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## Detecting the Late Stages of Syntactic Change: The Loss of V-to-T in Faroese

Caroline Heycock, Antonella Sorace, Zakaris Svabo Hansen, Frances Wilson, Sten Vikner



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(henceforth V[ERB]-TO-T[ENSE]). This is a change that went to completion in the Mainland Scandinavian languages three centuries ago, and that has also taken place—in a slightly different form—in English. Faroese is hypothesized to be changing from a clausal syntax that is still preserved in modern Icelandic in which the finite verb in a subordinate clause must precede the negative marker *ekki* or sentence-medial adverbs, as illustrated in 1. The system that appears to be replacing it is—in this respect—like that of modern Danish, in which the finite verb in a subordinate clause must follow all such elements, as illustrated in 2.<sup>2</sup>

## (1) Icelandic

Þetta er bréfið sem Elin (hefur) ekki (\*hefur) lesið.  
 that is letter.DEF that Elin (has) NEG (\*has) read  
 ‘That is the letter that Elin has not read.’

## (2) Danish

Dette er brevet, som Tove (\*har) ikke (har) læst.  
 that is letter.DEF that Tove (\*has) NEG (has) read  
 ‘That is the letter that Tove has not read.’

According to Jonas (1996:96), there are currently two varieties of Faroese. In one of these (Faroese 1) both positions for the verb are possible, with a preference for the high position; in the other (Faroese 2) the change has gone to completion, and only the low placement for the verb is possible, as in modern Danish.

## (3) a. Faroese 1

Hetta er brævið, sum Elin (hefur) ikki (hefur) lisið.  
 this is letter.DEF that Elin (has) NEG (has) read  
 ‘This is the letter that Elin has not read.’

## b. Faroese 2

Hetta er brævið, sum Elin (\*hefur) ikki (hefur) lisið.  
 this is letter.DEF that Elin (\*has) NEG (has) read  
 ‘This is the letter that Elin has not read.’

Jonas suggests that there may be both a geographical and a generational aspect to this variation: Faroese 1 may be more common in the southern islands, and among older speakers.

This phenomenon has an intrinsic interest because we are not oversupplied with cases of contemporary syntactic change—particularly change of a type with which we are familiar from the historical record of related languages—so this offers the possibility of exploring how such variable systems are represented in the minds of speakers. But this particular change is also of interest for syntactic theory because of the claims in the literature that this aspect of the syntax is determined by, or at the least closely tied to, the morphology: the RICH AGREEMENT HYPOTHESIS (RAH) (Kosmeijer 1986, Holmberg & Platzack 1991, Jonas 1996, Vikner 1997b, Bobaljik & Thráinsson 1998, Roberts 1999, Rohrbacher 1999, Koenenman 2000, Bobaljik 2002, Thráinsson 2003). Theoretical conclusions relating to V-to-T in Faroese have been harder to draw than anticipated, however, since the fundamental empirical question as to the position of the language within the change has received a variety of different answers. Although the historical

<sup>2</sup> The grammaticality judgments on the Icelandic example are an oversimplification; for at least some speakers placement of the finite verb after the adverb in a relative clause is possible, although it is infrequent (for discussion, see among others Bobaljik & Thráinsson 1998, Angantýsson 2001, 2007, Thráinsson 2003, 2007, Wiklund et al. 2007). The placement of the verb before the adverb, however, is grammatical for all speakers.

record for Faroese is very patchy, work by Thráinsson in particular (Thráinsson 2001, 2003, Thráinsson et al. 2004) has established that the change was already under way during the nineteenth century, even though the absence of earlier records does not make it possible to determine when it began. What remains controversial is whether the change has gone to completion: some authors have argued that it has, at least in the vernacular of speakers born from 1980 on (Vikner 1994, 1995, Petersen 2000), while others have argued that V-to-T is still part of the grammar even for younger speakers (Jonas 1996, Thráinsson 2003). For a more detailed overview of the varying empirical claims, see Heycock et al. 2010:62–63.

Heycock et al. 2010 presents judgment data showing that at least in one type of subordinate clause, Faroese speakers of all ages display a preference for keeping the verb below negation that is quantitatively indistinguishable from the same preference among Danish speakers. From this it might be concluded that the change in Faroese is not just in its final stages, but has indeed gone to completion, as proposed by Vikner and Petersen. In the current article we argue, however, that further detailed investigation shows that Faroese has not quite reached the stage that a Mainland Scandinavian language like Danish has. Although unambiguous examples of V-to-T are very hard to find in naturally occurring data, we present two experiments showing that judgments on V-to-T orders in relevant contexts are higher than would be expected if these orders were no longer available in speakers' grammars. We consolidate this result by presenting a direct comparison with a parallel experiment with native speakers of Danish, and show that the patterns exhibited by the speakers of the two languages are quantitatively and qualitatively different.

Our results provide a sound empirical base for comparative work involving Faroese and contribute to the still open debate on the relation between agreement morphology and verb movement, lending some support to the weak variant of the rich agreement hypothesis over its stronger alternative. Further, we believe that this work makes a contribution in demonstrating that carefully collected judgment data have the possibility of allowing us to detect, in a reliable way, fine distinctions that cannot be established on the basis of frequency data from production in the absence of very large corpora.

## 2. BACKGROUND.

**2.1. V-TO-T IN SCANDINAVIAN.** The modern Scandinavian languages—Danish, Norwegian, Swedish, Icelandic, and Faroese—share with all other Germanic languages except English the property of VERB SECOND (V2): the constraint that the finite verb in a root clause appears in 'second position' after some initial constituent. This initial constituent may be the subject, as in 4a, but it may also be some other constituent such as a temporal or locative adjunct, as in 4b and 4c, or the object, as in 4d.

### (4) a. Faroese

Tey hjá Dursley **høvdu** alt,           tey kundu ynskja sær.  
they of Dursley had everything they could wish REFL  
'The Dursleys had everything they wanted.'

### b. German

Um halb neun **griff** Mr. Dursley nach der Aktentasche.  
at half nine reached Mr. Dursley after the briefcase  
'At half past eight Mr. Dursley picked up his briefcase.'

### c. Afrikaans

Op di rand van die dorp **word** alle gedagtes aan bore uit sy kop  
on the edge of the town became all thoughts of drills out his head  
verdryf.  
driven  
'On the edge of town all thoughts of drills were driven out of his head.'

## d. German

Die Leute in der merkwürdigen Aufmachung **hatte** er schon längst  
 the people in the strange clothes had he already long  
 vergessen.  
 forgotten

‘He had already forgotten all about the people in strange clothes.’

According to the influential analysis of den Besten (1983), this order is the result of the finite verb moving to a high head position at the left periphery of the clause—a position that den Besten identified with the position occupied by the complementizer in subordinate clauses—while one constituent moves to the specifier of this head.

In contrast to root clauses, most subordinate clauses do not exhibit V2—in den Besten’s analysis, this is because the Comp position is filled in such clauses, preventing the movement of the verb. By looking at such clauses we can see that whenever the verb does not move to Comp (whenever V2 does not obtain), the modern Scandinavian languages exhibit a basic SVO order, in contrast to the SOV order of Dutch, German, and Afrikaans.

## (5) a. Dutch: SOV

Mevrouw Duffeling deed zelfs alsof ze helemaal geen familie **had**.  
 Mrs. Dursley pretended she absolutely no family had  
 ‘Mrs. Dursley pretended that she didn’t have any family at all.’

## b. Faroese: SVO

Kona Dursley segði ikki fyri nøkrum, at hon **átti** eina systur.  
 Mrs. Dursley said NEG for anyone that she had a sister  
 ‘Mrs. Dursley didn’t tell anyone that she had a sister.’

## (6) a. German: SOV

Er wandte sich nach den Flüsterern um, als ob er ihnen etwas  
 he turned REFL to the whisperers PRT as if he them something  
**sagen wollte** ...  
 say.INF wanted

‘He looked back at the whisperers as though he wanted to say something to them ...’

## b. Swedish: SVO

Han såg sig om på de viskande människorna som om han **ville**  
 he looked REFL PRT at the whispering people.DEF as if he wanted  
**säga** något till dem ...  
 say.INF something to them

‘He looked back at the whispering people as though he wanted to say something to them ...’

## (7) a. Afrikaans: SOV

Dis eers ’n hele paar sekondes later dat meneer Dursley desef  
 it.was only a whole few seconds later that Mr. Dursley realized  
 dat di man ’n pers mantel **dra**.  
 that the man a violet cloak wore

‘It was a few seconds before Mr. Dursley realized that the man was wearing a violet cloak.’

## b. Danish: SVO

Så opdagede hr. Dursley, at manden **bar** en lilla kappe.  
 then noticed Mr. Dursley that man.DEF wore a purple cloak.

‘Then Mr. Dursley noticed that the man was wearing a purple cloak.’

As has been well known since Platzack & Holmberg 1989, Holmberg & Platzack 1991, 1995, there is a further division within the Scandinavian languages concerning

the placement of the finite verb in non-V2 contexts. In Icelandic the verb occurs to the left of negation and sentence-medial adverbs, while in the Mainland Scandinavian languages it occurs in a lower position, to the right of such elements.

## (8) a. Icelandic

Hann hefði reynt að útskýra að hann **hefði** ekki hugmynd um ...  
 he had tried to explain that he had NEG idea about  
 'He had tried to explain that he had no idea how ...'

## b. Danish

Han forsøgte at forklare, at han slet ikke **kunne** gøre for ...  
 he tried to explain that he at.all NEG could do for  
 'He tried to explain that it was not at all his fault ...'

## (9) a. Icelandic

Það var vegna veru hans í dimmri kompunni að Harry **hefði**  
 it was because being his in dark cupboard that Harry had  
 alltaf verið fremur lítil.  
 always been rather small

'It was because he had spent time in the dark cupboard that Harry had always been rather small.'

## b. Danish

... fordi han altid **måtte** gå med Dudley's aflagte tøj.  
 ... because he always must go with Dudley's old clothes  
 '... because he always had to wear Dudley's old clothes.'

It should be noted that in these languages neither V2 nor the position of the finite verb in non-V2 contexts with respect to negation and sentence-medial adverbs appears to be influenced by whether the verb is an auxiliary, modal, or main verb. In this all the Scandinavian languages contrast with modern English, of course, where auxiliaries and modals on the one hand pattern differently from main verbs on the other.<sup>3</sup>

Following Platzack & Holmberg 1989, Holmberg & Platzack 1991, 1995, it has been widely assumed that the relative position of the finite verb and negation or sentence-medial adverbs in these non-V2 contexts is not due to any difference in the placement of negation and adverbs, but rather to whether or not the finite verb moves to some functional projection above them. Let us assume for the moment that the functional projection that the verb moves to is Tense; this then amounts to the claim that Icelandic has verb movement to Tense (V-to-T), but the Mainland Scandinavian languages do not. Further, we know that modern Icelandic is conservative in this regard; Mainland Scandinavian has undergone the loss of V-to-T in the course of its history (Falk 1993, Sundquist 2002, 2003). This of course is a similar change to the one that English underwent, with the difference that Scandinavian did not develop *do*-support.

**2.2. EMBEDDED VERB SECOND (EV2).** As we have seen, root clauses in Scandinavian do not tell us anything about whether the language has V-to-T, since the effect of V2 obliterates the distinction.<sup>4</sup> It might then be expected that the grammaticality/frequency of V-to-T could easily be determined by considering only subordinate clauses. The pic-

<sup>3</sup> This may not be true at all stages of the acquisition process, however: for discussion see Håkansson & Dooley-Collberg 1994, Waldmann 2008, Heycock et al. 2013.

<sup>4</sup> Note that this is again unlike the situation in English, where only those verbs that can reach T can move on to C, so that the class of verbs that can precede negation in a declarative is the same as the class of verbs that can precede the subject in a root interrogative. As we have seen, in the standard Mainland Scandinavian languages no verb can precede negation in a non-V2 context, but any finite verb can move to C.

ture is, however, more complex because of the additional possibility of V2 in at least a subset of subordinate clauses.

In an SOV, Infl-final language like German, the presence of V2 is generally easily detected, even in a subject-initial clause: ambiguity arises only for clauses with intransitive verbs and no auxiliaries (assuming that potential cases of extraposition are controlled for). In the SVO, Infl-medial languages of Scandinavia, by contrast, the only evidence for or against V2 in a subject-initial clause is the placement of the verb to the left or right of negation or a medial adverb; but of course the placement of the verb to the left of negation is also in principle derivable via V-to-T alone.<sup>5</sup> Thus, for example, the German example in 10a unambiguously exhibits embedded V2 (EV2), and the example in 10b the absence of EV2, but the Swedish example in 10c is structurally ambiguous.

- (10) a. German  
 Niemand wäre auf die Idee gekommen, sie **könnten** sich in eine  
 no.one would.be on the idea come they could REFL in a  
 merkwürdige und geheimnisvolle Geschichte verstricken.  
 strange and mysterious story get.involved  
 ‘No one would have believed that they could get involved in a strange  
 and mysterious story.’
- b. German  
 Sie sagen, dass Voldemort letzte Nacht in Godric’s Hollow **auftauchte**.  
 they say that Voldemort last night in Godric’s Hollow turned.up  
 ‘They say that Voldemort turned up in Godric’s Hollow last night.’
- c. Swedish  
 Folk säger att Voldemort **dök** upp i Godric’s Hollow i går  
 people say that Voldemort turned up in Godric’s Hollow yesterday  
 kväll.  
 evening

Further, EV2 in German declaratives is in complementary distribution with overt complementizers, hence the proposal that in a V2 clause the finite verb occupies  $C^0$ . This is not, however, the case for EV2 in Scandinavian. Compare, for example, the German example of EV2 in 11a (no complementizer) with the Swedish example in 11b (complementizer), or the German clause in 12a (complementizer, no V2) with its Faroese counterpart in 12b (complementizer, V2).<sup>6</sup>

- (11) a. German  
 Es heißt, als er Harry Potter nicht töten konnte, **fiel** Voldemorts  
 it is.said when he Harry Potter NEG kill could fell Voldemort’s  
 Macht in sich zusammen.  
 power in REFL together  
 ‘They say that when he couldn’t kill Harry Potter, Voldemort’s power  
 broke.’

<sup>5</sup> Many adverbs in Scandinavian, as in English, can appear either at the left periphery of the VP or in a clause-final position; additional VP-internal material is then required to determine whether a V-Adv order is the result of verb movement to the left, above an adverb in the ‘medial’ position, or of underlying clause-final placement of the adverb. This is one reason why the negative marker is typically used as an indicator of the position of the verb, since it does not have the option of clause-final attachment.

<sup>6</sup> One possible account of this difference is to treat the ‘complementizer’ in Scandinavian, but not German, as a pure marker of subordination, along the lines proposed in Bhatt & Yoon 1991, although it should be observed that this still leaves unexplained the selectional restrictions on EV2 in Mainland Scandinavian.

## b. Swedish

De säger att när han inte kunde döda Harry Potter, **bröts**  
 they say that when he NEG could kill Harry Potter was.broken  
 Voldemorts makt.  
 Voldemort's power

## (12) a. German

Er konnte nicht wissen, dass in eben diesem Moment Versammlungen  
 he could NEG know that in exactly this moment meetings  
**stattfanden.**  
 took.place  
 'He couldn't know that at exactly this moment people were meeting.'

## b. Faroese

Hann kundi ikki vita, at í hesi somu løtu **savnaðust** fólk.  
 he could NEG know that in this same moment gathered people

On the face of it, then, when a finite verb appears before negation or a medial adverb in a subordinate clause in Scandinavian, it could be analyzed either as V-to-T or as EV2. However, there are two properties that have been used to distinguish between these possibilities.

First, in common with other EMBEDDED ROOT PHENOMENA, EV2 in Scandinavian is not distributed equally across all clause types. Although there has been much discussion since the seminal work on embedded root phenomena in Hooper & Thompson 1973, there is no final consensus as to the exact generalization (see Julien 2007, 2010, Wiklund et al. 2009, Wiklund 2010 for recent discussion). Nevertheless, it has been established that EV2 is most generally available in the complement to nonnegated, nonmodalized, nonpresuppositional verbs of ASSERTION OR BELIEF such as *say* or *think*; it is strongly disfavored in the complement of inherently NEGATIVE verbs like *doubt* or *deny*; and it is generally prohibited in clauses in which there is A'-MOVEMENT, such as relative clauses or embedded questions. Thus one argument for V-to-T in Icelandic is that verb-negation (V-Neg) order is grammatical in all types of embedded clauses, while non-subject-initial V2 is at the least highly marginal in, for example, indirect questions (for exceptional cases of negation-verb (Neg-V) order in subordinate clauses in Icelandic, see n. 2).

Second, as shown in Holmberg 1986 for Swedish, even in contexts where EV2 is permitted, it interacts with subsequent EXTRACTION. Thus, while the finite verb can precede the negative marker in 13, as an alternative to appearing in a lower position to its right, only the lower position is possible if WH-extraction takes place out of the complement clause, as shown by the contrast between 13 and 14b. The ungrammaticality of 14b can be accounted for in the same way as that of 14c,d—clear cases of EV2 because of their non-subject-initial order—on the assumption that the position of the verb above negation in 14b is also due to V2 rather than to V-to-T.

## Swedish

(13) Hon sa att vi (inte) skulle (inte) köpa roliga hattar till festen.  
 she said that we (NEG) should (NEG) buy funny hats for party.DEF  
 'She said that we shouldn't buy funny hats for the party.'

(14) Vilken fest sa hon att ...  
 what party said she that  
 'What party did she say that ...'

a. vi inte **skulle** köpa roliga hattar till?  
 we NEG should buy funny hats for  
 'we shouldn't buy funny hats for?'

- b. \*vi **skulle** inte köpa roliga hattar till?  
we should NEG buy funny hats for  
'we shouldn't buy funny hats for?'
- c. \*roliga hattar **skulle** vi inte köpa till?  
funny hats should we NEG buy for  
'we shouldn't buy funny hats for?'
- d. \*antagligen **behövde** vi inte köpa roliga hattar till?  
probably needed we NEG buy funny hats for  
'probably we shouldn't buy funny hats for?'

In contrast,  $V_{fin}$ -Neg order does not create islands for extraction in Icelandic, a second reason why this order in embedded clauses has been attributed to V-to-T rather than to V2 in this language, in contrast to Mainland Scandinavian. The following examples are from Vikner 1995:113.

- (15) Hvernig sagði hún að ...  
how said she that  
'How did she say that ...'
- a. börnin **hefðu** alltaf lært sögu?  
children.DEF had always learned history  
'the children had always learned history?'
- b. ??í skólanum **hefðu** börnin alltaf lært sögu?  
in school.DEF had children.DEF always learned history  
'in school the children had always learned history?'

As a final piece of complexity, there is a long-standing debate about whether EV2 is more freely available in Icelandic than in Mainland Scandinavian, and the question evidently also arises for Faroese. There is little literature on this topic in Faroese, but Heycock et al. 2010 gives evidence that embedded V2 may be more freely available in this language than it is in Mainland Scandinavian. Thus it is clear that in order to determine whether Faroese still has V-to-T, we have to be very careful to exclude any possible confound from EV2.

**3. RESEARCH STRATEGY AND OUTLINE.** As we have just seen, there are at least two ways in which we should be able to tell whether V-Neg orders in Faroese subordinate clauses are the result of V-to-T or of EV2, on the basis of generalizations established in the other Scandinavian languages:

- V-to-T is expected to be equally available in all types of subordinate clauses, while EV2 is predicted to be possible only in a subset of clause types.
- V-to-T is not predicted to interact with extraction; EV2 is predicted to block extraction.

In order to determine the availability of V-to-T in Faroese, then, we need to establish the extent to which V-Neg orders in subordinate clauses in Faroese are (i) unaffected by clause type and (ii) freely allow extraction.

Taking (i) first: we first present existing evidence from production (corpora) concerning the distribution of V-Neg orders in different clause types, comparing Faroese with Danish, the latter serving as a control for what a Scandinavian language without V-to-T looks like. There is some evidence for a difference between the phenomena in the two languages, but the evidence from available corpora is fairly weak. For this reason, we next turn to judgment data. We report on an experiment designed to elicit grammaticality judgments on V-Neg orders in different clause types, and to test whether these track judgments on clear cases of EV2. This is followed by a parallel experiment conducted on Danish, which again functions as an additional control.

We then turn to (ii) and present the results of an experiment eliciting grammaticality judgments on extraction from V-Neg orders in Faroese, comparing them to judgments on extraction from clear cases of EV2. Finally, we discuss the implications of our results, in particular for the relation between morphology and verb movement (the rich agreement hypothesis).

4. LOOKING FOR EVIDENCE OF V-TO-T IN FAROESE: FREQUENCY. A natural place to start looking for evidence of V-to-T in contemporary Faroese is to look at production. The low frequency of the crucial environments, however, makes trying to collect data by conducting sociolinguistic interviews, transcribing them, and then searching for embedded clauses with negation or sentence-medial adverbs prohibitively costly. We elected to make the best use that we could of existing sources. We thus did a search for negated subordinate clauses in the only freely available tagged corpus of Faroese text, the Corpuseye corpus of Faroese.<sup>7</sup> This consists of approximately 112,000 words from the 2004 edition of the *Sosialurin* newspaper and an additional 94,000 words from the Faroese edition of Wikipedia. We also searched in the transcriptions of twenty-two interviews with Faroese speakers carried out and transcribed by Jógvan í Lon Jacobsen (approximately 289,000 words).<sup>8</sup> The negative marker *ikki* was searched for, and then the instances occurring in subordinate clauses were hand-selected and coded for a number of factors, including clause type and context. In order to provide a comparison with Danish, the Mainland Scandinavian language with which Faroese is in most contact and which can be taken as an example of a Scandinavian language that has completely lost V-to-T, a comparable search was done in a subsection of the Corpuseye data from the 2004–2008 editions of the Danish newspaper *Information*. Table 1 summarizes the most direct comparison: the total of 353 embedded clauses containing negation from the Faroese newspaper *Sosialurin* and the first 316 clauses of this type from the Danish newspaper *Information*.<sup>9</sup>

| TYPE OF CLAUSE | FAROESE   |           | DANISH   |           |
|----------------|-----------|-----------|----------|-----------|
|                | V-Neg     | Neg-V     | V-Neg    | Neg-V     |
| Decl           | 74 (41%)  | 106 (59%) | 1 (1%)   | 105 (99%) |
| Result         | 10 (91%)  | 1 (9%)    | 2 (100%) | 0 (0%)    |
| ConsDeg        | 6 (35%)   | 11 (65%)  | 0 (0%)   | 4 (100%)  |
| Cause          | 21 (95%)  | 1 (5%)    | 4 (18%)  | 18 (82%)  |
| Adv            | 1 (4%)    | 27 (96%)  | 0 (0%)   | 50 (100%) |
| IndQu          | 0 (0%)    | 13 (100%) | 0 (0%)   | 4 (100%)  |
| Rel            | 1 (2%)    | 64 (98%)  | 0 (0%)   | 96 (100%) |
| Cond           | 0 (0%)    | 17 (100%) | 0 (0%)   | 32 (100%) |
| Total          | 113 (32%) | 240 (68%) | 7 (2%)   | 309 (98%) |

TABLE 1. V-Neg and Neg-V order in subordinate clauses in Faroese and Danish newspapers.

The clause types in which negation appeared are categorized for the purposes of this summary as follows (all of the examples from 16 to 30 are from the Faroese data).

<sup>7</sup> <http://corp.hum.sdu.dk/cqp fo.html>; Eckhard Bick, Heini Justinussen, Zakaris Svabo Hansen, Trond Trosterud, and Tino Didriksen

<sup>8</sup> These interviews were carried out as part of Jógvan í Lon Jacobsen's doctoral research on attitudes toward loanwords in Faroese, now published as Jacobsen 2012.

<sup>9</sup> The intention was to categorize an exactly equivalent number of Danish examples; after the initial selection, however, further analysis led us to reject a number of cases as not strictly comparable, or ambiguous in their analysis. Because of the limitations of the search interface, it would have been very difficult to go back to the corpus to find the next thirty-seven cases. Since the picture for the Danish text seemed clear, we elected to proceed on the basis of 316 clauses.

- **Decl:** declarative subordinate clauses introduced either by the complementizer *at* ‘that’ or by a null complementizer. This categorization includes complements to verbs, adjectives, and nouns, whether these complements are extraposed or not.

(16) a. *Arbeidsgevaraformaðurin sigur, at hetta er ikki ein hóttan.*  
 employers.association.chairman.DEF says that this is NEG a threat  
 ‘The chairman of the employers’ association says that this is not a threat.’

b. *Men tú hefur fyrr sagt alment, at tú ikki kanst samstarva við Torbjørn Jacobsen.*  
 but you have earlier said publicly that you NEG can collaborate with Torbjørn Jacobsen  
 ‘But you said earlier in public that you cannot collaborate with Torbjørn Jacobsen.’

- **Result:** result clauses introduced by *so (at)* ‘so (that)’.<sup>10</sup>

(17) a. *Í ár hefur fyrirtøkan ikki keypt skinn úr Føroyum orsakað av lágá prísinum, so vit vita ikki, um skinnini eru føroysk ella ikki.*  
 in year has company.DEF NEG bought sheepskin from Faroes due to low prices.DEF so we know NEG if sheepskin.DEF are Faroese or NEG  
 ‘This year the company hasn’t bought sheepskin from the Faroes because of the low prices, so we don’t know whether the sheepskin are Faroese or not.’

b. *... og svín hevði fest hana í botn, so at hon ikki var flotoy longur.*  
 ... and pig had attached it to bottom so that it NEG was floating.island longer  
 ‘... and pig had attached it to the sea floor, so that it was no longer a floating island.’

- **ConsDeg:** ‘consequence of degree’ clauses:<sup>11</sup> declarative clauses in the construction ‘so Adj/Adv (that) ...’. These cases are considered separately as they are thought to have root-like properties in a number of the Germanic languages (Heycock 2006, Julien 2007, 2010).

(18) a. *... tað var so ‘flovísligt,’ at hann vildi ikki tosa um tað.*  
 ... it was so embarrassing that he wanted NEG talk of it  
 ‘... it was so embarrassing that he didn’t want to talk about it.’

b. *... har tað var so trøngt, at tú ikki kundi venda tær uttan at koma í ...*  
 ... where it was so cramped that you NEG could turn 2.REFL without to come in  
 ‘... where it was so cramped that you couldn’t turn around without coming in.’

<sup>10</sup> It is very hard systematically to distinguish ‘purpose’ from ‘result’; some examples are unambiguous, given context, but others are not. Example 17a unambiguously has a result reading, and the Faroese-speaking author judges that only the V-Neg order is a possibility here; 17b is at the least ambiguous between the two types of reading. Note that the presence or absence of *at* following *so* does not force a purpose reading; *at* could be inserted in 17a with no change in grammaticality or interpretation.

<sup>11</sup> Elsewhere we have referred to these clauses as ‘extent’ clauses, but we here adopt the more perspicuous terminology of Julien 2007, 2010.

- **Cause:** adverbial clauses introduced by Faroese *tí* (*at*) ‘because (that)’ or Danish *for* and *fordi* ‘because’.<sup>12</sup>

(19) a. Men tað hjálpti so lítið, tí framgongdin **rakk** ikki til ein  
but it helped so little because success.DEF reached NEG to a  
nýggjan tingmann afturat.  
new MP in.addition

‘But it helped so little, because the success wasn’t enough to result in an additional new MP.’

b. Fyri nøkrum døgum síðan segði tú við Sosialin, at tað ikki var  
for some days since said you to Sosialurin that it NEG was  
nakar trupulleiki at lata Edmund Joensen fara niður, tí hann  
any problem to let Edmund Joensen go down because he  
ikki **kundi** gera nakað, sum undirtøka ikki var fyri í  
NEG could do anything that support NEG was for in  
Føroyum?  
Faroes

‘A few days ago you said to [the newspaper] *Sosialurin* that it was no problem to let Edmund Joensen go down, because he couldn’t do anything for which there was no support in the Faroes?’

- **Adv:** other adverbial clauses (e.g. those introduced by Faroese *tá ið* ‘when’ or *hóast* ‘although’).

(20) a. Hann gekk niðanefir, sum hann og fólk eru von at ganga millum  
he went up as he and people were used to walk between  
bygda, tá ið tað **eru** ikki neyðsynjarørin.  
villages when that it were NEG urgent.errands

‘He walked up, as he and others used to walk between the villages, when there were no urgent errands.’

b. Men tá ið hon ikki **fekk** trýst hesa ætlan ígjøgnum, eru hesar  
but when that she NEG got pushed this plan through are these  
samráðingar helst endaðar.  
talks most.likely ended

‘But when she didn’t manage to push this plan through, these talks are most likely over.’

- **Rel:** relative clauses.<sup>13</sup>

(21) a. Og stuttligt var, at lagt varð fyri við rútmustykki, ið  
and enjoyable was that begun became for with rhythmic.piece that  
**minti** ikki sørt um Safri Duo.  
reminded NEG little of Safri Duo

‘And what was enjoyable was that they started by playing a rhythmic piece that was quite reminiscent of Safri Duo.’

<sup>12</sup> Danish *for* and *fordi* should really be considered separately. In the data from *Information* there were four clauses introduced by *for*, all of which had V-Neg order; there were eighteen clauses introduced by *fordi*, and all of these had the opposite, Neg-V order. This is consistent with proposals in the literature that *for* is a ‘coordinating’ conjunction and *fordi* a ‘subordinating’ conjunction (Diderichsen 1946:202, Lundskaer-Nielsen & Holmes 2010:523, 532).

<sup>13</sup> In the initial coding, relatives with the gap in subject position were coded separately from other relatives, since in this case the Neg-V order is potentially ambiguous between a derivation with a low verb and a derivation where the high placement of negation is due to stylistic fronting of negation. Since the results in the data were essentially categorical in both contexts, however, these two environments have been grouped together in the summary.

- b. ... at hetta er ein støða, sum arbeiðsgevarar ikki hava ávirkan á.  
 ... that this is a situation that employers NEG have influence on  
 ‘... that this is a situation that employers have no control over.’

• **Cond:** conditional clauses.

- (22) a. Síðani 2003 hevur verið møguligt at ganga ígjøgnum tunnulin (um tað  
 since 2003 has been possible to walk through tunnel.DEF if it  
 er ikki gloymt at hava ein lykt) ...  
 is NEG forgotten to have a torch  
 ‘Since 2003 it has been possible to walk through the tunnel (if you  
 don’t forget to bring a torch).’<sup>14</sup>
- b. Til dømis um tað ikki eru pápar og beiggjar okkara, vísa tær á.  
 for example if it NEG are fathers and brothers our point they out  
 ‘For example, if it isn’t our fathers and brothers, they point out.’

The overall distribution of the V-Neg and Neg-V orders given in Table 1 looks very different in the two languages (32% V-Neg in Faroese, 2% V-Neg in Danish), but clearly most of this is due to the difference in declarative complement clauses. However, this is of course the type of clause in which EV2 is most frequent. Ideally we would like to be able to separate out complements to the inherently negative verbs, and/or factives, since these are both contexts that have been established as disfavoring EV2 (see §2.2 above). If V-Neg order in Faroese is the result of embedded V2, rather than V-to-T, it should be disfavored in the complement of such verbs; by contrast, if it is the result of V-to-T, the class of the embedding verb should have no effect on the frequency of V-Neg in its complement. But it turns out that these verbs do not occur frequently—at least not with negation in their complement clauses: for example, we found no examples of complements to inherently negative verbs in either the Faroese or the Danish data from the newspapers, and in fact even when we add the additional 383,000 words in the Wikipedia text and the spoken dialogues to the 112,000-word *Sosialurin* data, the situation does not change. Thus a corpus of just under half a million words is not sufficient to give us a single relevant example of negation in this type of context.

The categories in Table 1 in which EV2 is generally taken to be least likely are the last four: adverbial clauses (other than those expressing cause), indirect questions, relatives, and conditionals. In all of these contexts Danish, as expected, categorically shows the Neg-V order; the Faroese data are not quite categorical, but there are just two examples with the opposite order, out of a total of 123 cases in these categories (the temporal clause in 20a and the relative clause in 21a).

If we add the data from the Wikipedia part of the Corpuseye corpus, and the transcribed conversations, the numbers are as in Table 2.

| TYPE OF CLAUSE | V-Neg     | Neg-V     |
|----------------|-----------|-----------|
| Decl           | 161 (42%) | 224 (58%) |
| Result         | 19 (83%)  | 4 (17%)   |
| ConsDeg        | 15 (50%)  | 15 (50%)  |
| Cause          | 92 (70%)  | 40 (30%)  |
| Adv            | 2 (2%)    | 91 (98%)  |
| IndQu          | 0 (0%)    | 21 (100%) |
| Rel            | 4 (2%)    | 238 (98%) |
| Cond           | 4 (2%)    | 167 (98%) |
| <i>Total</i>   | 297 (27%) | 800 (73%) |

TABLE 2. V-Neg and Neg-V order in *Sosialurin*, Wikipedia, and interview transcriptions.

<sup>14</sup> The noun *lykt* ‘light’ is feminine so the accusative form of the article should be *eina*; the masculine accusative form *ein* is in the original text as found in the Corpuseye data.

In this larger data set we have twenty-one examples of indirect questions, but still no examples of the V-Neg order. There is one apparent example, from the speech of the interviewer in the transcribed conversations, in which the negative *ikki* does follow the finite verb.

- (23) Hvat tú sjálv heldur um tín færleika í enskum, um tú **tosar**  
 what you self think about your competence in English if you speak  
 hann als ikki ella raðið.  
 it at.all NEG or fluently  
 ‘What you yourself think of your competence in English, if you speak it  
 not at all or fluently.’<sup>15</sup>

But we did not count 23 as an example of V-Neg order, because although the modified negative *als ikki* can appear in medial position, it is here coordinated with the manner adverb *raðið*, which cannot. Presumably as a result, the coordinated phrase *als ikki ella raðið* ‘not at all or fluently’ cannot appear in medial position (before the finite verb); the two phrases also cannot be separated, with *als ikki* before the verb and *raðið* after it. Thus we have to conclude that the coordinated structure is in VP-final position (as in the English translation).

As can be seen from the table, in the other three contexts in which V2 is excluded (adverbial clauses, relative clauses, and conditionals), there are a total of ten examples of V-Neg order. Three of these have already been given, as 20a, 21a, and 22a above. For completeness, the remaining seven examples, all from the interview data, are given here.

Adverbial clauses

- (24) Tað var akkurát, sum um man **bleiv** ikki ordiligani involveraður ...  
 it was just as if one became NEG really involved  
 ‘It was just as though one didn’t get really involved ...’ (source: interview)

Relative clauses

- (25) tað verður nógv brúkt altso, sum **er** slett yvirhøvir ikki føroyskt  
 it becomes much used thus which is completely totally NEG Faroese  
 altso ...  
 thus

‘So it gets used a lot, which is really not Faroese at all ...’ (source: interview)

- (26) Tað blivur ræðuliga nógv sovorðið orð brúkt sum **eru** slett  
 it becomes very many such words used which are completely  
 yvirhøvir ikki føroyskt.  
 totally NEG Faroese

‘There are very many words like that used, which are really not Faroese at all.’ (source: interview, same speaker as 25)

- (27) Eitt ella annað sum onkur ikki skilti ella **visti** ikki og sovorðið,  
 one or another that someone NEG understood or knew NEG and such  
 tað irriteraði meg grensuleyst, ha?  
 it irritated me boundlessly PRT

‘Something or other that someone didn’t understand or didn’t know or suchlike, that irritated me beyond measure, right?’ (source: interview)

<sup>15</sup> The masculine pronoun *hann* is unexpected given that it refers back to the neuter word *enskt* ‘English’; this seems to have been a production error, possibly due to the influence of masculine *færleiki* ‘competence’ (Jógvan í Lon Jacobsen, p.c.).

## Conditional clauses

- (28) *also tað verður kanska eitt glopp ímillum har ja, kanska um man*  
 so it becomes perhaps a gap between there yes perhaps if one  
*fer ikki at forstanda hvønnannan*  
 goes NEG to understand each.other  
 ‘so there is something missing perhaps if you end up not understanding  
 each other’ (source: interview)
- (29) *also viss eg føli meg ikki so sterkan í sponskum ...*  
 so if I feel REFL NEG so strong in Spanish  
 ‘so if I consider myself not so strong in Spanish ...’ (source: interview)
- (30) *men eg haldi at tað er gott at duga, at skilja norðurlendskt fyri*  
 but I think that it is good to be.able to understand Scandinavian for  
*tað um vit høvdu ikki verið ein partur av Danmark*  
 that if we had NEG been a part of Denmark  
 ‘but I think it is good to be able to, to understand Scandinavian even if we  
 weren’t a part of Denmark’ (source: interview)

Looking at these examples, it seems that some should be viewed with a certain degree of caution. Of the relative clauses, two—25 and 26—involve the pattern copula-negation-adverb(s)-adjective; there is therefore a potential parse as constituent negation of the AP, as in an English example like *That would be completely and totally not English* (cf. Iatridou 1990). The example of V-Neg in a relative clause in 21a involves the idiom *ikki sørt* ‘not little’, which might therefore also suggest that this is constituent negation; however, the Faroese-speaking author judges that it is perfectly possible to have the negation precede the verb also in this case, showing that the construction is not in fact frozen.

Of the conditional clauses, 28 should perhaps be excluded since the position of the negation is ambiguous—in infinitives in Faroese the negative marker precedes *at*, so the negation could be preverbal in the infinitive clause rather than postverbal in the finite. However, the Faroese-speaking author interprets this sentence as involving matrix negation; hence we have included it in the count. The example in 29 is another possible case of constituent negation of the following AP.

The percentages of V-Neg order in Faroese in Tables 1 and 2 are therefore possibly higher than they should be. But even if we take them as they are, these distributions themselves would provide only extremely weak evidence for concluding that Faroese and Danish differ at all in the availability of V-to-T in subordinate contexts; the percentages are too close to zero to exclude the possibility that these are just errors, particularly given the small *Ns* (where 5% can be due to a single example). If we put together the numbers from the combined Faroese data for adverbial clauses, indirect questions, relatives, and conditionals, and do the same for the Danish newspaper data, the totals are as set out in Table 3. If we test for the possibility that Faroese is more likely than Danish to allow the V-Neg order by running a one-tailed Fisher’s exact test, the *p*-value is 0.05, hence approaching but not achieving significance, where that is set at a value for *p* of less than 0.05, as is standard in linguistics.

|              | V-Neg     | Neg-V      | TOTAL      |
|--------------|-----------|------------|------------|
| Faroese      | 10        | 517        | 527        |
| Danish       | 0         | 182        | 182        |
| <i>Total</i> | <i>10</i> | <i>699</i> | <i>709</i> |

TABLE 3. V-Neg in unambiguously non-V2 contexts.

It is, however, striking that there is such a marked difference between Faroese and Danish in the ‘ambiguous’ contexts given in the first four rows of Tables 1 and 2—those in which embedded V2 is possible, in both Faroese and Danish. Returning to the data where we can most straightforwardly compare the two languages, the newspaper data in Table 1, the rate of V-Neg order in these contexts in Faroese is 48% (111/230); for Danish it is 5% (7/134). A similar result—a relatively high frequency of V-Neg order in Faroese in possible contexts for EV2 and its almost categorical absence in Danish—was also found when, with a class of students at the University of Edinburgh, we compared the first dozen chapters of the Faroese and Danish translations of *Harry Potter and the Philosopher’s Stone*.<sup>16</sup> The numbers for these texts for the same contexts—those allowing EV2—are given in Table 4.

| TYPE OF CLAUSE | FAROESE         |                 | DANISH        |                 |
|----------------|-----------------|-----------------|---------------|-----------------|
|                | V-Neg           | Neg-V           | V-Neg         | Neg-V           |
| Decl           | 24 (59%)        | 17 (41%)        | 0 (0%)        | 28 (100%)       |
| Result         | 1 (17%)         | 5 (83%)         | 0 (0%)        | 3 (100%)        |
| ConsDeg        | 8 (80%)         | 2 (2%)          | 0 (0%)        | 4 (100%)        |
| Cause          | 8 (100%)        | 0 (0%)          | 3 (100%)      | 0 (0%)          |
| <i>Total</i>   | <i>41 (63%)</i> | <i>24 (37%)</i> | <i>3 (8%)</i> | <i>35 (92%)</i> |

TABLE 4. V-Neg and Neg-V order in potential EV2 contexts in opening chapters of *Harry Potter and the Philosopher’s Stone*.

One way to explain this apparent contrast between Faroese and Danish without appealing to any difference in the underlying syntax might be to consider the possibility of differential genre effects in the two languages. We have seen in the Danish newspaper text that the frequency of the V-Neg order in declarative complements approaches zero. But it is known that the rate of V-Neg in such contexts is much higher in spoken Danish. For example, recent work within the LANCHART project has found a rate of 53% V-Neg in declarative complement clauses introduced by the complementizer *at* ‘that’ in their corpus of spoken data (Christensen & Jensen 2011).<sup>17</sup> It is not obvious, however, that there is the same genre differentiation in Faroese. For example, if we look at declarative complement clauses in the Faroese data that we have been considering here, and separate the data from the newspaper texts and from Wikipedia on the one hand, and from the transcribed interviews on the other, the numbers break down as in Table 5. A two-tailed Fisher test indicates that there is no significant association between the type of text and the frequency of the V-Neg order ( $p = 0.30$ , n.s.).

|              | V-Neg      | Neg-V      | TOTAL      |
|--------------|------------|------------|------------|
| Writing      | 77         | 120        | 197        |
| Speech       | 84         | 104        | 188        |
| <i>Total</i> | <i>161</i> | <i>224</i> | <i>385</i> |

TABLE 5. V-Neg in written texts and in transcribed interviews: Faroese.

<sup>16</sup> The Faroese translation investigated is *Harry Potter og Vitramannasteinurin*, translation by Gunnar Hoydal, Bókadeild Føroya Lærarafelags, 2000, Chapters 1–9, 11–13, approximately 53,500 words. The Danish translation is *Harry Potter og de vises sten*, translation by Hanna Lützen, Gyldendal, 2000. This text was not searched independently; instead we searched only for the sentences corresponding to the Faroese sentences we had already identified; due to variation in the sentence types used for translation, this had the result that we considered fewer Danish examples than Faroese.

<sup>17</sup> The rate of V-Neg in declarative complement clauses without a complementizer was reported to be even higher, at 70%.

Thus it could be that what looks like a surprisingly high rate of V-Neg orders in subordinate clauses in Faroese might be due to the rate of EV2 in the vernacular being reflected in written Faroese, while in Danish prescriptive norms might suppress the frequency of EV2 in this genre.

Of course, if this were the whole explanation for the high frequency of the V-Neg order even in written Faroese, then we would expect also to find higher rates of EV2 evidenced by XP-verb-subject order (non-subject-initial V2) in Faroese texts than in Danish ones. And in fact, if we are to try to correct for the possibility of V2 derivations for V-Neg orders in Faroese, it would be ideal to have a way of determining the frequency of EV2 that does not rely on the derivationally ambiguous V-Neg order itself.

Unfortunately, it is very difficult to come up with frequency counts for non-subject-initial V2 orders in either of these languages because even in Danish there is no parsed corpus that can be used, so such frequencies have to be based on manual counts. We did conduct a preliminary count in the two *Harry Potter* texts mentioned above, according to the following procedure. For each text, we looked at the first 1,000 clauses to determine the frequency of non-subject-initial main clauses and of non-subject-initial subordinate clauses of different types. In fact, in this small sample the only examples of non-subject-initial orders in subordinate clauses were in declarative clauses: these totals are given in Table 6.<sup>18</sup>

| TYPE OF CLAUSE | FAROESE    |           | DANISH     |           |
|----------------|------------|-----------|------------|-----------|
|                | nonsubject | subject   | nonsubject | subject   |
| Main           | 101 (18%)  | 453 (82%) | 109 (19%)  | 450 (81%) |
| Embedded       | 6 (9%)     | 63 (91%)  | 2 (3%)     | 61 (97%)  |

TABLE 6. Initial constituent in Faroese, Danish.

Table 6 shows that the Danish and Faroese texts are essentially identical in the rate of non-subject-initial orders in main clauses, at around 18%.<sup>19</sup> Both languages also allow non-subject-initial clauses in embedded declaratives; here the rates seem to diverge somewhat more: in the Faroese text the proportion of non-subject-initial order in declarative complements is 9%, while in Danish it is lower, at 3%. However, there is no statistically significant difference between Faroese and Danish in the frequency of non-subject-initial V2 in these embedded clauses. In contrast, the difference between Faroese and Danish in the frequency of V-Neg vs. Neg-V in embedded declaratives in these texts, as shown in the first row of Table 4, is highly significant (Fisher's exact test,  $p < 0.01$ ).<sup>20</sup> So this provides some evidence that the high frequency of V-Neg orders in Faroese is not entirely attributable to a higher rate of EV2.

An alternative way to look at this is as follows. We know from the first line of Table 6 that 18% of all main clauses in Faroese—which are ALL V2—have non-subject-initial order. Our problem is that in subordinate clauses we cannot be sure how many clauses are instances of V2, because non-V2 is an option in subordinate clauses, and most

<sup>18</sup> Main clauses where the first position is occupied by a quotation were excluded from these counts. Quotations were extremely rare as elements of subordinate clauses; when they occurred in main clauses they were most frequently in first position. As a result, to have included them would have inflated the rate of non-subject-initial order in main clauses.

<sup>19</sup> In fact, we also did the same investigation for the Icelandic translation (*Harry Potter og viskustinninn*, translation by Helga Haraldsdóttir). The ratio in main clauses was the same as in Danish and Faroese (97:472 or 17% non-subject-initial). The comparable figures for embedded clauses were 9:39, 19%.

<sup>20</sup> This is also the case for these orders in the embedded declaratives in the newspaper data in Table 1 (Fisher's exact test,  $p < 0.001$ ).

subject-initial clauses are ambiguous between the two derivations. However, if we make the simplifying assumption that there is no interaction between clause type (main vs. embedded) and the ratio of non-subject-initial to subject-initial V2, we can use the frequency of non-subject-initial V2 observed in main clauses to estimate the frequency of EV2 clauses. That is, since 18% of main clause V2 clauses are non-subject-initial, let us assume that 18% of EV2 clauses are also non-subject-initial. We know the number of such clauses in our sample: Table 6 shows that there are six. So, by hypothesis, these six cases of non-subject-initial EV2 represent 18% of all EV2 clauses: if  $n_F$  is the total number of EV2 clauses in the Faroese data,  $n_F \times .18 = 6$ . So we estimate  $n_F$ , the total number of embedded V2 clauses, at  $6/.18 = 33$ . Since there were sixty-nine embedded clauses in total in the Faroese data, this means an estimated overall rate of EV2 in subordinate clauses in this Faroese text of  $33/69 = 48\%$ .

By the same token, for the Danish writer the actual number of non-subject-initial EV2 clauses is two, and the estimated number of all EV2 clauses in the Danish data,  $n_D$ , is  $2/.19 = 11$ . Since the total number of embedded clauses in the Danish data is sixty-three, the estimated overall rate of embedded EV2 in Danish is  $11/63 = 17\%$ .

Now, finally, we can compare these estimates of the frequency of EV2 to the actual rates of V-Neg order that we found in both texts. In Danish we saw in Table 4 that the rate of V-Neg orders in embedded declaratives in the data from the *Harry Potter* text is zero, lower than the 17% predicted on the basis of the observed frequency of non-subject-initial orders. In Faroese, by contrast, the rate of the V-Neg order in the embedded declaratives in this text is 59%, even higher than the 48% we would expect on the basis of the frequency of non-subject-initial orders. Thus, even if we maximize the possible difference between our independent measure of the frequency of EV2 in Faroese and Danish, we still do not account for all of the difference between the high rate of V-Neg orders in the Faroese text and their absence from the Danish equivalent.

To summarize what we have learned about the frequency of V-to-T in Faroese: subordinate clauses that contain negation (or unambiguously medial adverbs) in clearly non-V2 contexts are relatively infrequent in spontaneous production, whether written or spoken. Given this, while there are sporadic occurrences of examples of word orders that can only be derived via V-to-T in Faroese texts, and while this does not appear to be true where we can do a direct comparison with a Danish equivalent, the total numbers are so low that the data can only be taken to be suggestive of the possibility of some remnants of V-to-T in Faroese. Also suggestive is the high frequency of V-Neg orders in contexts where embedded V2 is possible; there is some evidence that this frequency is higher than would be expected given what we know about unambiguous cases of embedded V2 (those in which V2 is diagnosed by XP-verb-subject order), but the labor involved in establishing this latter type of frequency in the absence of parsed texts means that here too the *Ns* are low and our conclusions can only be tentative. Is there a way to do better than this?

**5. LOOKING FOR EVIDENCE OF V-TO-T IN FAROESE: GRAMMATICALITY.** At this point we turn to how we can investigate V-to-T using grammaticality judgments. Since here we are constructing the examples that are considered, clearly we can avoid the problems posed by the lack of suitable corpora and low overall frequency of the relevant contexts. We do, however, face the known difficulties in interpreting grammaticality judgments, particularly when we expect that the judgments are unlikely to be categorical. And in our specific case, we also need to be sure that we are controlling appropriately for the possible confound of EV2.

**5.1. ACCEPTABILITY OF VERB MOVEMENT IN DIFFERENT CLAUSE TYPES.** The first grammaticality-judgment experiment is designed to test whether V-Neg in subordinate clauses interacts with clause type. As discussed above, to the extent that the V-Neg order can be the result of V-to-T, it should not interact with clause type (as is the case in Icelandic). But if it is the result of EV2, it is predicted to be judged differently depending on the type of clause (as is the case in Danish).

Rather than relying entirely on the available (nonquantitative) data from the literature on mainland Scandinavian concerning contexts disfavoring EV2, or on predictions derived entirely from theoretical proposals of where EV2 should be possible/impossible, we use magnitude estimation to quantify the extent of the dispreference for unambiguous (non-subject-initial) EV2 orders in three different clause types. We then compare this to the dispreference for V-Neg order with respect to Neg-V order in these same contexts. If V-Neg order is freely available as the result of V-to-T, there should be no effect of clause type. By contrast, if V-Neg order at this stage of the language is acceptable only to the extent that it is a case of EV2, we expect that clause type should have exactly the same effect on the acceptability of the V-Neg variant as it does on the non-subject-initial variant. Finally, if V-to-T is an available but dispreferred option, we would expect clause type to have some effect on the acceptability of V-Neg order, but not to the same extent as on non-subject-initial EV2.

**METHODOLOGY.** The judgment data reported here were gathered using the methodology of MAGNITUDE ESTIMATION (ME). The application of ME to grammaticality-judgment tasks is described in Bard et al. 1996, and more recently Keller 2000, Featherston 2005, Sprouse 2007, Bader & Häussler 2010, and Sorace 2010. Subjects are asked to assess the ‘goodness’ of sentences, presented in sequence—in this it is just like other more widely used methods of obtaining grammaticality judgments. Unlike most other protocols for gathering such judgments, however, subjects are explicitly asked to give relative rather than absolute judgments. That is, they are asked to compare sentences and state how much better or worse each sentence is relative to some other sentence, in a proportional way—that is, how many times better or worse. Also, in contrast to most other protocols, no limit is placed on the number of discriminations that can be made; that is, subjects are not asked to make a binary choice or even to place sentences on a two-point, three-point, or fifteen-point scale; rather, they are encouraged to make as many discriminations as they feel capable of.

The ME procedure for linguistic acceptability is analogous to the standard procedure used to elicit judgments for physical stimuli. Subjects are required to assign numbers to a series of linguistic stimuli proportional to the degree of acceptability of the stimuli as they perceive it. First, subjects are exposed to a modulus item, to which they assign an arbitrary number. Then, all other stimuli are rated proportional to the modulus (and hence to each other); for example, if a sentence is three times as acceptable as the modulus, it should receive a number that is three times as large as the modulus number. How the modulus itself is chosen varies from study to study, as does whether the subjects continue to see the modulus as they proceed from one sentence to another. In this study the modulus was selected at random for each subject and did not remain on screen.

All subjects can choose their own scale, although they are encouraged to use as wide a range of numbers as possible. Because of this the scores have to be normalized. This can be done in various ways: in this study the scores for each subject were converted to logs, to correct for the skew that follows from asking for proportional judgments (Keller 2000); they were then converted to *z*-scores (which indicate how far and in what

direction the original score differs from the mean for that speaker, expressed in terms of the standard deviation of the score for that speaker).

DESIGN. In order to quantify the effect of clause type on the acceptability in Faroese of uncontroversial cases of EV2 on the one hand, and V-Neg orders on the other, we made clause type a variable with three values. Subjects were presented with three types of subordinate clauses: declarative complements to *sigja* ‘say’, declarative complements to *nokta* ‘deny’, and interrogative complements to *spyrja* ‘ask’. As discussed above, in Mainland Scandinavian it is known that EV2 is most acceptable in the first of these contexts and least acceptable in the last, with the second having a status somewhere between the two; see Heycock et al. 2010 for a more extensive discussion of EV2 in Faroese.

To measure the effect of these contexts on unambiguous instances of EV2, in each of these three contexts subjects were presented with clauses that had either subject-initial order or adjunct-initial order. As in Heycock et al. 2010, we chose examples with fronted adjuncts to exemplify non-subject-initial V2 rather than examples with fronted arguments, because the latter typically require a discourse context involving some kind of contrast with the fronted argument (see Jónsson 1996 and Hrafnbjargarson & Wiklund 2010 for differences between argument-initial and adjunct-initial EV2).

To establish the same effects on the relative acceptability of the V-Neg order, in the three contexts participants were presented with clauses that had either Neg-V or V-Neg order.

Thus the design was  $3 \times 2 \times 2$ . To make this clearer, examples of all twelve conditions are given in 31–33; the full list of examples is available from the authors.

- Clause type:
  - declarative complement of ‘say’
  - declarative complement of ‘deny’
  - interrogative complement of ‘ask’
- Indicator of verb position (inversion type):
  - subject
  - negation
- Verb position:
  - high (between an initial adjunct and the subject, or, in a negative sentence, between the subject and the negative marker *ikki*)
  - low (after the subject;<sup>21</sup> in a negative sentence, after the negative marker)

(31) a. Beinir segði, at hann hevði verið leingi til arbeiðis í gjárkvøldið.

Beinir said that he had been long at work last night

‘Beinir said that he had been at work late last night.’

SAY-COMPLEMENT; SUBJECT; LOW-VERB

b. Katrin segði, at í gjárkvøldið hevði hon sæð hundin beint uttanfyri.

Katrin said that last night had she seen dog.DEF directly outside

‘Katrin said that last night she had seen the dog just outside.’

SAY-COMPLEMENT; SUBJECT; HIGH-VERB

c. Næmingarnir siga, at teir ikki hava lisið hasa bókina áður.

students.DEF say that they NEG have read that book.DEF before

‘The students say that they haven’t read that book before.’

SAY-COMPLEMENT; NEGATION; LOW-VERB

<sup>21</sup> As is clear from the examples below, in a subject-initial clause with no negative marker or medial adverb, the position of the verb is actually ambiguous; the point, however, is that in such a sentence there is a possible parse that has the verb in a low position.

- d. Lív segði, at hon var ekki komin seint til arbeiðis í gjár.  
Lív said that she was NEG come late to work yesterday  
'Lív said that she hadn't gotten to work late yesterday.'  
SAY-COMPLEMENT; NEGATION; HIGH-VERB
- (32) a. Teir ákærðu noktaðu, at teir hövdu smuglað rúsevni inn í  
those accused denied that they had smuggled drugs into  
landið sjóvegis.  
country.DEF by.sea  
'The defendants denied that they had smuggled drugs into the country  
by sea.'  
DENY-COMPLEMENT; SUBJECT; LOW-VERB
- b. Jákup noktaði, at í gjárkvöldið hevði hann verið á vertshúsinum.  
Jákup denied that last night had he been in pub.DEF  
'Jákup denied that last night he had been in the pub.'  
DENY-COMPLEMENT; SUBJECT; HIGH-VERB
- c. Skiparin noktaði, at hann ikki hevði givið røtt veiðitøl upp  
skipper.DEF denied that he NEG had given correct fish.numbers up  
síðsta túr.  
last outing  
'The skipper denied that he hadn't declared the correct catch for the last  
voyage.'  
DENY-COMPLEMENT; NEGATION; LOW-VERB
- d. Janus noktaði, at hann hevði ikki sitið íbundin á baksetrinum.  
Janus denied that he had NEG sat belted.in in back.seat.DEF  
'Janus denied that he hadn't put on his seatbelt while in the back seat.'  
DENY-COMPLEMENT; NEGATION; HIGH-VERB
- (33) a. Lærarin spurdi, um hon hevði verið í Íslandi og ferðast í  
teacher.DEF asked if she had been to Iceland and traveled in  
summar.  
summer  
'The teacher asked if she had been traveling in Iceland in the summer.'  
ASK-COMPLEMENT; SUBJECT; LOW-VERB
- b. Vikaruri spurdi, um hinar tímarnar hövdu tey órógvað  
supply.teacher.DEF asked if those hours had they disturbed  
líka illa sum henda.  
equally badly as this  
'The supply teacher asked if in the other classes they had behaved as  
badly as this.'  
ASK-COMPLEMENT; SUBJECT; HIGH-VERB
- c. Lærarin spurdi, um teir ikki hövdu verið í grind í gjár.  
teacher.DEF asked if they NEG had been to whale.kill yesterday  
'The teacher asked if they hadn't been at the whale kill yesterday.'  
ASK-COMPLEMENT; NEGATION; LOW-VERB
- d. Venjarin spurdi, um teir hövdu ikki sæð sjónvarpsdystin  
trainer.DEF asked if they had NEG seen television.match  
í gjárkvöldið.  
last night  
'The trainer asked if they hadn't seen the match on television last  
night.'  
ASK-COMPLEMENT; NEGATION; HIGH-VERB

Note that in all cases the finite verb in the complement clause is either auxiliary *hava* 'have' or *vera* 'be'; this is to ensure that there is no doubt about the placement of the negative marker *ikki*, and also to avoid any possible confound arising from possible differences between auxiliaries and main verbs with respect to their positional preferences.<sup>22</sup> The subject of the complement clause is always a pronoun. Platzack (1988) argued that in the history of Swedish, 'V3' orders (with the finite verb lower than negation or sentence-medial adverbs) are more common with pronominal subjects than with full noun phrase subjects. In order to avoid any possible confound here, all of our examples have only one type of subject.<sup>23</sup>

There were three example sentences for each condition, resulting in a total of thirty-six test sentences. These were combined with eighteen sentences from two other experiments, and twenty-five other fillers of varying grammaticality, so in all each participant judged seventy-nine sentences.

**SUBJECTS.** The sentences were judged by fifty native speakers of Faroese, divided into three age groups: eighteen to thirty, forty to fifty-five, and sixty-five and over. There were seventeen in the youngest age group (eleven women, six men), sixteen in the middle group (eight women, eight men), and seventeen in the oldest group (seven women, ten men).

**PROCEDURE.** The sentences were presented using the web program WebExp2 (Keller et al. 1998, 2009). All of the Faroese participants did the experiment on a laptop. The presentation began with an introduction to the idea of giving proportional judgments through a trial session involving line length; this was followed by a trial session of linguistic judgments before the sentences that comprised the experiment were presented, in a random order that was different for each participant. Sentences were presented one at a time on screen, with no opportunity to go back to earlier decisions.

**RESULTS.** As discussed, we are interested in the effect of clause type on clear cases of V2 and on cases that are potentially ambiguous between V2 and V-to-T. We expect that declarative complements to 'say' will allow V2, and hence adjunct-initial order, relatively freely (as in example 31b). We also expect that this order may be slightly more restricted in declarative complements to 'deny' (32b), and much more restricted in interrogative complements to 'ask' (33b). The corresponding subject-initial examples (as in 31a, 32a, 33a) are predicted to be fully grammatical. Nevertheless, since the verbs *nokta* 'deny' and *spyrja* 'ask' are likely to be lower frequency than *siga* 'say', and may also differ in semantic and pragmatic complexity, there may be effects of clause type regardless of the word order within the complement. For example, the combination of the inherently negative verb 'deny' with a negated complement, as in 32c and 32d, might be expected to present difficulties in processing. In order to abstract away from any such effects, which are irrelevant to our analysis, for each participant we calculated the difference between the normalized judgment scores for the subject-initial and adjunct-

<sup>22</sup> Children acquiring Faroese appear to make such a distinction, in that they are more likely to produce V-Neg order if the verb is an auxiliary than if it is a main verb (Heycock et al. 2013), and there is some evidence for the same tendency in adults (Bentzen et al. 2009).

<sup>23</sup> Platzack argued that in Old Swedish pronominal subjects may cliticize to the complementizer, leaving the subject position empty, a structure that allows for stylistic fronting of the negative marker or adverb. If such stylistic fronting takes place, the result is a superficially V3 order. In contemporary Faroese, however, there is no evidence of any such cliticization, and stylistic fronting is much less common than it was in Old Swedish; we therefore consistently used pronominal subjects as this allowed us to restrict the length and complexity of the example sentences.

initial examples in each of the clause types. Similarly, in order to look at whether clause type has an effect on the V-Neg order, we calculated the difference between the judgment scores for the V-Neg order (as in examples 31d, 32d, 33d) and those for the corresponding examples with Neg-V order (as in 31c, 32c, 33c). In all cases we subtract the score for the ‘high verb’ condition from the ‘low verb’ condition. If both orders are judged equally acceptable in a given context, the difference will be zero. The higher the score above zero, the greater the preference for the low verb order over the corresponding high verb order. A score below zero would indicate a preference for the high verb order over the corresponding low verb order.

The difference in scores between the two word orders in the different clause types is shown in Figure 1. The dashed line shows the degree of preference for the Neg-V over the V-Neg order (clauses where the position of the verb is shown by its order with respect to negation), the solid line the preference for the subject-initial over the adjunct-initial order (clauses where the position of the verb is shown by its order with respect to the subject).

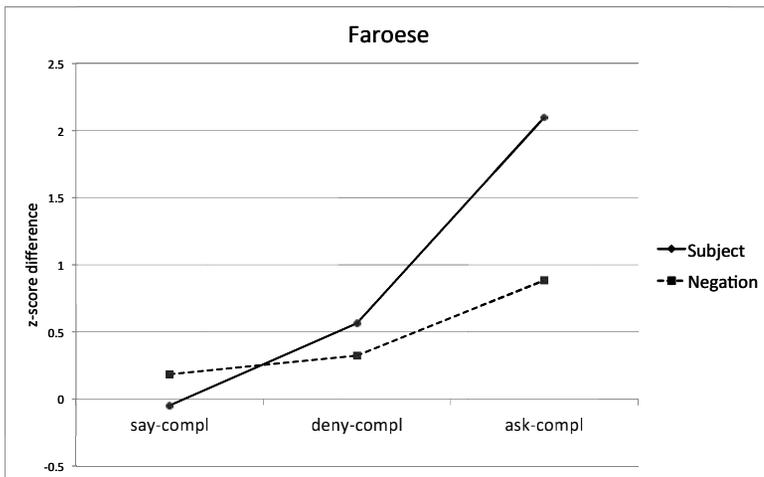


FIGURE 1. Faroese: the effect of verb position in different clause types.

These results are for all the Faroese participants, in all three age groups. Based on the literature, we had expected differences between the three groups. Specifically, we had expected that older participants would be more likely than younger participants to accept the V-Neg order in clause types where V2 is excluded or dispreferred. However, we found no main effect of Age, and no interactions of Age with any of the variables in this experiment.

Turning to the linguistic variables: as the graph suggests, there is a main effect of Clause Type ( $F(2,94) = 138.42, p < 0.001$ ) and also a main effect of Inversion Type (inversion of the verb with negation or with the subject) ( $F(1,47) = 46.74, p < 0.001$ ). Recall that a score of zero represents no difference between the judgments on sentences with the verb in a high or low position. The finding that there is a main effect of Clause Type means that, overall, clause type has an effect on the difference preference for a low rather than high placement of the verb; the main effect of Inversion Type means that overall (that is, lumping the data from all clause types together), the dispreference for adjunct-initial word order compared to subject-initial word order is greater than the dispreference for V-Neg order compared to Neg-V.

On their own, however, these main effects are not very meaningful for us. It is expected that clause type should have an effect on the preference for examples with no subject-verb inversion compared to those with subject-initial order (a preference shown by the solid line in Fig. 1), and that is indeed what we see here. The main effect of clause type, however, also includes the effect on the preference for Neg-V over V-Neg order (the dashed line). The graph suggests that there is a similar effect of clause type here as well (the preference for Neg-V over V-Neg seems possibly greater in complements to *nokta* ‘deny’ than in complements to *sigá* ‘say’, and clearly greatest of all in interrogative complements to *spyrja* ‘ask’). But the question that we are really interested in is whether the effect of clause type is the SAME in both cases. That is to say, are judgments on the V-Neg order affected by clause type to the same extent as judgments on the Adj-V-Subj order? On the one hand, if V-Neg order is the result of EV2, as in Danish, we expect that the effect of clause type on the V-Neg order should be the same as the effect on the adjunct-initial order. On the other, if V-Neg orders can also arise through V-to-T, we expect that the effect of clause type on V-Neg order should be less than on adjunct-initial order (if V-to-T is freely available, as in Icelandic, there should in fact be no effect of clause type on V-Neg order at all: the dotted line should be flat). To determine whether clause type has the same effect on judgments of V-Neg order as it does on judgments of adjunct-initial order, we need to determine whether there is an interaction between the effect of Clause Type and the effect of Inversion Type. That is, are the dotted and solid lines effectively parallel or not? The answer is that there is an interaction: ( $F(1,47) = 35.08, p < 0.001$ ).

From the graph it is clear that overall the interaction is due to a greater effect of clause type on the preference for uninverted (subject-initial) clauses over those with subject-verb inversion (adjunct-initial) than on the preference for Neg-V over V-Neg order; that is to say, clause type has a greater effect on the preference for subject-initial order over adjunct-initial order than it has on the preference for Neg-V over V-Neg. From the ANOVA, however, we cannot be sure whether this is all due to the large separation between the two cases in interrogative complements to *spyrja* ‘ask’, or whether the difference in the slopes between complements to *sigá* ‘say’ and complements to *nokta* ‘deny’ is also significant.

Partly in order to answer this question, and also in order to make sure that our results were as robust as possible, we additionally conducted an analysis using MIXED MODELING (see e.g. Baayen 2008). Initially we ran a global model with factors Clause Type, Inversion Type, and Age. This confirmed the results of the ANOVA reported above: there was no significant effect of Age, and no significant interaction between Age and any of the linguistic variables. There was a significant effect of Clause Type ( $t = -5.825, p < 0.001$ ) and approaching significance of Inversion Type ( $t = 1.932, p = 0.054$ ), and a significant interaction of Clause Type with Inversion Type ( $t = -2.782, p < 0.01; t = -8.507, p < 0.001$ ).

In order to pinpoint where non-subject-initial clauses behaved differently from V-Neg clauses, we then split this global model into two smaller models, the first comparing the effect of complements to *sigá* ‘say’ with complements to *nokta* ‘deny’, and the second comparing the effect of complements to *sigá* with interrogative complements to *spyrja* ‘ask’. For the first of these two models—comparing complements of *sigá* ‘say’ to complements of *nokta* ‘deny’—there was a significant main effect of Clause Type ( $t = -5.541, p < 0.001$ ) and an interaction of Clause Type and Inversion Type ( $t = -3.486, p < 0.001$ ). For the second model—comparing complements of *sigá* ‘say’ to interrogative complements of *spyrja* ‘ask’—there were again significant main effects of Clause Type

( $t = -15.815, p < 0.001$ ) and Inversion Type ( $t = -5.454, p < 0.001$ ), and a significant interaction of Clause Type and Inversion Type ( $t = -8.035, p < 0.0001$ ). Additionally, in this model there was a significant main effect of Age ( $t = 2.061, p < 0.05$ ), such that as age increases, the difference between acceptability ratings for high and low verbs decreases.

DISCUSSION. The results of this experiment replicate those of the comparison reported in Heycock et al. 2010 in showing that in Faroese, non-subject-initial V2 is very freely accepted in declarative complements to *sigá* ‘say’, while it is largely rejected in interrogative complements to *spyrja* ‘ask’. While in the earlier study we found that non-subject-initial V2 was accepted as freely in complements to declarative complements to *ivast um* ‘doubt’, *nokta* ‘deny’, and *vera stoltur av* ‘to be proud of’, taken as a group, as it was in complements to *sigá* ‘say’, however, here we found that the non-subject-initial order was slightly worse after ‘deny’ than it was after ‘say’.

Most important for us here, however, is the finding that while clause type has an effect also on the grammaticality of V-Neg as opposed to Neg-V orders, the effect is significantly weaker, both in declarative ‘deny’-complements and interrogative ‘ask’-complements. This is unexpected if V-Neg order can now arise only in Faroese as an instance of V2; if this were the case we would expect the effect to be the same, since there would only be a single underlying phenomenon. This difference between V-Neg orders and non-subject-initial orders then suggests that V-to-T is not completely lost even in contemporary Faroese, but that speakers still have it as a—markedly dispreferred—option in their grammars. Note that all the instances of ‘V-to-T’ here involve the negative marker *ikki*, rather than a sentence-medial adverb. In Heycock et al. 2010 it was shown that Faroese speakers are more willing to have the verb precede certain medial adverbs than to allow it to precede negation, thus suggesting that Faroese may have here the same grammatical settings as some of the Regional Northern Norwegian dialects (Bentzen 2005, Bentzen et al. 2009). However, Bentzen reports that in these dialects movement of the verb across negation is fully ungrammatical, while here we are seeing that in Faroese this movement is still available to speakers.

It should be noted that the one instance that we found of an effect of age (the greater dispreference for high verb position among younger speakers compared to the older group) is in the direction that is expected given that we know the historical trend is the loss of V-to-T. What we would really expect if the older speakers were behind in this change, however, would be an INTERACTION of age with clause type and verb placement, rather than a main effect. That is to say, since EV2 is available to speakers of all grammars in the complement to *sigá* ‘say’, speakers who more freely allow V-to-T would not be expected to differ from younger speakers here; rather the difference should show up only in the V-Neg order (i.e. not the non-subject-initial order), and disproportionately in the context that most disfavors EV2: interrogative complements. The evidence for a generational difference in these data, therefore, is very weak. While this was unexpected given the literature on this change, our other investigations of judgments of related constructions in Faroese have also so far failed to show clear evidence of generational difference (and see also Bentzen et al. 2009). One possible conclusion is, of course, that the change has been halted before going fully to completion, and that Faroese is now in a stable state. Given the lack of any evidence for ‘change in apparent time’ in our data, we cannot disprove this possibility. It would nevertheless be surprising given what we know about how the same change progressed—and did go to completion—both in Swedish and in Danish. The alternative explanation, which we are inclined to favor, is that this syntactic change is at the very tail end of the ‘S-shaped curve’ that is characteristic of lin-

guistic change (Bailey 1973, Kroch 1989). As is now well known, as a change goes to completion, the rate of change slows, and generational differences are expected to become less and less marked. We hypothesize that Faroese is at this very late stage, where the curve has flattened out, but the change is still ongoing.

**5.2. COMPARISON WITH DANISH.** We have argued that the results from this first Faroese judgment task indicate that V-to-T is still an available, albeit heavily dispreferred, option for Faroese speakers. The basis for this conclusion is the finding that V-Neg orders are judged more grammatical than non-subject-initial EV2 in equivalent contexts, and hence that V-Neg orders cannot be being consistently treated by speakers as only derivable as another case of (subject-initial) EV2.

This conclusion, however, relies on the assumption that subject-initial V2 (only detectable in an SVO V2 language by the position of the finite verb with respect to negation and medial adverbs) and adjunct-initial V2 are equivalent, an assumption that is not unassailable.<sup>24</sup> On a TRUNCATION analysis of the restrictions on embedded V2—one in which V2 does not occur in certain embedded clauses because these have a less elaborated set of clausal projections and hence fewer positions for an XP and the finite verb to move to (see e.g. Julien 2007, 2010, Wiklund et al. 2009)—it could be proposed that even when the verb moves to a position above negation but below the subject, the subject is still in a lower position than that occupied by a sentence-initial adjunct—that is, that the subject in an example like 32d, repeated here as 34a, is in a lower position than the adverbial *í gjárvøldið* ‘last night’ in 32b, repeated here as 34b.

- (34) a. Janus noktaði, at hann hevði ikki sitið íbundin á baksetrinum.  
 Janus denied that he had NEG sat belted.in in back.seat.DEF  
 ‘Janus denied that he hadn’t put on his seatbelt while in the back seat.’  
 DENY-COMPLEMENT; NEGATION; HIGH-VERB
- b. Jákup noktaði, at í gjárvøldið hevði hann verið á vertshúsinum.  
 Jákup denied that last night had he been in pub.DEF  
 ‘Jákup denied that last night he had been in the pub.’  
 DENY-COMPLEMENT; SUBJECT; HIGH-VERB

This would then open the possibility that a verb might select for a complement that could include the projection hosting a moved subject, but not the projection required for a sentence-initial adjunct. It should be said, however, that we are not aware of any clear cases of such a distribution, at least within Germanic; observe also that even in Faroese, the subject-initial V-Neg complements are better than the adjunct-initial complements in ‘deny’ and ‘ask’ complements, but that they are still degraded; this would be unexpected under such a hypothesis. Alternatively, under the kind of analysis of embedded topicalization advanced in Haegeman 2007, 2010, according to which the restrictions are due to an INTERVENTION effect, one could hypothesize that the features responsible for subject movement are distinct from those that attract the adverbial, and that only the latter create an intervention effect (again, though, the degraded status of the relevant examples in Faroese and the absence of any other attested clear case of this distribution would remain to be explained).

In order to rule out the possibility that the difference between the adjunct-initial and the V-Neg clauses in Faroese is due to some distinction between two different types of

<sup>24</sup> Perhaps surprisingly, while Vikner (1995) argues that V-Neg orders in both Danish and Faroese are the result of the same kind of V2 that gives rise to adjunct-initial order, his data from Danish suggest that there is at least in some cases in Danish a difference in judgments—but in the opposite direction from what we observe for Faroese (Vikner 1995:125). As is shown below, we did not detect such a difference in our experiment.

V2, we decided to replicate our first experiment in a language similar to Faroese, but in which V-to-T is categorically excluded: Danish. Danish is known to have lost V-to-T around 1500–1700, and its absence from the standard language and at least most dialects is uncontroversial. It is therefore equally uncontroversial that the possibility of V-Neg orders in subordinate clauses is due to V2 (for detailed discussion, see Vikner 1995). Danish is thus an ideal minimal comparison to Faroese that can allow us to determine empirically whether V-Neg orders arising unambiguously from V2 in embedded contexts are judged in the same way as adjunct-initial orders.

**METHODOLOGY AND DESIGN.** The methodology and the structure of the experiment were identical to the one described for Faroese in §5.1. All of the materials and the other instructions were translated into Danish, making changes only where necessary to make the examples more natural, either in terms of idiomatic use of language or cultural references. The largest number of changes were in fact in the ungrammatical fillers, since in Faroese these often contained inappropriate case or agreement morphology that has no counterpart in Danish. The full list of examples is available from the authors; here we give one example of each of the test conditions, corresponding to the Faroese cases in 31–33.<sup>25</sup>

- (35) a. Sten sagde at han havde været længe på arbejde i går aftes.  
 Sten said that he had been long at work last night  
 ‘Sten said that he had been at work late last night.’  
 SAY-COMPLEMENT; SUBJECT; LOW-VERB
- b. Katrine sagde at i går aftes havde hun set hunden lige udenfor.  
 Katrine said that last night had she seen dog.DEF directly outside  
 ‘Katrine said that last night she had seen the dog just outside.’  
 SAY-COMPLEMENT; SUBJECT; HIGH-VERB
- c. Eleverne siger at de ikke har læst den bog.  
 students.DEF say that they NEG have read that book  
 ‘The students say that they haven’t read that book.’  
 SAY-COMPLEMENT; NEGATION; LOW-VERB
- d. Maren sagde at hun var ikke kommet for sent på arbejde i går.  
 Maren said that she was NEG come late to work yesterday  
 ‘Maren said that she hadn’t gotten to work late yesterday.’  
 SAY-COMPLEMENT; NEGATION; HIGH-VERB
- (36) a. De anklagede nægtede at de havde smuglet narkotika ind i  
 those accused denied that they had smuggled drugs into  
 landet i en turistbus.  
 country.DEF in a tour.bus  
 ‘The defendants denied that they had smuggled drugs into the country  
 in a tour bus.’  
 DENY-COMPLEMENT; SUBJECT; LOW-VERB
- b. Brian nægtede at i går aftes havde han været på værtshus.  
 Brian denied that last night had he been in pub  
 ‘Brian denied that last night he had been in the pub.’  
 DENY-COMPLEMENT; SUBJECT; HIGH-VERB

<sup>25</sup> The choice of the verb *nægte* for ‘deny’ was not optimal; in fact, this verb typically occurs with either nominal or nonfinite complements; the most natural verb here would be *benægte*. Since the same verb was used throughout, however, there is no reason to think that the relative unnaturalness of the choice of matrix verb will have affected the difference in the judgments given to the variant orders in the complement clause, which is what we are measuring.

- c. Kaptajnen nægtede at han ikke havde opgivet korrekte fangsttal  
 captain.DEF denied that he NEG had given correct catch.numbers  
 efter sidste fisketur.  
 after last fishing.trip  
 ‘The skipper denied that he hadn’t declared the correct catch for the last voyage.’

DENY-COMPLEMENT; NEGATION; LOW-VERB

- d. Jens nægtede at han havde ikke haft sikkerhedssele på.  
 Jens denied that he had NEG had seat.belt on  
 ‘Jens denied that he hadn’t had his seat belt on.’

DENY-COMPLEMENT; NEGATION; HIGH-VERB

- (37) a. Læreren spurgte om hun havde været på ferie i Norge sidste  
 teacher.DEF asked if she had been on holiday to Norway last  
 sommer.  
 summer  
 ‘The teacher asked if she had been on holiday in Norway in the summer.’

ASK-COMPLEMENT; SUBJECT; LOW-VERB

- b. Vikaren spurgte om de andre timer havde de forstyrret  
 supply.teacher.DEF asked if the other hours had they disturbed  
 lige så meget som den her.  
 equally so much as this  
 ‘The supply teacher asked if in the other classes they had behaved as badly as this.’

ASK-COMPLEMENT; SUBJECT; HIGH-VERB

- c. Læreren spurgte om de ikke havde været til byfest i går aftes.  
 teacher.DEF asked if they NEG had been to village.party last night  
 ‘The teacher asked if they hadn’t been at the local festival last night.’

ASK-COMPLEMENT; NEGATION; LOW-VERB

- d. Træneren spurgte om de havde ikke set kampen i fjernsynet  
 trainer.DEF asked if they had NEG seen match.DEF on television.DEF  
 i går aftes  
 last night  
 ‘The trainer asked if they hadn’t seen the match on television last night.’

ASK-COMPLEMENT; NEGATION; HIGH-VERB

SUBJECTS AND PROCEDURE. As with the Faroese version, the Danish experiment was run using WebExp2. However, we did not have the opportunity to meet with the Danish participants, who instead completed the experiment online (for a description and a validation of the procedure, see Keller & Sorace 2003). A total of thirty-one native speakers of Danish did the experiment, but the results from one participant were not included in the analysis since this person used a high number of zero scores and a very narrow range, contra the instructions. Most of the participants were university students at the University of Aarhus, but an additional eight were recruited through other contacts. The ages of the participants ranged from nineteen to sixty-three, with a mean age of twenty-eight and a median of twenty-four; there were twenty females and ten males. Since we had no expectation that there would be generational differences in the Danish speakers (and had found none in the Faroese speakers), we did not group the participants into age groups. In order to check whether age had any effect, however, we included Age as a covariate.

RESULTS. Again duplicating our procedures for the Faroese version, for each participant we calculated the difference between the judgment scores for the subject-initial and adjunct-initial examples. Similarly, in order to look at whether clause type has an effect on the V-Neg order, we calculated the difference between the judgment scores for the V-Neg order (as in examples 35d, 36d, 37d) and those for the corresponding examples with Neg-V order (as in 35c, 36c, 37c). Again, in all cases we subtract the score for the ‘high verb’ condition from the ‘low verb’ condition. If both orders are judged equally acceptable, the difference will be zero; a higher score indicates a greater preference for the low verb order over the corresponding high verb order.

The difference in scores between the two word orders in the different clause types is shown in Figure 2. The dotted line shows the degree of preference for the Neg-V over the V-Neg order, the solid line the preference for the subject-initial over the adjunct-initial order.

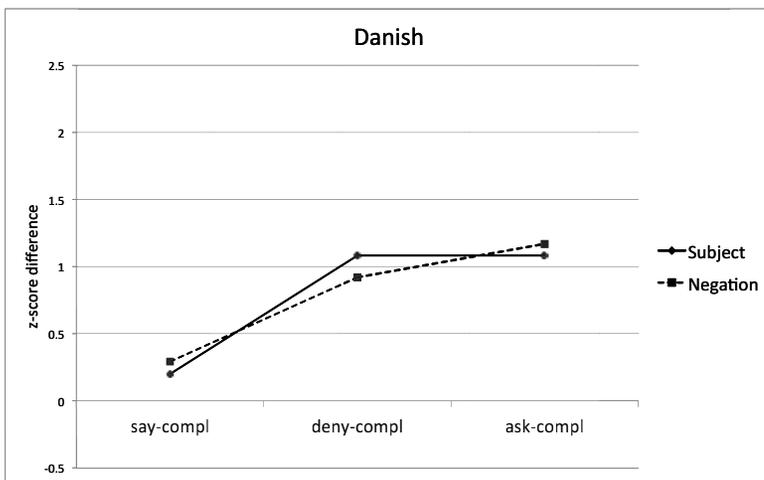


FIGURE 2. Danish: the effect of verb position in different clause types.

We included Age as a covariate in the ANOVA analysis; there was no main effect of Age, and no interactions of Age with any of the within-subjects variables.

As the graph suggests, there was a significant main effect of Clause Type ( $F(2,56) = 12.291, p < 0.001$ ). In contrast to Faroese, however, there was no significant main effect of Inversion Type, and there was no significant interaction between Inversion Type and Clause Type.

We did the same analyses using mixed modeling as we had for Faroese. We initially ran a global model with factors Clause Type, Inversion Type, and Age. The results are consistent with the ANOVA: there was a significant effect of Clause Type ( $t = 8.063, p < 0.001$ ) but no effect of Inversion Type, and no interaction of Clause Type with Polarity.

We then constructed two submodels, the first comparing complements of *sige* ‘say’ to complements of *nægte* ‘deny’, and the second comparing complements of *sige* to complements of *spørge* ‘ask’. In both cases there was a main effect of Clause Type ( $t = 6.054, p < 0.001$ ) (the preference for low verb orders was greater after *nægte* and *spørge* than after *sige*), but there was no main effect of Inversion Type. That is to say, overall, the preference for adjunct-initial orders over subject-initial orders was the same as the preference for Neg-V orders over V-Neg orders. There was also no interaction be-

tween Clause Type and Inversion Type: the greater dispreference for adjunct-initial orders over subject-initial orders in the complements of *nægte* and *spørge* was the same as the greater dispreference for V-Neg orders over Neg-V orders in these clause types.

DISCUSSION. The first difference between Faroese and Danish that may be noted from visual inspection of the two sets of graphs is that in Faroese the major break in the acceptability of EV2 is between the complements to the negative verb ‘deny’ and the interrogative complements to ‘ask’, while in Danish the major break is between the complements to ‘say’ and the other two complement types. This result provides further confirmation of the conclusion in Heycock et al. 2010 that Faroese (and Icelandic) differ from Danish in the availability of EV2 in ‘nonbridge’ declarative contexts, contra suggestions in Wiklund et al. 2009.<sup>26</sup> The force of this confirmation is perhaps somewhat weakened by our use of *nægte* rather than *benægte* as the translation of ‘deny’ (see above).

The crucial difference for the main point of this article, however, is that in Danish, unlike Faroese, the effect of V2—as evidenced by the dispreference for non-subject-initial compared to subject-initial orders—is identical to the effect of moving the verb over negation—as evidenced by the dispreference for V-Neg orders compared to Neg-V orders. Thus in Danish we see that the judgments of these two phenomena are exactly as predicted by theories that treat them as having the same derivation (see in particular Vikner 1995). Recall that this was not the case in Faroese: as shown in Fig. 1, in Faroese the judgments on the V-Neg order are intermediate between what would be expected if V-to-T were freely available and what would be expected if V2 were the only derivation to yield the V-Neg order. The results from Danish therefore provide additional empirical evidence to back up our interpretation of the Faroese results as involving a residue of V-to-T in that language. That is, they provide justification for treating the difference in the judgments between non-subject-initial orders and V-Neg orders in Faroese as evidence for the continuing availability of a different derivation for the V-Neg order, the best explanation being the persistence of the option of V-to-T alongside V2.

**5.3. ACCEPTABILITY OF VERB MOVEMENT IN INTERACTION WITH EXTRACTION.** Finally, we conducted one further cross-check on the results from the first two experiments just described, by exploiting the second of the two differences between V-to-T and EV2 discussed in §§2.2 and 3: EV2 interacts with extraction, while V-to-T does not. To recap, Holmberg (1986) showed that in Swedish, even in contexts in which EV2 is permitted, such as the complement to verbs like ‘say’, it creates an island for extraction. Crucially, he further showed that this is true regardless of whether the initial constituent is an object, an adjunct, or a subject (in the last case, the EV2 derivation is evident only from the position of the verb above negation). This is in contrast to V-to-T, which of course does not interact with extraction.

We therefore set up a second judgment task in which we compared the extent to which non-subject-initial V2 and V-Neg orders in the complement of *sigja* ‘say’ interacted with WH-extraction. Based on the literature, we expect extraction from an embedded clause with non-subject-initial EV2 to be ungrammatical. If V-Neg order has only a V2 derivation, extraction should be equally ungrammatical from an embedded clause with this word order (Holmberg 1986, Vikner 1995). If V-to-T were freely available, by contrast, this order should not block extraction. Finally, if V-to-T is available but dispreferred, we expect reduced grammaticality for extraction out of a clause with V-Neg order, but not to the same extent as one with non-subject-initial V2.

<sup>26</sup> It should be noted that Wiklund and colleagues do hedge their conclusions with respect to Faroese by mentioning the possibility that their findings might be restricted to one dialect of the language.

METHODOLOGY AND DESIGN. The judgment data were again gathered using the methodology of magnitude estimation (see §5.1).

As for the design, in all of the test sentences, the verb *siga* ‘say’ took as its complement a subordinate clause that included a finite form of the modal *skula* ‘should’ and an instance of negation. There were three possible word orders in the subordinate clause: subject-negation-verb, subject-verb-negation, and adjunct-verb-subject-negation (where the verb is a finite form of the modal). To test for the effect of extraction, we compared cases where there was no extraction to cases where a locative adjunct *hvar* ‘where’ was extracted, and to cases where an inanimate direct object *hvat* ‘what’ was extracted. Thus the design was  $3 \times 3$ . Examples of all nine conditions are given in 38–40. The full list of examples is available from the authors.

- Order in embedded clause:
  - subject-negation-verb
  - subject-verb-negation
  - adjunct-verb-subject-negation
- Extraction:
  - no extraction
  - adjunct extraction
  - object extraction

- (38) a. Læknin segði, at tú ikki skalt eta feitt seint um kvöldið.  
 doctor.DEF said that you NEG should eat fat late in evening.DEF  
 ‘The doctor said that you shouldn’t eat fatty food late in the evening.’  
 NEG-V; NO EXTRACTION
- b. Tannlæknin segði, at tú skalt ikki drekka sodavatn aftur við  
 dentist.DEF said that you should NEG drink soda also with  
 matinum.  
 food.DEF  
 ‘The dentist said that you shouldn’t drink soda with your food.’  
 V-NEG; NO EXTRACTION
- c. Kostráðgevin segði, at um kvöldið skalt tú ikki eta stóra  
 dietitian.DEF said that in evening.DEF should you NEG eat big  
 máltíð.  
 meal  
 ‘The dietitian said that you shouldn’t eat a big meal in the evening.’  
 ADJ-INIT; NO EXTRACTION
- (39) a. Hvar siga fiskifrøðingar, at skipini ikki skulu royna eftir toski í  
 where say marine.biologists that ships NEG should fish for cod in  
 gýtingartíðini?  
 breeding.season  
 ‘Where do marine biologists say that ships should not fish for cod during the breeding season?’  
 NEG-V; ADJUNCT-EXTRACTION
- b. Hvar siga fuglafrøðingar, at menn skulu ikki fara eftir eggum í  
 where say ornithologists that people should NEG go after eggs in  
 verpingartíðini?  
 nesting.season  
 ‘Where do ornithologists say that people should not look for eggs in the nesting season?’  
 V-NEG; ADJUNCT-EXTRACTION

- c. Hvar sigur Fiskimálaráðið, at í ár skulu bátarnir ekki royna  
 where say ministry.for.fisheries that in year should boats.DEF NEG hunt  
 eftir upsa?  
 for saithe  
 ‘Where does the Ministry for Fisheries say that this year boats should  
 not fish for saithe?’

ADJ-INIT; ADJUNCT-EXTRACTION

- (40) a. Hvat segði læknin, at tú ikki skalt eta seint um kvöldið?  
 what said doctor.DEF that you NEG should eat late in evening.DEF  
 ‘What did the doctor say that you shouldn’t eat late in the evening?’  
 NEG-V; OBJECT-EXTRACTION
- b. Hvat segði ferðaleiðarinn at vit skuldu ekki taka við niðan í  
 what said excursion.leader.DEF that we should NEG take with up in  
 fjøllini?  
 mountains.DEF  
 ‘What did the leader of the excursion say that we shouldn’t take with us  
 up into the mountains?’  
 V-NEG; OBJECT-EXTRACTION
- c. Hvat segði læknin, at tíðliga um morgunin skalt tú ekki  
 what said doctor.DEF that early in morning.DEF should you NEG  
 drekka?  
 drink  
 ‘What did the doctor say that you shouldn’t drink early in the morn-  
 ing?’

ADJ-INIT; OBJECT-EXTRACTION

As in the first experiment, there were three example sentences for each condition, resulting in a total of twenty-seven test sentences. They were combined with eighteen sentences from another experiment and twenty-five other fillers of varying grammaticality, so in all each participant judged seventy sentences.

**SUBJECTS AND PROCEDURE.** The results from the first judgment task did not show any effect of age, and this was true of two further sets of questions not discussed here. Therefore for this judgment task we did not go back to all three age groups, but instead obtained judgments from the two younger age groups (18–30, 40–55). There were thirty-one speakers in all, fifteen (nine women, six men) in the youngest and sixteen (eight women, eight men) in the middle age group.

The procedure was exactly as described for the first judgment task in §5.1.

**RESULTS.** As just discussed, for this task we had only two age groups. Again we found no main effect of Age and, more relevantly, no interaction of Age with any of the linguistic variables.

Both of the linguistic variables (word order in the subordinate clause, and extraction) had a significant main effect: Order:  $F(2,58) = 99.607, p < 0.001$ ; Extraction:  $F(2,58) = 97.623, p < 0.001$ . There was a significant interaction between the two linguistic variables ( $F(4,116) = 43.646, p < 0.001$ ). The results of the ANOVA are graphed in Figure 3. Note that this graph shows the means of the normed scores in each condition; that is, here the points in the graph represent these means, not differences between means.

As before, in addition to the ANOVA we additionally conducted an analysis using mixed modeling. Initially we ran a global model with factors Order, Extraction, and Age. There were significant main effects of Order ( $t = -10.043, p < 0.0001$ ) and Ex-

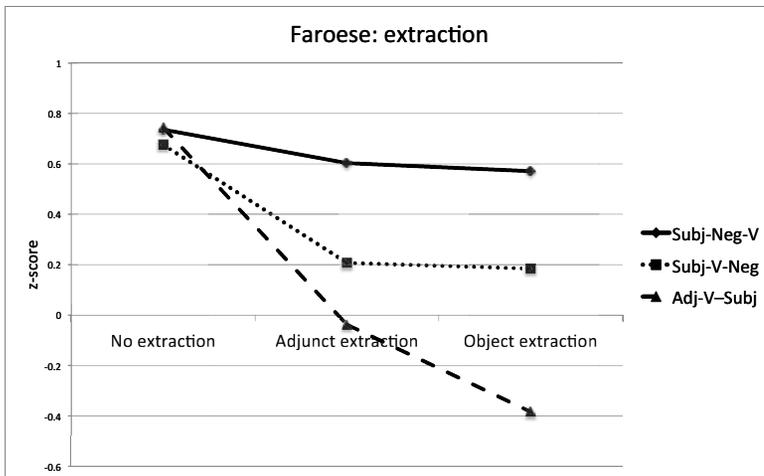


FIGURE 3. The effect of extraction from different word orders in Faroese.

traction ( $t = -8.685$ ,  $p < 0.001$ ). There was a significant interaction of Extraction and Order ( $t = -4.999$ ,  $p < 0.001$ ), and of Age and Extraction ( $t = -2.177$ ,  $p < 0.05$ ).

The hypothesis that we are testing with this experiment is whether V-Neg order interacts with extraction in the same way as adjunct-initial order. We are therefore again principally interested in interactions, rather than main effects. In order to avoid trying to interpret overly complex interactions, we split the model into four submodels. First, we consider just the effect of adjunct extraction vs. no extraction when the verb follows or precedes negation (the first and second points on the solid line and the dotted line in Fig. 3). There is a significant interaction between the two variables (Order and Extraction): extraction is relatively worse out of complements with Subj-V-Neg order (dotted line) than it is out of complements with Subj-Neg-V order (solid line) ( $t = -3.970$ ,  $p < 0.001$ ); that is to say, as suggested by the different initial slope of the solid and dotted lines, V-Neg order blocks extraction of an adjunct in a way that Neg-V order does not.

It is clear from the graph that extraction of adjuncts is also relatively worse out of complements with adjunct-initial order (Adj-V-Subj) than out of complements with Subj-Neg-V order, as all the literature would predict (the initial slope of the dashed line is steeper than the initial slope of the solid line). In order to compare this effect of EV2 on extraction to the effect of V-Neg order on extraction, we look at the first and second points on the dotted line and the dashed line in Fig. 3. In this submodel there is a significant main effect of Extraction ( $t = -12.628$ ,  $p < 0.001$ ), while the main effect of Order only approaches significance ( $t = -1.885$ ,  $p = 0.061$ ); more importantly for our concerns, there is a significant interaction of Extraction and Order also here ( $t = 3.133$ ,  $p < 0.01$ ). That is to say, Adj-V-Subj order has an even stronger blocking effect on extraction than V-Neg order does, while these two orders are equally acceptable in the absence of extraction.

Looking now at the second and third points on the solid line and the dotted line in Fig. 3 (adjunct vs. object extraction when the verb in the subordinate clause precedes or follows negation), there is a main effect of Order ( $t = -7.566$ ,  $p < 0.001$ ), but no main effect of Extraction or interaction between Order and Extraction. That is to say, extraction out of a subordinate clause with Subj-V-Neg order in Faroese is worse than extrac-

tion out of a subordinate clause with Subj-Neg-V order, but this regardless of whether what is extracted is an adjunct or an object.

The final submodel corresponds to the second and third points on the dotted line and the dashed line in Fig. 3 (adjunct vs. object extraction from the Subj-V-Neg order and the Adj-V-Subj order). Here there is a main effect for both Order ( $t = -6.976, p < 0.001$ ) and Extraction ( $t = 3.372, p < 0.01$ ), and a significant interaction between them ( $t = 2.840, p < 0.01$ ). That is, extraction out of a subordinate clause with Adj-V-Subj order is worse than extraction out of a subordinate clause with Subj-V-Neg order; and in addition the difference is greater for object extraction than for adjunct extraction.

DISCUSSION. The judgments in this task confirm those of Holmberg (1986) and Vikner (1995) concerning the interaction between extraction and unambiguous embedded V2. While the unambiguous EV2 (adjunct-initial) complements to ‘say’ are as good as subject-initial orders in the absence of extraction, extraction out of such complements of either an adjunct or an object has a significant effect on grammaticality.<sup>27</sup> We can discount the possibility that this effect is just due to the greater complexity of extraction since the same extraction out of the Subj-Neg-V order has only a negligible effect. We also see that in Faroese extraction interacts with the order of the embedded verb with respect to negation: extraction out of an embedded clause where the verb is to the left of negation results in lower grammaticality, an effect that it does not have when the verb remains in a low position to the right of negation. This is not as would be expected if V-to-T were freely available. However, just as we found when looking at the effect of clause type, so too here we see that in Faroese V-Neg orders also do not exactly track V2 orders; while extraction makes V-Neg orders less grammatical, the effect is significantly smaller than when extraction is out of a clause that unambiguously instantiates V2. Thus this judgment task strengthens the result from the previous one: V-Neg orders in Faroese do not behave as they should if they were simply the result of V2, again suggesting that a V-to-T derivation is accessible to speakers.

One question that might be raised is whether what we have been describing as intermediate judgments in these data are the result of combining two populations of speakers: one with a grammar in which V-to-T is still fully available (Jonas’s Faroese 1) and one in which it is excluded (Jonas’s Faroese 2). Heycock et al. 2010 investigated the existence of these two varieties as geographic dialects and found no evidence for a distinction; here we have seen that there is no consistent effect of age either. Nevertheless, it might be that two categorically—or near-categorically—distinct varieties are distrib-

<sup>27</sup> What is unexpected in the results is that object extraction out of non-subject-initial embedded clauses was judged even worse than adjunct extraction. If anything, the reverse pattern might be expected, since adjuncts are generally more susceptible to island effects than arguments. One possibility is that this is an artefact of the difficulty in completely excluding readings where the adjunct is extracted from the matrix rather than the embedded clause. The extracted adjunct was always the locative *hvar* ‘where’; although it is pragmatically implausible to ask about the location of a speech event, it is possible that some speakers may have constructed an interpretation where the locative bound an implicit locative argument in the matrix subject, so that an example like (i) might be construed as a question along the lines of *Marine biologists of which country say that ships should not fish for cod during the breeding season?*

- (i) Hvar siga fiskifrøðingar, at skipini ikki skulu royna eftir toski í gýtingartíðini?  
 where say marine.biologists that ships NEG should fish for cod in breeding.season  
 ‘Where do marine biologists say that ships should not fish for cod during the breeding season?’  
 NEG-V; ADJUNCT-EXTRACTION

Alternatively, there might be some kind of garden-path effect caused by an initial misparse of the ‘what’ as a complement of ‘say’, which then has to be corrected (Heidi Harley, p.c.).

uted more randomly in the population. If our data did result from the mixing together of two distinct populations of speakers, we would expect to find a bimodal distribution of judgments on examples of V-Neg orders where a V2 derivation is excluded. To test this, we ran the Shapiro-Wilk test for normality on the conditions that were tested. If the test is significant, this means that the distribution of answers is not normal. This turned out to be the case for only two conditions in this judgment task: V-Neg order with no extraction ( $W = 0.864, p < 0.001$ ) (as exemplified in 38b), and V-Neg order with adjunct extraction ( $W = 0.920, p < 0.05$ ) (as exemplified in 39b). Notice that even the postulation of two populations of speakers, one allowing and one disallowing V-to-T, would actually predict a bimodal distribution only in the second of these two cases; both populations should find the first equally acceptable, since this is a context in which, as we have seen, a V2 derivation is available to all speakers. But in any case inspection of the histograms does not show the second peak that would constitute evidence of bimodality (Figures 4 and 5).

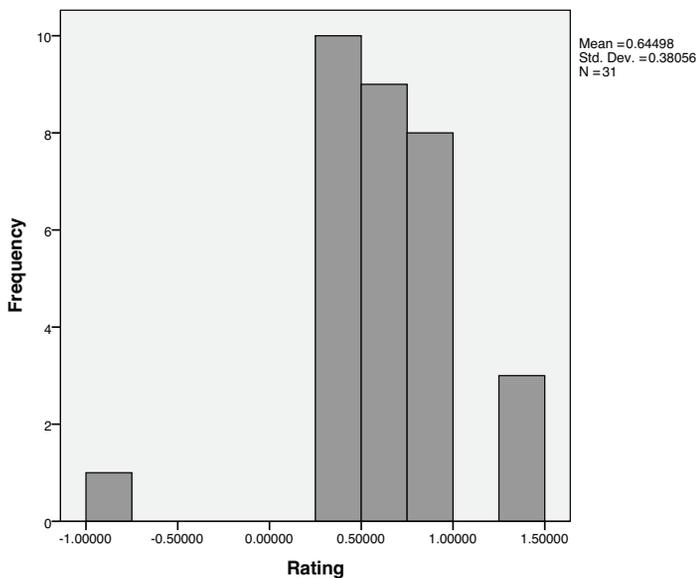


FIGURE 4. Distribution of judgments on V-Neg order, no extraction.

We can therefore reject the hypothesis that the ‘intermediate’ judgments are the result of mixing two different populations.

**6. WHAT CAN WE LEARN FROM FAROESE ABOUT V-TO-T AND ITS LOSS?** In this article we have shown that there is overlapping evidence from judgment data that Faroese is at the very tail end of the loss of V-to-T, but that this change has not yet gone to completion; the residual availability of V-to-T shows up in the contrast between the ways in which the syntactic context (clause type and extraction) affects V-Neg orders on the one hand and unambiguous instances of V2 on the other.

On the methodological side, we believe that this study demonstrates that judgment data can be revealing of the status of different syntactic variants even when one is strongly dominant; and indeed that in such cases, particularly where for other reasons corpus data are not plentiful, judgment data may be much more informative than corpus data, as suggested also in Bader & Häussler 2010. Of course, there are other types of

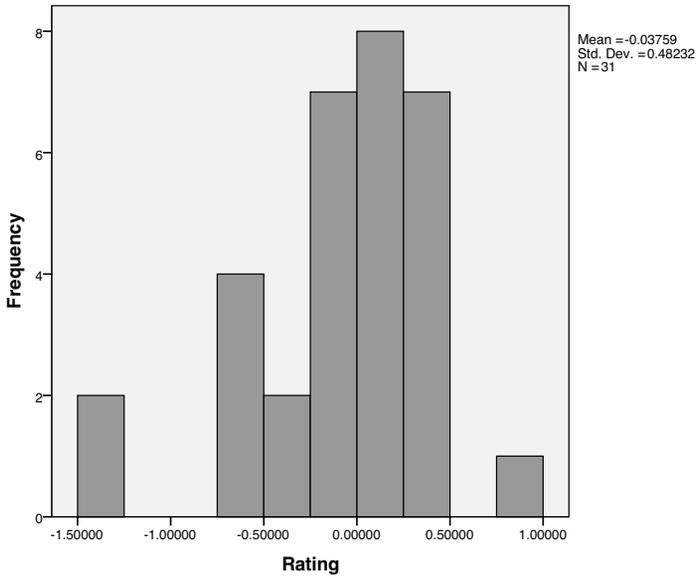


FIGURE 5. Distribution of judgments on adjunct extraction from V-Neg order.

data that could be brought to bear; in particular, we did not attempt in this study any on-line measures of the availability of the different structures; we hope to do this in future work.

On the theoretical side, we can ask what these data contribute to our understanding of the phenomenon of V-to-T and the mechanisms of its loss. As mentioned at the beginning of this article, virtually all attempts to explain the distribution of V-to-T in modern European languages (at least in Germanic and Romance), and the diachrony of its loss in (standard) Danish, (standard) Swedish, and English, have appealed to the connection with the morphological agreement paradigm in the relevant languages: this is the rich agreement hypothesis (RAH). There are two theoretically distinct but in practice partially overlapping distinctions that characterize such accounts. The first is whether the connection between the morphology and the syntax is ‘strong’ or ‘weak’. Strong accounts (e.g. Rohrbacher 1994, 1999, Vikner 1997b, Koenenman & Zeijlstra 2010, 2011) propose a biconditional relation: a language has verb movement if and only if it has rich agreement. Weak accounts (Thráinsson 1996, Bobaljik & Thráinsson 1998, Bobaljik 2002, Thráinsson 2010) propose only a one-way entailment: V-to-T is required by rich agreement, but is possible in its absence. The second distinction has to do with the definition of rich agreement. In some accounts (e.g. Rohrbacher 1999, Koenenman 2000, Koenenman & Zeijlstra 2010, 2011), what is crucial is the presence of ‘enough’ person distinctions, in addition to a number distinction; for others (Vikner 1997b, Bobaljik & Thráinsson 1998, Bobaljik 2002, Thráinsson 2003), what is crucial is the copresence of distinct affixal morphology for agreement and tense.

Abstracting away from the specifics of the analyses, it is not possible to disprove a one-way implication in favor of a biconditional, but in principle the reverse is possible; the crucial cases are of course languages in which ‘poor’ agreement coexists with V-to-T. Bobaljik and Thráinsson (1998) essentially propose that Faroese is such a case (at least, the postulated dialect Faroese 1 that freely allows the V-Neg order). Hence it is evidence against any strong version of the RAH. One possible answer to this argument—the an-

swer given in Vikner 1997a, Rohrbacher 1999, Koenen & Zeijlstra 2010—is that Faroese has entirely lost V-to-T, and hence is consistent with the strong RAH. But as we have now seen, Faroese has NOT entirely lost V-to-T, and so this counterexample to the RAH cannot be so swiftly dismissed. In fact, probably an even more problematic case is the situation in Middle Danish, as described and analyzed in Sundquist 2002, 2003: by 1350 all person distinctions in the agreement paradigm in Danish have been lost, so that only a number distinction remains, but V-to-T in subordinate clauses in texts from the first half of the sixteenth century occurs at an overall rate of over 40%,<sup>28</sup> and even in the second half of the seventeenth century it occurs at a rate of over 12%.<sup>29</sup> Thráinsson (2003:185) makes a similar point about the ‘lag’ in the loss of V-to-T in Swedish, basing his conclusion on Platzack 1988 and Falk 1993.

In fact, what Faroese, Middle Danish, and Late Old/Early Modern Swedish may be taken to illustrate is a slightly different generalization from the ones proposed by either the strong or the weak versions of the RAH: in the languages considered, rich agreement entails V-to-T, and poor agreement entails unstable variation between V-to-T and V-in-situ, leading to loss of V-to-T.<sup>30</sup> And it is important to bear in mind that all of the evidence that we have suggests that in all cases the variation is not just at the population level but, as is typical for cases of diachronic change, also at the individual level (see Kroch 2001). That is, the corpus data and our judgment data converge on individual speakers producing/accepting both variants (at various different rates), rather than a population of speakers who have converged on different grammars. This situation requires modifications to either the strong or the weak version of the RAH.

Thráinsson proposes to adopt a ‘grammar competition’ account (Kroch 1989, 2001, Santorini 1989, Pintzuk 1991):

The data available to the child acquiring Faroese are ambiguous (or internally inconsistent) with respect to verb movement. The verbal morphology is in itself not rich enough to trigger a positive setting of the Split-IP Parameter (SIP). Yet the child will hear (and later read) a considerable number of sentences that can only be interpreted as involving V-to-T (finite verbs preceding sentential adverbs in non-V2 contexts). While these sentences will trigger a positive setting of the SIP, the child will also hear (and later read) a number of sentences where V-to-T should apply in a split IP language but does not. Hence (s)he will assume that two structures are possible in the language, namely a split IP and a non-split IP. (Thráinsson 2003:180)

The idea is that rich morphology is of itself sufficient to ensure that a child postulates distinct syntactic heads for Agreement and Tense (the positive setting of the split-IP parameter, requiring verb movement), but other cues—including V-Neg order in the relevant contexts—can also allow the parameter to be set.

<sup>28</sup> There is considerable variation between the individual texts in each period, again possibly partly due to the scarcity of the relevant data, noted in §4 above.

<sup>29</sup> Sundquist gives the figures both for subordinate clauses where there is a potential ambiguity with embedded V2 and for those, such as relative clauses and adverbial clauses, where such a derivation is excluded. Remarkably, all through the period he studies (1500–1700), the rate of V-Neg is statistically indistinguishable in the two contexts, dropping in tandem throughout the period. This is very unlike what we see in Faroese, where in our study, as in all of the other studies of which we are aware—including those that include data from older periods (although unfortunately there is little written Faroese before the late eighteenth century)—there is a significant difference between contexts in which EV2 is available as an alternative parse and those in which it is not. This difference may suggest that there has always been some kind of prescription against EV2 in written Danish that is not present in Faroese, and that our records of the change in Faroese pick up the language at or after the stage at which Sundquist’s study of Danish leaves off.

<sup>30</sup> Of course, as discussed in §5.1 above, we cannot yet know for sure whether V-to-T will be totally lost in Faroese, although this is our expectation.

This account, taken together with the assumption that a single speaker may access two grammars, is clearly compatible with a situation of variation such as we find in modern Faroese. However, it provides no explanation for how the change ever got under way. That is, under these assumptions modern Faroese descends from a language that had rich agreement and obligatory verb movement (a single, positive setting of the SIP). As a result of morphological change, rich agreement is lost. But at this point ALL the sentences that are the input to the child can be interpreted as involving V-to-T. Some are certainly susceptible to alternative analyses (for example, EV2), but there should be NO sentence ‘where V-to-T should apply in a split IP language but does not’. So, without auxiliary assumptions, no change is predicted. One possibility is some bias in acquisition. If, once the morphology allows for the possibility of V-in-situ, this analysis is preferred wherever it is available, then ambiguous cases (such as V-Neg order in a possible environment for EV2) will be preferentially parsed as not involving V-to-T; such a bias would both introduce an EV2 analysis even in a situation where no data unambiguously supported it and drive it forward. The problem here, however, is that there is no evidence for such a bias; in fact, results from preschool children acquiring Faroese suggest that they initially overestimate the frequency of V-to-T with respect to the input (Heycock et al. 2013).<sup>31</sup> An alternative possibility for the introduction of the V-in-situ variant is that it could be the result of language contact. In the case of Faroese, which has been in quite intense contact with Danish for many centuries, this is a perfectly plausible scenario; a mechanism driving the change forward, however, is still required. Whether similar scenarios are equally plausible for the other Scandinavian languages that have undergone the change is a question that we cannot pursue here.

Turning to the RAH as recently taken up again in Koenen & Zeijlstra 2010, 2011: as it stands it is not compatible with the kind of variability that we see in the languages at issue. The claim of these authors is that verb movement is a result of a language having a functional head ARG[ument]<sup>0</sup> that instantiates an interpretable formal feature with values [+/-speaker, +/-participant, +/-singular]. It is proposed that the only type of evidence that an acquirer can access to motivate the postulation of such a formal feature is the overt existence of an element differentiated according to the same set of values, but itself uninterpreted: in the case at hand, the agreement morphology on the verb. Now, if Faroese simply does not have enough agreement morphology (as Koenen and Zeijlstra argue is the case), the functional head ARG<sup>0</sup> cannot be postulated and verb movement cannot be triggered. That is, Koenen and Zeijlstra reject as a matter of theoretical principle the proposal of Bobaljik and Thráinsson (1998) that distributional evidence is enough for a child to postulate a distinct head for agreement. Thus it seems that persistence of individual variation in Middle Danish, Late Old/Early Modern Swedish, and Faroese is straightforward evidence against their account. Koenen and Zeijlstra (2010) are aware of this issue, and say about this situation:

the language learners in this new stage of the language [when the relevant verbal inflection had been lost] no longer could acquire the proper cues for V-to-I movement. Yet, at the same time, they still were confronted with a massive, distributional evidence of V-to-I movement in their language input, namely the finite verb occurring to the left of adverbial elements. This paradoxical situation led to a number of possible solutions for the language learner:

<sup>31</sup> This developmental pattern (‘overproduction’ of V-to-T) has also been noted in the acquisition of Swedish: see Håkansson & Dooley-Collberg 1994 and in particular Waldmann 2008. However, the results in Heycock et al. 2013 show that this phenomenon persists much longer in the Faroese children than has been documented for their Swedish counterparts. This again provides (indirect) support that there must be more V-to-T in the language of the adults providing their input.

*Lack of V-to-I movement:* This is what is predominantly observed in most languages under discussion (e.g. Danish, Standard Norwegian/Swedish). The cue for V-to-I movement was gone. However, such a step is probably too big a step at once, and we may in fact witness a time gap between verbal deflection and loss of V-to-I movement. It is expected that children would no longer always move the finite verb, but also utter V in situ sentences. In a sense, such a stage of the language is reminiscent of those languages that optionally allow V movement. (2010:301–2)

It seems fair to say that here Koeneman and Zeijlstra are in fact undermining their claim of biconditionality and the principles that underlie it. If even one generation of children can successfully acquire a grammar in which there is verb movement without the ARG<sup>0</sup> head and the corresponding uninterpretable formal feature, then that is a possible grammar, and one or another of the proposed principles concerning what drives such movement has to be given up. Alternatively, if the ARG<sup>0</sup> head can be acquired without the relevant morphology, the proposed principle against the use of distributional evidence for the acquisition of such a head has to be abandoned—in which case the analysis and the predictions about change become much more similar to that of Bobaljik & Thráinsson 1998.<sup>32</sup>

For the case of Faroese, at least, there is a possible adaption of the proposal of Koeneman & Zeijlstra 2010 that could make it more consistent with the data. Although it is always said that Faroese only has at most a two-way person agreement distinction in the verbal system (which for Koeneman and Zeijlstra is insufficient to postulate an uninterpretable ARG feature, as it is less than the minimum set distinguishing pronouns), this is not completely true of all conjugations. It is an accurate characterization of the most regular and productive paradigm for weak verbs, and Rohrbacher was quite explicit that his generalization referenced only such paradigms. The present tense of the weak verb *kalla* ‘to call’ is given in Table 7.<sup>33</sup> In the past tense there is no person distinction even in the singular, and in fact in some dialects the merger of unstressed vowels has led to the loss even of the singular/plural distinction (Weyhe 1996, Thráinsson 2003).

| <i>kalla</i> ‘to call’ | SINGULAR | PLURAL |
|------------------------|----------|--------|
| 1ST PERSON             | kall-i   | kalla  |
| 2ND PERSON             | kalla-r  | kalla  |
| 3RD PERSON             | kalla-r  | kalla  |

TABLE 7. Present tense of the weak verb *kalla* in Faroese.

There are, however, weak verbs that continue to show a distinction between all three persons in the singular present; some are given in Table 8, where only the singular is shown, since in the plural the ending is *-a* throughout.<sup>34</sup>

<sup>32</sup> We are here somewhat misrepresenting what Koeneman and Zeijlstra (2010) propose concerning Faroese: they do not, in fact, include it under the heading of languages whose ‘solution’ to the loss of morphology led to lack of V-to-T movement; rather, their suggestion is that V-to-T movement was reinterpreted as embedded V-to-C (EV2). The suggestion that the relatively free availability of EV2 in Faroese might be due to a reinterpretation of V-to-T as EV2 is made already in Heycock et al. 2010:92, but of course this proposed development cannot be taken to be an alternative to the loss of V-to-T movement, but must be in addition to it; while Icelandic and Faroese are alike in their relatively free availability of EV2, Icelandic has V-to-T in, for example, indirect questions, while this is the option that is near to being lost in Faroese. So here we are assuming that Koeneman and Zeijlstra (2010) would explain this latter aspect of Faroese in the way that they propose for Danish and Standard Norwegian/Swedish.

<sup>33</sup> All paradigms are quoted from Thráinsson et al. 2004.

<sup>34</sup> Although the alternation between the vowel and the *-gv* ending of the stem may seem unexpected, this is actually a fairly regular process known as *Verschärfung*.

|            |                         |                      |                    |
|------------|-------------------------|----------------------|--------------------|
|            | <i>trúgva</i> ‘believe’ | <i>doyggja</i> ‘die’ | <i>rógva</i> ‘row’ |
| 1ST PERSON | trúgv-i                 | doygg-i              | rógv-i             |
| 2ND PERSON | trý-rt                  | doy-rt               | rø-rt              |
| 3RD PERSON | trý-r                   | doy-r                | rø-r               |

TABLE 8. Present tense, singular, of three weak verbs from class 4 in Faroese.

In addition, a number of strong verbs whose stem ends in *-r*, some of them very high frequency, such as *fara* ‘go’ and *gera* ‘do’, also have a three-way distinction in the present singular, as illustrated in Table 9.<sup>35</sup>

|            |                  |                  |                     |
|------------|------------------|------------------|---------------------|
|            | <i>fara</i> ‘go’ | <i>gera</i> ‘do’ | <i>bera</i> ‘carry’ |
| 1ST PERSON | far-i            | ger-i            | ber-i               |
| 2ND PERSON | fer-t            | ger-t            | ber-t               |
| 3RD PERSON | fer              | ger              | ber                 |

TABLE 9. Present tense, singular, of three strong verbs in Faroese with stems in *-r*.

It might then be proposed that, on the basis of this kind of morphology, a child has enough evidence for the postulation of an uninterpretable ARG feature and the corresponding interpretable ARG<sup>0</sup> head. Note, however, that we would have to make two further assumptions: first, that the child also allows for an alternative analysis, motivated by the regular weak paradigm, under which the agreement morphology is not paired with an ARG<sup>0</sup> head. Second, it is essential that once these two different formal statuses for agreement morphology have been arrived at, they are not tied to particular paradigms or particular verbs. That is, we would want to avoid predicting that a form like *fert* ‘go[–speaker, +participant, +singular]’ from a ‘rich’ paradigm will always move, while a form from a ‘poor’ paradigm like *kalli* ‘call[+speaker, +singular]’ will not. Instead it must be possible that a speaker has access to both alternatives. Under such a conception, what the partial loss of morphology does is introduce a syntactic alternative into the system, one that can then be used both in production and in parsing. As with the Bobaljik and Thráinsson proposal, ultimately we also need some way of explaining why the alternation has not been stable over time.

While we are thus unable to fully resolve the questions surrounding the distribution of V-to-T and the motivation for its loss, the situation that we have been able to explicate in modern Faroese has allowed us to rule out some alternatives, and to better focus on the subquestions that need to be addressed. On the one hand, the adaptation of the strong version of the rich agreement hypothesis that we think would be necessary to maintain it in the light of the data from Faroese, as well as the time-course of the morphological and syntactic changes that took place in Swedish and Danish, relies on the continuing presence of a more extensive agreement paradigm in parts of the verbal system. Evidence for this morphology is available in modern Faroese (and see Weyhe 1996 for discussion of the historical and dialectal situation); research on the history of Danish and Swedish could establish whether such an account could be maintained for the

<sup>35</sup> As discussed in Weyhe 1996 and subsequently in Thráinsson 2003, Thráinsson et al. 2004, in the dialect spoken in the southern islands of Suðuroy and Sandoy the second-person singular ending is being lost, or restricted to the order where the finite verb inverts with the subject; but there seems to be no correlation with a lower likelihood of verb movement. Indeed, the Faroese author known as Heðin Brú (1901–1987) was from Sandoy and frequently omits the second-person *-(s)t* ending even in his writing, but he is the single speaker most cited as showing a high frequency of V-to-T.

history of these languages. On the other hand, we can now see that any account of the loss of V-to-T requires an explanation for why the variation that we see in the course of these changes is unstable. Preliminary work on the acquisition of verb placement in subordinate clauses has if anything thrown up more mysteries, but this is clearly an area in which further work could make a major contribution to our understanding of the mechanisms of syntactic change.

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Heycock  
University of Edinburgh  
School of Philosophy, Psychology and Language Sciences  
Dugald Stewart Building  
3 Charles Street  
Edinburgh, EH8 9AD  
Scotland, United Kingdom  
[heycock@ling.ed.ac.uk]  
[antonella@ling.ed.ac.uk]  
[zakarish@setur.fo]  
[fflwilson@gmail.com]  
[sten.vikner@hum.au.dk]

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