

Non-subject initial clauses and the left periphery in Icelandic: A distributional approach

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Abstract

This paper presents a comprehensive analysis of preverbal constituent placement in Icelandic V2 sentences, with a focus on the frequency and positioning of various non-subject elements in the preverbal slot. Our findings indicate that in Icelandic matrix V2 clauses, a DP is positioned preverbally in 68% of cases, with subject DPs accounting for 90% of these instances. Conversely, AdvPs and PPs are found in the preverbal slot in 19% and 10% of our analyzed examples, respectively. Notably, when temporal or locative adverbs are present, they are more likely than the subject to appear as the preverbal element, highlighting a significant tendency in topicalization patterns. Our results suggest that the preverbal position in Icelandic V2 clauses is not just an optimal site for the realization of frame-setting expressions, but rather the preferred one, especially for temporal and locative frames. This trend is predominantly observed in main clauses, in contrast to embedded clauses where fronting of such elements is considerably less prevalent.

1 Introduction

Icelandic, as a ‘core V2 language’ in Holmberg’s (2015) terms, allows not only the subject in the first position of both matrix and embedded clauses, but also various other elements, usually immediately followed by the finite verb (for a recent overview, see Angantýsson 2020). In (1)–(4) we give examples of common types of non-subject-initial V2 clauses in Icelandic, along with some attempts to front particles and past participles (from Thráinsson 2007: 260–261):

- (1) a. *Ég hef aldrei hitt Harald.*
I have never met Harold
b. **Harald** hef ég aldrei hitt _____. (NP)
Harold have I never met
- (2) a. *Haraldur hefur ekki búið á Akureyri.*
Haraldur has not lived in Akureyri
b. **Á Akureyri** hefur Haraldur ekki búið. (PP)
in Akureyri has Harold not lived
c. **EKKI** hefur Haraldur ____ búið á Akureyri. (adverb)
not has Harold lived in Akureyri
- (3) a. *Strákarnir hafa tekið bækurnar upp.*
boys-the have taken books-the up
b. ***Upp** hafa strákarnir tekið bækurnar. (particle)
up have boys-the taken books-the
- (4) a. *Strákarnir hafa lesið bækurnar.*
boys-the have read(past part.) books-the
b. **?*Lesið** hafa strákarnir bækurnar. (past participle)
read (pp.) have boys-the books-the

Interestingly, particles and past participles cannot be fronted, as examples (3b) and (4b) show. On the assumption that fronting of this type involves movement to a specifier position, and that specifier positions only allow maximal projections, the logical conclusion is that heads cannot be fronted to this preverbal position. According to Jónsson (1996:42–43) and Angantýsson (2020), sentence-initial adjunct elements as in (2b) and (2c) are more common than fronted argument topics as in (1b). Angantýsson, Nowenstein and Thráinsson (2023) also argue that the first element in non-subject initial V3 matrix clauses in Icelandic is most typically an adjunct and not an argument, more specifically a ‘frame-setter’ in terms of time, place or condition.

Examples like (1-4) should be distinguished from (5), which features a resumptive pronoun for the sentence-initial constituent, as in (5):

- (5) Presturinn, María sá hann í bænum í gær.
 the.priest María saw him in town yesterday
 ‘The priest, Mary saw him downtown yesterday.’

(Thráinsson 2007: 358)

Following much existing literature on Icelandic (Thráinsson 1975, 1979; Thráinsson et al. 2007; Maling 1980), we refer to structures where a resumptive pronominal element is present, as in (5), as *left dislocation*, and to structures where no resumptive element is present (1-4) as *topicalization*. Before we proceed with the rest of the discussion, it is important to recognize the potential for a terminological tangle: in other languages, for instance those in the Romance subgroup, the term *topicalization* is rather often used to describe the opposite type of structure: left dislocation accompanied by a resumptive element (see for example Rizzi 1997). To prevent confusion, we will thus refer to examples like (1-4) as examples of *Icelandic topicalization*, to be distinguished from *Romance Topicalization*.

In this paper, we present new results from a corpus-based study regarding the frequencies of various first-position elements in Icelandic matrix and embedded V2 clauses. We are particularly interested in determining which types of non-subject constituents appear most often in preverbal position, whether there are specific phrases that occur particularly often, and in exploring the implications of these findings for understanding the role of the preverbal position in Icelandic V2 clauses.

This article is structured as follows. We start (Section 2) by investigating the absolute frequencies of different types of preverbal constituents in Icelandic V2 clauses; we then delve into specific constituent classes to assess the likelihood of different phrase types appearing before the subject. In Section 3, we zoom in on specific classes of elements to identify phrases that are frequently topicalized in Icelandic. In Section 4, we discuss our findings and relate our results to the concept of *framing topic*. The paper concludes with Section 5, where we summarize our key insights and explore potential avenues for future research.

2 Results from Corpus Study

To determine which constituents appear in sentence-initial position in Icelandic, we performed a corpus study using the Icelandic Parsed Historical Corpus, *IcePaHC* (Wallenberg et al. 2011; Rögnvaldsson et al. 2011, 2012; Rögnvaldsson et al. 2012). The *IcePaHC* encompasses a wide range of Icelandic texts spanning from the 12th to the 21st century, covering diverse genres

including scientific, legal, religious, narrative, and biographical writings. This extensive chronological and genre-based variety in the IcePaHC enables an in-depth analysis of the occurrence of specific linguistic structures over various centuries and genres. The IcePaHC can be searched using the PaCQL (*Parsed Corpus Query Language*, Ingason 2016) through the freely available online platform treebankstudio.org.

We started our analysis by running a query to determine which constituent types are most likely to occupy the preverbal position in Icelandic matrix clauses. The findings from this initial query are presented in Table 1.

Table 1. *Prevalence of different constituents in sentence-initial position, in descending order.*

Type of Constituent	Occurrences in IcePaHC	Percentage
DPs	16861 ¹	68.3%
AdvPs	4673	18.9%
PPs	2412 ²	9.8%
CPs	418	1.7%
Negation	234	0.9%
AdjPs	107	0.4%
Total	24705	100%

As shown in Table 1, DPs are the most common type of preverbal constituent, constituting 68.3% of occurrences. Adverbial phrases follow with 19% of cases, while prepositional phrases account for 9.8% of all analyzed examples. Negation and CPs are relatively less frequent, making up 0.9% and 1.7% respectively. AdjPs are the least prevalent at 0.4%.

Two key facts emerge: first, although DPs are the most frequently topicalized constituents, the topicalization of other constituent types is not insignificant, accounting for 31.7% of all instances in our study. Second, among these non-nominal constituents, AdvPs are particularly prominent in preverbal positions. This underscores their substantial role in the patterns of topicalization within Icelandic sentence structures.

Table 2 zooms in on the most frequent functions of preverbal DPs in Icelandic matrix V2 clauses:

¹ The queries we used to obtain these figures can be found at <https://shorturl.at/jnpuG>

² Note that we conducted a manual review of instances featuring topicalized PP configurations. This was necessary to accurately distinguish them from fronted adverbial clauses, which, in certain specific configurations involving conjunctions like 'ef' (if), 'meðan' (while), and 'þegar' (when) and others, are tagged in the same way as fronted PP constructions.

Table 2. Prevalence of different DP types in sentence-initial position, in descending order.

Type of DP	Occurrences in IcePaHC	Percentage of all preverbal DPs
Subject DPs (tag: NP-SBJ)	15067	89.4%
Direct object (tag: NP-OB1)	653	3.9%
Temporal DPs (tag: NP-TMP)	379	2.3%
Other tags	762	4.5%

We see that out of the 16861 examples featuring a DP as the preverbal constituent, almost 90% of occurrences are instances of sentential subjects. This means that the sentential subject occurs preverbally in around 61% of all examples reviewed in this study. Differently put, approximately six out of ten of all V2 matrix sentences feature the subject DP as the preverbal element. Following subject DPs, we find accusative objects (see Callegari & Ingason 2021 for a detailed study of the frequency of different types of topicalized objects in Icelandic), and temporal DPs such as *yesterday*.

Although tables such as Table 1 and 2 provide valuable insights into the absolute distribution of various elements in the preverbal position, their scope is somewhat limited. For instance, a table like 2 does not consider the total number of sentences analyzed that contain a temporal DP, regardless of its position. Consequently, the observation that 2% of all sentences with a preverbal DP feature a temporal DP in the initial position has limited interpretive value. To further understand the significance of different elements in the context of Icelandic topicalization, we then looked *within* the different classes. For example, to better understand the prevalence of temporal DPs in topicalization structures, we looked at all V2 sentences containing both the subject *and* a temporal DP, and calculated which proportion of these examples featured the subject in preverbal position, and which featured the temporal DP in preverbal position. This methodology was similarly applied to other class pairings.

The results are presented below. We show results for both matrix and embedded clauses; a preliminary discussion of the results is then provided in subsection 2.7.

2.1 Fronted adverbs

We begin by looking at the larger constituent classes, starting with adverbial phrases. Some example sentences for V2 constructions with an adverb in preverbal position are provided in (6-7) (adverb is underlined):

- (6) Auðvitað átti hún ekki að heyra þetta.
of course should she not to hear this
‘Of course she shouldn’t hear this.’
- (7) Sýnilega hafði það fengið á hana.
Obviously had that affected on her
‘Obviously it had distressed her.’

Table 3 then illustrates the percentage of all clauses containing an AdvP where the AdvP appears preverbally, for both matrix and embedded clauses.

Table 3. *Word order in V2 clauses containing an adverb*

Type of clause	Condition	Number	Proportions
Total		8340	
Matrix	Adverb appears preverbally	4673	56%
Matrix	Subject appears preverbally	3667	44%
Total		3729	
Embedded	Adverb appears preverbally	698	19%
Embedded	Subject appears preverbally	3031	81%

2.2 Prepositional Phrases

Example sentences for V2 constructions with a PP in preverbal position (fronted PP is underlined):

- (8) Á alþingi lögðu biskuparnir báðir og fleiri af fyrimönnum sig til að friðþægja Hallgrím.
 at althingi, put bishops-the both and more of the leaders themselves forth to appease Hallgrímur
 ‘At the General Assembly, both the bishops and more of the leaders did their best to appease Hallgrímur.’
- (9) Eftir það fóru allir heim.
 after that went all home
 ‘After that, everybody went home.’

Table 4. *Word order in V2 clauses containing a PP*

Type of clause	Condition	Number	Proportions
Total		8912	
Matrix	PP in preverbal position	2411	27%
Matrix	Subject in preverbal position	6501	73%

Total		8235	
Embedded	PP in preverbal position	474	6%
Embedded	Subject in preverbal position	7761	94%

2.3 Negation

Example sentences for V2 constructions with the negation in preverbal position (negation is underlined):

- (10) Ekki var það skemmtilegt eða smekklegt.
not was that entertaining or tasteful.
'It was neither entertaining nor tasteful.'
- (11) Ekki geta allir farið í pípulagnir.
not can all go in plumbing
'Plumbing is not for everybody.'

Table 5. *Word order in V2 clauses containing a negation*

Type of clause	Condition	Number	Proportions
Total		833	
Matrix	Negation in preverbal position	234	28%
Matrix	Subject in preverbal position	599	72%
Total		1543	
Embedded	Negation in preverbal position	245	16%
Embedded	Subject in preverbal position	1289	84%

2.4 Temporal DPs

The IcePaHc was tagged using a customized version of the Penn Treebank tag set that was adapted to suit the specific linguistic features of Old and Modern Icelandic. The Penn tag set includes unique tags for temporal DPs such as *yesterday*, and for locative and temporal adverbs, facilitating targeted analysis of the frequency and placement of these specific categories. In this subsection, we thus investigate temporal DPs, while in the next subsections, we look at locative and temporal adverbs.

Example sentences of V2 constructions with a temporal DP in preverbal position (temporal DP is underlined):

- (12) Dag einn fann íbúinn að honum líkaði ekki veggfóðrið lengur.
day one found resident-the that he liked not wallpaper-the anymore
'One day the resident realized that he didn't like the wallpaper anymore.'
- (13) Stundum bauð hann efnaðasta bóndanum í sveitinni með sér.
sometimes invited he wealthiest farmer-the in countryside-the with him
'Sometimes he invited the wealthiest farmer in the countryside with him.'

Table 6. *Word order in V2 clauses containing a temporal DP*

Type of clause	Condition	Number	Proportion
Total		694	
Matrix	Temporal DP in preverbal position	369	53%
Matrix	Subject in preverbal position	325	47%
Total		207	
Embedded	Temporal DP in preverbal position	34	16%
Embedded	Subject in preverbal position	173	84%

2.5 Locative AdvPs

Example sentences of V2 constructions with a locative AdvP in preverbal position (temporal adverb is underlined):

- (14) Þar kom Illugi Þorvaldsson með átjándra manna.
there came Illugi Þorvaldsson with eighteenth man
'There came Illugi Þorvaldsson along with eighteen other men.'
- (15) Hér virðist mér hver blómknappurinn öðrum hýrari.
here seems me each flower bud other gayer
'Here each flower bud seems even more beautiful than the next.'

Table 7. *Word order in V2 clauses containing a locative adverb*

Type of clause	Condition	Number	Proportions
Total		917	
Matrix	Locative adverb appears preverbally	561	61%

Matrix	Subject appears preverbally	356	39%
Total		605	
Embedded	Locative adverb appears preverbally	154	25%
Embedded	Subject appears preverbally	451	75%

2.6 Temporal AdvPs

Example sentences of V2 constructions with a temporal adverb in preverbal position (the temporal AdvP is underlined):

(16) Of förum við öll saman í hádeginu.
 often go we all together in lunch
 ‘Often we go all together for lunch.’

(17) Síðan fór hún fram í stofuna
 then went she forth in living room
 ‘Then she went to the living room.’

Table 8. *Word order in V2 clauses containing a temporal adverb*

Type of clause	Condition	Number	Proportions
Total		4750	
Matrix	Temporal adverb appears preverbally	3002	63%
Matrix	Subject appears preverbally	1748	37%
Total		1203	
Embedded	Temporal adverb appears preverbally	263	22%
Embedded	Subject appears preverbally	940	78%

2.7 Interim Conclusion for Section 2

We discovered an intriguing trend: in matrix clauses, temporal DPs, temporal adverbs and locative adverbs are even more likely than the subject to appear preverbally. Specifically, in 53% of matrix V2 sentences containing a temporal DP, this DP is positioned preverbally, and similarly, 61% of matrix V2 sentences with a locative adverb place the adverb as the leftmost element. Finally, in 63% of matrix V2 clauses featuring a temporal adverb, it is the temporal adverb that appears before the verb.

Interestingly, this pattern is distinctly associated with matrix clauses. In embedded clauses, the preference for fronting temporal DPs, and locative and temporal adverbs is not as pronounced. Here, only 16% of sentences with a temporal DP, 25% of sentences with a locative adverb and 22% of sentences with a temporal adverb deviate from having the subject as the leftmost element.

On the contrary, negation and PPs do not exhibit a higher likelihood than the subject to be positioned preverbally in matrix clauses, showing a tendency of 28% and 27% respectively. However, PPs in matrix clauses still demonstrate a higher propensity for preverbal placement compared to those in embedded clauses, where only 6% of PPs are fronted. The same trend is observed for negation (28% vs. 16%).

For each of these constituent types, we thus observe a noticeable impact of the clause being a matrix clause on the likelihood that an element other than the subject appears in the preverbal position. These findings align with insights from previous research, such as Heycock's 2006 study, which builds on the work of Emonds (1970) and Hooper and Thompson (1973), highlighting the significance of certain adverbial adjuncts and interjections, especially in relation to speaker attitude in matrix clauses, in the context of root phenomena. We will revisit this discussion in Section 4.

3 Zooming in on Frequently Topicalized Expressions

To gain an even clearer understanding of Icelandic topicalization, we manually inspected key classes of constituents, to determine if any particular phrases are topicalized often. Note that this analysis was confined to matrix clauses, since these are significantly quicker to review manually.

3.1 Topicalized Temporal DPs

About 45% of the examples involve relatively few phrases, which are detailed in Table 9:

Table 9. Common combinations of topicalized temporal DPs and their frequency

Type of Phrase	Example	Number of occurrences
Anno ... (= year ...)	(18) <u>Anno 1564</u> kom Guðbrandur út hingað ... year 1564 came Guðbrandur out here 'Guðbrandur came back in 1564.'	28
Stundum	(19) <u>Stundum</u> fóru þau inn í herbergi Bjarna.	27

(= sometimes)	sometimes went they into bedroom Bjarni (gen.) 'Sometimes they went into Bjarni's bedroom.'	
Þann (dem.pron.)	(20) <u>Þann dag</u> hugsaði ég mjög minn gang. that day thought I intensively my action 'That day, I considered carefully how I should proceed.'	24
Einn dag(inn) (= one day)	(21) <u>Einn dag</u> var gott veður. one day was good weather 'One day the weather was good.'	21
Eitt sinn (= one time)	(22) <u>Eitt sinn</u> var veður hvasst og frjósandi. one time was weather stormy and freezing 'One time, the weather was stormy and cold.'	19
Annan dag(inn) (= (the) another day)	(23) <u>Annan dag</u> fóru þeir til leiks báðir bræður. another day went they to game both brothers 'Another day, both of the brothers went to play.'	14
Daginn eftir (= the day after)	(24) <u>Daginn eftir</u> messaði séra Jónsteinn. day-the after massed reverend Jónsteinn 'The day after, Jónsteinn the Reverend performed a Christian service.'	12
Næsta/næstu (= next)	(25) <u>Næsta sunnudag</u> eftir var veðrið yndislegt. next sunday after was weather-the lovely 'The next Sunday, the weather was lovely.'	11
Einu sinni (= on(c)e (upon a) time)	(26) <u>Einu sinni</u> var ég þó kominn á einhvern skrið. one time was I though come to some speed 'One time things were going better for me.'	10

3.2 Adverbial Clauses

78% of all fronted adverbial clauses are temporal in nature:

Table 10. Categories of topicalized adverbial clauses and their frequency

Type	Example	Number of occurrences
<i>Temporal</i>		
Þegar (= when)	(27) Þegar læknirinn kom lá Grímur rænu- when the doctor came lied Grímur aware-	152

	<p>og meðvitundarlaus. and consciousless 'When the doctor arrived, Grímur was lying unconscious.'</p>	
Meðan (= while)	<p>(28) Meðan á ræðunni stóð átti Þórður fullt í fangi með while on speech-the continued had Þórður difficulties að verjast hlátri og sýnast alvarlegur. to defend laughter and acting serious. 'While the speech was ongoing, Þórður had hard time not to laugh and pretending to be serious.'</p>	21
Sem (= when)	<p>(29) Sem Gunnar heyrði þetta gengur hann sem hraðast when Gunnar heard this walks he as fastest frá þeim til manna sinna. from them to men his 'When Gunnar hears this, he walks as fast as he can from them to his companions.'</p>	20
Á meðan (= while)	<p>(30) Á meðan Bylgja leitar að náttkjólnum segir hún frá on while Bylgja looks for her nightgown tell she about áhyggjum sínum í vinnunni. worries her at work 'While Bylgja is looking for her nightgown she tells about her worries at work.'</p>	15
Er (= when)	<p>(31) Er ég hitti hann fyrst féll mér afar vel við manninn. when I met him first liked I very well with man-the 'When I first met him, I liked him very well.'</p>	10
Síðan (= when)	<p>(32) Síðan þeir voru búnir reru þeir brott. when they were ready rowed they away 'When they were ready they rowed away.'</p>	3
<i>Conditional</i>		
Ef (=if)	<p>(33) Ef hann svaraði þá var fjandinn laus í kotinu. if he replied then devil-the was loose in the cottage 'If he replied, everything went crazy on the farm.'</p>	26
V1 conditionals	<p>(34) Fyndist honum sig vanta svefn bætti hann úr því með found he himself lack sleep compensated from that with ofurlitlum miðdegisblundi. a tiny noon time nap 'If he needed more sleep he fixed it with a quick nap in the noon.'</p>	18
<i>Causal</i>		

Af því að (= because)	(35) Af því að hann hafði verið í hegningarhúsinu var because he had been in jail-the was he ekki trúandi fyrir því að vaka yfir vörunum! not trustworthy for that to wake over products-the 'Since he had been in the jail he wasn't regarded as reliable for taking care of the products.'	4
<i>Concessive</i>		
Þótt, þó (að) (although)	(36) Þó ég væri skelfingu lostinn rauk ég til. though I was horror shocked jumped I to 'Although I was terrified I reacted quickly.'	13

3.3 Topicalized Adverbs

3238 out of 4673 (69%) examples involve the following words/phrases:

Table 11. Frequently topicalized adverbs and their frequency.

Phrase	Example	Occurrences
Þá (= then)	(37) Þá vaknar hann. then wakes he 'Then he wakes up.'	1363
Nú (= now)	(38) Nú kemur kóngur með sína menn. now comes king with his-refl. men 'Now the king arrives with his men.'	596
Síðan (= then)	(39) Síðan gengur hann af stað. then walks he from place 'Then he departs.'	532
Svo (= so, then)	(40) Svo liðu nokkrir dagar. then passed some days 'Then several days passed by.'	342
Heldur (= rather, instead)	(41) Heldur sótti hann tvo stóla inn í eldhús. instead got he two chairs into kitchen-the 'Instead he picked up two chairs in the kitchen.'	111
Þó (= though, still)	(42) Þó grunaði hann það. still suspected he that 'He still suspected that.'	85
Enda (= and, what's more, since)	(43) Enda drekk ég ekki what's more drink I not 'And, therefore I don't drink.'	71

Enn (= still)	(44) Enn var á honum sami gamli sauðarsvipurinn. still was on him same old sheep look 'He still had the same old silly look.'	35
Aldrei (= never)	(45) Aldrei hafði hann tekið eftir því. never had he taken after that 'Never had he noticed that.'	31
Samt (= nevertheless, still)	(46) Samt lofaði hann að mæta þar. still promised he to attend there 'Still he promised to show up there.'	31
Því næst (= next after that)	(47) Því næst vaknaði hann. that next woke he 'Then he woke up.'	24
Kannski (= maybe)	(48) Kannski komst hún ekki í síma. maybe made it she not to phone 'May she couldn't access a phone.'	17

3.4 Topicalized PPs

The most frequently topicalized expression is *eftir það*, which is temporal in nature:

Table 12. Frequently Topicalized PPs, broken down by type.

Type	Example	Number of occurrences
<i>Temporal</i>		
Eftir það (= after that)	(49) Eftir það fór Daði burt. after that went Daði away 'After that Daði left.'	182
Á þessu(m) (= on this)	(50) Á þessu sumri kom út herra Hrafn Oddsson. on this summer came out mister Hrafn Oddsson 'This summer Hrafn Oddsson came home.'	45
Þar með (= thereupon)	(51) Þar með komst ég yfir ána. thereupon made it I over river-the 'Thereupon I managed to cross the river.'	26

Hér með (= here/now from)	(52) Hér með leysti prestur hann af öllum sínum here with released priest him from all his-refl. syndum. sins 'Hereby the priest released him from all his sins.'	21 ³
Í þessu(m) (= in this)	(53) Í þessu komu menn Reginbalds alvopnaðir. in this came men Reginbald's fully armed 'At this moment, the men of Reginbald came fully armed.'	18
<i>Causal</i>		
Af því (= from that)	(54) Af því er maklega haldinn drottinsdagurinn from that is deservedly held gods day sjöundi hver. seventh each 'Therefore the lord's day is celebrated deservably each seventh day.'	47
<i>Other</i>		
Í þessu(m) (= in this)	(55) Í þessum tilgangi skapaði guð sólina in this purpose created god sun-the og himintunglin. and stars 'In this purpose, god created the sun and the stars'	22

Other phrases that appear more than a couple of times in the corpus are *um kvöldið* (= in the evening, 9 times), *auk þess(ara)* (= in addition, 9 times), *að sönnu* (=indeed, 8), *að vísu* (= although, 8), *um haustið* (=in the autumn, 7), *aftur á móti* (5), *á endanum* (=in the end, 5).

3.5 Interim Conclusion for Section 3

The results for adverbial clauses are particularly interesting in that they reveal a significant prevalence of temporal adverbial clauses in the preverbal position, totaling 221 instances. This is particularly striking if we compare the results for temporal adverbial clauses to those for conditional clauses, which amount to only 44 examples. Thus, temporal clauses appear five times more often than conditional ones in the sentence-initial position.

This disparity cannot simply be due to a higher general occurrence of temporal clauses in Icelandic. Examining the most common phrase in each category, as per Pind et al. (1991: 620),

³ The expression *hér með* with a meaning other than temporal (e.g. *Hér með fylgdu tvær tunnur víns*) appears only twice out of 22 examples.

we find that the conjunction *þegar* ('when') in Icelandic occurs 1,877 times per 100,000 words, while *ef* ('if') occurs 798 times in the same word count. Although *þegar* is twice as common as *ef*, this does not fully account for the fivefold higher frequency of temporal adverbial clauses using *þegar* compared to conditional clauses introduced by *ef*.

Regarding prepositional phrases that are fronted, *eftir það*, a phrase with a temporal meaning, emerges as the most recurrent. Closely following this are *á þess..* with a temporal interpretation. This supports the findings presented earlier in this paper: phrases expressing temporal information are quite often fronted to the sentence-initial position in Icelandic.

Furthermore, it turns out that several of the fronted adverbial phrases are either (high) conjunctive adverbs like *enda*, *heldur*, *samt*, *svo*, *þó* or evidential (lower) sentence adverbs as *kannski*, *vissulega*, *sennilega*, *eiginlega* (Cinque 1997; see also discussions on the conjunctive properties of *enda* in Rögnvaldsson 1987 and on the relative order of various sentence adverbs in Icelandic, with a comparison to Faroese, in Angantýsson & Jónsson 2021). Supposedly, the preverbal position is the preferred one for some of the higher adverbs, at least *enda*.

Before we delve into the Discussion section, let us quickly summarize key facts that emerged from our analysis so far:

- **Subject as Most Common Preverbal Element:** Around 61% of matrix V2 clauses feature a subject DP as the preverbal element.
- **Sentence-Initial Non-DP Constituents:** Following DPs, the most frequent constituents found in preverbal position are, in descending order, adverbial phrases and prepositional phrases.
- **Fronted Temporal DPs:** Though sentences with a topicalized temporal DP represent only 1.5% of all instances of V2 matrix clauses examined in this study, when a temporal DP is present in the sentence, it appears as the preverbal constituent in 53% of cases.
- **Temporal and Locative Adverbs:** Similar to temporal DPs, if a locative or temporal adverb is included in a matrix clause, this is almost twice more likely than the subject to occupy the preverbal position. Note also that in 64% of all matrix clauses where an adverb appears preverbally, the adverb is a temporal adverb.
- **Main-Clause Phenomenon:** This tendency of temporal DPs, temporal and locative adverbs to precede the subject is mainly observed in main clauses. If we look at embedded clauses, a temporal DP or temporal/locative adverb is no longer more likely than the subject to appear as the preverbal constituent.
- **Adverbial Clauses in Sentence-Initial Position:** The vast majority of topicalized adverbial clauses appearing in a matrix sentence express a temporal relation (when/while/since adverbial clauses).
- **Fronted Types of PPs in IcePaHc:** The IcePaHc corpus reveals that the most frequently fronted prepositional phrase expresses a temporal meaning.

4 Discussion

Over the course of this paper, we have reviewed a number of constructions where a constituent other than the subject has been fronted to a preverbal position. We have seen that a variety of different constituents can fill this position in Icelandic, including adverbs, adverbial clauses,

PPs and the negation.

Many of the constituents which occupy the preverbal position of Icelandic V2 clauses can hardly be described as aboutness or sentence topics in the sense of Krifka (2007):

- (56) The topic constituent identifies the entity or set of entities under which the information expressed in the comment constituent should be stored in the CG content.
(Krifka 2007:31)

Krifka's definition becomes clear when comparing sentences like (57a) and (57b):

- (57) a. [Aristotle Onassis]_{Topic} [married Jacqueline Kennedy]_{Comment}
b. [Jacqueline Kennedy]_{Topic} [married Aristotle Onasses]_{Comment}

Both examples express the same proposition but they differ in that (57a) should be stored as information about Aristotle Onassis, whereas (57b) should be stored as information about Jacqueline Kennedy (see Krifka 2007: 30 and references there).

Consider however example (22), featuring a fronted temporal DP, which we repeat below as (58).

- (58) Eitt sinn var veður hvasst og frjósandi.
One time was weather stormy and freezing
'One time, the weather was stormy and cold'

In (58), it is implausible to suggest that the temporal DP specifies the entity or the file card under which the information in the comment should be stored: the sentence is about the weather, not about the temporal frame "one time", as one can hardly interpret this as an entity about which something is being predicated.

Topicalized constituents in Icelandic also do not appear to be necessarily given in the sense of Krifka (2007). Consider Krifka's definition of discourse-givenness:

- (59) A feature X of an expression α is a Givenness feature if X indicates whether the denotation of α is present in the CG or not, and/or indicates the degree to which it is present in the immediate CG. (Krifka 2007: 27).

Anaphoric expressions like personal pronouns, clitics, demonstratives and definite/indefinite articles have givenness features as part of their lexical representation. Other phenomena that refer to givenness are "grammatical devices such as deaccentuation, ordering and deletion that can mark arbitrary constituents as given" (Krifka 2007: 27). Ordering is known to play a role in givenness marking (for discussions on object shift and particle shift in the Scandinavian languages and in general, see Thráinsson 2007: 138–145 and references there):

- (60) a. Bill showed the boy a girl.
b. ?Bill showed a boy the girl.
c. Bill showed the girl to a boy.

(Krifka 2007: 28-29)

These examples show that in a double object construction, it is more natural for new information to follow given, or old information.

However, fronted temporal DPs such as “in the year 1564” may introduce entirely new information. In fact, in examples like (61-62), the topicalized temporal DP need not have been already introduced in the discourse for the resulting utterance to be felicitous:

- (61) Anno 1564 kom Guðbrandur út hingað aftur á kongsskipinu í Seylunni
In the year 1564, Guðbrandur came out here again on the king's ship in Seylun
- (62) Anno 1605 giftist hann Sigríði dóttur Björns Benediktssonar og Elínar Pálsdóttur
In 1605, he married Sigríða, daughter of Björn Benediktsson and Elínar Pálsdóttir

To describe the function of topicalized expressions like the ones reviewed in this section, the notion of *framing topic* seems more apt.

The concept of *frame-setting topic* was first introduced by Chafe in 1976, who provides some examples from Mandarin Chinese. Accordingly, Chafe describes these types of topics as ‘Chinese style’ topics. Chafe’s Chinese-style topics do not have a relation of aboutness with the rest of the sentence, do not introduce a topic shift and do not express any contrastive relation. According to Chafe, rather, what these topics do is “limit the applicability of the main predication to a certain restricted domain”(Chafe 1976:50). The author also argues that frame-setters set “a spatial, temporal, or individual frame work within which the main predication holds” (Chafe 1976:50). Chafe suggests their function is similar to that of some constituents having and adverbial function in English, such as for example the PP in (63):

- (63) In Dwinelle Hall people are always getting lost.

(Chafe 1976:51)

Building on Chafe's idea, Lambrecht (1996) identifies scene-setting as one of the functions topics can have in a sentence. For example, in a sentence like (64):

- (64) After the children went to school, he had to clean the house and go shopping for the party

(Lambrecht 1996:121)

according to Lambrecht, the sentence-initial temporal clause “After the children went to school” provides a temporal background that frames the context for the actions described in the matrix clause. The adverbial clause thus functions as a “‘scene-setting’ topic for the matrix clause” (Lambrecht 1996: 125).

Krifka (2008) specifically distinguishes frame-setters from sentence topics (Reinhart 1981), noting that frame-setters do not constitute the ‘file-card’ (Karttunen 1976; Heim 1982) describing what the sentence is about. Instead, frame-setters select a frame from a set of alternatives, limiting the scope of the truth-value expressed by the topic’s comment. Thus, according to Krifka, a sentence like (65):

(65) Healthwise / As for his health, he is fine

(Krifka 2008: 269)

should “not be entered under a file card about the health situation” (p. 269).

Krifka presents the argument that frame setters are invariably focused elements, as they select from among various frames and assert that the proposition is applicable within this chosen frame. He suggests that when alternative frames are not under consideration or relevant in that specific context, there is no necessity for an explicit frame setter. Krifka further relates frame-setters to Contrastive Topics (C-Topics), noting how both types of topics are relevant for Common Ground management.

The concept of *frame-setting* is further explored in Carella (2015), who refers to frame-setting topics as “limiting topics” (LTs). This terminology is based on the idea that frame setters play a 'limiting' function. Specifically, they serve to limit the validity of the primary assertion (or comment) to a specific and clearly delineated context. This context is established by the topic itself, which represents the frame.

Similarly to Krifka, Carella assumes that frames are interpreted contrastively. Thus in (65), the frame ‘as for his health’ creates a subfolder in the file-card corresponding to the sentence-topic -corresponding to the subject “he” in (65)-, in which the information expressed by the sentence is stored. This allows a potential speaker to convey different, possibly opposite information with respect to another contextually relevant frame or ‘subfolder’, e.g. “healthwise he is doing okay, but money-wise he is not”.

Carella investigates the occurrence of frame-setting topics in natural conversations by manually inspecting the Bonvino corpus, a group of original Italian audio tracks and related transcriptions, where different speakers talk about different topics.

The results, detailed in her findings, reveal a distinct pattern in the usage of frame-setting topics. Temporal frames emerged as the most commonly used, constituting approximately 56.93% of occurrences. Locative frames were the next most frequent, accounting for 22.27%, followed by domain frames at 20.79%. In terms of specific constituent types employed for frame-setting, PPs were predominant, making up over half of the instances (51.48%). AdvPs were also significant at 25.24%, while DPs were less common, observed in 12.87% of cases. Additionally, various types of adverbial clauses such as Temporal, Modal, and Limitative CPs were used, but to a much lesser extent, with Temporal CPs at 9.40%, and both Modal and Limitative CPs at just 0.49% each.

Carella’s results are particularly interesting because we notice patterns similar to the ones he observed in our own study, despite the fact that we are working on a different language group. In our study, we also noticed the relevance of temporal expressions in capturing the role of sentence-initial non-DP constituents in Icelandic: out of all examples of fronted PPs in our corpus, the type of recurring PP with the highest number of occurrences is *eftir það*, which expresses a temporal relation between the clause for which it functions as a frame and some antecedent sentence. Out of all examples of fronted adverbial clauses in matrix sentences, temporal adverbial clauses were by far the most common in our corpus. We also saw that, when a temporal DP is present, this is more likely than the subject to appear as the leftmost, preverbal element. Finally, we saw that temporal adverbs make up the majority of all matrix examples

featuring a topicalized adverb. These findings are reflected in Carella’s corpus results: in the Bonvino corpus, the majority (57%) of frame-setting topics express a temporal meaning. In the Bonvino corpus, the second most prevalent category of frame-setting topics is locative frame setters, accounting for 22%. This observation also aligns with our findings: recall how we observed that, whenever a locative adverb is present in a matrix clause, it is more likely than the subject to appear preverbally.

What our results, and their comparison to the Carella study, reveal is that the preverbal position in Icelandic is a preferred site for the realization of frame-setters, which are used to provide a generally temporal, but also frequently locative frame within which the rest of the clause is interpreted. In fact, based on the in-class results for temporal and locative expressions detailed in section 3, one could even argue that the preverbal position in Icelandic V2 clauses is not simply an optimal site for the realization of such frame-setting expressions, but it is *the* preferred site: clearly, frame-setting expressions are preferably preverbal.

At the same time, this is clearly only the case in main clauses only, given that expressions that are generally fronted in matrix clauses, such as temporal and locative constituents, are no longer more likely to be fronted in embedded clauses; this is somewhat reminiscent of English Preposing, which is also a type of operation more readily available in matrix clauses.

Observations that are still in need of an explanation are the occurrence of negation in preverbal position (1% of total occurrences), and the fact that adjectives are fronted in only 0.4% of all examples. It seems that at least some adjectives could be interpreted in the ‘file-card’ sense (e.g. “Handsome he is, but rich he is not”), making it unclear why adjectives are fronted so infrequently in our corpus. The opposite problem is observed with negation: negation does not seem to qualify as either a sentence topic or a framing topic, so it is unexpected that it should be fronted at all. Not only is negation fronted in Icelandic, it is also fronted in 28% of all V2 matrix clauses containing a negation, a percentage that is significantly higher than what found in Brandtler and Hakonsson (2014), who explored negative preposing in Swedish. In their study, they observed that clause-initial negation reached a peak of approximately 8% of the total occurrences of negation during the Old Swedish period.

5 Concluding remarks

This paper provided detailed quantitative insights into the tendencies of constituent placement in Icelandic V2 sentences. Specifically, we have identified and quantified the frequency of various non-subject constituents appearing in preverbal positions, giving more insights into the process of Icelandic topicalization and the type of constituents that are generally fronted through this process.

We have observed that Icelandic topicalization mostly fronts adverbs, PPs and direct objects. Particularly remarkable, we believe, is the observation that if a temporal or locative adverb appears in a matrix clause, it is more likely than the subject to appear as the preverbal element. This is even though in absolute terms, the subject is six times more likely than any other element to appear in preverbal position in matrix clauses at least.

Our results suggest that the preverbal position of Icelandic matrix clauses is a preferred site for expressing the realization of expressions which are to be interpreted as the frame within

which the rest of the sentence is interpreted. The alignment of our findings with existing literature on frame-setting topics in other languages not only corroborates these concepts but also broadens their application to Icelandic.

In the future, we would like to investigate the potential for contrastivity of frame-setting expressions. Recall that both Krifka (2007) and Carella (2015) assume that frames are interpreted contrastively. For example, Krifka suggests that an explicit frame setter is only necessary when there is either an implicit or explicit contrast with another frame. However, while it is easy to see how expressions like “Anno 1564” in example (62) can be interpreted as contrastive, the frame against which an expression like “eitt sinn” (=one time) in (59) is being contrasted is less obvious. Therefore, we would like to run acceptability judgment studies to gauge the role and saliency of contrastivity in the realization of frame-setting topics in Icelandic. For example, we would like to investigate whether an alternative frame is always salient, making a sentence continuation with a different frame seem particularly natural, or whether contrastivity is often merely “dormient” (i.e., possible but not explicitly or necessarily active in all contexts that feature a frame-setter).

It should also be kept in mind that our analysis is based on written texts from a wide time range. A systematic comparison of different styles and genres would be desirable as well as further insights from spoken modern Icelandic.

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