Bárðar saga Snæfellsáss	"Late fourteenth or early fifteenth century"	1400
Bjarnar saga Hítdælakappa	Late among early sagas; "some or all of the so-called skald sagas . . . could have been written before 1220," "early in the thirteenth century" (Andersson, 2006:86, 119, 138)	1225
Brennu-Njáls saga	"Not quite the latest of the classical sagas;" perhaps end of the thirteenth century (Andersson, 2006:183, 184)	1290
Droplaugarsona saga	"Early thirteenth century"	1225
Egils saga Skallagrímssonar	1220–1240; 1220–1230 (Andersson, 2006:2, 87)	1227.5
Eiríks saga rauða	"Shortly after 1264"	1274
Eyrbyggja saga	Author seems to have known *Laxdæla, Gísla,* and *Heiðarviga sögur*, providing a relative ranking; middle of the thirteenth century or perhaps a little later (Andersson, 2006:150, 153)	1255
Finnboga saga ramma	"First quarter of the fourteenth century"	1312.5
Fljótsdæla saga	"No earlier than the end of the fifteenth century"	1510
Flóamanna saga	"Between 1290 and 1350"	1320
Fóstbræðra saga	Early group; cannot be earlier than 1216 due to an internal historical reference; some argue for beginning of thirteenth century, some for as late as end of thirteenth century; indications are mostly of an early date in this range (Andersson, 2006:69, 70–72)	1225
Gísla saga Súrssonar	Early group; "generally dated in the first half of the thirteenth century, though not early in the first half;" evidence that Droplaugarsonar saga borrows from it, providing a relative ranking; "1230–1250, but this dating is even more insecure than most" (Andersson, 2006:78)	1240
Grænlendinga saga	"About 1200"	1200
Grettis saga Ásmundarsonar	"1310–1320"	1315
Gull-Þóris saga	"Early fourteenth century"	1325
Gunnars saga Keldugnúpsfífls	"Later than 1400"	1410
Gunnlaugs saga ormstungu	"Generally considered to be late, although there is reference to an earlier version . . . in Egils saga;" "some or all of the so-called skald sagas . . . could have been written before 1220" (Andersson, 2006:86, 119)	1212.5
Hænsna-Þóris saga	"Generally dated in the middle or late thirteenth century;" "perhaps around 1280" (Andersson, 2006:162)	1280
Hallfreðar saga vandræðaskálds	"Some or all of the so-called skald sagas . . . could have been written before 1220;" "early in the thirteenth century" (Andersson, 2006:119, 138)	1212.5
Harðar saga og Hólmverja	"Mid fourteenth century"	1350
Hávarðar saga Ísfirðings	1330	1330
Heiðarviga saga	Early group; MS fragment from 1250 provides a *terminus ante quem*; "the possibility therefore remains open that Heiðarvíga saga is a very early text" (Andersson, 2006:73)	1212.5
Hrafnkels saga Freysgoða	"Generally dated in the middle or late thirteenth century;" "perhaps around 1280" (Andersson, 2006:162)	1280

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TABLE 8. *Continued*

Text	Date Proposed[a]	Date Used
Íslendinga þættir	(no date was supplied for the Íslendinga þættir as they contain many texts of different dates)	—
Kjalnesinga saga	"Beginning of fourteenth century"	1310
Kormáks saga	"Some or all of the so-called skald sagas . . . could have been written before 1220;" "early in the thirteenth century" (Andersson, 2006:119, 138)	1212.5
Króka-Refs saga	"Fourteenth century"	1350
Landnámabók	(no date was supplied for Landnámabók)	—
Laxdæla saga	1240–1260; "seems to have been written in the closing years of the Icelandic commonwealth, with the looming prospect of subjugation by Norway (1262–64)" (Andersson, 2006:2, 148)	1250
Ljósvetninga saga	"Dating of *Ljósvetninga saga* is controversial; I place it around 1220, but others have dated it as late as 1260;" "the evidence points to an earlier date, perhaps in the 1220s" (Andersson, 2006:2, 119)	1220
Ölkofra saga	1250	1250
Reykdæla saga	Early group; after Víga-Glúms saga; "has been dated persuasively between 1207 and 1222" (Andersson, 2006:66, 119)	1218.5
Svarfdæla saga	—	—
Valla-Ljóts saga	1220–1240	1230
Vatnsdæla saga	Perhaps around or a little after the annexation of Iceland by Norway; perhaps around the same time as *Hænsa-Þóris, Bandamanna* and *Hrafnkells sögur* (Andersson, 2006:161)	1280
Víga-Glúms saga	Early group; "no later than the decade 1210-1220" (Andersson, 2006:66)	1215
Víglundar saga	"End of fourteenth or beginning of fifteenth century"	1400
Vopnfirðinga saga	"Second quarter of the thirteenth century"	1237.5
Þórðar saga hreðu	—	—
Þorsteins saga hvíta	"Last quarter of the thirteenth century"	1287.5
Þorsteins saga Síðu-Hallssonar	"Late thirteenth century"	1275

[a]In each case, the quoted text is the date exactly as given in the source, whereas the number to its right is the numerical date that this has been taken to signify. References to Andersson (2006) are given; all others are from the relevant articles in Pulsiano et al. (1993).

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```
Call:
glm(formula = is_ekki ~ year + character_gender, family = binomial, data = all_data)

Deviance Residuals:
    Min      1Q  Median      3Q     Max
-1.2449 -0.8567 -0.8101  1.4153  1.7258

Coefficients:
                        Estimate  Std. Error  z value  Pr(>|z|)  Signif
(Intercept)             -5.484    0.4146      -13.381  < 2e-16   ***
Year of compos.          0.004    0.0003       11.136  < 2e-16   ***
Char gender: narrat      0.276    0.0455        6.076  1.23e-09  ***
Char gender: femin       0.202    0.0917        2.207  0.0273    *
  (reference value: masc)



Signif. codes:
0 '***' 0.001 '**' 0.01 '*' 0.05

(Dispersion parameter for binomial family taken to be 1)

Null deviance:      12267 on 9902 degrees of freedom
Residual deviance:  12101 on 9899 degrees of freedom
                    (1971 observations deleted due to missingness)
AIC:                12109

Number of Fisher Scoring iterations: 4
```

FIGURE 4. Binomial regression model output for occurrence of negative *ekki* vs *ei(gi)* in Old Norse.

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