# Broderfolk eller brödrafolk: Are Danish and Swedish still mutually intelligible?

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### 1. Introduction

The mainland Scandinavian languages—Danish, Norwegian, and Swedish—are typologically closely related, to the extent that in international communication, speakers of these languages rely on mutual intelligibility and speak in their own native language (Gooskens & Swarte 2017, Gooskens et al. 2022, Schüppert & Gooskens 2011, Schüppert et al. 2016). An active vein of research within Scandinavian linguistics has investigated the extent to which these languages have remained mutually intelligible despite past and ongoing phonetic, lexical, morphosyntactic, and other changes.

Of the mainland Scandinavian languages, spoken Danish is the most difficult to understand for speakers of the other languages, and Danish and Swedish is the language pair where mutual intelligibility is the lowest (Maurud 1976, Bø 1978, Delsing & Lundin Åkesson 2005). Moreover, these studies report an asymmetry in intelligibility of Danish and Swedish: it is easier for Danes to understand spoken Swedish than vice versa, and Swedes' comprehension of Danish is the lowest among all three languages.

Table 1 (adapted from Doetjes & Gooskens 2009)

	Danish in	Danish in	Norwegian	Norwegian	Swedish in	Swedish in
	Norway	Sweden	in Denmark	in Sweden	Denmark	Norway
Maurud (1976)	72%	21%	65%	41%	40%	81%
Bø (1978)	62%	32%	63%	74%	49%	80%
Delsing & Lundin Åkesson (2005)	41%	19%	35%	56%	27%	69%

Changes in Danish, particularly coda consonant lenition and schwa assimilation and deletion processes, have typically been identified as the reason for this asymmetry. Other linguistic and extralinguistic factors of both Danish and Swedish, such as rate of speech, prosody, morphosyntactic difference, speaker attitudes, etc., have also been examined.

This review addresses the following questions:

- 1. What are the major changes that have occurred in spoken Danish and Swedish since they diverged from their common ancestor (Old East Norse)?
- 2. What factors account for the asymmetry in comprehension of spoken Danish and Swedish?

## 2. Major Changes in the History of Danish and Swedish

Comparative Scandinavian linguistics affords the luxury of extant written sources in the common ancestors of the present-day Scandinavian languages. The North Germanic languages (Danish, Swedish, Norwegian, Icelandic, and Faroese) share a common ancestor spoken before c. 800 called Common Norse (*fællesnordisk*) or sometimes Proto-Norse (*urnordisk*), which is attested by Older Futhark runic inscriptions and has been reconstructed by the comparative method, aided by place names and borrowings into Finnish and Saami (Bergman 1973, Nielsen & Stoklund 2018).

During the Viking Age from 800 to about the 1100s and 1200s, Old West Norse (ancestor of Norwegian, Icelandic, and Faroese) diverged from the eastern branch of Danish and Swedish.

As Scandinavian contact with the Christian world increased around the thirteenth century, its languages began to deviate from one another more significantly and underwent influences from particularly Low German. The period of "Old Danish" and "Old Swedish" continued from then

until the Protestant Reformation and spread of the printing press in the sixteenth century. Old Danish and Old Swedish were also connected politically by the Kalmar Union (1397–1523). Although distinguishable from one another, Old Danish and Old Swedish underwent a number of common sound changes during this period, including loss of the complex case marking system in Old Norse, fortition of  $[\theta] > [t]$  or [d], and the reduction of grammatical genders from three (masculine, feminine, and neuter) to two (common and neuter) (Bergman 1973, Frederiksen 2018).

Most of the changes that have contributed to the lack of mutual intelligibility between spoken Danish and Swedish occurred in New Danish and New Swedish (from the 1520s on). In general, Swedish has remained more conservative. The list of changes below is not comprehensive, but it includes the most salient contrasts in spoken Danish and Swedish that have been identified as contributing to difficulty in mutual intelligibility.

### 2.1. Danish Coda Lenition and Swedish Coda Deletion

Since the divergence of Danish and Swedish into distinct languages, Danish coda consonants have undergone multiple stages of lenition. As early as in Old Danish, voiceless coda [p, t, k] had weakened to [b, d, g], which was reflected in the orthography of the Danish "Christian III" (1550) and Swedish "Gustav Vasa" (1541) bibles. In New Danish, coda [d] and [g] weakened further; coda [d] became [ð] and coda [g] became a velar fricative. More recently, there was another stage of lenition: [ð] became an approximant (still transcribed [ð]) and the velar fricative became the glides [j] or [w], depending on context. Coda [b] can also be weakened to [w], but "in part of the vocabulary only, and only optionally" (Grønnum 2003).

In summary, these processes have led to the following cognate pairs in present-day

Danish and Swedish:

[p] > [b] (> [w] optionally) 'købe' [kø:bə] or [kø:w:], cf. Swedish 'køpa' [køpa]
 [t] > [d] > [ŏ] 'videnskab' [viðənsgæb], cf. Swedish 'vetenskap' [vetenskap]
 [k] > [g] > [γ] > [w] or [j] 'fag' [fæj], cf. Swedish 'fack' [fak]
 'faglitteratur' [fawlidəʁatuʊ], cf. Sw. 'facklitteratur' [fakliteratur]

Moreover, coda [w] and [j] may be elided entirely after acoustically similar vowels (often high vowels). Thus, through this series of changes, Old Norse *baka* 'bake', which exists in present-day Swedish without changes to the consonants, is pronounced in present-day Danish as *bage* [bæ::] (Gordon 1988, Grønnum 2003). (See 2.2 and 2.4 below for the morphological reduction and schwa-assimilation processes that caused the original inflectional ending |-a| to be reduced to schwa and then assimilated to cause the full vowel [æ::] to be double-long.)

In Swedish, lenition of coda consonants in this way does not occur; however, there are a number of contexts in which [t], [d], [k], and [g], as well as [1], are omitted entirely, either intervocalically or at word-finally (Holmes & Hinchliffe 2008, pp. 15–19). Frequent lexical words and functional words and morphemes are particularly subject to this (e.g.  $n\mathring{a}gon \rightarrow n\mathring{a}n$ ,  $s\mathring{a}dan \rightarrow s\mathring{a}n$ ,  $fader \rightarrow far$ ), and in circumstances where reduction does occur, it can be said that this increases mutual intelligibility between Danish and Swedish, inasmuch as the reduced form in Danish is acoustically closer to the omitted form in Swedish than the full form. For example, the reduced pronunciation [me:] of Swedish med is closer to the Danish pronunciation [með] (or reduced [me]) than the non-reduced Swedish pronunciation [met].

### 2.2. Schwa Assimilation and Apocope in Danish

Another well-documented change in Danish that has been described as a contributor to poor intelligibility by other Scandinavians (by e.g., Grønnum 2003, Schüppert et al. 2022) is the assimilation of [5] to a neighboring vowel or sonorant consonant (in the latter case, making it

syllabic). For example, the inflectional ending |-ə| assimilates to the preceding sound, as in *die* [di:ə] -> [di:i] and *spidde* [sbiðə] -> [sbiðð]. Combined with deletion of the preceding [w] or [j] sound by the rule described in the last section, this process can result in the complete assimilation of the final syllable to form a double-long vowel. For example, *duge* first undergoes elision of /g/ ([w]), and then the schwa suffix assimilates to [u], yielding [du:wə] -> [du::] (i.e., [du:u]). These processes all contribute to greater distance between Danish and its sister Swedish, where inflectional suffixes did not lenite to schwa but retain non-neutral quality and which do not assimilate (see 2.4 below).

When the preceding segment is not a vowel or sonorant consonant, the final schwa is often elided entirely, which can be accompanied by compensatory lengthening of the preceding full vowel. For example,  $k\emptyset be$  [kø:bə] is often heard as [kø:b] or [kø::b].

#### 2.3. /r/

In the early 1700s (Late New Danish), pronunciation of the Danish phoneme /r/ shifted from alveolar (as in Old Norse) to uvular under influence from French (Brink & Lund 2018). This process has also wrought significant change elsewhere in Danish: vowels preceding and following /r/ are often lowered, and /r/ in inflectional morpheme |-ər| has fused with schwa and is now pronounced [v] (see e.g. Brink & Lund 1975; Grønnum 2003, 2007). On the other hand, Swedish has retained the alveolar /r/ of Old Norse to the present day.

## 2.4. Leveling of Grammatical Suffixes

As mentioned in the introduction to this section, Old Norse had a richer morphology with more noun declensions, verb conjugations, case markers, and genders than either Danish or Swedish. Both languages underwent significant leveling during the Old Danish/Old Swedish period, and once again, Danish leveled much more heavily than Swedish. Swedish retained the

noun inflectional suffixes |-or|, |-ar,| |-(e)r|, and |-n| and verb inflectional suffixes |-a|, |-e|, |-ar|, |-er|, |-er|, |-(e)t(t)|, |-it|, |-t(t)|, |-d(d)|, |-d(d)a|, |-de|, |-en|, and |-na|. Beginning in Old Danish, the Old East Norse inflectional suffixes were all leveled to a schwa vowel, resulting in the much smaller inventory of |-e|, |-er|, |-(e)t|, |-(e)de|, and vestigial |-en|/|-ne| in a few irregular verbs (Frederiksen 2018, Lundskær-Nielsen & Holmes 2010). Owing to this, Swedish has more noun declensions and verb conjugations than Danish.

However, one should be careful in attributing too much weight to these changes regarding hindrance of mutual intelligibility. Because these morphemes are not found in stressed positions and are therefore more subject to reduction in both languages, the perceptual difference between them is probably smaller than if the same contrast occurred in a stressed position, and the inflectional morphemes generally resemble each other to a degree, despite the leveling. (For example, the difference between Swedish |-ar| and |-er| verbs is likely not very salient to a Danish speaker who only has |-er| verbs. More significant to intelligibility would be the fusion of |-er| into [v], described in the previous section.) Further research could confirm whether contrasts in stressed positions impede intelligibility more than contrasts in unstressed positions.

#### 2.5. Vowel Shifts

Both Danish and Swedish have a large number of vowel phonemes among the world's languages: at least 12 in present-day Danish and 11 in present-day Swedish (by a quite conservative count), excluding length contrasts (Grønnum 2003, Holmes & Hinchliffe 2008). Most of these can occur as either short or long. In modern Danish, long and short vowels have the same quality, as in Old Norse; however, the Swedish short vowels have undergone centralization, but not the long vowels (see Basbøll 2005, Holmes & Hinchliffe 2008). The effect of this difference on mutual intelligibility has not (to my knowledge) been investigated.

A more salient effect on mutual intelligibility has been the numerous vowel shifts that have occurred in both languages—particularly Danish—which have in some cases led to vastly different sounds despite coming from the same phoneme in Old East Norse. As an example, the first [i] of Old Norse *mikit* 'much' underwent rounding to [y] in Old Swedish *mykit* (present-day Swedish *mycket*). On the other hand, in Danish, it has been lowered progressively from the close vowel [i] all the way to the open vowel [a] (including monophthongization with the following [k] > [g] > [y] > [j]; see 2.1), resulting in *meget* [ma:: $\delta$ ].

## 2.6. Prosody

One of the earliest changes in the Old Danish and Old Swedish periods was the development of two different suprasegmental, contrastive innovations that have remained to the present day: stød (creaky voice) in Danish and pitch accent in Swedish. However, Gooskens and Kürschner (2008) found that in a translation task, the presence or absence of stød in Danish words and pitch accent in Swedish words had no significant effect on intelligibility to speakers of the other language.

Grønnum (2003) identified prosody—in addition to the large vowel inventory, lenition of coda consonants, and schwa-assimilation described earlier—as the features of Danish that make it difficult for foreign learners (with particular reference to Swedish speakers). Beyond the stød and pitch-accent difference, pre-boundary lengthening, which is present in Swedish, does not occur in Danish, and "Swedes are reported to have trouble determining when a Danish utterance is finished" (ibid., p. 126). Nor does Danish require intonational signals to indicate whether an utterance is declarative or interrogative, as in Swedish. Regarding these prosodic factors,

Grønnum opines effects on discourse beyond merely intelligibility:

"I believe these very real differences between Danish and Swedish are primarily responsible for the impression some Swedes have that Danes are curiously uninterested in their own discourse; and...when Swedes carry over their own prosodic patterns...they may sound dogmatic or overly enthusiastic, bordering on the theatrical." (ibid., p. 127).

#### 2.7. Swedish Onset Lenition

While Swedish lacks the drastic coda lenition processes that have gradually and incrementally taken place in Danish, it does have a different process in which the velar consonants [g], [k], [sk] lenite to [j], [tʃ], [ʃ] respectively when in the onset before a front vowel—perhaps a partial regressive assimilation effect. This change reportedly took place as early as in Old Swedish, though it has no analogue in Danish, nor is it found in all dialects of present-day Swedish (Bergman 1973).

#### 2.8. Lexical Differences and Loanwords

Differences in the lexicon play a significant role in hindering mutual intelligibility of Danish and Swedish. During the Old Danish and Old Swedish period, lexical borrowings, particularly from Low German, were perhaps the most noticeable difference between the languages—at least in attested examples of the written language. In the 1526 Swedish New Testament and 1550 Danish New Testament, which are roughly contemporary texts produced at the boundary between Old Swedish/Danish and New Swedish/Danish, one can find variation between loanwords and native words across the languages. (In 1 Corinthians 13, for example, the Danish text uses the loan *visdom* while the Swedish text uses the native compound *forstand*; on the other hand, the Swedish text uses the loan *prophetie*, while the Danish text uses the native compound *spaadomme*.)

Moreover, it is also common for one form to be preferred over another in one language, even if both forms exist within both languages. For example, 'run' is translated *springa* in Swedish and *løbe* in Danish, although the cognate forms *springe* and *löpa* also exist in Danish and Swedish respectively. (Both are of Old Norse origin.)

Notably, Gooskens and Swarte (2017) found that the role of lexical distance between Danish and Swedish was far lower than the role of phonetic and orthographic distance in impeding mutual intelligibility in a cloze test. In addition, the Danish-Swedish lexical distance was much lower than with any combination of languages involved in their study (Danish, Swedish, English, Dutch, and German). These findings indicate that lexical change, while significant, is not a primary factor that impedes intelligibility of Danish and Swedish.

## 2.9. Syntactic Changes

Danish and Swedish syntax is quite similar and has changed only minimally since Old Danish and Old Swedish, as shown in the following extract from the Chronicle of the Kings of Lejre (c. 1175; attested in codex from c. 1425) with its translations in present-day Danish and Swedish:

OEN: oc kallæthe thæt æfter sit e:giæt nafn oc e:n keldæ, he:t Roskildæ.

DK: ...og kaldte det efter sit eget navn og en kilde, der hed Roskilde.

SV: ...och kallade det efter sitt eget namn och en källa som hette Roskilde.

In a study of mutual intelligibility between Danish and Norwegian, Hilton et al. (2013) found that while word order differences impeded intelligibility more than morphological differences, they ultimately had less of an effect on comprehension than the differences in phonology. Because the relationship between Danish and Norwegian is similar to that of Danish and Swedish in terms of both syntax and phonology (changes that have occurred to Danish, the

least conservative of these languages, have in theory created a similar distance in intelligibility to both Norwegian and Swedish), it is likely that syntax is likewise not one of the main contributors to the intelligibility gap.

### 3. Possible Explanations for Asymmetric Intelligibility

Having identified several of the major typological differences between Danish and Swedish, I now return to my second research question: what factors account for the asymmetry that has been observed in comprehension of spoken Danish and Swedish—that is, why do Danes understand more spoken Swedish than Swedes understand spoken Danish? Both linguistic and extralinguistic factors contribute to this asymmetry, and the two factors that have been most examined are orthography and rate of speech. Both of these factors are closely tied to the reduction processes described in section 2.

## 3.1. Orthography

Danish orthography is closer to Swedish pronunciation than the reverse, and because of this, Danes receive more help from their orthography than Swedes do. This seems initially counterintuitive, but in context of the historical changes described above, it is clear that Danish and Swedish orthography is more alike than their pronunciation is (cf. Maurud 1976, Bø 1978, Delsing & Lundin Åkesson 2005), and the Danish pronunciation has changed most significantly relative to the conservative orthographies of both languages (Doetjes & Gooskens 2009).

Teleman (1980) hypothesized that it is more often the case that Swedish orthography cannot be derived from the Danish pronunciation than that the Danish orthography cannot be derived from the Swedish pronunciation (i.e., it is easier to derive the Swedish pronunciation from the Danish orthography than vice versa), a hypothesis repeated by Delsing and Lundin Åkesson (2005). For

example, Danish *hånd* and Swedish *hand* are pronounced da. [hʌn²] and sv. [hand]. The [d] in the Swedish pronunciation is reflected in the Danish orthography, but the Danish pronunciation without [d] cannot be predicted from the Swedish orthography without knowledge of Danish reduction processes.

Another example, repeated from above, is ON *mikit* > da. *meget*, sv. *mycket*. Consonant gradation and schwa-assimilation in Danish result in the opaque pronunciation [ma::ð], versus the relatively transparent sv. [myk:et] or [myk:e]. It is easier to derive the Swedish pronunciations from the Danish orthography <meget> than to derive the highly reduced Danish pronunciation from Swedish <mycket>.

Schüppert et al. (2022) explain the orthographic asymmetry in terms of "orthographic depth"—i.e., the directness of correspondence between orthography and pronunciation. A language with low orthographic depth has a near 1:1 correspondence between sound and grapheme (e.g., Japanese), whereas a language with high orthographic depth has a weaker and less transparent sound-grapheme correspondence. Owing largely to the reduction processes described above that have occurred since the end of the Old Danish period, when printed texts began to appear and the Danish orthography became rather fixed, Danish has a greater orthographic depth than Swedish. Doetjes and Gooskens (2009) counted the "phonetic distance" and "orthographic distance" between 96 Danish and Swedish cognates (measured as an integer denoting the number of corresponding segments with differing pronunciation or orthography, respectively) and found that when allophones were taken into consideration, Danish orthography matched Swedish pronunciation more often than Swedish orthography matched Danish pronunciation. In support of their analysis, they conducted a translation task and found a mild negative correlation between Danes' correct translations of Swedish words and the phonetic

distance they calculated between Danish and Swedish words; the correlation strengthened when manually corrected for other factors that may have contributed to or hindered intelligibility, such as the existence of phonetically similar words, a different number of letters, giving greater weight to different beginning sounds, and loan words. More definitively, Schüppert et al. (2022) demonstrated in a neurolinguistic study that words whose Swedish pronunciation was inconsistent with the Danish orthography had significantly more negative-going ERPs (event-related brain potentials) than words where the Danish orthography provided clues for the Swedish pronunciation, even if the Danish pronunciation was different, providing evidence that Danes do rely on their orthography when decoding spoken Swedish.

Lastly, while Danish has consistently shown a trend toward reduction processes that increase orthographic depth, Swedish has shown an *opposite* trend in recent years—pronunciation that is changing to match the more conservative orthography and decrease orthographic depth in at least three features: vowel quality, vowel length, and coda consonants. Bergman (1973) noted that "the most striking factor in the development of present-day spoken Swedish is its marked dependence on the written language" (p. 50), and while many words use pronunciations that differ from the orthography, they are increasingly pronounced according to the written form in more formal registers. Examples include *jag* pronounced with [g], *och* pronounced with [k], *huset* with [t], and *flickor* with [or] (not [er]). This trend further widens the gap between the spoken languages and gives an advantage to Danes, who have the non-reduced forms in their orthography, as opposed to Swedes, whose comprehension of the reduced Danish forms will be further hindered.

## 3.2. Rate of Speech

Beyond the orthographic dimension, the extent of reduction in Danish also leads to another question: is Danish spoken faster than Swedish? In an acoustic study of Danish, Swedish, and Norwegian radio news broadcasts and recordings of semantically unpredictable sentences generated with cognate words across the three languages, Hilton et al. (2011) found that while all three languages had a similar number of *phonetic* syllables per time unit, Danish had fewer *phonological* syllables per time unit. Therefore, "in fluent Standard Danish speech a lot more phonological information is transferred per time unit than in fluent standard-like Norwegian and in fluent Standard Swedish..." (p. 230), enabled by reduction processes, particularly schwa deletion and assimilation (see 2.2 above). Because of the formal similarities between Danish and Swedish (and Norwegian), the greater ratio of phonological to phonetic syllables in Danish can be taken to mean that the same amount of information is transferred in less time, despite the fact that the Danish speakers studied spoke the same number of syllables per time unit.

Schüppert et al. (2016) addressed the resultant question of why the faster Danish speech (in terms of phonological syllables rather than phonetic syllables) is less intelligible—is it due to the Danish higher articulation rate as such, or the higher number of reduction phenomena linked to that faster rate? In other words, does the effect of speech rate on intelligibility rest on the listener (because of higher demands on decoding) or on the speaker (because they use more reduction)? Among recordings of semantically unpredictable sentences in Danish that were modified to create all combinations of slow/fast and clear/reduced speech, the fast recordings presented more difficulty to Swedish-speaking listeners than the reduced recordings, providing evidence that speech rate itself is more significant than the naturally-occurring reduction that results from the fast speech. (Note that the reduction tested in this experiment should be

distinguished from the weakening processes discussed in section 2. Schwa assimilation and deletion (2.2) are reduction processes that occur in fast, reduced speech but not slow, clear speech, whereas coda consonant lenition (2.1), leveling of grammatical suffixes (2.3), etc. occur in both fast and slow speech.)

#### 3.3. Other Possible Contributors

Orthographic depth and rate of speech, both connected to the reduction processes in Danish and to a lesser extent Swedish, have been identified as significant contributors to the asymmetric intelligibility between Danish and Swedish. This section evaluates other factors that have been discussed in connection with this phenomenon, which include loanwords, Danish-Swedish language contact, and speaker attitudes.

Lexical borrowings, particularly from English, are a major source of change in both present-day Danish and Swedish. As mentioned in section 2.8 above, loanwords, particularly from German, were an early source of lexical diversity between Old Danish and Old Swedish. Throughout the entire history of Danish and Swedish, the primary source languages of lexical borrowing have been German, Latin, French, English, and Greek. Borrowing from German generally occurred early enough that German loans are difficult to distinguish from the inherited vocabulary and have undergone many of the same changes (described in section 2) as inherited words, whereas loans from Latin, French, English, and Greek are easier to recognize. Gooskens et al. (2022) found that loans from these languages improved Danes' comprehension of spoken Swedish, but not loans from German.

Another suggested explanation is that asymmetric contact between Danish and Swedish has resulted in asymmetric intelligibility. Swedes in Malmö, which is geographically close to Copenhagen, understand Danish much better than Swedes in Stockholm (perhaps due to

remnants of Danish in the regional dialect or commuter traffic to Copenhagen), while Danes in Copenhagen exhibit no advantage in comprehension of Swedish compared to regions of Denmark farther from the Swedish border (Delsing & Lundin Åkesson 2005). However, this says little about the linguistic situation outside the Skåne region (including Malmö), which is a special case given its historical ties to Denmark; there are no regions of Denmark that have been a part of Sweden (excluding the island of Bornholm, which is also a special case of Danish-Swedish contact and exhibits features of Swedish in its local dialect, such as initial velar lenition). Moreover, contact frequency by means other than physical proximity, such as television or newspapers, is not significantly correlated with intelligibility (Gooskens 2006), and ultimately, intelligibility asymmetry for Danes and Swedes far away from the border, so it is unsatisfactory to resort to a contact-related explanation.

A further suggestion is that asymmetric attitudes toward one another's languages has also contributed to the asymmetric intelligibility of Danish and Swedish. Doetjes and Gooskens (2009) point out a correlation between Danes' more positive attitudes toward Swedish than vice versa and Danes' better comprehension of spoken Swedish (cf. Delsing & Lundin Åkesson 2005, Maurud 1976, Schüppert et al. 2009). However, in a matched-guise study involving 154 Danish and Swedish schoolchildren, Schüppert et al. (2015) found that the correlation between comprehension of the other language and positive attitudes toward that language was very low. In addition, as Gooskens (2006) notes, it is difficult to establish a correlation between these variables. It is possible that greater intelligibility leads to more positive attitudes, or that the two variables are unrelated, and the intelligibility asymmetry is due to linguistic factors, while the difference in attitudes is due to social and historical factors.

#### 4. Conclusion

This study addressed a number of elements that differ between Danish and Swedish and reviewed empirical studies that examined the role of some of these elements in speakers' comprehension of the other language, in an effort to answer why the mutual intelligibility of Danish and Swedish is asymmetric and sometimes poor.

The primary culprit in lack of Danish-Swedish intelligibility is phonetic change. In Danish, coda lenition, schwa assimilation and apocope, change in articulation of /r/ from alveolar to uvular, and vowel shifts (often conditioned by uvular /r/) have resulted in pronunciations that are quite opaque, both to Swedish speakers and from the perspective of the Danish orthography. Swedish is generally more phonetically conservative than Danish, but significant changes include lenition of velar consonants in onsets and apocope of coda consonants, particularly in frequent words. Morphological leveling, prosodic differences, and lexical borrowings have also occurred since Danish and Swedish diverged from their parent Old East Norse and hindered mutual intelligibility.

Danish orthography is closer to Swedish pronunciation than the reverse has been shown to be a contributing factor in this asymmetry (cf. Gooskens et al. 2022). The greater speech rate in Danish is also a major contributor (Hilton et al. 2011, Schüppert et al. 2016).

Any question of mutual intelligibility is difficult to answer definitively, since comprehension of a language involves so many dimensions, including segmental phonology, prosody, morphology, syntax, the lexicon and borrowings, rate of speech, and semantic and pragmatic factors. For empirical studies, this complexity makes it difficult to target any particular dimension of intelligibility (e.g., vocabulary, morphology, any particular sound shift),

while a too narrow focus risks of ignoring the influence of the other elements. Nonetheless, it is the author's hope that attention to these differing elements by speakers of Danish and Swedish will enable them to improve communication both productively (by modifying their speech to match features of the listener's language system) and receptively (by being aware of features of the speaker's language system that differ from one's own), and ultimately strengthen the position of the closely interrelated mainland North Germanic languages as modes of international communication within Scandinavia.

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