Prosody distinguishes Estonian V2 from Finnish and Swedish

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Abstract

The paper proposes a theoretical account of two prosodically conditioned exceptions to the verb-second order of Estonian declarative main clauses. The account is formulated in terms of prosodic constraints on the spell-out of movement chains.

Estonian declarative main clauses display a relatively strict verb-second order. Still, there are two main exceptions to it, both of which have been stated in terms of prosody: (i) verb-third order occurs with weak pronominal subjects, and (ii) nuclear-accented finite verbs tend to occur later in the clause.

To account for the first exception, we propose that the verb-second order results from a constraint on prosodic structure, which is breached by full DPs (which correspond to a prosodic phrase), but not by unstressed pronouns (which do not affect the prosodic structure). This constraint blocks the spell-out of the highest copy of a DP subject, but not of a weak pronoun. As a result, a lower copy of the subject is spelt out, if the subject is a full DP.

We propose that the second exception results from a prosodic constraint on nuclear accent placement, which blocks the spell-out of the highest copy of the finite verb and causes a lower copy to be spelt out.

Index Terms: verb-second, sentence prosody, syntactic theory, Estonian

1. Introduction

The paper will discuss the hypothesis that two prosodic factors of Estonian make the Estonian V2 clausal syntax different from the Swedish V2 and Finnish V3. Swedish has a consistent V2 syntax, and Finnish is a non-V2 sister language of Estonian. We show that the V2 order in Estonian has a formal basis that is different from that in Swedish and only minimally different from the system in the non-V2 language Finnish.

2. Preliminaries

2.1. Previous findings on Estonian V2

The unmarked order in Estonian declarative main clauses is SVO. The finite verb precedes the sentence adverbs, indicating that it has moved (1). If a constituent is fronted, the word order, in the unmarked case, is V2 (2). According to [1], the fronting of a constituent triggers subject-verb inversion in 90\% of the cases.

1. Mari küpsetab pühapäeviti tavaliselt kooki.
   Mari bake.3SG on.Sundays usually cake.PAR
   ‘Mari usually bakes cakes on Sundays.’
2. Pühapäeviti küpsetab Mari tavaliselt kooki.
   on.Sundays bake.3SG Mari usually cake.PAR
   ‘Mari usually bakes cakes on Sundays.’

Note: The abbreviations describing the grammar in this article are: 3SG – third person singular, ACC – accusative, one of the markers of the Estonian direct object, ADE – adessive, the suffix that means “onto”, ALL – allative, the suffix that means “into”, PAR – partitive, one of the markers of the Estonian direct object, PL – plural.

Exception 1: weak pronouns precede the verb

There are exceptions to V2 order in spoken Estonian, and we address two of them. A weak pronoun can precede the verb along with another constituent while lexical phrases (DPs) cannot [2][3][4].

3. Pühapäeviti ta küpsetab kooki.
   on.Sundays 3SG bake.3SG cake.PAR
   on.Sundays Mari bake.3SG cake.PAR

Exception 2: Accented verb can be clause-medial

A verb can be in a clause-medial position (5) if it is accented [5].

5. Politeisinik tavaliselt esilleh ennast. (etTenTen)
   policeman usually introduce.3SG self.PAR
   ‘A policeman usually introduces himself.’

2.2. Finnish V3 and Swedish V2

Finnish and Estonian are closely related languages, members of the Finnic subgroup of Uralic languages. They are syntactically similar, but V2 is not characteristic of Finnish (6).

   on.Sundays Mari bake.3SG usually cake.ACC
   ‘On Sundays Mari usually bakes a cake.’

When a constituent is fronted in Finnish, the unmarked order is V3 [6]. In Swedish, the V2 order has basically no exceptions; any initial constituent in root clauses is immediately followed by the finite verb (7). There are also no exceptions if the subject is a pronoun [7][8].

7. Inte dricker Elsa/hon kaffe.
   not drinks Elsa/she coffee
   ‘Elsa/she does not drink coffee.’ (Swedish, fronted negation)
2.3. Prosody may constrain the Estonian V2

We pursue the hypothesis that the Estonian V2 is in part the result of a prosodic condition [9]. The main idea is that the placement of a weak pronoun does not have an effect on the prosodic structure, while the placement of a full DP does. A simplified representation of the prosodic structure, based on [10], distinguishes two and three level phrases. We propose, following [9], that there exists a preference for a prosodic structure consisting of maximally two highest level prosodic constituents, cf [11].

(8) 2 p1-level phrases
(i (p1 Mari) (p2 küpsetab (p2 pühapäevitõi) (p2 kooki)))
  on.Sundays bake.3SG on.Sundays cake.PAR

(9) 2 p1-level phrases
(i (p1 Pühapäevitõi) (p1 küpsetab (p2 Mari) (p2 kooki)))
on.Sundays bake.3SG on.Sundays cake. PAR

(10) 2 p1-level phrases
(i (p1 Pühapäevitõi) (p1 küpsetab (p2 kooki)))
on.Sundays bake.3SG cake. PAR

(11) 3 p1-level phrases
*(i (p1 Pühapäevitõi) (p1 Mari) (p1 küpsetab (p2 kooki)))
on.Sundays Mari bake.3SG cake. PAR

2.4. How to understand the syntax-phonology interface?

We propose that the prosodic condition affects which copy of the subject (or top) is spelled out in the chain formed by the movement of the subject/topic to spec-FinP. If spelling out the highest copy of the subject/topic in spec-FinP would violate the prosodic condition, a lower copy is spelled out and the highest copy is deleted. We can propose a similar derivational interface model for Exception 2 after introducing “left periphery”.

3. Deriving V2 in Estonian

3.1. Left periphery

In syntactic clauses, what is referred to as “left periphery” contains sequences of various hierarchically organized elements in the “C-domain”, where C stands for “complementizer”, cf. [12] [13]. In simpler words, left periphery means the very beginning of a sentence, to the left of the finite verb in various languages. Operating with the term “left periphery” is rewarding for implementations such as Text-to-Speech systems of discourse configurational languages, since the phrases that precede the predicate have a fixed order and map to distinct intonation patterns (for Hungarian see [14]).

Examining the left periphery to capture the interface between the sound and syntax of Estonian could also be a promising enterprise. Finnish and Estonian have been found to have a similar left periphery [15], as sketched below.

3.2. Post-verbal subjects and obligatory initial constituents

The Estonian left periphery is characterized by the possibility of a post-verbal subject and an obligatory initial constituent. As in Finnish [16], when the subject is post-verbal, another constituent must normally occur at the beginning of the clause (12). Unless specified otherwise, all examples are from Estonian.

(12) *Küpsetab (Mari) tõenäoliselt (Mari) kooki (Mari).
    bake.3SG Mari probably Mari cake PAR Mari

Two types of clauses involve a post-verbal subject. Firstly, a “late subject”, i.e. a subject below sentence adverbials, exemplified by (13), is possible. The subject is constrained; it must be part of focus, while the initial constituent is unconstrained; it may be e.g., an aboutness topic or a contrastive topic. Secondly, a subject can immediately follow the verb as an “inverted subject”, exemplified by (14). The subject is unconstrained in this case, while the initial constituent is constrained; aboutness or familiar topics are excluded. The context is ‘What about the cake? / What about the bread and the cake?’

(13) Selle / KOOGI küpsetab tõenäoliselt MARL
    il.ACC / cake.ACC bake.3SG probably Mari
    ‘It/The CAKE will probably be baked by MARL.’

(14) *Selle / KOOGI küpsetab keegi
    il.ACC / cake.ACC bake.3SG somebody
    tõenäoliselt pühapäeval.
    probably on.Sunday
    ‘Somebody will bake the CAKE probably on Sunday.’

3.3. Two positions for pre-verbal constituents

Estonian and Finnish pre-verbal constituents are in two different positions, specFinP and the higher specOp(erator)P.

SpecFinP must be filled due to the EPP property of Fin. Subjects occur in specFinP independently of their information structural status. When the subject is absent or elsewhere, a non-subject constituent will fill specFinP (Finnish being more restrictive than Estonian). A case in point is when a focused subject remains in a low position, and another constituent moves to specFinP; see (13), with the structure (15).

(15) [Selle [SG Selle/KOOGI] [SG küpsetatas+Fin
    [TP tõenäoliselt MARL <V> <DP,> ]]]

The spec of the higher OpP projection, on the other hand, is the landing site of wh-phrases, relative phrases, and contrastive topics [17], [18]. Estonian kui and Finnish jos, both ‘if’, are realizations of Op [17].

3.4. Late and inverted subjects and the left periphery

A clause with a late subject in Estonian can be an if-clause, a wh-question, or a relative clause (16), while a clause with an inverted subject is incompatible with if/wh-phrases or relative phrases (17).

(16) Kui / Miks / Need, kellele KOOGI küpsetab
    if / why / to whom cake.ACC bake.3SG
    MARI (ju LEIVA JÜRI)
    Mari (and bread.ACC Jüri)

(17) *Kui / *Miks / *Need, kellele KOOGI
    if / why / to whom cake.ACC
    (ta) küpsetab (ta) PÜHAPÄEVAL
    3SG bake.3SG 3SG on.Sunday

The case of the late subject in (15, 16) is clear enough: The subject remains in a VP-internal focus-position and the object is moved to specFinP. This leaves specOpP free to host a moved wh-phrase or relative phrase, or Op can be realized as kui ‘if’. The fact that clauses with an inverted subject, as in (16), are incompatible with kui ‘if’ and with interrogative and relative phrases suggests that the initial constituent itself is in specOpP. When there is a constituent in specOpP, the subject normally does not precede the verb but follows it, due to the V2
constraint. Next sections investigate the position of the subject and the verb in such clauses.

### 3.5. Estonian V2

#### 3.5.1. Three analyses

Three analyses are possible of V2 sentences in Estonian when there is a constituent in specOp. In the first option, the verb is in Fin and the subject moves to specTP, but not to specFinP.

(i) \[\text{[uV XPi[\text{IP} Op \text{[nTP] V-V Fin [\text{[nXP}i [+-T VP]]]]]]}\]

In the second option, the verb is in Op and the subject is in specFinP.

(ii) \[\text{[uV XPi[\text{IP} Op \text{[nTP] V+Fin [\text{[nXP}i [+-T VP]]]]]]}\]

In the third option, the verb is in Fin and the subject moves to specFinP but is spelled out in specTP.

(iii) \[\text{[uV XPi[\text{IP} Op \text{[nTP] V+Fin [\text{[nXP}i [+-T VP]]]]]]}\]

The placement of a postverbal subject—late vs. inverted—correlates with the placement of the initial constituent in specFinP vs. specOpP, as suggested by the (in)compatibility with wh-phrases and relative phrases demonstrated in (16, 17) above. A late subject is compatible with a non-subject constituent in specFinP, preceded by kui ‘if’ or by a wh- or relative phrase. An inverted subject cannot be preceded by a non-subject constituent and kui ‘if’ or by a wh- or relative phrase. This follows if the inverted subject itself moves to specFinP. If so, option (i) above is ruled out.

For the choice between options (ii) and (iii) a comparison with verb movement to Op in Finnish [20] is helpful. In Finnish, the finite verb can move to the head of the OpP in three constructions: Polar questions, contrastive polarity focus, and imperatives. All three constructions are incompatible with movement of another constituent to SpecOpP. They often involve second position clitics, realizations of Op.

Estonian lacks this entire cluster of phenomena: the formation of polar questions, polarity focus, and imperative by finite verb fronting. It also lacks second position clitics and contrastive focus fronting. There are some marginal constructions involving verb fronting: There is marginal question formation by verb fronting, as in (18), there is a particular polarity focus construction, as in (19), and there is the so called narrative V1 in (20).

18) **Küpsetab** ta hästi?
bake.3SG 3SG well?
‘Does s/he bake well?’

19) **Samamoodi hakkavad talle keeled kergelt külge.**

\[\text{askab ta ju inglise, soome, saksa ja vene keelt.}\]

German and Russian language.PAR

‘(He’s also good at learning languages,) after all, he speaks English, Finnish, German and Russian.’

20) **Lähen mina homikul kanu sööma...**
go.1SG 1SG morning.ADE chicken.PAR.PL feed:INF

‘So there I go one morning to feed the chicken...’ [21]

Second position clitics have historically existed in Estonian [22][23]. It has been suggested that polar question formation by verb fronting may be a remnant of an earlier situation similar to that in Finnish [24]. There is a possible historical scenario: Estonian has lost the second position clitics and most of the movement operations related to these, in particular verb movement to Op, as well as contrastive focus fronting. In this light, it is unlikely that Estonian V2 clauses with an inverted subject involve verb movement to Op. We can thus exclude option (ii) above.

#### 3.5.2. The derivation for V2 clauses in Estonian

We derive V2 for Estonian as follows. The verb moves to Fin, and the subject moves to specFinP. The movement of the subject to specFinP creates a chain of copies. In the unmarked case, the highest copy in specFinP is spelled out. When specOpP is also filled, the spell-out of the subject DP in specFinP is blocked. Instead, a lower copy gets spelled out.

21) a. [Püha päevitute ja küpsetab [s=Mari tavaliselt kooki]i]
b. [Püha päevitute ja küpsetab tavaliselt [s=Mari kooki]i]

![Figure 1: The derivation of Estonian V2.](image)

#### 3.5.3. Two constraints on Estonian V2 and prosody

#### 3.5.3.1. Exception 1, prosodic constraint 1

We have hypothesized that the spell-out of the copy of the subject in specFinP is blocked in Estonian by a constraint on the prosodic structure of the clause. We have proposed the following constraint 1: There exists a preference for a prosodic structure consisting of maximally two highest level prosodic constituents (see (8-11)). This explains why in spoken language V3 order is possible with pronominal subjects, as pronouns do not constitute prosodic words and hence do not affect the prosodic structure. Deriving V2 in Estonian with the pronominal subject is represented as in (22).

(22) [OpP Pühapäevitute [SpecFinP ta] küpsetab tavaliselt kooki.] on.Sundays (s)he bake.3SG usually cake.PAR

![Figure 2: Condition 1 allows the SpecFin pronoun.](image)

#### 3.5.3.2. Exception 2, prosodic constraint 2

As the second prosodic constraint, we propose that nuclear accent placement blocks the spell-out of the finite verb in Fin. Fin and T have a [uV] feature which probes for V and copies the features of V. The result is a chain of verb copies. In the
unmarked case, only the copy in Fin is spelled out. But if the finite verb receives a nuclear accent, spelling it out in Fin would violate the prosodic constraint; therefore, a lower copy gets spelled out, and the higher copies are deleted, as in (23).

(23) [Mari tavaliselt [a. KÜPSETAB midagi]

Maru usually bakes something

3.5.4. A TP-internal topic position

While in Finnish specFinP has some properties of a topic position, Estonian may have a dedicated topic position between the inverted subject and sentence adverbials, similarly to what has been proposed for German [25]. Topical constituents preferably occur in this position (24), while non-referential phrases do not (25).

(24) (What happened to the boys?)

Kooli juures m tüüs keegi
school near sell.PST.3SG somebody
(neile) väidetavalt (?=neile) kanepit
3PL.ALL allegedly 3PL.ALL weed.PAR

‘At school, someone allegedly sold them weed.’

(28) (What happened?)

Kooli juures m tüüs keegi
school near sell.PST.3SG somebody
(vähemalt kahele poisile) väidetavalt
at.least two.ALL boy. ALL allegedly
(vähemalt kahele poisile) kanepit
at.least two. ALL boy. ALL weed.PAR

‘At school, someone allegedly sold weed to at least two boys.’

3.6. Conclusions on syntax

In all three languages, Estonian, Finnish, and Swedish Fin attracts the finite verb. In Estonian, the verb is not spelled out in Fin when it receives a nuclear accent; instead, the lower copy of the verb is spelled out. In all three languages, Fin has an EPP-feature attracting a phrasal constituent, in the unmarked case the subject. In Finnish, if it is not the subject it has to be a topic. In Estonian and Swedish, it can be any category. In Swedish, a single constituent can move via specFinP to the left periphery. In Finnish and Estonian, two constituents can move, but in Estonian usually only the higher one gets spelled out. We hypothesize that this is due to a prosodic constraint. In Swedish, unlike in Estonian and Finnish, fronting of non-subject constituents is limited to main clauses. Estonian lacks second position clitics, the fronting of contrastive foci, and, generally, finite verb movement to Op.

4. Conclusion

Estonian declarative main clauses display a relatively strict verb-second order. There are two prosody-conditioned exceptions to the verb-second order of Estonian declarative main clauses that distinguish Estonian from Swedish and Finnish: nuclear-accented finite verbs tend to occur later in the clause, and verb-third order occurs with weak pronominal subjects. Prosodic constraints affect the spell-out of movement chains. The first exception results from a prosodic constraint on nuclear accent placement, which blocks the spell-out of the highest copy of the finite verb and causes a lower copy to be spelled out. The second exception is accounted for by a constraint that blocks the spell-out of the highest copy of a DP subject, but not of a weak pronoun.

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6. References


[22] F. J. Wiedemann, Grammatik der Estnischen Sprache, zunächst wie sie in Mittelehstland gesprochen wird, mit Berücksichtigung der anderen Dialekte [The grammar of Estonian as spoken in Central Estonia, with considerations on other dialects]. St.-Pétersbourg: l’Académie Impériale des sciences, 1875.

