Word order variability in OV languages

A study on scrambling, verb movement, and postverbal elements with a focus on Uralic languages

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Abstract

This thesis explores word order variability in verb-final languages. Verb-final languages have a reputation for a high amount of word order variability. However, that reputation amounts to an urban myth due to a lack of systematic investigation. This thesis provides such a systematic investigation by presenting original data from several verb-final languages with a focus on four Uralic ones: Estonian, Udmurt, Meadow Mari, and South Sámi. As with every urban myth, there is a kernel of truth in that many unrelated verb-final languages share a particular kind of word order variability, A-scrambling, in which the fronted elements do not receive a special information-structural role, such as topic or contrastive focus. That word order variability goes hand in hand with placing focussed phrases further to the right in the position directly in front of the verb. Variations on this pattern are exemplified by Uyghur, Standard Dargwa, Eastern Armenian, and three of the Uralic languages, Estonian, Udmurt, and Meadow Mari. So far for the kernel of truth, but the fourth Uralic language, South Sámi, is comparably rigid and does not feature this particular kind of word order variability. Further such comparably rigid, non-scrambling verb-final languages are Dutch, Afrikaans, Amharic, and Korean. In contrast to scrambling languages, non-scrambling languages feature obligatory subject movement, causing word order rigidity next to other typical EPP effects.

The EPP is a defining feature of South Sámi clause structure in general. South Sámi exhibits a one-of-a-kind alternation between SOV and SAuxOV order that is captured by the assumption of the EPP and obligatory movement of auxiliaries but not lexical verbs. Other languages that allow for SAuxOV order either lack an alternation because the auxiliary is obligatorily present (Macro-Sudan SAuxOVX languages), or feature an alternation between SVO and SAuxOV (Kru languages; V2 with underlying OV as a fringe case). In the SVO–SAuxOV languages, both auxiliaries and lexical verbs move. Hence, South Sámi shows that the textbook difference between the VO languages English and French, whether verb movement is restricted to auxiliaries, also extends to OV languages. SAuxOV languages are an outlier among OV languages in general but are united by the presence of the EPP.

Word order variability is not restricted to the preverbal field in verb-final languages, as most of them feature postverbal elements (PVE). PVE challenge the notion of verb-finality in a language. Strictly verb-final languages without any clause-internal PVE are rare. This thesis charts the first structural and descriptive typology of PVE. Verb-final languages vary in the categories they allow as PVE. Allowing for non-oblique PVE is a pivotal threshold: when non-oblique PVE are allowed, PVE can be used for information-structural effects. Many areally and genetically unrelated languages only allow for given PVE but differ in whether the PVE are contrastive. In those languages, verb-finality is not at stake since verb-medial orders are marked. In contrast, the Uralic languages Es-

tonian and Udmurt allow for any PVE, including information focus. Verb-medial orders can be used in the same contexts as verb-final orders without semantic and pragmatic differences. As such, verb placement is subject to actual free variation. The underlying verb-finality of Estonian and Udmurt can only be inferred from a range of diagnostics indicating optional verb movement in both languages. In general, it is not possible to account for PVE with a uniform analysis: rightwards merge, leftward verb movement, and rightwards phrasal movement are required to capture the cross- and intralinguistic variation.

Knowing that a language is verb-final does not allow one to draw conclusions about word order variability in that language. There are patterns of homogeneity, such as the word order variability driven by directly preverbal focus and the givenness of postverbal elements, but those are not brought about by verb-finality alone. Preverbal word order variability is restricted by the more abstract property of obligatory subject movement, whereas the determinant of postverbal word order variability has to be determined in the future.

Acknowledgements

Death lines the path of this dissertation. Luis Vicente, teacher and mentor, was overcome by brain cancer. This led to me inheriting his position. Next, Gisbert Fanselow's mother succumbed to brain cancer. In 2017, my own mother, Marina Schmidt neé Rink, got first diagnosed with uterine cancer, right after my South Sámi field work. Upon recovering in the hospital, in october, an anomaly was discovered in my mother's brain that turned out to be a glioblastoma. Half a year later, in 2018, I lost my mother to that brain cancer. In 2022, Gisbert Fanselow went to a routine checkup preceding eye surgery. He couldn't use the word, but he was diagnosed with cancer, already for the second time in his life. He wanted everything to be set, scrambling to get students to write up their assignments to send them to him such that he could grade them. His goodbye message arrived in my inbox in February. It was the same old song and dance as with the other cases of cancer: first the devastating news and a prognosis of maximally a few months; then alleviation of that prognosis during therapy, lending to the constant change of hope and despair; and finally the parting after more or less the initial prognosis.

I owe so much to Gisbert Fanselow. Be it as a mentor, an employer, a supporter, or a male role model in general. He gave me a voice and made me thrive. He arguably didn't lead me in the right direction when it comes to finishing and publishing research projects, but nobody's perfect. Naturally, this thesis is oozing with Gisbert's impact. Neverending collection of original data with consultants and colleagues, most of which don't tell enough of a story to be publishable. Trying to bring language description, typology, and generativism together. Taking outliers seriously except of trying to explain them away to fit a preexisting theory. I even inherited the intellectual struggle with Hubert Haider that brought Gisbert's dissertation about. I didn't inherit Gisbert's Witzelsucht though, a condition he diagnosed himself with and that left me dumbfounded often enough because it was only in my late 20s that I was able to parse his levels of irony fast enough. Gisbert never took linguistics for granted, he knew that it was a luxury that society lets us do our research. This was one of the reasons for Gisbert to engage so strongly in environmentalism, be it through climate strikes, the anti-flight initiative, and the hands-on local work such as building animal fences and counting beavers. "Why should we teach our students linguistics when the future the world is currently on a path to cannot afford the luxury of linguistic research?" –After Gisbert was gone, the university-wide public climate school, where students ought to have room to protest against current politics' lack of climate policies, was gone as well. Who still funds mires as compensation for flying since he is gone, where is the Flugscham? I deeply miss Gisbert, and I wish his two wonderful, witty sons and his wife a thriving future even without him.

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Contents

List of Figures

Abbreviations

1	First person
2	Second person
3	Third person
ABL	Ablative
ABS	Absolutive
ACC	Accusative
ADD	Additive particle
ADV	Adverbial
ALL	Allative
AOR	Aorist
ATTR	Attributive
AUGX	Augment of class X
AUX	Auxiliary
CAUS	Causative
CL	Clitic
COM	Comitative
COMP	Complementizer
CONNEG	Connegative
CVB	Converbial form
COP	Copula
DAT	Dative
DEF	Definite
DECL	Declarative
DEM	Demonstrative
DET	Determiner
DO	Direct object
EL	Elative
EPP	originally: Extended Projection Principle; here: obligatory subject movement to a high, functional projection
ERG	Ergative
EVD	Evidential particle
F	Feminine
FREQ	Frequentive
FUT	Future
FV	Final vowel
GEN	Genitive
GER	Gerund
IDEO	Ideophone
ICL	Interrogative clitic
ILL	Illative
INCH	Inchoative
IN	Inessive
INF	Infinitive
INSTR	Instrumental
IO	Indirect object
INTER	Interjection
IV	Inverted
LAT	Lative
LNK	Linker element
LOC	Locative
M	Masculine
NEG	Negative
NEGV	Negative verb
NMZ	Nominaliser
NOM	Nominative
NH	Non-honorific
NPX	Nominal prefix of class X
NPST	Nonpast
NQ	Nominal quantifier
OBJ	Objective
OM	Object marker
OBL	Oblique
PART	Partitive
PFV	Perfective
PL	Plural
PROX	Proximal
PR	Preradical vowel
PRF	Perfect
PRS	Present
PRT	Particle
PST	Past
POSS	Possessive
PX	Possessive suffix
Q	Interrogative
2PST	Second past
PTCP	Participle
SCX	Subject concord of class X
SG	Singular
SM	Subject marker
SBJV	Subjunctive
TERM	Terminative
TRANSL	Translative

1 Introduction

> Aber welcher Gewinn wäre es auch, wenn wir einer Sprache auf den Kopf zusagen dürften: Du hast das und das Einzelmerkmal, folglich hast du die und die weiteren Eigenschaften [. . .]
> It would be a great asset if a single property of a language could tell us which other properties that language has! (von der Gabelentz 1901: translation AP)

Georg von der Gabelentz's dream expresses the appeal of implicational universals. These universals function not only as cross-linguistic generalisations but also as potential explanations. The antecedent in an implicational universal is a potential cause for the consequent. This is made clear in the statement in (1), generalising on the possibility that every OV language allows for scrambling.

(1) head-final clausal architecture is a sufficient condition for scrambling (Haider 2010: 160)

The implicature in (1) can be understood as a mere cooccurrence pattern. However, the appeal of that implicature lies in providing a potential *explanation* for the availability of scrambling: head-finality could be a *precondition* for scrambling. When head-finality is to explain scrambling, the grammatical architecture would have to be modelled in a way that allows scrambling to be a consequence of head-final clauses. In this vein, implicational universals can drive the general theory of grammar. This is what makes them appealing.

Any implicational universal posits a degree of *homogeneity* of languages with a shared property. The statement in (1) implies that languages with a head-final clausal architecture are homogeneous in that they all share a certain kind of word order variability. The problem with implicational universals is whether the proposed homogeneity exists in the first place.

The present study is concerned with determining homogeneity among OV languages. The overarching question is stated in (2). It is initially motivated by Hubert Haider's claim that OV languages are highly homogeneous concerning their core clausal architecture (Haider 2010, 2013; cf. Schmidt 2016).

(2) Overarching research question
How homogeneous is the syntax of OV languages?

The main objective of investigating the homogeneity of OV languages is to assess the possibility of a uniform structural analysis. Is there an implicational universal that would allow one to identify a structural property of language simply by knowing it is OV? To achieve this aim, this thesis establishes a typological backdrop for specific phenomena

and conducts in-depth studies on various OV languages. Emphasis is placed on presenting original data rather than analysing existing data. That emphasis allows future research and theorising to build on the empirical contribution of this thesis.

The aspect of syntax investigated in this thesis is **word order variability**. The overarching question in (2) is too broad to be answered. It is clear that OV languages are not homogeneous for most morphosyntactic features, such as head- and dependent marking, the TAME system and other surface-detectable properties. On the other hand, the claim in (1) illustrates that there is the expectation that OV languages are homogeneous for clausal word order variability. In Haider's case, it is the expectation that every OV language should exhibit word order variability and that their word order variability should exhibit the properties of what is called *scrambling*. Kim (1988) also expects OV languages to exhibit a certain kind of word-order variability, namely directly preverbal focus. The central research question of this thesis is formulated in (3).

(3) Central research question
Are OV languages homogeneous with respect to word order variability?

The most common association with word order variability is *word order variability among verb dependents*. Most discussions surrounding the term *scrambling* in OV languages deal with verb-final clauses in which the order of verb dependents varies. This kind of word order variability is investigated in chapter 3 under the question in (4). The theoretical import of that question lies in determining whether OV languages are so homogeneous in this regard that the theory of grammar requires a principled explanation for that homogeneity.

(4) Research question of chapter 3
How homogeneous is the preverbal word order variability in OV languages?

Another piece of word order variability concerns the *word order variability between the verb and its dependents*. Judging only from surface word order patterns, every OV language, in my knowledge, exhibits *postverbal* elements. Currently, there is no cross-linguistic overview of patterns of postverbal elements in OV languages. That lack prevents any generalisation regarding the structure of postverbal elements in OV languages. This leads to the central question of chapter 5 in (5).

(5) Research question of chapter 5
How homogenous are patterns of postverbal element placement in OV languages?

Postverbal elements in OV languages pose the general theoretical question in (6). That question is not framework-specific, but every framework needs a way to deal with this question. In the present study, the problem will be approached from the generative tradition in determining how verb-medial orders can be derived from underlying verb-final orders.

(6) Research question of chapter 5
When a verb-final language features verb-medial orders, how can it be called a verb-final language?

These questions are approached by examining word order variability in four Uralic OV

languages: Estonian, Udmurt, Meadow Mari, and South Sámi. As languages belonging to the same family, they should exhibit a high degree of homogeneity to begin with. This makes non-homogeneous patterns among these languages more striking. Still, the examination of those languages is always nested in a more widespread typological survey.

It will turn out that Estonian and Udmurt are indeed very homogeneous regarding word order variability, both pre- and postverbally. Meadow Mari shares at least the preverbal word order variability with Estonian and Udmurt. South Sámi diverges from the other three languages in most aspects of word order variability discussed in this thesis.

In fact, South Sámi is very heterogeneous among OV languages in general. This outlier serves to illustrate the extent of heterogeneity among OV languages. Chapter 4 therefore directly contributes to the overarching question in (2).

The explorations into OV languages are aided by the theoretical framework developed by Ad Neeleman. That framework and its analytical tools are presented in chapter 2. This framework is built on the idea that word order variability is the norm to be expected from languages, thus befitting this thesis's focus on word order variability. First, it provides a background for what makes word order variability between subject and object special, thus driving the more narrow focus on word order variability between subject and object in chapter 3. Second, that framework allows for the introduction of structural diagnostics for hierarchical relations and verb movement. These tools will play a central role in analysing postverbal elements in OV languages in chapter 5. The framework only plays a minor role in the discussion of South Sámi in chapter 4.

Before the research questions are tackled, the structure of this thesis is summarised in the upcoming section, followed by a brief note on the methodology of data collection employed in this thesis.

1.1 Structure of the thesis

Chapter 2 lays out the framework aiding the present study. First, this framework provides a theory of expected, information-structurally neutral word order variation within and between languages. Second, it provides a background for what makes word order variability between subject and object special, thus driving the more narrow focus on word order variability between subject and object in chapter 3. Third, that framework allows for the introduction of structural diagnostics for hierarchical relations and verb movement. These tools will play a central role in analysing postverbal elements in OV languages in chapter 5. The framework only plays a minor role in the discussion of South Sámi in chapter 4. This framework builds on three basic assumptions, each of which is motivated in its respective section. The first assumption (section 2.2) is the existence of multiple independent merger hierarchies that regulate the order of merge among elements of the same category. When elements stem from two merger hierarchies, their order can be free. This assumption replaces a universal cartographic spine that makes word order variability the exception. The second assumption (section 2.3) is that merger is symmetric. Symmetrical merger straightforwardly accounts for mirror-image effects

within and between languages. This assumption makes it possible to formulate a general diagnostic of hierarchical relations that is implicit in the assumption of the compositionality of syntax. The third assumption (section 2.4) is that neutral word orders derive from base generation or exclusively leftward head movement (+ pied-piping). Together with the other two assumptions, asymmetric head movement is motivated by Greenberg's Universal 20 and Universal-20 effects in general. With all three assumptions combined, a simple diagnostic of head movement derives using elements of different relative scope (section 2.4.2). The application of the complete axiom set is exemplified for the order of postverbal elements in Dutch (section 2.5.1) and Finnish (section 2.5.2). Presenting Finnish has the added merit of providing a Uralic VO counterpart to the Uralic OV languages.

Chapter 3 commences the empirical discussion of word order variability in OV languages by exploring preverbal word order variability. The central aim lies in gauging whether A-scrambling is a universal property of OV languages. First, A-scrambling is defined in section 3.1. A-scrambling differs from other reordering processes in that it is *altruistic*: the fronted element does not receive a special information-structural role. The altruism property allows for a cross-linguistically applicable comparative concept of A-scrambling (section 3.1.4). Altruism is present in reordering via directly preverbal focus, a common but neither universal nor exclusive property of OV languages (section 3.2). Therefore, sections 3.2.2 to 3.2.6 analyse different realisations of directly preverbal focus as instances of A-scrambling in the Turkic languages Turkish, Uyghur, and Kazakh, and the unrelated Caucasian languages Georgian, Dargwa, and Eastern Armenian. Section 3.3 then presents a theory that unifies directly preverbal focus and A-scrambling as first merge of focus. That section ends the buildup of the theoretical and typological backdrop for investigating word order variability in the Uralic OV languages. Section 3.4 then elucidates word order variability in Udmurt, Estonian, and Meadow Mari. They all share A-scrambling via directly preverbal focus. In Udmurt, directly preverbal focus leads to free variation in the order of elements preceding the focus. This phenomenon, dubbed prefocal loosening, is accounted for in the theory of A-scrambling advanced in this thesis (section 3.4.1.2f.). The central finding of this chapter is presented in section 3.5: there are OV languages that lack A-scrambling. South Sámi differs from the other Uralic OV languages in lacking A-scrambling and directly preverbal focus (section 3.5.1). In section 3.5.2, that relative rigidity is traced back to obligatory subject raising, that is, the presence of the EPP. Further OV languages that lack A-scrambling include Dutch and Afrikaans, Amharic, and Korean (sections 3.5.3ff.). Finally, section 3.6 concludes that A-scrambling is not universal to OV languages and that relatively rigid OV languages might be more common outside Eurasia.

Chapter 4 deals with the exceptional status of South Sámi. In addition to lacking A-scrambling and preverbal focus, South Sámi features an alternation between SOV and SAuxOV order. This alternation has not been attested before. The first step to analysing South Sámi is establishing a typology of SAuxOV languages in section 4.2. SAuxOV languages are rare in general, but they present different subtypes. A first distinction is whether the lexical verb is clause-final, coined SAuxOV#, or not. Type 1 consists of SAuxOVX languages (section 4.2.3), where only non-obliques precede V, and Aux

is an obligatory part of the sentence. Since Aux is obligatorily present, there cannot be an SOV–SAuxOV alternation, meaning that South Sámi does pair up with SAuxOV languages of Type 1. Further differences to Type 1 languages are highlighted in section 4.3.1. Type 2 consists of SAuxOV# languages (section 4.2.4). This type features languages of Type 2A with an SVO–SAuxOV alternation ('V2-like') exemplified by Kru languages and Type 2B with an SOV–SAuxOV alternation, as in South Sámi. Type 2A and 2B show that the typology of languages with 'strong' and 'weak' features on V extends to OV languages (section 4.2.4.1). The differences between South Sámi and Type 2A and V2 languages are highlighted in section 4.3.2. Section 4.4 then presents a structural analysis of South Sámi as a language where auxiliaries obligatorily move to the left. Additionally, CPs obligatorily extrapose, resulting in SOVOV structures with control verbs. The general syntax of South Sámi and SAuxOV languages points towards a special structural position of subjects. This corroborates the theory of obligatory subject raising as the cause for word order rigidity in non-scrambling OV languages from chapter 3.

Chapter 5 provides insights into the structure and typology of postverbal elements in OV languages (PVE). The first step is a presentation of the hypothesis space for the structural analyses of PVE in section 5.2: rightwards merge, leftward verb movement from a verb-final base, and rightwards phrasal movement. Empirical criteria for a differential diagnosis of PVE are established based on the general assumptions about compositionality from chapter 2. The crucial difference between rightwards merge and leftward verb movement is whether mirror-image effects occur (rightwards merge) or whether "pre=post effects" occur (leftward verb movement), which denotes effects that the pre- and postverbal field are structurally equivalent. The next step in preparing for the analysis and typology of PVE is setting up inclusion criteria for PVE in section 5.3. Right dislocation and afterthought are excluded as PVE in this thesis since the relevant PVE are extrasentential and hence not an interesting phenomenon in *OV* languages, but for *all kinds* of languages (section 5.3.1). Further spurious instances of PVE are excluded where verb movement is unmistakable (section 5.3.2). With the inclusion criteria set up, section 5.4 then delineates the first typology of PVE. First, the permitted morphosyntactic categories of PVE are ordered on an implicational hierarchy in section 5.4.1. Second, the languages permitting non-oblique PVE can be distinguished by the permissible information-structural functions of PVE (section 5.4.2). The majority of PVE discussed in the literature so far feature given elements, and the occurrence of PVE is a marked construction. Instead of focusing on those patterns, section 5.5 discusses free variation between verb-final and verb-medial orders without information-structural effects. This free variation occurs in both Estonian and Udmurt. Various diagnostics corroborate that this free verb placement involves optionally applicable verb movement with optional pied-piping. This analysis best explains the distribution of verb particles in Estonian (section 5.5.2). It captures the occurrence of clause-final focus in Estonian and Udmurt (section 5.5.3). Moreover, it captures further pre=post effects in Udmurt (sections 5.5.4ff.). Section 5.5.8 then shows that free verb movement is predicted to occur in languages based on the framework from chapter 2 and presents further languages with verb-movement-derived PVE. Section 5.5.9 argues that rightwards movement is still required for some PVE and that Udmurt requires rightwards movement in addition to left

verb movement. Finally, an alternative theory of XV/VX variation by Hubert Haider is debunked in section 5.6 before relating the findings to the research questions in section 5.7.

Chapter 6 concludes this thesis. It provides a final verdict on the homogeneity of word order variability in OV languages. The central contributions of this thesis are highlighted, and future venues of research are pointed out. Before beginning with chapter 2, the following section briefly provides methodological remarks.

1.2 Methodology

The data in this thesis have been gathered by eliciting judgements and comments on preconstructed sentences. The data were not collected using a translation task. In some cases, the lexical material for the judgement elicitation was constructed together with the language consultant in a translation-like manner (esp. Dargwa). However, translations were never taken as primary data, but always followed by further modification, judging, and commenting. Material construction was aided by the prior linguistic literature, the tools provided by Giellatekno, language corpora, and colleagues. The information structure of sentences was determined using standard techniques as described in the *Questionnaire for Information Structure* (Skopeteas et al. 2006) or in the methodological guide to the project *Bantu Syntax & Information Structure* (van der Wal 2021).

Whenever the source of an example is not indicated, it means that the data point was collected by the author, Andreas Pregla. In some cases, the names of the consultants are provided as *personal communication*. This is the case when data were collected with students as consultants who usually verified the data using further consultants. In the other cases, the names are explicitly mentioned in order to honour the contribution of fellow researchers by providing their judgements and comments. Naturally, any mistake or misrepresentation is the fault of the author, Andreas Pregla! All language consultants were compensated either financially, or via course credit.

Whenever feasible, the language examples are presented in their original script. This allows future researchers to more easily collect judgements on the data presented in this thesis, or to look up specific words in corpora. Generally, focus is marked by SMALL CAPITALS in examples written in Latin script. Focus is marked via *italics* in examples written in cyrillic script. The reason for that divergence is one of readability: small capitals hardly stand out in cyrillic script

In general, the description of the raw data was held framework-neutral, seperating it to some extent from the framework-specific interpretation of the data.

The number of consultants varies from language to language. They are listed below with some additional information.

Udmurt	1, Svetlana Edygarova (syntactician); no data from Schmidt (2016) reused
Estonian	core data: 2; approval of the data by Estonian-speaking researchers at conferences
Mari	core data: 1, Elena Vedernikova (linguist); partly additional corroboration by 1 further consultant
South Sámi	core data: 4, L1 speakers of South Sámi from Snåsa and Røyrvik, subset of speakers in Kroik (2016); preparation with 1 further L1 speaker and Mikael Vinka (L2 speaker, linguist)
Finnish	core data: 3; approval and corroboration by Anders Holmberg for data in chapter 2
Urakhi Dargwa	core data: 1, Dzhuma Abakarova (linguist); partly corroboration by consultations by Dzhuma Abakarova with further native speakers
Eastern Armenian	core data: 2, Serine Avetisyan (linguist) and Zhanna Mkrtchyan (linguist, my student); partly corroboration by consultations by Zhanna Mkrtchyan with further native speakers
Uyghur	1, Xiayimaierdan Abudushalamu (linguist)
Kazakh	2, collected by my student Franziska Keller after joint item construction
Amharic	2, one of which Wakweya Gobena (linguist); corroboration of data of the first consultant by Wakweya Gobena
Korean	1, Hye-in Jeong (linguist)
Swedish	17, professional linguists and linguistics students; not as one-on-one research, but informal questionnaire with comments

2 Analytical tools

> Im richtigen Leben ist Unordnung der Normalfall und entsteht von selbst, während einiger Aufwand an Energie erforderlich ist, um Ordnung herzustellen. Das gilt für Liebesaffairen, Linguistikinstitute, mein Büro und vieles andere mehr und steht sicherlich im Zusammenhang zum zweiten Hauptsatz der Thermodynamik.
>
> Bemerkenswerterweise lassen sich Syntaktiker aber nicht von solchen Einsichten leiten, wenn sie sich bemühen, die Anordnung der Konstituenten im deutschen Mittelfeld zu erklären. (Fanselow 1993: 1)

2.1 A theory of word order variation

This chapter lays out the premises for the syntactic analyses proposed in this thesis. The analyses build on the framework advanced by Ad Neeleman, later in collaboration with Hans van de Koot, Klaus Abels, Vikki Janke, and Zoë Belk. The main ideas are laid out and applied in Abels (2016), Abels & Neeleman (2012), Belk & Neeleman (2017), Janke & Neeleman (2012), Neeleman (2015, 2017), Neeleman & Van De Koot (2010). The theory of word order variation advanced by Neeleman will aid the analyses of this thesis in various respects.

Ad Neeleman strived to create a syntax less burdened with functional projections with a focus on word order within the VP. This endeavour started with at least Ackema et al. (1993) and Neeleman's dissertation (Neeleman 1994). The strife for less functional projections in syntax is not an end in itself. In short, the obligatory use of certain functional projections can obscure the syntactic structure and unnecessarily complicate syntactic analyses. As described by Neeleman & Weerman (1999), abandoning functional projections as the only source of grammatical relations became necessary to more readily account for languages with more word order variability than English. Hubert Haider (p.c.) also recounts that the idea of German as a non-configurational language (advanced in Haider (1983) and proven wrong by Fanselow (1987)) was merely the result of the definition of the subject as an element in a specific structural position in the 80's: the VP-internal subject hypothesis was not around yet, such that the only way of not having the subject as high up as in English was to make it hierarchically equal to the object. Back then, this seemed to be the only way to account for missing subject-object asymmetries and heightened word order variability in German. Later on, Haider (2010, 2013) merely posits the absence of an obligatory TP and *v*P in German. A similar movement can also be seen in Fukui (1986). He concluded that most functional projections

are defective or absent in Japanese to account for the word order variability and missing subject-object asymmetries in this verb-final language. The *syntactic* evidence for the obligatory subject-raising to specific functional projections was not there in Japanese. Later on, Fukui & Sakai (2003) went on to propose a "visibility guideline for functional projections", basically stating that a functional projection shall only be assumed for a language when there is empirical evidence for that functional projection in the language.

The struggle with functional projections for word order variability is also visible in Fanselow (2001, 2003). At the time, several obligatory functional projections atop VP were assumed that license case and mediate agreement. These functional projections also accounted for the rigid ordering of most elements in English. In order to account for the word order variability in scrambling languages, Fanselow (2001, 2003) had to assume *covert* movement to those functional projections in scrambling languages. However, covert movement to those positions undermines the purpose of having these functional projections as structurally defined positions. In other words, those functional projections had to be assumed even though the evidence for them was not there. Later on, Fanselow (2004) also went on to eliminate functional projections by using reprojection as a solution to head movement. Especially Fanselow & Lenertová (2011) became a seminal work for eliminating functional projections in deriving word order variability.

In conclusion, there is nothing inherently wrong with positing functional projections. All of the researchers mentioned above also make use of functional projections. However, there might be something wrong about inherently positing functional projections. Functional projections will only be posited when necessary. This principle is an integral part of the discussion of scrambling in chapter 3. There, the lack of scrambling is taken as evidence for obligatory subject-raising to SpecTP.

2.2 Assumption 1: multiple merger hierarchies

The first step in reducing functional projections for the VP syntax is the rejection of a universal spine of functional projections, i.e., *cartography*. Within the cartographic approach, Cinque (1999) proposes a universal, rigid sequence of functional projections hosting material of different functions on top of VP. In contrast to this, Neeleman (2015) takes up a proposal by Bobaljik (1999)[1]: There is no universal hierarchy of functional projections, but instead, there are several hierarchies for elements of the same class that can be "interleaved" (Bobaljik 1999: 5) with one another. Bobaljik (1999) draws an analogy to two decks of cards that are shoved together. The relative order of the cards within each deck is preserved; only the relative order between the elements of deck 1 to those of deck 2 changes and is variable. Keeping with this analogy, deck 1 could be the hierarchy of adverbials, while deck 2 is the hierarchy of arguments. Neeleman (2015) illustrates this point with Dutch data containing two adverbs with a rigid relative order to one another and three arguments with a rigid relative order to one another. Parts of these data are shown in (7) with some added boldface (adverbs) and italicisation (arguments) to

1. Other researchers taking up the proposal by Bobaljik (1999) include Ernst (2002), Haider (2013), Nilsen (2013).

highlight the interspersal of categories. As long as the relative order within each "deck" is intact, the sentence as a whole is licit and neutral (7a–e). Only changing the relative order within a "deck" results in a marked and/or degraded sentence, as in (7f). In (7f), the order of the non-oblique argument NPs is changed, resulting in an ungrammatical sentence (the adverbs have been left out for brevity's sake). In all examples in (7), only the Middlefield behind the finite verb is relevant.

(7) Interspersal of adverbs and arguments in Dutch (Neeleman 2015)

a. Volgens mij hebben **toen** *de jongens* **snel** *Marie de boeken*
according.to me have then the boys quickly Mary the books
gegeven.
given
'I think that the boys quickly gave Mary the books at that point.'

b. Volgens mij hebben *de jongens* **toen** *Marie* **snel** *de boeken*
according.to me have the boys then Mary quickly the books
gegeven.
given

c. Volgens mij hebben **toen** *de jongens* *Marie de boeken* **snel**
according.to me have then the boys Mary the books quickly
gegeven.
given

d. Volgens mij hebben *de jongens* **toen** **snel** *Marie de boeken*
according.to me have the boys then quickly Mary the books
gegeven.
given

e. Volgens mij hebben *de jongens* **toen** *Marie de boeken* **snel**
according.to me have the boys then Mary the books quickly
gegeven.
given

f. *Volgens mij hebben **de boeken Marie de jongens** gegeven.
according.to me have the books Mary the boys given
int. 'I think that the boys quickly gave Mary the books at that point.'

(8) Representation as two "decks" with a rigid relative order

$$\begin{bmatrix} \text{de jongens (subject)} \\ \text{Marie (indirect object)} \\ \text{de boeken (direct object)} \end{bmatrix} \rightleftarrows \begin{bmatrix} \text{toen} \\ \text{snel} \end{bmatrix}$$

Neeleman (2015) translates these multiple hierarchies into **merger hierarchies**. A merger hierarchy determines the order in which elements merge with the clause. The

crucial point is that these merger hierarchies apply independently of one another. As a result, the order in which elements of *different* hierarchies are merged is not predetermined. As a result, the verb can merge with an adverbial or an argument first. This results in semantic effects directly reflected in the relative scope of elements. This is how the scopal effects described by Diesing (1990) come about, recreated by an Estonian example in (9). The different order of merger determines the difference in relative scope and hence the different hierarchy.

(9) Estonian

a. Kass oli *igal pühapäeval* **kaks last** üles äratanud.
cat COP.PST.3SG every sunday two child.PART PRT wake.PTCP
'The cat woke two children up every Sunday.' ($\forall > 2, {}^{*} 2 > \forall$)

b. Kass oli **kaks last** *igal pühapäeval* üles äratanud.
cat COP.PST.3SG two child.PART every sunday PRT wake.PTCP
'The cat woke two children up every Sunday.' (${}^{*}\forall > 2, 2 > \forall$)

Another difference between merger hierarchies and cartography is the absence of a total asymmetric order within each hierarchy. In cartography, the functional hierarchy is total in that every element has to be either higher or lower than the other. The merger hierarchy, however, allows for *ties*: the order between elements of the same hierarchy can be partial, allowing for two elements to not exhibit any order preference. This is required for adverbials to have variable neutral order and to exhibit different relative scope depending on their order (*knocking twice intentionally*).

The merger hierarchies here are a metatheoretic concept that can be instantiated by different mechanisms. The argument hierarchy is straightforwardly captured by ordered subcategorisation features. Neeleman & van de Koot (2002, 2008, 2010) assume that the verb subcategorises for an argument by discharging a thematic selectional requirement θ. The substantive semantic content of the thematic role associated with θ is not present in syntax proper. Therefore, the V-node carries a number of inherently unordered, indistinguishable selectional requirements [θ θ]. The ordering among the syntactically identical θ-requirements is achieved by introducing an ordering tier. This ordering tier distinguishes the θ-roles for later interpretation and determines the order in which the selectional requirements are discharged. This ordering can also determine marked base-generated word orders: the resulting structure is marked when a θ is discharged *later* than at the first possible instance. However, the merger hierarchy of non-arguments has to be postulated since they are not subcategorised for. This order of adjunction can, then, be accounted for in the scopal theory of adverbial order (Ernst 2002).

Another implementation of ordered subcategorisation features is proposed by Georgi & Müller (2010). There, the subcategorisation features of heads are inherently ordered as a stack. The order of merge results from the order of the subcategorisation features. The interspersal problem is not the central issue in that approach, such that adjuncts and arguments are contained in the same feature stack and subcategorised for. In a footnote in response to a comment on the interspersal problem, Georgi & Müller (2010: fn. 14)

propose a solution along the lines presented above: adverbials differ from arguments in being "Adjoined" instead of "Merged", thus ending up with separate hierarchies for the separate operations Adjoin and Merge. Theory-independently, this can also be thought of as a difference in adjunction and subcategorisation.

The assumption of multiple, partially ordered merger hierarchies accounts for both within-category rigid relative order and between-category variable order. Word order variability between elements of different categories comes for free under this assumption. It is merely the result of different orders of merge. This idea is essentially also in place in Janke & Neeleman (2012), Belk & Neeleman (2017) and Neeleman (2017), where the latter two articles deal only with a single hierarchy at a time. This idea ties in with the tenor of Fanselow (1993, 2001, 2003), which also builds on insights from the placement of adverbials and arguments: Merge became an unrestricted operation in Minimalism such that free constituent order, especially between adverbials and arguments, comes for free and can be base-generated. Adverbial intervention, i.e., the separation of O and V by adverbials as the structure [O [Adv V]] or [[V Adv] O], comes for free. Word order *rigidity*, such as the unavailability of adverbial intervention *[[V Adv] O], is what requires an explanation.

The predicted word order freedom of the present framework is a crucial building block for the discussion of scrambling in chapter 3. Mere adverbial intervention will not be considered a case of relevant scrambling because of how freely it comes about. Only reordering *within* a merger hierarchy will be considered genuine cases of scrambling.

2.2.1 Caveats of free merge order with different merger hierachies

There are at least three caveats in assuming free order of merge and merger hierarchies. The first problem is between-category ordering restrictions: manner adverbials are usually lower than nominative subjects. A second problem stems from the widespread approval of Baker's (1988) *Uniformity of Theta Assignment Hypothesis* (UTAH): Neeleman's system of merger defies unique positions for theta-role assignment. A third caveat is a theory-internal problem: How are elements defined as belonging to the same merger hierarchy?

The problem of between-category ordering restrictions can be explained by the semantic domain to which each element is merged. This "scopal theory" of the distribution of adverbials (Ernst 2020) is also the standard way of explaining why there are supposedly universal ordering hierarchies to begin with, without alluding to a Cinque-style cartographic universal spine of functional projections (Ernst 2002, Haider 2013, Nilsen 2013, Ramchand & Svenonius 2014). As an illustration, manner adverbials modify the verb and the action denoted by it, a temporal adverbial modifies the event in which this action is taking place, a modal adverbial modifies the proposition as a whole, and an evaluative adverbial modifies the complete utterance. By building the structure, the built-up semantic object to be modified grows as well. Since the modifying adverbials merge to the semantic object they modify, the order between the adverbials reflects the size of

the semantic object they merged to and therefore their hierarchical height and relative scope. This also ensures that there can be adverbials without rigid relative order: When two adverbials modify the same semantic object and do not scopally interact, there is no reason per se for them to be rigidly ordered. Consequently, the scopal theory allows for free, information-structurally neutral variation among adverbials in principle. Allowing for this variation is crucial since only a subset of adverbials exhibit rigid relative order (Ernst 2002, 2020).

The UTAH does not pose an empirical problem but one of theoretical premises. The overarching premise of the UTAH lies in the one-to-one mapping of syntactic positions to semantic functions with at least some degree of semantic decomposition. Due to that, it has much in common with cartographic assumptions about syntax (cf. Nilsen 2013). Instead of assuming functional positions and respective functional heads for semantically decomposed functions, the verb and its featural specification can also provide the relevant semantics. In practice, the verb assigns theta roles directly. This non-positional, non-decompositional way of deriving the theta grid predates the cartographic variant, but it was shown to be a viable alternative in Neeleman & van de Koot (2002) and Neeleman & Van De Koot (2010). In Neeleman & van de Koot (2002) and Neeleman & Van De Koot (2010), theta roles are features of the verb that are discharged once they are assigned (cf. also Fanselow 2001, Neeleman 1994). Since the features of a lexical head are preserved when the head projects, the theta roles of the verb do not need to be in a specific position: when a theta role is not discharged in derivational step t_n, the theta role can still be discharged at t_{n+1}. As a consequence, the theme role does not need to be discharged in the complement position of the verb (in contrast to the UTAH). Other elements, such as modifiers that don't require theta roles, can be merged before the theme-role-bearing NP is merged. This allows for the interspersal of different categories via base generation as in (7). The correct canonical order of theta role assignment is achieved by an order of discharge between these features.

In sum, the clash of the current framework with the UTAH is only seemingly a problem. There is no irrefutable reason to adopt the UTAH; it is a choice of theoretical premises. Neeleman & van de Koot (2002) and Neeleman & Van De Koot (2010) present a viable alternative theory for the assignment of theta roles. Additionally, the non-positional approach comes very close to a positional variant by assuming that the *features* of lexical elements project. The feature that assigns the theta role to an NP would stem from the projected label. This way, there will be a label whose function consists in assigning that specific theta role to the NP. Semantic decomposition could also be implemented by turning the semantically decomposed functions into features of the verb. To illustrate this, consider the widely assumed CAUSE-semantics assigned to little *v* (Chomsky 2008, Kratzer 2006). Little v assigns the CAUSER-role, but it has to do it under sisterhood of the CAUSER-NP with the projection *v'*. In keeping with this assumption, the feature that assigns the CAUSER-role would project from the verb and serve the same function. The relevant functions can even be associated with verb movement by employing head movement as reprojection (Fanselow 2004, Surányi 2005). The only thing that changes is flexibility in the structural position that such projections assume.

The third caveat mentioned above lies in the application of the theory: How are ele-

ments defined as belonging to the same merge hierarchy? Prima facie, a merge hierarchy should comprise elements of the **same category**. In the verbal domain, there should be separate hierarchies for NPs/DPs, PPs, AdvPs, pronominals, clitics, discourse particles and so forth. However, some elements may fall outside a merger hierarchy even if they are of the same category. A case in point are NPs, which seem to divide into oblique and non-oblique NPs. This point is crucial to this study because the languages studied in this thesis employ a plethora of oblique NPs that are not embedded under PPs.

2.2.2 Determining merger hierarchies: the case of the German dative

In what follows, a case study of dative NPs in German serves as an illustration of how elements can be determined to belong to the same merge hierarchy. Specifically, it will be argued that dative NPs are not part of the merge hierarchy for arguments.

The first argument stems from the frequency of word order variation as studied by Verhoeven (2015). Verhoeven (2015) investigated the linearisation of arguments in experiencer verbs. She carefully controlled for factors of verb semantics, verb syntax, and discourse prominence of the involved NPs. Pronouns received a separate analysis due to Wackernagel effects. Figure 2.2.2 shows one of the results from the corpus analysis: the graph shows the proportion of sentences in which the object (accusative or dative) precedes the subject (nominative). The x-axis depicts whether the two arguments had a different animacy (*disharmonic*) or whether they were both animate (*other*). The different data points represent the different verbs:

- The black dots, *canonical*, are run-of-the-mill transitive verbs with nominative and accusative arguments. The corpus contained almost no sentences with OS orders with these verbs (as in Bader & Häussler 2010b).
- The grey and white dots represent experiencer verbs that select for nominative and accusative arguments. In the *disharmonic* condition, the accusative experiencer is animate while the nominative stimulus is not. When this is the case, the accusative NP precedes the nominative NP in about 60% to 75% of cases. As soon as there is an animacy incline between accusative and nominative, the proportion of ACC-NOM order plummets to maximally 10%, hence closing in on the canonical transitive verbs.
- The white square represents experiencer verbs that select for a dative experiencer and a nominative stimulus. When the dative NP is animate, but the nominative NP isn't, about 80% of sentences showed a DAT–NOM order. In contrast to the nominative-accusative experiencer verbs, this proportion does not decrease as steeply when the animacy incline is controlled for. In this case, there is almost a perfect 50% chance for both DAT–NOM and NOM–DAT order to appear.

These data show that dative NPs are unlike accusative and nominative NPs: when animacy is controlled for, there are equal proportions of DAT–NOM and NOM–DAT or-

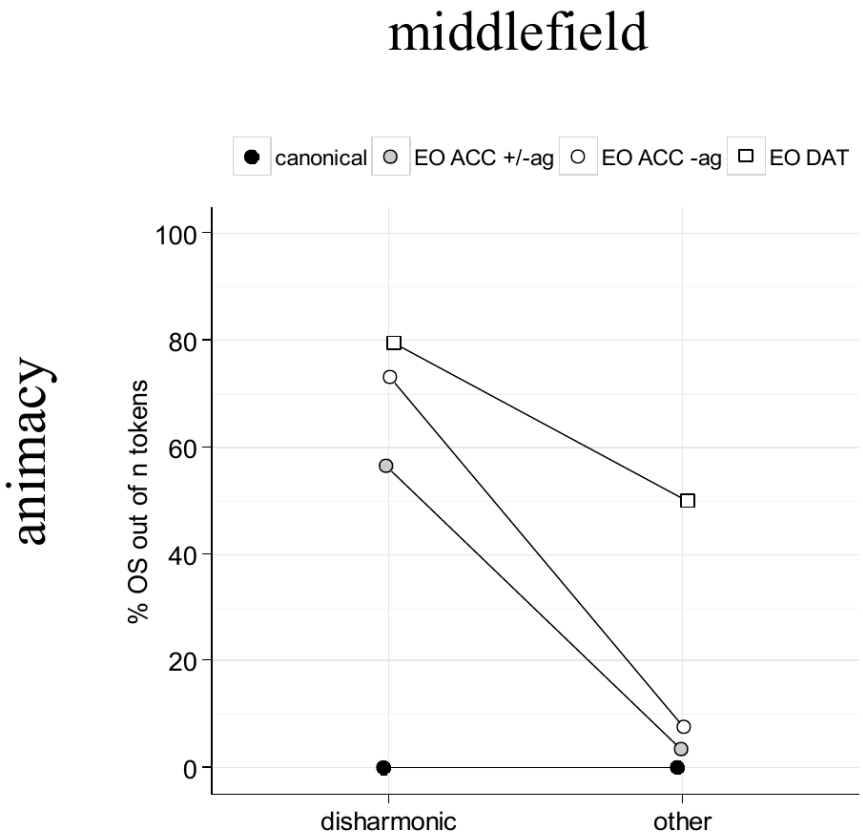


Figure 2.1: Proportions of object-subject orders in German experiencer verbs as a function of case and animacy from Verhoeven (2015: 76).

ders. Those equal proportions stand in contrast to *accusative* NPs: in transitive sentences ("canonical"), animacy has no impact on the order of ACC and NOM altogether. If animacy is controlled for in experiencer verbs, there is still a strong preference for NOM–ACC order against ACC-NOM order.

The difference in the ordering frequencies of dative NPs vs. accusative NPs in relation to nominative NPs can now be interpreted as the result of the merger hierarchy: nominative NPs and accusative NPs belong to the same merger hierarchy, e.g., that of non-oblique NPs, whereas dative NPs are not part of this hierarchy. As a result, dative NPs can be interspersed with non-oblique NPs, much like adverbials. This free interspersal leads to a pure chance distribution of both orders.

Further evidence for the exemption of dative NPs from the merger hierarchy of arguments stems from the corpus study by Bader & Häussler (2010b). The graph in figure 2.2.2 shows the proportion of subject–object orders for different combinations of animacy between subject and object. Only the grey bars (*middlefield*) are of interest here. In contrast to Verhoeven (2015), Bader & Häussler (2010b) did not restrict the sample to experiencer verbs. Even then, there is a 50/50 distribution of DAT–NOM and NOM–DAT orders when both NPs are animate, just as in Verhoeven (2015), as one can gather from the rightmost bar in the right graph in figure 2.2.2. In contrast, the proportion of ACC–

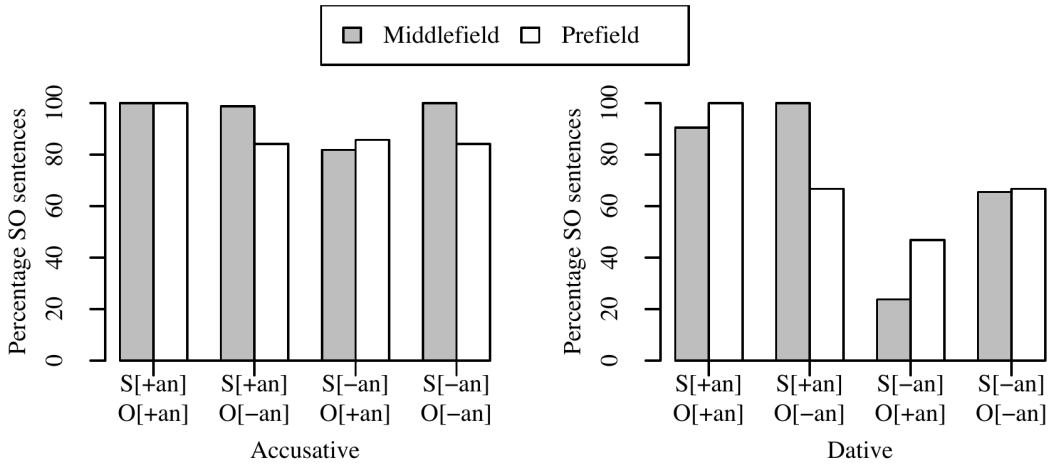


Figure 2.2: Proportion of subject-object orders in transitive verbs as a function animacy and case from Bader & Häussler (2010b: 731).

NOM orders never exceeds 20%, as can be gathered from the left graph. As such, the findings of Bader & Häussler (2010b) point to the same asymmetry between dative NPs and accusative NPs as the findings of Verhoeven (2015): dative NPs are likely to not part of a merger hierarchy with non-oblique NPs, it is free choice in which order these elements are merged. This is why there is a pure chance distribution of DAT–NOM and NOM–DAT orders. Accusative NPs, on the other hand, are in a merger hierarchy with nominative NPs, leading to a strong bias towards NOM–ACC orders regardless of which other factors are controlled for.

In sum, the German dative NP has a special status as an oblique NP among the non-oblique accusative and nominative NPs. This special status is also reflected in the debates surrounding different German verb classes that select for different underlying orders of the dative relative to other elements (Fanselow 2000, Haider & Rosengren 2003, G. Müller 1999, inter alia). Gisbert Fanselow (p.c.) pointed out that linguists back then, himself included, were very sure about their judgements regarding different underlying orders for different verbs. However, the different verb classes for ditransitives might exclusively be mediated by animacy and definiteness, as in G. Müller (1999) and corroborated with corpus studies by Elisabeth Verhoeven (p.c.).

This brief investigation of dative NPs in German shows what happens when elements of assumedly different merger hierarchies are combined in the same clause: **neutral reorderings** between elements of different hierarchies are likely to occur. For the same reason, word order variation that only involves reordering of argument NPs with adverbials is predicted. The dative NP case in German shows that this can also involve reorderings between oblique and non-oblique NPs. Therefore, even argument reordering is predicted to occur under the assumption of multiple merger hierarchies as long as it does not involve two non-oblique NPs, such as accusative and nominative.

In conclusion, only reorderings between elements of the same merger hierarchy require an additional explanation or mechanism. There is some circularity of argumenta-

tion here: free reordering between elements is taken as a sign of belonging to different hierarchies, and rigid order between elements is taken as a sign of belonging to the same hierarchy. Afterwards, order variation between elements of different hierarchies comes for free, while that between elements of the same hierarchy requires explanation. However, the dative NP differs from nominative and accusative NPs in several further regards (Haider 2010: ch. 6) such as its ability to function as an adverbial (*dativus commodi*) and its abberant behaviour under passivisation. Therefore, it fits into the picture that the German dative NP does not belong to the same category as accusative and nominative arguments.

The same reasoning as presented here will apply to any merger hierarchy. A merger hierarchy is to be stipulated when only one order between two elements of the same category is neutral. It is a circular definition because the merger hierarchy is the descriptive notion to capture neutral word order.

2.3 Assumption 2: Symmetrical merger

Symmetrical merger is the second axiom for the analyses of this thesis. The availability of symmetrical merger will play a central role in the discussion of postverbal constituents in section 5.

2.3.1 Rejection of the antisymmetry of structure building

Only a few people still follow Kayne's (1994) theory of antisymmetry and the *Linear Correspondence Axiom* (LCA) such that arguing against it is somewhat futile. Accordingly, the rejection of antisymmetry is held short. According to Kayne (1994) and the researchers following his framework, the LCA is a universal principle that restricts natural language syntax to universal specifier-head-complement order and universal leftward structure building. As such, structure-building, merge, is antisymmetric. The assumed *a priori* antisymmetry in structure building is assumed to restrict the hypothesis space and make syntax more lightweight. Therefore, the rejection of the antisymmetrical structure building in this section merely focusses on the proposed merits of the LCA. In short, the LCA fails to achieve its goals.

The first commonly mentioned merit of the LCA lies in reducing word order to a phenomenon at the interface of PF and syntax, in line with Minimalism (e.g. Chomsky 2013). However, Kayne rejects implementing the LCA as a PF-interface condition operation on a set-merged sentential structure (Kayne 2011). Updated versions of the antisymmetric account even implement the LCA only as a last-resort operation that applies for nodes whose linear order has not been determined in syntax proper (Sheehan 2013). This undermines the LCA's function of reducing linear order to a mapping of structural relations. As such, the LCA fails to achieve the proposed Minimalist merits.

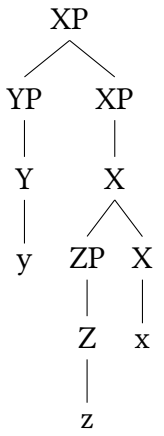
Most importantly, Abels & Neeleman (2012) show that the LCA fails to achieve its goal of being a *restrictive axiom*. The main problem, so they show, lies in implicit assumptions that are usually not spelt out when applying antisymmetry. Only these implicit assumptions, however, are what derive the LCA's well-known restrictions. One major implicit assumption is a restrictive theory of projection and labelling. Taking only the LCA as

a measure of well-formedness, any head could project any category (Abels & Neeleman 2012: 38ff.). This leads to problems when it comes to linearising a syntactic structure based on its c-command relations because Kayne (1994: 16ff.) famously changed the definition of c-command to take the distinction between *categories* and *segments* into account. This change to c-command makes categories adjoined to heads asymmetrically c-command the head they adjoin to. Consequently, even universal specifier–head–complement order does not follow from the LCA alone but only from additional assumptions about projection and phrase-structure rules. Without a theory of projection, a structure like (10) can be derived. Instead of projecting XP from the constituent [ZP X], one can also project X since there is no theory of projection. In this structure, ZP asymmetrically c-commands X according to Kayne's (1994: 16ff.) because X includes ZP, thus rendering X unable to c-command ZP. Hence, the resulting structure is LCA-compatible and would be linearised as specifier-complement-head (Abels & Neeleman 2012: 43f.).

(10) LCA-compatible structure resulting in specifier-complement-head order (Abels & Neeleman 2012: 44)

a. [XP [YP [Y y]] [XP [X [ZP [Z z]] [X x]]]

b.



Since the idea of asymmetric merge was primarily built on theory-internal aspects of elegance, Abels & Neeleman (2012) conclude that **symmetric accounts of phrase-structure building are viable**. This means that merger can occur both to the left and to the right, unlike accounts following Kayne's (1994) antisymmetric approach. The assumption of symmetrical merger is the second cornerstone of the theory of word order variation employed in this work. It can derive both ascending and descending VPs and it can base-generate both OV and VO orders. If one still wishes to translate the symmetrical structures employed in this thesis to LCA-compatible ones, Abels & Neeleman (2012) provide an algorithm for translation.

2.3.2 Mirror image effects as the core argument for symmetrical merger

The main reason for the assumption of symmetrical merger stems from *mirror image effects*. Mirror image effects can be posited as a universal structural difference between head-final and head-initial structures in the theory of word order developed here.

Symmetrical merger means that merge is possible to both the left and the right. This unconstrained merge interacts with the merger hierarchies discussed above: Per hierarchy, the *order* of merge is still the same, but it can apply in different *directions*. **Mirror image effects** follow directly from the interaction of these two assumptions since the merged elements have to assemble around the head in the same relative order but in a different direction. What this looks like is illustrated language-internally for Dutch PPs in (11).

(11) hierarchy of PP merger: PP1 > PP2 > PP3 (Neeleman 2017)

a. **leftward merge**: [PP3 [PP2 [PP1 V]]]

dat hij [door een stuurfout]$_3$ [met een knal]$_2$ [op het hek]$_1$ strandde
that he by a steering-error with a bang on the fence got.stuck
'that he got stuck on the fence with a bang because he made a steering error'

b. **rightward merge**: [[[V PP1] PP2] PP3]

dat hij strandde [op het hek]$_1$ [met een knal]$_2$ [door een stuurfout]$_3$
that he got.stuck on the fence with a bang by a steering-error

A mirror image effect is present when the linear order of elements in front of a head is reversed behind the head. In (11a), the order of PPs is PP3 PP2 PP1 V in front of the head they modify, while the order behind the head in (11b) is the reversed order V PP1 PP2 PP3. Either order reflects the order of merge of the modifiers and, as such, their relative scope and relative structural height. Under symmetrical merger, the respective structures would turn out as [PP3 [PP2 [PP1 V]]] and [[[V PP1] PP2] PP3], respectively.[2]

Mirror image effects are attested for different domains. For a synopsis, see Cinque (2009). For some of the domains specifically: morphology in general (Baker's (1985) mirror principleCinque 1999), nominal heads (Belk & Neeleman (2017), Cinque (2009), Greenberg (1963), also as part of *Universal 20* discussed below), adverbial modifers (Cinque 1999, Neeleman 2017), and verb-auxiliary complexes (Abels 2016).

Under the assumption of symmetrical merger, mirror image effects can be used to determine the hierarchical structure between elements. In section 5, the presence and absence of mirror image effects are used to determine the structure of postverbal elements. Therefore, I will further explain how mirror image effects come about under the assumption of merger hierarchies and symmetrical merger and how they can help determine the structure underlying linear strings.

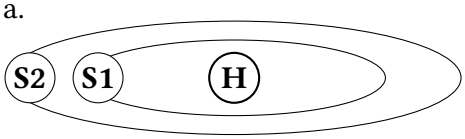
2. Neeleman (2017) illustrates how the more commonly assumed roll-up movements (Cinque 1999) would also be able to derive mirror image effects. For the case of Dutch PPs however, roll-up movement would make wrong predictions based on language-specific diagnostics (Neeleman 2017: 37ff.).

2.3.3 Mirror image effects as a structural diagnostic

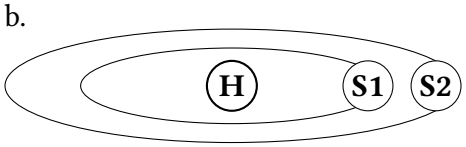
Mirror image effects in their interplay with relative structural height can be highlighted with the analogy of modifying elements as *satellites* orbiting around a modified *head*. As satellites, the modifying categories have a set *relative distance* to the head. Since the satellites *orbit*, the modifying categories can appear either behind or in front of the head. This is depicted in (12), where the numbers stand for the order of merge. This depiction is essentially a set notation of syntactic structure. When the satellites are on the same side of the head, the relative distance of the satellites to the head reveals their hierarchical relation. Hierarchically, (12a) and (12b) are equivalent. This follows straightforwardly from symmetrical merger since the hierarchical relations between elements that are both merged to the left or both merged to the right are the same regardless of the direction they appear in. Only their linear order is different based on the direction of merge.

(12) **Mirror image effect**

a.



b.

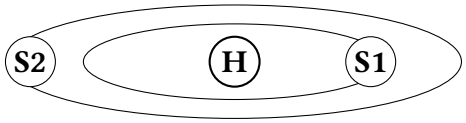


The configuration in (a) maps to the linear order S2 S1 H. The configuration in (b) maps to H S1 S2. In terms of hierarchical order, (a) and (b) are equivalent. The hierarchical structure is evident from the linear order.

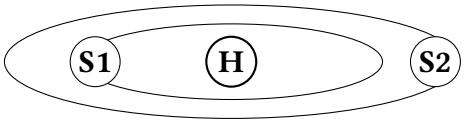
When the satellites are on opposite sides of the head, the relative distance to the head cannot be determined on the basis of linear order. This situation is depicted in (13). The hierarchical relation in (13a) maps to the surface order S2 H S1. However, (13c) also maps to S2 H S1, even though the hierarchical relation between S1 and S2 is reversed. As a result, the string S2 H S1 does not allow one to conclude what the underlying hierarchical structure between S1 and S2 is. In the same vein, (13b) maps to S1 H S2, and (13d) also maps to S1 H S2. Just like before, the hierarchical relations between (13b) and (13d) are reversed. Therefore, the surface string S1 H S2 can also not indicate the hierarchical relation between S1 and S2 since two potential structures lead to S1 H S2. In sum, the hierarchical relations of S1 and S2 cannot be determined based on linear order when they are on opposite sides of the head in the linear string.

(13)

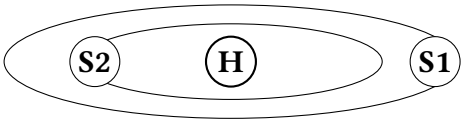
a.



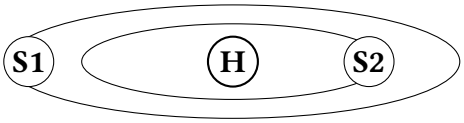
b.



c.



d.



The configurations in (a,c) map to the linear order S2 H S1. The configurations in (b,d) map to the linear order S1 H S2. In terms of hierarchical order, structures (a) and (b) are equivalent, and so is (c) and (d). Therefore, the hierarchical structure *cannot* be inferred from the linear order.

When two modifying categories appear on the same side of the head, the linear order of the modifying elements signals their relative distance to the head. When they are on opposite sides of the head, the relative distance of the satellites to the head cannot be determined based on linear order. This means that the linear order *between the satellites* is not sufficient to determine their relative structural height: it has to be determined *relative to the head*. The resulting diagnostic for structure is formulated in (14) and is essentially based on a formulation by Neeleman (2015).

(14) When two elements of the same category modify a head, and they neutrally appear on the same side of the head, the modifier linearly more distant to the head is structurally higher than a modifier linearly closer to the head.

The central premise for the validity of (14) as a diagnostic rests on an axiom induced from empirical evidence. The axiom is that the scope of an element is determined by its structural height. In the structure [S2 [S1 H]], S2 takes scope over S1. S2 also takes scope over S1 in [[H S1] S2]. This axiom lies at the heart of using scope as a diagnostic for structure but is seldomly spelled out.

The validity of the correspondence between scope and hierarchy stems from the cross-linguistic absence of the neutral linear order in which a lower satellite S1 precedes a higher satellite S2 in front of the head, with a reading in which S2 takes scope over S1.[3] This universal claim is presented for the verbal domain in (15) since only data from the verbal domain were collected for this thesis. (15) is partly adopted from claims by Cinque (2009: 168) and Neeleman (2015). Cinque (2009) shows that the pattern (C)BAX° is unattested across different domains, including verbal satellites. The formulation *(C)BAX° is simply a more general formulation of (15). Likewise, Neeleman (2015) argues that YP ZP X is unattested when ZP YP X is attested. Again, *YP ZP X is just a more general version of (15). The generalisation *S1 S2 V can be called *Reduced Universal 20 pattern* because it represents part of the Universal 20 pattern discussed below in section 2.4.2.

3. Inverse scope between subject and object is exempt from this generalisation.

(15) **Reduced Universal 20 pattern** (cf. Cinque 2009)
The neutral order lower satellite – higher satellite – V does not exist.
*S1 S2 V

The crucial point of (15) for the diagnostic in (14) is that the absence of neutral S1 S2 V can be explained by the impossibility of base-generating [S1 [S2 V]]. If [S1 [S2 V]] were base-generated, S1 would have to be merged after S2. This is not possible when S1 and S2 belong to the same merger hierarchy. In the preverbal domain, hierarchical relations match the linear relations in that preceding elements take scope over following elements (*modulo* centre embedding). Some examples for (15) are given in (16). The examples for English (16a,b), Mandarin Chinese (16c,d), and Meadow Mari (16e,f) show the effect straightforwardly. In the Udmurt examples (16h–i), three adverbs from the same merger hierarchy were chosen to show that the effect does not only hold for pairs of two satellites.

(16) a. The cat **now$_2$ completely$_1$** finished its nap.

b. *The cat **completely$_1$ now$_2$** finished its nap.

c. Mandarin Chinese (Huang 1982: 76)

Ta **qunian$_2$ changchang$_1$** lai.
he last-year often come
'He came often last year.'

d. Mandarin Chinese (Huang 1982: 76)

*Ta **changchang$_1$ qunian$_2$** lai.
he often last-year come
'*Often, he came last year.' [sic]

e. Meadow Mari (Elena Vedernikova, p.c.)

Кова **икече$_2$ ялыште$_1$** йочалан йомак-влакым ойлыш.
grandmother recently village.IN child.DAT poem.PL.ACC read.PST.3SG
'Grandmother read poems to a child in the village recently.'

f. Meadow Mari (Elena Vedernikova, p.c.)

#Кова **ялыште$_1$ икече$_2$** йочалан йомак-влакым ойлыш.
grandmother village.IN recently child.DAT poem.PL.ACC read.PST.3SG
int. 'Grandmother read poems to a child in the village recently.' (not neutral, emphasis on place adverbial)

g. Udmurt (Svetlana Edygarova, p.c.)

Коӵыш **толон$_3$ ӵем$_2$ зол$_1$** мяугетйз.
cat.NOM yesterday often stout miaow.PST.3SG
'The cat miaowed loudly often yesterday.'

h. Udmurt (Svetlana Edygarova, p.c.)

*Коӵыш **ӵем$_2$ толон$_3$ зол$_1$** мяугетйз.
cat.NOM often yesterday stout miaow.PST.3SG
int. 'The cat miaowed loudly often yesterday.'

i. Udmurt (Svetlana Edygarova, p.c.)

*Коӵыш **зол$_1$ ӵем$_2$ толон$_3$** мяугетйз.
cat.NOM stout often yesterday miaow.PST.3SG
int. 'The cat miaowed loudly often yesterday.'

The same logic can now be applied to the mirror images. [[V S2] S1] can also not be base-generated since S1 would have to be merged after S2, even though the merger hierarchy dictates that S1 is to be merged first. Therefore, only [[V S1] S2] can be base-generated. This leads to right-to-left scope behind the verb (as in English, Neeleman & Payne 2020). Several instances of this effect could already be seen in the English translations to the examples in (16): the postverbal adverbials in English appear in the mirror-image order of the preverbal adverbials of the examples. That the mirror-image effect applies language-internally was already shown in (11), but it is also present in English. The language-internal mirror-image effect is shown for English in (17a,b). Comparing (17a,b) to (16a,b), the mirror image effect is visible (*modulo* focus shift). The Thai sentences (17c,d) exemplify the mirror-image effect cross-linguistically. Finally, the example from Tagbana (17e) lacks the minimal pair. However, Fanselow et al. (submitted) use the exclusiveness of V LOC TEMP order in their data as evidence that postverbal elements in Tagbana are right-adjoined. Therefore, Fanselow et al. (submitted) do not only exemplify the mirror image effect but also its use as a structural diagnostic.

(17) a. The cat finished its nap completely now.

b. #The cat finished its nap now completely. (not as a neutral sentence)

c. Thai (Upsorn Tawilapakul, p.c.)

Mɛɛrîi cùt thian **yàaŋtâŋcay$_1$ mûawannii$_2$**.
Mary to.light candle carefully yesterday
'Mary lit the candly carefully yesterday.'

d. Thai (Upsorn Tawilapakul, p.c.)

??/*Mɛɛrîi cùt thian **mûawannii$_2$ yàaŋtâŋcay$_1$**.
Mary to.light candle yesterday carefully
int. 'Mary lit the candly carefully yesterday.'

e. Tagbana (Fanselow et al. submitted)

pɔ̃l.1 wí mɑ̃ sébé.1 sīɔ̄ **kàcò.1 nã$_1$ àcùmù.1$_2$ nɑ̃̌$_2$**.
Paul PRO1 ASP book buy Katiola LOC Friday LOC
'Paul bought the book in Katiola on Friday.'

In conclusion, the neutral linear order of elements from the same merger hierarchy can be taken as evidence for their hierarchical structure. In neutral order, a higher satellite S2 is hierarchically higher than a lower satellite S1. When the neutral order between S1 and S2 behind the verb is S1 S2, then this is the result of right-adjunction. Accordingly, symmetrical merger combined with merger hierarchies is a straightforward explanation of cross- and intralinguistic mirror image effects.

By now, the reader will probably have interjected that V S2 S1 order (e.g., *walked yesterday slowly*) is also attested as a neutral word order in many languages such as French – and Dutch. This leads to the last axiom of the present framework: neutral word orders can also be derived by head movement. This final, crucial point is the content of the upcoming section.

2.4 Assumption 3: leftward V⁺-movement

2.4.1 Motivating head movement

Verb movement plays a central role in the discussion of postverbal elements in chapter 5. The present section will outline how verb movement features in the theory of word order pursued here. The axiom to be introduced in this section is given in (18).

(18) Neutral orders are base-generated or derived by X^+-movement. (Abels 2016, Abels & Neeleman 2012, Neeleman 2015, 2017)

X^+ is short for "the head of the phrase and any subconstituent containing the head". The axiom in (18) allows head-movement, and pied-piping of material along with the head, to derive neutral word orders along with basic structure building.[4] Verb movement can account for why the order V PP3 PP2 PP1 (19a), in addition to V PP1 PP2 PP3 (19b), is neutrally available in a Dutch V2 clause.

(19) The order V PP_3 PP_2 PP_1 is permissible under V2 (Neeleman 2017: 20)

a. Hij strandde [door een stuurfout]$_3$ [met een knal]$_2$ [op het hek]$_1$.
he got.stuck by a steering-error with a bang on the fence
'He got stuck on the fence with a bang because he made a steering error.'

b. Hij strandde [op het hek]$_1$ [met een knal]$_2$ [door een stuurfout]$_3$.
he got.stuck on the fence with a bang by a steering-error

The order V PP3 PP2 PP1 cannot be base-generated as [[[V PP3] PP2] PP1] because that would violate the merger hierarchy of the PPs. However, it is possible to first base-generate the structure [PP3 [PP2 [PP1 V]]] and then move the verb to the left for V2 purposes, resulting in [V [… [PP3 [PP2 [PP1 <V>]]]]]. This way, head movement can capture the availability of V PP3 PP2 PP1.

4. This axiom could be shown to be a consequence of the reprojection theory of head movement by Georgi & Müller (2010). The availability of pied-piping is not crucial for the discussion at hand but will play a role in the discussion in chapter 5.

The general takeaway of this section is the application of another diagnostic that will repeatedly feature in 5: whenever a mirror image effect is *absent* behind a head, it is a sign of head movement. Just as before, data from Dutch can illustrate this diagnostic. Few people will probably dispute the unmistakable signs of verb movement in V2 languages, but it is helpful to reiterate the line of argumentation for this particular case.

The central argument for verb movement in Dutch is the unavailability of V PP3 PP2 PP1 when the verb is not in the V2 position. This is shown in (20d). The unavailability of (20d) follows straightforwardly under the assumption that V PP3 PP2 PP1 would have to be purely base-generated with a V that is not in the V2 position. One can argue that V is in its *base position* when it is not in the V2 position. When V is in its base position, there is only a single, neutrally permissible order when all three PPs are on the same side of V, as in (20a) and (b). These two orders can be base-generated, while the orders in (20c,d) would violate the merger hierarchy if they were to be base-generated.[5]

(20) The order V PP3 PP2 PP1 is not permissible without V2 (Barbiers 1995: 102f.)

a. PP_3 PP_2 PP_1 V

Hij is [door 'n stuurfout]$_3$ [met een knal]$_2$ [op het hek]$_1$ gestrand.
he is by a steering-error with a bang on the fence stranded
'He got stranded on the fence with a bang by a steering error.'

b. V PP_1 PP_2 PP_3

Hij is gestrand [op het hek]$_1$ [met een knal]$_2$ [door 'n stuurfout]$_3$
he is stranded on the fence with a bang by a steering-error

c. *PP_1 PP_2 PP_3 V

*Hij is [op het hek]$_1$ [met een knal]$_2$ [door 'n stuurfout]$_3$ gestrand.
he is on the fence with a bang by a steering-error stranded

d. *V PP_3 PP_2 PP_1

*Hij is gestrand [door 'n stuurfout]$_3$ [met een knal]$_2$ [op het hek]$_1$.
he is stranded by a steering-error with a bang on the fence

In principle, both the order PP1 PP2 PP3 and PP3 PP2 PP1 are grammatical. However, PP1 PP2 PP3 is only grammatical *behind* the base-position verb (20b), but it is ungrammatical *in front of* the base-position verb (20c). Likewise, the order PP3 PP2 PP1 is grammatical *in front of* the verb (20a), but is ungrammatical *behind* the verb (20a). This is fully in line with merger hierarchies and symmetrical merger: the more distant satellites cannot merge closer to the verb than the closer satellites. As such, the mirror image diagnostic succeeds in capturing the hierarchical relations between the PPs.

The availability of postverbal PP3 PP2 PP1 now follows straightforwardly from the as-

5. The full paradigm of admissible word orders can be found in Barbiers (1995: 103). The examples, with slightly different wording, originally stem from Koster (1974). However, Koster (1974: 612f.) presents most of his data only schematically, which is why Barbiers (1995) and Neeleman (2017) were chosen as the source.

sumption that V *moves* from the base position to the V2 position (Koster 1974, 1975). The V2 sentence (19a) is grammatical and neutral because (20a) and (11a) are grammatical and neutral. Likewise, the V2 sentence (19b) is grammatical and neutral because (20b) and (11b) are grammatical and neutral. Even though the finite verb *strandde* ('got.stuck, stranded') is in the second position in (19), the clause as a whole still behaves as though the verb was in the base position.

In short, the non-finite and embedded verbs reveal the structural configuration of the clause before the verb movement to the second position took place. Since either right- or left-adjunction of the PPs could have taken place before V moves to the second position, either order is permissible behind the finite verb. The movement of the verb *obscures* the underlying structural configuration such that the underlying structure can merely be inferred based on the *absence* of mirror-image effects. In Dutch, verb movement in V2 clauses is so difficult to deny that it constitutes a case of *unmistakable verb movement* (also see section 5.3.2). This way, V2 languages are able to inform one about the configurations that verb movement brings about. V2 languages also showcase that a theory of neutral word order has to include a notion of verb movement. In more general terms, *head movement* has to be possible. This leads to the axiom in (18).

The final axiom is a restriction on head movement to be briefly discussed in the following section: head movement is asymmetric in that it can only take place to the left.

2.4.2 Head movement is leftward

The final axiom of the framework by Neeleman and Abels is the antisymmetry of neutral head movement. The corresponding axiom is given in (21). It is the basis of a potential explanation for a higher degree of word order variability in OV languages in section 5.

(21) X^{+}-movement is asymmetric: it must be leftward. (Neeleman 2017: 13)

The assumption of asymmetric head movement is motivated by *Universal 20 patterns* (Abels 2016, Cinque 2009, Neeleman 2015, 2017). The Universal 20 pattern can be introduced with PP data discussed so far. When summing up which patterns of PP and V are permissible in Dutch, the picture in (22) emerges. The order PP3 PP2 PP1 is admissible both in front of V and behind V, whereas PP1 PP2 PP3 is only permissible behind V.

(22) a. PP3 PP2 PP1 V

b. V PP3 PP2 PP1

c. *PP1 PP2 PP3 V

d. V PP1 PP2 PP3

The ungrammaticality of (22c) follows straightforwardly from the absence of rightward V movement in Dutch. Under the assumptions so far, PP1 PP2 PP3 V would have to be derived by first base-generating [[[V PP1] PP2] PP3] and subsequently moving to V to the right across the PPs resulting in [[[[[V PP1] PP2] PP3] …] V]. This structure is not available in Dutch because movement to the V2 position is exclusively to the left of the clause.

The main tenet is now that Dutch is not exceptional in the absence of rightward head movement but that the absence of rightward head movement is universal across syntactic domains and languages. The empirical evidence for that assumption is the general absence of S1 S2 H discussed in section 2.3.3. In short, there is a "fundamental left-right asymmetry"(Abels 2016, Cinque 2009) depicted in the *Universal 20 pattern* in (23). There is more word order freedom behind the head than in front of the head. Exclusively leftward head-movement can derive the Universal 20 pattern. The absence of S1 S2 H could also be evidence for the absence of head movement altogether, but then the general availability of H S2 S1 would go unexplained.

(23) Universal 20 pattern, adapted from Abels (2016), Cinque (2009), Neeleman (2015)

a. S2 S1 H

b. H S2 S1

c. *S1 S2 H

d. H S1 S2

The Universal 20 pattern goes back to (Greenberg 1963), who discovered the pattern in (23) specifically for satellites of the noun phrase. Greenberg (1963: 87) formulates his Universal 20 as follows: "When any or all of the items –demonstrative, numeral, and descriptive adjective –precede the noun, they are always found in that order. If they follow, the order is either the same or its exact opposite.". In other words, there is a general mirror image effect, but the prenominal order can also be preserved postnominally. Later on, the same pattern was attested for further domains (Abels 2016, Cinque 2009, Neeleman 2017).

In the present framework, the absence of S1 S2 H in the presence of H S2 S1 is captured by the absence of rightward head movement. This is illustrated in (25). Only the desired word orders can be derived by the present framework.

(24) a. S2 S1 H –[S2 [S1 H]]

b. H S2 S1 –[H [… [S2 [S1 <H>]]]]

c. *S1 S2 H –*[[[[<H> S1] S2] …] H]

d. H S1 S2 –[[H S1] S2]

The head-movement axiom allows for another structural diagnostic (25) in combination with the mirror-diagnostic in (14) to reflect the availability of (24b). The diagnostic in (25) is able to differentiate between structures derived by head movement (24 b) and structures derived by pure base generation (24 d).

(25) Any order H S2 S1, where S2 is a scopally higher element than S1, is derived by head movement.

The easiest way to apply the diagnostic in (25) is by using inherently scopal elements such as adverbs of different height, i.e., adverbs scopally interacting or modifying different semantic domains. This way, verb movement can be diagnosed without first having to analyse the quantificational system of a language (cf. Philipp 2022 on the potential

precursory work required to interpret quantifier scope interactions between NPs).

Asymmetric head movement was the final axiom of the present framework. The complete framework will be presented in the upcoming section.

2.5 The complete axiom set

The complete set of axioms that form the basis for the structural analyses of this thesis are given in (A). The most accurate and general version of these axioms is presented in Abels (2016: 191). The formulation in (A) represents the easy-to-grasp gist however.

(A) The axioms of this thesis, based on and partly verbatim by Abels (2016), Abels & Neeleman (2012), Neeleman (2015, 2017)

I. There are independent merger hierarchies. The order of merge is only restrained within each merger hierarchy.

II. Merge is symmetric. Structure building can take place to the left and to the right.

III. Neutral orders are base-generated or derived by X^+-movement.

IV. X^+-movement is asymmetric: it must be leftward.

The application of the framework will be illustrated in the concluding two sections of this chapter.

2.5.1 Illustration 1: PP-over-V in Dutch

Without further restrictions, many more neutral orders than those listed in (19,20) are generated by (A). This is by design since the whole range of possible combinations of V and three PPs is given in (26). The table in (26) depicts the orders for V in V2 position and V in base position combined. The grey cells represent unavailable neutral orders, while the white cells represent available neutral orders.

(26) Distribution of V and three PPs in Dutch (Neeleman 2017: 20)

	I	II	III	IV
a.	PP_3 PP_2 PP_1 V	V PP_1 PP_2 PP_3	V PP_3 PP_2 PP_1	PP_1 PP_2 PP_3 V
b.	PP_3 PP_2 V PP_1	PP_1 V PP_2 PP_3	PP_3 V PP_2 PP_1	PP_1 PP_2 V PP_3
c.	PP_3 PP_1 V PP_2	PP_2 V PP_1 PP_3	PP_1 V PP_3 PP_2	PP_2 PP_3 V PP_1
d.	PP_3 V PP_1 PP_2	PP_2 PP_1 V PP_3	V PP_2 PP_1 PP_3	PP_3 PP_1 PP_2 V
e.	PP_1 PP_3 PP_2 V	V PP_2 PP_3 PP_1	V PP_3 PP_1 PP_2	PP_2 PP_1 PP_3 V
f.	PP_1 PP_3 V PP_2	PP_2 V PP_3 PP_1	V PP_1 PP_3 PP_2	PP_2 PP_3 PP_1 V

All of the white cells in (26) can be derived by (A.II) (cf. Neeleman 2017). As an example, the cell (26Ic), i.e., PP3 PP1 V PP2, can be base-generated as [PP3 [[PP1 V] PP2]]. This

is possible because the merger hierarchy of the PPs is respected (A.I), and because the direction of merge is unrestricted (A.II).

The permissible order in cell (26IIIe), i.e., V PP3 PP1 PP2, cannot be purely base-generated, since it would have to involve the structure [[[V PP3] PP1] PP2], which violates the merger hierarchy A.I. However, verb movement from the base-generated structure in cell (26Ic) derives V PP3 PP1 PP2 resulting in a neutral word order (A.III), such that the underlying structure of this order would be [V [… [PP3 [[PP1 <V>] PP2]]]].

Some further orders predicted to occur via (A) are absent in (26) (cf. Neeleman 2017). For example, (26IIIc) could be derived by first generating [PP3 [PP2 [PP1 V]]], and then pied-piping (V^+-movement) PP1 along with V, resulting in [[PP1 V] [… [PP3 [PP2 <[PP1 V]>]]]]. However, Dutch V2 movement forbids pied-piping in general, leading to the well-known effect of Germanic particle stranding. Therefore, it is not surprising that an order that requires pied-piping (V^+-movement) does not occur in Dutch. This showcases how language-specific constraints can further restrict possible word orders.

2.5.2 Illustration 2: Finnish postverbal word order variation

This section serves several purposes. First, it showcases how the present framework is applied to a language that has not yet been studied with it. Second, it shows what the postverbal field of a VO language looks like. This way, Finnish can function as a model VO language to which OV languages with postverbal elements (section 5 can be compared. Third, it showcases how additional constraints enter the derivation. *Prima facie*, any structure can be derived via (A). Only further constraints can rule a structure out for a specific language. In this case, the special requirements of direct objects lead to further constraints.

The Finnish postverbal field, coined *V-field* by Vilkuna (1989), allows for word order variation (Boef & Dal Pozzo 2012, Brattico 2018, Manninen 2003, Vilkuna 1989). Problematically, it is clear since at least Holmberg et al. (1993) that the Finnish clause involves obligatory verb movement (Holmberg 2000, Holmberg & Nikanne 2002, Huhmarniemi 2012, Manninen 2003, Schmidt 2016: inter alia). Furthermore, most studies on Finnish word order focus on the left periphery of the clause instead of the V-field. Therefore, the structure of the V-field is still up for debate.

Manninen (2003) showcases the word order variability in the Finnish postverbal field for three adverbials. According to her, every permutation of the three adverbials is *grammatical*. However, Satu Manninen (p.c.) said that the grammatical orders presented in Manninen (2003) are not equally *neutral*. Therefore, I elicited further judgements on the information-structural interpretations of the variation in the V-field. It turns out that the four orders in (27) are neutral. All of the examples are based on Manninen (2003). The numbers below the interlinear gloss indicate the status of the adverbials on the merger hierarchy. This option was chosen in favour of the subscript representation above to highlight the position of the verb and the object.

(27) a. Sirkku ampoi Pulmun taitavasti rannalla keskiviikkona.
Sirkku shot Pulmu.OBJ skillfully at.beach on.Wednesday
V O 1 2 2

'Sirkku shot Pulmu skillfully at the beach on Wednesday.' (neutral)

b. Sirkku ampoi Pulmun taitavasti keskiviikkona rannalla.
Sirkku shot Pulmu.OBJ skillfully on.Wednesday at.beach
V O 1 2 2

c. Sirkku ampoi keskiviikkona rannalla taitavasti Pulmun.
Sirkku shot on.Wednesday at.beach skillfully Pulmu.OBJ
V 2 2 1 O

d. Sirkku ampoi rannalla keskiviikkona taitavasti Pulmun.
Sirkku shot at.beach on.Wednesday skillfully Pulmu.OBJ
V 2 2 1 O

First, the neutral word orders in (27) reveal that the temporal adverbial *keskiviikkona* ('on.wednesday') and the locative adverbial *rannalla* ('at.beach') are not ordered in a merger hierarchy. Hence, their relative order does not matter. This can be seen in the lack of a contrast between (27a) and (b), and (27c) and (d). For this reason, the two higher adverbials were both marked as *2* in the depiction of the merger hierarchy.

Second, the neutral word orders in (27) can be derived by the axioms of the present framework in (A). The orders in (27) can be base-generated (A.III) respecting the merger hierarchy A.I under symmetric merge (A.II), and are followed by leftward verb movement (A.III,A.IV). The respective structures in the present framework are shown in (28). The order of V and its complement was stipulated (also see section 3.2.4). The variable order between the two higher adverbials is ignored here because it would not lead to further insights.

(28) a. structure of (27a)

[ampoi [… [[[[<ampoi> Pulmun] taitavasti] rannalla] keskiviikkona
[shot [… [[[[<shot> Pulmu] skillfully] at.beach] on.Wednesday
[V [… [[[[<V> O] 1] 2] 2
]]]
]]]
]]]

b. structure of (27c)

[ampoi [… [keskiviikkona [rannalla [taitavasti [<ampoi> Pulmun
[shot [… [on.Wednesday [at.beach [skillfully [<shot> Pulmu
[V [… [2 [2 [1 [<V> O
]]]]]]
]]]]]]
]]]]]]

The analysis along the lines of the present framework indicates that O is underlyingly adjacent to V. That is, Finnish does not allow for adverbial intervention, the most restricted type of A-scrambling (see section 3). This conclusion is highlighted by the fact that every other order of O and the adverbials is *marked*, as exemplified in (29). The sentences in (29) necessitate a focussed reading on at least one of the clause-final elements.

(29) a. Sirkku ampoi taitavasti keskiviikkona rannalla PULMUN.
Sirkku shot skillfully on.Wednesday at.beach Pulmu.OBJ
V 1 2 2 O
'Sirkku shot PULMU skillfully on Wednesday at the beach.' (O focus)

b. Sirkku ampoi Pulmun rannalla taitavasti KESKIVIIKKONA.
Sirkku shot Pulmu.OBJ at.beach skillfully on.Wednesday
V O 2 1 2
'Sirkku shot Pulmu skillfully at the beach ON WEDNESDAY.' (time focus)

c. Sirkku ampoi Pulmun keskiviikkona taitavasti RANNALLA.
Sirkku shot Pulmu.OBJ on.Wednesday skillfully at.beach
V O 2 1 2
'Sirkku shot Pulmu skillfully on Wednesday AT THE BEACH.' (place focus)

d. Sirkku ampoi keskiviikkona taitavasti RANNALLA PULMUN.
Sirkku shot on.Wednesday skillfully at.beach Pulmu.OBJ
V 2 1 2 O
'Sirkku shot PULMU skillfully on Wednesday AT THE BEACH (and not MERJA in the PARK).' (O+Adv focus)

There is only one way to base-generate (29) without violating the merger hierarchy of the adverbials. This analysis would involve adverbial intervention, as shown (30a). That analysis is admissible *per se*, but the case licensing requirements for the direct object could render (30a) unavailable for independent reasons. Janke & Neeleman (2012) and Belk & Neeleman (2017) argue that it could be required that O is the leftmost element at the point that it is introduced into the structure. This linear requirement on case assignment would rule out (30a) even though it would *per se* be possible. As a result, the order V 1 2 2 O can only be derived by *phrasal movement* of the object NP, as in (30b), leading to a non-neutral word order.

(30) a. base-generated structure of (29a)
[V [… [[[[<V> 1] 2] 2] O]]

b. phrasal movement of O to the right to derive (29a)
[V [… [[[[[<V> <O>] 1] 2] 2] O]]]

The markedness of the other word orders in (29b–d) follows straightforwardly from the unavailability of base generation with O adjacent to V. They also point towards rightwards phrasal movement. The assumption of a clause-final focus slot in Finnish that can be targeted for movement is not unreasonable. To my knowledge, Brattico (2018) is the first to explicitly discuss clause-final focus in Finnish and coins the term "focus

dislocation" for this phenomenon. Whatever the exact analysis for clause-final focus in Finnish is, it bears the markings of A-bar-movement.

The present framework in combination with a case-licensing constraint can also account for the diverging analyses surrounding the structure of Finnish ditransitives between Manninen (2003) and Kaiser (2000, 2002) discussed in Schmidt (2016). The relevant data are shown in (31). Both orders in (31) are neutral. However, (31a) is scopally ambiguous while (31b) only allows for the surface scope reading. A similar situation is present in English ditransitive constructions, indicated by the free translations in (31): the prepositional dative construction given as a translation to (31a) is scopally ambiguous, while the double object construction given as a translation to (31b) only allows for the surface scope reading.

(31) a. Merja näyttää kaksi kuvaa jokaiselle vieraalle.
Merja:NOM showed two:PAR picture:PAR every:ALL guest:ALL
'Merja showed two pictures to every guest.' $(2 > \forall, \forall > 2)$

b. Merja näyttää kahdelle vieraalle jokaisen kuvan.
Merja:NOM showed two:ALL guest:ALL every:PAR picture:PAR
'Merja showed two guests every picture.' $(2 > \forall, *\forall > 2)$

Janke & Neeleman (2012) and Bruening (2014) agree in the scopal data for English. They also both conclude that there is a structural difference between double object constructions and prepositional datives in that the double object construction *necessicates* the construction of a verb shell, while the prepositional dative construction is structurally ambiguous (= Pesetsky Paradox). The same analysis can be applied to the Finnish examples.

First, the allative NP is an oblique behaving like an adverbial that does not require case licensing. Hence, the allative NP is unlikely to be in a merger hierarchy with the direct object. As a result, it is possible to derive the scopally ambiguous order in (31a) by either right-adjunction of the oblique after merging the object, as in (32a), or by merging the oblique first and left-adjoining the object, as in (32b). Right adjunction of the oblique (32a) is straightforward since the oblique does not require case licensing. However, merging the oblique first (32b) necessitates verb movement in order to assign case to the object (Belk & Neeleman 2017, Janke & Neeleman 2012). The resulting word order is neutral because head movement derives neutral orders. In sum, two derivations lead to the order V–object–oblique. This structural ambiguity leads to the ambiguous scope.

(32) a. [V … [[<V> object] oblique]]

b. [V … [<V> [object [<V> oblique]]]]

In contrast to (31a), the order V–oblique–object in (31b) is not structurally ambiguous. Due to the lack of a structural ambiguity, there is also no semantic ambiguity. First merging the object and then left-adjoining the oblique, as in (33a), does not run into trouble for deriving V–oblique–object. The same is not the case when the oblique is merged first, as in (33b). It would *per se* be possible to base-generate (33b) to derive the

order V–oblique–object. However, case licensing of the object cannot take place in the right-adjoined position because it violates the condition that the object is the leftmost element at the time of merge (Belk & Neeleman 2017, Janke & Neeleman 2012). There is also no way to salvage the construction. As a result, the order V–oblique–object can only be derived in a single way, namely by (33a). In that structure, the oblique takes scope over the object, resulting in the surface scope reading. Consequently, the word order in (31b) only has the surface scope reading since it is not structurally ambiguous.

(33) a. [V … [oblique [<V> object]]]

b. *[V … [[<V> oblique] object]]

The unavailability of a right-adjoined direct object in (33a) for (31b) corroborates the analysis of the neutral and marked word orders in (29): Finnish disallows adverbial intervention in the underlying structure. The underlying structure is obscured by verb movement but can be inferred using the mirror-image diagnostic.

The application of the present framework to Finnish shows how it can lead to insights into the clause structure of Finnish. Adverbials, many of which are oblique NPs, can merge to both the left and the right. This leads to mirror image effects. The direct object differs from adverbials. The direct object cannot be right-adjoined after other elements were already right-adjoined. Adjacency of V and O is a further restriction on Finnish VP structure.

Having illustrated the "bare-bones" syntax employed in this thesis, the following chapter will commence the discussion of word order variability in chapter 3.

3 Preverbal word order variation in OV languages: scrambling

This chapter aims to capture preverbal word order variability between verb dependents in OV languages. The main question about the homogeneity of OV languages is approached via the question in (34).

(34) How homogeneous is the preverbal word order variability in OV languages?

The point of departure is the claim that *scrambling* is a universal property of OV languages (Abels & Neeleman 2012, Corver & van Riemsdijk 1997, Fukui 1993, Fukui & Takano 1998, Haider 2010, 2013, Haider & Rosengren 2003, Hawkins 2008, Koster 1999, Neeleman 1994, Neeleman & Weerman 1999, Reuland & Kosemeijer 1993, Saito & Fukui 1998). During the course of the investigation in this chapter, it will become clear that many Eurasian OV languages are homogeneous with respect to their preverbal word order variability and that it is meaningful to subsume that word order variation under a single term: *A-scrambling*.

While it is possible to ascribe A-scrambling to many OV languages, there are also OV languages that are unexpectedly rigid, such as South Sámi, Amharic, Dutch, and Korean. These OV languages lack A-scrambling and will be called non-scrambling OV languages. This means that OV languages are not homogeneous enough to posit an implicational universal linking verb-finality to A-scrambling. Instead, the availability of A-scrambling can be linked to the absence of obligatory subject raising, that is, a parameterised subject EPP.

The present chapter is structured as follows. First, the universal claim regarding scrambling as an OV property will be presented (section 3.1). In order to investigate *scrambling* cross-linguistically, a working definition of scrambling as *A-scrambling* will be developed and illustrated. The *clauseboundedness* of A-scrambling (section 3.1.3) will pave the way to the most crucial property of A-scrambling, the *altruism property* (section 3.1.4). Under A-scrambling, the fronted element does not receive any information-structural marking. This property is cross-linguistically detectable, making it a suitable hallmark property for a crosslinguistic study.

Directly preverbal focus in OV languages will be introduced and analysed as a common instantiation of A-scrambling in OV languages (section 3.2). As such, the presence of directly preverbal information focus can be taken as an indication of A-scrambling in a language. The illustrations with Turkic languages also serve to illustrate that A-scrambling can take place multiple times in the same clause and do not involve non-altruistic fronting. However, directly preverbal focus is not exclusive to OV languages, and not every OV language exhibits directly preverbal focus. Finally, further manifes-

tations of preverbal focus will be shown across languages of the Caucasus in order to present the range of phenomena a unified theory of A-scrambling would have to cover.

In section 3.3, a base-generation analysis of A-scrambling will be sketched. That sketch of a theory of A-scrambling seeks to provide a cross-linguistically viable analysis of A-scrambling that integrates directly preverbal focus as an explanandum.

Section 3.4 features in-depth discussions of A-scrambling and other instances of preverbal word order variability in three Uralic OV languages: Udmurt (section 3.4.1), Estonian (section 3.4.2), and Meadow Mari (section 3.4.3). Directly preverbal focus will be shown to be the driving force behind A-scrambling in these three languages.

The major new finding of this chapter is presented in section 3.5. There are OV languages that do not allow for A-scrambling. Among the Uralic OV languages, the odd-one-out is South Sámi (section 3.5.1). The crucial difference between South Sámi and its fellow OV languages will be made out to be obligatory subject raising. That explanation for the lack A-scrambling is theoretically and empirically substantiated in section 3.5.2. In the remainder of that section, it will be shown that South Sámi is not the only OV language to lack A-scrambling: Dutch and Afrikaans, Amharic, and Korean also lack A-scrambling.

In the concluding section 3.6, the findings of this chapter are contextualised for the question of the homogeneity of OV languages. There is a surprising amount of homogeneity concerning preverbal word order variability for many Eurasian OV languages. However, that homogeneity is not so absolute as to posit an absolute implicational universals accompanied by structural explanations thereof, and the homogeneity is likely to be confined to Eurasia: data from OV languages outside of Eurasia are systematically absent from the discussion of scrambling.

3.1 Scrambling as on OV property

3.1.1 Previous work on scrambling in OV languages

In order to determine whether a language in question exhibits scrambling, the term *scrambling* has to be defined first. Scrambling is a loaded term since its conception by Ross (1967). Therefore, prototypical properties of scrambling in OV languages will be determined for use in a comparative concept of *scrambling*. How it comes to be viewed as common among OV languages will become apparent amidst this discussion.

The word *scrambling* is sometimes used to describe any kind of word order variation and any kind of displacement. This use of the word is of no use in the present work because it would mean that even languages with relatively rigid word order would exhibit "scrambling". Languages like English, Mandarin, Arabic and the Romance languages would be scrambling languages simply because they exhibit fronting and postposing of topics, foci, and contrastive elements, often into the clausal periphery. Therefore, equating *scrambling* with *displacement* is not useful in the context of this work since this use would fail to describe a specific kind of word variation found only in a subset of languages.

In this work, the term **A-scrambling** will be used and narrowed down. It is aimed at capturing the kind of word order variation that generativists expect from an OV language when the availability of scrambling is linked to head-final structures, as in Abels & Neeleman (2012), Corver & van Riemsdijk (1997), Fukui (1993), Fukui & Takano (1998), Haider (2010, 2013), Haider & Rosengren (2003), Koster (1999), Neeleman (1994), Neeleman & Weerman (1999), Reuland & Kosemeijer (1993), Saito & Fukui (1998). These works revolve around a Dutch centre with diverse researchers, Naoki Fukui, and Hubert Haider. The researchers of the Dutch centre call adverbial intervention 'scrambling'. According to those researchers, every verb-final language has to feature adverbial intervention by design (e.g. Janke & Neeleman 2012, Neeleman 1994). The typological study by Hawkins (2008) on the distribution of obliques can be taken as evidence for that claim. Neeleman (2015) also presents cross-linguistic data gathered together with Matthew Dryer, substantiating that OV languages allow for adverbial intervention. However, adverbial intervention will not feature as the topic of this thesis due to the reasons outlined below. Therefore, *A-scrambling* will not mean adverbial intervention in the present work.

Other researchers, such as Corver & van Riemsdijk (1997), make the statement in (35). It states that scrambling *can* only occur in head-final phrases, but not that it *has* to occur in head-final phrases. Head-finality, regardless of phrase, is a necessary condition for scrambling. That study ensured scrambling involves altruistic NP movement, but it did not control whether it is merely adverbial intervention. Head-finality as a necessary condition for A-scrambling will only be addressed indirectly in the present study: the focus of the current study lies with the homogeneity of OV languages, but the statement in (35) would require focussing on VO languages for falsification.

(35) Head-finality as a necessary condition for scrambling
If a phrase allows for scrambling, then that phrase is head-final.
scrambling → head-finality

Haider was already mentioned as a proponent of a scrambling universal by citing (1). According to him, 'scrambling' involves argument reordering, not only adverbial intervention (Haider 2010, Haider & Rosengren 2003). This is the kind of scrambling the present study will investigate. In his theory, the possibility for argument reordering directly follows from the availability of adverbial intervention, and adverbial intervention directly follows from verb finality Haider (2010, 2013, 2017). Haider expresses the extreme position that every OV language should allow for scrambling at various points in his work, as indicated by the quote in (1). That universal, given the rendition in (36), could be taken as a strawman, but Haider (p.c.) suggests it and finds it to be empirically true. That universal also follows from the theories advanced in Saito & Fukui (1998) and Fukui & Takano (1998), but is only explicitly stated in Fukui & Takano (1998) as a *prediction*, not as an empirically founded universal.

(36) **The scrambling prediction**
Every OV language allows for the word order variation known as scrambling.
OV → scrambling

The empirical basis for positing a connection between verb finality and scrambling is

anecdotal at best. It seems that a connection between head-finality and A-scrambling was noticed and informally discussed, aking to an Urban myth, during the 1980s and 1990s. Corver & van Riemsdijk (1997) already take the connection between head-finality and scrambling as their starting point, but they can also not cite actual proponents for that idea. In order to substantiate the claims, Corver & van Riemsdijk (1997) perform a first cross-linguistic inquiry into scrambling. However, their study hardly addresses the issues raised in the present work since they focussed on other aspects of scrambling relevant at the time, such as the possibility of fronting elements to a preverbal position in VO languages. Furthermore, the OV languages in that study were languages that had already been discussed in the literature as scrambling languages at that time (e.g., Indo-Germanic OV and Japanese). While it is important to set a baseline for comparison, the prediction in (36) could hardly have been falsified due to that choice. The present study focusses on languages that have not been shown to be scrambling languages before.

The main proponent of the scrambling universal in (36), Hubert Haider, never tried to falsify the scrambling universal. He mainly relies on the differences between German and English and cites Corver & van Riemsdijk (1997) as a verification in Haider (2010). Fukui & Takano (1998) mostly rely on Japanese. In sum, the idea that OV languages allow for scrambling as argument reordering in (36) has no empirical basis. The present study aims to remedy this situation by providing an insight into the typology of OV languages that determines whether there is a homogeneous kind of word order variability across OV languages to be called A-scrambling.

3.1.2 Working definition of A-scrambling

The properties that define the term 'scrambling' as A-scrambling in the sense of the present study are listed in (37). These properties ought to differentiate A-scrambling from other reordering processes. They are mainly sourced from what Haider (2010), Haider & Rosengren (2003), Neeleman & van de Koot (2008) propose for A-scrambling in Germanic OV languages.

(37) **Differentiating properties of A-scrambling**

a. **altruism: no IS-marking of the fronted element**

b. OS order is possible

c. clause-boundedness

d. mediated by preverbal focus position

e. multiple instances

The main points of divergence in the use of the word *scrambling* are *clause-boundedness*, *no IS-marking of the fronted element*, and *OS order is possible*. The points will be taken up in order.

In the research tradition focussing on word order variability in Slavic languages, a displacement was only considered genuine *scrambling* when it was *not* clause-bound and when it would lead to IS-marking of the fronted element (e.g. Baylin 2001). In other

words, *scrambling* meant the opposite of what other people (e.g. Haider & Rosengren 2003) described as *scrambling*. This difference is nothing but a terminological choice.

In this thesis, *A-scrambling* means *clause-bound* word order variation in which the fronted element is *not information-structurally marked*. The clause-boundedness property of *A-scrambling* is the content of section 3.1.3. That section is directly followed by the discussion of the lack of IS-marking for the fronted element as an A-scrambling property in section 3.1.4. The lack of IS marking is the main difference between A-scrambling and other kinds of reordering.

That A-scrambling has to involve reordering of the subject and the object is a more idiosyncratic part of the definition of A-scrambling. Its primary purpose is to tease the reordering of arguments apart from mere adverbial intervention, i.e., the possibility of the separation of O and V by an adverbial. Following the assumption of multiple merger hierarchies from section 2.2, two constituents that belong to different merger hierarchies are *expected* to show word order variability. As a result, *adverbial intervention*, does not require any special operation and is not A-scrambling in the sense of this work.

A-scrambling in the sense advocated here only occurs when a merger hierarchy is violated (section 2.2). The elements to be chosen for A-scrambling testing in a cross-linguistic sample are subject and object. S and O are a suitable pair of elements from the same hierarchy since, first, they occur in most languages, and second, there is a universal bias for S to precede O. The first property is essential for testing scrambling across languages. The second property is important in order to have two easily available elements that are likely to be part of the same merger hierarchy. This way, it is not necessary to have to find elements belonging to the same merger hierarchy. The labels S and O (instead of S, A, P, T, G, ...) are used since the thematic roles of the arguments were not controlled for apart from the exclusion of experiencer and possessor subjects.

In Haider (2010), Haider & Rosengren (2003), argument reordering via A-scrambling and adverbial intervention are conflated, leading to ad-hoc explanations for the lack of argument reordering in Dutch. The source of the conflation lies in merely requiring *arguments* to be reordered via A-scrambling, regardless of their category. As a result, the variable order of an NP-argument (direct object) and a PP-argument (indirect object) are taken as sufficient evidence for scrambling as involving reordering of arguments. For the purposes of the present study, this would not constitute sufficient evidence due to the oblique status of the indirect object, making it likely to belong to a different merger hierarchy. More generally, the reordering of direct object and indirect object will not be taken as reliable evidence of a merger-hierarchy violation. From a cross-linguistic perspective, indirect objects are often realised as obliques, while direct objects are non-obliques. As such, IO and DO are prone to not belonging to the same merger hierarchy. S and O are a more conservative option for a cross-linguistic investigation.

The minimal example that can provide evidence of A-scrambling in the present study is shown in (38a). It involves a clear S and O as clause mates, O precedes S, S is focussed, and there is no special information structural marking for O. Optimal evidence of A-scrambling follows the pattern in (38b). More than just O precedes S, and the other preceding elements also don't carry special information-structural marking. That optimal pattern also showcases that A-scrambling has to be able to involve more than just

one element, and it makes it less probable that O is situated in a functional left periphery.

(38) a. Minimal A-scrambling pattern
$O_{unspecified}$ $-S_{focus}$

b. Optimal A-scrambling pattern
$X_{unspecified}$ $-Y_{unspecified}$ $-O_{unspecified}$ $-S_{focus}$

A final remark on the original use of the term *A-scrambling* is in place. The term A-scrambling indicates that the reordering takes place as a kind of A-movement, not A-bar-movement. The original distinction was not made in terms of information structure but in the reflexes of movement to an A-position, such as the extension of the binding domain (e.g., Mahajan 1990). However, this property will not be considered here because of its limited cross-linguistic applicability. The investigation of binding properties of anaphors depends on the available anaphors in a given language. In the Uralic and Turkic languages, possessive anaphors (the usual testing ground for reflexive binding) are adnominal possessive suffixes. The binding properties of possessive suffixes have hardly been studied and mostly lead to the conclusion that possessive suffixes do not behave like other anaphors. The study by Huhmarniemi & Brattico (2015) serves as an illustration. They discuss several theories for possessive suffixes in Finnish. They conclude that possessive suffixes in Finnish might merely signal agreement with a null pronominal possessor. As a result, possessive suffixes do not require c-command to be bound, such that supposed anaphor binding may even cross clause boundaries. When a possessive suffix can even be 'bound' across clause-boundary, one would not expect it to behave on par with anaphors in other respects either. If possessive suffixes behave this way in Finnish, one would expect them to behave unlike anaphors in other languages as well. Therefore, the extension of the binding domain is likely confounded by the hitherto unknown anaphoric properties of possessive suffixes in general. A similar problem regularly occurs with possessive *reflexives*. Reflexives are often purely subject-oriented. As a result, they cannot be bound by non-subject NPs while at the same time ignoring linear constraints. The complications surrounding the set of available anaphors would require previous inquiries into the nature of binding in these languages. This precludes using the extension of the binding domain as a criterion in the context of the present study.

The following sections will illustrate the properties of A-scrambling.

3.1.3 Clause-boundedness

In the original sense of Ross (1967: §3.1.2), scrambling is an operation of the "stylistic component", but Ross admits that capturing word order variation is mere speculation at that point. Its major restriction is **clause-boundedness**, i.e., an element of clause 1 cannot cross the clausal boundary of clause 1 and appear in clause 2 (Ross 1967: §3.1.2). As an example, clause-boundedness is what can distinguish between three major displacement operations in (Southern) German, as shown in (39). Readers that speak northern dialects of German should note that they are likely to reject the examples in (39) be-

cause most northern dialects of German disallow long movement (movement across a clause-boundary) altogether (Gisbert Fanselow p.c., Dario Paape p.c.).

(39) a. *da Eva den Max$_1$ meint, dass der Chef t_1 mitnehmen sollte
since Eva the.ACC Max thinks that the boss take.along should
int. 'since Eva thinks that the boss should take Max along.'
(Frey 2006: 251f., free translation by AP)

b. da den MAX$_1$ Eva meint, dass der Chef t_1 mitnehmen sollte
since the.ACC Max Eva thinks that the boss take.along should
'since Eva thinks that the boss should take MAX along (and not Karl).'
(Frey 2006: 252, free translation by AP)

c. Den MAX$_1$ meint Eva, dass der Chef t_1 mitnehmen sollte
the.ACC Max thinks Eva that the boss take.along should
'Eva thinks that the boss should take MAX along (and not Karl).'
(Frey 2006: 245, free translation by AP)

In (39a), the direct object of the most deeply embedded clause appears directly in front of the verb of the matrix clause. In other words, the direct object was supposed to scramble over a clause boundary into the middlefield of the higher clause. This is not possible in German and results in ungrammaticality. However, cross-clausal movement is not out *per se*, as the examples in (39b) and (c) show: as long as the landing site of the movement is an A-bar-position in the left periphery of the respective clause combined with contrastive focus or contrastive topic intonation, the cross-clausal movement is possible. There are also cases of cross-clausal movement that target a higher middlefield not to be discussed here.

The word order variation in (39b,c) does not constitute A-scrambling in the sense employed in this thesis, as already mentioned in 3.1. It would not fit most characterisations of A-scrambling since the 1980's either. As soon as cross-clausal NP-movement had been noticed in OV languages, it had been distinguished from clause-bound movement: Saito (1985: ch. 3) shows the differences between cross-clausal and clause-bound NP-movement for Japanese[1], Cho (1994) does so for Korean, and Mahajan (1990: section 1.3) does so for Hindi. This is sufficient evidence to categorise cross-clausal movement as something distinct from clause-bound *A-scrambling*.

I therefore follow Haider (2010), Haider & Rosengren (2003), Hinterhölzl (2006), Neeleman & van de Koot (2008) in their conclusion that clause-boundedness is a clear criterion for determining when a word order variation is the result of A-scrambling: if an element has crossed a clause-boundary it is very unlikely to have A-scrambled there. This turns the term "long-scrambling" into an oxymoron if *scrambling* were to mean *A-scrambling* since A-scrambling can, by the definition put forward here, not be long-distance.

The main takeaway from the discussion of the clause-boundedness of scrambling, however, is the **special information-structural role** that the fronted element takes

1. Saito (1985) himself argues for categorising long-distance scrambling as a subcase of *scrambling*, but he still mentions the differences.

on in cross-clausal movement. In the languages that allow for long-distance movement in addition to clause-bound scrambling, a big difference between the two modes of fronting is the information-structural marking of elements under long-distance movement. Baylin (2001) already made the generalisation that long-distance A-bar-movement has to be associated with IS marking, whereas clausebound A-scrambling does not require IS marking. A first example of this difference is vividly present in the German sentences just discussed in (39), where the long-distance moved element is a topic, contrastive topic or contrastive focus. For Japanese, Saito (1985: ch. 3) already mentions the information-structural difference between clausebound and cross-clausal movement but puts all of his characterisations in scare quotes because he is not sure of the actual pragmatic status. Later authors agree that the long-distance-moved phrases receive the readings topic, contrastive focus, and focus (Miyagawa 1997, 2006). Similar findings are reported for Korean (Hyeran 2008, Vermeulen 2009). In sum, IS-marking movement can be distinguished from A-scrambling. This leads to the core property of A-scrambling, the lack of IS-marking, to be discussed in the following section.

3.1.4 Altruism: No IS-marking of the fronted element

From a surface-descriptive perspective, the hallmark of A-scrambling is *altruistic displacement*. Altruistic displacement means a **lack of markedness** of the left-displaced element in a marked order compared to the neutral order. Altruism is the point that Fanselow (2003) stresses in his depiction of A-scrambling: the scrambled phrase does *not* displace to the left in order to assume a more salient position in the clause and receive a special reading of its own (which would be egotistic attention-seeking of the scrambled phrase), but instead it assumes a position farther to the left in order for other phrases to receive special readings (which is altruistic of the scrambled phrase to do).

That A-scrambling is characterised by altruism is consensus. Haider (2017) directly cites and agrees with Fanselow (2003) on this matter. Neeleman & van de Koot (2008) make the lack of IS marking on the fronted element out as the most ostensive difference between A- and "A'-scrambling"[2] in Dutch and German. Hinterhölzl (2006: 35f.) uses the lack of IS-marking on the fronted element to distinguish "scrambling proper" from the less proper "S[tress]-scrambling". Molnárfi (2008) associates *scrambling* with "antifocus", i.e., the property of allowing something else to be the focus. Haider (2010) distinguishes scrambling from focus fronting. Krifka (1998) states that scrambling is characterised by moving out of the way such that another element can take the more prominent, directly preverbal position. The literature not dealing with Germanic also agrees with this characterisation: Miyagawa (2006: 617) states that local scrambling in Japanese serves to create a new focus domain below the scrambled elements.

The examples in (40) illustrate the distinction between A-scrambling and other reordering processes that result in the same surface word order. Those examples were constructed such that the direct object is as given as possible by being a unique, thus

2. The term "A'-scrambling" is put in scare quotes here because it would create an oxymoron if one were to equate *scrambling* with *A-scrambling* and then modify this scrambling to be A'-movement in nature. It is common verbiage to conflate the two terms under 'scrambling', but it will be avoided in this thesis.

making A-scrambling acceptable in a wide-focus context (cf. G. Müller 1999). Example (40a) shows that the subject *a few robots* receives focal stress but that there is no special intonation on the direct object *the moon*. In accordance with the lack of stress, the direct object is also not linked to any special information-structural role. Its discourse status is *given* due to its uniqueness, but it is neither a topic nor a narrow focus, nor does it receive a contrastive interpretation. One could say that *the moon* appears to the left so the subject can take on the more prominent preverbal position. O assumes its position *altruistically*.

(40) *A: Was gibt's denn so in den Nachrichten? / What's on the news? –B: Ich habe gerade gelesen, dass … / I just read that …*

a. … den Mond gestern ein paar Roboter besucht haben.
the.acc moon yesterday a few robots visited have
'I just read, that a few robots visited the moon yesterday.'

b. #… den Mond gestern ein paar Roboter besucht haben.
the.acc moon yesterday a few robots visited have
'I just read, that a few robots visited the moon yesterday (and not Mars).'

The sentence in (40b) differs from (40a) in its stress placement: stress is on the fronted direct object *the moon*. This prosodic marking triggers a **contrastive focus interpretation** on the direct object, in contrast with the neutral interpretation it receives in (40a). This change makes the sentence infelicitous in the discourse because the exclusion of focus alternatives via contrast is uncalled for in an all-new context. Another marked intonation would consist of the *hat-contour*: a rising accent on the direct object and a falling accent on the subject resulting in a hat-shaped F0-contour ⟋‾‾⟍. With this contour, the direct object is interpreted as a contrastive topic while the subject is a contrastive focus. Regardless of which option is chosen, the direct object would receive a special information-structural role, preferably one involving contrast. This leftward displacement involving special prosodic stress would, hence, not constitute a case of A-scrambling since it IS-marks the displaced phrase. It is not altruistic.

That scrambling is not topicalisation, a common conception of any reordering, is made clear in example (41). *Niemanden* ('*nobody*.acc') is incapable of being a topic due to its non-referential nature (Fanselow 2003). Unless one is an existentialist philosopher, a discourse cannot be about *nothing* and *nobody*.[3]

(41) Klar ist, dass niemanden der Bürgermeister abholt.
clear is that nobody.acc the mayor picks.up
'It is clear that the mayor does not pick up anybody.' (Fanselow 2003: 211)

3. Frascarelli & Hinterhölzl (2007) try to salvage scrambling as a kind of topicalisation by introducing the notion of "familiar topic" and stating that non-referential elements can be "familiar topics". Even though this notion is commonly employed, it has to be rejected as a notion of topic–comment structure. "Familiar topics" are defined as given or inferrable elements, and to this date, there is no distinction between given elements (a notion of activation status) and "familiar topics" (a putative notion of topic–comment structure). Calling any given element a kind of topic is a conflation of terminology that turns any backgrounded element into a topic, thereby conflating information-structural terms into a "Topic–Focus" structure.

The altruism criterion for A-scrambling in OV languages can be broken down to the pattern in (42) with a minimal sentence that allows for the reordering of arguments. It is not as surface-detectable as the mere OSV order, but it only requires a little more effort to detect. The categories required for it (some notion of S and O, and focus) should be almost universally available. This makes the (42) a universally applicable diagnostic of A-scrambling.

(42) Altruism criterion: A-scrambling and A'-movement IS patterns for argument reordering in OV languages

a. A-scrambling
$O_{unspecified}$ –S_{focus} –V

b. A'-movement
$O_{contrast/focus/topic}$ –$S_{unspecified}$ –V

This criterion excludes cases of topicalisation, contrastive fronting, and focus fronting, as shown in (43). These surface OSV orders from VO languages do, hence, not classify as scrambling –as intended. "Long scrambling" is excluded as a case of A-scrambling for a second time.

(43) a. That cake I won't eat.

b. *Книгу* Саша читал. (Russian)
book.acc Sasha read
'It was the book that Sasha read.'

c. Kuulta Samppa Lajunen voitti. (Finnish)
gold.par Samppa Lajunen.nom won
'It was gold that S.L. won (not silver).' (Kaiser 2006: 316)

d. ʾeħmad ħabbat -u suʿād (Palestinian Arabic)
Ahmed loved.3sg.f -om.3sg.m Suad
'Ahmed, Suad loved him.'

The altruism property is offered as a new way of determining whether a language exhibits A-scrambling. Crosslinguistic studies require cross-linguistically applicable tests. Altruism is easy to determine by simply determining in which information-structural context the non-neutral order is felicitous. This sets altruism apart from the original A-scrambling tests for the absence of strict reconstruction effects. As Philipp (2022) shows, testing for the relative scope of elements requires prior study of a language's whole quantifier, numeral, and article system to arrive at reliable results. As mentioned above, binding effects require prior study of the anaphoric system in general. This makes the original tests for A-scrambling unsuitable for larger-scale crosslinguistic studies. [4]

4. I invested much time in trying to test for the extension of the binding and scope domain in most languages discussed here. However, the tests were neither straightforwardly applicable nor interpretable for most languages, such that the discussion of the original A-movement tests has to be left to future research.

The theoretical interpretation of the altruism property is that A-scrambling is (a) *v*P/VP-internal, and (b) is not mediated by clause-peripheral functional projections. This allows for the reordering to not be A'-movement, thus not marking the fronted element. Prospectively, altruism and the original A-scrambling tests, if applicable, should align.

The application of the altruism property is illustrated in the upcoming section. Many OV languages exhibit directly preverbal focus, leading to reordering. This reordering via directly preverbal focus is altruistic in nature and represents A-scrambling.

3.2 Directly preverbal information focus in OV languages as A-scrambling

The altruism property of A-scrambling goes hand in hand with **reordering via the directly preverbal focus position**. Not every OV language has a directly preverbal focus position, but it is very common. The most pointed generalisation of A-scrambling via directly preverbal focus was presented for the Ob-Ugric language Khanty by (Nikolaeva 1999) presented in (44) and illustrated by the data point in (45). Generalisations to the same effect but not quite as poignant are found in Abels & Neeleman (2012), Fanselow (2012), Krifka (1998).

(44) Focus Constraint (Nikolaeva 1999: 60)
Non-focus elements must precede the focus elements in the linear representation of the clause.

(45) (no context)
Tam a:n sa:jna ma ponse:m.
this cup tea:LOC I fill:PST:SG:1SG
'It was me who filled this cup with tea.' (Nikolaeva 1999: 60)

The reordering via the directly preverbal focus position is schematised in (46). It is not to be understood as an analysis of the structure of this construction. However, it only serves to illustrate the main point that there is no limit to the number of elements that can precede the preverbal focus. Hence, it encompasses multiple scrambling in the description of this construction. It also captures the altruism property for prefocal elements.

(46) Preverbal information focus in OV languages

a. put the focus in preverbal position

b. put everything else in front of the focus
$\Rightarrow$ Y^{*} X_{Foc} V

The preverbal focus pattern (46) instantiates a widespread type of A-scrambling. However, the crosslinguistic distribution of A-scrambling and directly preverbal focus have yet to be discussed in tandem. Therefore, the preverbal focus construction warrants its own discussion. Nevertheless, reordering via preverbal focus cannot be a defining criterion of A-scrambling. It is merely indicative of A-scrambling since it employs altruistic reordering. German would be an example of an A-scrambling language without a strict,

preverbal focus position since narrow information focus can often be found *in-situ* without verb-adjacency.

This section will first lay out the proposed universal that directly preverbal focus is exclusive to OV languages. Afterwards, A-scrambling via directly preverbal focus will be illustrated with the help of Turkic languages. This demonstration leads to a differentiation of often-conflated information-structural terms. This differentiation is necessary to exclude potential examples of directly preverbal focus in VO languages. Even then however, directly preverbal focus in OV languages can only be upheld as a statistical universal. This, in turn, means that A-scrambling is widespread among OV languages.

3.2.1 Universal on directly preverbal information focus in OV languages

Generally, OV languages exhibit **directly preverbal focus** whereas VO languages don't.[5] This focus position drives word order variability in OV languages. This observation goes back to at least Desző (1978): There, he generalises that SOV languages have a directly preverbal rheme, while SVO languages either have an immediately postverbal or sentence-final rheme (Desző 1978: 7f.). Furthermore, (Desző 1978: 8) generalises that directly preverbal rhemes in SVO languages are either emphatic or contrastive. A decade later Kim (1988) proposed the universal in (47), but this is still only a statement about *rigid* OV languages that is merely expanded in the discussion of the article to non-rigid OV languages (Kim 1988: 161). This proposed universal has been taken up by Herring (1990), Herring & Paolillo (1995) as well as Czypionka (2007) to include more OV languages and to also add VO languages. There is also some renewed interest in the OV/VO difference in focus placement in recent studies, such as Gibson et al. (2017), Borise (2019: 3ff.) and Asztalos (2020: 17).

(47) *Linear Order Focus Hypothesis* Kim (1988: 150)
If L is rigid verb-final language in its basic word order, the rhematic focus of a sentence L is most likely to be in the position immediately preceding the finite verb.

The universal by Kim (1988) in (47) is formulated as a statistical universal stating that OV languages tend to exhibit directly preverbal focus. However, the findings since Kim (1988) in Herring (1990) and Czypionka (2007) allow for an alternative statement as an implicational universal in the other direction as in (48). Instead of claiming a universal bias for preverbal focus in OV languages, the proposed universal in (48) makes directly preverbal focus a hallmark of an OV language. It excludes VO languages as languages with directly preverbal focus. Additionally, this universal abstains from positing that OV languages should exhibit directly preverbal foci. This way, the merit of (48) compared to (47) lies in a potential diagnostic of underlying verb-finality. The formulation in (48) is restricted to the placement of information focus to account for the valid obsveration

5. There is a cross-correlation here. Consider the observation that OV languages tend to lack obligatory interrogative fronting, aka obligatory *wh*-movement (Hawkins 2014: ch. 7.9). Hawkins (2014: ch. 7.9) himself argues that verb-adjacent positioning of foci in OV languages results in a lack of *wh*-movement.

already made by (Desző 1978: 8) that contrastive, corrective, and otherwise 'emphatic' foci can still appear in directly preverbal position in VO languages. This observation will be dealt with in section 3.2.4.

(48) *Universal on directly preverbal information focus in OV languages* (to be refuted)
If a language allows for directly preverbal information focus, then it is an OV language.

Czypionka (2007) provides the largest cross-linguistic study of directly preverbal focus. Figure 3.1 shows the results of Czypionka's (2007) cross-linguistic survey. In order to evaluate the implicational universal in (48), it has to be shown that there are no VO languages with directly preverbal focus. In Czypionka's sample, this holds true. First, "preverbal" does not mean directly preverbal in figure 3.1, it means 'preverbal but not sentence-initial'. Furthermore, the count of *2* for the preverbal foci in VO languages is marked with a question mark because the grammars only provided few examples of possible foci for the two respective languages, and these examples are not fully conclusive in that they could also show sentence-initial foci or an NP-internal ('snowballing') reordering. Newer data for one of these languages, Guaraní (Tupian, mainly Paraguay), show that foci are not in preverbal position (Tonhauser & Colijn 2010): when objects are preverbal, they are most likely to be topical or old information, and old information usually rules out information focus. The other VO language with questionable evidence for directly preverbal foci is **Bilua** (maybe Papuan, Solomon Islands). Bilua is a more complicated case because the preverbal focus position is a major part of the description of the clause structure in the grammar by Obata (2003). However, Bilua can hardly be described as a VO language and definitely not as an SVO language. For example, "complement phrases" are obligatorily directly preverbal (Obata 2003: 28,31). The arguments of the clause are primarily encoded as obligatory clitics that attach to the verb (Obata 2003: 28,30) while full argument NPs merely serve to indicate the pragmatic status of the respective elements. Crucially, they can appear on either side of the verb. In my interpretation, this resembles what (Jelinek 1984) coined a *pronominal argument language*, providing an analysis for North American languages. Without taking a position on whether the characterisation of such a language type is valid, it stands that it is notoriously difficult to determine basic word order in these kinds of supposedly non-configurational languages. As such, there is a wealth of neutral word orders listed in Obata (2003), some of which feature SOV, OSV, OVS, VSO, and VOS. Therefore I conclude that while Bilua might be a language with directly preverbal focus, it is unlikely to be a VO language. The only way to construe Bilua as an SVO language would lie in insisting that the argument clitics on the verb are representative of full NPs, since subject clitics are **pro**clitics while object clitics are **en**clitics. Effectively, that means that there is not a single SVO language in Czypionka (2007) with genuine directly preverbal focus. This lends support to the universality of the claim in (48).

Having discussed the potential counterexamples, the positive evidence can be evaluated. Talking about the minorities first again, Czypionka mentions two OV languages that allow for postverbal foci, Marathi and Dhivehi. These languages would not touch on the universal in (48) since the implication is not bijective, but they still warrant men-

tion due to their rarity. In Marathi, postverbal focus placement is only one option, while in-situ focus, preverbal focus, and focus fronting seem to be more prominent options (Nayadu 2008: 28ff.). In Dhivehi, there is a specific focus construction that employs subject demotion and the use of a participial verb form. That is, the focus construction does not involve a finite verb form, this way resembling a pseudo-cleft construction with a silent copula (Cain 2000: 118ff. Fritz 2002). Postposition of the focussed phrase is not obligatory (Cain 2000: 119). Furthermore, the discussion of Estonian and Udmurt in section 5.5 will show how postverbal focus in OV languages can be derived from directly preverbal focus.

The majority of OV languages in Czypionka's (2007) sample either employs focus fronting to sentence-initial position or preverbal focus. Czypionka (2007: 442f.) explicitly states that there is a difference in the distribution of *wh*-words and non-interrogative focussed elements in some languages. She also states (ibid.) that the OV languages that allow for sentence-initial focus did often also allow for other positions in the clause and states that the number of languages with (directly) preverbal focus might thus be greater than suggested by the numbers in figure 3.1.

Just as Czypionka (2007) concludes, directly preverbal focus is a pervasive feature of OV languages. Not only is there a higher proportion of directly preverbal focus in OV languages compared to VO languages, as far as one currently knows, but at least a third of OV languages in Czypionka's (2007) sample exhibits directly preverbal focus. An explanation for this phenomenon likely lies in the prosody–syntax interface (Borise et al. 2022, Szendrői 2017).

Since directly preverbal focus as represented in (46) involves altruistic reordering, OV languages with directly preverbal focus can be taken as candidates for OV languages with A-scrambling. The interconnection of the two phenomena will illustrated for the Turkic languages in the upcoming section.

Focus position	*SOV*	*SVO*
sentence initial	59:20:14 (34%)	30:11:11 (37%)
sentence final	59:0	30:3:3 (10%)
preverbal	59:21:14 (36%)	30:2?:2 (7%)
postverbal	59:2:1 (3%)	30:4:2 (13%)

Figure 3.1: Results of the survey in Czypionka (2007: 441).
The numbers X:Y:Z(P) in each cell mean the following: X –the total number of languages with the unmarked word order given in the respective column, i.e., 59 SOV languages and 30 SVO languages; Y –the absolute number of languages with the focus position given in the respective line, e.g., the number of SOV languages with sentence-initial focus is 20; Z –the total number of families with a language with the focus position given in the respective line, e.g., the number of families with an SOV language with sentence-initial focus is 14; P –the amount of Z relative to X, e.g., the proportion of SOV languages with sentence-initial focus in the total sample of SOV languages is 34%

3.2.2 Directly preverbal information focus as A-scrambling in Turkic

The most clear-cut cases of directly preverbal information foci are languages in which interrogative elements appear directly preverbal. Some of the most striking examples stem from Turk languages such as **Turkish** (Turkey) as in (49). First, the context question shows that the temporal adverbial interrogative is placed in directly preverbal position. The possible answers to this context question in (49a–e) show that the information focus in the answer, the temporal adverbial, is placed in directly preverbal position. As long as the information focus is in that position, the order of the given direct object and place adverbial relative to one another and relative to the verb have no information-structural import.

(49) **Turkish** (Turk, Turkey; İşsever 2003: 1033)

Ali kitabı buraya **ne zaman bıraktı**?
Ali book:ACC here when put:PST
'When did Ali leave the book here?'

a. – Ali kitabı buraya **sabah bıraktı**.
Ali book:ACC here morning put:PST
'Ali left the book here in the morning.'

b. – Ali buraya kitabı **sabah bıraktı**.
Ali here book:ACC morning put:PST

c. – Ali **sabah bıraktı** kitabı buraya.
Ali morning put:PST book:ACC here

d. – Ali **sabah bıraktı** buraya kitabı.
Ali morning put:PST here book:ACC

While it could be argued that the interrogative element is in situ in (49) and the examples merely show a lack of *wh*-fronting, the examples in (50) show that even order of subject and object can be inversed via the preverbal focus position in Turkish. The interrogative subject in the context question is placed in directly preverbal position, and the well-formed answer with the information focus on the subject in (50a) also features the resulting OSV order. Retaining the canonical SOV order as in (50b) would even result in an infelicitous answer since it either marks the direct object as the information focus of the answer, or it marks the focussed subject as contrastive (İşsever 2003: 1034)).

(50) **Turkish** (Turk, Turkey; İşsever 2003: 1034)

Fatma'yı **kim arıyor**?
Fatma:ACC who look:PROG
'Who is looking for Fatma?'

a. – Fatma'yı **Ali** arıyor.
Fatma:ACC Ali look:PROG
'Ali is looking for Fatma.'

b. #– Ali Fatma'yı arıyor.
Ali Fatma:ACC look:PROG

The examples in (49) and (50) merely illustrate and corroborate the generalisation about the preverbal focus position in Erguvanlı (1984: 34): "The position immediately preceding the verb is the *focus* position in Turkish; thus, in any marked order, the NP just before the verb is the one put into focus". These Turkish examples also show the interconnection of this preverbal position and the word order variability found in OV languages since the order of S and O can be changed via the preverbal focus position. However, one could still argue that a sentence like (50a) actually shows topicalisation of the object. In order to dispense with this analysis, one would need multiple clausemates that all precede the focussed subject. In such a construction, all pre-focus elements would have to be topicalised, resulting in a multiple-topic construction, i.e., a construction that is unlikely to occur in the context of a content question. To show that the topicalisation analysis is unlikely and to further illustrate the preverbal focus position in other languages, consider the data from two other Turk languages, **Uyghur** and **Kazakh**, below.[6] First, neither Uyghur nor Kazakh adhere strictly to the directly preverbal positioning of interrogative elements: (51) shows that Uyghur is a typical *wh-in-situ* language with *wh*-scrambling. In contrast, (52) shows that Kazakh allows for both directly preverbal and sentence-initial interrogative elements.

(51) **Uyghur** (Turk, Xianjing province China; Xiayimaierdan Abudushalamu, p.c.)

a. **Kim** tünügün kitab-ni bali-gha bärdi?
who.[NOM] yesterday book-ACC child-DAT give.PST.3SG
'Who gave a/the book to a/the child yesterday?'

b. Tünügün **kim** kitabni baligha bärdi?

c. Tünügün kitabni **kim** baligha bärdi?

d. Tünügün kitabni baligha **kim** bärdi?

(52) **Kazakh** (Turk, Kazakhstan; Franziska Keller, p.c.)

a. Аспазшы кеше қызға абайлап **нені** берді?
chef.[NOM] yesterday girl.DAT carefully what.ACC give.PST.3SG
'What did the chef carefully give to the girl yesterday?'

b. *Аспазшы кеше қызға **нені** абайлап берді?

c. *Аспазшы **нені** кеше қызға абайлап берді?

d. **Нені** аспазшы кеше қызға абайлап берді?

6. I am indebted to Xiayimaierdan Abudushalamu for working with me on the Uyghur data and to my student Franziska Keller for providing me with the Kazakh data!

Even though *wh*-words can occur outside the directly preverbal position in both Uyghur and Kazakh, non-interrogative information foci still prefer appearing in the directly preverbal position (53c,54c). These orders deviate from the word order in a broad-focus context (53a;54a) and would be infelicitous in a broad-focus context since they evoke a narrow focus on the preverbal NP (53b;54b). The example in (53d) additionally presents negative evidence for the preverbal focus slot by showing that a 'sandwiched' position of the subject between the two given NPs is not felicitous in a narrow-subject-focus context. It is also possible for information foci to appear in the sentence-initial slot in these languages (not listed here for brevity's sake), but the reordering of arguments *can* occur via the preverbal focus position in both languages.

(53) **Uyghur** (Turk, Xianjing province China; Xiayimaierdan Abudushalamu, p.c.)

a. [C: Nimä boldi? –What happened?]

Oqutghuchi tünügün (bir) kitabni baligha bärdi.
teacher.[NOM] yesterday one/a book.ACC child.DAT give.PST.3SG
'A teacher gave a child a book yesterday.'

b. [C: Nimä boldi? –What happened?]

#Tünügün (bir) kitabni baligha oqutghuchi bärdi.
yesterday one/a book.ACC child.DAT teacher.[NOM] give.PST.3SG

c. [C: Kim tünügün kitabni baligha bärdi? / Who gave a book to a child yesterday?]

Tünügün kitabni baligha OQUTGHUCHI bärdi.
yesterday book.ACC child.DAT teacher.[NOM] give.PST.3SG

d. [C: Kim tünügün kitabni baligha bärdi? / Who gave a book to a child yesterday?]

#Tünügün kitabni oqutghuchi baligha bärdi.
yesterday book.ACC teacher.[NOM] child.DAT give.PST.3SG

(54) **Kazakh** (Turk, Kazakhstan; Franziska Keller, p.c.)

a. [C: Не болды? / What happened?]

Аспазшы кеше қызға абайлап пышақты берді?
chef.[NOM] yesterday girl.DAT carefully knive.ACC give.PST.3SG
'The chef carefully gave the knive to the girl yesterday'

b. [C: Не болды? / What happened?]

#Аспазшы кеше пышақты абайлап *қызға* берді?
chef.[NOM] yesterday knive.ACC carefully girl.DAT give.PST.3SG

c. [C: Аспазшы кеше пышақты абайлап кімге берді? / To whom did the chef carefully give the knive yesterday?]

Аспазшы кеше пышақты абайлап *кызға* берді?
chef.[NOM] yesterday knive.ACC carefully girl.DAT give.PST.3SG

The final examples to illustrate the directly preverbal focus position in OV languages with the help of Turk languages are presented in (55). They expand on the subject-focus examples in (53) and are to show that the non-focussed elements are altruistically displaced, i.e., **not topicalised**. and that scrambling can occur **multiple times**. The elements to the left of the focussed subject are part of the background, and they are discourse-given, but not each of them is topical. First, if the non-focussed elements were to be topicalised, they would either have to be topicalised one by one, or topicalised as a constituent forming a complex topic. A reading in which each of the non-focussed elements is a topic would constitute a highly marked multiple-topic construction akin to 'Yesterday, regarding the book, and regarding the child: it was a teacher that gave it to them.', and this reading is simply not apparent. It is thinkable that the background of the context-question in (53) is the topic of the answers in (53a–c), but here we would be faced with the syntactic problem that the fronted elements do not form a constituent. This analysis would only work under the assumption of remnant-VP fronting. Comparing example (53a) to (53b) shows that the order of the non-focussed arguments is not rigid either as long as they don't compete for the directly preverbal slot. This further reordering does not have a noticeable information-structural effect.[7] One may argue that the pre-focus elements occupy positions linked to specific information-structural functions, alluding to a split CP. However, the reordering does not target the left periphery of the clause since the clause-initial slot is still occupied by a time- or frame-setting adverb in both (53a) and (53b). This clause-initial element might be a frame-setting topic in a topic projection, but the other elements are not topicalised. Finally, even this point can be contested since the information-structural reading of (53c) does also not differ from (53a,b) even though the adverb is not in the clause-initial slot. In conclusion, the sentences in (53) do not show leftward displacement associated with IS-marking of the left-displaced element. Instead, only the narrowly focussed subject receives a marked IS status. It is a clear case of altruistic movement.

(55) **Uyghur** (Xiayimaierdan Abudushalamu, p.c.)
[C: Kim tünügün kitabni baligha bärdi? / Who gave a book to a child yesterday?]

a. Tünügün kitabni baligha oqutghuchi bärdi.
yesterday book.ACC child.DAT teacher.[NOM] give.PST.3SG
'A TEACHER gave a child a book yesterday.'

b. Tünügün baligha kitabni oqutghuchi bärdi.
yesterday child.DAT book.ACC teacher.[NOM] give.PST.3SG

7. I do not exclude the possibility that there are subtle interpretational differences with respect to definiteness.

c. Baligha tünügün kitabni oqutghuchi bärdi.
child.DAT yesterday book.ACC teacher.[NOM] give.PST.3SG

3.2.3 A-scrambling is not topicalisation

This point about the non-topicality of scrambling needs to be stressed in reference to analyses that invoke a discourse-configurational, functional left periphery for A-scrambling (e.g. Frascarelli & Hinterhölzl 2007, Şener 2010). According to those analyses, A-scrambling would not be altruistic in the narrow sense since the fronted elements are topicalised. If that is the empirically adequate description of the facts, then there is no problem to be had. Nevertheless, the problem with those proposals is either a conflation of terminology or a lack of appropriate testing for topicality. First, regarding the conflation of terminology: The terms 'topic', "-"*given, and 'background/presupposition' are often conflated. As a result, the terms 'topic' and 'focus' are often treated as complementary terms, leading to a further conflation of the terms 'focus', 'new', and 'comment'. As a result, everything that is **not** 'focus' will be coined 'topic' even if it is simply part of the background or given. While backgrounded and given elements match up often enough, the topic of a clause is often just a subpart of the background, as the English toy example in (56) illustrates. Scrambling analyses based on the conflation of information-structural terms to match up with the functional projections proposed by cartography can, hence, not be falsified due to a presupposition failure.

(56) [C: Do you have any news about Hello Kitty? Do you know where she is coping with syntactic analysis?]

Topic	Comment
Hello Kitty is coping with syntactic analysis in a closet.	
Background	Focus

This is where Frascarelli & Hinterhölzl (2007) comes into play. That paper is often cited due to its introduction of the term *familiar topic*. The definition of that *familiar topic* consists in mere givenness. Those merely given elements are called TOPIC mainly to accommodate certain elements in cartographic TOP-projections. However, there is no way in which *familiar topics* are distinct from merely given elements. The result is a conflation of Topic-Comment structure with activation status. The term *topic*, then, simply loses its meaning, allowing the term *topicalisation* to also mean nothing anymore and even allow for the "topicalisation" of negative indefinites.

The lack of appropriate testing for topicality is exemplified by Şener (2010). Şener (2010) explicitly argues that OS orders in Turkish are brought about by A-bar-movement of O, such as topicalisation and contrastive focalisation, mediated by a functional left periphery. OS order with a focal S is said to be the result of topicalisation of O. Şener's (2010) misclassification is easy to understand. While it is true that OS order in Turkish *can* be brought about by A-bar-movement of O, this does not mean that any reordering is brought about this way. Second, the sentences used for illustration are too short. They do not involve multiple prefocal elements, such that topic and background can easily be

coextensive. Crucially, actual tests for topicality are not employed by Şener (2010). This makes it likely that Şener (2010) conflated topic, background, and given. However, the tentative examples in (57) show that OS order is possible with a negative indefinite O under subject focus. The examples are not entirely conclusive since the examples merely involve negative concord, but they still make it unlikely that the OS order involves O as a topic.

(57) a. Ahmet dün hicbir kediyi sevmedi.
Ahmet yesterday NEG.one cat.ACC stroke.NEG.PST
'Ahmet didn't stroke any cat yesterday.' (Begüm Yaşar, p.c.)

b. (Dün) hicbir kediyi (dün) AHMET sevmedi.
yesterday NEG.one cat.ACC yesterday Ahmet stroke.NEG.PST
'AHMET didn't stroke any cat yesterday.'
not: 'Regarding any cat, Ahmet didn't stroke them/it.' (Begüm Yaşar, p.c.)

In sum, topicalisation analyses of A-scrambling would call the altruism property into question. The main reason for adopting such analyses rarely lies in actually determining that the fronted phrases are topics but rather lies in that they are easy to accommodate in cartographic clause structures. These analyses commonly involve topics in name only: either a new notion of topicality that is indistinguishable from giveness needs to be invented, leading to conflated terminology; or the topical status of the fronted element was not established. It might be the case that there are languages where preverbal focus is brought about solely by A-bar-movements of other elements, such that there is 'altrustic A-bar-movement' (Lena Borise, p.c., Balázs Suranyi, p.c.). Such an analysis, however, requires convincing evidence for the topical, and not just backgrounded, status of the prefocal elements.

The examples from Turkish, Uyghur and Kazakh up to this point showed the position of **neutral information focus**. Only information focus can meaningfully be linked to directly preverbal focus positions in OV languages, which is why this concept warrants a short explanation.

3.2.4 Keeping information focus and contrastive focus apart

Information focus is operationally defined as the element that corresponds to the interrogative phrase in a content question. Information focus is to be kept apart from **contrastive focus**. Contrastive focus (also *identificational focus* or *exhaustive focus*) occurs mainly in contexts in which there is a given set of alternatives, and the contrastive focus excludes the other alternatives, as in answers to alternative questions. As such, an element in contrastive focus is *given* while elements in information focus are *new*.

Since at least É.Kiss (1998), based on data from mainly Hungarian, it is argued that information focus may occur *in situ* while contrastive focus occurs *ex situ* (e.g. Skopeteas & Fanselow 2010). This means that the distinction between information focus and contrastive focus is syntactically relevant because contrastive focus is often found to be associated with displacement of the contrastively focussed phrase (Drubig 2003: cf.),

thus serving as a valuable hint towards potential A'-movement. A quick glance at the Uralic languages serves makes this point apparent.

Vilkuna (1998: 181) already notes that "[n]one of the Uralic SVO languages are rigid; they all accept SOV under some conditions –as well as any other permutation." However, she also already notes a difference in the information-structural properties of SOV-order in the SVO-language Finnish compared to Estonian (an OV language, see section 3.4.2): according to Vilkuna (1998: 182), "the object in OV [. . .] never carries the main new information of the sentence." Vilkuna does not discuss the potential involvement of the left periphery in that remark, but it holds true for both the pre-finite topic position in Finnish (Vilkuna's "T" in Vilkuna 1989) and lower positions in front of non-finite verbs (as discussed in Vilkuna 1989: §3.5.

Later studies confirmed Vilkuna's (1989, 1998) findings. In contrast to the Uralic OV languages, where preverbal elements can be information focus, *directly preverbal elements in Finnish are never information focus.* The same conclusion was reached for North Sámi, which is also SVO. The conditions under which OV-orders occur are listed in (58) for both Finnish and North Sámi. All of these factors *exclude* information focus for the object. At most *contrastive* focus (61) is allowed in these constructions, potentially due to the givenness associated with contrast.

(58) OV contexts in North Sámi and Finnish (following Bentzen 2016, 2020, Holmberg 2000, Nickel & Sammallahti 2011, Vilkuna 1989):

a. Generally, **givenness and backgrounding of O** greatly increases the availability of preverbal placement.

b. **The object is the topic**, potentially putting it into the pre-finite topic position, see (59). This is likely what Nickel & Sammallahti (2011: 347) call "weak emphasis" shown in (60). The topicality of O in OV-order was also reported for another Uralic SVO language, namely Veps (Grünthal 2015: 173).

c. **Contrast**, be it contrastive focus or contrastive topic, allows for preverbal placement, see (61) for contrastive focus.

d. **Focus on another element** allows for OV orders, see (64). Focussing an element backgrounds the rest of the clause.

e. **Embedded clauses** allow for OV orders more easily than main clauses, see (62). Embedding is associated with backgrounding.

f. **Pronominal objects** are able to precede the verb more easily than full NPs, which could have to do with either the givenness associated with pronouns, or the status as a pronoun itself, since pronouns tend to occupy different clausal slots than full NPs cross-linguistically (as in Behaghel's *Gesetz der wachsenden Glieder* or the Wackernagel position).

The following examples illustrate these properties for OV orders in North Sámi (59–63) and literary Finnish (64). These examples do not differentiate between the pre-finite left-peripheral topic position (e.g. S**O**AuxV) and a potential low position of the object in front of a non-finite lexical verb (SAux**O**V).

(59) **North Sámi**: continuing topic (Bentzen 2020)

a. *Concluding the dialogue about the lost snow shovel.*

Fertet **oðða goaivvu** oastit.
must.1PL new shovel buy
'We have to buy a new shovel.'

b. *Concluding the dialogue about eating vitamins instead of fish.*

In darbbaš **vitamiinaid** borrat.
NEG.1PL need vitamins eat
'I don't need to take vitamins.'

(60) **North Sámi**: weak emphasis (Nickel & Sammallahti 2011: 347)
Mun áiggun **fatnasa** oastit.
1SG shall.PRS.1SG boat buy.INF
'I shall buy a boat.'

(61) **North Sámi**: contrastive focus (Bentzen 2016)

A: Oaččun go mun máistit **dan guoli**?
get Q 1SG.NOM taste that fish.ACC
'May I try that fish?'

B: Dieðusge! Mun aiggun **bierggu** máistit.
of-course 1SG.NOM will meat.ACC taste
'Of course! I will try the meat.'

(62) **North Sámi**: out-of-the-blue, dependent vs. independent clause (Bentzen 2016)

a. ??Mun **dan maŋemus márffi** borren.
1SG the last sausage ate
'I ate the last sausage.'

b. Son dajai ahte Máret **dan maŋemus márffi** borai.
she said that Mary the last sausage ate
'She said that Mary ate the last sausage.'

(63) **North Sámi**: object as new information out of-the-blue (Bentzen 2016)
??Leat go NILLASA OÐÐÁ VIESU oaidnán?
have Q Nils's new house seen
'Have you seen Nils's new house?'

(64) **Literary Finnish**: initial focus/emphasis

a. *Jussi **romaanin** kirjoitti.
Jussi novel wrote
int. 'Jussi wrote a novel.' (Holmberg 2000: 124)

b. Jussi **romaanin** kirjoitti.
Jussi novel wrote
'I was Jussi who wrote a novel.' (Holmberg 2000: 125)

c. Milloin Jussi **romaanin** kirjoitti?
when Jussi novel wrote
'When did Jussi write a novel?' (Holmberg 2000: 125)

d. Onpas Jussi **romaanin** kirjoittanut.
has.FOC Jussi novel written
'Jussi HAS written a novel.' (Holmberg 2000: 125)

e. Miksi Jussi ei **romaania** kirjoittaisi?
why Jussi NEGV novel would.write
'Why would Jussi not write a novel?' (Holmberg 2000: 130)

What all of these examples have in common is that the preverbal objects in these two SVO languages are topical, backgrounded, given, or contrastive –in other words, almost anything *but* information focus. So while directly preverbal *contrastive* focus is allowed in these languages and is most probably brought about by A'-movement, *information* focus is specifically excluded from the directly preverbal position.

The conclusion from this discussion is that contrastive focus and information focus deserve to be treated differently. Furthermore, the universal about directly preverbal focus in OV languages has to be confined to the placement of directly preverbal *information* focus. The universal was already formulated this way in (48) above to account for these apparent counterexamples.

(65) *Universal on directly preverbal information focus in OV languages* (to be refuted)
If a language allows for directly preverbal information focus, then it is an OV language.

Even when excluding contrastive foci, there are at least four potential SVO languages that allow for directly preverbal information focus, Mócheno (Germanic, Italy) and Dinka (Nilotic, South Sudan) on the one hand, and Mbuun (Bantu, Democratic Republic of Kongo) and Kisikongo (Bantu, northern Angola) on the other one. The upcoming section shows that the implicational universal in (48) cannot be upheld.

3.2.5 VO languages with directly preverbal focus

Mócheno (Germanic, Italy) and Dinka (Nilotic, South Sudan) were analysed as VO languages with a "double V2 structure" (Cognola 2013a, 2015). That it is, they are analysed as having a functional position to the left of the verb in the VP, and another functional position to the left of the finite verb, as in the Germanic V2 languages. The low position directly in front of the lexical verb at the VP-edge is able to host information focus. Cognola (2015) convincingly shows that this preverbal position is derived via movement to a functional specifier. In line with this analysis, one could be tempted to dispense with

this potential counterexample by requiring information focus to not involve movement. However, this restriction would resolve in the irrefutable tautology in (66).

(66) *Universal on directly preverbal in-situ focus in OV languages* (tautological)
If a language allows for directly preverbal *in-situ* focus, then it is an OV language.

If only *in situ* focus were allowed for proper preverbal focus, it would follow that a focussed object in such a language is *in situ*; if the object were *in-situ*, it would mean that these languages allow for base generating OV orders; if these languages were to allow for base generating OV order, they contradict their status as a VO language. In short: if a VO language would allow for directly preverbal *in-situ* information focus, it would mean that it is not an exclusive VO language. This means that the potential universal about the OV-exclusivity of directly preverbal information focus would turn into an irrefutable tautology as in (66). The relevant data for the directly preverbal focus position in Mócheno are described in what follows. First, the examples in (67) and (68) show that information focus has to appear in the position in front of the lexical verb, as the postverbal placement of O would result in an infelicitous answer. Second, (68) also illustrates the V2-property of Mócheno since the prefield position in front of the finite verb can also be filled by non-subjects.

(67) [C: What did you buy in the shop?] (Cognola 2013b)

a. I hón **a puach** kaft.
I have a book bought
'I have bought a book.'

b. #I hón kaft **a puach**.
I have bought a book

(68) [C: What did you put on the table?] (Cognola 2013b)

a. Avn tisch hòne **de mai ociai** galek.
on-the table have-I the my glasses put
'I have put my glasses on the table.'

b. #Avn tisch hòne galek **de mai ociai**.
on-the table have-I put the my glasses

Third, Cognola (2013b) argues that foci in the prefield slot, such as *wh*-phrases, need to pass through the directly preverbal focus position. This explains why *wh*-movement prevents OV order as shown in (69): the directly preverbal position is already taken up by the trace of the *wh*-element such that the object can no longer move into that position. Cognola (2015) even notes that this is the opposite pattern to what is observed in Finnish, which results in her calling Finnish the "Anti-Mócheno".

(69) a. Ber hòt <ber> kaft **s puach**?
who has who bought the book
'Who has bought the book?' (Cognola 2013b)

b. *Ber hòt **s** **puach** kaft?
who has the book bought

Finally, Cognola (2013a) argues that the basic VO order of Mócheno is revealed in the VP-fronting construction in (70). Since the fronted VP can only appear in VO order, she argues that OV order is derived by leftward movement of the object. Under VP-fronting, the target position of this object movement is not fronted along with the VP, thus preventing the movement of the object, and hence OV order within the fronted VP along with it.[8]

(70) a. ***De saina kamarotn pakemmp** hòter nou net.
the his friends met has-he yet not

b. **Pakemmpt de saina kamarotn** hòter nou net.
met the his friends has-he yet not
'Meet his friends he didn't as of yet.'

The analysis of Mócheno by Cognola shows that the preverbal position for information focus can be derived. There is the problem that the double-V2 analysis and the claim that Mócheno is a VO language are not in line with the ordering of embedded clauses in Mócheno. Embedded clauses are optionally verb-final without any need for the preverbal elements to be information foci (Cognola 2013b). In the light of the embedded clauses, Mócheno probably has to be analysed as an underlying OV language with optional head movement for both the finite and the non-finite verb, as laid out for the flexible OV/VO languages Estonian and Udmurt in section 5.5. If the non-finite verb was merely moved from an OV base, these examples at least illustrate a possible analysis of *ex-situ* information focus in VO languages in general.

The need for a movement analysis of neutral information focus in VO languages is indicated by at least two SVO languages with directly preverbal information focus mentioned by Gibson et al. (2017), Mbuun (Bantu, Democratic Republic of Kongo) and Kisikongo (Bantu, northern Angola). In these languages, all elements besides the subject appear postverbally, but information focus is expressed in directly preverbal position. This position is very likely to be derived via movement in these two languages because the focus assumes the position in front of the leftmost verb in clauses with multiple verbs even if the argument is related to the lexical verb (for Mbuun see (71a) Bostoen & Mundeke 2012; for Kisikongo see (71b) De Kind 2014), viz., focus appears in the order S–Foc–V_1–V_2–X. Unless restructuring or verb-clustering takes place in these constructions, these examples have to be analysed as involving movement of the focus to a directly preverbal position.

8. This data point could also be explained by VP-internal verb movement from an OV base that merely lacks the additional movement of the object.

(71) a. **Mbuun** [C: What can the child drink?]

mo-an ma-áts ká-léén ká-nó-ɛ́
NP$_1$-child NP$_6$-water SM$_1$-can SM$_1$-drink-SBJV
'The child can drink WATER.' (Bostoen & Mundeke 2012: 143)

b. **Kisikongo**

o-yandi o-N-kangu andi ke[4]-lend-a o-sadis-a
AUG$_1$-PRN$_1$ AUG$_3$-NP$_3$-people POSS$_1$ SC$_1$-can-FV AUG$_{15}$-help-FV
'He can help HIS PEOPLE.'
(De Kind 2014: 97, focus reading mentioned in text)

While one can dispense of Dinka and Mócheno as VO languages with directly preverbal ex-situ information focus because they might be underlyingly OV, the same can hardly be claimed for Mbuun and Kisikongo. In the light of these two languages, the only way to rescue the implicational universal regarding directly preverbal focus without turning it into a tautology would consist of the formulation in (72).

(72) *Restricted universal on directly preverbal information focus in OV languages*
If a language allows for information focus on an element *e* directly in front of the lexical verb that selected *e*, then it is an OV language.

However, it would probably only be a matter of time until a counterexample to the restricted absolute universal in (72) is found. At least some of the SAuxOVX languages of the Macro-Sudan Belt (Creissels 2005, Zeller 2015) to be discussed in section 4.2.3 are already argued to be underlying VO languages (Kandybowicz & Baker (2003), Fanselow et al. (submitted)). Since objects generally appear in front of V in those languages, information focus can also be preverbal. Therefore, underlying word order cannot be used as a bijective predictor of preverbal focus

As it stands, it has to be concluded that there are VO languages that allow for directly preverbal information focus. This falsifies the idea that directly preverbal focus implies OV order. However, directly preverbal focus in these VO languages does not involve A-scrambling according to the definition of this thesis: Focussed O is 'tucked in' between S and V from an original SVO order. This does not change the relative order of S and O. Subject focus does also not change the order between S and O. This means that the A-scrambling pattern cannot be instantiated in SVO languages with directly preverbal focus.

Even though there is no absolute universal to be had, the study by Czypionka (2007) showed that many OV languages still exhibit directly preverbal focus. The original statistical universal by Kim (1988), repeated below, is more likely to be valid: directly preverbal focus and verb finality simply cooccur often.

(73) *Linear Order Focus Hypothesis* Kim (1988: 150)
If L is rigid verb-final language in its basic word order, the rhematic focus of a sentence L is most likely to be in the position immediately preceding the finite verb.

The next section will illustrate how preverbal focus drives A-scrambling in three further languages: Georgian, Dargwa, and Eastern Armenian.

3.2.6 Directly preverbal focus across OV languages of the Caucasus

In this section, A-scrambling via preverbal focus will be exemplified by further languages. The first goal of this illustration is to show that preverbal focus is present in several OV languages. The second goal lies in showing how the preverbal focus reorders arguments without information-structurally marking the fronted element. The final goal is a delineation of the cross-linguistic variation found in these constructions. A general theory of A-scrambling that is to unify A-scrambling across languages would have to account for that variation.

3.2.6.1 Directly preverbal focus in Georgian

In Georgian, interrogative phrases are obligatorily immediately preverbal (Borise 2019: 139f.), which is visible from the contrast between (74a) vs. (74b). Narrowly focussed non-interrogatives, however, can appear immediately preverbal (74c), but the separation of the verb and narrow focus (74d) is not as unacceptable as with *wh*-words. The example in (74e) shows the reordering of arguments via directly preverbal placement of the subject. This illustrates how directly preverbal focus *drives* scrambling since the fronted object is not information-structurally marked. Finally, the contrast in (74e) vs. (f) shows that it is the *finite verb* that is adjacent to focus. As a whole, Georgian presents a solid case for directly preverbal focus in an OV language, which is comprehensively analysed in Borise (2019). Georgian also allows for postverbal foci (Borise 2019, Skopeteas & Fanselow 2010), but this topic will be discussed in section 5.5 on postverbal elements in OV languages in general.

(74) **Georgian** (Kartvelian, Caucasus)

a. Bebia **ras** alagebda?
grandma.NOM what.DAT clean.PRF.3SG
'What did grandma clean?' (Borise 2019)

b. *__Ras__ bebia alagebda? (Borise 2019)

c. – Bebia **samzareulos** alagebda.
grandma.NOM kitchen.DAT clean.PRF.3SG
'Grandma cleaned THE KITCHEN.' (Borise 2019)

d. ??–**Samzareulos** bebia alagebda. (Borise 2019)

e. [Q: In the scene with the blue sky: who is looking at a/the lamp?]
– lamp'as **k'aci** uq'urebs.
lamp.DAT man.NOM PV(IO.3).ear.THM.PRS.S.3.SG
'A/the man is looking at a/the lamp.' (Skopeteas & Fanselow 2010: 1373)

f. es movlena šenisnuli **akvs**.
3.SG.PROX.NOM phenomenon PR.note.PTCP.NOM PV(S.INV.3).have.IO.INV.3
'He has noted this phenomenon.' (broad focus)
(Skopeteas & Fanselow 2010: 1377)

g. es movlena **akvs** šenisnuli.
3.SG.PROX.NOM phenomenon PV(S.INV.3).have.IO.INV.3 PR.note.PTCP.NOM
'He has noted THIS PHENOMENON.' (narrow O focus)
(Skopeteas & Fanselow 2010: 1377)

Forker & Belyaev (2020) provide a fine-grained overview of information structure in Nakh-Daghestanian (East Caucasian) languages based on mainly original data from various languages of the stock.[9] There they conclude that the Nakh-Daghestanian languages also strongly prefer the directly preverbal position as the position for narrow information focus (Forker & Belyaev 2020). This survey is extended to the whole Caucasus by Forker (2020). There she also attests a preference for directly preverbal focus in the West Caucasian (Circassian) languages (Forker 2020: 986), and the more strict, Georgian verb-adjacency pattern for the other South Caucasian (Kartvelian) languages (Forker 2020: 994f.). Just like in Georgian, directly preverbal placement can be obligatory for the inherently focussed *wh*-phrases (Forker & Belyaev 2020: 243). Most languages merely prefer the directly preverbal placement of narrow focus but do not require it (Forker & Belyaev 2020: 243).

Forker (2020) draws the generalisation in (75) for the word order patterns in Nakh-Daghestanian languages. This contrast between SOV and OSV order exactly matches the altruistic pattern of A-scrambling in (42): in OSV order, the status of O is irrelevant, all that matters is that S is focussed.

(75) partial reproduction of table 1 in Forker (2020)

SOV	predicate focus, thetic utterances (fully-focussed), object focus
OSV	subject focus

3.2.6.2 Directly preverbal focus in Dargwa

Preverbal focus constructions in Nakh-Daghestanian are exemplified by Standard Dargwa in what follows.[10] The pattern of preverbal focus in Dargwa mostly resembles that of Georgian in many ways. The canonical order in a thetic sentence is verb-final,

9. Thanks to Diana Forker (Bamberg, Jena) and Dmitry Ganenkov (Bamberg, HU Berlin) for discussing the Caucasian languages with me and sharing their data!
10. Thanks to Dzhuma Abakarova for providing the Dargwa data!

as shown in (76a).[11] A *wh*-element needs to be directly preverbal (76b).[12] Separating the *wh*-element and the verb leads to ungrammaticality (76c). Additionally, the *wh*-element fronts and pied-pipes the finite verb along with it. This pattern was also described for Standard Dargwa by Musaev (2002: 113). There one can see that this pattern applies to all content questions regardless of the function of the interrogative element. That focus-placement targets the directly pre-*finite* position can be seen in two-verb complex in (76d): the *wh*-element is directly in front of the copula in the beginning of the clause while the lexical verb remains in its original clause-final position.[13] This pattern was also described by Musaev (2002: 114).

(76) **Urakhi Dargwa** (Nakh-Daghestanian, Caucasus; Dzhuma Abakarova, p.c.)

a. [C: What happened?]

Хьунуйин муруйс даг савгъат битхьиб.
woman.ERG man.OBL yesterday present.ABS gave
'Yesterday a/the woman gave a/the man a/the present.'

b. **Си** **битхьиба** даг хьунуйин муруйс?
what.ABS gave yesterday woman.ERG man.OBL
'What did the woman give the man yesterday?'

c. *__Си__ даг хьунуйин муруйс **битхьиба**?
what yesterday woman.ERG man.OBL gave

d. **Си** **сабри** даг хьунуйин муруйс **битхьиба**?
what COP.PRS.3SG yesterday woman.ERG man.OBL give.PTCP
'What did a/the woman give to a/the man yesterday?'

Forker (2020: §2.1.2) stresses that constructions such as (76d) are often characterised as "cleft-like construction" and provides an exhaustive review of analyses for these constructions. The cleft analysis focuses too much on sentences such as (76d) and ignores that *any* finite verb raises together with the focus, as in (76b). The copula construction in (76d) is, hence, best analysed as a subcase of the general, monoclausal pre-finite focus

11. Forker & Belyaev (2020) present examples with SVO order in thetic sentences but the relevant examples involve the beginning of stories. While there is no deductive reason for the exclusion of story beginnings as representative of thetic clauses, the data from other OV languages suggest that word order changes in such contexts are genre-specific. In Udmurt and Mari, verb-initial indicative sentences can only appear at the start of fairy tales and folk tellings. Verb-initial indicatives in German are also associated with a very specific genre, namely the joke. In South Sámi, the most common response to SVO sentences was that they sounded like the beginning of a fairy tale. In conclusion, story beginnings are likely to trigger verb raising in other languages as well.

12. The change of gender inflection on the verb in the content question (*битхьиба* in (76b) instead of *битхьиб* in (76a)) is not a morphological marking of information structure. It is triggered by the change of the absolutive NP into an interrogative phrase: the interrogative is feminine, while the NP is neuter.

13. Unfortunately a syncretism masks the dependent verb-form of the lexical verb in these examples: the participle selected by the copula is syncretic with the third person preterite forms. The gender suffix *-a* is not a marker of finiteness *per se* since gender- and person-marking can occur on most elements, including adverbs.

construction. It is always simply the finite verb of the verb-complex that raises together with the focus, and the copula happens to be the finite verb in (76d).

Not only interrogative elements but narrow foci in general appear directly preverbal in Standard Dargwa (77). In contrast to interrogative elements, narrow foci are fronted merely optionally (77b). One would expect a difference between the fronted and the in-situ variant in terms of exhaustivity or contrastivity, but no such difference was reported by Dzhuma Abakarova and her consultants. Therefore, both the fronted and the in-situ variant can appear in an information-focus and a contrastive-focus context.[14] The example in (77b) also shows how directly preverbal focus results in A-scrambling: the non-focal elements simply precede the focus, there is no IS-marking of the fronted elements.

(77) a. [C: Who gave the present to the man? but also: Did the child give the present to the man? No, …]

Хьунуйин битхьиб муруйс даг савгъат.
woman.ERG gave man.OBL yesterday present.ABS
'Yesterday a/the woman gave a/the man a/the present.'

b. [C: Who gave the present to the man? but also: Did the child give the present to the man? No, …]

Муруйс даг савгъат **хьунуйин битхьиб**.
man.OBL yesterday present.ABS woman.ERG gave

The data in (78) provide the respective negative evidence for the preverbal focus construction: the answers in (78b–d) are well-formed but infelicitous because the direct object, the element required to be the narrow focus in a felicitous answer to the question, is not directly preverbal. In these sentences, the respective directly preverbal element is intepreted as a narrow focus rendering each of (78b–d) an infelicitous answer.

14. There is even another option whereby the finite verb raises without the narrow focus. In these cases, the originally preverbal focus is stranded in clause-final position while the finite verb raises to the second position (i). The order of the other constituents, as in the Turkic languages above, does not give rise to interpretational differences in this construction, which can be seen from the lack of a difference between (ia) and (b).

(i) a. [C: Who gave the present to the man?]

Савгъат **битхьиб** даг муруйс **хьунуйин**.
present.ABS gave yesterday man.OBL woman.ERG
'Yesterday A/THE WOMAN gave a/the man a/the present.'

b. [C: Who gave the present to the man?]

Даг **битхьиб** муруйс савгъат **хьунуйин**.
yesterday gave man.OBL present.ABS woman.ERG
'Yesterday A/THE WOMAN gave a/the man a/the present.'

(78) a. [C: What did the woman give the man?]

Хьунуйин муруйс даг **савгъат** битхьиб.
woman.ERG man.OBL yesterday present.ABS gave
'Yesterday a/the woman gave a/the man a/the present.'

b. [C: What did the woman give the man?]

#Муруйс даг савгъат **хьунуйин** битхьиб.
man.OBL yesterday present.ABS woman.ERG gave

c. [C: What did the woman give the man?]

#Хьунуйин даг савгъат **муруйс** битхьиб.
woman.ERG yesterday present.ABS man.OBL gave

d. [C: What did the woman give the man?]

#Хьунуйин муруйс савгъат **даг** битхьиб.
woman.ERG man.OBL present.ABS yesterday gave

Finally, non-interrogative narrow focus does not need to be placed in clause-initial position when it is optionally raised (79). The example in (79a) shows the wide focus construction with a periphrastic tense, and here the finite copula is in clause-final position. When *к|ел* ('two') is focussed, the finite copula is adjacent to the focus in both (79b) and (c), but the focus–finite-complex need not be clause-initial as in (79b). This property leads to the last more extensive illustration of preverbal focus, since preverbal focus in *Eastern Armenian* follows exactly the same pattern.

(79) a. Нуни к|ел дурхь амурдикьути **сари**.
1SG:ERG two barn.ABS clean.PTCP COP.INFL
'I am cleaning two barns.'

b. Нуни дурхь **к|ел сари** амурдикьути.
1SG:ERG barn.ABS two COP.INFL clean.PTCP
'I am cleaning TWO barns.'

c. **К|ел сари** нуни дурхь амурдикьути.
two COP.INFL 1SG:ERG barn.ABS clean.PTCP
'I am cleaning TWO barns.'

3.2.6.3 Directly preverbal focus in Eastern Armenian

The preverbal focus construction in Eastern Armenian (Indo-Germanic) is described by Dum-Tragut (2009: 560f.). The Armenian pattern is of interest because, first, it stems from yet another language family, thus solidifying the cross-linguistic prevalence of the preverbal focus construction. Second, it shows the free positioning of the constituent-like complex of focus and finite verb more clearly than Dargwa, thus highlighting this facet of the construction.

Dum-Tragut (2009: 560f.) states that the focus position in Armenian is the position "immediately preceding the inflected part of the whole verbal form". So again, Armenian is a language with pre-*finite* focus. Dum-Tragut (2009) also generalises that sentences with narrow focus are easily identifiable by the **inversion** of the finite auxiliary and the lexical verb, just as in Dargwa above. The order of the auxiliary and V is visible in most sentences in Eastern Armenian because most tenses, including the present, are periphrastic (Dum-Tragut 2009: 558). These inversion patterns are shown in (80).[15]

The example in (80a) shows the canonical order of a three-verb complex with a transitive lexical verb. The 213 order is most likely the result of optional extraposition, much like in German optionally coherent infinitive constructions (Wurmbrand 2017). This is indicated by (80b), in which the 321-order is also discourse-neutral but simply perceived as less common. Both discourse-neutral sentences exhibit 21 order, i.e., the finite auxiliary follows its directly dependent verb. This neutral 21 order is *inverted* under narrow focus (80c–e): 2 now follows 1, and the focussed phrase is directly in front of 1. In contrast to Dargwa, the Foc-V string does not need to front to the left periphery. It can appear both clause-medially (80c–d) or in the left periphery (80e). Descriptively, the finite auxiliary seems to raise adjacent to the position of the focussed element. The result is a flexible focus position in terms of the overall topology but one that is fixed with respect to the verb: it is obligatorily preverbal. However, the order of the arguments need not change in a scrambling-like fashion to bring the preverbal focus placement about. The sentences in (80a–e) exhibit SO order across the board. Nonetheless, it is possible to bring OS order about without IS-marking the object (80f).

(80) Eastern Armenian (Serine Avetisyan, p.c.)

a. Banvornerě sksel **en** k'andel t'atroni bemě.
worker:PL:DEF begin:PTCP COP.3PL destroy:INF theater:DAT stage:DEF
'The workers began destroying the theater stage.' (broad focus, canonical order) (Dum-Tragut 2009: 556)

b. [C: What happened?]

Banvornerě t'atroni bemě k'andel sksel **en**.
worker:PL:DEF theater:DAT stage:DEF destroy:INF begin:PTCP COP.3PL
'The workers began destroying the theater stage.' (broad focus, neutral but less common)

c. [C: What did the workers begin to do with the theater stage?]

Banvornerě t'atroni bemě **k'andel** **en** sksel.
worker:PL:DEF theater:DAT stage:DEF destroy:INF COP.3PL begin:PTCP
'The workers began DESTROYING the theater stage.'

15. Thanks to Serine Avetisyan for discussing the data with me and extending on the example provided by Dum-Tragut (2009: 556) in (80a)!

d. [C: What did the workers begin to destroy?]

Banvornerě **t'atroni beměn en** sksel k'andel.
worker:PL:DEF theater:DAT stage:DEF:LNK COP.3PL begin:PTCP destroy:INF
'The workers began to destroy the THEATER STAGE.'

e. [C: Who began to destroy the theater stage?]

Banvornerěn en t'atroni bemě sksel k'andel.
worker:PL:DEF:LNK COP.3PL theater:DAT stage:DEF begin:PTCP destroy:INF
'THE WORKERS began to destroy the theater stage.'

f. [C: Who read a book?]

girk' **Anin ē** kardum.
book Ani:LNK COP.3SG read:PTCP
'ANI read the book.'

Just like the finite copula in Nakh-Daghestanian has been mistaken for the clitisation of φ-features to the focus, the placement of the finite auxiliary in Eastern Armenian has also been analysed as enclitisation of the auxiliary to the focus (Kahnemuyipour & Megerdoomian 2011). While this description is not wrong for sentences in analytical tenses, it misses the more general rule of pre-finite placement of the verb by ignoring the non-analytic tenses. The examples in (81–83) show that the focus directly precedes the finite verb, also when the finite verb is a lexical verb. Hence, auxiliary clitisation is just a subcase of the more general rule of prefinite focus. The content questions of the contexts are included in order to showcase the prefinite position of the interrogative. Finally, the contrast between (82a) vs. (83b) on the one hand, and (82b) vs. (83a) on the other hand, exemplifies the focus-driven reordering of the elements. Thanks to Zhanna Mkrtchyan for discussing these data with me!

(81) Eastern Armenian, non-analytical tense, subject focus (Zhanna Mkrtchyan, p.c.)

a. Ov **tavets** xałalik'e erexayin?
who give:AOR:3SG toy:DEF child:DAT:DEF
'Who gave the toy to the child?'

b. – Anin **tavets** xałalik'e erexayin.
Ani:LNK toy:DEF give:AOR:3SG child:DAT:DEF
'ANI gave the toy to the child.'

c. – #Anin xałalik'e **tavets** erexayin.
Ani:LNK toy:DEF give:AOR:3SG child:DAT:DEF
'Ani gave the toy to the child.'

d. – #Anin xałalik'e erexayin **tavets**.
Ani:LNK toy:DEF child:DAT:DEF give:AOR:3SG

(82) Eastern Armenian, non-analytical tense, IO focus (Zhanna Mkrtchyan, p.c.)

a. Ume **tavets** Anin xałalik'e erexayin?
who:DAT give:AOR:3SG Ani:LNK toy:DEF
'Who did Ani give the toy to?'

b. – Anin xałalik'e erexayin **tavets**.
Ani:LNK toy:DEF child:DAT:DEF give:AOR:3SG
'Ani gave the toy TO THE CHILD.'

c. – #Anin erexayin xałalik'e **tavets**.
Ani:LNK child:DAT:DEF toy:DEF give:AOR:3SG

(83) Eastern Armenian, non-analytical tense, DO focus (Zhanna Mkrtchyan, p.c.)

a. Inc **tavets** Anin erexayin?
what give:AOR:3SG Ani:LNK child:DAT:DEF
'What did Ani give to the child?'

b. – Anin erexayin xałalik'e **tavets**.
Ani:LNK child:DAT:DEF toy:DEF give:AOR:3SG
'Ani gave THE TOY to the child.'

c. – #Anin xałalik'e erexayin **tavets**.
Ani:LNK toy:DEF child:DAT:DEF give:AOR:3SG

This concludes the disussion of preverbal focus in Eastern Armenian.

3.2.7 Conclusion: Manifestations of preverbal focus in OV languages

The preverbal focus position manifests itself in several forms across language, and the forms presented here do not cover the whole range. There are at least two more patterns: a) focus in front of the whole verb complex instead of only the finite verb, as in Turkic and Germanic OV; and b) focus in front of the whole verb complex with additional optional raising of the whole complex of Foc+V-complex to the left periphery, as in Basque (Arregui 2002: 165ff.) shown in (84–85). These examples also show argument reordering via preverbal focus since SOVAux, or Erg–Abs–V–Aux, is the canonical order in Basque (Arregui 2002: 165ff.).

(84) Basque, preverbal in-situ focus (Arregui 2002: 165)

Q: Jon **señek** ikusi rau? OSVAux
Jon:ABS who:ERG see.PTCP AUX.PRS
'Who saw Jon?'

A: Jon **Mirének** ikusi rau? OSVAux
Jon:ABS Miren:ERG see.PTCP AUX.PRS
'MIREN saw Jon.'

(85) Basque, preverbal raised focus (Arregui 2002: 165)

Q: **Señek** ikusi rau Jon? SVAuxO
who:ERG see.PTCP AUX.PRS Jon:ABS

A: **Mirének** ikusi rau Jon ? SVAuxO
Miren:ERG see.PTCP AUX.PRS Jon:ABS

An incomplete, cursory collection of languages with preverbal focus is summarised in (86). The lack of positive data on preverbal focus outside Eurasia might hint towards an areal feature.

(86)

- most or all Nakh-Daghestanian and Kartvelian languages (Forker 2020)
- IE-languages in Caucasus and Western Asia:
  - Eastern Armenian (section 3.2)
  - (Iron) Ossetic (Borise & Erschler 2023)
  - Hittite (Lyutikova & Sideltsev 2021: only contrastive focus)
- Turkic languages (section 3.2.2)
- OV languages of South Asia:
  - Malayalam and Kannada (Dravidian, Jayaseelan & Amritavalli 2005)
  - Hindi-Urdu (IE Manetta 2011: §4.3)
- Japanese (Miyagawa 2006: 617)
- Basque (Arregui 2002)
- Tibeto-Burman OV languages (according to Czypionka (2007), confirmed by Hilary Chappell, p.c.)
- Papuan OV languages (according to Czypionka (2007))
- Uralic OV languages (section 3.4)

In sum, many OV languages feature directly preverbal focus and are likely, or proven, to exhibit A-scrambling via directly preverbal focus. That homogeneity calls for a general theory of A-scrambling via directly preverbal focus. It will still need to account for at least the two types of preverbal foci, the ones that precede the whole verb complex and do not hint towards any raising, and the ones involving raising of the verb complex. Such a theory will be sketched in the next section.

3.3 Theory of A-scrambling and preverbal focus

In the framework of the present study, A-scrambling and directly preverbal focus can be described as the violation of the merger hierarchy (Neeleman & van de Koot 2002, Neeleman & Van De Koot 2010, Titov 2012). That is, A-scrambling occurs when the order of merge does not match the order set forth in the merger hierarchy, as shown in (87). Since the merger hierarchy is grounded in semantics, not following the merger hierarchy is primarily *semantically* costly. In general, it involves a delayed semantic integration (Neeleman & Van De Koot 2010). Whenever such a costly delayed semantic integration occurs in a structure, there needs to be an interpretative license for it. This license, most often, is information-structural, but can also be the need for the extension of the scope and binding domain (Fanselow 2012).[16] When a manner adverbial precedes a temporal adverbial, the manner adverbial modifies the wrong semantic domain. It will be integrated too late in the structure. For S and O, the situation is more complicated because of the variable thematic roles involved. With events involving the prototypical agent S and patient O, it is more costly to integrate S earlier than O (for the implementation consult Neeleman & Van De Koot 2010, Titov 2012). Especially in psych-verb constructions, however, O can assume a more prototypically agentive role than S such that the event semantics are less costly to compile by integrating S earlier than O, resulting in more easily available OS orders (cf. Temme 2018, Temme & Verhoeven 2016). One of the merits of this approach lies in ensuring that the markedness of A-scrambling is inherent to the marked sentence since the markedness does not merely arise in comparison to other structures: the markedness arises due to delayed semantic integration. The other merit lies in not imposing categorial restrictions: in principle, any merger hierarchy can be violated, leading to marked word orders.

(87) Description of A-scrambling in the framework of this thesis

a. Merger hierarchy: S1 > S2

b. Actualised merge order: S2 > S1

c. structural result: [S1 [S2 H]]

A base-generation analysis of scrambling, as depicted in (87) is straightforward, elegant, and empirically adequate (Fanselow 1993, 2003, Neeleman 2015, Neeleman & van de Koot 2008, Neeleman & Van De Koot 2010, Struckmeier 2017). Scrambling is clausebound because an element to be interpreted in CP1 needs to be base-generated in CP1; if it were base-generated in CP2, it would no longer be interpreted as part of CP1. Scrambling does not lead to IS-marking of the fronted element typical of A-bar-movement because the elements are *in situ*. Scrambling proper bears the signs of A-movement because there

16. Just to exemplify scope-driven OS and show how it was already present in 15th century German, Jes 66:13 in Luther's translation:

(i) Ich will euch trösten, wie **einen** seine Mutter tröstet.
1SG want 2PL.ACC console, like one.ACC 3SG.POSS mother consoles
'I want to console you, like the mother of x consoles x.'

are no movement chains to begin with and the scrambled elements take scope from their base-generated *in situ* A-position.[17] There can be multiple instances of scrambling per clause because all of the elements from the enumeration need to be base-generated at some point. Nonetheless, opting for base generation is rather a proof of concept. The differences in empirical coverage between base-generation and local A-movement are minuscule (cf. Salzmann to appear).

Preverbal focus as a driving force of scrambling was not discussed in the literature explicitly yet. Therefore, this property still needs to be accounted for in the base-generation account. Currently, the delayed semantic integration only means that the structure will be interpreted as marked, but it does not specify how the sentence will be interpreted. A base-generation approach to preverbal focus can be built on the characterisation of linearisation in Fanselow & Lenertová (2011): a prominent XP has to be linearised with a non-prominent head in the first step of merger since prominence can only occur in contrast to something less prominent. This can be reformulated as: the XP carrying sentence stress is merged first with the verb. When something different than a manner adverbial or the direct object is to receive sentence stress, the order of merger has to be reversed such that, e.g., the subject merges first. As a result, reordering and preverbal focus go hand in hand. The structure for this kind of scrambling could look as in (88).

17. A more recent argument against base generation in scrambling stems from Heck & Himmelreich (2017: 87). However, I cannot follow the argumentation because most of the ungrammatical sentences discussed by Heck & Himmelreich (2017) are grammatical to me and other native-German colleagues I informally asked for judgements. In the intended reading, the floating quantifier is associated with the *wh*-phrase, and the indefinite NP does not receive a generic or specific reading (Heck & Himmelreich 2017: 51, fn. 4). Me and peers did not get the intended reading, this is true, but also did not detect any degradedness in (i) for the non-intended reading. However, the supposed ungrammaticality of (i) is taken as the evidence against base generation. To me the sentences in (i) merely show that the floating quantifier forces the *wh*-element to reconstruct to the position of the floating quantifier, thus making it unable to scope over material preceding the floating quantifier. The indefinite NP preceding the floating quantifier becomes 'specific' by taking wide scope. Crucially, this is not different for sentences in which the *wh*-element is not the subject to me and my peers, as in (id). As such, the status of the central contrast is unclear, and hence the argument against base generation is also unclear until further research establishes the facts about Beck's intervention sentences.

(i) a. Wer$_1$ hat einem Professor alles$_1$ gratuliert?
who.NOM has a professor.DAT all congratulated
'Who all congratulated a professor?' (Heck & Himmelreich 2017: 51, there as *)

b. Wer$_1$ hat einen Professor alles$_1$ vergöttert?
who.NOM has a professor.ACC all idolized
'Who all idolized a professor?' (Heck & Himmelreich 2017: 51, there as *)

c. Wem$_1$ hat sie einen Professor alles$_1$ vorgestellt?
who.DAT has she a professor.ACC all introduced
'Who all did she introduce a professor to?' (Heck & Himmelreich 2017: 51, there as *)

d. Wen$_1$ hat ein Professor alles$_1$ beleidigt?
who.ACC has a professor.NOM all insulted
'Who all did the professor insult?' (Heck & Himmelreich 2017: 51)

(88) $[_{V^*}\ Y^*\ [_{V'}\ X\ V\ ]] \mapsto$ focus: X, background: Y^*

The schematic sketch in (88) is to mean that the complement of V, X, is mapped onto the focus of the clause. The Y^* means that any number of elements can be merged on top of the XV-constituent. In a neutral sentence, X is any element that would normally be allowed to merge first with V as dictated by the merger hierarchies. In a marked-sentence, e.g., subject focus, a merger hierarchy is violated, and it is this violation that turns the sentence into a marked sentence. In line with the assumption that Merge is blind, S can be merged as the complement of V. Also see Arregui (2002) for an analysis of Basque directly preverbal focus as in-situ focussing mediated by prosodic interface rules (there, the Nuclear Stress Rule).

The structure in (88) implies that the VP is maximally recursive, as proposed by Fukui (1986). Scrambled elements are situated VP-internally, thereby capturing A-movement effects and the non-island status of preverbal elements in general (Haider 2017, Jurka 2010).

The option in (89) would work for Turkic, Japanese, Basque, and the Uralic OV languages (see section 3.4). This is because preverbal focus precedes the *whole verb complex* in these languages instead of just the finite verb. As a result, the configuration in (89a) (VP-embedding analysis) or (89b) (complex-head analysis) is easy to bring about via base generation of the focus. Basque, then, would merely require additional V^+-movement as per Axiom III (A.III) of the framework in chapter 2.

(89) a. $[_{V^*}\ Y^*\ [_{V'}\ [_{VP}\ X\ V_{nonfin}\ ]\ V_{fin}\ ]]$

b. $[_{V^*}\ Y^*\ [_{V'}\ X\ [_{V}\ V_{nonfin}\ V_{fin}\ ]]]$

Alas, the approach in (88) and (89) would not get very far for preverbal focus in the *focus-raising languages* in section 3.2. The preverbal focus precedes the *finite* verb leading to obligatory inversion of the finite and non-finite verb. In Standard Dargwa and Eastern Armenian, the FOC-V_{fin}-complex even appears in several positions inside the clause (section 3.2), repeated in (90) for Standard Dargwa.

(90) Urakhi Dargwa (Dzhuma Abakarova, p.c.)

a. Нуни к|ел дурхь амурдикьути **сари**.
1SG:ERG two barn.ABS clean.PTCP COP.INFL
'I am cleaning two barns.'

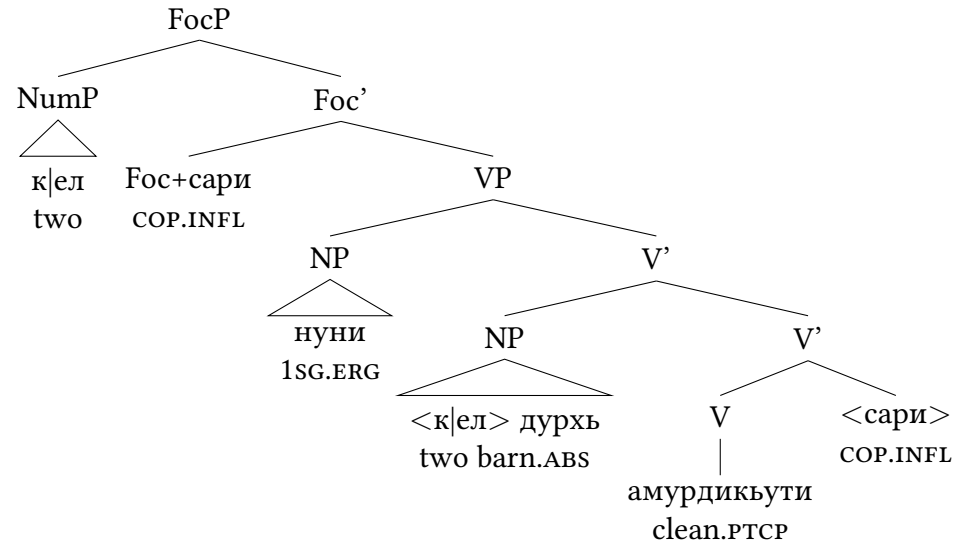
b. **К|ел сари** нуни дурхь амурдикьути.
two COP.INFL 1SG:ERG barn.ABS clean.PTCP
'I am cleaning TWO barns.'

c. Нуни дурхь **к|ел сари** амурдикьути.
1SG:ERG barn.ABS two COP.INFL clean.PTCP
'I am cleaning TWO barns.'

The configurations in (90) can hardly be derived without movement. The left-peripheral focus in (90a) is straightforwardly analysed as involving a left-peripheral focus position that attracts the focussed phrase to its specifier, and the morphologically highest verb

to its head, as in (91).[18] Standard Dargwa would almost be a V2 language, just that V2-movement is not obligatory, and that the first position can only host foci. It would allow for drawing a parallel to the neighbouring Ingush where V2 has already grammaticalised (Nichols 2011).

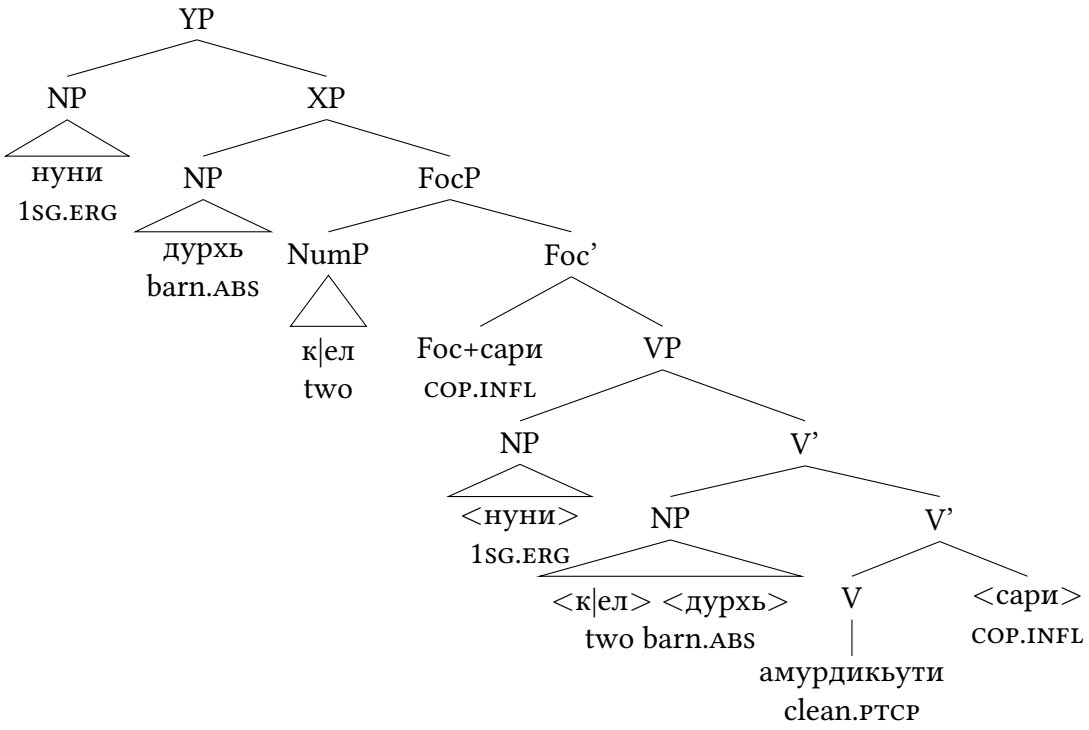
(91)



This analysis can be extened to account for (90b). At first, the derivation is equal to the one in (92). Afterwards however, the arguments move across FocP.

18. At least two further options for the preverbal focus in (90) spring to mind: a cleft analysis, already discussed as inapplicable in section 3.2, and a postsyntactic-movement analysis. Postsyntactic movement would make sense if the copula in (90) were merely the morphological realisation of agreement features. However, any finite lexical verb follows the focus, and postsyntactic movement of whole words instead of just morphemes would not fit the mechanism anymore. Broadly speaking, both the cleft analysis and the post-syntactic movement analysis fail to account for the fact that *any* finite verb, not just finite auxiliaries, can move in the preverbal-focus construction, in both Standard Dargwa and Eastern Armenian (section 3.2).

(92)



The movement analysis sketched in (91) and (92) can be extended to every other example. It would always involve leftward movement of the verb, followed by leftward movement of the focal element. The placement of the non-focal material can dealt with in at least two ways. The first two ways would assume a designated FocP landing site. In the option shown in (92), the focus position stays the same, and all elements behind the focus move leftward. This could be achieved by implementing the idea of Kitahara (2002) and Heck & Himmelreich (2017) described above: the Foc head would, first, probe for a Focus feature, and second, for a nondescript edge feature that is *recursive*, e.g., [EPP*] or [SCR*]. The other way would consist in stipulating several focus positions: for example, FocP could also have merged above just the direct object, and the subject would have merged later. That would require giving up on only some aspects of the cartographic approach.

The assumption of a focus phrase attracting the verb, sketched in a generic fashion above, is a common analysis for directly preverbal focus (cf. Szendrői 2017 on FocP in general, Borise 2019, 2023a for applications to OV languages). To my knowledge, there is no base-generation account of pre-finite focus yet. Therefore such an approach will be sketched below.

The elegance of the base-generation account of A-scrambling and preverbal focus can be kept even with verb-movement effects. In order to achieve this, it has to be combined with reprojection (Fanselow 2004, Georgi & Müller 2010). In that approach, verb movement is formal movement and need not target any specific position in the clause. After verb movement takes place, the verb reprojects at the landing site. This way, the positions in front of the preverbal focus can still be VP-internal positions and also allow for the base generation of arguments. This allows for an unspecified height of the land-

ing site of the verb relative to its dependents. Prospectively, this reprojection can also be combined with flexible mapping of intonational phrases depending on verb height (Borise & Erschler 2023, Borise et al. 2022, Szendrői 2017).

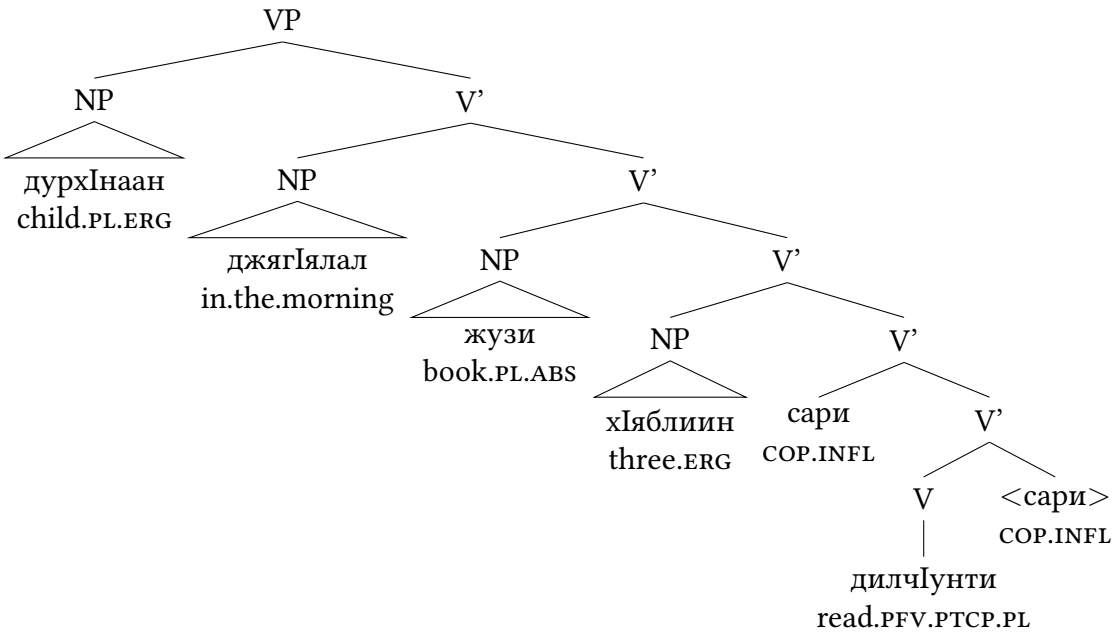
How preverbal focus with verb reprojection works is laid out for the example in (93b). That example requires some explanation. Just as in (90), (93b) involves a discontinuous NP in which the numeral is the preverbal focus position. Separating the numeral and the head leads to morphosyntactic changes (93a vs. b). First, the focussed numeral receives ergative case marking in (93b) even though there is no NP-internal agreement in Dargwa (93a). Furthermore, the head noun *дурхIяли* ('child.SG.ERG') suddenly has to be in the plural form in (93b) even though numerals normally cooccur with the singular (93a). Finally, the head *дурхIнаан* ('child.PL.ERG') can be omitted in (93b) and the sentence would still be complete and grammatical. These points allow for the conclusion that the discontinuous NP in (93b) is not directly derived from a structure such as (93a). Instead, the focussed numeral *хIяблиин* ('three.ERG') in (93b) is a full, independent noun phrase that is merely coconstructed with another NP. That process is not visible in (90) because the discontinuous NP is in the zero-marked absolutive.

(93) a. ХIябал *(дурхIяли) джягIялал жузи дилчIун.
three child.SG.ERG in.the.morning book.PL.ABS three.ERG
'Three children read through the books in the morning.'

b. (ДурхIнаан) джягIялал жузи **хIяблиин** **сари**
child.PL.ERG in.the.morning book.PL.ABS three.ERG COP.PST.PL
дилчIунти.
read.PFV.PTCP.PL
'Three children read through the books in the morning.'

Since the split merely *seems* to be derived by extraction, it can also be analysed as a base-generated NP as depicted in (94). First, the finite verb moves. This movement leads to a reprojection of the finite verb such that the upcoming projections are still projections of V. The features of the verb complex have not been discharged yet such that all of the theta roles can still be assigned. Next, the nominalised ergative numeral is merged as the subject. The position in which the subject merges is not an inherent focus position. Following Fanselow & Lenertová (2011), information structure is not directly represented in syntax. Instead, these two elements might have to be immediately linearised in order to establish the prosodically prominent status of the subject. In order for the subject to merge first, the merger hierarchy has to be abolished. The rest of the elements can still be merged VP-internally due to the reprojection of the verb. As such, the prefocal elements occupy A-positions, they are *not* situated in a functional left periphery.

(94)



The base-generation approach sketched above shows that a base-generation approach to preverbal focus in focus-raising languages is possible. This analysis allows for the generalisation that preverbal focus with argument reordering involves the abolition of the merger hierarchy. The general prediction of the approach is a general absence of reflexes of movement, both for the element in preverbal focus, as well as for the prefocal elements. However, the sketch here is far from an ideal solution, nor a complete one. It might turn out that preverbal focus is the result of *convergent derivations* akin to convergent evolution: different derivations end up with the same surface realisation, the same phenotype. In one language, surface preverbal focus could be the result of focus phrase that attracts the focussed phrase and the verb, and there could be another one in which the focus is base-generated and attracts the verb. The surface differences between preverbal focus in German, Turkish, Georgian, Dargwa, and Armenian already necessitate different analyses anyways. Borise (2019, 2023b) argues explicitly for different derivations for the same phenotype. According to her, preverbal information focus and preverbal *wh*-elements require a different analysis even within Georgian. For the time being, future research has to determine what the uniting property and the driving force behind preverbal focus is.

For the current purposes, it can be concluded that A-scrambling and directly preverbal focus can be theoretically unified as essentially the same process. That characterisation has the benefit of directly capturing the altruism of A-scrambling driven by directly preverbal focus. A crosslinguistic theory of A-scrambling should aim to account for that effect. The base-generation approach sketched here views unifies A-scrambling and directly preverbal focus instances of merging elements in an order that does not correspond to the merger hierarchy. Focus–verb strings that are not clause-final can be viewed as instances of reprojecting verb movement combined with pied-piping.

3.4 A-Scrambling via preverbal focus in Uralic OV

It could be shown that directly preverbal focus, a) facilitates reordering of arguments, and b) is a common property among at least the Eurasian OV languages. In this section, A-scrambling will be illustrated for some Uralic OV languages. Udmurt, Estonian, and Mari will be discused in this order. These language provide the backdrop against which the rigidity of South Sámi (section 3.5.1) becomes ostensible.

3.4.1 Preverbal focus and A-scrambling in Udmurt

In Udmurt, the directly preverbal position is possible for focus, but not obligatory. This is the conclusion to be drawn from a study by Erika Asztalos (2020). She provides an excellent, comprehensive study of focus positions in Udmurt. This warrants a more in-depth discussion of her findings. Afterwards, it will be shown how directly preverbal focus drives A-scrambling in Udmurt. The base-generation analysis of A-scrambling in section 3.3 straightforwardly applies to Udmurt.

3.4.1.1 Focus positions in Udmurt according to Asztalos (2020)

In her review of previous studies, Asztalos (2020: 18) finds that descriptions from the 1920's assume a directly preverbal focus position in Udmurt. Later studies found that focussed elements can occur in any position Asztalos (2020: 19f.).[19] Based on that review, Asztalos (2020: 24ff.) carefully constructs sentences for use in three informal questionnaire studies. She includes contexts for both information focus and contrastive focus, varies the position of the focussed element, varies the grammatical function of the focussed element, and varies the form of the focussed element.

Asztalos (2020: 50) concludes that while focus can appear in almost any sentence position, the preverbal position is "the most acceptable" for focus. Questionnaire 3 (n=50) included contextualised sentences with object focus, subject focus and adverbial focus. The sentences were to be rated on Likert-scale from 1 (unacceptable) to 5 (fully acceptable). Afterwards the ratings were averaged by subject. This, then, represents the consultants' individual acceptability for a certain construction. Across all grammatical functions and contexts, directly preverbal focus received average ratings ranging from 4.37 to 4.86 points (Asztalos 2020: 32). This means that the lowest average rating of directly preverbal focus was 4.37. This shows that every consultant rates directly preverbal focus as a fully grammatical option. Hence, a total of 97% (48 participants) rated directly preverbal focus as one of the highest options (Asztalos 2020: 48f.).[20] 38% of participants showed a clear preference for directly preverbal focus compared to all other focus positions (ibid.). Finally, every grammatical function was equally acceptable as a focus in directly preverbal position, as illustrated in (95), which was not the case for the other positions (Asztalos 2020: 32). These data indicate that preverbal focus is at least the *default*

19. A discussion of clause-final focus in Umdurt will take place in 5.5.3.2. There it will be argued that clause-final focus is stranded, originally preverbal focus.
20. The remaining 2 participants showed the highest average scores for clause-final focus.

focus position in Udmurt.

(95) a. Subject focus

Тужгес но чебер картинаез Катя дасяз.
very.CMPR PRTCL nice picture.ACC Kate make.PST.3SG
'It was Kate who made the nicest picture.' (Asztalos 2020: 32)

b. Object focus

Петыр Артёмез жугиз.
Peter Artjom.ACC beat.PST.3SG
'It was Artjom who Peter beat.' (Asztalos 2020: 33)

c. Temporal adverbial focus

Песятайэлы ӵуказе жингырто.
grandfather.1SG.DAT tomorrow telephone.FUT.1SG
'It it tomorrow that I'm going to telephone my grandfather.'
(Asztalos 2020: 33)

The counts for directly preverbal focus are especially informative when compared to sentence-initial focus, as illustrated in (96). There, the average ratings per speaker ranged from 3.03 to 4.45. That is, there were speakers who judged sentence-initial focus as fully acceptable, but there were also people who judged sentence-initial focus as degraded on average. This was different for preverbal focus, where every person judged directly preverbal focus in the fully acceptable range on average. Furthermore, the sentence-initial position shows a differentiation between grammatical functions: only focussed *subjects* received high average ratings in sentence-initial position, that is, in their canonical *in-situ* position (96a). Objects however, whose canonical in-situ position is non-clause-initial, received a highest average rating of 3.43 as sentence-initial focus (96b). In other words, clause-initial focus is only rated high when the sentence-initial slot coincides with the in-situ position of the element. This is different for directly preverbal focus: focussed elements receive high ratings in directly preverbal position *regardless* of their canonical *in-situ* position (Asztalos 2020: 32f.).

(96) a. Катя тужгес но чебер картинаез дасьаз.
Kate very.CMPR PRTCL nice picture.ACC make.PST.3SG.
'It was Kate who made the nicest picture.' (Asztalos 2020: 32)

b. ?Артёмез Петыр жугиз.
Artjom.ACC Peter beat.PST.3SG
'It was Artjom who Peter beat.' (Asztalos 2020: 33)

In sum, the findings by Asztalos (2020) show that there is a preverbal focus position in Udmurt. However, foci do not appear in this position *obligatorily*: in-situ focus by way of mere prosodic stress is another way to encode focus. This section already featured cases of reordering via preverbal focus, but the next section will discuss these reorderings in

more detail.

3.4.1.2 Reordering via preverbal focus in Udmurt

Preverbal focus is a driving force of A-scrambling in Udmurt. The examples in (97) feature examples of reordering via preverbal focus from the literature. The canonical, neutral order would be SO in both examples. Under subject focus, the subject can be placed in the directly preverbal position. This results in an OS order. The prefocal elements do not bear any special information-structural role. Therefore, the reordering shown in (97) bear the signs of A-scrambling: S is involved in the reordering, the reordering is mediated by the preverbal focus position, and the fronted elements do not receive a special IS-reading.

(97) a. Тужгес но чебер картинаез *Катя* дасяз.
very.CMPR PRTCL nice picture.ACC Kate make.PST.3SG
'It was Kate who made the nicest picture.' (Asztalos 2020: 32)

b. C: Who saw the Terminator in the cinema?

Терминаторез кинотеатрын *Саша* учкиз.
Terminator.ACC cinema.IN Sasha see.PST.3SG
'Sasha saw the Terminator in the cinema.' (Tánczos 2010: 2010)

The examples in (98) to (100) allow for several more insights into scrambling via preverbal focus. Those sentences were constructed in such a way that a potential left periphery is 'filled up'. Second, they involve a non-finite verb such that it is possible to see whether preverbal focus precedes the whole verb complex, as in Turkic (section 3.2.2), or whether it occurs in front of the finite verb leading to inversion, as in the languages of the Caucasus (section 3.2.6).

The two examples in (98) are both neutral, which is visible via the potential for focus projection. The deciding factor seems to be the SO order and the IO–O order. The IO can either follow S (98a) or precede S (98b). However, when the order of IO and O is reversed, and IO is placed directly preverbal as in (99), the IO is narrowly focussed. When this happens, the order between the prefocal elements is also *loosened*, which is why this phenomenon will be coined **prefocal loosening**. Both SO order (99a) and OS order (99b) are acceptable in front of the focussed IO, with a mere preference for SO. Prefocal loosening could also be seen in the Turk languages (see section 3.2.2). This phenomenon showcases that S and O can be reordered without special information-structural marking of either S or O. Neither S nor O receives a topic reading in (99). Finally, preverbal focus does not lead to obligatory inversion of the finite and the non-finite verb, i.e., the preverbal focus occurs in front of the whole verb complex.

(98) a. [C: object-focus or no context (focus projection)]

Ӧуказе Ижкарын песянай котькуд нунокезлы
yesterday Izhevsk.IN grandmother every grandchild.PX.3SG.DAT
перепечсэ вайыны быгатэ.
perepech.PX.3SG.ACC bring.INF could
'Grandmother could bring the perepech to every grandchild of hers yesterday.'

b. [C: object-focus or no context (focus projection)]

Ӧуказе Ижкарын котькуд нунокезлы песянай
yesterday Izhevsk.IN every grandchild.PX.3SG.DAT grandmother
перепечсэ вайыны быгатэ.
perepech.PX.3SG.ACC bring.INF could

(99) a. [C: To whom?]

Ӧуказе Ижкарын песянай перепечсэ *котькуд*
yesterday Izhevsk.IN grandmother perepech.PX.3SG.ACC every
нунокезлы вайыны быгатэ.
grandchild.PX.3SG.DAT bring.INF could
'Grandmother could bring the perepech TO EVERY GRANDCHILD yesterday.'

b. [C: To whom?]

?Ӧуказе Ижкарын перепечсэ песянай *котькуд*
yesterday Izhevsk.IN perepech.PX.3SG.ACC grandmother every
нунокезлы вайыны быгатэ.
grandchild.PX.3SG.DAT bring.INF could

c. [C: To whom?]

?Ӧуказе перепечсэ Ижкарын песянай *котькуд*
yesterday perepech.PX.3SG.ACC Izhevsk.IN grandmother every
нунокезлы вайыны быгатэ.
grandchild.PX.3SG.DAT bring.INF could

The most severe case of prefocal loosening can be observed under verum focus, as in (100). The neutral order of the arguments (O following both S and IO, (98), can be completely reversed under verum focus, allowing for IO–O–S order (100a). Furthermore, there is no palpable difference between (100a) and (100b).

(100) a. [C: *Did* grandmother bring the perepech?]

Ӟуказе Ижкарын перепечсэ котькуд нунокезлы
yesterday Izhevsk.IN perepech.PX.3SG.ACC every grandchild.PX.3SG.DAT
песянай вайыны *быгатэ*.
grandmother bring.INF could
'Grandmother *could* bring the perepech to every grandchild yesterday.'

b. [C: *Did* grandmother bring the perepech?]

Ӟуказе Ижкарын котькуд нунокезлы перепечсэ
yesterday Izhevsk.IN every grandchild.PX.3SG.DAT perepech.PX.3SG.ACC
песянай вайыны *быгатэ*.
grandmother bring.INF could
'Grandmother *could* bring the perepech to every grandchild yesterday.'

An explanation for the phenomenon in (100) lies in the *verb focus* associated with verum focus. Focus on the verb eliminates the directly preverbal focus position. As a result, there is no competition for the preverbal focus position anymore, thus loosening the word order. The same effect has already been reported for German by Fanselow (2003: 212): reordering is often associated with *verb* focus instead of *preverbal* focus in German.

The preverbal focus position can also be shown with adverbials from the same merger hierarchy. The examples in (101) feature the two neutral orders of three oblique NPs functioning as adverbials. There is only a partial ordering between these elements: the relative order of the comitative and the temporal adverbial does not matter since both (101a) and (b) are neutral and allow for full focus projection. They only have to precede the directional adverbial. Hence, the merger hierarchy is {comitative,temporal}>directional.

(101) a. [okay without context;
okay with *what did you do with Masha on weekend?*;
okay with *where did you go with Masha on the weekend?*]

Мон Машаен арняпумын нюлэскы ветлӥ.
1SG.NOM Masha.INSTR weekend.IN forest.ILL go.PST.1SG
'I went into the forest with Masha on the weekend.'

b. [okay without context;
okay with *what did you do with Masha on weekend?*;
okay with *where did you go with Masha on the weekend?*]

Мон арняпумын Машаен нюлэскы ветлӥ.
1SG.NOM weekend.IN Masha.INSTR forest.ILL go.PST.1SG
'I went into the forest with Masha on the weekend.'

When the merger hierarchy is violated, the directly preverbal element is interpreted as the focus. In (102a), the directly preverbal temporal adverbial is the focus, and in

(102b,c), the directly preverbal comitative adverbial is the focus. The dislocated elements in front of the focus, especially the directional adverbial, do not receive special IS marking. Hence these examples also showcase scrambling driven by preverbal focus. As in the case with arguments above, there is prefocal loosening: even though the directional adverbial neutrally follows the temporal adverbial (101), there is no difference between (102b) and (c).

(102) a. [C: *When did you go … ? / Ку … нюлэскы ветлйд?*]

Мон нюлэскы Машаен *арняпумын* ветлй.
1SG.NOM forest.ILL Masha.INSTR weekend.IN go.PST.1SG
'I went into the forest with Masha ON THE WEEKEND.'

b. [C: *With whom?*]

Мон арняпумын нюлэскы *Машаен* ветлй.
1SG.NOM weekend.IN forest.ILL Masha.INSTR go.PST.1SG
'I went into the forest WITH MASHA on the weekend.'

c. [C: *With whom?*]

Мон нюлэскы арняпумын *Машаен* ветлй.
1SG.NOM forest.ILL weekend.IN Masha.INSTR go.PST.1SG
'I went into the forest WITH MASHA on the weekend.'

3.4.1.3 The analysis of prefocal loosening

Prefocal loosening has the potential to contribute to the analysis of scrambling and preverbal focus. Therefore, the analysis of prefocal loosening is discussed under rightward focus movement, leftward altruistic movement, and base generation.

Prefocal loosening shows that preverbal focus is unlikely to involve rightward movement. If the preverbal focus in (102) was merely derived by rightward movement of the focussed adverbial, then the other adverbials should remain in their neutral order. This is illustrated in (103b) with (103a) as the structure before the movement takes place. If *only* rightward movement took place, then the order *Машаен нюлэскы* should be preserved. When additional derivational steps for the reordered prefocal have to be assumed anyway, rightward movement becomes an inelegant analysis for preverbal focus.

(103) a. neutral structure

[арняпумын [Машаен [нюлэскы ветлӥ]]]
[on.weekend [with.Masha [into.forest went]]]

b. rightward moved focus

[[[[<арняпумын> [Машаен [нюлэскы <ветлӥ>]]] ...]
[[[[<on.weekend> [with.Masha [into.forest <went>]]] ...]
арняпумын] ветлӥ]
on.weekend] went]

Prefocal loosening would straightforwardly follow from a movement account of scrambling. If scrambling was altruistic *movement* (and not just altruistic reordering of unknown source), all elements intervening between the verb and focus have to be evacuated. The order of the elements before they evacuated to the left is unknown such that any order can occur in front of the focus without violating relativised minimality or other locality conditions. When using functional Specs as landing sites for scrambled elements, the solution is even easier since each landing site could be associated with a different feature, leading to a variable order in front of the focus. The solution with multiple functional heads would also work when the verb first moves to a dedicated preverbal focus projection that causes the verb to raise; afterwards, the postverbally stranded elements would have to move to the left across the focus again, leading to variable order in front of the focus. The same mechanism can also apply to prefocal loosening under verb focus: the preverbal elements evacuate from their original position to left-peripheral positions that are actively not associated with focus. This leaves focus to remain at the verb, e.g., because the focus domain is emptied (Fanselow 2003: 211).

The problem of these movement accounts would still be the one mentioned by Fanselow (2003). The fronted elements are *not information-structurally marked*. Therefore, functional heads attracting the fronted elements would have to probe for *negatively specified* features (Fanselow 2003: 211). This option, he continues, is not a probable option because, at least at the time, there were no reports of heads that would actively probe for [-wh] or [-relative]. If such a head were to exist, it would attract most elements of the clause to it, leading to a clause structure in which almost every element is in a functional left periphery. At the same time, Holmberg & Nikanne (2002) did exactly what Fanselow (2003) disputed. They proposed a [-Foc]-feature serving exactly the function that Fanselow (2003) conjectured a movement theory of scrambling would need. That being said, the [-Foc]-feature is also one of the more contested parts of Holmberg & Nikanne's (2002) analysis of Finnish (e.g. Huhmarniemi 2019). In sum, it is not impossible to propose such a feature, but it is improbable in light of the absence of other probes for negatively specified features. In consequence, the movement would have to be formal movement, triggered by a functionally unspecified feature such as the edge feature (Fanselow 2012). Kitahara (2002) and Heck & Himmelreich (2017) essentially propose such features. However, Heck & Himmelreich (2017) explicitly rule out prefocal loosening because such formal movement leads to order preservation (counter

to fact).

Prefocal loosening receives a straightforward base-generation analysis for cases without verb focus. There are at least two possible implementations. When violating the merger hierarchy leads to a marked order, then further violations of the merger hierarchy should lead to further degradation. This is also what the slight difference between (99a), with only one violation, and (99b,c), with two violations, suggests. However, that effect does not occur in (102). Here one could argue that one violation of the merger hierarchy makes every further violation less impactful. Another suggestion could be that breaking the merger hierarchy requires the abolition of the merger hierarchy as a whole, thus nullifying any further ordering effect. The slight degradation in (99) would merely be an artefact or a frequency effect. Neither of these approaches can nicely account for prefocal loosening under verb focus. The merger hierarchy need not be tempered with in order to achieve verb focus. A tentative solution would lie in the assumption that abolishing the merger hierarchy is a sufficient trigger for narrow focus readings. That is, whenever the merger hierarchy is abolished, some narrow-focus reading is made available. Whether the focus is the verb itself or the directly preverbal element is, then, up for grasp.

Having discussed the word order variability of the A-scrambling nature in Udmurt, long-movement in Udmurt will be shown as a clear contrast to A-scrambling in the next section.

3.4.1.4 Long movement in Udmurt

Contrastive fronting allows for highlighting the A-scrambling properties of reordering via preverbal focus in Udmurt.

The examples in (104) showcase all relevant differences of contrastive fronting to A-scrambling in Udmurt. The sentence in (104a) acts as the neutral baseline without any reordering. In (104b,c), the direct object of the subordinate clause, *гондырез* ('bear'), is moved from the subordinate clause to the matrix clause. That is, the movement is not clausebound. This long movement is obligatorily associated with a *contrastive focus* reading, that is, the fronted element receives IS-marking. This also contrasts with scrambling in Udmurt. The marking of the fronted category goes hand in hand with the fact that preverbal focus does *not* drive the reordering. The same differences to scrambling apply to contrastive fronting of the subordinate subject in (104d,e). In sum, the difference between contrastive fronting and scrambling in Udmurt is just the same as it is in German, Hindi, Japanese, and Korean (section 3.1.3).

(104) Long movement in Udmurt

a. baseline sentence

Инву	малпа,	пӧйшурасьёс	гондырез	виёзы	шуыса.
Invu.NOM	think.PRS.3SG	hunter.PL.NOM	bear.ACC	kill.FUT.3PL	COMP

'Invu thinks that the hunters will kill a bear.'

b. object extraction in front of matrix subject

Гондырез Инву малпа, пöйшурасьёс виёзы шуыса.
bear.ACC Invu.NOM think.PRS.3SG hunter.PL.NOM kill.FUT.3PL COMP
'Invu thinks that the hunters will kill A BEAR (not something else).'

c. object extraction into the matrix "midfield"

Инву *гондырез* малпа, пöйшурасьёс виёзы шуыса.
Invu.NOM bear.ACC think.PRS.3SG hunter.PL.NOM kill.FUT.3PL COMP
'Invu thinks that the hunters will kill A BEAR (not something else).'

d. subject extraction in front of matrix subject

Пöйшурасьёс Инву малпа, гондырез виёзы шуыса.
hunter.PL.NOM Invu.NOM think.PRS.3SG bear.ACC kill.FUT.3PL COMP
'Invu thinks that THE HUNTERS will kill a bear (and not someone else).'

e. subject extraction into the matrix "midfield"

Инву *пöйшурасьёс* малпа, гондырез виёзы шуыса.
Invu.NOM hunter.PL.NOM think.PRS.3SG bear.ACC kill.FUT.3PL COMP
'Invu thinks that THE HUNTERS will kill a bear (and not someone else).'

There is a difference in the landing site of contrastive fronting in (104b) vs. (c), and (104d) vs. (e). Even though the landing site differs, the interpretation or the acceptability of the examples is not different. This is different from German, shown in section 3.1.3, where contrastive fronting could only target the left periphery of a clause. Instead, this long-distance movement is a typical instance of what was coined "long scrambling" for Japanese, Korean, and Hindi (Mahajan 1990), since it can appear in any portion of the clause. This indicates that contrastive fronting does not target a specific position in a functional left periphery in Udmurt.

In sum, contrastive fronting is a process distinct from A-scrambling, highlighting the altruistic nature of A-scrambling. This concludes the discussion of word order variability in Udmurt. The next section will turn to Estonian.

3.4.2 Preverbal focus and A-scrambling in Estonian

Estonian exhibits directly preverbal focus. To my knowledge, this property has not been discussed in the literature yet. Merely a clause-final focus position, but not a preverbal one, was found. There are at least two reasons for the lack of such a discussion. The first one is the V2 property of Estonian, and the second one is the variable positioning of non-finite verbs.

3.4.2.1 Why preverbal focus has not been discussed for Estonian yet

The V2 property prevented the discovery of directly preverbal focus because V2 effects are connected to verb movement. The displacement of the obligatory displacement of

the finite verb masks the original position of the verb. Just as in other languages with obligatory V-raising, it necessitates the usage of non-raising contexts, non-finite verbs, and verb particles to detect the original position of the verb.

Whenever there is only a single finite verb in a canonical matrix clause, the resulting sentence is most often verb-medial due to verb-raising of the finite verb. The original position of the finite verb is no longer visible. As a result, an originally preverbal focus will end up in clause-final position, as sketched in (105). This explains why researchers ended up with the generalisation of a clause-final focus position.

(105) [V_{fin} [. . . [XP_{focus} <V_{fin}>]]]

The validity of the verb-raising analysis in (105) is already visible in the examples from the literature. Erelt et al. (1993) provide the example in (106a) featuring a postverbal focussed subject.[21] They employ (106a) in order to show that focussed elements can be realised clause-finally (Erelt et al. 1993: 195). However, the focussed subject is not clause-final since it is followed by a *verb particle*. This verb particle shows that the focussed subject was originally preverbal. Estonian verb particles behave just like Germanic ones in signalling the original position of the verb (Ehala 2006, who already argues for Estonian as an OV language; also see the extensive discussion in section 5.5.2). That is, the non-finite form of the verb in (106a) is *üles-kasvatama* (lit. 'up-raise.INF') and can always appear this way. However, a finite form such as *üles-kasvatasin* (lit. 'up-raise.PST.1SG') can only appear with the verb particle in preverbal position in contexts without obligatory V2. The most straightforward explanation for this distribution is the assumption of stranding the originally preverbal verb particle under verb movement, as sketched in (106b, labels and potential VP-structure ignored). This turns the verb particle into a marker of the original position of the verb. Hence, the focussed subject in (106a) is originally in the directly preverbal position.

(106) a. Sinu kasvatasin ju MINA üles.
2SG.ACC raise.PST.1SG DISC.PRT 1SG.NOM PRT
'I was me who raised you, wasn't it?'
(Erelt et al. 1993: 14 and 195, gloss and translation AP)

b. [Sinu [kasvatasin [ju [<sinu> [MINA
2SG.ACC raise.PST.1SG DISC.PRT 2SG.ACC 1SG.NOM
üles-<kasvatasin>]]]]].
PRT

The evidence for originally preverbal focus is also present in a more recent study by Sahkai & Veismann (2015). Their main aim is the discussion of nuclear stress placement patterns in Estonian. A crucial finding is that the sentence-final position is not generally associated with sentence stress: whenever a non-finite verb is involved in a transitive

21. I am aware that the example sentence in (106) is riddled with confounds. Most crucially, the sentence is simply too short, such that the focussed subject could also have merely ended up in front of the verb particle by virtue of the object moving to the prefinite position. The point of this section is, however, that the data for stranded preverbal focus are already present in the literature.

construction, leading to sentences as in (107b), the verb is final but not accented; instead, the direct object receives sentence stress, giving rise to focus projection. This conclusion already speaks in favour of a directly preverbal focus position that becomes visible once verb movement is controlled for. Towards the end of Sahkai & Veismann (2015), the authors present the minimal pairs in (107) and propose that they might be indicative of a post-object focus position. When the order of the event-modifying adverbial and the direct object is Adv–O, then a broad focus reading is obtained (107a,b). When that canonical order is reversed to O–Adv, then a narrow focus reading on the Adv emerges (107c,d). The non-finite verb follows the narrowly focussed Adv in (107d), such that a sentence-final focus position cannot be the right surface description. This leads Sahkai & Veismann (2015) to generalise a post-object focus position instead.

(107) a. broad focus

Triinu sööb aias kooki.
Triinu eat.PRS.3SG garden.IN cake.PART
'Triinu is eating some cake in the garden.' (Sahkai & Veismann 2015: 136)

b. broad focus

Triinu tahab aias kooki süüa.
Triinu want.PRS.3SG garden.IN cake.PART eat.INF
'Triinu wants to eat some cake in the garden.'
(Sahkai & Veismann 2015: 136)

c. narrow focus on adjunct

Triinu sööb kooki AIAS.
Triinu eat.PRS.3SG cake.PART garden.IN
'Triinu is eating some cake IN THE GARDEN.'
(Sahkai & Veismann 2015: 136)

d. narrow focus on adjunct

Triinu tahab kooki AIAS süüa.
Triinu want.PRS.3SG cake.PART garden.IN eat.INF
'Triinu wants to eat some cake IN THE GARDEN.'
(Sahkai & Veismann 2015: 136)

A directly preverbal focus position nicely accounts for the whole dataset in (107), as shown in (108). In (107d), the directly preverbal focus is visible on the surface due to the presence of the non-finite verb. The finite verb moved to the V2 position, leaving both the non-finite verb and the directly preverbal focus stranded in clause-final position (108a). That movement of the finite verb also took place in (107c), leaving only the originally preverbal focus stranded in clause-final position (108b). The overarching generalisation is directly preverbal focus, not post-object focus.[22]

22. The original position of the finite verb within the verb complex is another question. Just as in the Germanic languages and in Udmurt (Schmidt 2016), the word order within the verb complex is not rigidly

(108) a. Triinu tahab kooki AIAS süüa <tahab>.
Triinu want.PRS.3SG garden.IN cake.PART eat.INF want.PRS.3SG
'Triinu wants to eat some cake IN THE GARDEN.'
(Sahkai & Veismann 2015: 136)

b. Triinu sööb kooki AIAS <sööb>.
Triinu eat.PRS.3SG cake.PART garden.IN eat.PRS.3SG
'Triinu is eating some cake IN THE GARDEN.'
(Sahkai & Veismann 2015: 136)

Concluding the literature review, previous generalisations on Estonian focus placement are fully in line with the assumption of directly preverbal focus. Once verb movement is accounted for, the apparent clause-final or post-object focus position turns out to be the original preverbal focus position.

The other caveat in discovering the directly preverbal focus position is the variable positioning of non-finite verbs. This phenomenon will only be discussed in section 5.5. In a nutshell, the free positioning of non-finite verb also leads to the occurrence of clause-final focus. Again, these instances of superficially clause-final focus will be analysed as the result of verb movement.

Next up, the newly gathered evidence for directly preverbal focus will be presented.

3.4.2.2 Illustrating preverbal focus in Estonian

Argument reordering in Estonian is driven by directly preverbal focus. First, the preverbal focus position will be illustrated with the variation between the direct object and an oblique. Afterwards subject-focus contexts will be presented.

To start with, the examples in (109) illustrate the neutral word orders in a broad focus context. The examples in (109a,b) feature the subject in front of the V2 position, and (109c,d) have the subject in the 'middlefield'. Only the order of the direct object and the

ordered. In Estonian, there is merely an anecdotal tendency to place the finite verb first, as generally in Dutch, and in many three verb clusters in Standard German. Just as in German and Dutch, the ordering preference also depends on the specific lexical items involved. The position of non-finite *tahtma* ('want.INF') is free within the verb cluster, as shown in (i). It even allows for the third construction (ia). Therefore, I cannot determine whether the original position of *tahab* ('want.PRS.3SG') in (107) is before or after *süüa* ('eat.INF').

(i) a. neutral context

... kui Jaan hakkas ühte meest **tahtma** tappa.
when Jaan start.PST.3SG one man want.INF1 kill.INF2
'... when Jaan started to want to kill a man.'

b. neutral context

... kui Jaan hakkas ühte meest tappa **tahtma**.
when Jaan start.PST.3SG one man kill.INF2 want.INF1
'... when Jaan started to want to kill a man.'

oblique argument is varied. This variation seems to have no effect whatsoever, also not in the overall referentiality, e.g., specificity and definiteness. This is regardless of whether the object is in the accusative/genetive (109a,b) or partitive (109c,d). That merely shows that there is no merger hierarchy between the oblique argument and the direct object.

(109) [C: What happened earlier?/Mis on varem juhtunud?]

a. Ema on lapselt mänguasja ära võtnud.
mother[:NOM] AUX.PRS.3SG child:ABL toy:ACC PRT take:PTCP
'Mother has taken a/the toy away from a/the child.'

b. Ema on mänguasja lapselt ära võtnud.
mother[:NOM] AUX.PRS.3SG toy:ACC child:ABL PRT take:PTCP
'Mother has taken a/the toy away from a/the child.'

c. Varem on müüja lapsele kingitusi kinkinud.
earlier AUX.PRS.3SG clerk[:NOM] child:ALL gift:PL.PART give:PTCP
'Earlier, a/the clerk gave presents to a/the child.'

d. Varem on müüja kingitusi lapsele kinkinud.
earlier AUX.PRS.3SG clerk[:NOM] gift:PL.PART child:ALL give:PTCP
'Earlier, a/the clerk gave presents to a/the child.'

A reversal of subject and other arguments leads to a degraded sentence in a broad focus context, as shown in (110). Placing the subject in directly preverbal position (110a) is infelicitous because it comes with an information focus reading on S. A reversal of O and S without preverbal placement of S (110b) in a broad focus contexts results in an unacceptable sentence. The surface string is acceptable, however, by employing contrastive focus on O, as in (110c). That sentence is still degraded because it does not fit the context without accommodation. Also the oblique is degraded in front of S (110d), although not as badly as O, and can also be salvaged via contrastive focus (110e). In sum, these examples show that reordering of S relative to other arguments is a marked option. One way of achieving this reordering is via information focus on the directly preverbal element, to be discussed in what follows. Another way is contrastive fronting, i.e., not altruistic A-scrambling.

(110) [C: What happened earlier?/Mis on varem juhtunud?]

a. #Varem on lapsele kingitusi müüja kinkinud.
earlier AUX.PRS.3SG child:ALL gift:PL.PART clerk[:NOM] give:PTCP
'Earlier, A/THE CLERK gave presents to a/the child.'

b. *Varem on kingitusi müüja lapsele kinkinud.
earlier AUX.PRS.3SG gift:PL.PART clerk[:NOM] child:ALL give:PTCP
int. 'Earlier, a/the clerk gave presents to a/the child.'

c. ?Varem on KINGITUSI müüja lapsele kinkinud.
earlier AUX.PRS.3SG gift:PL.PART clerk[:NOM] child:ALL give:PTCP
'Earlier, a/the clerk gave PRESENTS to a/the child (and not receipts).'

d. ??Varem on lapsele müüja kingitusi kinkinud.
earlier AUX.PRS.3SG child:ALL clerk[:NOM] gift:PL.PART give:PTCP
int. 'Earlier, a/the clerk gave presents to a/the child.'

e. ?Varem on LAPSELE müüja kingitusi kinkinud.
earlier AUX.PRS.3SG child:ALL clerk[:NOM] gift:PL.PART give:PTCP
'Earlier, a/the clerk gave presents TO A/THE CHILD (and not to the adults).'

In a narrow focus context, the focus has to be preverbal, as shown in (111). With narrow focus on the oblique argument, the order with a directly preverbal direct object in (111b) is infelicitous. This shows that preverbal information focus is not merely an option but a requirement. Furthermore, there does not seem to be prefocal loosening as in Udmurt and Turkish (section 3.4.1.2): in (111c) (the same surface string as in (110b,c) but with different prosody), the canonical SO-order is reversed to OS in front of the focussed oblique, but this reversal leads to a strong degradation. An explanation for the absence of prefocal loosening could be that there was no merger hierarchy between the oblique and the direct object, as their order was in possibly free variation. The merger hierarchy did not need to be abolished, so there is no prefocal loosening. That explanation can be falsified in future research.

(111) [C: Who did the clerk give presents earlier? / Kellele on müüja varem kingitusi kinkinud?]

a. Varem on müüja kingitusi LAPSELE kinkinud.
earlier AUX.PRS.3SG clerk[:NOM] gift:PL.PART child.ALL give:PTCP
'Earlier, a/the clerk gave presents TO A/THE CHILD.'

b. #Varem on müüja lapsele kingitusi kinkinud.
earlier AUX.PRS.3SG clerk[:NOM] child.ALL gift:PL.PART give:PTCP
'Earlier, a/the clerk gave presents to a/the child.'

c. ??Varem on kingitusi müüja LAPSELE kinkinud.
earlier AUX.PRS.3SG gift:PL.PART clerk[:NOM] child.ALL give:PTCP
'Earlier, a/the clerk gave presents TO A/THE CHILD.'

The crucial data are the subject focus data. The examples in (112) show how subject focus drives A-scrambling in Estonian by placing the subject in directly preverbal position. The OS order in (112a,b) is fully acceptable in a subject-focus context. Just as without subject focus, the order of the other arguments is irrelevant.

(112) [C: Who gave gifts to the child earlier? / Kes on varem kinkinud lapsele kinkitusi?]

a. Varem on lapsele kingitusi MÜÜJA kinkinud.
earlier AUX.3SG child:ALL gift:PL.PART clerk[:NOM] give:PTCP
'Earlier, A/THE CLERK gave presents to a/the child.'

b. Varem on kingitusi lapsele MÜÜJA kinkinud.
earlier AUX.3SG gift:PL.PART child:ALL clerk[:NOM] give:PTCP
'Earlier, A/THE CLERK gave presents to a/the child.'

The same effect can also be seen when one of the arguments is in the pre-V2 position, as in (113). OS order with a directly preverbal subject is infelicitous in any context in which the subject is not narrowly focussed, such as broad focus or narrow focus on another element (113a). The same surface sentence is fully acceptable in a subject-focus context (113b). This contrast corroborates the argument reordering via directly preverbal subject focus in Estonian.

(113) a. [C: What happened earlier? –What did mother take away from the children?]

#Lapselt on mänguasja ema ära võtnud.
child:ABL AUX.PRS.3SG toy:ACC mother[:NOM] PRT take.PTCP
'Mother has taken a/the toy away from a/the child.'

b. [C: Who took the toys away from the children earlier? / Kes on varem võtnud lapselt mänguasja ära?]

Lapselt on mänguasja EMA ära võtnud.
child:ABL AUX.PRS.3SG toy:ACC mother[:NOM] PRT take.PTCP
'MOTHER has taken a/the toy away from a/the child.'

In conclusion, Estonian exhibits A-scrambling via a directly preverbal focus position. This phenomenon went unnoticed because V2-like movement is present in most Estonian clauses. Just as in other OV languages, this preverbal focus position drives the reordering of arguments. As such, the prefocal elements are displaced altruistically, their fronting is not associated with any special information-structural function. Interestingly, not even effects of specificity or definiteness seem to be at play. The A-scrambling nature is, hence, rather clear.

Due to the decline of the possessive-suffix system in Estonian, one can even straightforwardly test for the extension of the binding domain. The only thing to pay attention to is reflexive–antireflexive system in possessive pronouns: the reflexive possessive *oma* is strictly subject-oriented and can never modify a subject; the 3SG-possessive *tema* is antireflexive in never referring to the subject, and can modify any function. In (114a), the 3SG-possessive *tema* modifies the subject. The universally quantified partitive object follows the subject. In this order, the *3sg*-possessive cannot receive a bound reading. The OS order in (114b) is available despite the lack of morphological distinction between S and O. This word order change feeds binding since the bound reading is now

the preferred reading for (114b). This is evidence that the A-scrambling has the classic A-movement properties. Furthermore, the bound reading disambiguates *tema poeg* ('his son') as the subject: if *iga isa* ('every father') were the subject, the subject-oriented reflexive possessive *oma* would have had to be used instead of *tema*. This means that Estonian might even exhibit the scope-driven scrambling known from other A-scrambling languages (Fanselow 2012).

(114) a. Kindlasti on tema poeg iga isa
surely AUX.PRS.3SG 3SG.POSS son[:NOM] every.PART father.PART
armastanud.
love.PTCP
'Surely his$_x$ (specific, unnamed person's) son loved every$_i$ father.'
int. but not available: 'Surely his$_i$ son loved every$_i$ father.'

b. Kindlasti on iga isa tema poeg
surely AUX.PRS.3SG every.PART father.PART 3SG.POSS son[:NOM]
armastanud.
love.PTCP
'Surely his$_i$ son loved every$_i$ father.'
(spuriously available:'Surely his$_x$ (specific, unnamed person's) son loved every$_i$ father.'

There are also other mechanisms of reordering that are not A-scrambling, such as contrastive fronting and the use of the slots in front of the finite verb in V2 clauses. In future studies, these different operations have to be kept separate.

3.4.3 Preverbal focus and A-scrambling in Meadow Mari

Meadow Mari also exhibits argument-reordering via directly preverbal focus. The main difference to Estonian and Udmurt lies in the otherwise comparatively rigid nature of Meadow Mari: directly preverbal focus is seldomly used for argument reordering. According to Hirvonen (2023), directly preverbal focus is not produced spontaneously as an answer to content interrogatives. The most common strategy is in-situ prosodic marking. Future research on this topic might, hence, also only work via elicitation of judgements to preconstructed items as it is done here.

The possibility of argument reordering via preverbal focus was already mentioned by Vilkuna (1998: 195) using the example in (115). My consultants agreed with the judgement on (115b) but found (115a) slightly worse.

(115) [C: Ачаже эргыжым кырен. –The father beats his son.]

a. Уке, *аваже* эргыжым кырен.
NEG mother.PX son.PX.ACC beats
'No, THE MOTHER beats her son!'

b. Уке, эргыжым *аваже* кырен.
neg son.Px.acc mother.Px beats
'No, the mother beats her son!'

The same effect can also be brought about in longer sentences, as (116a). This allows one to see that the sentence is unlikely to be derived by IS-marking of the fronted elements. Additionally, a directly preverbal subject can also be an information focus (116b). The broad-focus context in (116c) without special prosody on the subject shows that the preverbal subject is ungrammatical without the subject focus. This means that the reordering is *driven* by the preverbal focus.

(116) a. [C: Кова йочалан пырысым пуыш. –Grandmother gave a cat to the child.]

Уке, эрдене йочалан пӧртыштӧ пырысым *ашныше пӧръеҥ*
neg in.morning child.dat house.in cat.acc caring person
пуыш !
gave
'No, a caring person gave a cat to our child in the house in the morning.'

b. [C:Кӧ эрдене пӧртыштӧ йочалан пырысым пуыш? –Who gave a cat to the child in the house in the morning?.]

Эрдене йочалан пӧртыштӧ пырысым *ашныше пӧръеҥ* пуыш!
in.morning child.dat house.in cat.acc caring person gave
'A caring person gave a cat to our child in the house in the morning.'

c. [C: no context]

*Эрдене йочалан пӧртыштӧ пырысым ашныше пӧръеҥ пуыш!
in.morning child.dat house.in cat.acc caring person gave
int. 'No, a caring person gave a cat to our child in the house in the morning.'

In Meadow Mari, it is clear that there is no information-structural marking of the prefocal categories sentences with several prefocal elements. This is because of how restricted fronting in Meadow Mari is. In (117b), the accusative object is fronted.[23] The reading associated with the fronting is either contrast (both contrastive topic and focus, according to my consultants) or topicality (according to Hirvonen 2023; not mere giveness or familiarity, actual topicality). Those readings are absent for the elements in front of the focus in the sentences in (115and 116). Additionally, the fronted dative object in (117c) is ungrammatical regardless of context. The prohibition against fronted datives was also present in other lexicalisations (117d), i.e., it is not an artefact of the specific

23. These sentences feature the participle nominalisation *ашныше* ('custodian') instead of the NP *ашныше пӧръеҥ* ('caring person') for methodological reasons. Meadow Mari has no clear distinction between adverbs, adjectives, and nouns. As a result, a participle like *ашныше* is fluid in its category and function. In directly preverbal position, that participle will be interpreted as an adverb, which is why it had to be swapped for a noun that can hardly interpreted with adverbial function. In other parts of the sentence, the adjectival or adverbial reading of *ашныше* was not prominent.

sentence. Since the dative object cannot be fronted before the subject via whatever A-bar-movement brings (117b) about, the directly preverbal subject in (116b) cannot be the result of such A-bar-movements. In sum, the displacement driven by preverbal focus with multiple prefocal elements is altruistic.

(117) a. Ашныше эрдене йочалан пӧртыштӧ пырысым пуыш.
custodian in.morning child.DAT house.IN cat.ACC gave
'The custodian gave a cat to our child in the house in the morning.' (neutral)

b. *Пырысым* ашныше эрдене йочалан пӧртыштӧ пуыш.
cat.ACC custodian in.morning child.DAT house.IN gave
'A cat the custodian gave to our child in the house in the morning.' (marked accusative object)

c. **Йочалан* ашныше эрдене пӧртыштӧ пырысым пуыш.
child.DAT custodian in.morning house.IN cat.ACC gave
int. 'To our child the custodian gave a cat in the house in the morning.' (marked dative object)

d. **Йочалан* икече кова ялыште йомак-влакым ойлыш.
child.DAT recently grandma village.IN tale-PL.ACC tell.PST1.3SG
int. 'To the children grandma recently told stories in the village.' (marked dative object)

Another aspect of reordering via directly preverbal focus is the degradedness of reordering when the focus is not directly preverbal. This is illustrated in (118). The neutral order is shown in (118a). A directly preverbal subject, as in (118b), is ungrammatical as a neutral sentence. The directly preverbal subject is fully acceptable when it is focussed (118c). Up to now, this is what had also been shown in the examples above. Whenever the subject follows another argument but is not directly preverbal, the sentence is strongly degraded, and it is not clear in which context it would be used or what the information-structural function of the constituents would be, as shown in (118d,e). The order of the dative and the accusative object had to be inversed because fronting of the dative without preverbal subject focus is ungrammatical (117d).

(118) a. Икече кова ялыште йочалан йомак-влакым ойлыш.
recently grandma village.IN child.DAT tale-PL.ACC tell.PST1.3SG
'Grandma recently told stories to the children in the village.'

b. *Икече ялыште йочалан йомак-влакым кова ойлыш.
recently village.IN child.DAT tale-PL.ACC grandma tell.PST1.3SG
int. 'Grandma recently told stories to the children in the village.'

c. Икече ялыште йочалан йомак-влакым *кова* ойлыш.
recently village.IN child.DAT tale-PL.ACC grandma tell.PST1.3SG
'GRANDMA recently told stories to the children in the village.'

d. ??Йомак-влакым икече кова ялыште йочалан ойлыш.
tale-PL.ACC recently grandma village.IN child.DAT tell.PST1.3SG

e. ??Йомак-влакым йочалан икече кова ялыште ойлыш.
tale-PL.ACC child.DAT recently grandma village.IN tell.PST1.3SG

A final piece of evidence concerns the placement of the Foc-V string in Meadow Mari. Georgieva et al. (2021) and Bradley et al. (2018) both note that the order within the verb complex can be changed via preverbal focus. That inversion indicates the presence of verb-raising, as in the focus-raising languages from section 3.2.6. The clause-medial placement of the Foc-V string is exemplified by (119) from own data. That phenomenon is also present in Udmurt and will be analysed as pied-piping in section 5.5.6.

(119) [C: When did the neighbour give the cat to the child in the house?]

Пошкудо *тенгече эрдене* пуыш йочалан пӧртыштӧ пырысым.
neighbour yesterday morning gave child.DAT house.IN cat.ACC
'The neighbour gave a cat to the child in the house YESTERDAY MORNING.'

In conclusion, Meadow Mari exhibits A-scrambling driven by directly preverbal focus. When the subject is reordered relative to the object, it can be placed in the directly preverbal position. In that configuration, the subject is focussed, the elements preceding the focussed subject are not information-structurally marked, and any number of elements can precede the subject. There are other reordering operations that information-structurally mark the *fronted* element. In that configuration, the subject is not directly preverbal, and the information-structural status of the subject is irrelevant. There are restrictions on the category of the fronted elements and the number of fronted elements. These differences to A-scrambling highlight the need to differentiate the operations that bring the reorderings about.

3.4.4 Summary: A-scrambling via directly preverbal focus in Uralic OV

Directly preverbal focus and A-scrambling are common among the Uralic OV languages. For Udmurt, directly preverbal focus was already established such that more detailed insights into its properties could be provided here. For Estonian, it is not even considered considered consensus that it is an OV language (Helle Metslang, p.c., Ehala 2006). By analysing it as an OV language, the distribution of focus and the exhibited word order variability receives a straightforward generalisation in terms of directly preverbal focus. This ties Estonian together with the other Uralic OV languages and separates it from the neighbouring Uralic VO languages, Finnish, Karelian, Veps and the VO-Sámi languages, that don't feature directly preverbal information focus (section 3.2.4, also already Vilkuna 1998). For Mari, there were already hints for a directly preverbal focus from the literature. Those hints could be further substantiated. Furthermore, A-scrambling could be differentiated from other reordering processes. For these three Uralic languages, the base-generation analysis of preverbal focus and A-scrambling provided in section 3.3

can straightforwardly apply.

Turning to other Uralic languages that I did not gather data for, Khanty (Nikolaeva 1999) and Tundra Nenets (Nikolaeva 2014) also feature directly preverbal focus resulting in OS orders. In Khanty, this involves reordering of S and O undistinguished by case. The most common strategy for the expression of information structure is passivisation instead (Katalin Gugán, p.c.). From the data at hand, it cannot be concluded whether those constructions involve A-scrambling or rather topicalisation of the fronted category, whereby comment and focus fall together on the directly preverbal subject. According to Däbritz (2020), Nganasan and Enets also feature directly preverbal focus, but examples of OSV are not provided. Only elements that appear directly preverbally anyway were presented, or sentences that only contain the verb and the focus, resulting in spurious verb-focus adjacency. One reason for the lack of OSV in Däbritz (2020) might be the exclusion of "topical objects at the beginning of the sentence" (Däbritz 2020: 106), possibly excluding any OSV order (however, Däbritz 2020 carefully distinguishes focus–background, topic–comment, and given–new). Wagner-Nagy (2018: 458f.) provides an example for XSV in Nganasan via subject focus, but X is a PP. An example of OXSXV features object topicalisation instead (Wagner-Nagy 2018: 457). Those findings were based on corpus studies, such that future research will have to focus on judgement elicitations using preconstructed items.

In sum, A-scrambling driven by directly preverbal focus is a pervasive trait of Uralic OV languages. For the Ugric and Samoyedic languages, more data are required to determine whether directly preverbal focus drives A-scrambling. That homogeneity of Uralic OV languages is disturbed by South Sámi, as to be discussed in the upcoming section.

3.5 Non-scrambling OV languages

This section deals with OV languages that do not feature A-scrambling in the sense of this thesis. That is, OV languages where OS order is not associated with altruistic fronting of O. South Sámi is the first language to be discussed in this regard (section 3.5.1). That lack of A-scrambling is explained by the presence of obligatory subject raising (*subject EPP*, section 3.5.2), including the discussion of further consequences of this explanation. Finally, the same lack of A-scrambling in connection with subject EPP will be shown to hold in Dutch and Afrikaans (section 3.5.3), Amharic (section 3.5.4), and Korean (section 3.5.5).

3.5.1 South Sámi lacks A-scrambling

3.5.1.1 South Sámi argument reordering is not A-scrambling

South Sámi exhibits V-final order, but with auxiliaries further to the beginning of the clause. The general makeup of South Sámi clause structure with its SOV/SAuxOV alternation is the topic of chapter 4. For the purposes of the present chapter, all that matters is the word order variability among dependents of the verb.

South Sámi exhibits both head- and dependent-marking of arguments. Singular object NPs are always marked by the accusative, and specificity-based differential object marking only occurs in the plural (Magga & Magga 2012: 185, Kroik 2016). The verb agrees with the subject in number and person (Magga & Magga 2012: 180). Therefore, word order freedom would be expected from the functional perspective.

Another property of South Sámi is topic drop or "radical *pro*-drop". Arguments need not be overtly expressed such that sentences often only consist of the verb in corpora of spontaneous South Sámi speech (Mikael Vinka, p.c.). Therefore, most sentences presented here do not represent "natural discourse". Null subjects have already been discussed in the literature (Magga & Magga 2012: 180f. Kroik 2016: 10f.) and are illustrated by (120a). An example of a null object, indicative of topic drop, is shown in (120b). With that in mind, the reordering data are presented in what follows.

(120) a. [C: Gïem gaahtoe bearjadahken gåaskoeji? / Who did the cat wake up on friday?]

Maanam gåaskoeji.
child.ACC wake.PST.3SG
'The cat woke A/THE CHILD up on friday.'

b. [C: Mij bearjadahken maanam gåaskoeji? / What woke the child up on friday?]

Gaahtoe gåaskoeji.
cat.NOM wake.PST.3SG
'A/THE CAT woke the child up on friday.'

South Sámi does not allow for reordering of S and O via directly preverbal focus. This is shown in (121). The subject *gaahtoe* ('cat.NOM') cannot be directly preverbal in a subject-focus context (121a,b). These sentences are not just infelicitous in the given context, they are simply ungrammatical, a fact to be discussed further next. The felicitous way of expressing subject focus without the use of either clefts or argument drop is shown in (121c): it is merely achieved via prosodic marking of the subject in canonical word order (L+H* on the initial syllable to my ear).

(121) a. [C: Mij bearjadahken maanam gåaskoeji? / What woke the child up on friday?]

*Bearjadahken maanam **gaahtoe** gåaskoeji.
friday.GEN child.ACC cat.NOM wake.PST.3SG
int. 'A cat woke a child up on friday.'

b. [C: Mij bearjadahken maanam gåaskoeji? / What woke the child up on friday?]

*Maanam bearjadahken **gaahtoe** gåaskoeji.
child.ACC friday.GEN cat.NOM wake.PST.3SG
int. 'A cat woke a child up on friday.'

c. [C: Mij bearjadahken maanam gåaskoeji? / What woke the child up on friday?]

GAAHTOE bearjadahken maanam gåaskoeji.
cat.NOM friday.GEN child.ACC wake.PST.3SG
'A CAT woke the child up on friday.'

Examples (121a) and (b) would mean that multiple scrambling is not an option. Another example of the ungrammaticality of two pre-subject elements involving the object is given in (122). The unavailability of multiple reorderings is at odds with A-scrambling.

(122) *Daenbiejjien fïerhten fievsiem göökte kaarrh sjeakoejin.
today.GEN each.and.every stable.ACC two man.PL tidy.PST.3PL
int. 'Today two men cleaned every stable.'

OS order is achievable, but the reordering is not altruistic: it involves a highly marked construction in which the fronted object is a contrastive focus. This is shown in (123a). The pair-list context was judged as the only acceptable context by all of my consultants. The association of OS order with a post-subject contrastive topic seems to be so strong that the unavailability of a meaningful pair-list blocks OS order altogether. This can be seen in (123b): the post-subject manner adverbial does not lend itself to a contrastive topic in a pair-list reading.

(123) a. MAANAM gaahtoe BEARJADAHKEN gåaskoeji.
child.ACC cat.NOM friday.GEN wake.PST.3SG
'(On monday, the cat woke the mother, on wednesday the father, and) on friday, the cat woke the child.'

b. *Maanam gaahtoe varki/soejmetje gåaskoeji.
child.ACC cat.NOM fast/carefully wake.PST.3SG
int. 'The cat woke the child carefully/fast.'
"completely meaningless sentence"

The restriction to contrastive topics and not contrast in general for OS order can also be seen in (124B): in a corrective focus context, triggering contrastive focus for the corrected part in the answer, OS order was judged as simply unacceptable with a contrastive-focus O.

(124) A: Gaahtoe bearjadahken tjidtjiem gåaskoeji.
cat.NOM friday.GEN mother.ACC wake.up.PST.3SG
'The cat woke the mother on friday.'

B: *Ijje! MAANAM gaahtoe bearjadahken gåaskoeji.
no child.ACC cat.NOM friday.GEN wake.up.PST.3SG
int. 'No, the cat woke THE CHILD on friday.'

An information focus context (125) for O is also unacceptable for OS order. The consultants reported that (125) is very bad in the context. However, it was imaginable in poetic

contexts, it was viewed as a coincidental mistake, and two speakers seemed to accommodate further context or partly ignored the context, leading to at least some acceptability of (125). Still, all consultants deemed OS order in (125) highly unnatural. Together with the unavailability of contrastive focus, this means that the fronting operation is not employed for focussing altogether.

(125) [C: Gïem gaahtoe bearjadahken gåaskoeji? / Who did the child wake up on friday?]

??Maanam gaahtoe bearjadahken gåaskoeji.
child.acc cat.nom friday.gen wake.pst.3sg
int. 'A cat woke a child up on friday.'

Mere givenness is also not sufficient for OS order to occur. This is shown in (126). Even if the subject is not directly preverbal, OS order is rejected in a subject-focus context in which O is given. Unfortunately, I failed to explicitly test for the topical status of O. However, since my consultants were even able to provide the more complex contrastive topic context, I would expect mere topicality of O to not be able to allow for object fronting.

(126) [C: Mij bearjadahken maanam gåaskoeji? / What woke the child up on friday?]

*Maanam **gaahtoe** bearjadahken gåaskoeji.
child.acc cat.nom friday.gen wake.pst.3sg
int. 'A cat woke a child up on friday.'

The highly marked nature of OS order is also present in clauses with an overt auxiliary, as in (127). Both sentences were judged to be unlikely to occur in everyday language, but that they were imaginable to occur with some kind of contrast by two consultants. Especially (127a) was judged as fully ungrammatical by 3 consultants with the explanation that the direct object could be understood as the agent (despite the overt, agglutinative case marking). I lost out on inquiring into the contrastive-topic reading, but it is clearly not contrastive focus.

(127) a. ??/*Maanam gaahtoe lij bearjadahken gååskeme.
child.acc cat.nom cop.prs.3sg friday.gen wake.ptcp
'The child the cat has woken up on friday.'

b. ??Bovtsem manne lim aahtjan doekeme.
reindeer.acc 1sg.nom cop.prs.1sg father.ill sell.ptcp
'The reindeer I have sold to my father.'

A clear example of fronting for contrastive topics could be seen in partitive split constructions, as in (128).[24] The construction involves a contrastively topicalised elative phrase. This contrastive topic is in the beginning of the clause. It appears together with a contrastive focus behind the subject. This illustrates that fronting of contrastive topics

24. The copula in analytic tense forms is optional, see chapter 4.

is not restricted to direct objects.

(128) [C: You are organising a wedding and need a lot of equipment for it. You ask your friend, who is helping you with the organisation, how much equipment she has already bought. She answers:]

Stovlijste manne golme åasteme.
chair.pl.el 1sg.nom three buy.ptcp
lit. '(I bought ten plates, two tables, ..., but) of the chairs I bought three ones'.

Taken together, argument reordering in South Sámi is not A-scrambling. First, argument reordering is not altruistic in that the *fronted* element is information-structurally marked. Along with this lack of altruism, the reordering is not mediated via a directly preverbal focus position. Third, there is no multiple scrambling: only a single element can be contrastively fronted to the position in front of the subject. This pattern points towards an analysis in which there is a single, left-peripheral slot targeted by A-bar-movement. It is not much different from OS-orders in English, which are also highly restricted in requiring a contrastive topic interpretation for the fronted object. This highlights the difference in word order variability in South Sámi in comparison to other OV languages.

South Sámi is an OV language that does not allow for A-scrambling in the sense of this thesis. Additionally, even reordering below the subject is marked. These additional patterns of a lack of A-scrambling, even in the wider sense of not only involving argument reordering, are presented in the next section.

3.5.1.2 South Sámi word-order variability is not A-scrambling

Most reorderings between O and other elements involve IS marking of the fronted element. This effect has to be determined on a by-speaker and a by-item basis. That is, each speaker prefers either OXV or XOV order with a certain adverbial and perceives it as information-structurally neutral. In some cases, both OXV and XOV were perceived as neutral with a manner adverbial. These preferences for a higher adverbial are represented in (129a) and (130a). The speakers that perceived OXV (129a) as neutral judged XOV (129b) as a marked word order. In the marked XOV word order (129b) for group A, the X had to receive prosodic stress and was interpreted as information-structurally marked. Relative to the neutral word order, X is *fronted* and information-structurally marked in (129b). This means that the reordering is not altruistic since the fronted element is the one receiving the information-structural marking.

(129) [C: Mij deahpadi? / What happened?]

a. preferred order group A

Gaahtoe maanam bearjadahken gåaskoeji.
cat.nom child.acc friday.gen wake.pst.3sg
'A cat woke a child up on friday.'

b. marked order group A

Gaahtoe BEARJADAHKEN maanam gåaskoeji.
cat.NOM child.ACC friday.GEN wake.PST.3SG
'A cat woke a child up ON FRIDAY.' (emphasis, unclear whether topical or focal)

Another set of speakers judged XOV order (130a) as neutral. For those speakers, OXV order (130b) was perceived as a marked word order. Just as with the other set of speakers, the marked OXV order involves IS marking of the fronted O in (130b) relative to the perceived neutral order.

(130) [C: Mij deahpadi? / What happened?]

a. preferred order group B

Gaahtoe bearjadahken maanam gåaskoeji.
cat.NOM child.ACC friday.GEN wake.PST.3SG
'A cat woke a child up on friday.'

b. marked order group B

Gaahtoe MAANAM bearjadahken gåaskoeji.
cat.NOM child.ACC friday.GEN wake.PST.3SG
'A cat woke A CHILD up on friday.' (emphasis, unclear topical or focal)

The function of this fronting encompasses at least contrastive focus, as shown in (131) for the neutral XOV group. Therefore this fronting operation could turn out to be an instance of contrastive fronting. It is clear, however, that the reordering involves IS marking of the fronted element.

(131) A: Gaahtoe bearjadahken tjidtjiem gåaskoeji.
cat.NOM friday.GEN mother.ACC wake.up.PST.3SG
'The cat woke the mother on friday.'

B: Ijje! Gaahtoe MAANAM bearjadahken gåaskoeji.
no cat.NOM child.ACC friday.GEN wake.up.PST.3SG
'The cat woke THE CHILD on friday.'

In sum, these patterns show that a deviation from the neutral word order involves *non-altruistic, information-structurally marked fronting*. That this reordering does not involve A-scrambling can also be seen with the scopal data in (132). They have only been tested with a single speaker of the OXV group and do not involve clear distributive quantifiers, which is why they are open to doubt. Still, one would expect the scopal relations between the adverbial and the direct object to change if the reordering involved A-scrambling. Instead, the scopal relations in the two sentences are the same, with the direct object scoping over the adverbial. The lack of scope extension, i.e., the presence of reconstruction, is an indication of A-bar-movement.

(132) a. Manne aktem bovtsem göökten aejkien tjuvlestem.
1SG.NOM one.ACC reindeer.ACC two.GEN time.GEN kiss.PRS.3SG
'I am kissing a reindeer two times.' (only 1 > 2)

b. Manne göökten aejkien aktem bovtsem tjuvlestem.
1SG.NOM two.GEN time.GEN one.ACC reindeer.ACC kiss.PRS.3SG
'I am kissing a reindeer two times.' (only 1 > 2)

Wrapping up, word-order variation in South Sámi is also restricted when it comes to reordering the direct object and adverbials. Depending on what is perceived as the neutral order of elements, a deviation from that order involves IS-marking of the fronted element. The fronting is most likely a kind of contrastive fronting. This means that even reordering with adverbials involves non-altruistic fronting in South Sámi: there is not even interspersal of elements of different categories.

South Sámi lacks A-scrambling altogether. This falsifies the scrambling universal (36) from the start of this chapter: there is an OV language that lacks A-scrambling.

3.5.2 South Sámi lacks A-scrambling due to a high subject position

3.5.2.1 Obligatorily high subjects prevent scrambling

The lack of scrambling in OV languages is the consequence of obligatory movement of the subject to a structurally high, functional projection (*EPP* in what follows).[25] In other words, A-scrambling is available *per se* but is bled by the process of obligatory subject movement. This way, the availability of scrambling is dependent on the availability of low subjects. Counter to Haider (2010, 2013), the EPP is not dependent on the underlying word order, allowing OV languages to exhibit the EPP. This leads to the formulation in (133a). The structural sketch in (133b) represents a language without obligatorily high subjects, while (133c) sketches the presence of obligatorily high subjects. As per usual, the functional projection hosting a VP-external S is TP. The disjunction of word order and the EPP is represented by the set notation for the VP-internal elements: for the EPP, the VP-internal word order does not matter. Predecessors to parameterising the EPP, albeit contingent on null subjects and rich agreement (which both can't be true in the light of South Sámi either way), are Rizzi (1982) and Alexiadou & Anagnostopoulou (1998).

(133) a. "Languages differ as to whether the subject must occupy the specifier position of a functional projection." (Fanselow 2020)

b. EPP absent: S can remain *v*P/VP-internal
$[_{vP/VP}$ { S,{ O, V }}]

25. Gisbert Fanselow and me developed this idea together and presented it for the first time in 2018 (Schmidt & Fanselow 2018). Gisbert Fanselow published the idea as a Festschrift article as Fanselow (2020). As Gisbert Fanselow and me planned a joint publication on this topic, some of the data were collected by Gisbert Fanselow (Dutch and Afrikaans) and not by me.

c. EPP present: S has to move upward
[$_{TP}$ S {… [$_{vP/VP}$ { <S>, { O, V }}]}]

The lack of scrambling under the EPP follows under the assumption of two premises. The first premise is the formulation in (133a), whereby S moves to a VP-external position. The second premise is that A-scrambling is a VP-internal process. This assumption is common among scrambling theories in order to capture the A-movement properties of A-scrambling since VP-internal positions are prototypical A-positions. When S is VP-external, as in (133c), but O precedes S, O has to be VP-external as well, as shown in (134, where FP stands for any functional projection).[26]

(134) OS order with a VP-external S can only involve a VP-external O
[$_{FP}$ O [$_{FP}$ S [… [$_{VP}$ <S> [$_{VP}$ <O> V]]]]]

Due to the EPP, O cannot precede S and still be VP-internal. It follows that OS-order via A-scrambling cannot take place since A-scrambling is a VP-internal process. Furthermore, any VP-internal reordering involving S would be *undone*, as shown in (135) involving a base-generation analysis. Even if A-scrambling were to take place, it would be made invisible by subsequent movement of the subject to its VP-external position.[27]

26. OS order with a VP-internal O and a structurally high S is possible with a righthand specifier, as in (i). This is case irrelevant for the present purposes, as it would always involve a neutral postverbal subject, unless additional rightward verb movement would take place.

(i) [[[$_{VP}$ <S> [$_{VP}$ O V]]] …] S]$_{FP}$

27. Ad Neeleman (p.c.) proposes that the potential for A-scrambling prior to EPP-related movement should be diagnosable via scopal relations: inverse scope readings with subjects should be easily available if VP-internal reordering is permitted *per se*. This proposal would offer a straightforward explanation for why inverse scope readings in English are so prevalent and easily available when one of the quantified elements is a subject, but not between adverbials, adverbials and objects, or the two objects of a double-object construction. The observation that "free word order" prohibits inverse-scope (Bobaljik & Wurmbrand 2012) would also fit neatly: since A-scrambling is a source of "free word order", and since A-scrambling follows from a lack of EPP, inverse-scope due to EPP-related undoing would not be available. I cannot present rigorous, finely controlled scopal data, but at least South Sámi presents with a preference for inverse-scope readings between S and O, as shown in (i), while Estonian and Udmurt almost entirely disallow inverse-scope readings (not presented here). According to further preliminary data gathered with Wakweya Gobena (p.c.), Amharic, another non-scrambling OV language, also seems to easily allow for inverse-scope readings involving subjects. As such, the possible scope-inverting property of the EPP is a promising avenue to pursue.

(i) a. Daenbiejjien göökte kaarrh fierhten fievsiem sjeakoejin.
today two man.PL.NOM every.ACC stable.ACC clean.PST.3PL
'Today two mean cleaned every stable.' ($\forall > 2 >> 2 > \forall$)

b. Daenbiejjien fierhtene kaarre göökte fievsieh sjeakoeji.
today every.ATTR man.SG.NOM every.ACC stable.PL.NOM clean.PST.3SG
'Today every man cleaned two stables.' (*$\forall > 2,\ 2 > \forall$)
comment: "So many farmers inside the two stables, what a commotion!"

(135) Undoing of VP-internal OS order via EPP
[$_{FP}$ S [… [$_{VP}$ <O> [$_{VP}$ <S> V]]]]

In an EPP language, the moved subject clearly demarcates the functional left periphery of the clause. Any element preceding the structurally high subject is situated in a functional projection. Apart from movement to SpecTP, which is generally taken as a kind of A-movement, any movement into the functional left periphery is most likely A-bar-movement.[28] As such, these movements information-structurally mark the fronted element and are not altruistic. This general insight was already employed by Fukui (1986: 237ff.) in order to explain the differences between A-scrambling (136) and *wa*-topicalisation (137) in Japanese.

(136) Japanese A-scrambling is VP-internal (Fukui 1986: 237ff.)

[$_{V'}$	sono-	hon-o$_i$	[$_{V'}$	Mary-ni$_j$	[$_{V'}$	John-ga	[$_{V'}$	t$_j$	[$_{V'}$	t$_i$	watasita]]]]]
	that	book-ACC		Mary-to		John-NOM					handed

(137) Japanese *wa*-topicalisation is VP-external A-bar-movement (Fukui 1986: 237ff.)

[$_{I'}$	Mary-wa$_i$	[$_{I'}$	I	[$_{V'}$	John-ga	[$_{V'}$	t$_i$	[$_{V'}$	sono-	hon-o watasita]]]]]
	Mary-WA				John-NOM				that	book-ACC handed/gave

Connecting the VP-externality of the subject to scrambling works straightforwardly with the base-generation analyses of A-scrambling presented in 3.3. When A-scrambling is base-generation, an O preceding a VP-external S would have to be base-generated in a VP-external position. The crucial point of distinguishing between the lexical and functional projections in the verbal domain, however, lies in assembling the thematic domain within the lexical projections of V (cf. Grohmann 2003). If O were to be base-generated VP-externally, it would be merged outside of the domain of theta-role assignment, thus leading to a malformed structure.

The presence or absence of the EPP should also be detectable by other means, such as further subject-object asymmetries (Haider 2010, 2013, Schmidt 2016). These asymmetries include superiority effects, extraction asymmetries, and the availability of VS orders in verb-medial languages. In most cases, however, the EPP has to be inferred on a by-language basis by converging, language-specific evidence, as with the distributional patterns of subjects, lexical verbs and auxiliaries in English. For example, one would not expect superiority effects in multiple *wh*-questions to occur in a language without obligatory *wh*-movement such as Udmurt (Schmidt 2016). Ideally, the availability of A-scrambling will turn out to always align with other diagnostics of the EPP such that the availability of A-scrambling can be taken as a diagnostic for the EPP in the future.

In what follows, some further EPP effects will be shown for South Sámi. Afterwards, further non-scrambling languages and their additional EPP effects will be presented.

28. As mentioned before, Kitahara (2002) and Heck & Himmelreich (2017) analyse A-scrambling as recursive movement to SpecTP, allowing the movement to still be A-movement. Those proposals take the subject EPP to be universal such that the differences between scrambling and non-scrambling languages discussed here would require another explanation.

3.5.2.2 EPP effects in South Sámi

South Sámi exhibits **superiority effects** with subjects in multiple content questions. In order to meaningfully evaluate superiority data in multiple *wh*-questions, there has to be obligatory *wh*-fronting. South Sámi exhibits obligatory *wh*-fronting (Magga & Magga 2012: 230), shown in (138) with a fronted object.

(138) **Gïem** gaahtoe bearjadahken gåaskoeji?
who.ACC cat friday.GEN wake.PST.3SG
'Who did the cat wake up on friday?'

The next prerequisite for meaningfully evaluating superiority data is the availability of multiple content interrogatives. Every consultant accepted some variation of a multiple content interrogative with a pair-list reading, but they did not converge on the position of the interrogative object. The examples with the more leftward interrogative object in (139a) and (b) cannot be regarded as instances of multiple *wh*-fronting with the data at hand since there is no clear demarcation of the left periphery. Nonetheless, the lower position for the interrogative object in (139c) was preferred by almost all consultants. The one consultant who didn't agree with any of those options considered the sentence too long, opting for (139d) instead. In sum, multiple *wh*-questions are possible in South Sámi.[29]

(139) [C: There was a celebration yesterday, but you couldn't be there. So you ask:]

a. %**Gie** **gïem** jååktan heevehtimmesne tjuvliesti?
who.SG.NOM who.SG.ACC yesterday celebration.IN kiss.PST.3SG
'Who kissed who at the celebration yesterday?' (OK for 2 speakers)

b. %Marja gihtjie **gie** **gïem** jååktan heevehtimmesne
Marja ask.PST.1SG who.SG.NOM who.SG.ACC yesterday celebration.IN
tjuvliesti.
kiss.PST.3SG
'Marja asked who kissed who at the celebration yesterday?' (OK for 2 speakers)

c. **Gie** jååktan **gïem** heevehtimmesne tjuvliesti?
who.SG.NOM yesterday who.SG.ACC celebration.IN kiss.PST.3SG
'Who kissed who at the celebration yesterday?' (OK for 3 speakers)

29. The most common way to communicate the meaning of the question is a single *wh*-question with a plural interrogative, as in (i):

(i) Gieh jååktan heevehtimmesne tjuvliestin?
who.PL yesterday celebration.IN kiss.PST.3PL
'Who (all) kissed at the celebration yesterday?' (OK for all 4 speakers)

d. **Gie** **gïem** tjuvliesti?
who.SG.NOM who.SG.ACC kiss.PST.3SG
'Who kissed who?' (tested with only 1 speaker)

Since South Sámi fulfils the prerequisites for interpreting superiority data, one can conclude that South Sámi exhibits superiority effects in multiple questions. No speaker accepted ACC–NOM order in a matrix clause (140a,b). Only one speaker found the superiority violation marginally acceptable in an embedded question (140c).

(140) [C: There was a celebration yesterday, but you couldn't be there. So you ask:]

a. *__Gïem__ __gie__ jååktan heevehtimmesne tjuvliesti?
who.SG.ACC who.SG.NOM yesterday celebration.IN kiss.PST.3SG
int. 'Who kissed who at the celebration yesterday?'

b. *__Gïem__ __gie__ tjuvliesti?
who:SG.ACC whoSG.NOM kiss.PST.3SG
int. 'Who did who kiss?'

c. %??Marja gihtjie __gïem__ __gie__ jååktan heevehtimmesne
Marja ask.PST.1SG who.SG.ACC who.SG.NOM yesterday celebration.IN
tjuvliesti.
kiss.PST.3SG
int. 'Marja asked who kissed who at the celebration yesterday?' (bad but understandable for 1 speaker)

The presence of superiority effects means that there is converging evidence that South Sámi exhibits obligatorily high subjects. This picture is especially striking in comparison to the scrambling language Estonian. In Estonian, superiority violations merely lead to a slight degradation (141b) or are even equally well-formed with an interrogative adverbial (141d). For these two languages, superiority violations and A-scrambling align.

(141) [C: There was a celebration yesterday, but you couldn't be there. So you ask:]

a. **Kes** tervitas **keda** peol?
who.NOM greet.PST.3SG who.PAR party.ADE
'Who greeted who at the party?'

b. ?**Keda** tervitas **kes** peol?
who.PART greet.PST.3SG who.NOM party.ADE
lit. 'Who did who greet at the party?'

c. **Kes** rääkis **kellega** peol?
who.NOM talk.PST.3SG who.COM party.ADE
'Who talked with who at the party?'

d. **Kellega** rääkis **kes** peol?
who.COM talk.PST.3SG who.NOM party.ADE
lit. 'With who did who talk at the party?'

Unfortunately, Udmurt and Mari do not meet the prerequisites for evaluating superiority data in multiple *wh*-questions since they both lack obligatory *wh*-fronting. The same problem occurs in Tundra Nenets (Mus 2022). The lack of superiority effects in these languages (not reported here) therefore has an independent explanation.

In sum, the main evidence for the subject EPP is circular at this point since it rests on how steadfast S occurs early in the sentence. The presence of superiority effects provides further evidence for the assumption of a subject EPP. In chapter 4, it will be concluded that the assumption of the subject EPP fits well into the general clause structure of South Sámi.

South Sámi is not the only OV language without A-scrambling. In the following sections, Dutch, Afrikaans, Amharic, and Korean will be presented as further non-scrambling OV languages. Additional EPP effects can only be presented for Dutch and Afrikaans, which is why they will be presented first.

3.5.3 Dutch and Afrikaans are non-scrambling OV languages

Dutch and Afrikaans are known as A-scrambling languages, but especially Dutch only as a language with the more restricted availability of A-scrambling as adverbial intervention (Abels & Neeleman 2012, Corver & van Riemsdijk 1997, Koster 1999, Neeleman 1994, Neeleman & Weerman 1999, Reuland & Kosemeijer 1993). The lack of A-scrambling of S and O in Dutch is known (Corver & van Riemsdijk 1997, Neeleman 1994, Neeleman & van de Koot 2008). The only way to bring about OS order lies in fronting O as a topic or focus Neeleman & van de Koot (2008). This non-altruistic reordering is shown in (142a). However, my consultants even rejected the example in (142a), stating that the interpretation with 'the book' as the agent is too salient.

(142) dat alleen DIT boek Jan Marie geeft.
that only this book Jan Mary gives
'that John gives Mary only this book.' (Neeleman & van de Koot 2008: 271)

Haider (2010: 152) provides a functional explanation for the lack of A-scrambling of O and S in Dutch and Afrikaans: the arguments are not overtly morphologically distinct. In most examples of OS order, however, the roles of the participants are fully disambiguated by the combination of their animacy and the event semantics, as in (143), or the subject is uniquely identified by indexing on the verb (not presented here). Speakers of Dutch interpret an OS sentence like (143b) either with the inanimate 'stone' as the experiencer, or as ungrammatical. Subject focus on *een meisje* ('a girl') does not rectify this situation. A functional explanation falls short of such examples. That explanation would also mean that OS order in A-scrambling is always prohibited in cases of case-syncretism, counter to fact. Finally, West Frisian also lacks morphological distinctions between arguments but allows at least for A-scrambling between IO and DO when both are NPs without case distinctions (Hoekstra 2014: 117).[30]

30. Thanks to Astrid van Alem for that pointer!

(143) a. dat een meisje **de** **steen** heeft gezien.
that a girl the stone has seen
'that a girl has seen the stone.'

b. *dat **de** **steen** een meisje heeft gezien.
that the stone a girl has seen
int. 'that a girl has seen the stone.'

Dutch simply lacks A-scrambling in the definition of the present work. This is accompanied by further EPP effects (Fanselow 2020, Schmidt & Fanselow 2018). Dutch exhibits superiority effects in multiple *wh*-questions and subject-island effects. The Dutch superiority effects were determined in a cross-linguistic formal acceptability-judgement experiment by Häussler et al. (n.d., available upon request) employing the methodology for cross-linguistic comparison of acceptability judgement tasks laid out in Häussler et al. (2015). In that methodology, closely matched material is used across all languages. Crucially, baseline well-formed and ill-formed sentences (e.g., CNPC violations) are employed. These baselines serve the purpose of, first, setting baselines of upper and lower acceptability for the participants, and second, setting baselines for whether effect sizes can be interpreted as representative of ungrammaticality or mere degraded acceptability allowing for the interpretation of the raw rating scores instead of just the slopes. Some of the mean-ratings on a 7-point Likert scale are reproduced in (144) for the experiments with animate subjects and inanimate objects. Standard errors ranged from 0.1 to 0.25 such that any slope greater than 0.5 can roughly interpreted as a significant difference (within each language).

(144)

Language	SO order	OS order	effect size
English	5.33	2.30	3.03
German	5.70	4.71	0.99
Dutch	5.21	2.85	2.36

In order to situate Dutch in this study, English and German can be taken as the baseline comparisons for languages with and without superiority effects respectively. In English, superiority-violating multiple *wh*-questions received a mean rating of 2.30, such that a superiority violation incurred an effect of 3.03 rating points on average. In German on the other hand, superiority-violating multiple *wh*-questions received a mean rating of 4.71, such that a superiority violation incurred an effect of 0.99 rating points on average. This slope difference between English and German indicates that superiority violations lead to ungrammaticality in English while they merely incur degraded acceptability in German. Since the experimental setup also allows for the interpretation of the raw values, one can see that the English superiority violations are on the "bad" end of the Likert scale, while the German ones are on the "good" end of the Likert scale.

Dutch behaves like in English with regard to superiority violations. The slope between SO and OS order in multiple *wh*-questions is relatively large, with 2.36 points

difference on average, and the raw mean rating of 2.85 is on the "bad" end of the Likert scale. To compare, the mean rating for an object extraction out of an object-modifying relative clause was 2.10, meaning that a superiority violation was judged about as badly as a CNPC violation. Much of Häussler et al. (n.d., available upon request) is devoted to explaining the superiority effect in Dutch and its relative acceptability compared to English in further experiments and corpus evaluations. The conclusion is that superiority effects are always caused by a confluence of factors, and that Dutch exhibits more of these factors than German, but less than English. Just like Fanselow (2020), it can be concluded that the EPP is one of those factors in Dutch.

Another EPP-effect in Dutch is the presence of *extraction asymmetries* (Fanselow 2020). In a sentence like (145a), the subject constitutes an island for extraction. When the expletive *er* is present (145b), the subject is transparent. This minimal pair can be interpreted as the result of the EPP: in (145a), the subject occupies a functional projection, thereby gaining island status (via freezing, anti-locality, etc.). In (145b), the expletive *er* occupies the structural subject position, thereby suppressing movement of the NP-subject. The unraised, structurally low subject is transparent for extraction.

(145) a. high subject

*Wat hebben [_ voor mensen] je moeder bezocht?
what have for people your mother visited
'What kind of people have visited your mother?' (Fanselow 2020: 15)

b. low subject

Wat hebben er [_ voor mensen] je moeder bezocht?
what have EXPL for people your mother visited
'What kind of people have visited your mother?' (Fanselow 2020: 15)

The situation in **Afrikaans** is not much different from that in Dutch (Fanselow 2020). First of all, Afrikaans lacks A-scrambling, as shown in (146). The subject is in boldface in order to easily spot it as the barrier for reordering. Just as in Dutch, it is possible to vary the order of a PP-object and an NP-object (146a vs. b). Placing any argument in front of S, however, leads to an ungrammaticality (146c–f).

(146) **Afrikaans** word order variation (Fanselow 2020: 12)

a. dat **Jan** die geld vir/aan Marie gee.
that Jan the money for/to Marie gives
'that Jan gives the money to Mary.'

b. dat **Jan** vir/aan Marie die geld gee.
that Jan for/to Marie the money gives

c. *dat die geld **Jan** vir/aan Marie gee.
that the money Jan for/to Marie gives

d. *dat vir/aan Marie **Jan** die geld gee.
that for/to Marie Jan the money gives

e. *dat die geld vir/aan Marie **Jan** gee.
that the money for/to Marie Jan gives

f. *dat vir/aan Marie die geld **Jan** gee.
that for/to Marie the money Jan gives

While there are no data on superiority effects in Afrikaans yet, the extraction asymmetry presented for Dutch above also holds in Afrikaans (Fanselow 2020). Normally, subjects are islands for extraction (147a), but suppressing subject movement makes the subject transparent for extraction (147b).

(147) a. high subject

*Die studente het [baie van _] die voorgeskrewe boeke gelees.
the students have many of the prescribed books read
int. 'Many of the students have read the prescribed books.'
(Fanselow 2020: 15)

b. low subject

Studente het daar [baie van _] opgedaag.
the students have many of the
'Many of the students have appeared.' (Fanselow 2020: 15)

In sum, both Dutch and Afrikaans lack A-scrambling in the sense of the present work, and both languages also show independent evidence for obligatorily high subjects. In Dutch, the EPP is visible due to superiority effects in multiple *wh*-questions and in the island status of subjects. In Afrikaans, only the island status of subjects hints towards the EPP.

For the next two non-scrambling OV languages, Amharic and Korean, there is no independent, clear evidence for the EPP. Still, the discussion is warranted in order to highlight that the absence of A-scrambling can occur in any family.

3.5.4 Amharic is a non-scrambling OV language

Amharic (Semitic, Ethopia) lacks A-scrambling. When the order of O and S is inversed, the *object* receives IS-marking, i.e., the reordering is not altruistic. This reordering is shown in (148) (judgements by Seyoum Mulugeta, data gathered jointly with Gisbert Fanselow in 2015). First, the direct object is prosodically prominent and followed by a prosodic break. Second, the direct object receives a marked information-structural role, either topic or contrastive focus. Demeke & Meyer (2007) also reports topicalisation, both aboutness and contrastive, as the core function of fronting.

(148) a. Astämariw mätshafun lä-Təgəst asayyä.
teacher:DEF book:DEF:ACC DAT-Tigist show
'The teacher shows the book to Tigist.' (canonical)

b. Mätshafun – astämariw lä-Təgəst asayyä.
book:def:acc teacher:def dat-Tigist show
'It was the book that the teacher showed to Tigist.'
also: 'As for the book, the teacher showed it to Tigist.'

Some further data on reordering in front of the subject were provided by Wakweya Gobena, presented in (149). In (149a), a contrastive topic context for the object is provided. This context allows for OS order in the answer. In (149b), the fronted adverbial is acceptable when it is a focus. In both cases, the reordering involving S is not altruistic.

(149)

a. [C: Who bought the cat?]

ɨne al-awkɨ-mm gɨn wuʃʃawn meri gəzz-attʃ.
1sg neg-know.ipfv-neg but dog:def:acc Mary buy.pfv-3sf.sub
'I don't know, but the dog Mary bought.' (Wakweya Gobena, p.c.)

b. [C: What's new?]

Meri addis sɨʔɨl ɨzza.ga sal-əttʃ.
Mary new portrait near.there paint.pfv-3sf.sub
'Mary painted a new portrait there.' (Wakweya Gobena, p.c.)

c. [C: Where did Mary paint the new portrait?]

ɨzza.ga meri addis sɨʔɨl sal-əttʃ.
near.there Mary new portrait paint.pfv-3sf.sub
'It is there that Mary painted a new portrait.' (Wakweya Gobena, p.c.)

Other researchers (Eilam 2009, Leslau 1995), report obligatory object-indexing on the verb in object fronting. This leads Eilam (2009) to analyse the construction in terms of clitic-left dislocation. The object clitic is absent in (148). This can be taken as the reason for the availability of a contrastive-focus reading in the present data, not mentioned in Leslau (1995: 383ff.) and Eilam (2009). Either way, OS order is not altruistic reordering. Eilam (2009) himself contrasts Amharic fronting to Germanic A-scrambling, and concludes that a possible explanation for the lack of A-scrambling in Amharic is a landing site in the C-domain.

The A-bar-nature of OS order has already been argued for by Baker (2012: 47). The classic test for the extension of binding domain is negative for object-fronting in active clauses (150a vs. b), while it is positive for passivisation (150c).

(150) a. Abbat-u hullu-n səw yi-wədd-all.
father-3mPl all-acc person 3mSg-love.impf-aux.3mSg
'His father loves everyone.' (no bound reading) (Baker 2012: 47)

b. hullu-n səw Abbat-u yi-wədd-all.
all-acc person father-3mPl 3mSg-love.impf-aux.3mSg
'His father loves everyone.' (no bound reading) (Baker 2012: 47)

c. Hullu səw b-abbat-u tə-wədd-o nəbbər.
All person by-father-3MPL PASS-love-GER.3MSG AUX
'Everyone was loved by his father.' (bound reading ok) (Baker 2012: 47)

Unfortunately, the data could not be replicated. Especially (150b) was judged as simply ungrammatical. Therefore, only the non-altruistic nature of the fronting can be taken as evidence for its A-bar nature until further data are gathered.

To conclude, Amharic OS orders are not cases of A-scrambling. As such, Amharic is another non-scrambling OV language. Tying the absence of A-scrambling to obligatory subject raising can only be stipulated at the moment. Superiority effects are not expected to occur because there is no obligatory *wh*-fronting, and because intervention effects are generally absent from Amharic (Eilam 2009). Due to the absence of obligatory *wh*-movement, and due to the strong markedness of fronting, testing for subject-island effects might also turn out to be problematic. Future research will have to determine EPP effects in Amharic.

The last non-scrambling OV language to be discussed is Korean.

3.5.5 Korean is a non-scrambling OV language

Korean does not exhibit A-scrambling. While there is A-scrambling below the subject, any reordering involving the subject is associated with IS-marking of the fronted category. My sincere gratitude goes to Hye-in Jeong for providing me with the fine-grained data presented in this section!

The example in (151) represents the word order in an all-new context. In such a context, the most acceptable word order is the one in (151a): S–X–X–IO–DO–V. This can be taken as the neutral baseline word order for the choice of these particular lexical items. For example, the neutral order of IO and DO is not at stake here, so it could very well be that other verbs that assign different semantic roles etc. would exhibit another neutral order. Against the neutral baseline of (151a), orders involving a directly preverbal subject are unacceptable to the point of ungrammaticality (151b,c). For the sake of readability, only indefinite articles were used in the free translation of the gloss since definiteness is underspecified in these examples.

(151) 무슨일이있었습니까? / What happened? (Korean; Hye-in Jeong, p.c.)

a. 선생님-이 어제 학교에서 학생에-게 책-을
seonsaengnim-i eoje haggyoeseo hagsaeng-ekey chaeg-eul
teacher-NOM yesterday at.school student-DAT book-ACC
주었다.
jueossda.
give.PST
'A teacher gave a book to a student yesterday at school.'

b. *#학생에-게 책-을 어제 학교에서 선생님-이
hagsaeng-ekey chaeg-eul eoje haggyoeseo seonsaengnim-i
student-DAT book-ACC yesterday at.school teacher-NOM
주었다.
jueossda.
give.PST

c. *#책-을 학생에-게 어제 학교에서 선생님-이
chaeg-eul hagsaeng-ekey eoje haggyoeseo seonsaengnim-i
book-ACC student-DAT yesterday at.school teacher-NOM
주었다.
jueossda.
give.PST

The ungrammaticality of the directly preverbal subject cannot be amended by making the subject the focus and making every other element given in the context, as shown in (152b,c). The subject-initial order is still the preferred one (152a). That is, focussing the subject does not license the reordering of the other arguments, and it does not license multiple scrambling to positions in front of the subject either. These data already hint towards the lack of A-scrambling: reordering cannot occur via preverbal focus, and there is no multiple scrambling.

(152) 누가책을학생에게어제학교에서주었습니까? / Who gave a book to a student yesterday at school?

a. 선생님-이 책-을 학생에-게 어제 학교에서
seonsaengnim-i chaeg-eul hagsaeng-ekey eoje haggyoeseo
teacher-NOM book-ACC student-DAT yesterday at.school
주었다.
jueossda.
give.PST
'A teacher gave a book to a student yesterday at school.'

b. *#학생에-게 책-을 어제 학교에서 선생님-이
hagsaeng-ekey chaeg-eul eoje haggyoeseo seonsaengnim-i
student-DAT book-ACC yesterday at.school teacher-NOM
주었다.
jueossda.
give.PST

c. *#책-을 학생에-게 어제 학교에서 선생님-이
chaeg-eul hagsaeng-ekey eoje haggyoeseo seonsaengnim-i
book-ACC student-DAT yesterday at.school teacher-NOM
주었다.
jueossda.
give.PST

However, there is a difference between the S-focus context in (152) in contrast to the all-new context in (151): the given NPs, IO and DO, are more acceptable in a position preceding the adverbials, making the order S–IO–DO–X–X–V the most acceptable. The more leftward placement of the two non-subject NPs resembles the Dutch pattern where the order of arguments can only change relative to adverbials, but not relative to other arguments. This reordering is also A-scrambling-like in that this more leftward placement goes hand in hand with a higher discourse anaphoricity of the more leftward NPs

The contexts that allow for the reordering of elements relative to the subject are ones in which the fronted NP is a *contrastive focus*.[31] This means that the fronting is not altruistic, and hence not A-scrambling. The example in (153a) shows this for focus on the indirect object while (154a) shows this for adverbial focus. The placement right below the subject is just as viable as the placement in the left periphery (153b,(154b)). This means that leftward placement that does not cross the subject, diregarding prosodic cues in writing, exhibits the same ambiguity in Korean that it does in the Germanic OV-middlefield: it can be the unmarked leftward displacement associated with discourse-anaphoricity, or marked focus-movement. Crucially, however, the unmarked displacement does not cross the subject.

(153) 누구에게선생님이책을어제학교에서주었습니까? / To who did a teacher give a book yesterday at school?

a.

학생에-게	선생님-이	책-을	어제	학교에서
hagsaeng-ekey	seonsaengnim-i	chaeg-eul	eoje	haggyoeseo
student-DAT	teacher-NOM	book-ACC	yesterday	at.school

주었다.
jueossda.
give.PST

b.

선생님-이	학생에-게	어제	학교에서	책-을
seonsaengnim-i	hagsaeng-ekey	eoje	haggyoeseo	chaeg-eul
teacher-NOM	student-DAT	yesterday	at.school	book-ACC

주었다.
jueossda.
give.PST

31. The employed contexts are not explicitly contrastive-focus contexts. However, they allow for the contrastive focus reading via accommodation.

(154) 언제선생님이학생에게책을학교에서주었습니까? / When did a teacher give a book to a student at school?

a. 어제 선생님-이 학생에-게 책-을 학교에서
eoje seonsaengnim-i hagsaeng-ekey chaeg-eul haggyoeseo
yesterday teacher-NOM student-DAT book-ACC at.school
주었다.
jueossda.
give.PST

b. 선생님-이 어제 학생에게 책을 학교에서
seonsaengnim-i eoje hagsaeng-ekey chaeg-eul haggyoeseo
teacher-NOM yesterday student-DAT book-ACC at.school
주었다
jueossda.
give.PST

The distinction between reordering below and above the subject was already discussed in the literature. The reorderings that take place to the right of the subject were called *VP-internal scrambling* by Cho (1994). Based on its clear A-properties, 'VP-internal scrambling' was contrasted against movement that crosses the subject, which exhibits mixed A- and A'-properties, a fact confirmed in later studies as summarised in Ko (2018).

The existing literature also finds that subject-crossing movement requires a special role for the moved element. Choi (1996) states that the OSV sentences in (155) only have readings that assign special information-structural roles to the fronted object. Depending on the intonation, the fronted object is either a topic, as in (155a), or a contrastive focus (155b). The same finding was made by Vermeulen (2009).

(155) a. Inho-lul Swuni-ka manna-ss-ta.
Inho-ACC Swuni-NOM meet-PST-DECL
'As for Inho, Swuni met him yesterday.' (topic) (Choi 1996: 209)

b. Inho-lul Swuni-ka manna-ss-ta.
Inho-ACC Swuni-NOM meet-PST-DECL
'It is Inho (among other people) who Swuni met.' (contrastive focus)
(Choi 1996: 209)

This asymmetry in information-structural effects of subject-crossing movement vs. below-subject movement is also reflected in further asymmetries of A'- vs. A-movement as uncovered by the aforementioned studies (Cho 1994, Ko 2018). Furthermore, subject-crossing movement and "long-scrambling" pattern mostly the same and contrast with below-subject reordering regarding A-properties (Cho 1994). This shows that the subject-crossing movement is not A-scrambling. Finally, the interpretative effect of subject-crossing movement in Korean is equal to the effect of "long-scrambling" in Korean (Hyeran 2008, Vermeulen 2009), just as in the German examples in 39. This further strengthens the dissimilarity of subject-crossing movement to A-scrambling.

In conclusion, the word order variability between the subject and non-subject elements in Korean is not A-scrambling. The non-scrambling nature of Korean becomes even more vivid in direct comparison to scrambling Japanese. Korean and Japanese are often treated on par in terms of scrambling (e.g., Saito & Fukui 1998). However, the Japanese examples with preverbal subjects (boldface) and multiple pre-subject elements in (156) are fully grammatical in contrast to the Korean ones in (151,152).[32] Moreover, the sentences in (156) were preferred to occur in a wide-focus context since pronouncing given material results in degradation. Placing the subject directly preverbally results in a slight focussing in (156a,b). In what was described as colloquial speech, a directly preverbal subject is perceived as perfectly fine and neutral in an all-new context (156c). In fact, the subject can appear in any position and the sentence remains information-structurally neutral, as indicated in (156d). Hence, Japanese exhibits an extreme case of A-scrambling that might be actual free variation in that it is not associated with IS-effects at all.

(156) **Japanese** (Jiro Inaba p.c., Hiromasa Kotera p.c.)

a. 昨日 学校-で 手作りのチョコ-を 男子全員-に
kinou gakkou-de tedzukurinochoko-o danshi.zenin-ni
yesterday school-LOC hand.made.chocolate.ACC boy.all.DAT
ハナコ-が あげた （こと)
Hanako-ga ageta koto
Hanako.NOM gave (fact)
'(The fact that) HANAKO gave a hand-made chocolate to every boy at school yesterday.'

b. 昨日 学校-で 手作りのチョコ-を 校長先生-に
kinou gakkou-de tedzukurinochoko-o kouchou.sensei-ni
yesterday school.LOC hand.made.chocolate.ACC principal.teacher.DAT
二人の女生徒-が あげた （こと）
nirino.onna.seito-ga ageta koto
two.NQ.GEN.female.student.NOM gave (fact)
'(The fact that) TWO FEMALE STUDENTS gave a hand-made chocolate to the school principal at school yesterday.'

32. There is hardly any literature on local scrambling with multiple elements in Japanese. Information-structural effects are rarely mentioned. Most examples only feature S and O, or only IO and DO (Fukui 1986, Miyagawa 2001, Saito 2011 i.a.), while many discussions focus on long-scrambling and *wa*-topicalisation. Therefore it was not possible to rely on data from the literature.

c. [C: What happened?] (colloquial)

昨日	学校-で	手作りのチョコ-を	校長先生-に
kinou	gakkou-de	tedzukurinochoko-o	kouchou.sensei-ni
yesterday	school.LOC	hand.made.chocolate.ACC	principal.teacher.DAT

二人の女生徒-が	あげたんだよ。
nirino.onna.seito-ga	ageta-n-dayo.
two.NQ.GEN.female.student.NOM	gave.PRT

'Two female students gave a hand-made chocolate to the school principal at school yesterday.'

d. [C: What happened?] (colloquial)

(**二人の女生徒-が**)	昨日	(**二人の女生徒-が**)
nirino.onna.seito-ga	kinou	nirino.onna.seito-ga
two.NQ.GEN.female.student.NOM	yesterday	two.NQ.GEN.female.student.NOM

学校-で	(**二人の女生徒-が**)	手作りのチョコ-を
gakkou-de	nirino.onna.seito-ga	tedzukurinochoko-o
school.LOC	two.NQ.GEN.female.student.NOM	hand.made.chocolate.ACC

(**二人の女生徒-が**)	校長先生-に
nirino.onna.seito-ga	kouchou.sensei-ni
two.NQ.GEN.female.student.NOM	principal.teacher.DAT

(**二人の女生徒-が**)	あげたんだよ。
nirino.onna.seito-ga	ageta-n-dayo.
two.NQ.GEN.female.student.NOM	gave.PRT

'Two female students gave a hand-made chocolate to the school principal at school yesterday.'

Subject EPP effects in Korean and Japanese cannot be inferred from superiority effects in multiple *wh*-questions (which are absent) since both languages lack obligatory *wh*-movement. For Japanese[33] , it was shown that subjects are not islands (Omaki et al. 2020). To my knowledge, there are no comparable studies of subject-island effects in Korean. As it stands, further differences in the properties of subjects apart from the strict position of subjects in Korean compared to Japanese have to be left to future research.

The discussion of non-scrambling in OV languages will be wrapped up together with the general conclusions of this chapter in the upcoming final section.

33. A high subject position for Japanese and scrambling targeting TP and CP was proposed by Miyagawa (2001) and Saito (2011). Those studies mainly focus on the scope of negation in SOV (Neg > O,*Neg > S) and OSV (Neg > S,O) sentences. The main problem is an empirical one since my consultants all judged that negation scopes over S in SOV order. Another problem is ignoring alternatives, especially in Saito (2011): in OSV, negation scopes over both O and S; therefore, one could also have assumed that S is simply lower than O, instead of placing O even higher in the structure. Future studies should investigate the scope of fixed-position negation, such as suffixal negation and directly preverbal negation carefully to reach a conclusion about how their scope comes about.

3.6 Conclusion

(36) **The scrambling prediction**
Every OV language allows for the word order variation known as scrambling.
OV → scrambling

The idea that OV languages have to exhibit scrambling, repeated in (36), cannot be upheld when scrambling is to mean A-scrambling as altruistic argument reordering. At least five unrelated OV languages lack A-scrambling of this kind: South Sámi, Dutch and Afrikaans, Amharic, and Korean. Dutch, Afrikaans, and Korean are surprising on this list because they are known as scrambling languages. However, they only allow for adverbial intervention but not for OS order with an information-structurally unmarked O.

A worldwide survey of OV languages will likely show that a lack of A-scrambling is common among OV languages. For Eurasia, preliminary data hint towards the absence of A-scrambling in Nepali (Indo-Aryan, Nepal, Dubinanda Dakal p.c.). According to Adam Singerman (p.c.), the Tupian language Tuparí (Brazil) also lacks A-scrambling of the kind described here. Further potential languages of South America without A-scrambling are Chibchan OV languages (Jana Bajorat, p.c.) and varieties of Quechuan (Raúl Bendezú-Araujo, p.c.). Taking the OV order at face value, the African SAuxOVX languages (section 4.2.3) are known for their word order rigidity (Zeller 2015). The SAuxOV Kru-languages Czypionka (2007) already shows many OV languages without directly preverbal focus but clause-initial focus instead. As such, these languages will also not feature argument reordering via directly preverbal focus. It would be interesting to see whether those languages lack A-scrambling. These hints mean that it is very likely that there are more non-scrambling OV languages and that they are not rare. The A-scrambling pattern discovered in Eurasia might be an areal phenomenon mistaken for a more general trend due to the skewed language sample. The absence of A-scrambling might be more common among OV languages outside Eurasia.

There is still the *other* rendition of the scrambling prediction in (35) (Corver & van Riemsdijk 1997). That generalisation is based on the observation that any head-final phrase of the Germanic OV languages, VP and AP, allows for word order variability. In contrast, the head-initial ones, DP and PP, do not (Corver & van Riemsdijk 1997). Haider also adopts the version of the scrambling universal in (35) at some points, such as (Haider 2020).

(157) If a phrase allows for scrambling, then that phrase is head-final.
scrambling → head finality

In section 3.5.2, the subject EPP was made out to be responsible for the lack of A-scrambling in clauses. The respective new implication is shown in (158).

(158) A language lacks A-scrambling if and only if it exhibits obligatory subject raising.
¬A-scrambling ⇔ subject EPP

When the subject EPP, and not head-finality, is connected to A-scrambling in the verbal domain, there should be verb-initial VPs featuring A-scrambling. In other words, aban-

doning verb finality as the necessary precondition for A-scrambling allows VO languages to allow for A-scrambling. While VO languages are not the present study's focus, that likely is the case. There are VO languages with clause-final foci, such as Italian (Szendrői 2017), Finnish (section 2.5.2), and several Slavic languages, such as Czech and Polish (Šimík & Wierzba 2017), and Russian (Neeleman & Titov 2009). These clause-final foci could be structurally equivalent to directly preverbal foci in OV languages, just with the verb in another position. Clause-final foci are just as altruistic as directly preverbal foci: information-structurally indeterminate elements precede a clause-final focussed element (Šimík & Wierzba 2017). Furthermore, Italian is known to lack an obligatory subject EPP since at least Rizzi (1982) and recent studies also corroborated the finding of missing subject island effects for low subjects in Italian (Bianchi & Chesi 2014); Finnish is mainly assumed to lack an obligatory subject EPP (Huhmarniemi 2019); and most Slavic languages lack subject island effects (Stepanov 2007). Future studies should follow these leads and investigate the putative similarities between clause-final focus in VO and directly preverbal focus in OV.[34]

Another merit of (158) is making A-scrambling a diagnostic of the subject EPP. A-scrambling as a diagnostic can only be a promissory note since future inquiries must first show whether there is at least a trend toward the connection between the EPP and A-scrambling.

The 'Dutch version' of the scrambling universal that equates 'scrambling' with adverbial intervention can still be valid. Adverbial intervention, the variable order between elements of different merger hierarchies, might be universally available in OV languages. Dutch, Afrikaans, Amharic, and Korean allow for altruistic reordering between elements as long the subject is not involved. The subject acting as a 'barrier' for altruistic reordering is another hint at the subject EPP. However, South Sámi would pose a potential counterexample to the universality of adverbial intervention since reordering between adverbials and the direct object is also marked. Nonetheless, adverbial intervention is possible *per se*, and for every speaker, there was at least one adverb for which O–Adv–V order was judged as neutral. Other researchers also report that not every reordering has to be marked (Kroik 2016). Before recognising South Sámi as a counterexample for even the most lenient version of A-scrambling, those Adv–O reorderings should be studied in more detail.

A-scrambling is not universal to OV languages. Nonetheless, there is a reality to A-scrambling as a cross-linguistic phenomenon among OV languages. Genetically unrelated OV languages share this property, just picking out a few mentioned in this chapter: Uyghur, Udmurt, Georgian, Dargwa, Eastern Armenian, Basque, Tamil, and Japanese. In most A-scrambling OV languages, A-scrambling goes hand in hand with directly pre-

34. Haider (2010, 2013) offers an alternative explanation to these counterexamples by stating that these languages are "Type 3 languages". That is necessary because he claims every SVO language should feature the subject EPP. That analysis of enhanced word order variability in VO languages is less attractive than the proposal of a parameterised EPP. A parameterised EPP has predecessors (e.g. Alexiadou & Anagnostopoulou 1998) and can be easily integrated and reformulated in most theories. The construct of "Type 3 language", on the other hand, can hardly be formulated outside of Haider's framework and is built on false premises (section 5.6).

verbal focus. Among the exceptions are German and Japanese: in both languages, focus does not seem necessary for A-scrambling, and in German, the focussed phrase does not need to be verb adjacent. This difference is especially glaring compared to Meadow Mari, where OS order in sufficiently long sentences strongly depends on a directly preverbal, focussed S: an S that is not focussed and V-adjacent was hardly accepted as a well-formed sentence.

There is variation in how directly preverbal focus is realised. The primary division is whether verb raising takes place. Verb raising is readily diagnosable with inversion phenomena, where the order of the finite and the non-finite verb changes in the presence of narrow focus, and the focus only precedes the finite verb, as in Dargwa and Eastern Armenian.[35] Verb and focus raising seems to be absent from the Turkic languages, and it seems optional in Udmurt and Meadow Mari.

The variation in how directly preverbal focus is realised does not take away from the overall homogeneity of directly preverbal focus and its association with A-scrambling. In section 3.3, that homogeneity was taken as the reason to sketch a unified theory combining A-scrambling and directly preverbal focus. The main problems to be addressed by a theory of A-scrambling via preverbal focus are altruism, the possibility of multiple prefocal elements, and the variable position of the focus–verb string in languages with verb raising. Those properties were roughly accounted for by employing base generation and reprojecting verb movement. As always, future research will have to show whether a viable, catch-all theory of A-scrambling and directly preverbal focus is viable or even empirically warranted.

This concludes the discussion of preverbal word order variation in OV languages. The following section is going to substantiate the special status of South Sámi among OV languages.

35. This is essentially also what takes places in Hungarian (Ugric). Hungarian was intentionally left out of the dissertation because its status as an OV or VO language would have required its own chapter. The respective manuscript is in the making (Schmidt & Balázs 2019). Preverbal focus features as evidence for an underlying OV structure in that argumentation.

4 South Sámi in the typology of SAuxOV languages

4.1 The basic puzzle: SAuxOV/SOV alternation

The only single-case study of word order variability in OV languages in this thesis is the case of clausal word order in South Sámi (Uralic, spoken in Norway and Sweden). South Sámi exhibits SOV_{fin} order, but also $SAux_{fin}OV_{nonfin}$ order as shown in (159) and (160) (cf. Magga & Magga 2012: 182, Kroik 2016: 40f.). This pattern is represented for an Aux expressing tense/aspect in (159), and for a modal function in (160). The occurrence of this alternation between SOV and SAuxOV is the topic of this chapter.

(159) a. Gaahtoe maanam bearjadahken **gåaskoeji**.
cat[.NOM] child.ACC friday.GEN wake.PST.3SG
'The cat woke the child up on friday.'

b. Gaahtoe (**lij**) maanam bearjadahken **gååskeme**.
cat[.NOM] COP.PST.3SG child.ACC friday.GEN wake.PTCP
'The cat has woken the child up on friday.'[1]

(160) a. Piere aahtjan bovtsem **duaka**.
Per.[NOM] father.ILL reindeer.ACC sell.PRS.3SG
'Per sells the reindeer to the father.'

b. Piere **edtja** aahtjan bovtsem **doekedh**.
Per.[NOM] shall.PRS.3SG father.ILL reindeer.ACC sell.INF
'Per will sell the reindeer to the father.'

The alternation between SOV and SAuxOV deserves attention because it is typologically rare, on the global, the regional, and the genetic level. For the global picture, a first hint are word order correlations: the SOV–SAuxOV-alternation can be roughly expressed as a combination of OV order and AuxV order, and only 8% (Dryer 1992: 100; Dryer 2013a: 277) of OV language genera exhibit AuxV-order, where Aux is defined as an auxiliary *verb* expressing tense or aspect. For this reason, the order of Aux and V, and O and V are generally a correlation pair Dryer 1992: 100f. This remains true even when the definition of Aux is expanded to include modal categories: 29% of OV language genera exhibit 'able to'-V order, and 22% exhibit 'want'-V order. This is merely a hint towards the global rarity of the South Sámi word order pattern because languages with an SOV–SAuxOV-alternation are only a subset of OV languages with AuxV order. Other types include

languages with an SOV–SOAuxV alternation and those with SVO–SAuxOV-alternation such as verb-second languages that can surface as languages without dominant order of S, O, and V, or V and O (Dryer 2013b,c), or what Sande et al. (2019) call languages with verb movement. This means that the percentage of languages with an SOV–SAuxOV alternation is even lower than the percentage of AuxV languages among OV languages. These facts amount to the conclusion that the SOV–SAuxOV-alternation is rare globally (also see Gensler & Güldemann 2003, Julien 2003). The global SAuxOV typology is the content of section 4.2.

None of the contact languages show SAuxOV–SOV pattern (161), which means that it's regionally rare. The contact languages of South Sámi (varieties of Mainland Scandinavian) are V2 languages that show strict SVO order in non-V2 contexts. As such, they never exhibit SAuxOV order. One could hypothesise that South Sámi adopted the areally salient V2-property without adopting VO order in non-V2 contexts. This kind of language is exemplified by the Germanic OV languages (German, Dutch, Afrikaans). These languages do exhibit SAuxOV order, but it alternates with SVO order. This makes South Sámi an unlikely candidate for a V2 language despite the resemblance.

(161) Contact languages other than further Sámi languages

a. (fordi) katten **vekka** barnen på fredagen. (Norwegian, V2+VO)
because cat wake.PST child on friday
'because the cat woke the child on Friday.'

b. (fordi) katten **har vekka** barnen på fredagen. (Norwegian)
because cat has wake.PTCP child on friday
'because the cat woke the child up on Friday.' (same goes for Swedish)

c. *(fordi) katten **har** barnen på fredagen **vekka**. (Norwegian)
because cat has child on friday wake.PTCP
'because the cat woke the child up on Friday.' (same goes for Swedish)

The examples in 162 show that the SOV–SAuxOV-alternation does not occur in other Uralic non-Sámi languages, which means that it is genetically rare. An SOV–SAuxOV-alternation is reported for Ume Sámi, which has often been mistaken for South Sámi, as discussed in section 4.5.

(162) Uralic languages other than Sámi languages (selection)

a. Pekka **antoi** eilen miehelle kirjan. (Finnish)
Pekka gave yesterday man.ALL book.GEN
'Pekka gave a book to a man yesterday.'

b. Pekka **on** eilen **antanut** miehelle kirjan.
Pekka COP yesterday given man.ALL book.GEN
'Pekka has given a book to a man yesterday.'

c. Varem **kinkis** müüja lapsele kingitusi. (Estonian)
earlier gave clerk child.ALL present.PL.PART
'Earlier, the clerk gave presents to the child'

d. Varem **on** (kinkinud) müüja (kinkinud) lapsele (kinkinud)
earlier has given clerk given child.ALL given
kingitusi (kinkinud).
present.PL.PART given
'Earlier, the clerk has given presents to the child'

e. Саша (учкиз) Терминаторез (учкиз) кинотеатрын
Sasha.NOM see.PST.3SG Terminator.ACC see.PST.3SG cinema.IN
(учкиз).
see.PST.3SG
'Sasha saw the Terminator in the cinema.' (Udmurt, Tánczos 2010)

f. Сашалы Терминаторез кинотеатрын учкыны **кулэ вал**.
Sasha.NOM Terminator.ACC cinema.IN see.INF need COP.PST.3SG
'Sasha needs to see the Terminator in the cinema.'
(following Tánczos 2010)

g. Mīš wɔ̄čnam **məntaɣə mɔ̄sʌ**. (Surgut Khanty)
Misha.NOM town.APR go.INF must.PRS.3SG
'Misha has to go to the town.' (Csepregi 2015)

h. Mən′° xal′am **ŋəmc′° yaqm°əd°m**. (Tundra Nenets)
1SG.NOM fish.ACC eat.MOD cannot.1SG
'I can't eat (the) fish.' (Nikolaeva 2014: 351)

i. Son štaj **šavanʾɛt**. (Moksha)
3SG.NOM wash.NPST.3SG dish.DIM:PL
'S*he washes the dishes.' (Belyaev et al. 2017: 88)

j. Son jukstazʾə **šavanʾɛ-n'** / *šavanʾɛ-t
3SG.NOM forget.PST.3SG.O.3SG.S dish.DIM-GEN / dish.DIM-PL
štamat'.
wash.NMLZ:DEF.SG.GEN
'S*he forgot to wash the dishes.' (Moksha, Belyaev et al. 2017: 88)

In Finnish (162 a,b), SAuxOV and SOV order can occur in certain contexts, but they are qualitatively different from South Sámi in that they are always a marked variation. In Estonian (162 c,d), SAuxOV is a possible alternation to SVO in matrix clauses, but there is also no strict SOV–SAuxOV-alternation. Udmurt here represents the Uralic OV languages that canonically have OV order but also exhibit free variation regarding verb placement (Asztalos 2020, see section 5.5). In these languages, VAux is the canonical and sometimes only possible order, whereas SAuxOV is merely one of many possible

word orders in the presence of Aux. The strict OV languages Surgut Khanty and Nenets are well-behaved OV languages in that they only allow for SOVAux order (also see Asztalos et al. 2017), such that they do also not exhibit the SOV–SAuxOV-alternation. The Mordvin SVO language Moksha exhibits an SVO-SAuxOV alternation, but it clearly is the result of the nominal status of the dependent verb since it requires a genitive argument (direct objects of verbs can be zero marked via DOM (Belyaev et al. 2017: 88)). In sum, this means that the South Sámi SOV–SAuxOV-alternation cannot be reduced to a genetic property.

Since the contact languages don't show the SAuxOV-pattern, its occurrence in South Sámi cannot be reduced to an areal pattern, and since it does not occur in any other non-Sámi Uralic language, it can also not be reduced to a genetic pattern. It defies homogeneity among OV languages. As such, the SOV–SAuxOV-alternation is a major puzzle that needs to be addressed and studied. This chapter is structured as follows. In section 4.2, previous works on SAuxOV languages will be reviewed in order to establish with which properties SAuxOV order surfaces and define types of SAuxOV languages. Those types serve as the backdrop against which the properties of South Sámi SAuxOV will be determined in section 4.3. This survey includes a discussion of the areally prevalent verb-second pattern, highlighting the crucial differences between V2 and South Sámi. In section 4.4, a verb-raising analysis of South Sámi will be motivated that only targets Aux but not V. Finally, implications for the homogeneity of OV languages and future venues of research are discussed in section 4.5.

4.2 The typology of SAuxOV languages

As mentioned in the section 4.1, the combination of OV and AuxV is typologically rare: only 8% of OV languages exhibit AuxV order Dryer (1992, 2013a), and SAuxOV languages or merely a subset of those languages. Unfortunately, previous studies only took cursory glances at the worldwide prevalence of SAuxOV languages. In order to evaluate the status of South Sámi SAuxOV order from a cross-linguistic perspective it is therefore necessary to review the literature on SAuxOV languages. Building on the literature, the following four types of SAuxOV languages can be determined:

(163) **SAuxOVX languages**: 1 –SAuxOVX: Mande, Songhay, … (Creissels 2005)
SAuxOV# languages: 2A –V-raising OV: Kru languages (Sande et al. 2019)
2B –Aux-raising OV: (Khoekhoe? Canelo-Krahó?)

4.2.1 Methodological remark: comparative concept of Aux

The first obstacle is the comparative concept of an Aux-V construction. In the studies mentioned above, Dryer (1992, 2013a) defines Aux as a *verbal* element that expresses *tense* or *aspect*. This verbal element has to exhibit *inflection*, thus explicitly excluding tense/aspect *particles* and *affixes*. It also excludes verbs that express modal meanings, which are deferred to their own category. An Aux-V construction would thus have to consist of an Aux that fits that definition.

Anderson (2007: 4ff.) specifically defines auxiliary verb construction in addition to auxiliary verb. His definition is of special interest because he uses it to specifically study auxiliary verb constructions from a cross-linguistic perspective. He builds his definition of Aux on the definition of Heine (1993) and Kuteva (2000). An Aux-V construction is a *monoclausal* construction that consists of a *lexical verb* contributing *lexical content* and an auxiliary *verb* contributing *grammatical or functional content*. In contrast to Dryer's (1992, 2013a) definition, the auxiliary can express any TAM category, and the presence of inflection is not a necessary condition. The auxiliary's verbal nature is to be determined from a "panchronic" perspective: the auxiliary can be an uninflectible particle or even a functional affix as long as it represents the "semantically bleached" state of a former lexical verb. Also lexical verbs can be auxiliaries as long as their meaning is semantically bleached and contributes grammatical or functional content. Essentially, Anderson's (2007) insightful definition allows Aux to not be the "morphosyntactic locus of inflection" while still remaining the "phrasal head" (Anderson 2007: 22ff.).

The criterion of monoclausality primarily distinguishes Aux-V constructions from control structures. However, monoclausality is difficult to determine because monoclausality is a spectrum blurred due to the effects of clause-union and restructuring (Takahashi 2012, Wurmbrand 2001, 2017). German provides an insightful example here: Bech (1955) identified a class of verb-embedding verbs in German that are optionally monoclausal. A surface string involving such an "optionally-coherent" verb would both constitute and not constitute an Aux-V construction. It could be argued that the class of "optionally coherent" verb-embedding verbs in German does not express grammatical categories, hence disambiguating the status of the construction. However, verbs expressing causative, inchoative, and simulative constructions might still be considered to express grammatical categories, especially since these meanings often grammaticalise into bound morphemes. In sum, the monoclausal nature of a given construction has to be thoroughly determined on a case-by-case basis within a language and even within a sentence. But even then, it might return false positives, failing to distinguish between Aux-V and control constructions. Still, monoclausality will be a crucial point in the analysis of South Sámi clause structure in section 4.4.

In the present work, the definition of Anderson (2007) is adopted in order to include any modal category in addition to just tense and aspect. Furthermore, the clearest case of the verb as a dependent of another verb is present when Dryer's (1992, 2013a) criterion of inflection of the verbal element is met: the dependent verb exhibits a dependent form such as a non-finite form. In the present work, the absence of inflection on Aux and the absence of a dependent verb form will be considered as a fringe case of an Aux-V construction.

The following brief case study presents the difficulties involved in determining whether a language is an SAuxOV language. Anderson (2007: 63) cites Pirahã as a language with an SAuxOV construction following Aikhenvald & Dixon (1999: 356). Aikhenvald & Dixon (1999: 356) cite the example in (164a) following Everett's (1986) original description. In this description, the suffix *-sai* is analyzed as a nominaliser akin to the English infinitive, which is also reflected in the translation. Consequently, the construction in (164a) constitutes an Aux-V construction with an SAuxOV order

according to definition here since the lexical verb clearly shows a dependent form. However, Everett (2009: 410f.) revises his initial description based on further analyses of the *-sai*-morpheme, resulting in (164b).

(164) a. hi **'oba'axa'i'** kahai' **kai-sai**. (Pirahã)
he AUX arrow make-NMLZ
'He really knows how to make arrows.' (Aikhenvald & Dixon 1999: 356)

b. (hi) **'oba'axa'i'** (hi) **kahai'- kai (-sai)**. (Pirahã)
he sees.well he arrow- make - OLD.INFORMATION
'He is really smart/very talented. (That is with respect to the fact that) he makes arrows well.' (Everett 2009: 410)

Everett (2009) explicitly refutes both the monoclausal analysis and the verb-embedding analysis of (164a). He shows that *-sai* can be suffixed to the "Aux" as well, that *-sai* can be missing from the utterance altogether, and that *-sai* can also attach to nouns. This makes it unlikely, that *-sai* is a marker of syntactic subordination or nominalization. Additionally, Everett (2009) argues that the direct object 'arrow' is incorporated, and that the lexical verb 'make' can host an overt subject as well as full inflection. In the end, this amounts to an analysis in terms of parataxis: *'oba'axa'i'* does not embed *kahai'-kai-sai*, does not cause the appearance of a dependent verb form, and so the example does not show SAuxOV according to the definition adopted here nor to Anderson (2007).

The foregoing definitions serve to identify Aux-V constructions, which is a prerequisite to ask for the word order in an Aux-V construction. The criteria for distinguishing different kinds of SAuxOV languages are discussed in the following section.

4.2.2 Precursors to an SAuxOV typology

The first cross-linguistic study of SAuxOV languages stems from Gensler & Güldemann (2003).[2] In this precursory study, Gensler & Güldemann (2003) focus on what they call an "African quirk and puzzle", the occurrence of languages with SAuxOVX order (for an overview, see Creissels 2005, Zeller 2015), and want to determine, whether SAuxOV or SAuxOVX does at all occur outside of Africa. That study effectively has the same aim as the present chapter just with a different set of languages at the outset.

In order to situate African SAuxOVX, Gensler & Güldemann (2003) outline a first sketch of a typology of SAuxOV languages in joint with Matthew Dryer. They define Aux as a non-affixal closed-class element expressing inflectional-type grammatical categories regardless of the verbal nature of such elements. This definition seeks to explicitly include TAM-particles as Aux due to their prevalence in the African Languages. Gensler & Güldemann (2003) differentiate between at least two types of SAuxOV languages shown in (165) and explained below:

2. There is no published version or manuscript of that study, but the authors deem their presentation citable (Orin Gensler, Tom Güldemann, p.c.)

(165) The two types of SAuxOV in Gensler & Güldemann (2003)

a. **SAuxOVX**: a single non-oblique in front of V, the rest following V

b. **SAuxOV#**: V is clause-final, any number of constituents before V

The X in SAuxOVX stands for any element that is not a subject or direct object. In SAuxOVX languages, there can be any number of X, and every X will follow the verb. The hash # stands for the end of the clause, such that SAuxOV# signifies that the verb is clause-final, meaning that any number of X can appear in any preverbal position. I adopt this coarse classification and notational device. The following sections deal with the SAuxOVX and SAuxOV# languages respectively and outline criteria for identifying the relevant language types. This allows for South Sámi to be classified as an SAuxOV# language.

4.2.3 Type 1: SAuxOVX

4.2.3.1 Real SAuxOVX

The order SAuxOVX, Subject–Auxiliary–Object–Verb–Other, is the one Africa is known for (Creissels 2005, Zeller 2015). It comes in at least two subtypes, **rigid SAuxOVX** and **variable SAuxOVX**. They have the following characteristics in common, but the *rigid* and the *variable* type differ in whether O can also follow V (Fanselow et al. submitted).[3]

(166) **African SAuxOVX**

a. Aux is an obligatory part of the sentence

b. at most a single, non-oblique constituent between Aux and V

c. Aux immediately follows S in transitive clauses

d. everything that is not S or O follows V

e. variable SAuxOVX: O can also follow V

(167) rigid SAuxOVX (Mande, Senufo)

a. u **bɛna** fanta **di** a ma muso ye (Bambara)
3pl pm Fanta give 3sg postp wife postp
S Aux O V X X
'They will give him Fanta as his wife.' (Creissels 2005: 1)

b. kambaanoo **yé** dokoo **dii** sunkutoodíŋo la (Mandinka)
boy pm stick give girl.young postp
S Aux V X
'The boy is giving the stick to the girl.' (Haffner 2019)

3. According to Elisabeth Kerr (p.c.), there is an additional type that allows for two non-obliques between Aux and V. At least Tunen (Bantu) exemplifies such a language.

c. Wuloo **bé** **loo**-riŋ siiraŋo bala bulubaa karoo la (Mandinka)
dog PM stand-PM couch POSTP right side POSTP
S Aux V X X
'A dog is standing on the right side next to a sofa.' (Haffner 2019)

(168) variable SAuxOVX (Tagbana)

a. Paul wi **na** sɛbɛ **ɲu** ɲiratana wa park ni
Paul PRO ASP book reads often there park POSTP
S Aux V O
'Paul read three books.' (Fanselow et al. submitted)

b. wi **ma** sɛbɛl tara **jo**
PRO ASP books three read
S Aux O V
'S/he read three books.' (Fanselow et al. submitted)

c. wi **ma** **jo** sɛbɛl tara
PRO ASP read books three
S Aux V O
'S/he read three books.' (Fanselow et al. submitted)

According to Gensler & Güldemann (2003), these types do not occur outside of Africa. A further subtype are languages that are SVO and SAuxVO in most cases but exhibit SAuxOV under certain circumstances, e.g., certain tenses, see Sande et al. (2019) and Zeller (2015) for a discussion of this type.

SAuxOVX languages defy the homogeneity of OV languages. The 'well-behaved' OV languages, be they scrambling or not, presented in chapter 3, do not merely feature OV order, but V-final order in general. In section 5.4.1, I already mentioned that the severe restrictions on preverbal elements made researchers doubt that SAuxOVX languages represent underlying OV languages. Independently from one another, Kandybowicz & Baker (2003) and Fanselow et al. (submitted: the authors didn't know of the previous proposal) concluded that the SAuxOVX languages they investigated (Nupe and Tagbana) must be underlying SAuxVO languages in which V fails to move across the object after movement of the object.

4.2.3.2 Surface SAuxOVX: "double V2 languages"

The next SAuxOVX subtype Gensler & Güldemann (2003) mention is present in Dinka (Nilotic). This kind of language can present a surface SAuxOVX order. However, Cognola (2013a) recognises similarities between Dinka and Mócheno (Indo-European) and dubs this kind of languages "double V2 languages". They were also discussed as featuring preverbal focus in section 3.2.5. Cognola shows that these languages allow for two preverbal slots within the clause that host information-structurally defined constituents: one in front of the finite verb, and one in front of a non-finite verb. These elements need not be S or O. This clause structure resembles V2 languages in that there are domains

where a verbal element directly follows a specially marked constituent, as if there were two domains in which a V2-constraint is present. The characteristics for a double-V2 language are summarised in (169).

(169) Characteristics of **double V2 languages**

a. any single constituent in front of Aux (169,170)

b. single slot in front of V for focus (169,170)

c. no OV order under focus-movement (171)

Just as Gensler & Güldemann (2003), I do not recognise this type of language as an actual SAuxOVX language as above since it is only one of several possible orders in double-V2 languages. First, the position directly in front of V is occupied by the information focus of the clause and not necessarily the object. This contrast can be seen between (170) with an SAuxOVX order due to object focus, and (171) with SAuxVO order due to subject focus. Note that (170b) is not ungrammatical, but merely infelicitous in a context that requires the object to be information focus. On the other hand, (171b) is ungrammatical because interrogative phrases are inherently focussed such that a preverbal object would interfere with the focal status of the interrogative. Cognola (2013a) analyses this contrast by positing that the interrogative has to originate from the lower preverbal position, as indicated by the gap position in (171 a); this gap blocks the object from surfacing in preverbal position.

(170) [Q: What did you put on the table?] (Mócheno –Cognola, 2013)

a. Avn tisch hòne **de** mai ociai galek.
on-the table have-I the my glasses put
'I have put my glasses on the table.'

b. #Avn tisch hòne galek **de mai ociai**.
on-the table have-I put the

(171) a. Ber hòt <ber> kaft **s** **puach**? (Mócheno –Cognola, 2013)
who has who bought the book
'Who bought the book?'

b. *Ber **hòt** **s** **puach** kaft?
who has bought the book

This concludes the types of languages that surface with SAuxOVX order and leads us to the SAuxOV# languages.

4.2.4 Type 2: SAuxOV#

SAuxOV# is the shorthand for "true verb-final languages" in which the verb is clause-final position indicated by the hash #. In contrast to SAuxOVX languages any number of elements can precede V. Gensler & Güldemann (2003) note that SAuxOV# "seems surprisingly rare" and mention only 4 languages with this property: the V2 languages

German and Kashmiri (both Indo-Germanic), and two further languages, !Ora/Korana (Khoekhoe) and Canelo-Krahó (Amazonian). Since Gensler & Güldemann's (2003) interest resides with the African SAuxOVX languages, there is no more detail with regard to SAuxOV# languages.

I expand on Gensler & Güldemann's (2003) initial sketch and arrive at two types of SAuxOV# languages shown in (172). Having established this typology based on the current literature, I will then be able to classify the properties of South Sámi SAuxOV against the backdrop of the typology. V2 languages are not recognised as genuine SAuxOV# languages because any element, not just S, can precede Aux.

(172) **Two types of SAuxOV#**

a. Type 2A: V-raising OV languages: SVO–SAuxOV# alternation (includes V2)

b. Type 2B: Aux-raising OV languages: SOV–SAuxOV# alternation

Before exemplifying the SAuxOV# languages, the generative reasoning behind the labels in (172) will be explained.

4.2.4.1 Motivating V-raising and Aux-raising OV languages

The concept of verb raising stems from the generative tradition and has been commonplace since at least Pollock (1989) (also see section 5.2.2). Another commonplace since Pollock (1989) is the discussion of further factors surrounding verb raising, especially regarding whether and which verbal elements raise in a given language and to which position these elements raise. SAuxOV# would fill a predicted typological gap in the resulting typology.

Pollock (1989) demonstrated that modern standard English (Germanic) and French (Romance) differ in the ordering of V and Aux relative to negative particles and certain adverbs. He concludes that there is Aux-raising in both languages, but that V-raising is absent from English. This shows that verbal elements can be affected by raising to different degrees. In modern standard varieties of English, V follows the negative particle and certain adverbs regardless of whether Aux is present, i.e., there is no V-raising. In French, conversely, the negative particle follows independent inflected V in the absence of Aux, but the negative particle precedes dependent forms of V, i.e., there is V-raising. Finally, when the copula is used as an Aux in both French and English, negation invariably follows Aux. This last fact is interpreted as evidence that these Aux invariably raise since they cannot appear below the negative particle or certain adverbs.

In sum, the differences between French and Modern English are explained by selective verb raising. In French, *both* Aux and lexical V raise to a specific clausal slot. In English, *only* Aux raise to a specific clausal slot while lexical V cannot raise. The textbook explanation is the assumption of 'weak' and 'strong' features, but the implementation of the structural difference is not a concern here.

The concept of verb movement to explain word order alternations was already applied to some African SAuxOV# languages. Sande et al. (2019) discuss SAuxOV orders in African languages to classify different kinds of SAuxOV languages and determine their

underlying word order. They already lay the basis for a comparative concept of verb movement: verb movement is visible in the relation of word order in a sentence with both Aux and V, to word order in a sentence without Aux. V movement occurs when there is a difference in the relative order of V to other elements in the clause between these two kinds of sentences. This is exemplified in (173).

(173) a. SAuxXVO + SVXO: verb movement (French, Finnish, Scandinavian)

b. SOVAux + SOV: no verb movement (typical OV)

c. SAuxOV + SVO: verb movement (Type 2A, Guébie, see below)

Applying the difference of general V-raising (French) vs. Aux-raising (English) to SAuxOV# leads to a further predicted type missing from Sande et al. (2019) and also unattested in their database. SAuxOV# should occur in two facets: In type 2A languages, both Aux and V can raise, as in French, leading to the alternation between SVO and SAuxOV#. In type 2B languages, however, only Aux raise, as in English, leading to the alternation between SOV and SAuxOV#. This proposal is represented in (174) remaining agnostic regarding the term of the structural position that the raised verbal elements occupy.

(174) **Proposal regarding V- and Aux-raising OV languages**

a. V-raising languages: every verbal element, Aux and V, can move to a certain clausal slot
surface SAuxOV#: [S [Aux [<S> [X [[O V] <Aux>]]]]]
surface SVO: [S [V [<S> [X [O <V>]]]]]

b. Aux-raising languages: only Aux can move to a certain clausal slot
surface SAuxOV#: [S [Aux [<S> [X [[O V] <Aux>]]]]]
surface SOV#: [S [X [O V]]] –[S [∅ [<S> [X [O V]]]]]

There is no principled reason why the difference between V- and Aux-raising languages should only occur in VO languages. Therefore, one would predict that this difference is also present in OV languages. OV languages that raise both Aux and V are attested by the V-raising languages (type 2A) discussed in section 4.2.4.2. The existence of Aux-raising languages (type 2B), as discussed in section 4.2.4.3, would mend a typological gap predicted by a commonplace in generative grammar.

4.2.4.2 Type 2A: V-raising OV languages

The defining properties of Type 2A are given in (175):

(175) **properties of Type 2A: V-raising OV languages**

a. alternation between SVO and SAuxOV#

b. any number of elements between Aux and V

The most salient group of potential Type 2A the V2 languages with underlying OV order due to the two prominent exemplars, German and Dutch. V2 languages were called languages with *unmistakable verb movement* in section 5.3.2, because the evidence for verb

movement is pressing in these languages. Simply applying the comparative concept of verb movement by Sande et al. (2019) yields the diagnosis of verb movement and fits the criteria in (175): the order of V relative to O and X is different in (176a) without an Aux compared to (176b) with an Aux. The underlying word order without any movement is visible in (176c).

(176) German, V2 with OV base: SVO–SAuxOV# alternation

a. SVOX

Die Katze **weckte** den Jungen am Freitag.
the cat wake.up.PST.3SG the.ACC boy.ACC on friday
'The cat woke the boy up on friday.'

b. SAuxOXV

Die Katze **hat** den Jungen am Freitag **geweckt**.
the cat has the.ACC boy.ACC on friday woken.up
'The cat woke the boy up on friday.'

c. SOXVAux

weil die Katze den Jungen am Freitag **geweckt** **hat**.
because the cat the.ACC boy.ACC on friday woken.up has
'since the cat woke the boy up on friday.'

As Gensler & Güldemann (2003) already mention, V2 languages with underlying OV order are sparse. They include at least the Germanic OV languages (German, Dutch, Afrikaans), Kashmiri (Indo-Aryan), Ingush (Nakh-Daghestanian, Nichols 2011), and Estonian (section 3.4.2) (for an overview see Holmberg (2015), Hsu (2017)). Another potential V2 language with OV is Karitiana (Tupí, Storto 1999, 2017), which exhibits SVXY… order in finite main clauses (Storto 1999: 121), but is strictly verb-final with default OSV order in embedded clauses (Storto 1999: 122).

Classifying V2 languages as SAuxOV# languages is problematic because the order SAuxOV# is just one of many possible orders. The slot in front of the finite verb can be filled by almost any constituent. Therefore I would like to exclude these languages from the narrow definition of Type 2A languages. The additional characteristics of V2 languages instead of only the SVO–SAuxOV# alternation are listed in (177). These characteristics are still important to note because South Sámi's main contact languages are V2 languages, making South Sámi likely to be a V2 language as well. In section 4.3, South Sámi will therefore be probed for the criteria listed here.

(177) Characteristics of V2 languages with OV base

a. any finite V can appear in second position ("Aux")

b. non-finite V appear clause-final, resulting in OV_{nonfin}#

c. (a)+(b): alternation between SVO and SAuxOV#, compare (176a) and (176b)

d. any constituent can appear in the first position (pre-Aux slot) (178)

e. in clauses with at least two dependent verb forms, OV-typical V–Aux order can still surface

f. optionally: domains of strict verb finality (e.g., dependent clauses as in (176c))

(178) German, V2 with OV base: flexible first position

a. **Die Katze** hat den Jungen am Freitag **geweckt**.
the cat has the.ACC boy.ACC on friday woken.up

b. **Den Jungen** hat die Katze am Freitag geweckt.
the.ACC boy.ACC has the cat on friday woken.up

c. **Am Freitag** hat die Katze den Jungen **geweckt**.
on friday has the cat the.ACC boy.ACC woken.up

To summarise, the properties in (177) prevent V2 languages with an OV base from being proper SAuxOV# languages: the verb in the second position does not have to be an Aux, and the element in front of Aux does not have to be S but can be a variety of elements. The surface SAuxOV# order is, hence, merely a possible order and does not properly characterise V2 languages with an OV base. The same characteristics exclude the focus-raising languages (esp. Dargwa, Eastern Armenian) from section 3.2.6 as proper SAuxOV# languages. It still has to be acknowledged that both V2 and focus-raising languages allow for SAuxOV# order and an alternation with SVO.

The prime examples of Type2A SAuxOV# languages were discovered and discussed by Hannah Sande (Sande 2017, Sande et al. 2019). The Type 2A pattern is especially present in the SAuxOV# languages of the Kru family (Sande et al. 2019: 670ff.). Unlike V2 languages, some Eastern Kru languages and their contact languages only allow for the subject to surface in front of the finite verb, and further constituents may precede the subject. Therefore, Sande (2017: 94–102) explicitly rejects a V2 analysis of Eastern Kru languages. Crucially, these languages feature the alternation between $SAux_{fin}OV_{nonfin}$# and $SV_{fin}O$ nonetheless. This is illustrated for Guébie in (179).

(179) Guébie (Kru), SAuxOV#–SVO alternation

a. e^{4} ji^{3} ɟa^{31} li3
1SG.NOM will coconuts eat
'I will eat coconuts.' (Sande et al. 2019: 670)

b. e^{4} li^{2} ɟa^{31}
1SG.NOM eat.IPFV coconuts
'I eat coconuts.' (Sande et al. 2019: 672)

A list of languages with this alternation is provided in the appendix of Sande et al. (2019: 697f.). It contains several languages with an SVO–SAuxOV# alternation.

Sande (2017: 94–102) discussion of word order patterns Guébie also shows further differences to the SAuxOVX languages: Aux is not an obligatory part of the sentence, more than one element can appear between Aux and V, non-obliques appear between Aux and V, more than one element can precede Aux, and there are no postverbal ele-

ments.

The only other language I found that matches the Type 2A pattern would be Kiezdeutsch ("urban vernacular German"). Alexiadou & Lohndal (2018) classify Kiezdeutsch as a V3 language. However, they note that the prefinite element is almost exclusively S (Alexiadou & Lohndal 2018: 248). This means that one of the core V2-properties, the irrelevance of the pre-finite category, is lost. The example of a clause with VS order (Alexiadou & Lohndal 2018: 248) is a predicational clause in a presentational focus construction, a context where even English is known to feature postverbal subjects (locative inversion). This means that Kiezdeutsch is much more like Kru than the V2 languages in this regard. Furthermore, there is a pre-subject slot most commonly occupied by temporal adverbials but never by O (Alexiadou & Lohndal 2018: 247). This also matches the characterisation of Guébie by Sande (2017). So instead of analysing Kiezdeutsch as a kind of deviant V2 due to German, it might be useful to analyse it as an Aux-raising OV language.

Most of the differences between SAuxOVX and Type 2A SAuxOV# languages are shared by the Type 2B pattern, which will be discussed next.

4.2.4.3 Type 2B: Aux-raising OV languages

The previous section dealt with languages that show an alternation between SVO and SAuxOV# order. However, the South Sámi alternation was between SOV and SAuxOV there is another type of SAuxOV# language, namely languages where V always appears clause-finally resulting in an alternation between OV# order and AuxOV# order. Relating to the criterion of verb-raising above, the relative order of V and the other elements of the clause stays the same in sentences with Aux, such that there is no verb-raising. The properties of this type are shown in 180. South Sámi will be shown to be of Type 2B in section 4.3.

(180) **properties of Type 2B: V-raising OV languages**

a. alternation between SOV# and SAuxOV#

b. any number of elements between Aux and V

Gensler & Güldemann (2003) mention two concrete languages that could fall into this category: !Ora/Korana (extinct or moribund, Khoekhoe) and Canelo-Krahó (Amazonian).

There are no recent studies on !Ora, but according to Tom Güldemann (p.c.) !Ora behaves like any other Khoekhoe language. Therefore, I report the patterns from Khoekhoe as a phylum building on Hahn (2013). According to Hahn (2013), Khoekhoe languages generally present an SOV# order and feature a non-inflecting clause-typing particle in the second position, which is not analysed as an Aux. However, these languages exhibit non-inflecting TAM markers. Many of these markers can appear anywhere in the clause, while some have to follow V. This pattern is illustrated in (181). Problematically, it can not be decided at the moment whether the TAM-markers are Aux or not since they are non-inflecting particles. This constitutes the fringe case discussed in section 4.2.1. In

Gensler & Güldemann's (2003) analysis, Khoekhoe counts as an SAuxOV# language because particles were explicitly included as Aux, and it would also qualify as an Aux for Anderson (2007).

(181) Nama (or Darama)

a. taras ge (go) ǁari (go) ǂkhanisa (go) maa=te
woman DECL TAM yesterday TAM book TAM give=me
'The woman gave me a book yesterday.' (Hahn 2013: 50)

b. namas ge tarasa maa tide
Nama DECL woman give TAM+NEG
'The Nama will not give (anything) to the woman.' (Hahn 2013: 53)

The other potential language of Type 2B would be Canelo-Krahó (Amazonian). According to Popjes & Popjes (1986: 137), there can be up to 4 additional phrases between the TAM-marker and V (182). There seems to be an additional clause-initial slot for time adverbials as well as the possibility for postverbal constituents (182b). Just as in the Khoekhoe languages, it is not possible to determine whether the constructions in (182) constitute Aux-V constructions since the TAM-markers are non-inflecting particles (Popjes & Popjes 1986: 179ff.). In addition, the lexical verb even inflects for person despite the presence of the TAM-marker (Popjes & Popjes 1986: 185f.), making it an unlikely candidate for an Aux-V construction according to the definition in section 4.2.1. However, Canelo-Krahó is an SAuxOV# language in the definition of Gensler & Güldemann (2003) and also Anderson (2007).

(182) SAuxXOV in Canelo-Krahó

a. wa **ha** pur kam cu-mã pĩ **jakep**
1 FUT field in 3- for wood cut
'I will cut wood for him in the field.' (Popjes & Popjes 1986: 137)

b. caxwa ri wa **ha** in-to kaj na aracri cu-pê pĩ **jakep**, pur
night at 1 FUT 3- eye away from quietly 3- MAL wood cut field
kam
in
'I will quietly cut wood from his field tonight without him seeing it (taking it away from him, for his negative benefit.)' (Popjes & Popjes 1986: 137)

Khoekhoe and Canelo-Krahó would be the only proponents of languages with OV#–AuxOV# alternation so far. But given the abovementioned problems with the definition of Aux in these languages, no languages of this type would have been documented so far. I could not find another example of a Type 2B language in Anderson (2007). As already mentioned, none of the languages probed for V-raising in (Sande et al. 2019: 697f.) exhibited an alternation between SOV# and SAuxOV#. This means that the South Sámi pattern might be unique at the present point in time if one only allows for the strictest interpretation of what counts as an Aux–V complex.

That South Sámi really instantiates Type 2B and does not instantiate any other type

will be discussed after concluding the typological overview.

4.2.5 Conclusion: A typology of SAuxOV languages

By reviewing the existing literature on SAuxOV languages, a more fine-grained distinction between the different types of SAuxOV languages could be established. The primary sources were Gensler & Güldemann (2003) combined with a comparative concept of verb-raising from Sande et al. (2019). A set of criteria was defined for each resulting type to differentially diagnose South Sámi in tentative typology. Additionally, it could be determined that the discussion of SAuxOV# is necessary to fill a hitherto unfilled gap in the typology predicted by a commonplace in the generative tradition, namely the distinction between languages that lack V-raising but exhibit Aux-raising. The resulting typology is shown in 163 again.

(183) **SAuxOVX languages**: 1 –real SAuxOVX: Mande, Songhay, … (Creissels 2005)
SAuxOV# languages: 2A –V-raising OV: Kru languages (Sande et al. 2019)
2B –Aux-raising OV: (Khoekhoe? Canelo-Krahó?)

All of these languages exhibit surface OV orders. However, the SAuxOVX languages might not be underlyingly verb-final. The strict restrictions on which elements can appear preverbally indicate that OV order in SAuxOVX languages is derived. Whether or not these OV languages can be taken as a severe case of inhomogeneity among OV languages will depend on how future analyses of SAuxOVX languages turn out and also on whether a uniform analysis will capture all SAuxOVX languages.

With the review of the existing material on SAuxOV languages, the place of South Sámi as a Type 2B language in the typology of SAuxOV languages will be discussed in the next section.

4.3 South Sámi in the typology of SAuxOV languages

In this section, South Sámi SAuxOV will be situated against the backdrop of the typology established in section 4.2. This allows for insights into South Sámi clause structure. It is already clear that the SOV–SAuxOV alternation only fits Type 2B. For this reason, the aim of this section lies in highlighting the differences of South Sámi SAuxOV compared to the other, already documented types.

4.3.1 South Sámi is not type 1: SAuxOVX

In this subsection, I will show that South Sámi SAuxOV does not fit the properties of type 1 languages. In order to determine that this is the case, the properties of type 1 languages are repeated below for ease of reference.

(166) **African/real SAuxOVX**

a. Aux is an obligatory part of the sentence

b. at most a single, non-oblique constituent between Aux and V

c. Aux immediately follows S in transitive clauses

d. everything that is not S or O follows V

e. variable SAuxOVX: O can also follow V

4.3.1.1 Aux is not an obligatory part of a South Sámi transitive sentence

The first example (159a, repeated below) showed that sentences do not require an Aux, a finite V suffices. The second example in (159b, repeated below) indicated that the even copula in an analytic tense form is optional, leaving the sentence without a finite verb. The copula is mainly realised for emphasis (cf. Magga & Magga 2012: 207), either for verum focus or for emphasising the event time.

(159) a. Gaahtoe maanam bearjadahken **gåaskoeji**.
cat[.nom] child.acc friday.gen wake.pst.3sg
'The cat woke the child up on friday.'

b. Gaahtoe (**lij**) maanam bearjadahken **gååskeme**.
cat[.nom] cop.pst.3sg child.acc friday.gen wake.ptcp
'The cat has/has woken the child up on friday.'

The optionality of Aux does not fit the SAuxOVX languages.

4.3.1.2 Any number of constituents can appear between Aux and V without restrictions to non-obliques

In contrast to the African SAuxOVX languages, South Sámi allows for any number of elements between Aux and V, not just a single element. Furthermore, not only non-obliques appear between Aux and V. This could already be seen in (159b) and (160b, repeated below), and with an additional adverb in (184). This goes hand in hand with the fact that any number of elements can precede V in the absence of Aux, as already seen (159a).

(160) b. Piere **edtja** aahtjan bovtsem **doekedh**.
Per.[nom] shall.prs.3sg father.ill reindeer.acc sell.inf
'Per will sell the reindeer to the father.'

(184) a. Piere **edtja** jirreden aahtjan bovtsem **doekedh**.
Per.[nom] shall.prs.3sg tomorrow father.ill reindeer.acc sell.inf
'Per will sell the reindeer to the father tomorrow.'

4.3.1.3 S and Aux don't have to be adjacent

In African SAuxOVX languages, the obligatory Aux immediately follows S, not allowing for intervening material. This is not the case in South Sámi, which can be seen in (185) for the equivalent of *want* (185a,b) and the copula (185c). The subject and Aux are in boldface in order to make the intervening elements, in this case temporal adverbials, more visible.

(185) a. **Marja** jååktan **edtji** aelkedh barkedh.
Marja yesterday shall.PST.3SG start.INF work.INF
'Marja wanted to start to work yesterday.'

b. **Dïhte** jååktan **edtji** ryöjnesjidh.
3SG.NOM yesterday shall.PST.3SG shepherd.INF
'Yesterday she wanted to shepherd.' (Magga & Magga 2012: 183)

c. **Mijjieh** dan iehkeden **limh** varki låavtegem tseegkeme
1PL.NOM DEM.GEN evening COP.PST.1PL quickly tent.ACC set.up.PTCP
don stoere loekten noerhtelen juktie reejregööti.
DEM.GEN large.ATTR bay.GEN northward because thunder.INCH.PRS.3SG
'That evening we quickly set up the tent to the north of the large bay because it began to thunder.' (Magga & Magga 2012: 200)

Furthermore, South Sámi even allows for AuxS order with the copula. The only examples from Magga & Magga (2012: 172,192,230) that show S following the copula involve existential clauses, i.e., presentational focus. However, the subject can also appear following the copula when the copula is an Aux, as shown in (197). The time adverbial in front of Aux is expected given that time adverbials can generally appear in front of Aux (185). The AuxS order in South Sámi is another contrast to the African SAuxOVX languages.

(186) Bearjadahken **lij** gaahtoe maanam **gååskeme**.
friday.GEN COP.PST.3SG cat[.NOM] child.ACC wake.PTCP
'The cat has woken the child up on friday.'

4.3.1.4 Obliques can, but don't have to follow V

Section 4.3.1.2 already showed that the pre-V position in South Sámi is not restricted to non-obliques. Similarly, obliques are also not required to appear postverbally in South Sámi, which is apparent from the V-final examples presented so far. Nonetheless, postverbal elements, both obliques and non-obliques, occur in South Sámi. They need to be discussed to distinguish them from postverbal obliques in SAuxOVX languages. They also add to the discussion of chapter 5, where South Sámi was only briefly mentioned.

Magga & Magga (2012: 231) state that "[e]ven if that [V-final order] is characteristic for South Sámi, it is not an absolute law. Especially adverbials can also follow the verb"

(translation AP). Further restrictions are neither named nor shown in examples, suggesting that adverbials can freely appear following V. Kroik (2016: 25, fn. 17) provides the example in (187) featuring a postverbal manner adverbial. There, he excludes sentences with postverbal manner adverbials from his study because they feature an intonational break before the adverbial and are, therefore, not neutral compared to examples with preverbal manner adverbials. This limits the generalisation made by Magga & Magga (2012: 231) to marked constructions, at least with postverbal manner adverbials.

(187) Manne gærjide lohkem sneehpeslaakan.
1sg book.pl.acc read.prs.1sg quickly
"I read the books quickly." Kroik (2016: 25, fn. 17)

Kroik (2016: 39) also provides an example with a postverbal direct object shown in (188). He states that the postverbal is not "ruled out by grammar" but is not neutral in an out-of-the-blue context. The degradedness of (188) is therefore said to stem from the implausability in a neutral context.

(188) ?Manne lohkem gærjah.
1sg read.prs.1sg book.pl
"I read books." Kroik (2016: 39)

Mikael Vinka (p.c.) also states that there are hitherto unknown environments in which certain elements are mandatorily placed in postverbal position. In conclusion, there is a consensus that postverbal elements occur in South Sámi. In contrast to African SAuxOVX languages, postverbal placement is restricted to specific information-structural or syntactic environments. It is not the neutral position for either obliques or non-obliques.

Prior claims about postverbal elements in South Sámi can be substantiated with additional data, and verb-focus sentences are identified as an environment that generally allows for postverbal elements. First, obliques can but need not be placed in postverbal position. The information-structural status of the oblique does not matter in this regard, as seen in the comparison of (189) and (190): here, some speakers preferred VX while others preferred XV regardless of context. These data corroborate the difference in the placement of obliques to African SAuxOVX languages.

(189) [C: What happened?/Mij deahpadi?]

a. Gaahtoe maanam bearjadahken **gåaskoeji**.
cat.nom child.acc friday.gen wake.pst.3sg
'The cat woke the child up on friday.'

b. Gaahtoe maanam **gåaskoeji** bearjadahken.
cat.nom child.acc wake.pst.3sg friday.gen

c. Gaahtoe (lij) maanam bearjadahken **gååskeme**.
cat.nom cop.pst.3sg child.acc friday.gen wake.ptcp

d. Gaahtoe (lij) maanam **gååskeme** bearjadahken.
cat.NOM COP.PST.3SG child.ACC wake.PTCP friday.GEN

(190) [C: When did the cat wake the child?/Gåessie gaahtoe maanam gåaskoeji?]

a. Gaahtoe maanam bearjadahken **gåaskoeji** / **gåaskoeji** bearjadahken.
cat.NOM child.ACC friday.GEN wake.PST.3SG / friday.GEN wake.PST.3SG
'The cat woke the child up on friday.'

b. Gaahtoe (lij) maanam bearjadahken **gååskeme** / **gååskeme**
cat.NOM COP.PST.3SG child.ACC friday.GEN wake.PTCP / wake.PTCP
bearjadahken.
friday.GEN

Direct objects do not behave like obliques concerning postverbal placement. Generally, VO order was judged as degraded to OV order. Kroik (2016: 39) mentions that postverbal objects serve a specific information structural role without providing sentences in context. I did not find that VO order was judged as more appropriate when changing the information structural status of O. To that end, compare (191) with (192). Akin to what Kroik (2016) reports regarding the mere "implausability" of postverbal objects, postverbal objects were judged as grammatically possible but degraded and "unnecesary" by some of my consultants while others fully rejected them.[4] Together with (189,190), these findings corroborate the fact that South Sámi is not a double V2 language either since information-structural factors do not influence pre- and postverbal placement of elements.

(191) [C: When did the cat wake the child?/Gåessie gaahtoe maanam gåaskoeji?]

a. ??Gaahtoe bearjadahken **gåaskoeji** maanam.
cat.NOM friday.GEN wake.PST.3SG child.ACC
'The cat woke the child up on friday.'

b. ??Gaahtoe (lij) bearjadahken **gååskeme** maanam.
cat.NOM COP.PST.3SG friday.GEN wake.PTCP child.ACC

(192) [C: Who did the cat wake on friday?/Gïem gaahtoe bearjadahken gåaskoeji?]

a. ??Gaahtoe bearjadahken **gåaskoeji** maanam.
cat.NOM friday.GEN wake.PST.3SG child.ACC
'The cat woke the child up on friday.'

b. ??Gaahtoe (lij) bearjadahken **gååskeme** maanam.
cat.NOM COP.PST.3SG friday.GEN wake.PTCP child.ACC

Finally, there is a construction in which all consultants accepted X and O in postverbal positions. All consultants accepted both obliques and non-obliques in postverbal position in contexts where the sentence is presented as something "sensational", as shown in (193). This can be interpreted as a case of a mirative construction involving verum

4. Note that Kroik (2016) and the present study mostly interviewed the same consultants.

focus due to the presence of stress on V, as indicated by small capitals. Note that all but one consultant fully rejected this construction in an AuxV construction (193d). Since obliques and objects mostly appear postverbally in this highly marked mirative construction, there is further corroboration that South Sámi does not allow for mandatorily neutral postverbal placement of elements. I interpret this mirative construction as a case of exceptional V-raising, a claim that will be pursued further in section 4.3.2.

(193) a. Gaahtoe gåaskoeji maanam bearjadahken!
cat wake.pst.3sg child.acc friday.gen
'The cat woke the child up on friday! (Normally, it never wakes people!)'

b. Manne tjuvlestem fïerhtem bovtsem varki.
1sg.nom kiss.pst.1sg each.and.every.acc reindeer.acc quickly
'I kissed every reindeer quickly.' or '. . . soon/early.'

c. Daenbiejjien göökte kaarrh sjeakoejin fïerhten fievsiem.
today two[.nom] man.pl[.nom] clean.pst.3pl each.and.every.acc stable.acc
'Today two men cleaned every stable.'

d. *Gaahtoe lij **gååskeme** maanam bearjadahken .
cat cop.pst.3sg wake.ptcp child.acc friday.gen
int. 'The cat woke the child up on friday!'[5]

Based on the findings of this subsection, it is clear that South Sámi does not belong to the typologically most frequent kind of SAuxOV language, the type 1 languages with SAuxOVX order: Aux are neither obligatory nor obligatorily adjacent to the subject, there can be more than one element between Aux and V, and postverbal elements, including obliques, mandatorily occur only in highly restricted contexts. This also precludes South Sámi from the variable SAuxOVX type, leaving Africa as the only home of SAuxOVX languages. The absence of mandatorily postverbal elements in neutral contexts also precludes the classification as a "double V2 languages".

In the upcoming section, I will show that South Sámi is a SAuxOV# language, but not a Type 2A language and not a V2 language.

4.3.2 South Sámi is neither Type 2A nor a V2 language

South Sámi is not a V-raising OV language. The starting point of this presentation was the alternation between SOV and SAuxOV, and so South Sámi doesn't fit the defining property of V-raising languages (175) repeated below.

(175) **properties of Type 2A: V-raising OV languages**

a. alternation between SVO and SAuxOV#

b. any number of elements between Aux and V

Nonetheless, the non-Sámi contact languages of South Sámi, varieties of Norwegian and Swedish, are V2 languages. Furthermore, both Swedish (Delsing 1999, Petzell 2011, Sangfelt 2019) and Norwegian (Sundquist 2006) exhibited OV and XV orders for a long time throughout history. Therefore, a V2 analysis of South Sámi SAuxOV that developed through contact is plausible. This encourages a closer look at the differences between South Sámi and V2 languages with an OV base, which still feature V-raising, but are not SAuxOV#.

South Sámi does not fit the criteria of a V2 language with OV base order in (177), repeated here as (194). The evidence against a V2 analysis in (195) was already prestented in the previous section, but is recontextualised for the issue at hand.

(194) Characteristics of V2 languages with OV base

a. any finite V can appear in second position ("Aux")

b. non-finite V appear clause-final, resulting in OV_{nonfin}#

c. (a)+(b): alternation between SVO and SAuxOV#, compare (176a) and (176b)

d. any constituent can appear in the first position (pre-Aux slot) (178)

e. in clauses with at least two dependent verb forms, OV-typical V–Aux order can still surface

f. optionally: domains of strict verb finality (e.g., dependent clauses as in (176c))

(195) **Evidence against a V2-analysis of South Sámi**

a. alternation between SOV and SAuxOV# (159)

b. not only a single pre-Aux slot

c. not any constituent in pre-Aux slot

The alternation between SOV and SAuxOV# in South Sámi (195a) is the core phenomenon to be explained, and this alone challenges the V2-categorisation (195a–c), just as with the Type 2A categoristion. The verb-medial sentences presented in section 4.3.1.4 do not detract from the general absence of an SVO–SAuxOV# alternation: those sentences, partially repeated here as (196), bear verb focus, and verb focus is a common trigger for verb fronting in OV languages (e.g. Turkish: Erguvanlı 1984: 70). In V2 languages with underlying OV order, however, the SVO–SAuxOV# alternation is neutral.

(196) Gaahtoe GÅASKOEJI maanam bearjadahken!
cat wake.PST.3SG child.ACC friday.GEN
'The cat woke the child up on friday! (Normally, it never wakes people!)'

Next, if South Sámi would have V2, it would actually be V3. More than the subject can be in front of Aux, as already shown in (185) and with XSAuxOV in (197). Note that only 'high adverbials' can take the place in front the subject, just like in most SVO languages. In general however, V3 would not constitute a strong argument against V2. First, V3 would not be surprising in a contact scenario given how frequent V3 is in Mainland

Scandinavian. Furthermore, most "V2"-languages allow for more than one pre-finite element (Hsu 2017).

(197) XSAuxOV in South Sámi
Bearjadahken gaahtoe **(lij)** maanam **gååskeme**.
friday.GEN cat[.NOM] COP.PST.3SG child.ACC wake.PTCP
'The cat has woken the child up on friday.'

Crucially, South Sámi would be missing the other hallmark of the pre-finite position: its ignorance of grammatical function. Magga & Magga (2012) state that the position in front of Aux is sometimes filled by a non-subject just in order for it be filled by something. This suggests a V2-like first position. However, the sentences presented are existential sentences that feature an adverbial in the pre-Aux position, and Magga & Magga (2012: 172,192,230) note themselves that subjects can appear post-Aux in existential sentences. Since adverbials can always appear in front of Aux, these sentences are not evidence for V2-like behavior. It seems that subjects can generally appear post-Aux with the copula, as shown in (197), which might look like V2:

(198) XAuxSOV in South Sámi
Bearjadahken **lij** gaahtoe maanam **gååskeme**.
friday.GEN COP.PST.3SG cat[.NOM] child.ACC wake.PTCP
'The cat has woken the child up on friday.'

However, evidence against a V2-like first position stems from OVS sentences: if the pre-finite element is the object, the sentence will either be rejected or the object is reinterpreted as the subject. That is, OVS sentences are impossible despite the fully disambiguating head- and dependent-marking.[6]

(199) a. *Gïem gåaskoeji gaahtoe bearjadahken?
who.ACC wake.PST.3SG cat[.NOM] friday.GEN
intepreted as 'Who woke the cat on friday?'

b. *Maanam gåaskoeji gaahtoe.
child.ACC wake.PST.3SG cat[.NOM]
int. 'The cat woke the child.'

In sum, a V2 analysis is an unlikely candidate for South Sámi. The SAuxOV# order cannot be viewed as an instace of merely adopting V2 from a dominant contact language.

6. I cannot present the unavailability of OAuxSV sentences in South Sámi. From piloting and discussions with Mikael Vinka (p.c.) it was already clear that South Sámi would not allow for a Germanic-like prefield, which is why the relevant sentences were not included in my fieldwork. To my knowledge, the only way to achieve OAuxSV is by using object interrogatives, just as in English. At the moment, a student paper by Merit Fjellheim (2012) is the only written source for relevant examples. There she first shows that polarity questions involving Aux are formed by S–Aux inversion as in Germanic. Then she shows that object interrogatives appear in both O_{wh}AuxSV (= V2-like) and O_{wh}SAuxV order. Taken together, this means that Aux fronting expresses interrogative mood, and that OAuxSV order is merely the result of *wh*-fronting after Aux fronting took place. Just as in English, Aux is even higher in interrogatives than in declaratives.

4.3.3 South Sámi as an Aux-raising OV language

As stated earlier, South Sámi fits the Aux-raising type of OV language: its hallmark is the alternation between SOV# and SAuxOV#, which was the starting point for present study.

(200) **properties of Type 2B: V-raising OV languages**

a. alternation between SOV# and SAuxOV#

b. any number of elements between Aux and V

There are still several differences in the Aux–V construction between South Sámi and the other two potential Type 2B languages mentioned by Gensler & Güldemann (2003), Khoekhoe and Canelo-Krahó. In both Khoekhoe and Canelo-Krahó, the potential Aux are non-inflecting particles, even called postpositions in Canelo-Krahó (Popjes & Popjes 1986: 179ff.). In Khoekhoe (Hahn 2013), there are two Aux-like elements, of which only one, a clause-typing element, has a fixed position, while the TAM-Aux is positioned freely. Finally, any element can come in front Aux, inviting the possibility of a V2 analysis instead. In Canelo-Krahó, Aux has to be adjacent to S (Popjes & Popjes 1986: 179ff.). When Aux is present, V still inflects for person, notably with a prefix (Popjes & Popjes 1986: 185f.). There can be multiple Aux, but only the temporal particles assume the special, S-adjacent position, while modal auxiliaries behave differently (Popjes & Popjes 1986: 184). Finally, the verb form depends on the position of the verb dependents: in the presence of postverbal elements, the verb takes on a different form (Popjes & Popjes 1986: 192). Since I could not perform fieldwork on either Khoekhoe or Canelo-Krahó, I could not determine the word order patterns in direct comparison.

While the Aux-status of the potential Aux-elements is somewhat unclear, the South Sámi auxiliaries constitute clear examples of Aux. As all previous examples show, the Aux inflects, and V appears in a dependent verb form. As is typical of grammaticalised Aux (instead of semi-auxiliaries), the Aux show peculiar inflection patterns. First, the copula *lea* is the only verbal element that can fully inflect under negation in the past tense (Magga & Magga 2012: 38). Second, the modal auxiliary *edtjedh* is often realised in a reduced form with reduced inflection in spontaneous speech (Richard Kowalik, p.c.). Another point, but one that I cannot thoroughly verify, is that the *lea* and *edtjedh* seem unable to cooccur in the same clause. Finally, these elements show positional peculiarities compared to lexical verbs. However, since their positional properties are the central question, this data point cannot be evaluated to avoid circular argumentation.

The discussion above means that South Sámi is the hitherto only real example of a language that (a) shows a clear case of an Aux–V construction, and where (b), there is an SOV–SAuxOV# alternation.

4.4 The analysis of South Sámi SAuxOV#

In this section, a structural analysis for South Sámi SAuxOV# will be presented and substantiated with respective tests. The Aux–V construction will be contrasted with

control-verb constructions in order to highlight the structurally high position that Aux occupy in SAuxOV# clauses.

4.4.1 Monoclausality

At first, it has to be established that the Aux–V construction is indeed monoclausal. The most straightforward test for monoclausality is *individual modifiability*: if two elements belong to the same clause, they should be individually modifiable by clause-wide modifiers. The most straightforward modification, negation, cannot be tested in South Sámi due to how the negative auxiliary works. Instead, individual modifiability can be tested with two contradicting temporal adverbials, as in (201).

(201) Individual modifiability for testing monoclausality

a. **Jååktan** Piere jeehti, **jirreden** edtjem aahtjan
yesterday Peter say.pst.3sg, tomorrow shall.prs.1sg father.dat
bovtsem doekedh.
reindeer.acc sell.inf
'Peter said yesterday, that I shall sell a reindeer to my father tomorrow.'

b. **Jååktan** Piere edtji aahtjan bovtsem doekedh.
yesterday Peter shall.pst.3sg father.dat reindeer.acc sell.inf
'Yesterday Piere wanted to sell a reindeer to his father.'

c. *__Jååktan__ Piere edtji **jirreden** aahtjan bovtsem doekedh.
yesterday Peter shall.pst.3sg tomorrow father.dat reindeer.acc sell.inf
int. 'Yesterday Piere wanted to sell reindeer to his father tomorrow.'

d. #Piere edtji **jirreden** aahtjan bovtsem doekedh.
Peter shall.pst.3sg tomorrow father.dat reindeer.acc sell.inf
'Piere wanted to sell a reindeer to his father tomorrow (but that didn't come to be).'
(only under irrealis interpretation of pst, cf. Magga & Magga 2012: 204)

The baseline sentence in (201a) shows that two contradicting time adverbials can appear in the same sentence when they appear in different CPs. The next baseline in (201b) shows that it is possible to modify an SAuxOV# sentence with a temporal adverbial. The crucial datapoint is now (201c): the sentence is ungrammatical and yields no meaningful interpretation. This means that Aux and V are not individually modifiable. This is indicative of a monoclausal construction. Further motivation for a monoclausal analysis stems from (201d): there, only V was supposed to be modified, which should not be possible in a monoclausal construction. However, the temporal adverbial was interpreted as a modifier of Aux instead. The clashing information of the future time adverbial and the preterite Aux was resolved by reinterpreting the past tense as irrealis. This shows that the temporal adverbial was not able to modify only V. Consequently, there is further evidence for the monoclausality of the construction.

4.4.2 Aux-raising

In accordance with the typology of verb raising in section 4.2.4.1, one would want to propose the coarse structure in (202). Aux are base-generated low in the structure just as they are in other OV languages. There is a functional head F that attracts Aux such that Aux moves leftwards into a structurally high, functional position. For the sake of understanding, this FP can be called TP. Afterwards, S is attracted by T or another head to an even higher structural position. This accounts, among other things, for the inability of postverbal S (199), and the lack of A-scrambling in South Sámi (section 3.5.2). The end result is the structure in (202a) mapping to SAuxXOV. In clauses without Aux, S still moves, but V does not move to T. This results in the structure in (202b) mapping to SXOV. The V-raising Kru languages would only differ from (202) in also moving V to FP.

(202) Aux-raising analysis
– Aux *moves* to TP
– V *can normally not move* to TP

a. $[_{CP1}$ … S $[_{TP}$ Aux $[_{VP}$ <S> $[_{VP}$ X $[_{VP}[_{VP}$ O V] <Aux>]]]]]

b. $[_{CP1}$ … S $[_{FP}$ ∅ $[_{VP}$ <S> $[_{VP}$ X $[_{VP}[_{VP}$ O V]]]]]]

There is a different possibility that defies that neat typology. Kroik (2016: 40f.) suggests the analysis in (203). It assumes the same clause structure as the Aux-raising analysis in (202), but Aux is base-generated in FP. This analysis straightforwardly accounts for the special status of Aux in South Sámi as a separate category instead of just a semi-auxiliary. Base-generating Aux in that structurally high position yields (203a), mapping to SAuxXOV. Lexical V is simply never merged in that projection. In the absence of Aux, the structure in (203b) obtains, mapping to SXOV. There would not be any connection to V-raising OV languages, and

(203) high left base-generation analysis (Kroik 2016: 40f.)
– Aux is *base generated* in TP
– V is *never base-generated* in TP

a. $[_{CP1}$ … $[_{TP}$ S $[_{T'}$ Aux $[_{VP}$ <S> $[_{VP}$ X $[_{VP}$ O V]]]]]]

b. $[_{CP1}$ … $[_{TP}$ S $[_{T'}$ ∅ $[_{VP}$ <S> $[_{VP}$ X $[_{VP}$ O V]]]]]]

The analyses in (202) and (203) can be combined into the one in (204). It resembles the textbook analyses of English. Aux is base-generated in a structurally high position, but it is still attracted by T. V, on the other hand, is not attracted by T. The parallel to V-raising languages and the typology of verb movement would still be there, but the movement of Aux from AuxP to TP would be string-vacuous most of the time, making it difficult or impossible to detect (negation is not applicable, and adverbs are interspersed freely).

(204) high left base-generation + movement analysis
– Aux is *base generated* in AuxP

– Aux *moves* to TP
– V *can normally not* move to TP

a. [$_{CP1}$ … S [$_{TP}$ Aux [$_{AuxP}$ Aux [$_{VP}$ <S> [$_{VP}$ X [$_{VP}$ O V]]]]]]

b. [$_{CP1}$ … S [$_{TP}$ ∅ [$_{VP}$ <S> [$_{VP}$ X [$_{VP}$ O V]]]]]

Deciding between these analytical options can only be done by investigating reflexes of movement. A first piece of evidence in favour of the Aux-raising analysis is the possibility of clause-final Aux. Kroik (2016: 40f.) already presents the data in (205). These data show that the modal auxiliary cannot appear after V (205b) but that the copula *can* appear after V (205d). While (205d) is grammatical, it is not neutral and involves stress on the copula. For that reason Kroik (2016: 41) concludes that (205d) is a derived order, e.g., by VP fronting.

(205) Postverbal Aux in South Sámi (Kroik 2016: 40f., glosses adjusted)

a. Manne edtjem gærjah lohkedh.
1sg will.1sg book.pl read.inf
'I will read books.'

b. *Manne gærjah lohkedh edtjem.
1sg book.pl read.inf will.1sg
int. 'I will read books.'

c. Manne leam gærjah lohkeme.
1sg cop.1sg book.pl read.ptcp
'I heave read books.'

d. ?Manne gærjah lohkeme leam.
1sg book.pl read.ptcp cop.1sg
'I heave read books.'

My own data (tested with mostly the same consultants) replicate Kroik's finding. Only a single consultant accepted a clause-final modal auxiliary (205b), while it was heavily rejected by every other consultant. Just as in (205d), two consultants accepted a clause-final copula, as shown in (206). This still means that it is at most a marginal construction. Polarity questions with Aux, as in (206c), are normally formed by *fronting* of Aux to clause-initial position (Fjellheim 2012).

(206) a. Piere (lij) aahtjan bovtsem doekeme.
Piere cop.prs.3sg father.ill reindeer.acc sell.ptcp
'Piere has sold the reindeer to the father.'

b. Piere aahtjan bovtsem doekeme lij.
Piere father.ill reindeer.acc sell.ptcp cop.prs.3sg
'Piere has sold the reindeer to the father.'

c. Piere aahtjan bovtsem doekeme LIJ?
Piere father.ILL reindeer.ACC sell.PTCP COP.PRS.3SG
'HAS Piere sold the reindeer to the father?'

It is more likely that the clause-final AUX in (205) and (206) involve *suppressed AUX-movement* rather than rightwards AUX-movement or VP-fronting. Rightwards AUX-movement is unlikely due to how restricted the postverbal field is and how it is usually derived by leftward movement of the finite verbal element (section 4.3.1.4). VP-fronting is unlikely because any kind of VP-fronting, be it partial or full, is ungrammatical, as shown in (207, unanimous rejection).

(207) a. *__Aahtjan bovtsem doekeme__ Piere lij.
father.ILL reindeer.ACC sell.PTCP Piere COP.PRS.3SG
int. 'Piere has sold the reindeer to the father.'

b. *__Bovtsem doekeme__ Piere lij aahtjan.
reindeer.ACC sell.PTCP Piere COP.PRS.3SG father.ILL

c. *__Aahtjan doekeme__ Piere lij bovtsem.
father.ILL sell.PTCP Piere COP.PRS.3SG reindeer.ACC

d. *__Doekeme__ Piere lij aahtjan bovtsem.
sell.PTCP Piere COP.PRS.3SG father.ILL reindeer.ACC

Since VP-fronting is not permitted generally, the marked construction with a postverbal copula is better analysed as a case of suppressed movement. This speaks for the AUX-raising analysis in (202). Since the modal auxiliary *edtjedh* cannot appear postverbally, it might be that *edtjedh* is better analysed in terms of high left base-generation, regardless of whether or not it is followed by movement.

Another, rather indirect, argument stems from the impression that manipulating the occurrence of verb movement is a general way to obtain marked word orders in South Sámi. Once again, the verb-medial orders from (193), repeated below, provide the relevant data.

(193) a. Gaahtoe GÅASKOEJI maanam bearjadahken!
cat.NOM wake.PST.3SG child.ACC friday.GEN
'The cat woke the child up on friday! (Normally, it never wakes people!)'

b. Daenbiejjien göökte kaarrh SJEAKOEJIN fierhten
today two.NOM man.PL.NOM clean.PST.3PL each.and.every.ACC
fievsiem.
stable.ACC
'Today two men cleaned every stable.'

c. Manne TJUVLESTEM fierhtem bovtsem varki.
1SG.NOM kiss.PST.1SG each.and.every.ACC reindeer.ACC quickly
'I kissed every reindeer quickly.' or '. . . soon/early.'

d. *Gaahtoe lij **gååskeme** maanam bearjadahken .
cat.NOM COP.PST.3SG wake.PTCP child.ACC friday.GEN
int. 'The cat woke the child up on friday!'[7]

In the light of the present analyses, the verb-medial orders in (193a–c) can be analysed as *forced V-movement*. Normally, only Aux raises, but verb focus allows V to raise as well. Support for this analysis stems from the ungrammatical sentence in (193d): the non-finite verb cannot raise in the presence of Aux, since the landing site for that movement is already occupied. Since Aux normally raises to begin with, verb focus on Aux can be achieved by suppressing Aux-raising instead. Out of the hypothesis space discussed here, only the pure Aux-raising analysis in (202) would make such an analysis possible.

A further point that indirectly supports the Aux-raising analysis, regardless of where Aux is base-generated is the comparison to control verbs, to be discussed in the upcoming section.

4.4.3 Control verb constructions

Surface SAuxOV# can result from extraposition. This can be illustrated with German. Extraposed non-finite clauses in dependent clauses (lacking V2) result in SAuxOV# in German (208a). In German, the possibility of extraposition is linked to the **clausal status of the infinitival complement**, as shown in (208b,c). The biclausal nature of the so-called *non-coherent infinitives* is visible in most diagnostics of biclausality and becomes apparent when contrasting it to obligatorily monoclausal non-finite complements (obligatorily coherent infinitives) (Bech 1955).

(208) a. da die Katze **versucht** das Kind schnell **zu wecken**.
because the cat tries the child quickly to wake
'because the cat tries to quickly wake up the child.'

b. *da die Katze **will** das Kind schnell **wecken**.
because the cat tries the child quickly wake
int. 'because the cat wants to quickly wake up the child.'

c. *da die Katze **hat** das Kind schnell **geweckt**.
because the cat tries the child quickly woken
int. 'because the cat quickly woke up the child.'

The problem is just that the construction in (208a) is a control verb construction, and not an Aux–V construction. The biclausality of the control construction in (208a) disqualifies it as a potential Aux–V construction.

The same difference between monoclausal and biclausal verb-embedding constructions is also present in South Sámi. Furthermore, it can be analysed in the same way as in the Indo-Germanic languages: via CP-extraposition. The ingredients are given in (209). The first condition is obligatory CP extraposition. This constraint is not explicitly stated in the literature. Nonetheless, it is apparent from the extraposition of any CP in the discussion of subordination in Magga & Magga (2012: 195–197). The second

assumption is now simply that any non-finite complement is a CP.[8]

(209) – CPs extrapose
– every non-finite complement is a CP
⇒ [$_{CP1}$ S [$_{VP1}$ V1 [$_{CP2}$ … [$_{VP2}$ X O V2]$_{VP2}$]$_{CP2}$]$_{VP1}$]$_{CP1}$

The structure in (209) maps to S V1 X O V2 order, that is, a surface SAuxOV# order if the lexical verb-embedding verb V1 was analysed as an Aux. This extraposition analysis accounts straightforwardly for control constructions, highlighting the differences between control and the Aux–V construction.

Subject control is different from Aux–V construction since any element can easily intervene between the control verb and S. While there is some room between S and Aux (section 4.3.1.3), examples like (210) indicate that the control verb is simply in the final position of the matrix clause, thus allowing for any number of preverbal elements.

(210) subject control
Aanta gujht barre **væssja** aktem moerem löödtedh.
Anders PRTCL only be.able.PRS.3SG one.ACC log.ACC split:INF
'Anders only manages to split a single log.' (Kroik 2011: 36, corpus example)

Object control structures (cf. Kroik 2011: 28f.) can also be straightforwardly accounted for. In these constructions, the direct object of the control verb is *preverbal* (211), indicating that control verbs are clause-final and in-situ within their matrix clause. If these control verbs would raise like Aux did, their object should follow the control verb.

(211) object control

a. Manne sijhtem **datnem** **leerehtidh** tjaebpies guvvieh
1SG.NOM want.PRS.3SG 2SG.ACC teach.INF beautiful picture.PL.NOM
darjodh!
do.INF
'I want to teach you to make beautiful pictures!'
(Kroik 2011: 69, corpus example)

b. Tjidtjie **maanam** **tjabrehte** / **eevtjede** vaedtsedh / hajkedh
mother child.ACC force.PRS.3SG/ encourage.PRS.3SG walk.INF / run.INF
/ roehtedh.
/ run.INF
'Mother forces/encourages the child to take a walk / run.' (Kroik 2011: 28)

Comparing this construction to run-of-the-mill Germanic extraposition again, the very same surface word orders from South Sámi in (211) can be recreated in German without verb raising, as shown in (212).

8. There is the caveat that there is no agreement on the analysis of extraposition (Webelhuth et al. 2013). For the time being, rightward base-generation is assumed for simplicity's sake, but nothing hinges on that part of the analysis.

(212) a. da ich **dich** **lehre** schöne Bilder herzustellen.
because 1sg.nom 2sg.acc teach beautiful pictures to.make
'because I teach you how to make beautiful pictures.'

b. da die Mutter **den** **Sohn** **zwingt** zu rennen.
because the mother the.acc son forces to run
'because mom forces the son to run.'

Furthermore, non-verbal complements do not extrapose, as shown in (213). The non-finite verbal complement of the control verb in (213a) has to appear postverbally, i.e., it has to extrapose. Intraposition of the non-finite verbal complement is ungrammatical (213b). However, the verbal complement can be exchanged for an agentive nominalisation, as in (213c). This makes it possible for the complement to neutrally appear in front of the control verb. This can be straightforwardly explained by stating that the agentive nominalisation (213c) is an NP and does not extrapose, while the infinitive is part of a CP that has to extrapose (213a,b).

(213) a. Marja edtji aelkedh barkedh.
Marja shall.prs.3sg start.inf work.inf
'Marja shall start to work.'

b. *Marja edtji **barkedh** aelkedh.
Marja shall.prs.3sg work.inf start.inf
int. 'Marja shall start to work.'

c. Marja edtji **barken** aelkedh.
Marja shall.prs.3sg work.AgentiveNmz start.inf
'Marja shall start to work.' (lit. 'the working')

In sum, the extraposition analysis of lexical verb-embedding verbs derives the surface V1–V2 order and accounts for several properties of these constructions. This analysis also shows why it cannot be viable for the Aux-elements of South Sámi: Aux are clause-medial within their matrix clause, while lexical verbs are clause-final within their matrix clause. This strengthens the point that South Sámi is a genuine verb-final language that just so happens to feature raised Aux.

4.4.4 Subject raising

All of the analyses presented above assume the presence of obligatory subject raising. It is a necessary ingredient of the analysis because S would follow Aux if S didn't raise as well, as shown in (214): that structure would map to AuxSXOV order.

(214) $[_{CP1}$ … $[_{TP}$ Aux $[_{VP}$ S $[_{VP}$ X $[_{VP}[_{VP}$ O V] <Aux>]]]]]

There are further attractive aspects of a subject EPP in South Sámi. From a theoretical perspective, it would fit well with Aux-raising as providing or at least sharing a trigger for movement. Furthermore, it would be a suitable reason for non-finite complements to be CPs, requiring them to extrapose and thus explaining the head–dependent order:

the non-finite complements need to be big enough to host the high subject position such that PRO can be licensed.

The subject EPP and Aux-raising also bode well with deriving auxiliary-inversion constructions (section 4.3.2): either the subject EPP is inactive in these clauses, or Aux assumes a higher or lower position. The analytical apparatus for dealing with these phenomena and distinguishing between the different analyses is already in place for Germanic VO and Romance.

These observations now add onto to the proposal in section 3.5.2: South Sámi lacks A-scrambling, and it is the subject EPP that prevents A-scrambling. There, only superiority effects in multiple *wh*-questions were given as evidence for a subject EPP. Now, however, it could be shown that the subject EPP in South Sámi fulfills more than the role of conveniently preventing A-scrambling. In sum, obligatory subject raising is a meaningful assumption for South Sámi clause structure.

4.4.5 Conclusion: applied analysis

The SAuxOV construction of South Sámi can be characterised by the assumptions in (215).

(215) a. there is a class of grammaticalised auxiliaries (Aux) that are distinct from lexical verbs (V)

b. Aux–V constructions are monoclausal

c. Aux moves to a VP-external functional projection, V does not move to that projection

d. S moves to a VP-external functional projection

e. tentative: Aux is base-generated to the right of V

f. lexical verb-embedding verbs are V and not Aux

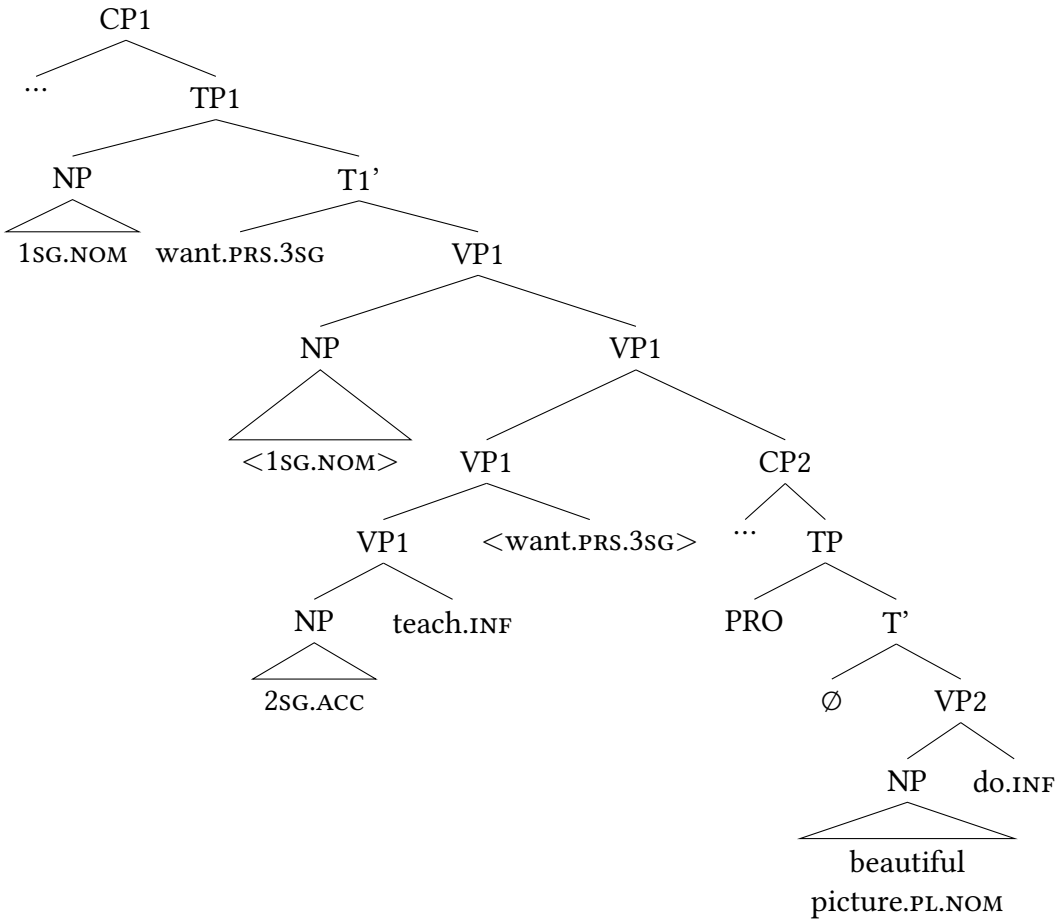
g. non-finite verbal complements are CPs and extrapose

Applying all of these assumptions to a single sentence yields the analysis in (216). Functional heads are left out in order to avoid clutter. Further arbitrary assumptions in (216) are, (a) the CP complement being selected after Aux merged (argument pooling), and (b) the extraposed infinitival clause being base-generated to the right.

(216) Example analysis of the most complex sentence at hand

a. Manne sijhtem datnem leerehtidh tjaebpies guvvieh
1SG.NOM want.PRS.3SG 2SG.ACC teach.INF beautiful picture.PL.NOM
darjodh!
do.INF
'I want to teach you to make beautiful pictures!'
(Kroik 2011: 69, corpus example)

b.



The exemplary analysis in (216) highlights the differences between Aux and V. Only the Aux *want.PRS.3SG* raises, while all lexical verbs stay in-situ, including the control verb *teach.INF*. The other crucial property visible in that analysis is the strict head-finality of each individual VP. This aims to show that South Sámi has to be classified as an OV language, albeit a deviant one.

4.5 Conclusion

South Sámi showcases the structural inhomogeneity of OV languages from several perspectives. It is an SOV# (read: final) language that exhibits SAuxOV# order in the presence of an auxiliary. To start with, the almost exclusive AuxV order is already a rare occurrence for an OV language, but AuxOV, with an intervening O, is even rarer. During the investigation in section 4.2, it became clear that languages with AuxOV surface order are 'deviant' OV languages.

Most AuxOV languages are found in Africa, where SAuxOVX can be established as its own syntactic type. The postverbal *X* indicates that all obliques must follow V, such that these surface OV languages feature exclusively non-obliques in front of V. In the standard SAuxOVX type, only the direct object surfaces between Aux and V. This pattern of rigid OV order without verb-finality is so inhomogenous that it called the status

of SAuxOVX languages as *genuine* OV languages into question (Fanselow et al. submitted, Kandybowicz & Baker 2003). From the perspective of chapter 3 on A-scrambling, SAuxOVX languages would also stand out as non-scrambling OV languages (Elisabeth Kerr, p.c.). The same reasoning for the lack of A-scrambling as in section 3 applies: it is very likely that an S that obligatorily precedes Aux in a SAuxOVX order is VP-external, i.e., involves obligatory subject raising. As a result, OSAux… order would involve a VP-external O as well, meaning that it reached its pre-subject position via A-bar-movement. Therefore, the abstract subject EPP provides more homogeneity for word order variability than surface OV order.

It is clear that South Sámi cannot be an SAuxOVX language simply because the SOV–SAuxOV# alternation is missing from SAuxOVX languages. The Aux –a pure TAM-marker in some languages, and a "person marker" in others –is obligatorily present in SAuxOVX languages, such that an alternation is not possible. The only alternation occurs with unaccusative intransitive clauses, where SAuxOVX languages can exhibit SVAux order, e.g., Mandinka (Creissels 2019). In South Sámi, on the other hand, Aux is frequently missing even in analytical tenses, leading to a sentence without any inflected verbal element. There seems to be no underlying homogeneity even among SAuxOV languages.

For the further kind of AuxOV language, the SAuxOV# languages that South Sámi belongs to, the underlying verb-final nature is more evident: V *does* appear in final position such that there is no restriction on the number and nature of elements preceding V. V2 languages with underlying OV order, such as German, are likely among the first kind of languages that come to mind regarding this type. However, the difference between V2 languages and South Sámi is that *any* finite verb appears in the leftward position, not specifically Aux. That results in an SVO–SAuxOV# alternation. Furthermore, almost any constituent can precede the finite verb, not only S, allowing for OVS and OAuxSV order. This sets the V2 languages apart from the SAuxOV# languages in the narrow sense, where the pre-Aux position is not flexible.

From a structural point of view, the difference between SAuxOV and V2 could indicate that OAuxS and OVS orders are made available when the verbal element moves to a certain height: the default Aux position in South Sámi is too low to host A-bar-moved elements like interrogatives and topics directly in front of it.

Sande et al. (2019) presented SAuxOV# languages where S has to appear preverbally. Word-order-wise, those languages differ from South Sámi in mostly one respect: they feature an SVO–SAuxOV# alternation instead of the SOV–SAuxOV# alternation. Sande (2017) presents Guébie in this regard. Both languages feature obligatory subject raising and lack A-scrambling (Sande 2017: 94ff.), again fitting the generalisation that the subject EPP prevents A-scrambling. They both feature negative auxiliaries, another typologically scarce phenomenon (which might still be a coincidence). Their difference in the alternation can be described straightforwardly by appealing to the notion that some languages allow any verbal element to move (French) while other languages only allow for Aux, and not V, to move (English).

South Sámi and Guébie would be the OV-counterpart of English and French. In South Sámi, only Aux moves, while in Guébie, any verbal element moves. This is an important

finding insofar as the typology of "strong" and "weak" verb features was restricted to VO languages. Since there is no reason why only VO languages exhibit this variation, South Sámi and Guébie mend a predicted typological gap.

The biggest problem for the neat typology of Aux- vs. V-raising is an alternative analysis: South Sámi could not feature verb movement at all and insert Aux in a structurally high position. The discussion in section 4.4 presented data in favour of the raising analysis. However, that argumentation can only be viewed as tentative. Future studies on South Sámi will have to determine the most appropriate analysis of South Sámi SAuxOV#. Those studies should test for the distribution of the negative auxiliary and the position of Aux in the presence of the negative auxiliary.

Furthermore, simply longer sentences are needed. This poses a methodological problem since the consultants tended to dislike even the moderately long sentences of this study as unnaturally verbose. Coordination would be another suitable testing ground, but it is complicated by full-fledged topic-drop, making clausal ellipsis challenging to detect and having juxtaposition as the most common form of coordination. Those are just some of the many possible venues to pursue.

In general, the South Sámi SOV–SAuxOV# word order is extremely rare. Further languages of this have to be determined in future research. The fringe cases, Khoekhoe and Canelo-Krahó, should be investigated more in-depth. Other potential SOV–SAuxOV languages are other Sámi languages, of which some can still be investigated by fieldwork. Ume Sámi is the closest relative of South Sámi and has been conflated with South Sámi for a long time (Siegl 2017). There is little to no documentation on the language, such that generalisations about syntactic properties are difficult to substantiate. Siegl (2012) provides a syntactic grammar sketch comparing Ume Sámi to South Sámi where he argues that **Ume Sámi** also shows SVOV order in general, i.e., generalising over both Aux and lexical verb-embedding verbs. One of the examples even matches the combination of Aux and a control verb from section 4.4.3, as shown in (217a). A regular SOV# sentence is shown in (217b).

(217) a. månna leb dellie alkam deb girjjeuv låhket
1sg be.1sg prt begin.ptcp.pft dem.acc book.acc read.inf
'I have already begun reading that book.' (Siegl 2012: 211, translation AP)

b. de månna jettje nijbiuv Ingvareste välltuv
prt 1sg another knife.acc Ingvar.abl take.pst.1sg
'I took another knife from Ingvar.' (Siegl 2012: 210, translation AP)

The already collected data might provide enough data to determine some properties of Ume Sámi clause structure in comparison to South Sámi. However, it is unlikely that in-depth syntactic fieldwork can still be carried out for this almost extinct language.

Skolt Sámi also seems to pattern like South Sámi. There is an SOV–SAuxOV alternation, but there is more robust evidence for V2-like behaviour in that the pre-Aux slot can be any constituent with S following Aux Feist (2010: 284ff.). Just as with Ume Sámi, it is unlikely that further syntactic fieldwork will or can be done on Skolt Sámi.

There is not much information about **Lule Sámi**. Transitive clauses in Spiik (1989)

feature SVO order, and the only transitive sentence in an analytical tense I found in Spiik (1989: 96) featured an SAuxVO pattern. **Pite Sámi** is often lumped together with Lule Sámi. The pattern presented in Wilbur (2014) matches those of VO North Sámi (section 3.2.4), not those of South Sámi.

I could only briefly discuss **Inari Sámi** with the native speaker and language expert Petter Morottaja. We could only see that Inari features an SVO–SAuxOV alternation in matrix clauses. That variation is like in Estonian (section 5.5): a V2-like character with free variation in the placement of non-finites.

In sum, it could be that South Sámi shares its SOV–SAuxOV variation with its closest relative, Ume Sámi, and even a further relative from the Eastern Sámi branch, Skolt Saami. In Skolt Sámi, however, the pattern would already be different in being more V2-like.

Wrapping up, South Sámi is an oddball among OV languages in general and among the Uralic OV languages specifically. What it shares with the other, equally rare SAuxOV languages (sans V2) is the obligatory subject EPP, resulting in a lack of A-scrambling. At least the SAuxOV# languages need to be recognised as 'genuine' verb-final languages, i.e., underlying OV languages from a generative perspective. The mere existence of SAuxOV# languages means that OV languages are not homogeneous enough to be assigned a uniform clause structure (contra Haider 2010). It is likely that SAuxOV is linked to the EPP. The biggest question would be determining why V2 languages, which employ essentially the same mechanism of V-raising, do not necessarily feature the subject EPP (German vs. Dutch). An explanation can be formulated as in Holmberg (1998) by stating that T varies in how selective it is (only S vs. any element), but that would likely only amount to a reformulation of the facts (cf. Newmeyer 2004, 2006).

5 Postverbal elements (PVE) in OV languages

5.1 Introduction

Most OV languages allow for at least some **postverbal elements** (PVE). This way, PVE introduce another aspect of word order variability in OV languages. This poses the first question of the present chapter in (218). The main theoretical question that PVE raise is given in (219).

(218) How homogenous are patterns of postverbal element placement in OV languages?

(219) When a verb-final language features verb-medial orders, how can it be called a verb-final language?

Surface typology can find a solution to (219) by employing *frequency* as the defining criterion. For example, Dryer (2013c) use *dominant word order* and state that *dominant* word order is, first and foremost, defined by being twice as frequent as the second-most frequent order in a corpus of that language. A verb-final language would be one in which verb-final orders are at least twice as frequent as other orders. Another surface-typological approach tied to frequency would consist of defining a verb-finality score based on the relative frequency of verb-final orders. This way, verb-finality can be conceptualised as a continuum instead of a categorical difference (Levshina 2019). In parsed corpora, even the relative number of left-to-right and right-to-left dependencies could be computed to arrive at a dependency-direction score (Yadav et al. 2020).

In the generative tradition however, the answer to (219) has to be sought in the *derivationally underlying word order* (cf. Ehala 2006 for Estonian). A verb-final language is one in which the VP is underlyingly verb-final. This still results in problems that can be illustrated with the treatment of postverbal PPs by Neeleman (2017) from section 2.3. According to Neeleman (2017), PPs in Dutch can be *merged* to the right of V, and this can even apply to the complement position of V, as illustrated in (220).

(220) [S [[[V PP1] PP2] PP3]]

dat hij strandde [op het hek]$_1$ [met een knal]$_2$ [door een stuurfout]$_3$
that he got.stuck on the fence with a bang by a steering-error
'that he got stuck on the fence with a bang because he made a steering error'

The structure in (220) is clearly V-initial in that the complement of V follows V. Assum-

ing that (220) is the right analysis, what is it that makes Dutch a verb-final language in contrast to English? For Belk & Neeleman (2017), it boils down to the direction of *case-marked NPs*, which obligatorily precede V in Dutch. So while Dutch is not a strictly verb-final language, it is an underlying OV language. This is compatible with the framework in section 2: there is no restriction on structure building *per se*; only additional constraints rule out certain structures. One language-specific constraint in which Dutch and a VO language like English would differ is the directionality of case assignment (also see Travis 1984 for the original idea of separating head-directionality and the direction of case- and theta-role-assignment).

In contrast to Dutch, most OV languages allow for O to be postverbal as well. In these *flexible OV languages*, the underlying verb-finality can be inferred from the impossibility of some elements to appear postverbally, and from the information-structural markedness of postverbal elements. In Turkish, for example, non-referential direct objects cannot appear postverbally (Erguvanlı 1984: 45f.), and PVE always result in information-structurally marked sentences in which the PVE is backgrounded (Erguvanlı 1984: 50ff. see section 5.4 for illustrations).

In contrast to the OV languages with major restrictions on PVE, there are languages that allow for *free variation* between OV and VO order. This is illustrated for a non-finite verb and an indirect object in (221) for Udmurt. There is no meaning difference associated with the V IO order in (221b) in contrast to the IO V order in (221a). Furthermore, almost any element can appear postverbally. This makes it more challenging to determine an underlying word order.[1]

(221) [C: To whom could grandmother bring the five perepech yesterday?]

a. Ӟуказе песянай вить перепечез (Udmurt)
yesterday grandmother five perepech.ACC

котькӱд нунокезлы **вайыны** быгатэ.
every grandchild.PX.DAT bring.INF could

'Grandmother could bring the five perepech TO EVERY GRANDCHILD yesterday.'

b. Ӟуказе песянай вить перепечез
yesterday grandmother five perepech.ACC

вайыны *котькӱд нунокезлы* быгатэ.
bring.INF every grandchild.PX.DAT could

The central of aim this chapter lies in providing a structural analysis for languages with free OV/VO variation, focussing on Estonian and (Standard) Udmurt. In order to achieve this goal, the hypothesis space for deriving postverbal elements will be laid out (section 5.2). An underlying verb-finality for a flexible OV language is only challenged when elements are allowed to merge to the right of the verb. A flexible OV language can still

1. This chapter will feature many FOFC-violating structures as in (221b). Since it is not clear whether the FOFC is a surface constraint (in Holmberg 2000 it is), and because any FOFC-violation can be explained away by relabelling, FOFC-violations will not be pointed out.

be underlyingly verb-final if its postverbal elements are derived by leftward verb movement or by rightward movement of the postverbal elements. The differential diagnostics for these structures will also be laid out there. Another prerequisite is narrowing down the kinds of postverbal elements to be considered. In section 5.3, right dislocation and afterthought are excluded because they present *extrasentential* postverbal elements. In order to see what is special about postverbal elements in Estonian and Udmurt, a brief typology of postverbal elements in OV languages is presented in section 5.4. The key insight will be that postverbal elements are either categorially or information-structurally restricted in most languages discussed hitherto. That groundwork leads to the heart of this chapter in section 5.5, the discussion of postverbal elements in Estonian and Udmurt. In both languages, there is information-structurally free variation between sentences with and without PVE (section 5.5.1). That free variation is analysed as the result of verb raising, and not rightward merger or rightward movement of the postverbal elements. The evidence for that analysis stems from the distribution of verb particles in Estonian (section 5.5.2), the distribution of foci in Estonian and Udmurt (section 5.5.3), and the general absence of mirror image effects in Udmurt (section 5.5.4–5.5.7). Other OV languages with postverbal elements stranded via verb raising are discussed in section 5.5.8. Verb-raising is not the only way to derive postverbal elements in OV languages. Section 5.5.9 shows that rightward movement is required as another mechanism to derive postverbal elements in order to account for differences between postverbal elements *between* languages as well as different postverbal elements *within* a language. In the penultimate section 5.6, an alternative account of postverbal elements in OV languages is discussed and dismissed: Haider's idea of "Type 3 languages" in a framework that does not allow for symmetric structure building (Haider 2013, Haider & Szucsich 2022). In the final section 5.7, the findings will be summarised, and avenues for future investigation will be shown.

5.2 How to derive PVE

The basic question about the structure of PVE in OV languages is the same as in any VO language: are postverbal elements the result of right adjunction (section 5.2.1), verb movement (section 5.2.2), or rightwards phrasal movement (section 5.2.3)? The purpose of this section lies in spelling out the properties associated with these constructions. This groundwork allows for the analysis of PVE in Estonian and Udmurt in section 5.5.1.

The methodological premises for analysing the structure of PVE are already laid out in the section 2.3.3 and 2.4. The main gist is the application of the mirror diagnostic repeated in (222), and the application of the mirror diagnostic in diagnosing verb movement repeated in (223).

(222) When two elements of the same category modify a head and they neutrally appear on the same side of the head, the modifier linearly more distant to the head is structurally higher than a modifier linearly closer to the head.

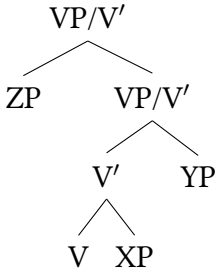
(223) Any order H S2 S1, where S2 is a scopally higher element than S1, is derived by head movement.

The application of these two diagnostics can then differentiate between "ascending" and "descending" structures as in Janke & Neeleman (2012).

5.2.1 Base generation of PVE via rightward merge

Purely base-generating PVE yields a straightforward analysis. The PVE would simply be merged to the right of the verb, as shown in (224). If there are multiple PVE, the resulting construction would be 'ascending', such that the rightmost element is structurally higher than the linearly preceding elements. This results in several predictions for this construction.

(224) Base-generated PVE for ZP V XP YP (no V-final base)



In this structure, more rightward PVE outscope more leftward PVE. In (224), YP outscopes XP. The right-to-left scope means that one would expect **mirror image orders**. That is, the neutral order of multiple phrases behind the verb should mirror the neutral order of those phrases in front of the verb. In (224), this would mean that ZP YP XP V is the neutral order of phrases without PVE, and that ZP V XP YP is less marked than ZP V YP XP. Furthermore, the right-to-left scope would result in **easily available inverse scope readings**. Accordingly, a universally quantified YP should be able to take scope over an existentially quantified XP. The properties of rightward merged PVE are summarised in (225).[2]

2. A further prediction that people might have would be the availability of backwards binding. This is based on the widespread assumption that binding is governed by c-command only, and hence, is directly reflected by hierarchy. This served as one of the crucial arguments for Larson's 1988 analysis of English ditransitives. However, the binding data in Barss & Lasnik (1986) that the conclusions are based on also show that, without embedding, the antecedent precedes the anaphor (Williams 1997). Binding is linearly constrained and is not sensitive to every node, i.e., binding cannot detect c-command relations for relations within the same phase (Bruening 2014, Janke & Neeleman 2012). Binding data consistently clash with more immediate constituency tests (Bruening 2014, Pesetsky 1995). Such a clash should not occur were binding solely constrained by constituency as per c(onstituent)-command (Bruening 2014). The linear constraints on binding are also the reason why the original, binding-based argument on the structural homogeneity of the double object construction and prepositional dative (Barss & Lasnik 1986, Larson 1988) lead to the Pesetky Paradox (Pesetsky 1995). Scopal relations, on the other hand, are the immediate result of structure building and are therefore sensitive to every node (Bruening 2010, Janke & Neeleman 2012). In contrast to binding data, scopal data are in line with other constituency tests and are able to distinguish between double object, prepositional dative and double prepositional constructions (Bruening

(225) Properties of base-generated PVE

a. mirror-image orders
when ZP YP XP V is neutral, then V XP YP ZP is the preferred order for PVE

b. easily available inverse scope readings
in ∃-NP ∀-NP V, the reading ∀ > ∃ is not available, but in
in V ∃-NP ∀-NP, the reading ∀ > ∃ is available

The main examples of purely base-generated postverbal structures stem from English (Bruening 2010, Janke & Neeleman 2012, Neeleman & Payne 2020). For an OV language, the Dutch postverbal PPs from section 2.3.2 and 2.4 are a suitable illustration. The examples are repeated in (226). They exhibit property (225a), the mirror image order: the order PP_3 PP_2 PP_1 V is neutral (226a), and so is the order V PP_1 PP_2 PP_3, while V PP_3 PP_2 PP_1 is ungrammatical.

(226) Dutch postverbal mirror image effect (Barbiers 1995: 102f.)

a. PP_3 PP_2 PP_1 V

Hij is [door 'n stuurfout]$_3$ [met een knal]$_2$ [op het hek]$_1$ gestrand.
he is by a steering-error with a bang on the fence stranded
'He got stranded on the fence with a bang by a steering error.'

b. V PP_1 PP_2 PP_3

Hij is gestrand [op het hek]$_1$ [met een knal]$_2$ [door 'n stuurfout]$_3$
he is stranded on the fence with a bang by a steering-error

c. *V PP_3 PP_2 PP_1

*Hij is gestrand [door 'n stuurfout]$_3$ [met een knal]$_2$ [op het hek]$_1$.
he is stranded by a steering-error with a bang on the fence

The theoretical import of the base-generation analysis of PVE for OV languages is the free choice of merger direction. This is not much of a problem for adverbials. For adverbials, merger in both directions is commonly in English, Romance, and Scandinavian VO languages anyway. It is more crucial in the case of arguments: when a language allows for both [S [O V]] and [[V O] S], it would be difficult to determine what its underlying word order type is. The status as an "OV language" would come down to frequency counts again. In the languages discussed in this thesis, no OV language shows signs of rightward merge for arguments.

5.2.2 Stranding of PVE via head movement

Leftward movement of the verb from a verb-final VP also yields PVE. The dependents of the verb are originally preverbal but the verb moves across them, leaving them stranded

2010, Janke & Neeleman 2012). Apart from the more glaring, scope-based mirror-image effects among pre- and postverbal adverbials that speak for the use of scope to detect postverbal structure (see section 2.3.3), postverbal adverbials in English show consistent right-to-left scope (Neeleman & Payne 2020).

in the postverbal position. This stranding construction is illustrated in (227). The structure in (227) is akin to that of a classic shell structure assumed for English double-object constructions (Janke & Neeleman 2012). The main difference lies in the bottom pair, since the complement of V is originally preverbal instead of postverbal.

This structure is the one that comes about in V2 languages with an OV base, that is, varieties of Dutch, Afrikaans, German, Ingush and Kashmiri (see section 4.2.4.2). It is also the construction present in languages where the focus and finite verb raise together (see section 3.2.6). These languages can serve as baselines for what to expect should PVE be the result of V-raising.

The structure in (227) contains two trace positions for V. This is done to indicate that it is not possible to determine the landing site of V *a priori*. It can also not be determined *a priori* whether there are multiple movements of V.

Stranding accounts for PVE were forwarded by several researchers already: Mahajan (1997) for Hindi, Simpson & Choudhury (2015) for Bangla, and Skopeteas & Fanselow (2010) for Georgian. The relevant data will be discussed in section 5.5.8.

The original verb-final structure of the clause is preserved in this analysis. Therefore, the postverbal domain is simply the original preverbal domain. As a result, the hallmark of stranding PVE lies in what I coin *pre=post-effects*: elements in the postverbal domain behave the same as they would in the preverbal domain. This is explained by the preserved hierarchical structure of the preverbal domain, in which preceding elements outscope following elements. This is also the crucial difference between the stranding analysis and the base-generation analysis, since right-adjoined PVE result in a reversal of the left-to-right scope to right-to-left scope.

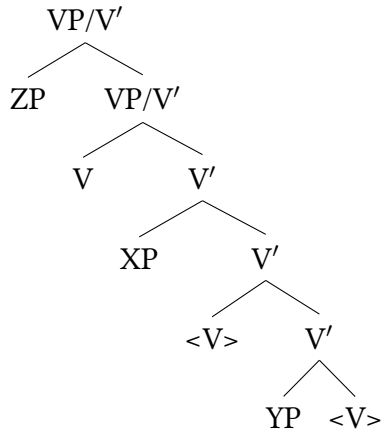
The clearest instance of pre=post-effects is the **preservation of preverbal order**. The most neutral order of elements in front and behind the verb should be the same. That is, if the most neutral order of preverbal elements is XP YP V, then the most neutral of the postverbal elements should be V XP YP. Since the hierarchical order is preserved, inverse-scope readings should not occur easily. In the same vein, an order that is marked in the preverbal domain should also be marked in the postverbal domain. For example, if the order YP XP_{FOC} V involves a directly preverbal focus, then V YP XP_{FOC} would strand the originally preverbal focus in clause-final position. This criterion contrasts sharply with the right-stacking base-generation analysis, since they make completely oppositive predictions. These effects will therefore be taken as the main test to decide between these two analyses.

A more tentative prediction regards **free variation** in this construction. Head-movement is generally assumed to be semantically vacuous. Therefore, V-movement should not result in interpretative changes. Furthermore, Abels and Neeleman's theory assumes that leftward head movement can result in neutral word orders. Consequently it should not make a difference whether verb movement takes place. Finally this means that free variation between surface OV and VO should be possible, because [O V] and [V [O <V>]] both result in a neutral word order. In a neutral context, then, both OV and VO order should be possible.

This tentative prediction can be taken to a further, more general prediction regarding the prerequisites of languages with pragmatically free variation between OV and VO

orders: only languages with underlying OV order should be able to exhibit this free variation. With an [O V]-base, VO order can be achieved by leftward movement of V resulting in [V [O <V>]]. With a [V O]-base, however, the relative order of V and O cannot be changed by head movement –head-movement would have to rightward to change the relative order. The only way would consist of merging O later, that is, generating [O [V XP]] followed by V-movement resulting in [V [O [<V> XP]]]. This is the structure underlying an English VP with an adverbial that was merged before the object (Janke & Neeleman 2012). If a VO-language is now defined such that the sister of V^0 is to the right V^0, free OV/VO variation via V-movement can only surface as free variation between OVX and VOX with underlying [O [<V> XP]] and [V [O [<V> XP]]] respectively. However, [O [<V> XP]] might be ruled out for independent reasons such as case assignment (Belk & Neeleman 2017, Janke & Neeleman 2012). Essentially, deriving VO order from an OV base is very simple via leftward head movement, while deriving OV order from a VO base is difficult to achieve.

(227) **Stranded PVE for ZP V XP YP** (from a genuine V-final base)



(228) Properties of stranded PVE

a. pre=post order
when ZP YP XP V is neutral, then V ZP YP XP is the preferred order for PVE

b. pre=post scope
in ∃-NP ∀-NP V, the reading ∀ > ∃ is not available, and
in V ∃-NP ∀-NP, the reading ∀ > ∃ is also not available

The properties of the verb-raising pattern can be exemplified by a case of PVE via unmistakable verb movement, such as in German V2 in (229). The underlying V-final order is shown in (229a), and the derived V2 order is in (229b). There is a clear pre=post effect in that the surface PVE derived by movement in (229b) show no difference to the preverbal ones in (229b). First, the order between the preverbal and postverbal elements is the same in (229a) and (b). This is a clear absence of mirror image effects. If there were mirror image effects, one would expect (229c) to be neutral since the order of the manner adverbial and the temporal adverbials is reversed, but that order is highly marked requiring at least a pitch accent on the manner adverbial. Second, the scope of the el-

ements does not change between (229a) and (b). The QP *zwei Mal* ('two times') takes scope over *montags* ('on.monday') in pre- and postverbal position. Both sentences convey the meaning that there will be two mondays on which the cat will wake the child up galvanically. The other logical possibility, in which the cat will wake up the children galvanically two times on every monday, can only be achieved by inverting the order of the two adverbials in both pre- and postverbal position (229d,e). Finally, there are language-specific diagnostics for verb movement such as the obligatorily stranded verb particle in (229b,e) that coincides with the position of the verb in verb-final contexts (229a,d). For an application of this line of thinking also see Koster (1975) for the analysis of Dutch as a V2 language with underlying OV order.

(229) a. weil die Katze die Kinder zwei Mal montags ruckartig
because the cat the.PL children two times on.monday galvanically
aufweckt.
PRT.wake.PRS.3SG
'Two times the cat wakes the children up galvanically on mondays.' (two times > mondays)

b. Die Katze weckt die Kinder zwei Mal montags
the cat wake.PRS.3SG the.PL children two times on.monday
ruckartig auf.
galvanically PRT
'Two times the cat wakes the children up galvanically on mondays.' (two times > mondays)

c. #? Die Katze weckt die Kinder RUCKARTIG zwei Mal
the cat wake.PRS.3SG the.PL children galvanically two times
montags auf.
on.monday PRT
int. 'Two times the cat wakes the children up GALVANICALLY on mondays.' (two times > mondays)

d. weil die Katze die Kinder montags zwei Mal ruckartig
because the cat the.PL children on.monday two times galvanically
aufweckt.
PRT.wake.PRS.3SG
'The cat wakes the children up galvanically two times on mondays.' (mondays > two times)

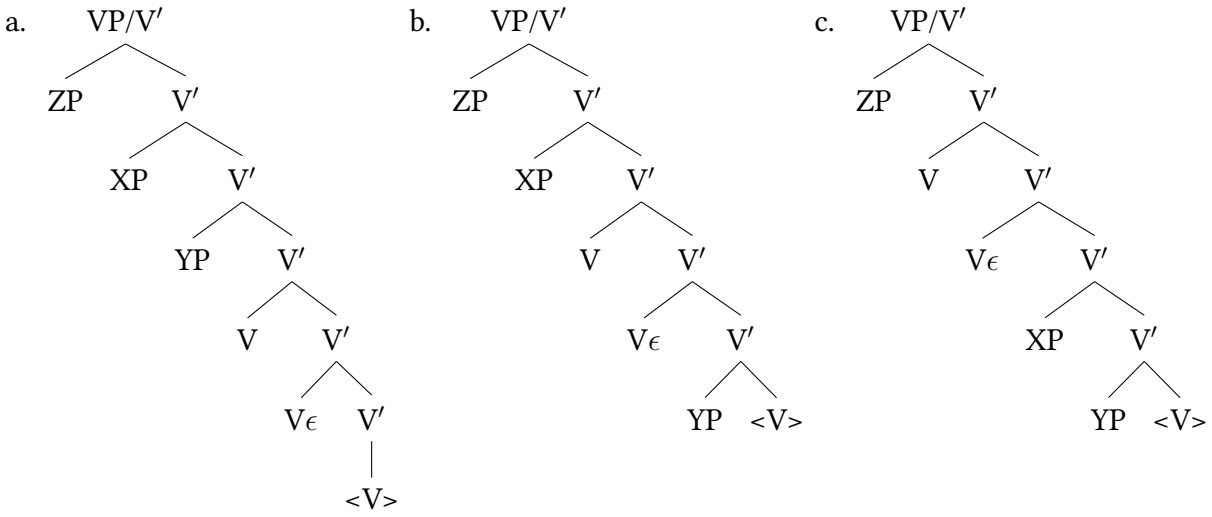
e. Die Katze weckt die Kinder montags zwei Mal
the cat wake.PRS.3SG the.PL children on.monday two times
ruckartig auf.
galvanically PRT
'The cat wakes the children up galvanically two times on mondays.' (mondays > two times)

The theoretical import of this analysis lies in the assumption of free verb movement. One commonly wants to assume a trigger for head movement (Dékány 2018). The theory by Neeleman and Abels initially allows for free verb movement due to axiom A.III: movement of the head or a constituent containing the head derives a neutral word order. Head movement is only constrained later on: Abels & Neeleman (2012), Janke & Neeleman (2012) constrain head-movement by economy considerations, Belk & Neeleman (2017) constrain head movement by requiring a trigger, and Neeleman (2017) constrains head movement by introducing unique landing sites for V. Without these additional constraints, neutral and free verb raising is predicted to occur. This recapitulates the situation in Fanselow (2003): unrestrained merger, as assumed in the Minimalist Program, provides for intra-language word order variation for free, and this freedom has to be restrained in languages that don't allow for a lot of word order variation. I would like to take this argument up and apply it to the present problem: head movement is generally freely applicable, as laid out by the theory; there are simply some languages that have additional constraints on head movement, resulting in less intra-language word order variation.

A predetermined landing site for verb movement is not necessary under the assumption of reprojecting head movement (Dékány 2018), as proposed by Fanselow (2004, 2009) for V2-movement, by Belk & Neeleman (2017), Janke & Neeleman (2012) for VP-internal movement, and by Georgi & Müller (2010) for NP-internal movement. Movement via reprojection also allows for a trigger of the verb movement: in all models of head reprojection, the head moves in order to reproject one of its features. For example, in Fanselow (2004) the verb moves in V2 clauses in order to project and locally satisfy the v/T/Infl-features on V. Georgi & Müller (2010) discuss reprojecting head movement in the same vein: the head moves and reprojects whenever it is not able to discharge its features at a distance via Agree. The trigger for verb movement could, hence, simply be a 'strong feature' (in old terminology). The variation in verb placement would be the result of assembling the lexical entry of V with, e.g., 'strong' instead of 'weak' θ-features.

Still, Ad Neeleman (p.c.) points out that free verb raising comes with the caveat that it has not been assumed in languages before. Furthermore it overgenerates for those languages, in which verb raising is clearly constrained. Therefore, V movement should target a specific landing site (as in V2 languages and French-type V-raising languages), and V movement should be motivated (by case assignment, licensing, agreement, and the like). One way to achieve this but to keep the original idea of the analysis is to introduce a unique attractor of the verb, called Vϵ here (ϵ as the universal attractor ἔρως). Vϵ always attracts the verb. However, the position of V relative to other elements can change depending on the order of operations: when V moves to Vϵ before any further merger, as in (230a) the result will be a V-final surface string. Postverbal elements occur whenever elements are merged into the VP *before* V moves to Vϵ, as shown in (230b,c). Even though it would make sense to identify this unknown attractor as little v, this would only be valid if it could be shown that it stands in connection to the external argument in the given language.

(230) **Stranded PVE via a fixed position for V movement** (Ad Neeleman, p.c.)



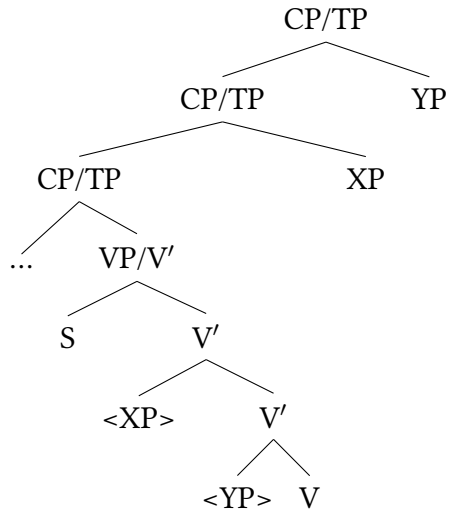
This proposal comes with its own predictions: there should not be any signs of multiple V movement. The only way to idenftify multiple movements would consist in elements that directly reflect original verb positions.

5.2.3 Rightward movement of PVE

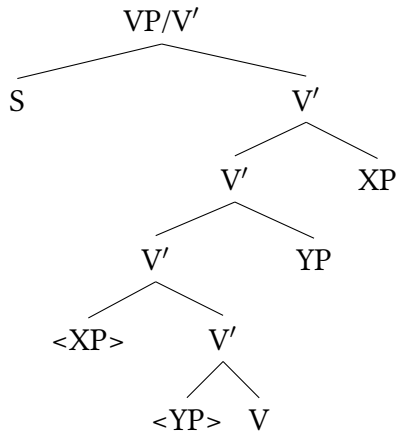
Elements could also reach the postverbal position via rightward movement. This would presuppose a verb-final base. The elements are merged preverbally and move to a postverbal position afterwards. Just as there were open parameters in the other models, it cannot be determined what the landing site of this movement is *a priori*, and it could be different for different languages. Therefore there are two structural representations for this analysis, one with a high landing site in (231), and one with a low landing site in (232). The rightward-movement analysis is important to highlight because it is likely the most apparent approach to PVE.

Rightward-movement models of PVE were proposed by Mahajan (1990) and Manetta (2012) for Hindi-Urdu, Kural (1997) for Turkish, and Öztürk (2013) for Turkish and Uyghur. Rightward movement was also the first approach to relative clause extraposition in Germanic, regardless of whether the language is OV or VO (Webelhuth et al. 2013: 19).

(231) **High rightward-moved PVE for S V XP YP** (from a genuine V-final base)



(232) **Low rightward-moved PVE for S V XP YP** (from a genuine V-final base)



The properties for a high and low landing site are largely the same. First, the order of multiple PVE could be free (Manetta 2012, Simpson & Choudhury 2015), showing neither a mirror-image effect nor a pre=post effect. This is because there is no *a priori* reason to restrict which element moves to which postverbal position, or in which order this movement takes place. Either way, the original order of the elements might be fully obscured by the later movement. This is indicated by the contrast between (231) and (232): in (231), the original order was XP YP and this order is preserved after the movement, but in (232) the original order was XP YP, which is reversed to YP XP after the movements. There might be general constraints, such as constraints against crossing movements or versions of relativised minimality to regulate the order among multiple PVE, but these would be open to speculation since the original position of the preverbal elements could have changed before the movement took place. Kornfilt (2005) even implements the unknown origin of the PVE into her rightward-movement analysis of PVE in Turkish.

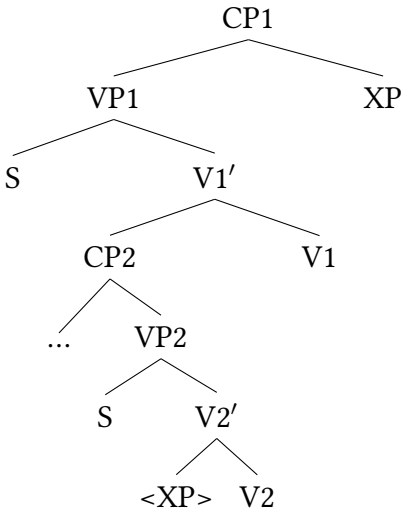
The second property common to both high and low movement follows from the first one: just as the order can be reversed, the scopal properties between the multiple PVE

can change as well. While this is a common diagnostic (Kural 1997, Mahajan 1997, Simpson & Choudhury 2015) it is complicated by not knowing *a priori* whether the relevant movement reconstructs for scope. While Kural (1997) takes his data to indicate a scope-changing rightward movement in Turkish, Kornfilt (2005) interprets the same data as indicative of obligatory reconstruction by assuming that the base position of the PVE is ambiguous. That is, a lack of changes in scope does not rule out a movement analysis since the movement could be one that obligatorily reconstructs. In conclusion, scope changes can be indicative of movement, but a lack thereof does not rule out a movement analysis.

The third property common to both analyses follows from Axiom III of the present framework in section 2.4. Optional phrasal movement results in non-neutral word orders. Therefore, a rightward-moved PVE should always result in a non-neutral, information-structurally marked sentence.

The final property are further, potentially language-specific, reflexes of movement. A common sign of movement to a structurally high position as in (231) is the availability of cross-clausal movement. Long movement to the right amounts to the structural configuration in (233).

(233) Long movement to the right



The configuration in (233) can hardly be achieved by verb-raising or rightward base-generation. For verb-raising, the configuration would have to come about via remnant-VP movement: XP evacuates VP2 to the left, and then there are various leftward movements of the constituents following XP in order to derive the clause-final position of XP. This analysis mostly fails on the grounds of the general gist of the verb-raising analysis which consists in the absence of phrasal movement. The verb-raising analysis would simply turn out to be a general leftward-movement analysis that does not actually entail stranding of PVE. Verb-raising can, thus, hardly account for (233). The base-generation analysis can also hardly account for long movement. That analysis would imply the absence of a trace of XP in the embedded CP2 in (233). If XP would, then, be merged to the right of the matrix clause CP1, XP would modify CP1. That is, if XP is an object, it

would be the object of V1 instead of V2, and if XP is an adverbial, it would modify the respective elements of CP1. There would need to be a correlate of XP inside of CP2 in order to ensure that XP is interpreted as part of CP2. If there is an overt correlate, the construction is most likely an instance of right dislocation (see section 5.3.1), and if the correlate is covert, then it is most likely a trace or another empty category leading to a movement analysis again. This problem is essentially the original reasoning behind the assumption of "movement" and why it was assumed alongside pure base-generation. As such, pure base-generation is ill-fit to account for long movement. In conclusion, long movement is the litmus test for rightward movement. However, long movement is not available in every language, and rightward long movement in particular was even speculated to be banned giving rise to the Right-Roof Constraint (Ross 1967). For this reason long extraction to the right is not expected to occur often, but when it occurs, it is a good indication of actual movement instead of either stranding or pure base-generation.

(234) Properties of rightward-moved PVE

a. potential cross-clausal movement

b. neither mirroring nor non-mirroring order preferred

c. non-neutral readings

d. potential scope changes

There is nothing theoretically challenging about PVE via rightward movement unless one assumes a framework that disallows for rightward movement.

The three basic analyses of PVE sketched here suffice for a cross-linguistic comparison. Any language-specific analysis of PVE will likely turn out to be more detailed. However, there are several types of PVE that do not warrant an analysis along the lines delineated here. What qualifies as a relevant PVE will be discussed in the upcoming section.

5.3 Inclusion criteria for PVE

In this section, the definition of PVE for the purpose of this study is narrowed down. The following constructions that bring about PVE will be excluded:

- right dislocation
- afterthought
- unmistakable verb movement

Right dislocation and afterthought will be excluded because the PVE they produce are extrasentential (section 5.3.1). PVE derived by unmistakable verb movement will also be excluded because they would be merely epiphenomenal PVE (section 5.3.2).

5.3.1 Right dislocation and afterthought do not count as PVE

Right dislocation (RD) and afterthought (AT) both involve *clause-final* or *utterance-final* elements. As such, both RD and AT result in PVE in verb-final languages. Both RD and AT attach to the end of already complete clauses. Therefore these phenomena are likely to involve *extraclausal* PVE across languages. In the present study, only potentially *intraclausal* PVE are to be studied. The purpose of this section is to briefly acknowledge the existence of *extraclausal* PVE and exclude them as an object of the present study. The two phenomena, right dislocation and afterthought, will be briefly delineated starting with right dislocation.

RD and afterthought both involve a *clause-internal correlate*. Following the description by Ott & De Vries (2016: 642), RD is any structure in which a *host clause* is linearly followed by an XP that is coreferential with one of the elements in the host clause. This following XP is the *dislocated XP*. The coreferential element in the host clause is the *correlate*. This description amounts to the structure in (235), taken from Ott & De Vries (2016: 642), exemplified for different European languages with examples from the literature in (236). Note that all dislocated XPs in (236) are realized deaccented and without an intonation break before them. The intonational properties of RD are an important part of their definition: RDs are realized with flat, stressless intonation, and without a preceding intonation break (De Cat 2007a, Frey & Truckenbrodt 2015, Ott & De Vries 2016). A right-dislocated phrase can even belong to the host clause's intonation phrase (Fretheim 1995, Lambrecht 2001). The function of RD lies in either topic- or background-marking, and any study talking about RD mentions this function. This is also why it has been named after its information-structural function: *backgrounding* RD (Ott & De Vries 2016), or *antitopic* construction (Lambrecht 2001: *anti-* in relation to its position at the 'opposite' side of the clause).

(235) $\overbrace{[_{\text{CP}} \ldots \text{correlate}_i \ldots]}^{\text{host clause}}$ dislocatedXP$_i$

(236) Examples for right dislocation in European Languages

a. I don't like **them**$_i$ at all, **the cops**$_i$. (English, Ziv 1994: 638)

b. Joop heeft **ze**$_i$ al gezien, **de nieuwe tablet-pc's**$_i$.
Joop has them already seen those new tablet-PCs
'Joop saw them already, those new tablet PCs.'
(Dutch, Ott & de Vries 2012: 123)

c. Ich habe **sie**$_i$ gesehen, **die Maria**$_i$.
I have her seen the Maria
'I have seen Maria.' (German, Frey & Truckenbrodt 2015: 93)

d. **Han**$_i$ var gift med søskenbarnet mitt en gang i tida, **Axel**
he was married with first-cousin.DEF mine one time in time Axel
Aarvoll.
Aarvoll
'He was once married to my first cousin, Axel Aarvoll.'
(Norwegian, Fretheim 1995: 34)

e. J'adore **ça**$_i$, **le lait**$_i$. (French)
I-love that the milk
'I love milk.' (French, De Cat 2007a: 490)

Despite the prosodic integratedness of RD, right-dislocated phrases are still attached to an already well-formed sentence. This completeness of the sentence without RD pertains to both prosody (Frey & Truckenbrodt 2015), and syntax: "the host clause [...] must always be syntactically complete by itself" (Ott & De Vries 2016: 656). That is, RD in (236) is optional since the sentences are already complete and well-formed without the right-dislocated phrase. For this reason, Ott & De Vries (2016) and Frey & Truckenbrodt (2015) analyse RD as a clause-external phenomenon. Furthermore the verbs in (236) would have to select multiple arguments for the same role, i.e., two direct objects in (236a,b,c,e) and two subjects in (236d) if the right-dislocated phrase were clause-internal. A clause-external analysis of RD, hence, nicely captures the general properties of RD. Consult Ott & De Vries (2016) for further support of a clause-external analysis of RD in general, and the biclausal analysis of RD in particular.

Afterthoughts differ from RD most prominently in their prosody and their function (Averintseva-Klisch 2006, Frey & Truckenbrodt 2015, Lambrecht 2001, Ott & De Vries 2016). An AT is set off from the host clause by an intonational break which can be accompanied by filler phrases such as *I mean* or *that is*, as shown in (237a) for German. Another difference to RD lies in AT's ability to carry focal stress indicated by the small capitals in (237a). The function of AT is to provide further information on an element that was previously too light in information for the addressee. As a consequence, ATs "[p]er definition [...] contain new information [are discourse new], albeit additional information" (de Vries 2009: 307). I propose that AT is a possibly universal repair mechanism for communication errors. In (237a), it is a communication error in that the author notices too late that the addressee cannot know what the pronoun *sie* ('she') refers to. In (237b), it is a mere speech error, and in (237c), a mere slip-up that needs correcting. Since an error can only be repaired after it has been done, AT follows the error, and hence possibly also the whole utterance, just by virtue of the sequence of time. ATs can also be inserted as parentheticals, as shown in (237d), further showcasing their syntactically unintegrated status. Therefore, ATs are excluded as clause-internal postverbal elements for the purposes of this study.

(237) a. Ich habe **sie**$_i$ gesehen – (ich meine) **die Maria**$_i$.
I have her seen I mean the Maria
'I have seen her, I mean Maria.' (Frey & Truckenbrodt 2015: 15)

b. Ich habe gestern **das Towubawohu**$_i$ gesehen – sorry, ich meine,
I have yesterday the tobuhobu seen sorry I mean
das Tohuwabohu$_i$.
the tohubohu
equivalent: 'I saw the tobuhobu yesterday –sorry, I meant the tohubohu.'

c. Ich habe gestern **die Sarah**$_i$ gesehen – sorry, ich meine, die Maria$_i$.
I have yesterday the Sarah seen sorry, I mean the Maria.
'I saw Sarah yesterday –sorry I meant Maria.'

d. Ich habe **sie**$_i$ – also, ich meine **die Maria**$_i$ – gesehen.
I have her so I mean the Maria seen
'I have seen her, I mean Maria.'

In sum, RD and AT can lead to PVE in verb-final languages. It is very probable that RD and AT are extraclausal (Frey & Truckenbrodt 2015, Ott & De Vries 2016), or as De Cat (2007b: 62) concludes: "dislocated elements are syntactically and prosodically non-essential. A sentence stripped of its dislocated element(s) should be well-formed syntactically [. . .] and prosodically [. . .].". This then means that the underlying clausal word order is untouched by the presence of RD and AT. Therefore, RD and AT do not challenge the status verb-finality because the verb is still *clause*-final, it is merely not *utterance*-final due to the presence of RD and AT. This renders RD and AT irrelevant to determining the structure of the PVE within the clause.

Diagnosing RD and AT can be difficult when a language allows for 'radical *pro*-drop' or 'topic drop', i.e., when any argument need not be realised overtly in a language. This can lead to the false conclusion that a language allows for clause-internal PVE when in fact it merely allows for RD and AT. This problematic case is exemplified by Japanese in (238) below. In Japanese, clauses do not require any overt arguments despite lack of head-marking (Goldberg 2005), as in (238a). A sentence such as (238b) hosts a PVE, but presented in written form without a context, the radical *pro*-drop makes it impossible to tell whether there is a preverbal *null correlate* in (238b) (cf. Furuya 2020). In other words, a PVE can seem to satisfy the selectional requirements of the verb when in actuality a null argument fulfils this role. In a language like this, further tests can reveal whether a construction such as in (238b) is a case of AT or RD in *general* to *conversely* arrive at an evaluation of (238b).

(238) Japanese right dislocation

a. Suki.
like
'I/we/you/they love me/us/you/them.' (Jun Tokawa, *Suki, Suki, Daisuki*)

b. Taro-wa yonda-yo **sono hon-o**.
Taro-top read-prt the book-acc
'Taro read it$_i$, the book$_i$.' (Furuya 2020)

AT can be easily diagnosed by asking the consultants whether the PVE merely feels like something one forgot to say, and whether it can be set off with filler phrases corresponding to *I mean; well* and *so*. In (238b), the repair-reading is the most salient one according to Jiro Inaba (p.c.) and Hiromasa Kotera (p.c.). Furuya (2020) furthermore shows that AT is possible with a clause-internal correlate, where the AT can function as a specificational AT in (239).

RD is more difficult to distinguish from other PVE because it is prosodically more integrated and because its function is more elusive. The main diagnostic, then, lies in determining how completed the sentence is without the potential RD. This involves checking for the **possibility** of a clause-internal correlate. Even in languages that do not require any overt arguments in the clause, the addition of a clause-internal correlate should not lead to ungrammaticality because the selectional requirements of the verb are only met by the clause-internal element. This could already be seen in the AT-example in (239a). However, the possibility of a clause-internal correlate can be seen in (239b), a minimal pair to (238b): the NP *sono hono* ('that book') can be used twice, once as the clause-internal correlate and once after the verb. (239b) therefore is an example of RD.

(239) a. John-ga **hon-o** katta-yo, **Chomsky-no hon-o**.
John-nom book-acc buy-prt Chomsky-gen book-acc
'John bought a book, (that is) a book by Chomsky.' (Furuya 2020)

b. Taro-wa **sono hon-o** yonda-yo, **sono hon-o**.
Taro-top the book-acc read-prt the book-acc
'Taro read the book$_i$, the book$_i$.' (Furuya 2020)

Based on data such as these, Japanese turns out to be a strictly verb-final language on the clause level since it merely allows for *clause-external* PVE (Furuya 2020). Kuno (1978) already summarises this insight by stating that "(i) Postverbal elements are either discourse-predictable [...] or supplementary; therefore, the sentences should have made sense without them.", and "(ii) Elements that would change the interpretation of the first part of the sentence cannot appear postverbally." As such, the question of the structure of clause-internal PVE does not turn up in Japanese. Japanese can be considered a *strictly verb-final languages*. Another strictly verb-final language that only allows for RD and AT is Tundra Nenets (Nikolaeva 2014, Nikolett Mus p.c.).

Verb-finality can also be concealed by cases of *unmistakable verb movement* to be discussed in the next section.

5.3.2 Unmistakable verb movement does not count as PVE

Unmistakable verb movement is a cover term for all cases of verb movement in which the occurrence of leftward verb movement can be assumed for independent reasons, not just

for reasons of deriving PVE. When verb movement is unmistakable, it is unmistakably the cause for the PVE, thereby making PVE an epiphenomenon. The first instance of such verb movements are obligatory structural rules. This includes instances of V2 and other obligatory verb-raising constructions from a verb-final base. These patterns are also discussed in section 4.2.4.2). In these cases, verb movement is unmistakable by its systematic nature, visible in alternations and the distribution of various other elements in the clause. In a strictly surface-oriented approach, the post-finite elements in (240a) would count as PVE (e.g. Anderson 2007) but do not count as PVE here because the occurrence of movement of the finite verb is unmistakable for German. Only elements following the *base position* of the verb, as in (240d,e,f,g,h,i) compared to (240c,d), would count as relevant PVE. In this case, it would turn out that German marginally allows for some non-clausal PVE.[3] This proviso is applied to the V2-like constructions in Estonian in this chapter.

(240) a. Die Katze **weckte** den Jungen am Freitag. (SVOX)
the cat wake.up.PST.3SG the.ACC boy.ACC on friday
'The cat woke the boy up on friday.'

b. Die Katze **hat** den Jungen am Freitag **geweckt**. (SAuxOXV)
the cat has the.ACC boy.ACC on friday woken.up
'The cat woke the boy up on friday.'

3. German readers are likely to disagree with the judgements on extraposition. My own judgement of PP-extraposition would be full ungrammaticality for any case of extraposition of a non-CP. As of now, there is no study investigating the relative acceptability of extraposition in German (Weskott 2021). Kleemann-Krämer et al. (2015) summarize earlier studies showing that extraposition is frequent in written and spoken corpora of German, and provide new data from spoken German themselves. From discussions with the authors of that study, I know that the authors also performed acceptability studies where the participants were to judge spoken corpus examples containing extraposition on their grammaticality. Sara Pötzl (p.c. in 2014) in particular informed me that participants would not judge the corpus examples of extraposition as grammatical when compared to baselines of clearly grammatical and ungrammatical structures. This would indicate that German speakers frequently produce structures they themselves would judge as ungrammatical. There is anecdotal evidence that this is indeed the case. First, there is no prescriptive pressure against extraposition since linguistically naive speakers of German don't know about the verb-finality of their language. Up to now, I have only met a single person who learned about verb-finality in German, and that was in an elite private school also teaching about generative grammar. This means that the perceived ungrammaticality of extraposition cannot be reduced to prescriptive pressures since curriculums don't include verb finality. Second, when asking people to judge the grammaticality of extrapositions they just produced in writing or speech, they mostly judge them as ungrammatical or at least very degraded, saying that they would not have produced it had they planned properly. These anecdotally collected judgements contrast with the judgements elicited from speakers of Dutch, who judge PP extrapositions as fully grammatical. This would either mean that extraposition is a common speech error in German, or it could mean that the grammar of production diverges from the grammar of reception (Neeleman & van de Koot 2010). To conclude: Since there are no published experimental results on the issue and since my evidence is merely anecdotal, it is entirely possible that the reader might diverge in their judgements on extraposed elements in German reported here.

c. da die Katze den Jungen am Freitag **geweckt hat**. (SOXVAux)
since the cat the.ACC boy.ACC on friday woken.up has
'since the cat woke the boy up on friday.'

d. *da die Katze am Freitag **geweckt hat** den Jungen. (*SXVAuxO)
since the cat on friday woken.up has the.ACC boy.ACC

e. *Die Katze **hat** am Freitag **geweckt** den Jungen. (*SAuxXVO)
the cat has on friday woken.up the.ACC boy.ACC

f. ??da die Katze den Jungen **geweckt hat** am Freitag (??SXVAuxO)
since the cat the.ACC boy.ACC woken.up has on friday

g. ??Die Katze **hat** den Jungen **geweckt** am Freitag. (??SAuxOVX)
the cat has the.ACC boy.ACC woken.up on friday

h. *da **geweckt hat** die Katze den Jungen am Freitag. (*VAuxSOX)
since woken.up has the cat the.ACC boy.ACC on friday

i. *Am Freitag **hat geweckt** die Katze den Jungen. (*XAuxVSO)
on friday has woken.up the cat the.ACC boy.ACC

Other cases of *unmistakable verb movement* occur with clearly identifiable verb-raising triggers. One such common trigger was discussed in section 3.2.6: preverbal focus can trigger verb movement, as shown for Urakhi Dargwa in (241) again. Dargwa is verb-final (241a) but interrogative elements appear in the left periphery and require the finite verb to follow them (241b,c). In an analytical tense form, the non-finite verb is stranded in the clause-final position (241d). Just like for German in (240a) above, the elements following the finite verb in (241b) do not count as PVE here because they are unmistakably derived by focus-triggered verb movement. That is, it is clear that the elements following the finite verb (241b) do not follow the base position of the verb, just as they precede the lexical verb in (241d). Only the postverbal element in (241e) counts as instances of PVE because there is no unmistakable sign of verb movement in these examples. This, then, reveals that actual PVE are highly restricted in Dargwa since they only allow for a contrastive focus reading. This means that there is also a clear interpretational difference between the merely epiphenomenal PVE in (241a–d) and the non-epiphenomenal PVE in (241e).

(241) **Urakhi Dargwa** (Nakh-Daghestanian, Caucasus; Dzhuma Abakarova, p.c.)

a. [C: What happened?]

Хьунуйин муруйс даг савгъат **битхьиб**.
woman.ERG man.OBL yesterday present.ABS gave
'Yesterday a/the woman gave a/the man a/the present.'

b. Си **битхьиба** даг хьунуйин муруйс?
what.ABS gave yesterday woman.ERG man.OBL
'What did the woman give the man yesterday?'

c. *Си даг хьунуйин муруйс **битхьиба**?
what yesterday woman.ERG man.OBL gave

d. Си **сабри** даг хьунуйин муруйс **битхьиба**?
what COP.PRS.3SG yesterday woman.ERG man.OBL give.PTCP
'What did a/the woman give to a/the man yesterday?'

e. Хьунуйин муруйс даг **битхьиб** савгъат.
woman.ERG man.OBL yesterday gave present.ABS
'Yesterday a/the woman gave to a/the man A PRESENT (and not something else).'

Unmistakable verb movement for preverbal focus also disqualifies many potential PVE in **Meadow Mari** (Uralic, Russia). The verb-final sentence (242a) is neutral in line with the literature agreeing that Meadow Mari is verb-final (Alhoniemi 1993, Vilkuna 1998). A sentence with multiple PVE, such as (242b), is well-formed when the directly preverbal element is an information focus, but otherwise barely acceptable (242c). This observation is in line with what Georgieva et al. (2021: 463) report: that elements "can occur after the verb in the case of preverbal focus". Due to the unmistakably focus-driven movement of the verb, a sentence such as (242b) would not count as a relevant PVE example, while (242c) would count as a PVE example. Thanks to Elena Vedernikova and Nadezhda Imaeva for discussing these data with me!

(242) **Meadow Mari**, verb movement for preverbal focus

a. Пошкудо теҥгече эрдене йочалан пӧртыштӧ пырысым **пуыш**.
neighbour yesterday morning child.DAT house.IN cat.ACC gave
'The neighbour gave a cat to the child in the house yesterday morning.'

b. [C: When did the neighbour give the cat to the child in the house?]

Пошкудо *теҥгече эрдене* **пуыш** йочалан пӧртыштӧ пырысым.
neighbour yesterday morning gave child.DAT house.IN cat.ACC
'The neighbour gave a cat to the child in the house YESTERDAY MORNING.'

c. [C: none]

#Пошкудо теҥгече эрдене **пуыш** йочалан пӧртыштӧ пырысым.
neighbour yesterday morning gave child.DAT house.IN cat.ACC
int. 'The neighbour gave a cat to the child in the house yesterday morning.'

When controlling for unmistakable verb movement, Meadow Mari turns out to only feature postverbal contrastive foci, just as Urakhi Dargwa above, an example of which is shown in (243). This means that Meadow Mari also features PVE that require an explanation regarding their structure since they do not feature the signs of unmistakable verb movement.

(243) Эрдене йочалан пӧртыштӧ пырысым пуыш *ашныше пӧръеҥ*!
morning child.DAT house.IN cat.ACC gave caring person
'A caring person gave a cat to our child in the house in the morning (and not the neighbour)!'

A final example of unmistakable verb movement occurs with *verb focus*. PVE in **South Sámi** are already discussed as a result of verb movement under verb focus in section 4.3.1.4. The relevant data are repeated in (244). They show that focus on the finite verb, roughly conveying a mirative reading, is acceptable with a non-final verb. It is unmistakable that the position of the verb is connected to the special status of the *verb* in these sentences. Just as with the other cases of unmistakable verb movement above, the properties of the postverbal elements are irrelevant in this construction. The postverbal elements end up postverbally epiphenomenally as the result of the verb moving for purposes of verb focus.

(244) (=(193) **South Sámi**, PVE as the result of verb-focus driven verb movement

a. Gaahtoe gåaskoeji maanam bearjadahken!
cat.[NOM] wake.PST.3SG child.ACC friday.GEN
'The cat woke the child up on friday! (Normally, it never wakes people!)'

b. Manne tjuvlestem fïerhtem bovtsem varki.
1SG.NOM kiss.PST.1SG each.and.every.ACC reindeer.ACC quickly
'I kissed every reindeer quickly.' or '. . . soon/early.'

Verb-focus movement leads to PVE in other otherwise rigid V-final languages. Here, this is exemplified by **Nepali** (Indo-Aryan, Nepal) in (245).In Nepali, a verum focus context makes non-verb-final orders possible (245b). In any other context, verb-medial order is grammatical in principle, but it is infelicitous (245c). This shows that the PVE in Nepali are merely epiphenomenal to the verb-focussing movement.

(245) **Nepali**, PVE via verb focus (Dubinanda Dakal, p.c.)

a. [C: no context]

Mero bhaile nəjã ghər kinjo.
my brother.ERG new house buy.PST.3SG.M.NH
'My brother bought a new house.' (neutral)

b. [C: *Timro bhaile nəjã ghər kinenə!* 'Your brother didn't buy a new house!']

Hoinə, mero bhaile KINJO nəjã ghər.
no my brother.ERG buy.PST.3SG.M.NH new house
'No, my brother DID buy a new house!'

c. [C: *Timro bhaile ke kinjo?* 'What did your brother buy?'
Kəsle nəjã ghər kinjo? 'Who bought a new house?', any other context]

#Mero bhaile kinjo nəjã ghər.
my brother.ERG buy.PST.3SG.M.NH new house
int. 'My brother bought a new house.'

To conclude, the epiphenomenal nature of PVE in cases of unmistakable verb movement renders further research into those PVE largely futile. It is futile because the status of the PVE is irrelevant in those cases, and because the derivative course for arriving at the PVE is already known. The brief examples in German and Meadow Mari above show that *relevant* PVE can exist alongside epiphenomenal PVE. This means that identifying an instance of unmistakable verb movement in a language does not bar further investigation into potential further PVE. On the contrary, the existence of unmistakable verb movement in a language can help one identify whether the non-epiphenomenal cases of PVE are also derived via verb movement. This potential parallelism will be exploited in the discussion of Estonian in section 5.5.2.

Having delineated what counts as PVE, the spectrum of OV languages with relevant PVE will be outlined in the following section.

5.4 A brief typology of postverbal elements

The aim of this section is to provide a gross overview of the dimensions of variation of PVE in OV languages. This is necessary to, first, understand what makes it that OV languages with PVE are still OV languages, and second, highlight the special status of PVE in Estonian and Udmurt in the landscape of OV languages.

The two dimensions of variation are shown in (246). The dimensions of category and function regularly cross with one another. Bare NPs are most often arguments while PPs and adverbs are most often adverbials. They are lumped together because of this interconnection.

(246) Dimensions of variation in postverbal elements in OV langauges

a. category and function (section 5.4.1)

b. information structure (section 5.4.2)

This survey is not based on a rigorous typological study. The examples chosen here merely illustrate the range of variation and provide a first approximation of what to look for when investigating PVE cross-linguistically. Therefore there is no systematicity in the choice of languages reported here. Where possible, Uralic OV languages were chosen for illustration.

5.4.1 Variation in the permissible categories of PVE

When OV languages allow for PVE (see Japanese and Nepali as strict V-final languages in section 5.3), OV languages vary in the *categories* that are allowed to surface postverbally.

In some Indo-European OV languages, only CPs are allowed to *neutrally* appear postverbally regardless of their function. German, Hindi-Urdu, and Marathi are examples of those languages. However, only German exclusively allows for postverbal CPs (but see footnote 3 on the problems of extraposition in German), while the Indo-Aryan languages also allow for other postverbal categories, albeit information-structurally marked (see section 5.4.2 below). This is not restricted to Indo-European languages. Tundra Nenets (Uralic) also seems to allow for neutral postverbal finite CPs (247) even though Tundra Nenets does generally not exhibit PVE apart from afterthoughts and right dislocations (Asztalos et al. 2017, Nikolaeva 2014). The only caveat would be the possibility of a quotative analysis.

(247) a. Wera ma-s'°, (pida) səwa-w°na yil'e°.
Wera say-PST he good-PROL live
'Wera said that he lived well.' (Nikolaeva 2014: 284)

b. ma-q, xæ-narəxa.
say-3PL go-IMPF.APRX
'They say he must have left.' (Nikolaeva 2014: 285)

The process of neutrally postposing CPs in Indo-European languages came to be called *extraposition* and was later widened to include further categories (Webelhuth et al. 2013). For German, the *extraposability* even became a diagnostic of the CP-status of verbal complements, as shown in example (248a). In the same vein, non-finite verbal clauses as in (248b) are the most frequent postverbal element in varieties of Khanty in both old and new texts (Asztalos et al. 2017, Gugán & Sipos 2017: there restricted to purposive clauses). Under the current perspective, this can be viewed as an effect of CP-hood.

(248) a. dass ich ihn immer wieder gebeten habe (German)
that 1sg 3sg.acc always again ask.PTCP have.PRS.1SG
mir Geld zu geben.
1SG.DAT money to give.INF
'I kept asking him to give me money.'

b. ma łüwat küč lŏwməltəɣł-əm (Surgut Khanty)
1SG 3SG.ACC PTCL ask.FREQ-PST.SG
mant wăɣ-at mə-ta.
1SG.ACC money-INS give-INF
'I kept asking him/her to give me money.'
(Katalin Gugán p.c., corpus example

A common explanation for the postverbal placement of CPs is that they lack the need for case assignment following Stowell (1981) (e.g. Simpson & Bhattacharya 2003).[4] The same reasoning can be applied to postverbal *oblique phrases*. Dutch allows for neutral

4. Another common assumption is the presence of an initial complementiser, nowadays analysed as FOFC-violation.

postverbal placement of PPs as in (249a) (Neeleman 2017, cf. section 2.5.1). Georgian *requires* PP-arguments to be postverbal in neutral sentences (Polinsky & Borise 2016 and Lena Borise p.c.) as illustrated in (249b), whereas most categories and functions can be either pre- or postverbal. Both Dutch and Georgian also require postverbal CPs.

(249) a. dat hij strandde **op het hek met een knal** (Dutch)
that he got.stuck on the fence with a bang
door een stuurfout
by a steering-error
'that he got stuck on the fence with a bang because he made a steering error'

b. Nino-m is c'igni čadi **čanta-ši**. (Georgian)
Nino-ERG DEM book.NOM put.AOR.3SG bag-in
'I kept asking him/her to give me money.' (Polinsky & Borise 2016)

The strongest effect of postverbal obliques can be found in the African SAuxOVX languages (Creissels 2005, Zeller 2015, and see section 4.2.3), such as Mandinka, Jula, Tunen, Tagbana, and Bambara shown in (250). In those languages, any non-oblique NP (S, DO, and sometimes IO) is preverbal, while any other phrase is oblique and obligatorily follows the verb, such that any postverbal NP has to be embedded in a PP. Their status as underlying OV languages is up to debate (Fanselow et al. submitted). From a surface-typological perspective, however, the SAuxOVX-languages are OV languages where anything but NPs are postverbal.

(250) u bɛna fanta di **a ma muso ye** (Bambara)
3PL PM Fanta give 3SG POSTP wife POSTP
'They will give him Fanta as his wife.' (Creissels 2005: 1)

The status of a flexible OV language is reached when non-oblique NPs also appear postverbally. Only then is it possible that surface VO order is grammatical. To my knowledge, this is the largest group of OV languages. Well-known flexible OV languages are Turkish and most Indo-Aryan languages, where most elements of most functions can occur as PVE (Kural 1997, Simpson & Choudhury 2015). In most of these languages, PVE are information-structurally marked, which is why they will be discussed in the next section. The markedness of PVE is one of the reasons to consider these languages as OV languages despite the fact that most categories and functions are allowed to surface behind the verb. Another reason is that there are still categories and functions that are obligatorily preverbal. For example, Turkish and Eastern Armenian both prohibit postverbal secondary predicates, as in (251).

(251) a. Doktor hasta-yı **çıplak** muayene et-ti. (Turkish)
doctor patient-ACC naked examination do-PST.3SG
'The doctor examined the patient naked.' (Begüm Yaşar p.c.)

b. *Doktor hasta-yı muayene et-ti **çıplak**.
doctor patient-ACC examination do-PST.3SG naked
int. 'The doctor examined the patient naked.'

c. Im ynkerē, k'o dzukē **hum** kerav. (Eastern Armenian)
My friend-NOM.DEF your fish-NOM.DEF raw eat-AOR.3SG
'My friend ate your fish raw.' (Zhanna Mkrtchyan, p.c.)

d. *Im ynkerē, k'o dzukē kerav **hum**
My friend-NOM.DEF your fish-NOM.DEF eat-AOR.3SG raw
int. 'My friend ate your fish raw.'

Turkish and Armenian both prohibit postverbal lexical parts of light verb constructions (252a,b), and Eastern Armenian prohibits postverbal ideophones (252c,d). These elements have in common that they are non-referential and form a partly idiomatic meaning with V.

(252) a. *Bugün-ler-de çok ed-iyor-um **dans**. (Turkish)
today-PL-LOC very do-PRS-1SG dance
int. 'I dance a lot these days.' (Begüm Yaşar, p.c.)

b. *Ali et-ti **şüphe**.
Ali do-PST.3SG doubt
int. 'Ali doubted.'

c. Apsenerē **'drp'** ēnkan. (Eastern Armenian)
plate-PL.DEF IDEO fall-AOR.3PL
'The plates fell.' (Zhanna Mkrtchyan, p.c.)

d. *Apsenerē ēnkan **'drp'**.
plate-PL.DEF fall-AOR.3PL IDEO
int. 'The plates fell.'

Finally, interrogative elements are often either prohibited as PVE (Turkish, Tundra Nenets, Meadow Mari), illustrated for Tundra Nenets and Mari in (253), or result in an echo reading as PVE (Hindi, Nepali, Georgian, Eastern Armenian, Udmurt), illustrated for Georgian in (254).

(253) a. *Sergei meńe **xīb′a-m?**? (Tundra Nenets)
Sergei love.3SG who-ACC
int. 'Who does Sergei love?' (Mus 2022: 130)

b. *Эрдене пӧртыштӧ йочалан пырысым пуыш **кӧ**? (Meadow Mari)
in.morning house.IN child.DAT cat.ACC gave who.NOM
int. 'Who gave a cat to the child in the house in the morning?'

c. *Ашныше эрдене пӧртыштӧ йочалан пуыш **мом**?
custodian.NOM in.morning house.IN child.DAT gave what.ACC
int. 'What did the custodian give to the child in the house in the morning?'

(254) Bebia a-lag-eb-d-a **ra-s**? (Georgian)
grandma.[NOM] VER-clean-SF-SM-IPFV.3SG what-DAT
'Grandma cleaned *what*?'
(Borise 2023b: 185, echo reading mentioned on 184; ungrammatical without)

The echo-reading aligns with the ban on non-referential elements as PVE: a neutral interrogative element is indefinite non-specific, i.e., basically nonreferential. In an echo reading, the interrogative receives a specific interpretation, thus opening it up for surfacing as a PVE.[5]

Based on the data at hand, the implicational hierarchy in (255) can be proposed. When an OV language allows for categories higher in this hierarchy as PVE, it also allows for the categories lower in this hierarchy as PVE. For example, a language that allows for postverbal idiom chunks is expected to allow for almost any postverbal element. On the other hand, when a language allows for postverbal CPs, nothing can be inferred about the possibility of further postverbal categories.

(255) Implicational hierarchy of the permissible categories of postverbal elements

non-referential elements	Estonian, Udmurt
> non-oblique NPs	Turkish, Uyghur, Meadow Mari, Georgian, Eastern Armenian, Amharic, Hindi-Urdu, Quechua, Teribe
> adverbs	African SAuxOVX
> oblique NPs	Surgut Khanty
> PPs	Dutch
> non-finite CPS	German
> finite CPs	Tundra Nenets
> none (only afterthought and right dislocation)	Japanese, Nepali

5. This also aligns with the Sinhala (Indo-Aryan), a language pointed out by Philipp Weisser. Sinhala allows for postverbal *wh*-elements. According to Sumangala (1992: 3) however, postverbal *wh*-elements receive a "unique focus interpretation". In contrast, preverbal *wh*-elements receive their neutral indefinite non-specific reading. The "unique focus interpretation" can be interpreted as a specific, referential reading for the postverbal interrogative. Still, Sinhala diverges from other OV languages in allowing for postverbal interrogatives more easily. As of now, I do not know of an OV language that allows for neutral postverbal interrogatives.

The hierarchy in (255) is to be understood as a prediction for the investigation of future languages. It is not based on a thorough, cross-linguistic, areally and genetically diverse language sample.

The variability discussed in this section raises the question of (a) what the difference between these categories is, and (b) what the difference between the languages on the hierarchy is. Only tentative answers can be provided here. The obvious difference between oblique and non-oblique categories is their need for case. PPs do not need case licensing at all since P itself assigns case to their dependents. In the African SAuxOVX languages, any oblique NP is embedded in a PP and appears postverbally. The same reasoning can apply to NPs with oblique cases. These cases are lexical and do not need to be assigned. This would come down to the OV/VO distinction (where O is a non-oblique NP) as a reflection of the direction of case assignment, as proposed by Janke & Neeleman (2012). However, it would leave the differences unexplained, e.g., why does German freely allow for postverbal CPs only while Dutch only freely allows for postverbal PPs?

The most probable reason for what enables the use of non-oblique NPs as PVE is the availability of information-structural readings for PVE. According to my current knowledge, all languages except for Information structure is the other crucial dimension in which PVE diverge. This dimension will be discussed in the next section.

5.4.2 Variation in the information-structural functions of PVE

Information-structurally marked PVE are the ones found most often across OV languages. The most frequent function of PVE is what is called **backgrounding** as coined by Erguvanlı (1984) for Turkish. Butt & King (1996) corroborate the backgrounding function of PVE for Turkish and show that backgrounding PVE also exist in Urdu. Backgrounding PVE were reported for various Turkic languages (Öztürk 2013), Amharic (Ethopia, Semitic) (Kramer & Eilam 2012), Hocąk (North America, Siouan) (Rosen 2013) and other Siouan languages (Gordon 2016), and varieties of Quechua (Sánchez 2010). This sample shows that backgrounding PVE are neither a genetic nor an areal phenomenon.

The term backgrounding function is described by Erguvanlı (1984: 51): the postverbal position "appears to be the mirror image of the immediately preverbal position", where the preverbal position is understood as the focus position (see section 3.2.2). As the name says, backgrounding PVE are part of the background in the focus–background partitioning, they do not bear stress, and they are given. This backgrounding is illustrated for Amharic in (256) and (257).

(256) a. [C: Who ate the chicken stew?]

astämariw **bälla** doro wätʾun. (Amharic)
teacher.DEF ate.3MS chicken stew.DEF.ACC
'The teacher ate the chicken stew.' (Kramer & Eilam 2012)

b. [C: What did the teacher eat?]

doro wätʾun **bälla** astämariw.
chicken stew.DEF.ACC ate.3MS teacher.DEF
'The teacher ate the chicken stew.' (Kramer & Eilam 2012)

(257) a. [C: Who gave the book to my son yesterday?/Who did the teacher give the book to?]

astämariw tənant lä-lijē sətʾe mätshafun.
teacher.DEF yesterday to-my.son gave book.DEF.ACC
'The teacher gave the book to my son yesterday.' (Wakweya Gobena, p.c.)

b. [C: What did the teacher give to my son yesterday?]

*astämariw tənant lä-lijē sətʾe mätshafun.
teacher.DEF yesterday to-my.son gave book.DEF.ACC
int. 'The teacher gave THE BOOK to my son yesterday.' (Wakweya Gobena, p.c.)

In (256), the argument that belongs to the background can appear postverbally. In order to ensure that really only backgrounded material can surface postverbally, the minimal pair in (257) was elicited. The target sentence in (257a) and (b) is the same, featuring a postverbal object. The object can only appear postverbally when it is part of the background, as in (257a). When the object is the focus, it cannot appear postverbally (257b).

The same pattern occurs in varieties of Quechua, as shown in (258). Quechua generally allows for PVE, but they cannot bear the morphological marker *-n* associated with focus (258a). When the same postverbal NP bears the morpheme *-qa* associated with topicality, it can occur postverbally (258b). This contrast shows that PVE have to be part of the background (which topics are often part of), and they cannot be the focus.[6]

(258) a. *Mariya Xwanaman qun libruta **-n**. (Quechua)
Mariya Xwana.DAT give.3S book.ACC -FOC/EVID
int. 'It is the book that Mariya gives to Xwana'.
(Muysken 1995: 383, as cited in Sánchez 2010)

b. Mariya Xwanaman qun libruta **-qa**.
Mariya Xwana.DAT give.3S book.ACC -TOP
'As for the book, Mariya gives to Xwana.' [sic] (Sánchez 2010: 94)

6. According to Raúl Bendezú Araujo (p.c.), other Quechuan varieties allow for PVE with the *-n*-marker. These PVE are interpreted as contrastive foci.

The final example for backgrounding PVE stems from Hidatsa, a Siouan language in (259). Gordon (2016: 400) states that all non-afterthought PVE in her corpus study of Siouan languages were "recoverable", i.e., given. These PVE were also deaccented, just as described for the backgrounding PVE in Öztürk (2013). In the specific example in (259), the context was a war story such that the postverbal *enemies* are given. The focal information is that the enemies are on that ground. In addition to the backgrounded PVE, there is a specificational afterthought *the Snake people* (i.e., the Shoshone people).

(259) [C: a war story]

Hii šee awá ihtúutiru ú'šiak káawarec **maaiháa'š**
and that ground hill.base.at arrive.SS be.there.PL.NE enemy.PL.DEF.the
Waapúkšaruxpáaka'š.
Snake.People.PL.DEF.the
'And the enemy, the Shoshone/the Snake people, were on that ground, having gotten to the base of the hill.' (Gordon 2016: 400)

In sum, backgrounding PVE are a pervasive phenomenon across OV languages.

Another information-structural role for PVE is that of **contrastive focus** (contrastive PVE). A language can exhibit contrastive PVE in addition to backgrounding PVE. Hindi is an example of such a language, as shown in (260). In a context with information focus on the object, the preverbal focus position (coinciding with the in-situ position) is the neutral answer (260a). By using a specific prosodic pattern, the focal object can also appear postverbally, as in (260b), but then it has to be interpreted as contrastive. This is not a fully felicitous answer in the context since it requires accommodation, leading to a degradation of the sentence. The contextually given adverbial can also appear postverbally, as in (260c), but the contrastive focus has to be the final element (260d). This shows that backgrounding and contrastive PVE cooccur within the same language but can be subject to ordering constraints. That might hint towards a different derivation for these two kinds of PVE.

(260) [C: Who did Sita look at carefully?/Sitane dʰyanse kısko dekʰa tʰa?] (based on examples by Butt & King (1996), judgements by Shravan Vasishth, p.c., and Umesh Patil, p.c.)

a. Sitane dʰyanse ramko dekʰa tʰa.
Sita:ERG carefully Ram:DAT look.at AUX
'Sita looked carefully at Ram.'

b. ?Sitane dʰyanse dekʰa tʰa RAMKO.
Sita:ERG carefully look.at AUX Ram:DAT
'It was Ram who Sita looked at carefully (not someone else.)'

c. ?Sitane dekʰa tʰa dʰyanse RAMKO.
Sita:ERG look.at AUX carefully Ram:DAT
'It was Ram who Sita looked at carefully (not someone else.).'

d. #Sitane dekʰa tʰa ramko dʰyanse.
Sita:ERG look.at AUX Ram:DAT carefully
int. ‘It was Ram who Sita looked at carefully.’

That contrastive PVE are possible in a language with backgrounding PVE is not surprising. The uniting property of both information-structural roles is giveness. For contrastive focus there is a contextually given set of alternatives, and the contrastive focus exhaustively picks out one of the given alternatives. In the prime example, *A: Do you want tea or coffe? –B: I want coffee.*, the coffee is given, and not new. Since givenness is the uniting property of contrastive and backgrounding PVE, it might be that a language like Hindi merely requires PVE to be given instead of backgrounded.

There are also languages that exclusively allow for contrastive PVE without allowing for backgrounding PVE. Two examples of these languages are Urakhi Dargwa and Meadow Mari (also see section 5.3 for epiphenomenal PVE in those languages). In Urakhi Dargwa, PVE are a highly marked construction. A single PVE is only achievable with a contrastive focus interpretation, as shown in (261a). Multiple PVE are hardly available. The sentence in (261b) is only salvageable by reinterpreting it as a suspense-building construction with a strong intonational break before the last element. The sentence with multiple PVE in (261c) is ungrammatical, probably because it is not meaningfully salvageable in the same way as (261b).

(261) a. Хьунуйин муруйс даг **битхьиб** *савгъат.*
woman.ERG man.OBL yesterday gave present.ABS
‘Yesterday a/the woman gave to a/the man A PRESENT (and not something else).’

b. ??Хьунуйин муруйс **битхьиб** даг – савгъат.
woman.ERG man.OBL gave yesterday present.ABS
‘A/the woman gave to a/the man yesterday: –a present!’

c. *Хьунуйин муруйс **битхьиб** савгъат даг.
woman.ERG man.OBL gave present.ABS yesterday
int. ‘Yesterday a/the woman gave a present to a/the man.’

Meadow Mari also allows for contrastive PVE as shown in (262. The category and grammatical function of the PVE does not play a role: subjects (262a), direct objects (262b), indirect objects (262c), and adverbials (262d) can occur postverbally as long as they receive a contrastive interpretation. (262e,f) exemplify contrastive PVE for a different lexicalisation.

(262) Postverbal contrastive focus in **Meadow Mari** (Elena Vedernikova p.c., Nadezhda Imaeva p.c.)

a. Эрдене йочалан пӧртыштӧ пырысым пуыш *ашныше пӧръеҥ*!
morning child.DAT house.IN cat.ACC gave caring person
‘A CARING PERSON gave a cat to our child in the house in the morning (and not the neighbour)!’

b. Ашныше пӧръеӈ эрдене йочалан пӧртыштӧ пуыш *пырысым*!
caring person morning child.DAT house.IN gave cat.ACC
'A caring person gave A CAT to our child in the house in the morning (and not a dog)!'

c. Ашныше пӧръеӈ эрдене пӧртыштӧ пырысым пуыш *йочалан*!
caring person morning house.IN cat.ACC gave child.DAT
'A caring person gave a cat TO OUR CHILD in the house in the morning (and not to our grandma)!'

d. Ашныше пӧръеӈ йочалан пӧртыштӧ пырысым пуыш *эрдене*!
caring person child.DAT house.IN cat.ACC gave morning
'A caring person gave a cat to our child in the house IN THE MORNING (and not in the evening)!'

e. Рошто годым марием тӱрлӧ колым пуаш тӱӈалеш *кажне пырыслан.*
at.christmas husband.PX different fish.ACC give.INF will every cat.DAT
'At christmas my husband will give a different fish TO EVERY CAT (and not to every dog).'

f. Рошто годым марием кажне пырыслан пуаш тӱӈалеш *тӱрлӧ колым.*
at.christmas husband.PX every cat.DAT give.INF will different fish.ACC
'At christmas my husband will give A DIFFERENT FISH to every cat (and not a different bow).'

Just as in Hindi-Urdu above, the contrastive PVE seems to be restricted to a singular element since the construction becomes markedly worse the more postverbal elements there are. It is always the final element that is interpreted as the contrastive focus.

(263) a. Пошкудо эрдене йочалан пӧртыштӧ пырысым пуыш.
neighbour in.morning child.DAT house.IN cat.ACC gave
'The neighbour gave a cat to the child in the house in the morning.'

b. Пошкудо эрдене йочалан пӧртыштӧ пуыш *пырысым.*
neighbour in.morning child.DAT house.IN gave cat.ACC
'The neighbour gave A CAT (and not something else) to the child in the house in the morning.'

c. ?Пошкудо эрдене йочалан пуыш пӧртыштӧ *пырысым.*
neighbour in.morning child.DAT gave house.IN cat.ACC

d. ??Пошкудо эрдене пуыш йочалан пӧртыштӧ *пырысым.*
neighbour in.morning gave child.DAT house.IN cat.ACC

e. ??Теҥгече пошкудо пуыш эрдене йочалан пӧртыштӧ *пырысым.*
yesterday neighbour gave in.morning child.DAT house.IN cat.ACC

The final PVE type is the absence of information structural effects, i.e., **free variation in verb placement**. To my knowledge, only Georgian (Borise 2019, Skopeteas & Fanselow 2010) and Udmurt (Asztalos 2018, 2020, Tánczos 2010) have been presented as candidates for this type. The in-depth discussion of free variation in Estonian and Udmurt in the following section is the main contribution of this chapter.

A tentative overview of the different types is presented in (264).

(264) Types of PVE by IS function with example languages

PVE type	Example language
backgrounding PVE	Turkish, Uyghur, Amharic, Siouan, Quechua
contrastive PVE	Standard Dargwa, Meadow Mari
contrastive + backgrounding PVE	Hindi-Urdu
free variation (any IS-function)	Estonian, Udmurt, Georgian, Eastern Armenian

5.4.3 Conclusion: Dimensions of variation of postverbal elements

Most OV languages allow for some kind of postverbal element. What kind of element is allowed postverbally, however, is subject to inter-language variation. At least two dimensions of variation can be distinguished here: that of the category and function of the PVE, and that of the information structure of PVE.

The number of strictly verb-final languages, OV languages without PVE, seems to be rather small. To my knowledge, only Japanese and Nepali disallow any kind of clause-internal PVE. German and Tundra Nenets already allow for postverbal CPs. However, they would still be on the very strict spectrum: in contrast to the more flexible languages, these CPs are obligatorily postverbal, they never surface preverbally.

Most commonly, OV languages allow for most categories and functions as PVE. Only a few elements, often non-referential in nature, such as parts of idioms, cannot appear as PVE in these languages. All of the languages that allow for non-oblique NPs as PVE, i.e., that allow for OV/VO variation, have information-structural functions associated with PVE. This information-structural markedness of PVE is testament to the underlying verb-final nature of these languages. The crosslinguistically most attested IS-function of PVE is *backgrounding*, while some other OV languages only allow for postverbal *contrastive focus*. It could be that the IS-function associated with PVE allows for the categorial flexibility of the PVE. It could also be the reason why PVE are restricted to potentially referential elements in these languages.

Against this background, the study of PVE in Estonian and Udmurt is of special interest: in contrast to most other flexible OV languages, they allow for information-structurally neutral PVE.

5.5 Free XV/VX variation: PVE in Estonian and Udmurt

5.5.1 Free XV/VX variation

The uniting property of PVE in Udmurt and Estonian is **free variation**. The use of PVE has no information-structural effects: surface verb-final and verb-medial orders can be used in the same contexts.

First of all, both OV and VO orders can be used in broad-focus contexts without change in meaning. This is shown for Estonian[7] in (265) and for Udmurt in (266,267). In Estonian, word order relative to V has to be tested with non-finite verbs because of V2-like obligatory raising of finite verbs in most contexts (Ehala 2006, Lindström 2017, Sahkai & Tamm 2019). In non-V2 contexts such as conditional clauses, finite verbs can also be placed freely (Erelt 2007: 100). The Udmurt sentences show that the free placement holds for both independent (266) and dependent clauses (267).

(265) **Estonian** [C: What happened earlier?/Mis on varem juhtunud?]

a. Ema on lapselt mänguasja ära **võtnud**.
mother AUX.PRS.3SG child.ABL toy.ACC PRT take.PTCP
'Mother has taken the toy away from the child.'

b. Ema on lapselt **võtnud** mänguasja ära.
mother AUX.PRS.3SG child.ABL take.PTCP toy.ACC PRT

c. Ema on **võtnud** lapselt mänguasja ära.
mother AUX.PRS.3SG take.PTCP child.ABL toy.ACC PRT

(266) **Udmurt** [C: The school made an excursion to the opera.]

a. Толон дышетйсь кыче ке крезьгурчиез котькуд нылпиен
yesterday teacher.NOM some.kind musician.ACC every child.INSTR
тодма -т -йз.
acquaint -CAUS -PST.3SG
'Yesterday the teacher introduced some kind of musician to every child.'

b. Толон дышетйсь кыче ке крезьгурчиез **тодматйз**
yesterday teacher.NOM some.kind musician.ACC acquaint.CAUS.PST.3SG
котькуд нылпиен.
every child.INSTR

7. This variation can also be seen in corpora. The corpus collection at https://www.keeleveeb.ee allows for queries. On that page, choose a corpus (recommendation: etTenTen). The search for, e.g., `on@word $(v prc)@word` will return all tokens in which the present-tense copula and a participle cooccur in the same clause. Both elements will be boldfaced, making it easy to spot the various positions the participle assumes. For a more constrained sample, one can also look up the specific verbs used for illustration below, i.e., `on@word $kinkinud@word` or `on@word $võtnud@word`. This is just for illustration, I did not analyse corpus data.

c. Толон дышетйсь **тодматйз** кыче ке крезьгурчиез
yesterday teacher.NOM acquaint.CAUS.PST.3SG some.kind musician.ACC
котькуд нылпиен.
every child.INSTR

(267) **Udmurt** [C: no context]

a. Инву, пöйшурасьёс гондырез **виёзы** (шуыса), малпа.
Invu.NOM hunter.PL.NOM bear.ACC kill.FUT.3PL COMP think.PRS.3SG
'Invu thinks that the hunters will kill a bear.'

b. Инву, пöйшурасьёс **виёзы** гондырез (шуыса), малпа.
Invu.NOM hunter.PL.NOM kill.FUT.3PL bear.ACC COMP think.PRS.3SG

Free verb placement is not restricted to broad-focus contexts. Changing the position of the verb also has no impact in narrow-focus contexts. This is shown for Estonian in (268, 269) and for Udmurt in (270, 271). As discussed in section 3.4, Udmurt and Estonian both have a preverbal focus position, in which foci appear in front of the verb complex. When the non-finite verb is in clause-final position, the focus is preverbal (268a, 269a,270a, 271a). When the verb is not clause-final, the position of the focus relative to all other elements in the clause does not change (all other examples). This property will be discussed further below (section 5.5.3) as an indication of verb movement. Also note that the examples in (270) also show that the free variation is not restricted to the finite verb in Udmurt. Both Estonian and Udmurt exhibit considerable amounts of free variation in the verb complex akin to the Germanic cluster that cannot be discussed here but the data are available on request.

(268) [C: What did the mother take from the child earlier?/Mille on ema varem lapselt ära võtnud?]

a. Ema on lapselt MÄNGUASJA ära **võtnud**.
mother AUX.PRS.3SG child.ABL toy.ACC PRT take.PTCP
'Mother has taken the toy away from the child.'

b. Ema on lapselt **võtnud** MÄNGUASJA ära.
mother AUX.PRS.3SG child.ABL take.PTCP toy.ACC PRT

c. Ema on **võtnud** lapselt MÄNGUASJA ära.
mother AUX.PRS.3SG take.PTCP child.ABL toy.ACC PRT

d. Ema on **võtnud** ära lapselt MÄNGUASJA.
mother AUX.PRS.3SG take.PTCP PRT child.ABL toy.ACC

(269) [C: Who took the toy away from the child earlier?/ Kes on võtnud varem lapselt mänguasja ära?]

a. Lapselt on mänguasja EMA ära **võtnud**.
child.ABL AUX.PRS.3SG toy.ACC mother PRT take.PTCP
'MOTHER has taken the toy away from the child.'

b. Lapselt on mänguasja **võtnud** ema ära.
child.abl aux.prs.3sg toy.acc take.ptcp mother prt

c. Lapselt on **võtnud** mänguasja ema ära.
child.abl aux.prs.3sg take.ptcp toy.acc mother prt

d. Lapselt on mänguasja ära **võtnud** ema.
child.abl aux.prs.3sg toy.acc prt take.ptcp mother

(270) [C: To whom could grandmother bring the five perepech yesterday?]

a. Ӧуказе песянай вить перепечез *котькуд*
yesterday grandmother five perepech.acc every
нунокезлы **вайыны** быгатэ.
grandchild.Px.3sg.dat bring.inf could
'Grandmother could bring the five perepech to every grandchild yesterday.'

b. Ӧуказе песянай вить перепечез **вайыны** *котькуд*
yesterday grandmother five perepech.acc bring.inf every
нунокезлы быгатэ.
grandchild.Px.3sg.dat could

c. Ӧуказе песянай **вайыны** вить перепечез *котькуд*
yesterday grandmother bring.inf five perepech.acc every
нунокезлы быгатэ.
grandchild.Px.3sg.dat could

d. Ӧуказе **вайыны** песянай вить перепечез *котькуд*
yesterday bring.inf grandmother five perepech.acc every
нунокезлы быгатэ.
grandchild.Px.3sg.dat could

e. #**Вайыны** Ӧуказе песянай вить перепечез *котькуд*
bring.inf yesterday grandmother five perepech.acc every
нунокезлы быгатэ.
grandchild.Px.3sg.dat could
'Concerning to whom grandmother *brought* five perepech yesterday: Bring, she did five perepech to every grandchild yesterday.', i.e., better in a context that warrants verb topicalisation

(271) [C: What did Sasha watch in the cinema?]

a. Саша кинотеатрын *терминаторез* **учкиз**.
Sasha cinema.in Terminator.acc see.pst.3sg
'Sasha saw the Terminator in the cinema.' (Tánczos 2010:225; bf by AP)

b. Саша кинотеатрын **учкиз** *терминаторез*.
Sasha cinema.IN see.PST.3SG Terminator.ACC
'Sasha saw THE TERMINATOR in the cinema.' (Tánczos 2010:225; bf by AP)

Previous reports corroborate the claim of free verb placement. For Estonian, a plethora of non-finite verb positions can be found in the examples provided by the reference grammar (Erelt & Metslang 2017). However the variable position of the non-finite verb is not discussed explicitly. Only the final placement of non-finites is mentioned as a neutral word order (Lindström 2017: 549, also Ehala 2006). So while examples documenting variable placement of non-finites are part of the literature and is present in corpora (see fn. 7), the phenomenon has not been discussed explicitly yet.

For Udmurt, there are several explicit discussions of information-structurally free variation in verb placement. The examples in (271) stem from Orsolya Tánczos (2010). That study was the first to discuss Udmurt verb placement in contexts. Tánczos already concluded that verb-placement has no information-structural impact.

Erika Asztalos did extensive research on PVE in corpora, questionnaire studies, and field work, most of which was incorporated into her dissertation (Asztalos 2018). Her findings are in line with the conclusion that there is information-structurally free variation between OV and VO orders. PVE of most grammatical functions occur in broad focus contexts in corpora, both in modern texts and in texts from the beginning of the 20th century (Asztalos et al. 2017, Asztalos 2018). In her questionnaire studies and field work, people judge PVE in most functions as grammatical in broad-focus contexts (Asztalos 2018, Asztalos 2021). This leads Asztalos (2021: 177) to conclude "head-initial phrases occur also in neutral sentences in contemporary Udmurt".

In the same vein, Edygarova (2021), an Udmurt herself, starts with the premise of full-fledged free variation in verb placement. Then she discusses how the placement of the verb became a matter of identity for Udmurts: since speakers of Udmurt are free to choose either XV or VX order, some Udmurts chose to produce more XV orders in writing in order to withstand Russification in Sovjet times, since Russian rarely features verb-final orders. This went as far as correcting VX orders to XV orders in proofreading and editing. That such corrections are possible are another sign of how free the placement of the verb is: if there were semantic effects of changing the verb placement, then it would not have been possible to simply change the position of the verb in editing.

Information-structurally free variation between OV and VO order was already documented for another language: there is evidence for free OV/VO-variation in **Georgian** (Borise 2019, Skopeteas & Fanselow 2010), to be discussed in section 5.5.8. The existence of this phenomenon in another language means that Estonian and Udmurt are neither the first, nor the only languages with free variation. In search for further languages with this free variation, Eastern Armenian (Indo-European, Armenia) and Gagauz (Turk, Moldavia) turned up after fieldwork by my students Zhanna Mkrtchyan, Janina Deilke, and Natalia Krasikova.[8] Some varieties of Yiddish might qualify (cf. Diesing 1997: and literature discussing her data). To my knowledge however, there are no explicit discussions of

8. There is no room for the discussion of the free-variation data for Eastern Armenian and Gagauz here, but they are available upon request.

Yiddish OV/VO variation in information structural contexts. Instead, the footnotes and the discussion by (Diesing 1997: 389ff.) suggest that the OV/VO variation comes with information-structural effects, and even truth-conditional semantic effects.

Finally, the languages described as non-configurational cannot be regarded as languages with free OV/VO variation because it is not clear whether the word order variation is information-structurally neutral. Their word order freedom was either declared without indication of information structure, such as Warlpiri (Hale 1983), or their word order freedom was reported to be governed by information structure, as in Legate's (2002) analysis of Warlpiri, and the languages discussed by Mithun (1987). Nonetheless it is striking that most languages described as non-configurational seem to be underlyingly verb-final.

5.5.2 Particle placement as evidence for verb raising in Estonian

Verb particles can be used to diagnose verb movement, and Estonian exhibits grammaticalised verb particles (Erelt 2007: 101). This subsection will argue for the verb-raising analysis of Estonian PVE based on the distribution of verb particles. First, there will be a brief review of how verb particles can be applied as a diagnostic illustrated by German data. Then, the diagnostics will be applied to Estonian.

In Germanic languages, verb particles have been implemented as a diagnostic for verb movement (Haider 2010, 2013, Janke & Neeleman 2012, Koster 1975, Neeleman 1994). The first premise of this diagnostic is that verb particles are relatively *inert* (Janke & Neeleman 2012: 171). The second premise is that verb particles are base generated adjacent to the verb (Haider 2013: ch. 7). As a result of these two premises, a verb particle will always be adjacent to the verb unless the verb has moved. Consequently, a non-verb-adjacent verb particle indicates *that* the verb has moved, and also *where* the verb originated. For more details about the syntax of verb particles in Germanic, see Schmidt (2016: ch. 6), Haider (2013: ch. 7), or S. Müller (2002).

The relative inertness of verb particles is the first premise that has to be met. As discussed in the theoretical background 2.2, most adjuncts and arguments can be interspersed rather freely. German and Estonian also exhibit this free interspersal. This interspersal leads to several neutral word orders language-internally. The relative inertness of verb particles is evident in a lack of such neutral variation. Any displacement of a verb particle leads to a highly marked structure. This relative inertness will first be shown to hold in German and then also for Estonian.

The examples in (272) and (273) show that verb particles cannot detach freely to the left of the verb. First, (272a) shows the grammatical and neutral placement of the verb particle. It is directly left-adjacent to the verb. (272b,c) shows that any non-adjacent placement of the particle to the left of the verb within the middlefield is highly marked, but many speakers also perceive it as ungrammatical. The left-detached placement can become marginally acceptable to some speakers by either interpreting the sentence as part of the poem or by contrastively focussing the particle. Another option consists of reanalysing the particle *durch* as a preposition meaning *through* when it precedes an NP. This results in a change in meaning. In sum, left-detachment of the verb particle is

highly salient and highly marked. Therefore movement of the particle is detectable in either degradedness or changes in meaning. This property is crucial for the use of verb particles as a diagnostic: wherever a verb particle appears in a *neutral* sentence, it will not have reached that position via movement of the particle.

(272) a. Die Mutti wird diese Dokumente nachher **durch**-sehen. (German)
the mother will those documents later PRT-look.INF
'Mother will review those documents later.'

b. Die Mutti wird **(*durch)** diese Dokumente **(*durch)** nachher sehen.
the mother will PRT those documents PRT later look.INF
int. 'Mother will review those documents later.'

c. dass die Mutti **(*durch)** diese Dokumente **(*durch)** nachher
that the mother PRT those documents PRT later
(durch-)sieht.
PRT-look.PRS.3SG
int. 'that Mother reviews those documents later.'

The relative inertness of the particle comes into play as a diagnostic when the particle verb is the finite verb moving for the purposes of V2, as in (273a): the only neutral sentence is the one where the verb particle is clause-final. The verb particle cannot be pied-piped along with the verb, nor can it appear directly after the verb. The only acceptable, but degraded, position is the one preceding the adjunct *nachher* ('later'). This can easily be traced back to the possible base positions of the particle verb, as shown in (273b,c): adjuncts can extrapose to follow the non-finite or embedded finite verb as a marginally acceptable option. Just as the sentences with the postverbal adjunct in (273b,c) are acceptable, so is the sentence in which the adjunct follows the particle in (273a).[9] This means that the verb particle occurs in exactly those positions in which the particle verb occurs in its original position. The original positions are indicated by the non-finite verb and the finite verb in embedded clauses. As such, verb particle placement is a diagnostic for the base position of the verb in German. The same applies to other Germanic languages (Haider 2010, Janke & Neeleman 2012).

(273) a. Die Mutti **(*durch-)** sieht **(*durch)** diese Dokumente **(??durch)**
the mother PRT- sees PRT those documents PRT
nachher **(OK durch)**.
later PRT
'Mother reviews those documents later.'

9. To me, extraposed *nachher* is ungrammatical, but they are frequently produced and deemed acceptable by some German speakers. See footnote [3] on extraposition in German.

b. Die Mutti wird **(*durch-sehen)** diese Dokumente **(??durch-sehen)**
the mother has PRT-look.INF those documents PRT-look.INF
nachher **(OK durch-sehen)**.
later PRT-look.INF
'Mother will review those documents later.'

c. dass die Mutti **(*durchsieht)** diese Dokumente **(??durchsieht)**
that the mother PRT-look.PRS.3SG those documents PRT-look.PRS.3SG
nachher **(OK durch-sieht)**.
later PRT-look.PRS.3SG
'that Mother reviews those documents later.'

This brief tutorial showed that verb particles can be used as a diagnostic for (a) verb movement and (b) the base positions of the verb. This diagnostic can now be applied to Estonian. The prerequisite is the **relative inertness** of verb particles. The following examples in (274) show that verb particles cannot neutrally left-detach from the verb, just as in German. Only (274a) is grammatical and neutral. A left-detached particle is ungrammatical in a neutral sentence, as in (274b,c). The sentences can be made acceptable by stressing the particle, achieving a contrastive interpretation. Thanks to the various Estonian speakers who corroborated the data in this section: Marin Jänes (Estonian Academy of Sciences) as the first person to provide the judgements and comments, and further along: Heete Sahkai, Anne Tamm, Merit Niinemägi, Carmen Nõlvak, Anti Lillak, and the various persons I asked at IFUSCO's. The original sentences modified for testing stem from Muischneck et al. (2013).

(274) **Estonian**: verb particles cannot left-detach from non-finite verbs in V2 contexts, meaning they are relatively inert

a. Ema on need paberid varem **üle** **vaadanud**.
mother AUX.PRS.3SG those.PL.PAR paper.PL.PAR earlier PRT look.PTCP
'A/the mother has reviewed those papers earlier.'

b. *Ema on need paberid **üle** varem **vaadanud**.
mother AUX.PRS.3SG those.PL.PAR paper.PL.PAR PRT earlier look.PTCP

c. *Ema on **üle** need paberid varem **vaadanud**.
mother AUX.PRS.3SG PRT those.PL.PAR paper.PL.PAR earlier look.PTCP

The relative inertness of the verb particle is also visible with finite verbs, as in the German example (272c). Due to the V2-property of Estonian, the relative inertness of verb particles with finite verbs can only be tested in contexts where V2-movement is not obligatory. This is the case in conditional clauses (Erelt 2007: 100). The relative inertness becomes visible in (275) accordingly. Just as in (274), left-detachment of the verb particle is ungrammatical in neutral sentences. Again, some of the sentences with a left-detached verb particle in (275b,c) can be made acceptable by contrastively focussing the verb particle. With neutral intonation however, left-detachment is ungrammatical. This contrasts with the word order variability that non-particles exhibit (see chapter 3).

As such, the Estonian distribution of verb particles with finite verbs in non-V2-contexts is on par with the German data: left-detachment of the verb particle is at most highly marked. Additionally, the position of the *non-finite* verb in (274) represents the position that the *finite* verb can assume in contexts where V2 is not obligatory.

(275) **Estonian**: verb particles cannot left-detach from finite verbs in non-V2 contexts, meaning they are relatively inert

a. Kui ma need paberid homseks **üle**
when 1SG.NOM those.PL.PAR paper.PL.PAR tomorrow.TRANSL PRT
vaatan, siis on kõik valmis.
look.PRS.1SG then AUX.PRS.3SG everything ready
'If I review those papers by tomorrow, then everything is ready.'

b. *Kui ma need paberid **üle** homseks
when 1SG.NOM those.PL.PAR paper.PL.PAR PRT tomorrow.TRANSL
vaatan, ...
look.PRS.1SG
int. 'If I review those papers by tomorrow, ...'

c. *Kui ma **üle** need paberid homseks **vaatan**, ...
when 1SG.NOM PRT those.PL.PAR paper.PL.PAR tomorrow look.PRS.1SG
int. 'If I review those papers by tomorrow, ...' (grammatical with *üle* as a preposition)

d. *Kui **üle** ma need paberid homseks vaatan, ...
when PRT 1SG.NOM those.PL.PAR paper.PL.PAR tomorrow look.PRS.1SG
int. 'If I review those papers by tomorrow, ...'

We can conclude that the Estonian verb particles meet the inertness requirement for use as a diagnostic of verb movement. The next piece of evidence is the distribution of verb particles when the finite verb moves for the purposes of Estonian V2. These data are shown in (276). First, (276a) shows that the verb particle cannot be pied-piped for movement to V2. This is the same as in the Germanic languages illustrated by German in (273a). Next, (276b) shows the verb particle stranded in clause-final position. The clause-final position is the one that previous authors already determined as natural (Ehala 2006, Lindström 2017: 549). Apart from the clause-final position, which would be on par with German once again, any other post-finite position is grammatical and fully neutral as well, as shown in (276c,d). This means that the verb particle can assume any post-finite position even though it cannot left-detach on its own. This falsifies any analysis under which the particle was left-detached from the finite verb before the verb movement took place. On the other hand, the data in (276 now indicate that any of the postverbal positions is a possible position of the finite verb prior to movement. This goes hand in hand with the free variation of verb placement, but it would not decide between base-generation and movement analyses of the free verb placement.

(276) verb particles neutrally appear in any post-finite position in V2 contexts

a. *Ma **üle**-*vaatan* need paberid homseks.
1sg prt-look.prs.1sg those.pl.par paper.pl.par tomorrow.transl
int. 'I review these papers by tomorrow.'

b. Ma *vaatan* need paberid homseks **üle**.
1sg look.prs.1sg those.pl.par paper.pl.par tomorrow.transl prt
'I review these papers by tomorrow.'

c. Ma *vaatan* need paberid **üle** homseks.
1sg look.prs.1sg those.pl.par paper.pl.par prt tomorrow.transl
'I review these papers by tomorrow.'

d. Ma *vaatan* **üle** need paberid homseks.
1sg look.prs.1sg prt those.pl.par paper.pl.par tomorrow.transl
'I review these papers by tomorrow.'

If the verb particles were to indicate only those positions that the finite verb can originate from, then the particle+verb combination should be able to appear in any position as well. As shown in (277), the non-finite verb can neutrally appear in any position following the finite verb. This means that the verb particle can indicate positions of the verb prior to movement since the distribution of the verb particle (276) and particle+verb combination still coincide. As such, verb particles function as a diagnostic for verb movement and the original position of the verb in Estonian. However, these data do not yet decide between movement- and base-generation-based approaches to the free verb placement.

(277) non-finite verbs neutrally appear in any postfinite position in V2 contexts

a. Ema on need paberid varem **üle vaadanud**.
mother aux.prs.3sg those.pl.par paper.pl.par earlier prt look.ptcp
'A/the mother has reviewed these papers earlier.'

b. Ema on need paberid **üle vaadanud** varem.
mother aux.prs.3sg those.pl.par paper.pl.par prt look.ptcp earlier

c. Ema on **üle vaadanud** need paberid varem.
mother aux.prs.3sg prt look.ptcp those.pl.par paper.pl.par earlier

At this point, it is evident that verb particles serve as a diagnostic for verb movement and as an indicator of the original position of the verb. However, the examples in (277) merely exemplify the free variation in verb placement in Estonian again, akin to (265), (268), and (269). Since the verb particles are adjacent to the verb, there is no evidence of verb movement in (277), lending to a base-generation analysis of free-verb placement. Conflicting with the base-generation analysis, the examples in (278) now show that the verb particle can also appear in any position following the non-finite verb. This holds regardless of where the non-finite verb is situated, which can be seen when comparing (278a–c) to (278d) and (278e). The postverbal particles are likely stranded in their

postverbal position, just as they are when finite verb moves (276), thus supporting a movement analysis of free verb placement.

(278) a. Ema on **vaadanud** **üle** need paberid varem.
mother AUX.PRS.3SG look.PTCP PRT those.PL.PAR paper.PL.PAR earlier
'A/the mother has reviewed these papers earlier.'

b. Ema on **vaadanud** need paberid **üle** varem.
mother AUX.PRS.3SG look.PTCP those.PL.PAR paper.PL.PAR PRT earlier

c. Ema on **vaadanud** need paberid varem **üle**.
mother AUX.PRS.3SG look.PTCP those.PL.PAR paper.PL.PAR earlier PRT

d. Ema on need paberid **vaadanud** **üle** varem .
mother AUX.PRS.3SG those.PL.PAR paper.PL.PAR look.PTCP PRT earlier

e. Ema on need paberid varem **vaadanud** **üle** .
mother AUX.PRS.3SG those.PL.PAR paper.PL.PAR earlier look.PTCP PRT

In the light of (278), a pure base-generation approach to free verb placement of non-finites would now have to assume that verb particles can be base generated in a postverbal position since they could not have been stranded there. This could be implemented by viewing Estonian verb particles as a special class of secondary predicates that bring about special, idiomatic meanings in the verb by predicating over the object. First, this would stretch the boundaries of what secondary predication encompasses since it would suddenly also involve prepositions. Second, this option would miss the otherwise striking similarity of verb particles in Germanic and Estonian.

A pure verb-movement-based analysis of free verb placement is not straightforward either. The sentences in (277), in which the preverbal particle and the non-finite verb appear in any position, would require *pied-piping of the verb particle*: since the verb particle by itself is inert, any non-final placement of the verb particle has to be the result of pied-piping of the verb particle. Verb movement that pied-pipes the verb particle would generally be a reasonable assumption, since it is already employed in order to account for the distribution of particles in English (Janke & Neeleman 2012). In the case of Estonian however, the assumption of pied-piping clashes with the fact that verb particles *have to* be stranded when the finite verb moves obligatorily to fulfil V2, as shown in (276a). The unavailability of pied-piping in that context would force one to assume that pied-piping can only occur for the purposes of non-obligatory verb movement; or otherwise, that the V2 position does not allow for complex heads while the lower positions allow for complex heads.

Apart from pied-piping of the verb particle, a pure verb-movement analysis of the pattern in (276) and (278) would require **multiple verb movements**. Additionally, it would require **optional pied-piping** of the verb particle with every movement. The need for these options can be illustrated with (278b), as shown in (279) for the relevant part of the sentence. Labels and hierarchies are not given since the exact landing sites are not the issue at this point, merely the necessary representations are. Without any movement, the sentence would look like (277a) as depicted in (279a). As mentioned

above, any non-final placement of the verb particle would have to be the result of pied-piping. This requires the derivation of (279b), in which the particle is pied-piped along with the verb, resulting in sentence (277b). In a further movement step, shown in (279c), the verb would now have to move *without* pied-piping the particle, thus stranding the particle in the previously derived position. That movement step finally derives (278b). The non-final placement of the particle under V2, as in (276c), can be derived in the same vein: taking pied-piping as an intermediate step, akin to (279b), the finite verb strands the particle upon moving to the V2 position.

(279) Pure movement-based analysis of verb particle distribution

a. need paberid varem **üle vaadanud**.
these papers earlier PRT look.PTCP

b. need paberid **üle vaadanud** varem <üle vaadanud>.
these papers PRT look.PTCP earlier PRT look.PTCP

c. **vaadanud** need paberid **üle** <vaadanud> varem <üle vaadanud>.
look.PTCP these papers PRT look.PTCP earlier PRT look.PTCP

d. **vaatan** need paberid **üle** <vaatan> homseks <üle vaatan>.
look.PRS.1SG these papers PRT look.PRS.1SG tomorrow PRT look.PRS.1SG

The illustration in (279) shows that verb movement with optional pied-piping succeeds at capturing the distribution of verb particles. The verb movements would not have to target a specific functional position (see Janke & Neeleman 2012 for a verb movement without little *v*). Instead, the verb could move and reproject in bootstrapping fashion ("Münchhausen-style", as in Fanselow 2004, also fruitfully applied to the nominal domain by Georgi & Müller 2010). The main drawback of the multiple-movement analysis is the assumption of two mechanisms that apply without motivation: first, the unmotivated, optional verb movement itself that can take place multiple times, and second, the unmotivated, optional pied-piping and stranding of the verb particle. Prima facie, unmotivated movements do not pose any problem when comparing it to other analyses. LCA-based analyses, for example, were revered even though the derivation of verb-final languages involves multiple leftward movements that occur for no other reason than to derive the surface word order based on mainly *theory-internal* considerations. The verb movements in the analysis in (279) serve the same purpose since they serve to derive the correct linearisation. Furthermore, the full optionality of these movements models the absence of interpretational effects.

A possible solution for the arbitrariness of these movements was already raised in section 5.2.2: there is a singular structural position attracting the verb, and PVE come about by merging elements before the verb moves to that position. If that were the case, then either rightward merge or rightward movement would be required to derive non-clause-final verb particles. If only a single movement were to occur, then the verb particle would indicate the single, base-generated position of the verb. Under the assumption of a strictly verb-final base, the particle would always have to occur in clause-final position. Since the particle is not necessarily clause-final, there needs to be an additional

mechanism to account for post-particle elements. Because post-particle elements could not have been stranded behind the particle, those elements can reach the post-particle position only via base-generation to the right of the original base-position of the verb, or via rightward movement. This analysis is sketched in (280) by assuming rightward merge.

(280) Single movement analysis of post-particle elements combined with right adjunction

a. I: rightward merge of the eventually post-particle element

[$_{V'}$ [$_{V}$ **üle** **vaadanud**] varem]
PRT look.PTCP earlier

b. II: leftward merge of the eventually post-verbal, pre-particle element

[$_{V'}$ need paberid [$_{V'}$ [$_{V}$ **üle** **vaadanud**] varem]]
these papers PRT look.PTCP earlier

c. III: movement of V to the attractor position, leading to stranding of the particle

[$_{V'}$ ϵ + **vaadanud** [$_{V'}$ need paberid [$_{V'}$ [$_{V}$ **üle** <vaadanud>] varem]]].
look.PTCP these papers PRT look.PTCP earlier

At present, the data to decide between these two options have not been conclusively elicited. The prediction for the single-movement analysis in (280) would be straightforward when combined with free merger, as it would be a combination of the rightward-merge analysis for PVE (see 5.2.1) and the verb-raising analysis (see 5.2.2). If anything following the particle is merged to the right, then the particle would be a *symmetry axis*: following the particle, right-to-left scope should be preferred, manifesting in the preferred order of adverbials and in preferred inverse scope readings. At the moment, these predictions have only been thoroughly tested with a single speaker (Janely Viitak) and only a few lexicalisations, such that the following data can only be taken as preliminary results.

Neither the non-finite verb nor the verb particle act as a symmetry axis, since both the order of adverbials and the scopal relations of quantifiers are the same regardless of the position of the verb and the verb particle. The order of adverbials is that expected of a verb-final language, as shown in (281a). The temporal adverb *eile* ('yesterday') comes first, followed by the frequency adverb *tihti* ('often'), and the manner adverb *valjusti* ('loudly') is final. Any other preverbal order of these adverbs is either highly marked or unacceptable, exemplified by the complete mirror-image order (281b) and the MAN–TEMP–FREQ order (281c).

(281) Preverbal order of adverbs

a. Ilmselt oli kass eile tihti valjusti **nurrunud**.
probably COP.PST.3SG cat yesterday often loudly meow.PTCP
'The cat probably often meowed yesterday.'

b. *Ilmselt oli kass valjusti tihti eile **nurrunud**.
probably cop.pst.3sg cat loudly often yesterday meow.ptcp
int. 'The cat probably often meowed yesterday.'

c. *Ilmselt oli kass valjusti eile tihti **nurrunud**.
probably cop.pst.3sg cat loudly yesterday often meow.ptcp
int. 'The cat probably often meowed yesterday.'

The left-to-right scopal order of adverbials, Temp–Freq–Man, is also the least marked one behind the verb, as shown in (282a). It is accompanied by prosodic stress on *eile*. The mirror-image order (282b) and the random Freq-Temp-Man (282c) are fully unacceptable postverbally.

(282) Postverbal order of adverbs

a. Ilmselt oli kass **nurrunud** eile tihti valjusti.
probably cop.pst.3sg cat meow.ptcp yesterday often loudly
'The cat probably often meowed yesterday.'

b. *Ilmselt oli kass **nurrunud** valjusti tihti eile.
probably cop.pst.3sg cat meow.ptcp loudly often yesterday
int. 'The cat probably often meowed yesterday.'

c. *Ilmselt oli kass **nurrunud** valjusti eile tihti.
probably cop.pst.3sg cat meow.ptcp loudly yesterday often
int. 'The cat probably often meowed yesterday.'

The absence of mirror-image effects clearly favours an analysis in terms of pure verb-raising. The data on quantifier scope relations converge with the adverb-order data. Examples (9a) and (b) show that only the surface scope reading obtains. That means that word order affects scopal readings. Since the wide-scope reading for the direct object *kaks last* ('two child.part') is not spuriously available, data with the universal preceding the existential/numeral can be used.

(283) Preverbal scope relations

a. Kass oli igal pühapäeval kaks last üles äratanud.
cat cop.pst.3sg every sunday two child.part prt wake.ptcp
'The cat woke two children up every sunday.' ($\forall > 2, *2 > \forall$)

b. Kass oli kaks last igal pühapäeval üles äratanud.
cat cop.pst.3sg two child.part every sunday prt wake.ptcp
'The cat woke two children up every sunday.' ($*\forall > 2, 2 > \forall$)

The surface scope reading is the only one available regardless of the position of either the verb or the verb particle. This is shown for the universal preceding the numeral in (284). Neither the verb nor the verb particle act as a symmetry axis, the scopal relations stay the same, and so there is no indication of rightward merge. Nonetheless, these

scopal interactions should be investigated more thoroughly since quantifier scope data are elusive (Fanselow et al. 2022, Philipp 2022).

(284) Postverbal scope relations

a. Kass oli igal pühapäeval **äratanud** kaks last **üles**.
cat COP.PST.3SG every sunday wake.PTCP two child.PART PRT
'The cat woke two children up every sunday.' ($\forall > 2, *2 > \forall$)

b. Kass oli igal pühapäeval **üles äratanud** kaks last.
cat COP.PST.3SG every sunday PRT wake.PTCP two child.PART
'The cat woke two children up every sunday.' ($\forall > 2, *2 > \forall$)

c. Kass oli **äratanud** igal pühapäeval **üles** kaks last.
cat COP.PST.3SG wake.PTCP every sunday PRT two child.PART
'The cat woke two children up every sunday.' ($\forall > 2, *2 > \forall$)

d. Kass oli **äratanud üles** igal pühapäeval kaks last.
cat COP.PST.3SG wake.PTCP PRT every sunday two child.PART
'The cat woke two children up every sunday.' ($\forall > 2, *2 > \forall$)

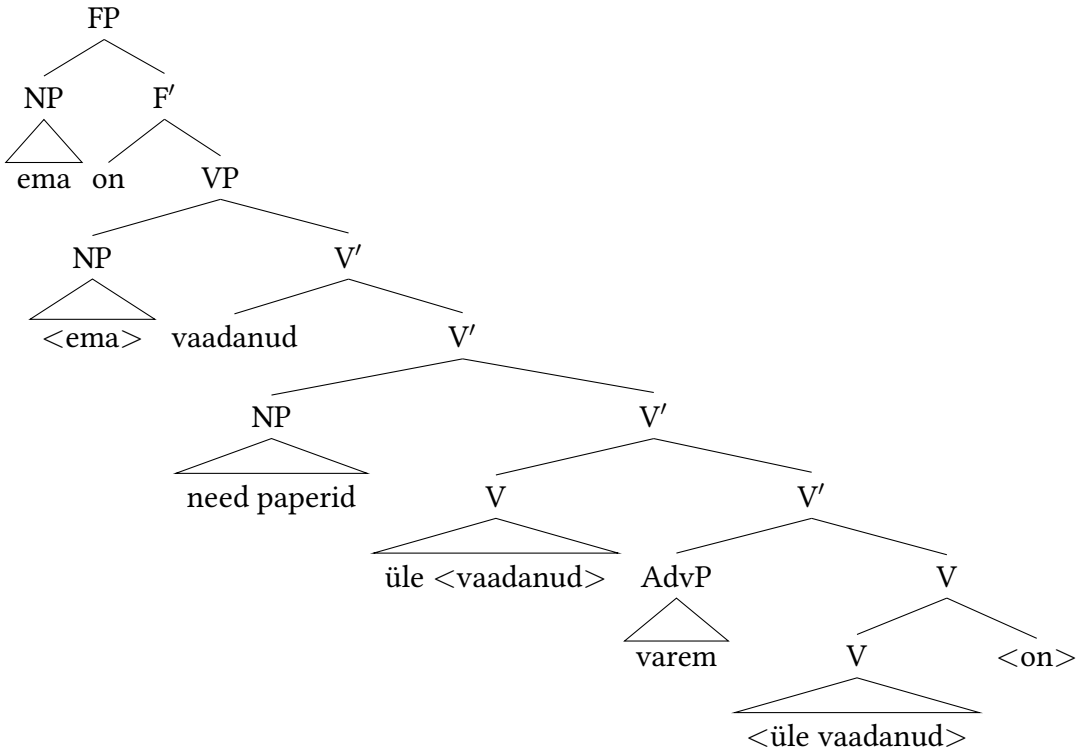
e. Kass oli **üles äratanud** igal pühapäeval kaks last.
cat COP.PST.3SG PRT wake.PTCP every sunday two child.PART
'The cat woke two children up every sunday.' ($\forall > 2, *2 > \forall$)

The discussion of the distribution of verb particles in Estonian and their relevance for the analysis of PVE in Estonian can now be concluded.First, Estonian verb particles can be used as a diagnostic for verb movement in the same way as in the Germanic languages. Employing this diagnostic, it can be seen that verb movement is involved in deriving PVE in Estonian. The data even suggest that the verb moves multiple times, since not only verbs but also the verb particles have a free distribution as long as they follow their head verb. One solution to this problem is the additional assumption of either rightward base generation or rightward movement. Regardless of the choice in that matter, a considerable amount of **optionality** has to be introduced: be it in the free choice of whether, how often, and where the verb moves, and whether it strands the verb particle; or in the free choice of the direction of merger, and the order of merge operations. This optionality is necessary to capture the **free variation** found in Estonian verb and verb particle placement. This absence of interpretational effects is in line with the general assumption that head movement in general is *semantically vacuous* (in most cases, see Dékány 2018 though). As discussed in 5.2.2, head movement comes for free in Neeleman's framework for deriving neutral word orders and has to be restricted in order to not apply too freely. Estonian might simply lack that restriction thus allowing verb movement to apply freely. When verb movement is assumed to require a trigger, V can be equipped with various strong features. The preferred analysis of Estonian PVE as derived purely by multiple verb movements is illustrated graphically for (278b) in (285). The name of the functional projection hosting the finite verb and the pre-finite elements

is left open as 'FP' since the left periphery is not of interest here.

(285) Stranding analyis of Estonian PVE

Ema	on	**vaadanud**	need	paberid	**üle**	varem.
mother	AUX.PRS.3SG	look.PTCP	those.PL.PAR	paper.PL.PAR	PRT	earlier



In the next section, verb raising will be shown to be a suitable explanation of focus placement in Estonian as well.

5.5.3 Postverbal focus evidence of verb raising in Estonian and Udmurt

Verb raising straightforwardly explains the distribution of focus in Estonian and Udmurt. In section 3.4, it was shown that the Uralic OV languages host a directly preverbal focus position. In this section, it will be argued that *clause-final focus* in Estonian and Udmurt is *stranded preverbal focus* under verb raising. In general, this represents a *pre=post effect* mentioned in section 5.2.2: the syntactic structure of preverbal elements is the same for postverbal elements.

5.5.3.1 Postverbal focus is stranded preverbal focus in Estonian

As the necessary background, the preverbal focus data for Estonian are repeated in (286) for a focussed subject.

(286) a. [C: Who gave presents to the child earlier?/Kes on varem lapsele kingitusi kinkinud?]

Varem on lapsele kingitusi MÜÜJA kinkinud.
earlier AUX.3SG child.ALL gift.PL.PAR clerk.NOM give.PTCP
'Earlier, A/THE CLERK gave (the) presents to (the) child.'

b. [C: Who gave presents to the child earlier?/Kes on varem lapsele kingitusi kinkinud?]

Varem on kingitusi lapsele MÜÜJA kinkinud.
earlier AUX.3SG gift.PL.PAR child.ALL clerk.NOM give.PTCP

c. [C: Who gave presents to the child earlier?/Kes on varem lapsele kingitusi kinkinud?]

??Varem on kingitusi MÜÜJA lapsele kinkinud.
earlier AUX.3SG gift.PL.PAR clerk.NOM child.ALL give.PTCP
int. 'Earlier, A/THE CLERK gave (the) presents to (the) child.'

d. [C: Who took the toy away from the child earlier?/Kes on võtnud varem lapselt mänguasja ära?]

Lapselt on mänguasja EMA ära võtnud.
child.ABL AUX.PRS.3SG toy.ACC mother PRT take.PTCP
'MOTHER has taken the toy away from the child.'

The sentences in (286a–b) illustrate how subjects assume the immediately preverbal position when they are focussed. This takes place even though S canonically precedes O (Lindström 2017). A 'sandwiched' position of focussed S that is not directly preverbal is degraded (286c). When a particle verb is employed, the position directly preceding the particle+verb complex counts as directly preverbal (286d), i.e., the particle does not count as a constituent for the purposes of focus placement.

As shown in 5.5.1 above, the subject can still be focussed when it is a PVE. That is, it remains acceptable in a subject-focus context, as shown again in (287) and (288, partly repeating 269). The examples in (287) show that the subject *ema* ('mother') is interpreted as focus even when the verb particle *ära* is in the clause-final position. This follows straightforwardly from the verb-raising analysis: (286d), in which the focussed subject precedes the particle+verb complex, would be the underlying structure of (287a,b); the verb then moves to a position preceding the subject. The verb particle *ära* and the subject *ema* remain in situ, thus becoming PVE via *stranding*. Hence, the focussed subject remains in the preverbal focus position and is merely stranded by the verb movement. These data also corroborate the assumptions about particle stranding in 5.5.2 since the stranded particle preserves the original directly preverbal focus position. The base position of the verb is indicated in (287c).

(287) [C: Who took the toy away from the child earlier?/Kes on võtnud varem lapselt mänguasja ära?]

a. Lapselt on mänguasja **võtnud** ema **ära**.
child.abl aux.prs.3sg toy.acc take.ptcp mother prt
'Mother has taken the toy away from the child earlier.'

b. Lapselt on **võtnud** mänguasja ema **ära**.
child.abl aux.prs.3sg take.ptcp toy.acc mother prt

c. Lapselt on mänguasja **võtnud** ema **ära** <võtnud>.
child.abl aux.prs.3sg toy.acc take.ptcp mother prt take.ptcp

The examples in (288) now show *clause-final* focussed subjects. These are just as acceptable as the pre-particle subjects in (287). Since the interpretation of the sentence does not change, the subject still seems to remain in its original preverbal focus position. In (288a), the verb would pied-pipe the particle, stranding the focussed subject in clause-final position. In (288b), the verb would first pied-pipe the particle, stranding both the object and the subject in postverbal position, and then it would move in a subsequent step stranding the particle. The original and intermediate positions of the verb for (288b) are illustrated in (288c). As a whole, free verb movement would, thus, not only explain the distribution of particles via stranding, but also why the various surface focus positions coincide: the focus position directly in front of the particle+verb complex, the focus position in front of only the particle, and the clause-final focus position would all be the same position.

(288) [C: Who took the toy away from the child earlier?/Kes on võtnud varem lapselt mänguasja ära?]

a. Lapselt on mänguasja **ära** **võtnud** ema.
child.abl aux.prs.3sg toy.acc prt take.ptcp mother
'Mother has taken the toy away from the child earlier.'

b. Lapselt on **võtnud** **ära** mänguasja ema.
child.abl aux.prs.3sg take.ptcp prt toy.acc mother

c. Lapselt on **võtnud** **ära** <võtnud> mänguasja ema <ära
child.abl aux.prs.3sg take.ptcp prt take.ptcp toy.acc mother prt
võtnud>.
take.ptcp

The alternatives to pure verb-movement fare worse in explaining the distribution of focus. In (288a) one could still argue that the subject *ema* was merged to the right of the particle verb and that Estonian can choose between an immediately preverbal and an immediately postverbal focus position. However, a rightward merge analysis would be less attractive for (288b): the subject would not be in an immediately postverbal position if the particle *ära* were to signify the original position of the verb. Another solution would lie in assuming rightward movement of the focussed subject. This analysis would be unable to explain why the subject would stop in front of the verb particle in the sentences in (287). One could then assume that rightwards focus movement only derives the focus in (288) but not in (287). This restriction, however, would leave it unexplained why

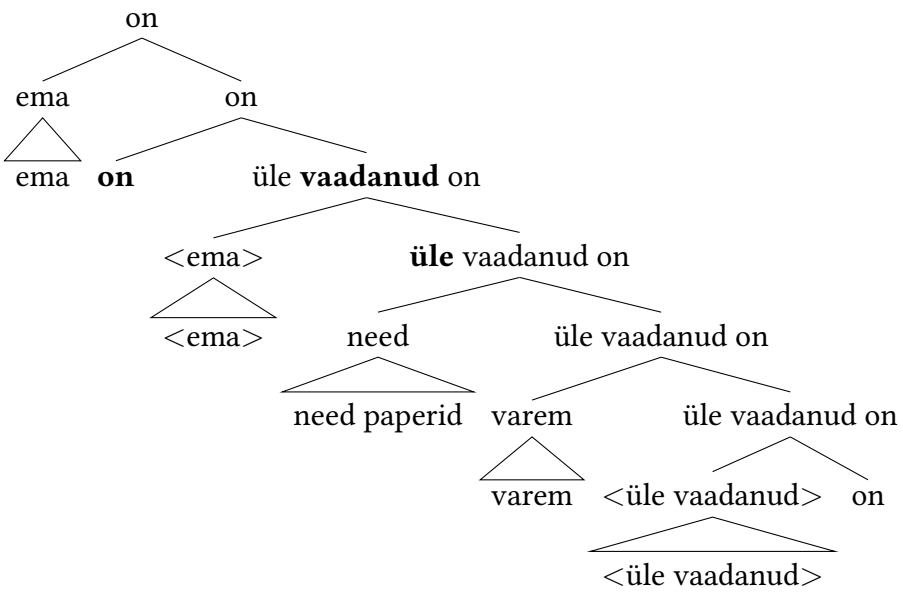
(287) and (288) receive the same interpretation. Furthermore, verb movement already captures the data.

Taken together, the distribution of particles and foci lend to the idea that Estonian is underlyingly purely verb-final without merger to the right. If Estonian were to allow for an underlying immediately postverbal focus position, merged to the right of the particle verb, then there would have to be an operation that moves the verb particle to the right of the particle verb in order to account for (287). Additionally, this movement would have to apply *freely* since it does not influence the interpretation of the focussed element it would have to cross. If the immediately postverbal position were to be the focus position, one would then have to explain why the verb does not have to be left adjacent to the focus, as in (288b). In order to account for this placement, one would probably end up resorting to verb movement anyway. This, then, leaves the purely verb-final account as the superior analytical alternative: there is only a single mechanism, free leftward verb movement, that accounts for all the data.

A promising line to pursue here lies in assuming that *projection* is always *copying*, as proposed by Sheehan (2013). That is, *labels* would be *copies of the projecting head*. It is essentially a revamp of Münchhausen-style reprojection after verb movement since the verb is present in each label. Particle stranding, in turn, would be partial spell-out. The freedom in verb placement would consequently not be one of free movement, but one of free spell-out. The resulting analysis is graphically represented in (289) in order to make the labels more readable. Note that this analysis presupposes the complex-head analysis (Haider 2010) of the verb complex. This has to be done, instead of assuming a high VP-external rightward Aux-projection, in order to also account for the distribution of stranded particles with a finite particle verb.

(289)

Ema	on	**vaadanud**	need	paberid	**üle**	varem.
mother	AUX.PRS.3SG	look.PTCP	those.PL.PAR	paper.PL.PAR	PRT	earlier



Under the analysis (289), a multi segment category is spelled out in a distributed fashion (signified via boldface) akin to *distributed deletion* (Fanselow & Cavar 2002). This way, free variability in head positioning comes for free. What would have to be explained are rigid spell-out rules in languages without free verb placement. One way of achieving this could involve functional projections that necessitate the Münchhausen-style reprojection of a copied category. This is hinted at via the reprojection of the finite verb *on*: in order to reproject as a new category, it would have to not be spelt out as part of the previous multi-segment category *üle vaadanud on*. At this point, future research will have to show whether the copy theory of labelling can adequately account for the cross-linguistic distribution of head placement.

As a final note, earlier research on Estonian already concluded that focus can be clause-final *in general* (Salveste 2015, Lindström 2017: 548ff. Sahkai 2017, Sahkai & Tamm 2019, also see section 3.4.2.1).[10] That is, clause-final focus also obtains in V2 clauses with only a single verb as illustrated in (290). Since V2-phenomena are the result of verb raising, this corroborates the stranding analysis of clause-final focus.

(290) Harilikult alustas kõnelust isa.
usually start.pst.3sg conversation.part father
'Father usually started the conversation.'
(Lindström 2017: 550; gloss and translation by AP)

The next section shows that the same pre=post pattern also holds for Udmurt. This corroborates employing free verb movement as a way to account for free OV–VO variation.

5.5.3.2 Postverbal focus is stranded preverbal focus in Udmurt

Directly preverbal focus was established for Udmurt in section 3.4.1. An illustration for preverbal focus in Udmurt is repeated in (291).

(291) Тужгес но чебер картинаез *Катя* дасяз.
very.cmpr prt nice picture.acc Kate make.pst.3sg.
'It was Kate who made the nicest picture.' (Asztalos 2020: 32)

Asztalos (2020), already discussed in 3.4.1, is also an excellent resource to study postverbal focus in Udmurt. For questionnaire 3 of her study, Asztalos (2020: 41) concludes that "[sentence-final foci] were evaluated as being almost as good as immediately preverbal foci". This is exemplified in (292). The availability of sentence-final focus in Udmurt receives the same straightforward explanation via verb raising as it did in Estonian: if Udmurt is underlyingly verb-final and allows for directly preverbal focus, then sentence-final focus simply comes about via verb raising; this strands the originally preverbal focus in clause-final position.

10. I am aware that there are a lot of publications on word order in Estonian written in Estonian such as the works by Tael Kaja, further works of Heete Sahkai, and the ones by Helle Metslang and David Ogren. The main reason for not catching up on the Estonian literature is my poor command of Estonian.

(292) Тужгес но чебер картинаез дасяз *Катя.*
very.CMPR PRT nice picture.ACC make.PST.3SG Kate
'It was Kate who made the nicest picture.' (Asztalos 2020: 32)

Questionnaire 3 (n=50) by Asztalos (2020) investigated contrasts such as (291) vs. (292). There, sentences in contexts were rated on a scale from 1 (unacceptable) to 5 (fully acceptable). The ratings were then averaged by subject. Sentence-final focus received average ratings ranging from 3.81 to 4.57, that is, a single speaker's lowest average rating for sentences with clause-final focus was 3.81 while the highest average rating was 4.57. Compared to the range from 4.37 to 4.86 points for preverbal focus, sentence-final focus is merely dispreferred on average. This is also reflected in speaker's overall acceptance of sentence-final focus: for 59% of speakers, sentence-final focus was as acceptable as preverbal focus (Asztalos 2020: 49).[11] In contrast to directly preverbal focus, which 38% of participants had as their overall preferred option, only a negligible number of people (3%) preferred sentence-final focus over every other position.

The discussion of Asztalos (2020) shows that sentence-final focus is grammatical, but that it is the dispreferred option for some speakers. This does not contradict the free variation in verb placement that serves as the core premise of the discussion of PVE in Udmurt: there is no indication that speakers feel any *interpretative difference* nor *markedness difference* between directly preverbal and sentence-final focus in fieldwork interviews. The slight degradedness of sentence-final focus found by Asztalos (2020) could turn out to reflect the frequency of the construction (cf. Bader & Häussler 2010a). However, it has to be kept in mind that Asztalos (2020) did not employ a formal questionnaire. As such, she did also not employ any *inferential* statistics. This means that the slight degradedness of sentence-final focus compared to directly preverbal focus could also turn out to be an artefact.

Furthermore, Asztalos (2020) concludes that clause-final focus (293a) is grammatical while postverbal but non-clause-final focus is ungrammatical (293b) (Asztalos 2020: 41). The ungrammaticality of (293b) has to be interpreted as mere degradedness for now, as will be explained below. Nonetheless, the relative degradedness of (293b) compared to (293a) receives a straightforward explanation via verb raising from a verb-final base: In (293a), the focussed object *курег* ('chicken') is directly preverbal, i.e., the default focus position in Udmurt (see section 3.4.1). From there, the verb simply has to move across the focus to the left. In (293b), the focussed object is not in the default focus position, leading to an already degraded base construction compared to directly preverbal focus ($SO_{foc}AdvV$ is degraded compared to $SAdvO_{foc}V$, see Asztalos 2020: 34,36,38). Subsequent verb movement does not change the underlying construction resulting in an overall degraded sentence.

11. 48% of participants equally preferred preverbal and sentence-final focus, and an additional 11% of participants showed equal ratings for all focus positions.

(293) C: What did Lera buy at the grocery? / Мар Лера магазынысь басьтйз?

a. . . .V. . .Foc#

Лера басьтйз магазынысь *курег.*
Lera buy.pst.3sg grocery.ela chicken
'It is chicken that Lera bought at the grocery.' (Asztalos 2020: 26)

b. *. . .V Foc . . .#

*Лера басьтйз *курег* магазынысь.
Lera buy.pst.3sg chicken grocery.ela
int. 'It is chicken that Lera bought at the grocery.' (Asztalos 2020: 26)

There is a caveat with the data in (293), but this caveat does not undermine the explanation for the contrast in (293). As reported in 3.4.1, Asztalos (2020) used three questionnaires to determine the grammaticality of various focus positions in Udmurt. In her first questionnaire, both postverbal foci in (293) turned out as ungrammatical. The sentence-final focus (293a) only turned out to be grammatical in her third questionnaire. Asztalos (2020: 41) attributes this difference to the consultants participating in the studies: the speakers involved in questionnaire 1 were Udmurt philologists who could be prone to prescriptive influences; the speakers involved in questionnaire 3 had more diverse backgrounds since they were recruited via social media. The problem is now that non-clause-final postverbal focus as in (293b) was not part of questionnaire 3. It is, hence, difficult to tell how the presumably less prescriptive population of questionnaire 3 would have judged (293b). My own data gathered with Svetlana Edygarova corroborate the pattern in (293) (see data below) in that clause-final focus is at least the *default* interpretation when presented with a sentence in written form. However, prosodic stress is reportedly capable of overwriting any word order cue for focus (Svetlana Edygarova p.c., Erika Asztalos p.c.). Additionally, the method of choice for determining the availability of (293b) was choosing options from a display of word order permutations. In this method, participants can decide whether they choose every *acceptable* option or only the *best* options. When a person decides to only report their single favourite option, even a merely degraded word order permutation will not be chosen as an option (also see discussion by Asztalos 2020: 47ff. herself). This means that the lack of people picking (293b) cannot be interpreted as outright unavailability of that word order, but only as a sign of degradedness relative to the best word orders. This way, (293b) clearly comes out as *degraded* in Asztalos's (2020) questionnaire 1, but not necessarily as *ungrammatical*. Finally, absolute acceptability in questionnaire studies can only be determined by employing clear-cut baselines (Häussler et al. 2015). At this point, the empirical question of the absolute acceptability of non-clause-final postverbal focus in Udmurt has to be relegated to future research. However, it can be concluded that non-clause-final postverbal focus is degraded compared to other options. In sum, the empirical foundation for the verb-raising analysis of the contrast in (293) remains intact.

Wrapping up, the distribution of focus shows a clear pre=post effect in that the position of the verb does not influence the position of the focus. This is evidence for verb

raising rather than rightward merge. Another pre=post effect is the *absence of mirror image effects* to be discussed in the next section. This diagnostic combines nicely with the distribution of focus, thus providing converging evidence for free verb-raising in Udmurt.

5.5.4 Absence of mirror-image effects in Udmurt suggest stranding of the preverbal order

The mirror-image diagnostic was already discussed in the introduction, section 2.3.2, and in section 5.2 of this chapter. The main idea is that the relative scope of elements on the same merger hierarchy determines the neutral order of merge. Since merge is symmetric, this gives rise to mirror image effects around the modified head. When mirror-image effects are absent, that is, when the head does not work as a symmetry axis, this is an indication of head-movement. This is exactly what is the case in the verbal domain of Udmurt. These data have been gathered with Svetlana Edygarova.

Mirror image effects were tested using *adverbials* first. The adverbials were three NPs with semantic cases modifying an intransitive verb. The neutral orders are shown in (294). The neutral order is visible in the availability of full focus projection, i.e., the sentence can be used equally well in an object focus context, a VP focus context, and a thetic context. In both neutral orders, the directional adverbial (DIR) comes last. The temporal (TEMP) and comitative (COM) adverbial are freely interchangeable without information-structural effects. This indicates that they modify the same semantic object and do not scopally interact. Therefore their relative order cannot be used to diagnose mirror image effects.[12] However, the order of TEMP and COM relative to DIR are viable as a diagnostic.

(294) neutral orders: 123/213 TEMP –COM –DIR/COM –TEMP –DIR

a. [okay without context;
okay with *what did you do with Masha on weekend?*;
okay with *where did you go with Masha on the weekend?*]

Мон Машаен арняпумын нюлэскы ветлӥ.
1SG.NOM Masha.INSTR weekend.IN forest.ILL go.PST.1SG
'I went into the forest with Masha on the weekend.'

12. Unfortunately I was not able to find a combination of three adverbial NPs with a rigid order between them in Udmurt. One reason is that high adverbs ('unfortunately', 'maybe', etc.) and adverbials taking the widest scope ('with pity', etc.) are either clause-final or parenthetical in Udmurt. This renders high adverbs and adverbials useless for the testing of mirror image effects. I leave it to future research to find three adverbials each rigidly ordered to one another in Udmurt.

b. [okay without context;
okay with *what did you do with Masha on weekend?*;
okay with *where did you go with Masha on the weekend?*]

Мон арняпумын Машаен нюлэскы ветлӥ.
1sg.nom weekend.in Masha.instr forest.ill go.pst.1sg
'I went into the forest with Masha on the weekend.'

As to be expected from a verb-final language under symmetric merge, the order of adverbials in Udmurt is the mirror image of that in English, as to be gathered from the free translations in (294). If PVE in Udmurt came about via rightward merge, one would expect the adverbials from (294) to appear in the English order when they are postverbal. That is not the case, as to be seen in (295): the order of the adverbials is the same in postverbal position. In other words, there is a clear pre=post effect in that the directional adverbial is still last relative to the other adverbials, even when the verb is not in final position. This absence of a mirror-image effect, this order preservation, is a clear indication of *verb movement* instead of rightward stacking.[13]

(295) a. Мон ветлӥ арняпумын Машаен нюлэскы.
1sg.nom go.pst.1sg weekend.in Masha.instr forest.ill
'I went into the forest with Masha on the weekend.'

b. Мон ветлӥ Машаен арняпумын нюлэскы.
1sg.nom go.pst.1sg Masha.instr weekend.in forest.ill

Just as in Estonian, the verb can assume any position within the clause. This is shown in (296). Apart from the sentence-initial slot, any verb position is fully acceptable. As in Estonian, this suggests that not only is verb movement optional, but that the landing site of the verb is optional as well. The only thing that changes is the possible interpretations of focus when merely reading and not hearing the sentences in (296a–d). As said above, (296a) allows for full focus-projection with the canonical, preverbal focus. Without prosodic information, (296b) can be read, per default, with prosodic stress on either the clause-final position, or on the directly preverbal position. This yields focus on either the directional or the temporal adverbial respectively. The interplay of adver-

13. Just as a brief comparison for a case with unmistakable verb movement: the corresponding German V2 clause also leaves the original, preverbal order between the adverbials (ia) intact, as in (ib). The mirror image order, compared to the preverbal, is marked (ic).

(i) a. dass ich am Wochenende mit Masha in den Wald gehe.
that 1sg.nom on.the weekend with Masha into the.acc forest go.prs.1sg
'that I go into the forest with Masha on the weekend.'

b. Ich gehe am Wochenende mit Masha in den Wald.
1sg.nom go.prs.1sg on.the weekend with Masha into the.acc forest
'I go into the forest with Masha on the weekend.'

c. ??Ich gehe in den Wald mit Masha am Wochenende.
1sg.nom go.prs.1sg into the.acc forest with Masha on.the weekend

bial order and focus will be discussed more thoroughly below, where this pattern will be interpreted as *optional pied-piping of the directly preverbal focus* (section 5.5.6). For now, the exception to free verb placement in (296e) needs to be discussed.

(296) V can assume any position in 123 COM –TEMP –DIR

a. Мон Машаен арняпумын нюлэскы **ветлӥ**.
1SG.NOM Masha.INSTR weekend.IN forest.ILL go.PST.1SG
'I went into the forest with Masha on the weekend.'

b. Мон Машаен арняпумын **ветлӥ** нюлэскы.
1SG.NOM Masha.INSTR weekend.IN go.PST.1SG forest.ILL

c. Мон Машаен **ветлӥ** арняпумын нюлэскы.
1SG.NOM Masha.INSTR go.PST.1SG weekend.IN forest.ILL

d. Мон **ветлӥ** Машаен арняпумын нюлэскы.
1SG.NOM go.PST.1SG Masha.INSTR weekend.IN forest.ILL

e. #**Ветлӥ** мон Машаен арняпумын нюлэскы.
go.PST.1SG 1SG.NOM Masha.INSTR weekend.IN forest.ILL
'There went I into the forest with Masha on the weekend.' (presentational, e.g., start of fairy tale)

The only restriction for verb-placement is the sentence-initial position as in (296e). V-initial declaratives are highly marked since they are reserved for the beginning of stories and get recognised as the start of a fairytale. This really has to do with the clause-initial position of the finite verb, not with an inversion of subject and verb. This can be gathered from the sentences in (297). Many higher adverbials, especially temporal and local ones, can neutrally precede the subject (297a), i.e., the adverbial in front of the subject is not topicalised. The verb can still neutrally assume any position in the clause (297b–d) except for the sentence-initial one (297e). Crucially, the verb can also neutrally precede the subject (297d). Hence it is not subject-verb inversion that brings the presentational nature of the sentence about. Taken together, this means that clause-initial verbs are likely derived in a different fashion than when verbs end up in any other position since sentence-initial verbs come with a clearly non-neutral interpretation.

(297) a. Арняпумын мон Машаен нюлэскы **ветлӥ**.
weekend.IN 1SG.NOM Masha.INSTR forest.ILL go.PST.1SG
'I went into the forest with Masha on the weekend.'

b. Арняпумын мон Машаен **ветлӥ** нюлэскы.
weekend.IN 1SG.NOM Masha.INSTR go.PST.1SG forest.ILL

c. Арняпумын мон **ветлӥ** Машаен нюлэскы.
weekend.IN 1SG.NOM go.PST.1SG Masha.INSTR forest.ILL

d. Арняпумын **ветлӥ** мон Машаен нюлэскы.
weekend.IN go.PST.1SG 1SG.NOM Masha.INSTR forest.ILL

e. #**Ветлӥ** арняпумын мон Машаен нюлэскы.
go.pst.1sg weekend.in 1sg.nom Masha.instr forest.ill
'I went into the forest with Masha on the weekend.'

The choice of a directional adverbial in the examples above comes with a caveat pointed out by Balázs Suranyi (p.c.): directionals belong to the class of Haider's "elements of the third kind" (Haider 2013, Schmidt 2016). This class of elements forms an even tighter bond with the verb than verbs and direct objects do. Other elements of that class are the verb particles discussed for Estonian in section 5.5.2, and resultatives (e.g., *to hammer the ingot flat*), which have not grammaticalised in Udmurt. This would mean that the three adverbials are not necessarily on the same merger hierarchy, but that the directional has to be closer to the verb than the higher adverbials regardless of the other element's function. But even if that were the case, the data would still speak in favour of a verb-raising analysis since the order of merge between these elements is still the same. The directional would still be merged first, originally preceding the verb, and the directional would be stranded postverbally due to verb movement. The pre=post effect would be the same.

The above discussion showed that the *neutral order* of adverbials stays the same regardless of the position of the verb, thus presenting a language-internal pre=post effect indicative of verb movement. This is different from the situation in Dutch (see section 2.3), where the in-situ verb serves as a symmetry axis creating mirror image effects indicative of rightward merge. The discussion of *marked word orders*, combining the mirror-image diagnostic and the focus-stranding diagnostic, yields even more evidence in favour of verb raising. That is the content of the next section.

5.5.5 Preservation of marked word orders suggest stranding of the preverbal order

As already discussed in section 3.4.1 on preverbal focus, inverting the order of high and low adverbials leads to a marked word order where the directly preverbal element is interpreted as the focus. This is shown in (298). Without a context, the preverbal mirror-image order is marked (298a), resulting in a reading with focus on the temporal adverbial. The infelicitous sentence in (298a) becomes acceptable in context with focus on the temporal adverbial (298b). The same can be achieved with the comitative adverbial in (298c,d): as soon as the order between the low and high adverbials is inverted, the directly preverbal element receives a focussed reading. The order between the pre-focal elements is free (see section 3.4.1).

(298) the mirror image order dir –com –temp is marked

a. [without context]

#Мон нюлэскы Машаен *арняпумын* ветлӥ.
1sg.nom forest.ill Masha.instr weekend.in go.pst.1sg
'I went into the forest with Masha on the weekend.'

b. Context: When did you go … ? / Ку … нюлэскы ветлӥд?

Мон нюлэскы Машаен *арняпумын* ветлӥ.
1SG.NOM forest.ILL Masha.INSTR weekend.IN go.PST.1SG
'I went into the forest with Masha ON THE WEEKEND.'

c. [answer to кинэн (with whom)]

Мон арняпумын нюлэскы *Машаен* ветлӥ.
1SG.NOM weekend.IN forest.ILL Masha.INSTR go.PST.1SG
'I went into the forest WITH MASHA on the weekend.'

d. [answer to кинэн (with whom)]

Мон нюлэскы арняпумын *Машаен* ветлӥ.
1SG.NOM forest.ILL weekend.IN Masha.INSTR go.PST.1SG
'I went into the forest WITH MASHA on the weekend.'

If PVE came about via rightward merge, then the markedness of the mirror-image order in (298a,b) should be alleviated by placing the verb in front of the adverbials. That this is not the case can be seen in (299a): the focussing effect of the inversion in (298a,b) is preserved postverbally. That is, repositioning the verb does not bring about a neutral mirror-image order (section 5.5.4), but strands the preverbal focus (section 5.5.3.2). In other words, the structure of the preverbal elements is kept fully intact. This, again, is a clear sign of verb movement. The example in (299b) just corroborates these facts for the other inverted order from (298c,d) again.

(299) a. [Answer to ку (when)]

Мон ветлӥ нюлэскы Машаен *арняпумын.*
1SG.NOM go.PST.1SG forest.ILL Masha.INSTR weekend.IN
'I went into the forest with Masha ON THE WEEKEND.'

b. [Answer to кинэн (with whom)]

Мон ветлӥ арняпумын нюлэскы *Машаен.*
1SG.NOM go.PST.1SG weekend.IN forest.ILL Masha.INSTR
'I went into the forest on the weekend WITH MASHA.'

There are general pre=post effects in Udmurt with regard to verb placement. Hence, PVE most likely come about via *free verb movement*. With the help of rigidly ordered *adverbs* one can even observe pied-piping, just as in Estonian. This is discussed in the next section.

5.5.6 Pied-piping suggests verb movement in Udmurt

The order of *adverbs* provides another corroboration of the verb-raising analysis for PVE in Udmurt. Compared to the adverbials from the previous sections, adverbs are more rigidly ordered in Udmurt. This is shown in (300). As to be expected again, the order

of adverbs is the mirror image of that in English, as to be gathered from the free translation in (300a). The order of the temporal (TEMP) adverb *толон* ('yesterday') and the frequency (FREQ) adverb *ӧем* ('often') is rigidly TEMP–FREQ (300a vs. b). Inverting the order of the natural left-to-right scope of these adverbs (one can't quantify over *yesterday*, 300b) would still yield the same interpretation but is an ungrammatical sentence. That this has to do with a merger hierarchy for adverbs can be seen in (300c): substituting the temporal adverb *толон* ('yesterday') by the nominal temporal adverbial *арняпумын* ('weekend.IN') results in a fully acceptable FREQ–TEMP order. This does not have to do with the ability of the bare NP *weekend* to be quantified over since the reading stays the one in which multiple loud meowing events occurred on a single weekend. A full mirror-image order, as in (300d,e), is ungrammatical (300d). It can only be salvaged by inserting several prosodic breaks and heavily stressing two of the adverbs separately (300e). This can be interpreted as a sign of either contrastive fronting or a parenthetical construction. Either way, the mirror-image order MAN–FREQ–TEMP is highly marked in preverbal position and cannot be interpreted as a simple case of inversion via directly preverbal focus. In sum, the order of adverbs is more rigid than the order of nominal adverbials.

(300) neutral order: TEMP – FREQ – MANNER – other orders are marked

a. Коӧыш толон ӧем зол мяугетйз. TEMP–FREQ–MAN
cat.NOM yesterday often stout miaow.PST.3SG
'The cat miaowed loudly often yesterday.'

b. *Коӧыш ӧем толон зол мяугетйз. FREQ–TEMP–MAN
cat.NOM often yesterday stout miaow.PST.3SG
int. 'The cat miaowed loudly often yesterday.'

c. Коӧыш ӧем арняпумын зол мяугетйз. CONTROL: ADVERBIAL
cat.NOM often weekend.IN stout miaow.PST.3SG
'The cat often miaowed loudly on a/the weekend.'

d. *Коӧыш *зол* *ӧем* толон мяугетйз. MAN–FREQ–TEMP
cat.NOM stout often yesterday miaow.PST.3SG
int. 'The cat miaowed loudly often yesterday.'

e. ?Коӧыш *зол* # *ӧем* # толон мяугетйз. MAN–FREQ–TEMP
cat.NOM stout often yesterday miaow.PST.3SG
'The cat miaowed yesterday – OFTEN, LOUDLY.' – highly marked
'#' represents a prosodic hiatus

The marked adverb orders in (300b,d) do not become alleviated by placing the verb in a different position. This is shown in (301). Again: if PVE came about via rightward merger, one would expect (301a,b) to be a neutral sentence, just as in English. Instead the sentence remains ungrammatical (301a) and can still only be salvaged by inserting the same prosodic breaks (301b) yielding the same interpretation as in (300d,e).

(301) no mirror-image order postverbally

a. *Коӵыш мяугетйз *зол ӵем* толон. MAN–FREQ–TEMP
cat.NOM miaow.PST.3SG stout often yesterday
int. 'The cat miaowed loudly often yesterday.'

b. ?Коӵыш мяугетйз *зол* # *ӵем* # толон. MAN–FREQ–TEMP
cat.NOM miaow.PST.3SG stout often yesterday
'The cat miaowed yesterday – OFTEN, LOUDLY.' – highly marked
'#' represents a prosodic hiatus; unacceptable without hiatus

Adverbs exhibit another distributional difference to nominal adverbials: they cannot be stranded as freely. The example in (302a) shows that even the neutral TEMP–FREQ–MANNER-order is ungrammatical as a PVE-construction. The order FREQ–TEMP–MANNER, which was already ungrammatical preverbally (300b), stays ungrammatical in postverbal position (302b).

(302) a. *Коӵыш **мяугетйз** толон ӵем зол. TEMP–FREQ–MAN
cat.NOM miaow.PST.3SG yesterday often stout
int. 'The cat often miaowed loudly yesterday.'

b. *Коӵыш **мяугетйз** ӵем толон зол. FREQ–TEMP–MAN
cat.NOM miaow.PST.3SG often yesterday stout
'The cat often miaowed loudly yesterday.'

c. ?Коӵыш **зол мяугетйз** толон ӵем. MAN–V–TEMP–FREQ
cat.NOM stout miaow.PST.3SG yesterday often
'The cat often miaowed loudly yesterday.'

The only way to still observe pre=post-effects with these adverbs is by keeping the manner adverb in preverbal position, as in (303). Within the verb-raising analysis, (303) can be interpreted as the result of *pied-piping* of the manner adverb. This is what leaves the neutral order of the postverbal elements intact. Still, (303) is marked, making it difficult to draw further conclusions. In order to rule out the possibility of rightward merge for (303) one would need to know whether the order MAN–V–FREQ–TEMP is grammatical, but these data are not available at the moment. However, further sentences attest the availability of pied-piping in free verb movement. This ties in with the availability of pied-piping of the particle in Estonian.

(303) ?Коӵыш **зол мяугетйз** толон ӵем. MAN–V–TEMP–FREQ
cat.NOM stout miaow.PST.3SG yesterday often
'The cat often miaowed loudly yesterday.'

[$_{V'}$ [$_{V'}$ зол мяугетйз] [$_{V'}$ толон [$_{V'}$ ӵем <[$_{V'}$ зол мяугетйз]>]]]
[$_{V'}$ [$_{V'}$ stout miaow] [$_{V'}$ yesterday [$_{V'}$ often <[$_{V'}$ stout miaow]>]]]

In the sentences in (304) below, non-adverb adverbials were used again. First, the basic verb-raising pattern is repeated for this lexicalisation, and then the pied-piping pattern is shown. Just as before, the place and time adverbials can neutrally come in any or-

der as long as they precede the manner adverbial, here just represented for one order (304a). The subject can also neutrally occur in any position preceding the manner adverbial. When the adverbials appear postverbally, they are fully neutral if they retain their preverbal order, that is, high adverbials preceding the low adverbial (304b). Inverting the order of high and low adverbials results in a marked reading indicative of stranding of a preverbal focus (304c). Up to this point, this merely corroborates the data already presented.

(304) a. Маша арняпумын Ижкарын яратыса **кырӟа**.
Masha weekend.IN Ishkar.IN love.CVB sing.PRS.3SG
'Masha sings with love in Izhevsk on the weekend.'

b. Маша **кырӟа** Ижкарын арняпумын яратыса.
Masha sing.PRS.3SG Ishkar.IN weekend.IN love.CVB

c. Маша **кырӟа** яратыса Ижкарын *арняпумын*.
Masha sing.PRS.3SG love.CVB Ishkar.IN weekend.IN
'Masha sings with love in Izhevsk ON THE WEEKEND.'

An additional interesting pattern can be seen when the manner adverbial occurs preverbally, as in (305). Both (305a) and (305b) are fully neutral sentences in that they allow for *focus projection*, that is, they are permissible in both an all-new context and one in which the manner adverbial is in narrow focus. In Neeleman's framework, pied-piping of head-adjacent material can still lead to neutral word orders as per Axiom III (A.III). The availability of pied-piping of the neutral, preverbal focus would, thus, nicely fit Neeleman's theory of neutral word order. The sentence in (305c) merely serves as a control, showing that the manner adverbial cannot simply move anywhere and still bring about a neutral order. In a preverbal but sentence-initial position, the manner adverbial is so displaced that it receives an extraclausal interpretation.

(305) a. all-new or narrow focus on *яратыса*

Маша **яратыса** **кырӟа** Ижкарын арняпумын.
Masha love.CVB sing.PRS.3SG Ishkar.IN weekend.IN
'Masha sings with love in Izhevsk on the weekend.'

b. all-new or narrow focus on *яратыса*

Маша **яратыса** **кырӟа** арняпумын Ижкарын.
Masha love.CVB sing.PRS.3SG weekend.IN Ishkar.IN
'Masha sings with love in Izhevsk on the weekend.'

c. Яратыса # Маша кырӟа Ижкарын арняпумын.
love.CVB Masha sing.PRS.3SG Ishkar.IN weekend.IN
'With love (something is happening). Masha is singing (with love) in Izhevsk on the weekend.'

Unfortunately, the order of the postverbal elements in (305) does not allow for differen-

tiating between rightward merge and verb raising. The prediction would be as follows though: when there are 3 elements from the same merger hierarchy whose only neutral order is 123V, then pied-piping should only bring about 3V12, whereas rightward merge would only bring about 3V21. But even though (305) does not show the mirror-image data directly, the overall absence of mirror-image effects in Udmurt suggests that verb raising is the more probable analysis. It could also be the case, however, that pied-piping of a narrow focus leads to free postverbal order. In section 3.4.1.2, it was shown that narrow preverbal focus leads to "prefocal loosening", where the order between prefocal elements is freed up. When preverbal narrow focus is pied-piped from a clause-final position, the order of all other elements should have been freed up via prefocal loosening before the movement took place. One could therefore also expect free *postverbal* order in sentences with a clause-medial preverbal narrow focus, as in (305b). At the moment, it is unclear how the verb-raising + pied-piping account would even be falsifiable. It would still be favourable if future research would determine the empirical predictions of these accounts and gather the respective data.

5.5.7 Extension: Absence of mirror-image effects in causatives in Udmurt suggests verb-raising

The absence of mirror image effects can also be seen with arguments. Causatives can have rigid word order in Udmurt, especially when two animate NPs are involved (Tánczos 2015). This extends to morphological causatives that speakers do not analyse as a causative anymore, as in (306). The morphemes are written separately in this case in order to highlight the causative morphology. The literal meaning of (306) is 'Yesterday the teacher caused some kind of musician to be acquainted with every child.'. The accusative NP has to precede the instrumental NP (306a vs. b). This rigidity is so strong that it is difficult to grasp the meaning of (306b) despite the dependent-marking. Due to this rigidity, causatives can serve as a testing ground for mirror-image effects.

(306) [C: The school made an excursion to the opera.]

a. Толон дышетйсь кыче ке крезьгурчиез котькуд нылпиен
yesterday teacher.NOM some.kind musician.ACC every child.INSTR
тодма -т -йз.
acquaint -CAUS -PST.3SG
'Yesterday the teacher introduced some kind of musician to every child.'
$\exists > \forall \gg \forall > \exists$

b. *Толон дышетйсь котькуд нылпиен кыче ке крезьгурчиез
yesterday teacher.NOM every child.INSTR some.kind musician.ACC
тодматйз.
acquaint.CAUS.PST.3SG
int. 'Yesterday the teacher introduced some kind of musician to every child.'

Just as with the adverbials and adverbs, the preverbal order is preserved under verb

movement, as shown in (307). Additionally, the relative scope of the two quantifiers does not change despite the change in the verb position. This is another instance of a pre=post effect that speaks in favour of verb movement.

(307) [C: The school made an excursion to the opera.]

a. Толон дышетйсь кыче ке крезьгурчиез **тодматйз**
yesterday teacher.NOM some.kind musician.ACC acquaint.CAUS.PST.3SG
котькуд нылпиен.
every child.INSTR
'Yesterday the teacher introduced some kind of musician to every child.'
$\exists > \forall \gg \forall > \exists$

b. Толон дышетйсь **тодматйз** кыче ке крезьгурчиез
yesterday teacher.NOM acquaint.CAUS.PST.3SG some.kind musician.ACC
котькуд нылпиен.
every child.INSTR
'Yesterday the teacher introduced some kind of musician to every child.'
$\exists > \forall \gg \forall > \exists$

The next section will conclude the verb-raising analysis of PVE in Estonian and Udmurt.

5.5.8 The verb-raising pattern for PVE in Estonian, Udmurt, and further languages

In both Estonian and Udmurt, the data converge on a verb-raising analysis from a verb-final base. Both languages lack mirror-image effects. In Estonian, this could only be gathered from the order of subject and object, which did not become inverse after the verb. In Udmurt, it could also be seen in the litmus-test for mirror-image effects: the order of adverbials and adverbs, where case assignment does not interfere and scope-taking alone dictates the order of merge.

In both languages, there were striking pre=post effects. The first one is the absence of mirror-image effects. Second, the position of the verb (apart from V2-ness in Estonian and sentence-initial V placement in Udmurt) does not influence the information-structural readings of the sentence. This indicates that the structure of the clause is not influenced by the position of the verb. Finally, this structural preservation goes so far that postverbal, clause-final focus is best analysed as stranded, originally preverbal focus.

The data could also be explained via a combination of rightward merge and leftward verb movement. Verb movement is necessary if one wants to maintain that subjects cannot neutrally be merged earlier than objects since VSO is neutral in both Estonian and Udmurt (a pre=post effect). Since verb movement has to be assumed anyway and can account for the data already, additional rightward merger is the less parsimonious analysis. Until further data necessitate positing rightward merger for Estonian and/or Udmurt, sole free leftward verb movement is the most elegant solution to PVE in these

languages.

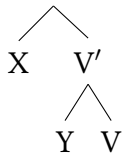
As said in section 5.2.2 before, free verb movement resulting in neutral orders follows straightforwardly from Abels and Neeleman's theory of word order partially repeated here (from Neeleman 2017):

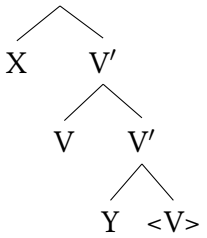
(ii) Neutral orders are base-generated or derived by X^+-movement.

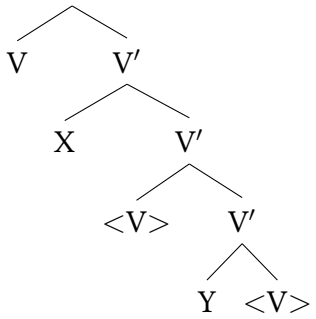
(iii) X^+-movement is asymmetric: it must be lefward.

Movement of the verb, and pied-piping of elements along with the verb result in neutral word orders. This is what could be observed in Estonian and Udmurt. Since these neutral-order-deriving movements can only be leftward, they create a cross-linguistic asymmetry: only languages with underlying verb-final order can neutrally derive verb-initial orders because X^+-movement is leftward, as shown in (308). Due to the asymmetry of X^+-movement, V-initial orders can never neutrally turn into V-final orders via X^+-movement, as shown in (309).[14]

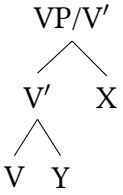
(308) predicted neutral word-orders of {V, X, Y} with V-final base: /X Y V/, /X V Y/, /V X Y/

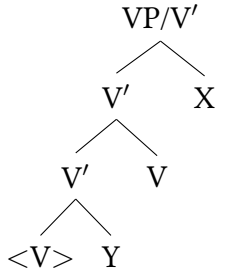
a. 

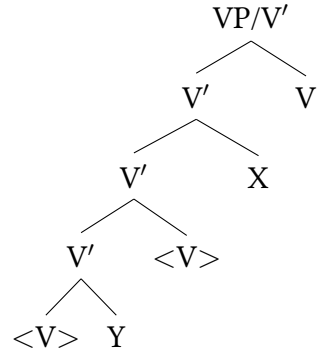
b. 

c. 

(309) unpredicted neutral orders of {V, X, Y} with V-initial base: /Y V X/, /Y X V/

a. 

b. * 

c. * 

14. The only workaround would consist in remnant-VP movement, i.e., movement of a VP containing only the trace of V [XP YP <V>]. Whether remnant-VP movement counts as X^+-movement cannot be discussed at length here. However, remnant-VP movement would involve prior phrasal movement of elements that are not V^+. Consequently, remnant-VP movement would probably turn out as a derivation leading to non-neutral orders in the present framework.

This is not an easily testable prediction because it requires an analysis of the underlying word order in each case. Furthermore, it requires the use of hierarchically ordered elements. In (309) for example, Y should be a manner adverb and X a temporal adverb, and the derived preverbal order should preserve the original postverbal order, resulting in Manner–Temp–V order that freely varies with V–Manner–Temp order. Therefore, only free OV/VO variation *via verb movement from a VO base* is ruled out, but not free base-generation. As of yet I have never encountered neutral Manner–Temp–V before.

The verb-movement analysis was also applied to further languages before. The first analysis of this kind known to me stems from Mahajan (1997) for PVE in **Hindi**. PVE in Hindi are not *free*, they are a marked option resulting in a backgrounded reading for the PVE (Butt & King 1996). Still, Mahajan (1997) presents pre=post effects for quantifier scope interactions (310) and binding domains (311). Overall, the data in (310) show that the relative scope interpretation of the quantified NPs is not influenced by the position of the verb: the linearly first QP always scopes over linearly second QP indicating no change in the hierarchical structure of the sentence. This is remarkable insofar as the order where the universal quantifier precedes the other QP invites apparent inverse readings, but they still don't occur. The examples in (311) are supposed to show a lack of change in the hierarchical structure of the sentence via Q-binding. In SO order, an anaphor contained in the subject cannot be bound by the object regardless of the position of the verb (311a,b). OS order allows for the subject-contained anaphor to be bound by the object (311c) as a prime case of A-scrambling. This is interpreted as an effect of change in hierarchical structure in (311c) that should also have come about in (311b) if PVE were to be brought about by high rightward movement or high-right adjunction. Those pre=post effects, in which the position of the verb does not influence hierarchical relations, leads Mahajan (1997) to conclude that PVE in Hindi are stranded by verb movement.

(310) **Hindi** (Mahajan 1997: 204f.)

a. Raam sab-ko tiin kitaabe **dikhaayegaa**.
Ram everyone.DAT three books show.FUT
'Ram will show three books to everyone.' (∀>3)

b. Raam sab-ko **dikhaayegaa** tiin kitaabe .
Ram everyone.DAT show.FUT three books
'Ram will show three books to everyone.' (∀>3)

c. Raam **dikhaayegaa** sab-ko tiin kitaabe .
Ram show.FUT everyone.DAT three books
'Ram will show three books to everyone.' (∀>3)

(311) **Hindi** (Mahajan 1997: 189)

a. *Uske$_i$ bhaaine har ek aadmiiko$_i$ **maaraa**.
he.GEN.OBL brother.ERG every one man.ACC hit.PFV
int. 'His$_i$ brother hit every man$_i$.'

b. *Uske$_i$ bhaaine **maaraa** har ek aadmiiko$_i$.
he.GEN.OBL hit.PFV brother.ERG every one man.ACC
int. 'His$_i$ brother hit every man$_i$.'

c. Har ek aadmiiko$_i$ uske$_i$ bhaaine **maaraa**.
every one man.ACC he.GEN.OBL brother.ERG hit.PFV
'His$_i$ brother hit every man$_i$.'

Later work on Hindi PVE does not dispute the validity of Mahajan's (1997) data, they only take issue with Mahajan's (1997) Kaynean analysis. Mahajan (1997) assumes that Hindi is underlyingly verb-initial, verb-finality is derived by movement of the originally postverbal elements to preverbal position, and then PVE are derived by subsequent verb movement. Both Bhatt & Dayal (2007) and Manetta (2012) take the PVE constructions in (310b,c) to be derived by rightward movement from a verb-final base and then try to explain the preservation of the preverbal scope. The easiest solution for reconciling these approaches lies in giving up on the antisymmetric portion of Mahajan's (1997) analysis, which was mostly an artefact of the Zeitgeist anyway. Then we arrive at exactly the account proposed here: an underlying verb-final base that allows for verb movement to the left.

While Mahajan (1997) is a precursor to the V-raising analysis and would fit the narrative, the data for Hindi are not fully conclusive. First, the binding data in (311) can serve as a diagnostic for A-vs.-A-bar-properties, but they cannot serve as a diagnostic for hierarchy alone. Binding is also constrained by linear order (Bruening 2014, Janke & Neeleman 2012). Therefore the sentences (311a) and (311b) could involve different hierarchies that binding can simply not detect, just as in English ditransitives (Janke & Neeleman 2012). The scope data in (310) are also hard to accept because the universal precedes the other quantifier, a confound that was not well-known back then. Future research should check for pre=post effects in Hindi again.

Simpson & Choudhury (2015) propose verb-raising as an explanation for PVE in Bangla. One piece of evidence are scope data for Bangla akin to the ones by Mahajan (1997) for Hindi. Those data show that the relative scope of elements does not change based on the position of the verb (Simpson & Choudhury 2015: 538).[15] This is taken as a sign of verb-raising, since the hierarchical relations between the elements seem to not have changed. Furthermore, Simpson & Choudhury (2015: 542f.) present evidence for pre=post effects for word order, shown here in (312). Simpson & Choudhury (2015) did not provide an example for the neutral preverbal word order which is why this data point was added in (312a) from Bhattacharya & Simpson (2011), thus not constituting a minimal pair. These data show that S–IO–DO is the neutral order in a ditransitive clause (312a). This neutral order is conserved postverbally (312b), and the position of the subject cannot even change (312c,d). This would set Bangla apart from Estonian and Udmurt where the possible, preverbal word order changes are preserved postverbally. One possible explanation could be the tighter bond of the verb and preverbal focus in

15. Simpson & Choudhury (2015) also present scope data for Hindi that diverge from the clear picture presented by Mahajan (1997).

Bangla (given that the data and generalisations in Banerji (2003) are right). This would result in a Foc-V complex much like in the focus-raising languages (Dargwa, Armenian, Basque) described in section 3.2.6. If the focus and the verb always stay together, postverbal stranding of the focus would be prohibited and the driving force between argument reordering, preverbal focus, is lost for the postverbal field.

(312) a. mini ramu-ke Ek-Ta-boi dilo.
mini ramu-OBJ 1-CL-book gave
'Mini gave Ramu a book.' (Bhattacharya & Simpson 2011: 1071)

b. diyeche sita ram-ke Ek-Ta boi.
gave Sita Ram-OBJ 1-CL book
int. 'Sita gave Ram a book.' (Simpson & Choudhury 2015: 542)

c. *diyeche ram-ke Ek-Ta boi sita.
gave Ram-OBJ 1-CL book Sita
int. 'Sita gave Ram a book.' (Simpson & Choudhury 2015: 542)

d. *diyeche ram-ke sita Ek-Ta boi.
gave Ram-OBJ Sita 1-CL book
int. 'Sita gave Ram a book.' (Simpson & Choudhury 2015: 542)

Skopeteas & Fanselow (2010), Borise (2019), and Borise (2023a) also opted for verb raising as the analysis for free OV/VO variation in **Georgian**. Their common first argument is the free OV/VO variation without information structural import shown in (313) for broad focus. As mentioned in 5.2.2, this lack of semantic effects is in line with semantically vacuous nature of head movement. Further arguments by Skopeteas & Fanselow (2010) involve the preservation of preverbal order in the postverbal field, and the lack of an influence of heaviness.

(313) **Georgian**; broad-focus context (Borise 2019: 107f.)

a. Gogo vašl-s **č'am-s**.
girl.NOM apple-DAT eat-PRS.3SG
'A/the girl is eating an apple.'

b. Gogo **č'am-s** vašl-s.
girl.NOM eat-PRS.3SG apple-DAT
'A/the girl is eating an apple.'

Furthermore, Lena Borise (2019, 2023a) presents scopal data in support of verb raising. There is a pre=post effect in that the scope of a postverbal element does not change based on the position of the verb, as shown in (314). Regardless of where the verb is situated, the frequency adverb preferably takes scope over the direct object. This is evidence against rightward movement of the object. This scopal property would still be in line with rightward merge of the object, but there are further arguments against the availability of basic [VO] by both Skopeteas & Fanselow (2010) and Borise (2019, 2023a)

such as restrictions on PVE in idioms. Nonetheless, there is evidence for high, rightward merge of focussed objects in Georgian (Borise 2019, 2023a), unlike Estonian and Udmurt.

(314) **Georgian** (Borise 2019: 107f.)

a. Masc'avlebel-i **išviatad** **sam-ze** **nak'leb** **st'udent'-s**
teacher-NOM seldom three-on less student-DAT
mo-u-c'od-eb-s.
PRV-VER-call-SF-PRS.3SG
'The teacher seldom calls on fewer than three students.'
(ADV > NUM; ??NUM > ADV)

b. Masc'avlebel-i **išviatad** mo-u-c'od-eb-s **sam-ze** **nak'leb**
teacher-NOM seldom PRV-VER-call-SF-PRS.3SG three-on less
st'udent'-s.
student-DAT
'The teacher seldom calls on fewer than three students.'
(ADV > NUM; ??NUM > ADV)

All of the PVE in the OV languages discussed so far bear the markings verb raising. As a result, these languages make it easy to determine their status as OV languages: the absence of mirror-image effects means that none of the elements were merged to the right. As such, the verb finality of these languages coincides with exclusive leftward merger. This point is important to stress because one might take the position that if both OV and VO are neutral variants, as in Estonian, Udmurt and Georgian, one could just as well declare them to be VO languages. The absence of mirror image effects makes the assumption of base-generated [VO] order less probable. However, the merger direction of the bottom pair can hardly be determined. It could still be the case that the very first element the verb merges with can be either to the left or to the right. The resulting structures would be [VX] and [V[X<V>]]. As long as there is only a single PVE, and no language-specific diagnostic of verb movement apart from pre=post effects (e.g., obligatory particle stranding in Germanic), there is no way of doubtlessly determining the merger direction of that single PVE. It is exactly this problem that led Fukui & Takano (1998) to assume that the bottom pair of a structure is always linearised head-finally as complement-head unless head-movement takes place. Accordingly, the merger direction of the bottom pair is assumed to be leftward for the verb-raising PVE because verb-raising has to be assumed anyway in order to account for the pre=post effects. The additional assumption of free choice in the direction of merger for the bottom pair would be an unnecessary addition to the analysis. The pure verb-raising account is, hence, theoretically superior, but not by virtue of the data per se, but by virtue of being more parsimonious.

That verb-raising is the best analysis for the languages discussed so far does not mean that this is the only way PVE can be derived. The next section shows that rightward movement can also be an option.

5.5.9 PVE via rightward movement in Turkic and Udmurt

Kural (1997) is the first to argue that Turkish PVE are derived by rightward movement to a high projection. He presents the data in (315) as the basis for his argumentation. First, these data show that Turkish exhibits obligatory surface scope in the preverbal field. When S precedes O, S takes scope over O (315a), but when O precedes S, O takes scope over S (315b). So much to expected of a scrambling language. The postverbal field, however, makes inverse scope readings available. In (315c), S precedes O, but O still takes scope over S by virtue of being a PVE. The same works for the subject: in (315d), O precedes S, but S takes scope over O by virtue of being a PVE. In short, *postverbal elements scope over preverbal elements.*

(315) Turkish (Kural 1997: 504)

a. Herkes üç kişiyi dün **aramış**.
everyone.NOM three person.ACC yesterday call.PST.3SG
'Everyone called three people yesterday.' (*3 > ∀, ∀ > 3)

b. Üç kişiyi herkes dün **aramış**.
three person.ACC everyone.NOM yesterday call.PST.3SG
'Everyone called three people yesterday.' (3 > ∀, *∀ > 3)

c. Herkes dün **aramış** üç kişiyi.
everyone.NOM yesterday call.PST.3SG three person.ACC
'Everyone called three people yesterday.' (3 > ∀, *∀ > 3)

d. Üç kişiyi dün **aramış** herkes.
three person.ACC yesterday call.PST.3SG everyone.NOM
'Everyone called three people yesterday.' (*3 > ∀, ∀ > 3)

Rightward movement to a structurally high position is a natural explanation for the scope-changing property of postverbal placement. Just as lefward placement in (315b) places O in a hierarchically higher position than S and hence changes the scopal relations between S and O, so does postverbal placement (315c). Therefore postverbal placement is likely to involve movement to a rightward position that is hierarchically higher than at least the subject. In principle, high rightward adjunction would be another possibility. However, Kural (1997) also attests rightwards long movement for Turkish, making rightward movement the more probable analysis (see 5.2.3). This data point is shown in (316b). This goes so far that when a constituent of a subordinate clause is to appear postverbally, it *has* to be long-extracted (Kural 1997: 501).

(316) Long movement to the right in Turkish (Kural 1997: 501)

a. Ayşe [Ahmet'in öğrencilerle konuştuğu]nu biliyor.
Ayşe-NOM Ahmet-GEN students-WITH speak-PST-3SG-ACC know-PRS-3SG
'Ayşe knows that Ahmet spoke with the students.'

b. Ayşe [Ahmet'in konuştuğu]nu biliyor öğrencilerle.
Ayşe-NOM Ahmet-GEN speak-PST-3SG-ACC know-PRS-3SG students-WITH

There is some disagreement in the literature over the scopal judgements in (315c,d) that do not touch upon the movement analysis of Turkish PVE. Öztürk (2013) agrees with Kural's judgements while Kornfilt (2005) and Tamer Akan (p.c.) disagree with them. Kornfilt (2005) still ends up with a rightward movement analysis. According to Kornfilt (2005), there is obligatory surface scope in the preverbal field, just as Kural (1997) claims. Instead of *obligatory* inverse scope for (315c,d), Kornfilt (2005) merely reports that inverse scope readings become *available*. In her analysis, the scope ambiguity comes about because the original position of the PVE is ambiguous. Essentially, the postverbal object in (315c) could have originated from either the position in (315a) or (315b). Crucially though, Kornfilt (2005) still converges on a rightward movement analysis.[16]

Öztürk (2013) claims that the scope changes with PVE in **Uyghur** also follow from high rightward movement. She presents the data in (317) to argue along the same lines as Kural (1997) and Kornfilt (2005). As in Turkish, Uyghur also exhibits surface scope in the preverbal field (317a,b). As soon as one of the arguments is postverbal, the scopal relations between the arguments become ambiguous (317c,d).

(317) Uyghur (Öztürk 2013: 284)

a. Her bala ikki kitapnɯ **oqɯ di**.
every child two book.ACC read.PST
'Every child read two books.' $(*2 > \forall,\ \forall > 2)$

b. Ikki kitapnɯ her bala **oqɯ di**.
two book.ACC every child read.PST
'Every child read two books.' $(2 > \forall,\ *\forall > 2)$

c. Her bala **oqɯ di** ikki kitapnɯ.
every child read.PST two book.ACC
'Every child read two books.' $(2 > \forall,\ \forall > 2)$

d. Ikki kitapnɯ **oqɯ di** her bala.
two book.ACC read.PST every child
'Every child read two books.' $(2 > \forall,\ \forall > 2)$

The scope-changing property of PVE speaks against verb-raising. In principle, the scope

16. Haider (2013: 84) argues against Kural's (1997) analysis, stating that the PVE only seemingly takes wide scope because of a group reading of the PVE. However, Kural (1997) never mentions a group reading. The data that Haider (2013: 84) presents are a direct quote taken from Zwart (2002), where Zwart does not mention why the data are presented differently from Kural (1997). That Haider merely picked the interpretation of Kural's original sentences from Zwart (2002) is also indicated by the fact that Haider (2013: 85-86) follows the same argumentation as Zwart (2002). Furthermore, Haider (2013: 85ff.) presents *German* extraposition data in order to argue against the rightward movement analysis of PVE in *Turkish*, probably assuming that PVE are a cross-linguistically uniform phenomenon. The implication seems to be that the falsification of a rightward-movement analysis in German would falsify it for Turkish as well. However, there is no reason to assume that PVE are a uniform phenomenon. Finally, Kural (1997) and Kornfilt (2005) also show examples of wide-scoping PVE that would not be affected by Haider's/Zwart's objection. Haider's conclusion that rightward movement does not exist in Turkish and languages in general is thus void.

change can come about by either rightward movement and rightward merge. However, the availability of long movement to the right can decide on this issue as clearly as in Turkish. The respective data point is shown in (318).

(318) Men [Zemire-niŋ $\_\__i$ oqɯ-gain-in]-i bil-i-men kitap-nɯ$_i$.
I Zemire-GEN read-PTCP-3SG-ACC know-PRS-3SG book-ACC
'I know that Zemire read the book.' (Öztürk 2013: 279)

The above examples from Turkic language show that PVE do not constitute a structurally uniform phenomenon across languages. While PVE in some languages are derived by verb-raising, others derive PVE via rightward movement. Furthermore, one and the same language can exhibit several derivative mechanisms for PVE. Udmurt is such a language. In section 5.5.4 and following, Udmurt PVE were shown to derive via verb-raising. However, Udmurt also allows for long extraction to the right. This is shown in (319). The sentence in (319a) shows the baseline with an exclusively head-final structure. Next, (319b) shows a PVE in the embedded clause. That sentence is entirely neutral. Long movement can now be observed in (319c,d). There, the object (319c) and subject (319d) of the embedded clause appear behind the matrix verb. In contrast to (319b), the long extraction to the right in (319c,d) has an interpretative effect. The first reading is a topicalisation reading, much akin to the backgrounding achieved by PVE in Turkic. The other reading is a clear afterthought reading: one forgot to mention something and adds the missing information at the end. Accordingly, the PVE in (319c,d) can also be set off from the matrix clause by pauses and filler elements.

(319) a. baseline sentence

Инву, пӧйшурасьёс гондырез виёзы шуыса, малпа.
Invu.NOM hunter.PL.NOM bear.ACC kill.FUT.3PL COMP think.PRS.3SG
'Invu thinks that the hunters will kill a bear.'

b. clause-internal PVE

Инву, пӧйшурасьёс виёзы гондырез шуыса, малпа.
Invu.NOM hunter.PL.NOM kill.FUT.3PL bear.ACC COMP think.PRS.3SG

c. object extraction

Инву, пӧйшурасьёс виёзы шуыса, малпа … (ну)
Invu.NOM hunter.PL.NOM kill.FUT.3PL COMP think.PRS.3SG INTER

гондырез.
bear.ACC

reading 1: 'As for the bear, Invu thinks that the hunters will kill him/it.'
reading 2: 'Invu thinks that the hunters will kill him/it –I mean, the bear.'

d. subject extraction

Инву, гондырез виёзы шуыса, малпа ... (ну)
Invu.NOM bear.ACC kill.FUT.3PL COMP think.PRS.3SG INTER
пöйшурасьёс.
hunter.PL.NOM
reading 1: 'As for the hunters, Invu thinks that the hunters will kill the bear.'
reading 2: 'Invu thinks that they will kill the bear –I mean, the hunters.'

The first alternative to an analysis of (319c,d) as movement would be an extraclausal construal with a null clause-internal correlate, that is, right-dislocation and afterthought (see section 5.3.1). For the afterthought reading, this analysis works. The embedded clause was uttered incompletely, and this oversight is repaired at the end of the clause. However, a right-dislocation analysis can hardly apply to reading 1 in (319c,d) even though the interpretation would fit with right dislocation (a topic reading). If reading 1 in (319c,d) was an instance of right dislocation, the clause-internal correlate would have to be null. However, Udmurt does not exhibit null 3SG object pronominals, in contrast to, e.g., Japanese (see section 5.3.1). This is shown in (320). In (320a), a contextually salient 3SG subject is dropped, and the resulting sentence is fully acceptable. In contrast to this, (320b) features a contextually salient 3SG object. Dropping this 3sg object leads to an ungrammatical sentence that "feels incomplete" (Svetlana Edygarova, p.c.). The contrast between (320a) and (320b) shows that a 3SG object has to be realised overtly, i.e., Udmurt does not exhibit "radical pro-drop".

(320) a. [C: I saw hunters today. / Туннэ пöйшурасьёсты адзи.]

Ӵуказе гондырез виёзы.
tomorrow bear.ACC kill.FUT.3PL
'They will kill a bear tomorrow.'

b. [C: I saw a bear today. / Туннэ гондырез адзи.]

*Ӵуказе пöйшурасьёс виёзы.
tomorrow hunter.PL.NOM kill.FUT.3PL
int. 'The hunters will kill it tomorrow.'

Since a 3SG object has to be realised overtly, there cannot be a null 3SG object pronominal as a clause-internal correlate in (319c). This makes it unlikely that (319c) is a case of right dislocation with a null correlate. Consequently, movement is the most likely mechanism leading to the object gap inside the embedded clause in (319c). There could be a null correlate in (319d) since 3SG subjects can be dropped. However, since (319c) and (319d) share reading 1, it is more parsimonious to assume that both (319c) and (319d) were derived by rightward movement.

Thus, Udmurt has two mechanisms for deriving PVE. The two mechanisms are represented side-by-side in (321). In (321a), the PVE appears clause-internally. This PVE is derived via verb-raising. Therefore the sentence can be neutral in line with the framework of this thesis. In (321b) on the other hand, the PVE appears clause-externally. Such

a PVE can only be derived as a repair using an afterthought (reading 2), or via phrasal movement (reading 1). Phrasal movement cannot be neutral according to the framework of this thesis. Consequently, clause-external PVE cannot be neutral in Udmurt.

(321) a. clause-internal PVE via verb raising

Инву, пӧйшурасьёс виёзы **гондырез** шуыса, малпа.
Invu.NOM hunter.PL.NOM kill.FUT.3PL bear.ACC COMP think.PRS.3SG
'Invu thinks that the hunters will kill a bear.' (neutral)

b. COMP-crossing PVE via rightward movement

Инву, пӧйшурасьёс виёзы шуыса **гондырез** малпа.
Invu.NOM hunter.PL.NOM kill.FUT.3PL COMP bear.ACC think.PRS.3SG
reading 1: 'As for the bear, Invu thinks that the hunters will kill him/it.'
reading 2: 'Invu thinks that the hunters will kill him/it –I mean, the bear.'

The side-by-side comparison of clause-internal and clause-external PVE in Udmurt reinvigorates an idea repeatedly brought up in the context of the verb-raising analysis: optional V^+ movement can result in information-structurally neutral PVE, while optional *phrasal* movement has to result in information-structurally marked PVE. It is a proof of concept that this generalisation holds both *intra*-linguistically, as in Udmurt, as well as *cross*-linguistically, as when comparing Turkish and Uyghur to Estonian and Udmurt.

5.5.10 Conclusion

There are languages with free variation between OV and VO order. Two of these languages, Estonian and Udmurt, should be analysed as underlyingly verb-final languages. The information-structurally unmarked VX order is brought about by verb-raising from a verb-final base. The evidence for that analysis stems from the overall absence of mirror-image effects, called pre=post effects: the postverbal field is structurally identical to the preverbal field. Common pre=post effects in Estonian and Udmurt are the stranding of directly preverbal focus in the clause-final position under verb raising, and the surface (left-to-right) scope among constituents. Estonian also allows for a language-specific diagnostic of verb movement due to the presence of verb particles. The distribution of verb particles indicates that the proposed verb movement applies optionally, can apply multiple times, and can optionally pied-pipe further elements at every movement step. Pied-piping with free verb movement is also present in Udmurt. Overall, these findings indicate that the free XV/VX variation in Estonian and Udmurt can be captured by the same verb-movement analysis. Furthermore, this analysis follows straightforwardly from the framework of Neeleman and Abels presented in chapter 2.

Verb movement does not suffice to account for all instances of PVE. Even within Udmurt, rightward movement has to be assumed for PVE that cross a clausal boundary. No language contained in this section behaves akin to Dutch in showing signs of rightward merge.

The upcoming section deals with an alternative analysis of XV/VX variation. That

analysis will be rejected.

5.6 Hubert Haider's Type 3 analysis

Hubert Haider offers a theory of variable verb placement that bears much resemblance to the analysis proposed for free verb placement in section 5.5. The aim of this section lies in rejecting Haider's analysis.[17]

In Haider's framework, the two basic language types are underlying OV and VO. According to Haider, these two language types exhibit systematic differences. These differences were mainly deduced from the comparison of OV German to VO English. The central explanandum is the relative rigidity of word order in English: it does not allow for intervening adverbials and argument reordering, i.e., "scrambling". However, some languages fit neither the OV nor VO type clearly. Many Slavic languages are VO languages without the rigidity of English. Haider's explanation for those languages is that they are neither underlyingly OV nor VO, but "a third type", i.e., "Type 3" (Haider 2010, 2013, Haider & Szucsich 2022).

The "Type 3" conjecture is relevant for the present work because any OV language with postverbal objects would constitute a "Type 3 language" as well (e.g. Turkish and Hindi Haider 2013). First, I will provide a brief introduction to Haider's framework. Then I will show that the "Type 3" concept only makes sense within the confines of Haider's framework. Afterwards I will present a theoretical loophole, and then show that Haider's framework is set on empirically false premises. Finally I will show that the methodological amendment of ignoring information structure, that Haider has to make in order to allow for the "Type 3" analysis, leads to a full collapse of Haider's generalisations regarding the OV/VO distinctions between English and German. As a consequence, the "Type 3" analysis has to be rejected on a fundamental level.

5.6.1 Haider's basic framework

Haider lays out his framework in Haider (2010, 2013), and the most recent application of the "Type 3" concept is in Haider & Szucsich (2022). The general gist of Haider's approach lies in the idea that structures are *universally right-branching* (Haider 2013: 158ff.). Since only the *branching* direction is restricted, a terminal head and its complement can appear in any order. In gross terms, only the bottom pair of each extended projection line has a choice of either complement–head or head–complement order. Every further merge has to be to the left. This results in universal leftward specifiers and the inexistence of right adjunction, just as in Kayne's Antisymmetry.

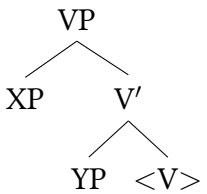
When merge is mostly leftward and there are no rightward specifiers, multiple PVE in any language can only occur via V-raising (Haider 2013: 84), as in section 5.2.2. The only exception is a single PVE since a single PVE can be merged to the right. At first sight,

17. I am aware that Haider's framework in general and his theory of "Type 3" languages is widely rejected and therefore mostly irrelevant to current syntactic theory. However, the present work was originally motivated by Haider's work, warranting the discussion of his theory.

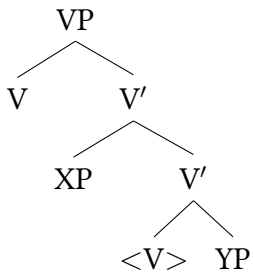
this assessment would fit the analysis of some PVE in Estonian and Udmurt in section 5.5. However, PVE via rightward merge, as in Dutch, and rightward movement, as in section 5.5.9, would have to receive a different analysis since the ban on left-branching cannot allow for landing sites to the right (also see footnote 16 on Haider's treatment of rightward movement in Turkish). Even in VO languages, multiple PVE can only ever occur via V-raising and not via rightward merge (already Haider 2004). The only structural difference between an OV language with PVE and a VO language with PVE would be the base-generated order of V and its complement, as shown in (322).

(322)

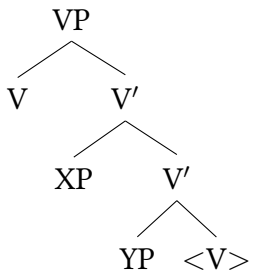
a. OV language



b. VO language



c. "Type 3" language



The structure in (322a) is a clear OV language: all of V's dependents are merged to the left. The structure in (322b) shows a VO language, where all of V's dependents follow V. Finally, there is the "Type 3" structure in (322c). That structure started out verb-finally by merging YP preverbally, but then V moved, such that XP is to the right of V. In sections 5.2.2 and 5.5, structures like (322c) were viewed as indicative of an underlying OV structure. This contrasts with Haider's analysis: the structure in (322c) would be viewed as neither OV nor VO.

The premise for this classification is the assumption of *directionality of licensing*: whenever an element is introduced into a phrase, it has to be licensed by the head of the phrase. This licensing can only appear in a certain direction. The classification of (322c) as a "Type 3" is based on the stipulation that the structure in (322c) comes about because, (a) V needs to license YP to the left, and (b) V needs to licenses XP to the right. V has to move in front of XP in order to license XP to the right. This means that the direction of licensing is *different* for YP and XP. Haider says that the directionality can be different because it is *underspecified*. Underspecified directionality of licensing is the definition of a "Type 3 language". The structures in (322a,b) show rigid directionality since both YP and XP precede or follow the head respectively, thus showing that they were both licensed in the same direction.

The "Type 3" concept is, hence, a theory-internal construct. It requires the idea of directional licensing. Outside of Haider's framework, the structure in (322c) is also compatible with an underlying OV language. Only if the reason for the V-movement in (322c) is directional licensing, that structure is indicative of a "Type 3" language. In order to think of directional licensing outside of Haider's framework, it can best be thought of as the slash feature of Categorial Grammars since it applies to any phrase. According to Haider (2010: 29) and Haider (2013: 3,49,63), *any* merged phrase has to be licensed. However, the slash feature determines the direction of merge, thus clashing with Haider

again. In generative grammars, directional licensing could be conceptualised as the direction of case assignment. This would be in line with how directional licensing is defined in Haider (2013: 106), since on that page, only *arguments* have to be directionally licensed. The from any phrase requiring licensing to only arguments is also present in Haider & Szucsich (2022: 25). This inconsistency in the definition of "directional licensing" illustrates that "directional licensing" is a stand-in for whatever feature it is that triggers verb movement. In any other framework, it could mean any number of different mechanisms. This shows that "directional licensing" is a theory-internal construct. Since the "Type 3" concept entirely depends on directional licensing, "Type 3" is a theory-internal construct as well.

If one were to construe "Type 3" as a descriptive term, it would still be theory-internal: it would be any language that fits neither Haider's idea of a well-behaved OV-type nor a well-behaved VO-type language (Haider 2013). This description is theory-internal because it depends on the premise that the OV- and VO-types exist the way that Haider proposes.

As said above, the "Type 3" analysis is so similar to the pure verb-raising analysis that it would yield the correct results for some PVE. It could merely mean that Udmurt and Estonian do not have underlying OV order. Empirically, the "Type 3" analysis would fail to account for the differences among PVE: there would be a single analysis for the mirroring PPs of Dutch, English and Finnish (section 2.3.3), the non-mirroring PVE in Estonian, Udmurt, and Hindi (section 5.5), and the clause-boundary crossing PVE of Turkish and Udmurt (section 5.5.9). Again, this is a problem of the framework that the "Type 3" concept is part of. This framework will be shown to be built on empirically false premises. For this reason, the "Type 3" analysis need not be considered.

5.6.2 A loophole for rightward merge

Haider's theory leaves a loophole for rightward merge due to his definition of right-branching. The merge of a complement to a head is not branching the *category of the head* and can, therefore, create structures that one would be inclined to call left-branching. Only this way, Haider (2010: 338ff.) is able to accomodate the virtually left-branching structure [[[V^0 Aux2] Aux1] for auxiliaries in OV languages. The auxiliaries *lexically select* the embedded verbal heads much like a transitive verb lexically selects its direct object resulting in the virtually left-branching structure [[AP NP] V^0]. It is not left-branching because the category is not branching.

That necessary loophole makes right-adjunction via relabelling possible. Any category that would right-adjoin can be reanalysed as a selecting head that selects the constituent it adjoins to as its complement. This is on par with how the missing theory of labelling and projection in the LCA introduces a loophole for right-adjunction. Via this loophole, adverbial modifiers can easily create right-adjoined structures, they simply need to be the element selecting the VP. That adverbial modifiers *select* the constituent they 'adjoin' to is already in place in various semantic theories such as Ernst (2002), Heim & Kratzer (1998), Higginbotham (1985). Having adverbials as heads is an often-used assumption following Cinque (1999). Due to the presence of these options,

Haider's theory does not necessarily rule out right-adjunction. Mere relabelling can allow for left-branching structures. This undermines Haider's basic assumption about the ban on right-adjunction.

5.6.3 Haider's empirical premises for the asymmetry of merge

Haider's approach predicts that there should not be any mirror image effects since there is no symmetric structure building. Haider argues for the absence of mirror-image effects in several ways. First, he argues that there are missing mirror-image effects between arguments. Second, he argues that the hitherto documented mirror-image effects for adverbials are merely preferences. Since they are merely preferences, they don't require a syntactic explanation. Finally, he sketches an analysis that ought to capture mirror-image effects. Hence, Haider's line of argumentation is a series of *hedgings*: mirror-image effects aren't real; for the cases where mirror-image effects are real, they aren't actually real; and whenever there are real mirror-image effects, there is an explanation for them.

5.6.3.1 Supposed asymmetries in the order of ditransitives

Haider's first asymmetry claim is that "the relative order of arguments in OV and VO is identical" (Haider 2010: 14f. Haider 2013: 41). According to Haider, the only attested, neutral orders for ditransitives are IO DO V and V IO DO, while DO IO V and V DO IO are universally absent, as shown in (323). The empirical basis for this universal claim is not presented. It will briefly be shown that that universal is empirically false. Therefore, Haider's main reason for universally leftward structure building falls away.[18]

(323) Haider's universal on argument orders in ditransitives: universal IO DO order

a. V IO DO

b. IO DO V

c. *V DO IO

d. *DO IO V

The first empirical problem with Haider's asymmetry claim is the absence of DO IO V (323d). Haider (1983) himself is famous for finding verbs with basic DO IO V order. The next problem regards the absence of V DO IO (323c). Titova (2017) could determine that V DO IO is the basic order of ditransitives in Russian. The responsible factor for the often found V IO DO order in Russian is merely animacy: recipients and goals are usually animate. The bias for animate elements to precede inanimate ones is also attributed as the driving factor of IO DO order across languages in Heine & König (2010). In sum, Haider's asymmetry claim is quite easily falsified.

18. Haider (2004, 2013) also presents the data showing that binding is never backwards, right-to-left. Therefore he concludes that preceding elements are always structurally higher than the following elements. See footnote 2 on why binding is not a suitable test of constituency.

A further problem with Haider's asymmetry claims concerns the definition of what qualifies as a comparable ditransitive structure. For English, only the double object construction (neutral alignment) is considered by Haider. As soon as the prepositional dative construction (indirective alignment) would be considered, the V DO IO order of English prepositional dative constructions would already falsify Haider's universal (323c). The distinction of alignment types poses a problem for the comparison to German, since the German ditransitive construction features indirective alignment with an accusative theme and a dative recipient. When only comparing ditransitives with indirective alignment, the IO DO V order attributed to German by Haider would actually turn out as the mirror image of the English V DO IO order.

The problem of the ignored alignment typology further extends to ditransitives that select two argument PPs (double prepositionals). Double prepositionals mirror around the verb in languages that Haider typically discusses (Swedish VO vs. German OV), as shown in (324).[19]

(324) a. Jag fick inte tala om dig med henne. (Swedish)
I could not talk about you with her
'I could not talk about you with her.'

b. ??Jag fick inte tala med henne om dig.
I could not talk with her about you

c. Ich konnte nicht mit ihr über dich sprechen. (German)
I could not with her about you talk
'I could not talk about you with her.'

d. ?Ich konnte nicht über dich mit ihr sprechen.
I could not about you with her talk

Haider's universal is wrong even when it is restricted to neutral-alignment ditransitives. Haider might want to restrict his universal to neutral-alignment ditransitives because the IO DO V order in Dutch and V IO DO order in English would be in line with (323). But even then, a counterexample is Thai, a strict SVO language with a neutral-alignment ditransitive that exhibits V DO IO order, as shown in (325a). In Malagasy, the neutral order in neutral-alignment ditransitives is also DO IO as shown in (325b) (Sabel 2011: 34f.; further V DO IO languages on p. 32, fn. 2). Malagasy even seems to be a V DO IO S language, a complete mirror image of English.

(325) a. phíchay hây náŋ~~ŭu~~ sùmaalii (Thai)
(name) give book (name)
'Pichay gives Sumalee a book.' (Iwasaki & Horie 2005: 113)

b. Nanolotra ny mofo ny ankizy izy (Malagasy)
offer DET bread DET children 3SG-NOM
'He offers the children the bread.' (Sabel 2011: 35)

19. The Swedish data stem from informal fieldwork questionnaires in collaboration with Sara Myrberg. The responses were provided by students of Lund University and several Swedish linguists.

These black swans falsify the universality of Haider's claim. It is clear that either there are mirror-image effects, or that there is no clear pattern to be found. Either way, there is neither a universal nor a rigid asymmetry in order of IO and DO.The general problem, however, is the absence of a typological survey by Haider. Such a survey would have been necessary to support the central premise of his account of asymmetric structure building. As it stands, the claim about the universal asymmetry of argument orders is not empirically valid. As a result, the first central premise for Haider's asymmetry claim is nullified.

5.6.3.2 Explanation of symmetries in the order of adverbials

The mirror-image effects among adverbials (see section 2.3) are not expected to occur under the absence of asymmetric merger (Haider 2013: esp. 168ff.). That they exist essentially nullifies Haider's asymmetry approach.

First, Haider has to provide a theory of how postverbal adverbials that follow objects can occur at all. This is because Haider assumes positional licensing of theta roles, i.e., the UTAH with the assumption that the complement of V will be interpreted as the theme. In order for an adverbial X to occur after a direct object in V O X order, it would have to be merged as the complement of V, i.e., [V [O [<V> X]]]. This would lead to a violation of the UTAH and hence lead to an incoherent grammatical architecture.

Second, Haider has to explain why mirror-image effects occur with adverbials in the absence of rightward merge and roll-up movement. According to Haider (2013: 170), preverbal adverbials are "directly integrated" while postverbal adverbials are integrated as *secondary predicates*. They are originally merged preverbally as secondary predicates but are stranded postverbally via verb movement. They predicate over covert preverbal event variables. Because of how secondary predication is resolved, the order of secondary predicates is reversed as opposed to when they modify elements directly (Haider 2013: 169f.). Therefore, Haider (2013: 168ff.) argues that mirror-image effects for adverbials are not governed by a structural hierarchy, but by how they are semantically interpreted. More detail of how this works is found in Haider (2004).

If that theory were fleshed out, it could serve as an argument against the *need* for symmetric merger, since asymmetric merger could also explain mirror-image effects without roll-up movement. However, Haider (2004, 2013) does not provide any detail as to how adverbials are introduced as secondary predicates. He does not provide any testable predictions for this assumed structural difference between preverbal and postverbal adverbials. The most pressing question is why the adverbials aren't all integrated directly into the structure if they are all originally merged preverbally. Why are some of them "directly integrated" while others are introduced as secondary predicates?Symmetric merger is the superior approach, covering the data while being more parsimonious since adverbials can simply be merged as adverbials. Even if exclusive leftward merge would be adopted, roll-up movement is the more viable option.

Finally, Haider (2013) seems to underpin the lack of a "structural" mirror-image effect by arguing that the mirror-image effects are merely a question of preference. That is, Haider (2013: 168ff.) disputes mirror-image effects as a whole by arguing that the order

between adverbials is not as strict as it is between arguments since the order of adverbials can be changed by using focus, but only postverbally. That way, only arguments present the real absence of mirror-image effects, while adverbials only seemingly mirror. This point is empirically meaningless, first, because the order of preverbal adverbials can also be changed via focus, and second, because the order of *arguments* can also be changed using focus. Moreover, information structure is not allowed to play any role in the argumentation due to one of Haider's methodological amendments. This leads to the last point, the undermining of his basic distinction between the two basic types, OV and VO, by giving up on taking information structure into account.

5.6.4 Undermining of central premises by ignoring information structure

Haider (2013: 158) and Haider & Szucsich (2022) insist that information structural readings associated with different word orders do not matter in determining the underlying structure. The only thing that matters is the grammaticality of the construction. I will show that by making this methodological amendment of ignoring information structure, Haider undermines most of his claims about strict word order in English.

Ignoring information structure is necessary in order to classify marked word orders in Slavic, such as in (326), as scrambling-like VP-internal word order variation. The sentence in (326a) can only be meaningfully of "Type 3" if the elements were originally selected in the position they surface in. Otherwise it would simply be movement of previously postverbal elements in line with an underlying unidirectional VO order but with a number of preverbal slots for movement. Additionally, the OS order has to result from the partial OV nature of "Type 3" languages, otherwise the idea of directional licensing wouldn't make the right predictions. Only VP-internal scrambling follows from OV-like directionality. A-bar movement into peripheries is not correlated to directionality in Haider's theory.

(326) a. Kuklata Ivan na decata izprati. (Bulgarian)
doll.DEF Ivan to children.DEF sent
'Ivan sent the doll to the children.'
(as cited by Haider & Szucsich 2022: 20)

b. Kuklata Ivan na decata / im ja IZPRATI.
doll.DEF Ivan to children.DEF them her sent
'Ivan sent the doll to the children.'
(original example by Avgustinova 1997: 131)

c. Kuklata Ivan /NA DECATA/ (ja) izprati.
doll.DEF Ivan to children.DEF her sent
'Ivan sent the doll to the children.'
(original example by Avgustinova 1997: 132)

The first problem with Haider's approach can be illustrated with the Bulgarian example in (326). It exhibits DO S IO V order and is argued to come about via OV-like scram-

bling. However, that conclusion is only possible by ignoring IS and intonation. Catherine Rudin (p.c.) points out that (326a) is a highly marked sentence and borders on ungrammaticality without the addition of various pauses and clitics. The original source that Haider & Szucsich (2022) took (326a) from even includes these pauses and clitics. Originally, (326a) was provided as (326b,c) by Avgustinova (1997), where the slashes (/) stand for pauses. Even just on the surface without analysing the IS functions, the pauses and clitics make the sentence seem much more on par with clitic-left-dislocation constructions as in Romance languages rather than OV-like scrambling. Additionally, the clause-initial element is a topic. Already Rudin (1990) showed that preverbal topics in Bulgarian can even precede complementisers, making it very unlikely that they are VP-internal. The IS-marking of the fronted element also makes it improbable that it is OV-like scrambling (cf. section 3.1.4). By ignoring IS, intonation and the potential clitics, the more probable analysis of (326a) via a left periphery or a biclausal construction cannot be detected. This is what opens up a "Type 3" analysis.

If information structure were not to matter, English would allow for allegedly absent word order variation. Haider's main explanandum of the OV type and VO type is the absence of adverbial intervention and argument reordering in VO English. However, already Stowell (1981: 107) has to exclude any example involving "Focus NP Shift" (attributing the term to Rochemont (1978)) in order to argue for the strict adjacency of object and verb. When it is irrelevant that some word orders are only acceptable with information-structural effects, then English also allows for adverbial intervention and argument reordering. Some relevant examples are given in (327). The examples in (327a-e) stem from the literature. The first examples (327a-d) show how the adjacency of V and O can be broken up by focussing the direct object. Especially a sentence like (327a,b) is explicitly said to be fully ungrammatical by Haider & Szucsich (2022: 29). Haider would have to revise that statement if IS were not to matter. Focus can even bring subjects to the end of the clause (327e) when one ignores the preverbal resumptive or expletive *there* as Haider did for Bulgarian above. This is akin to how subject-final sentences in some Slavic languages require subject focus (Neeleman & Titov 2009). Finally, even the order within the double object construction can be changed using focus (327f).

(327) a. Kevin gave to his mother A NEW BOOK. (Stowell 1981: 107)

b. John wants to give to Mary A GIFT OF INESTIMABLE VALUE. (Rochemont 1978: 33)

c. The preacher sent off to war HIS ONLY SON. (Rochemont 1978: 33)

d. In this light consider (4) […] to indicate clearly THE ADJUNCTION STRUCTURE. (Kayne 1994: 16; small capitals by AP)

e. There appeared to John AN ANGEL. (Rochemont 1978: 34)

f. I always heard that men tell children lies, but now I know that men tell lies WOMEN. (modelled after Haider 2013: 168, fn. 33)

Likewise, English could also be framed as a language with optional V-final order since OSV order (328) is attainable in contrastive topic constructions:

(328) THAT HOUSE Jack built, THIS ONE I did.

The OS order in (328) is crucial in the comparison to the Bulgarian data presented by Haider & Szucsich (2022: 20) in (326). In both cases, the OS order is likely derived by employing the clausal periphery instead of any VP-internal positions. The difference in word order freedom between English and Bulgarian might simply not be as glaring as it is supposed to be.

In sum, this discussion shows that English would be a VO language that allows for adverbial intervention and argument reordering if one chooses to ignore information structure. The lack of word order freedom in English is the main point that Haider's framework is supposed to account for. Without it, OV and VO would not be the two basic types to which the "third type" could be related. Therefore, ignoring information structure in word order variation leads to an undermining of Haider's central claims. This concludes the discussion of Haider's framework and the "Type 3" concept therein. The next section will summarise the findings to underpin the dismissal of the "Type 3" analysis.

5.6.5 Conclusion: Rejection of Haider's framework and thus the "Type 3" concept

The "Type 3" analysis of postverbal elements in OV languages has to be rejected for principal reasons. The concept of "Type 3 languages" is a theory-internal construct grounded within Haider's framework. In this framework, postverbal elements across all languages are structurally uniform: there is neither rightward movement nor right adjunction, so any postverbal element (but a single one) occurs via verb raising. This framework struggles to account for mirror-image effects which is why it disputes them. A central empirical premise is the absence of mirror image effects with arguments. This central premise is not true regardless of which kind of ditransitive is considered (section 5.6.3.1). The mirror-image effects with adverbials are acknowledged. They are explained by claiming that postverbal adverbials are integrated into the structure in a different way than preverbal ones. This proposal is not parsimonious and only backed by theory-internal reasons (section 5.6.3.2). The "Type 3" proposal necessitates ignoring information-structural effects and focussing purely on the grammaticality of a surface string. This brings Haider's framework to a collapse. Its main explanandum is the ascribed rigidity of VO English in contrast to OV German. However, supposedly ungrammatical strings in English are grammatical with information-structural readings. When only the grammaticality of the surface string counts, English presents with the flexibility whose absence Haider tries to explain. Since "Type 3" is a theory-internal construct built on the difference between VO English and OV German, the "Type 3" concept is nullified by the nullification of Haider's framework.

What is the difference, then, between English and the so-called "Type 3" languages? A straightforward explanation for the increased word order variability in both OV and VO languages in contrast to English is the absence of obligatory subject raising. For Haider (2013), that absence is a mere consequence of the "directionality of licensing".

Instead it is most probably the driving factor independent from underlying word order (cf. Fanselow 2020 and section 3.5.2). It was a mere coincidence that English has both subject raising and VO, while German lacks subject raising and is OV.

5.7 General conclusions

(218) How homogenous are patterns of postverbal element placement in OV languages?

The central question of the present chapter in (218) involves an analytical and a descriptive side. From the analytical side, the question was whether PVE should receive a uniform analysis. Three coarse types of possible analyses were presented in section 5.2: rightward merge, leftward verb movement, and rightward phrasal movement. All three of them are necessary to capture PVE across languages. For Udmurt, verb movement and rightward phrasal movement have to be assumed within the same language (section 5.5.9). The verb-movement type has to be further diversified by the availability of pied-piping. Therefore, PVE are structurally heterogeneous.

From the descriptive side, the question was which surface properties PVE share. There was no previous overview of PVE such that a first sketch of a typology of PVE had to be developed in section 5.4. It is common for OV languages to feature PVE, but they vary in what kind of PVE are available. OV languages are heterogeneous in both the morphosyntactic (section 5.4.1) and information-structural category (section 5.4.2) of PVE. When non-oblique NPs can surface as PVE, almost any other referential element can also surface as a PVE. In section 5.4.1, this distribution was captured in an implicational hierarchy. A further distinction is whether specific morphosyntactic categories *must* appear as PVE. When some categories obligatorily appear as PVE, their IS role does not matter. Apart from that, OV languages vary in what IS roles PVE can assume. The hitherto most commonly attested type of PVE are backgrounded PVE. Contrastive focus is another frequent IS role for PVE. Background and contrastive focus share the *givenness* of the discourse referent, making given elements the most widely attested PVE. The hitherto rarest type of PVE is actual free variation: PVE occur without any semantic or pragmatic effect, such that verb-medial structures occur in the same contexts as verb-final structures. As a result, PVE assume any IS role, including information focus. The main contribution of the present chapter was the in-depth discussion of free variation between verb-medial and verb-final orders in Estonian and Udmurt (section 5.5). In sum, there is a heterogeneous spectrum in what kinds of PVE occur across OV languages, especially regarding the morphosyntactic category. However, OV languages with PVE are homogeneous in mainly featuring only given PVE. That also explains the lack of non-referential material as PVE in most languages.

The first attempts at a typology of PVE, both structural and descriptive, have to be substantiated and enhanced by further data and analyses from typologically diverse languages. The range of structures for PVE is likely more diverse than the three coarse types outlined in section 5.2. Furthermore, the source of the heterogeneity needs to be

explained in future studies. What drives the direction of merger? Is the lack of case requirements making obliques more prone to be PVE? What allows a language to host non-oblique, given PVE? Questions such as these can only be meaningfully answered by taking the diversity PVE constructions into account.

Some of the OV languages with backgrounded PVE might be misclassified with respect to the exclusion criteria in section 5.3.2. Backgrounded PVE can also arise as an epiphenomenal effect of the result of directly preverbal focus via verb raising: Except for sentences with multiple foci, anything but the focus in the Foc–V string is backgrounded, leading to the impression that backgrounded material is placed postverbally, while that is merely an epiphenomenal effect to placing the focus preverbally (section 5.3.2). Especially Turkish might have been misanalysed in this regard since my consultants consistently report either verb focus or directly preverbal focus in sentences containing "backgrounded PVE", as well as pre=post effects in the order of adverbials. The cross-clausally displaced PVE in Turkish can, naturally, not be analysed as the result of verb movement (section 5.5.9). This would mean that Turkish is like Udmurt in employing at least two processes to derive PVE: leftward verb movement and rightward phrasal movement. Future research should determine whether backgrounding is merely epiphenomenal in other OV languages. Other candidates are the Indo-Aryan OV languages: the data on Hindi PVE did not control for the different IS status of the elements, which could have given rise to the muddled scope data in Mahajan (1997) and Simpson & Choudhury (2015). For Turkish, further potential differences between the two possible derivations should be sought.

A general conclusion is that the IS status of a PVE does not necessarily allow one to draw conclusions about how the PVE is derived. Rightward-moved PVE in Turkic are backgrounded, while rightward-moved PVE in Udmurt are topicalised (section 5.5.9). On the other hand, PVE in Hindi-Urdu also receive a backgrounded reading even though they are likely derived via verb raising (section 5.5.8). In other words, the derivational history of PVE does not allow for a conclusion regarding the associated IS status, and the IS status of PVE does not allow for a conclusion regarding their derivational history. Rightward phrasal movement is predicted to always be associated with some IS marking on the moved phrase, but the IS status cannot be predicted. The only homogeneous picture emerges with postverbal contrastive foci in Hindi, Dargwa, and Meadow Mari (section 5.4.2): they share their singular, clause-final position for contrastive focus. This is indicative of A'-movement. Future research will have to determine whether at least contrastive foci are structurally homogeneous.

The central theoretical problem of this part of the thesis was the one in (219).

(219) When a verb-final language features verb-medial orders, how can it be called a verb-final language?

Verb-finality is not at stake in languages where verb-medial orders (controlling for unmistakable verb movement) are more restricted than verb-final orders. In other words, verb-final order is the default order permissible in most contexts, whereas verb-medial order is an exception restricted to only a subset of contexts. Then, the default order is taken as the underlying or type-defining order. This final move of the argumentation is

merely founded in convention and can only be done by alluding to common practice: no one would claim that English is an 'optional OSV language' just because OSV surfaces sometimes; SVO is the default, and OSV is the exception.

The majority of verb-final languages are ones where PVE are exceptions: PVE have restrictions regarding their morphosyntactic category and/or IS function. Verb-medial are merely the exception in almost any case of IS-related PVE. For example, contrastive foci in Meadow Mari do not *have to* appear as PVE; they can also appear preverbally. Likewise, backgrounded PVE in Turkish do not *have to* appear as PVE. In both cases, verb-final order is still permitted and fully acceptable. On the other hand, neither Meadow Mari nor Turkish would allow an information focus as a PVE, meaning that verb-final orders occur in a superset of contexts in which verb-medial orders occur.

Using the default metric for type-defining orders above poses a problem for the languages with free variation between verb-final and verb-medial orders, such as Estonian and Udmurt extensively discussed in section 5.5. In these languages, verb-medial orders are essentially unrestricted. Therefore, verb-finality can only be ascribed to these languages as the derivationally underlying order. For Estonian and Udmurt, verb-final underlying order means the absence of rightward merge. The absence of rightward merge is indicated by the general absence of mirror-image effects and right-to-left scope (Estonian: 5.5.2, Udmurt: 5.5.4 and following). Underlying verb-finality also accounts for the presence of clause-final focus in Estonian and Udmurt (section 5.5.3): clause-final focus is originally directly preverbal focus in a verb-final construction; when the verb moves from its final position, the directly preverbal focus is stranded in clause-final position. Overall, the assumption of underlying verb finality provides a straightforward analysis of various PVE phenomena in Estonian and Udmurt. For Estonian, the differences are especially striking in comparison to its VO counterpart, Finnish, where verb-final orders are not the default (section 3.2.4), and where mirror-image effects occur (section 2.5.2). In general, the mirror-image diagnostic developed in section 2.3.3 and applied to PVE in section 5.2 proved its worth as a structural diagnostic.

The availability of free XV/VX variation is predicted from the framework presented in chapter 2, but only for underlying verb-final languages (section 5.5.8). The hitherto unexplored technical novum predicted from that framework is free leftward verb movement. Additionally, free verb movement has to be able to occur multiple times. That freedom is necessary to capture the distribution of verbs and verb particles in Estonian under the verb-final analysis presented here (section 5.5.2). Under the premise that word order variability comes for free and is merely restricted afterwards, this theory lacks the explanation of what prevents verb movement from applying freely in other languages. This is another future task.

In general, actual free variation is a rare find. Since extraordinary claims require extraordinary evidence, future research has to corroborate the finding of actual free variation. Just as 'non-configurational languages' were incorrectly characterised as featuring free variation, the same could be true for Estonian and Udmurt. What is clear, however, is the contrast of Estonian and Udmurt to 'Slavic free word order', where changing the position of the verb is associated with different IS readings, e.g., verb-final order in transitive clauses with full NPs is highly marked in being used for verb focus in at least

Russian (Kallestinova 2007), BCSM (Boban Arsenijević, p.c.), and Czech (Nina Adam, p.c.).

One way to avoid the question in 219 is Haider's theory of "Type 3" languages. Roughly speaking, that theory allows a language to be verb-final and verb-medial simultaneously. That theory was mainly discarded based on its false empirical and theoretical premises in section 5.6. The main empirical shortcoming of Haider's theory is that PVE would have to be a uniform phenomenon across all languages, not even just for OV languages, but for VO languages as well.

Wrapping up, OV languages are very heterogeneous when it comes to what can appear after the verb. The ends of the extremes seem to both be rare: there seem to be only a few rigidly verb-final languages without any postverbal elements, and there are also a few verb-final languages that freely allow for almost any postverbal element. It is a common trend of OV languages to only allow for given, referential postverbal elements. Postverbal elements in OV languages cannot receive a uniform analysis, not even within the same language. Multiple adverbials can be used as a diagnostic for the structure of postverbal elements in lieu of scopal data with multiple quantified NPs since the judgements are more transparent with adverbials, and the test is more universally applicable.

The upcoming final chapter will summarise the findings of the whole thesis and draw general conclusions.

6 Conclusions

The central aim of this thesis was to chart patterns of word order variability among OV languages to gauge the structural homogeneity of OV languages. Is it possible to infallibly predict a feature of the clausal syntax of a language just by knowing that it is an OV language? Based on the discussion of word order variability in this thesis, the answer is *no*. Even among the four OV languages from the same family mainly discussed in this thesis –Estonian, Udmurt, Meadow Mari, and South Sámi of the Uralic family –there is not enough homogeneity in word order variability. Estonian and Udmurt are on the extremely flexible end of the spectrum of word order variability to the point that their status as a verb-final language is called into question (Udmurt) or has to be established in the first place (Estonian) because they both exhibit actual free variation in verb placement relative to the constituents of the clause. South Sámi sits on the extremely rigid end of the spectrum, allowing for not much more word order variability than English and exhibiting unusual obligatory rather than optional alternations. Meadow Mari is somewhere in the middle of the spectrum: its word order variability among verb dependents is not much different from that of Estonian and Udmurt, lest less frequently employed, and its verb-finality is not called into question since verb-medial orders are clearly marked. The patterns on that spectrum, from flexible to rigid, are instantiated by further languages from other language families. Underlying verb-finality predicts mostly that the majority of elements is merged to the left of the verb, which is not much more than a non-informative tautology. Taken together, the extent of word order variability is governed by abstract properties independently from underlying verb finality, with the obligatoriness of subject movement (EPP) as a central explanans. Those independent properties ('parameters') lead to homogeneity. The following sections emphasise the key contributions of this thesis.

A-scrambling is a meaningful, cross-linguistically applicable concept united by altruistic fronting (chapter 3).*Altruism* means that the fronted element has no special information-structural role. The lack of information-structural marking differentiates A-scrambling from other reordering operations, such as topicalisation and contrastive fronting. A common instantiation of A-scrambling in OV languages is directly preverbal focus. This connection was not explicitly mentioned in discussions of word order variability in OV languages before. Placing focussed phrases directly in front of the verb, potentially close to the end of the sentence, drives A-scrambling because the elements preceding the focus need not have any special information-structural role. Directly preverbal focus is not universal to OV languages but is a common property of Eurasian OV languages. Preverbal focus is also not exclusive to OV languages, but it only drives A-scrambling in OV languages. Directly preverbal focus is thus a point of homogeneity among many OV languages. However, the realisation of directly preverbal

focus is heterogeneous. Borise (2019, 2023b) already showed that heterogeneous structures derive surface directly preverbal focus between and within the same language. The present thesis added further patterns of directly preverbal focus to the typology. Section 3.3 sketched a theory unifying A-scrambling and directly preverbal focus under the assumption of merge of focus as the sister of the relevant verbal element. That theory accounts for *prefocal loosening* (section 3.4.1.2), i.e., a lack of ordering restrictions among constituents in front of the preverbal focus. A further insight from the discussion of the Uralic languages is that it is not meaningful to characterise A-scrambling as pertaining to NPs alone since a focussed, directly preverbal adverb can also drive A-scrambling. In sum, A-scrambling driven by directly preverbal focus is a homogenous pattern of word order variability among unrelated OV languages. A-scrambling should be kept seperate from non-altruistic reordering processes. A-scrambling is largely homogeneous among Udmurt, Estonian, and Meadow Mari. Future theories of A-scrambling and directly preverbal focus have to account for the interplay of these two phenomena. Even if the central, abstract mechanism behind directly preverbal focus is the same in its different instantiations, directly preverbal focus is structurally heterogeneous (Borise 2019, 2023b). The homogeneous surface pattern is probably the result of 'convergent evolution', where different structures and mechanisms bring about the same phenotype. The actual uniting property behind directly preverbal focus and A-scrambling is likely to be found at the interface to prosody, where default word order is sacrificed for a well-formed and default prosody (Borise & Erschler 2023, Borise et al. 2022). Prospectively, it has to be investigated whether clause-final focus in VO languages is the same phenomenon as directly preverbal focus in OV.

Some OV languages lack A-scrambling (section 3.5). The lack of A-scrambling is clear in comparing the relatively rigid South Sámi, which does not allow for much more word order variability than English, to the other three Uralic OV languages. Further languages without A-scrambling include Dutch, Afrikaans, Amharic, and Korean. In all of these languages, object–subject order with an altruistically fronted object is not available. The proposed uniting property of these non-scrambling languages is obligatory subject movement to a functional specifier (EPP). The EPP forces the subject outside the VP such that any element preceding the subject must also be VP-external, preventing OS order from being A-scrambling. Therefore, non-scrambling languages should always show further signs of the EPP. This theory of word-order rigidity can be falsified by finding a non-scrambling language where the assumption of obligatory subject movement is not warranted. Furthermore, this theory implies that A-scrambling is not a universal property of OV languages, that the lack of the EPP is not a universal property of OV languages, and that head-finality is neither a necessary nor a sufficient condition for A-scrambling, such that languages with any underlying word order may feature A-scrambling. Future research has to determine whether lack of A-scrambling is always accompanied by further EPP effects. Furthermore, languages with an already established subject EPP should be probed for the availability of A-scrambling. This two-pronged attempt at falsification establishes the lack of A-scrambling as an easy diagnostic for the subject EPP. Should the EPP be responsible for the lack of A-scrambling, theories of A-scrambling that situate scrambling in TP in order to uphold a universal EPP are wrong.

Finally, VP-internal A-scrambling should be able to take place before subject movement takes place (Ad Neeleman p.c.). This process is a new explanation for the existence of easily available quantifier scope ambiguities with subjects in relatively rigid languages. That it occurs with subjects is important since quantifier scope ambiguities are usually reported for subjects, not between other co-dependents of the verb.

The typology of 'strong' and 'weak' features on the lexical verb extends to OV languages (chapter 4). South Sámi and Guébie feature SAuxXOV order. In South Sámi, the lexical verb stays in situ while auxiliaries move to a functional projection. This leads to an alternation between SAuxOV and SOV order. In Guébie, any verbal element moves to a functional projection. This leads to an alternation between SAuxOV and SVO order. The difference between South Sámi and Guébie is predicted to exist since the differing mobility of verbal elements is a common explanation for differences in adverbial placement between VO languages but had not been applied to OV languages before. As it stands, South Sámi would be the only clear instantiation of a language with SAuxOV–SOV alternation. In general, SAuxOV order is a poorly understood phenomenon that needs to be investigated further. A theoretical venue to pursue is the connection of SAuxOV with obligatory subject movement: every SAuxOV language in chapter 4 is relatively rigid in addition to featuring the rigid subject positioning. Another typological difference to investigate is what differentiates SAuxOV languages without free choice of the preverbal element from V2 languages with underlying OV order, where SAuxOV is also a possible order. A possible explanation lies in obligatory subject movement and the height of verb movement (cf. Fukui & Takano 1998, Holmberg 1998).

Postverbal elements in OV languages (PVE) are descriptively and structurally heterogeneous (chapter 5). This thesis provided the first typology of PVE. The restrictions on which categories appear as PVE can be ordered on an implicational hierarchy. That implicational hierarchy roughly correlates with the referentiality of the categories involved. When a language allows for non-referential PVE, any other PVE is also allowed. A cut-off point in that hierarchy is allowing for non-oblique PVE. When a language allows for non-oblique PVE, there are information-structural restrictions on PVE. Therefore, another typology concerning the information structure of PVE is presented. Given PVE (background, topic, contrastive focus) are a cross-linguistically common phenomenon. For all of these languages, PVE are marked constructions, not calling their status as verb-final languages into question. Against this background, a further central contribution lies in elucidating information-structurally unrestricted PVE in Estonian and Udmurt. In these languages, the verb-final and verb-medial orders appear in the same contexts, giving rise to free variation. The structure underlying this free variation is free verb movement from a verb-final base in both Estonian and Udmurt. This analysis is supported by the diagnostics of verb movement provided by Neeleman's framework laid out in chapter 2. It reveals that clause-final focus in Estonian and Udmurt is directly preverbal focus that was stranded under verb raising. However, verb-raising is not the only way to derive PVE. Rightwards merge and move are also required. The heterogeneity of PVE is one of the reasons why Haider's framework and concept of "type 3 languages" is wrong, where all PVE are derived in the same way (section 5.6. Overall, strict verb-finality is an exception since verb-final languages normally allow

for postverbal elements. Many unrelated OV languages are homogeneous in only allowing for given PVE. However, even if PVE have the same discourse function across languages, their structure can still be heterogeneous. Future research has to substantiate the at most preliminary PVE typology. This pertains to both the descriptive and the structural side. Furthermore, free variation in Estonian and Udmurt should be investigated further to falsify the findings of this thesis. The central theoretical question to be answered is what makes the different types of PVE available. What prevents the occurrence of non-oblique PVE in the less flexible languages? What allows Estonian and Udmurt to feature free verb movement while head movement is generally restricted? What restricts Estonian and Udmurt to lack rightwards merge while Dutch readily has it available? Why are many PVE restricted to the status of given elements? Answering those questions will bear on how directionality comes about in syntax.

Run-of-the-mill functional explanations are unlikely to account for the spectrum of word order variability. All four Uralic languages distinguish S and O by head marking (subject-verb agreement) and dependent marking (case), and they are agglutinating in featuring low rates of syncretism. All four languages exhibit differential object marking, but the most rigid language, South Sámi, even has the most restricted kind of differential object marking, where only non-specific plural objects are allowed to lack overt case. Likewise, Korean and Japanese are very similar in how they distinguish S and O in lacking subject-verb agreement but featuring an overt nominative case, but Korean is more rigid than Japanese. Another functional explanation could be sought in *blocking*, i.e., the availability of another strategy for a particular function prevents the use of word order variability for that function. South Sámi differs from Estonian and Udmurt in featuring 'radical pro-drop' or 'topic drop', while Estonian and Udmurt only allow for unrealised subjects. That alternative strategy for discourse management, dropping elements, could discourage the use of word order variability for discourse management. But then again, Korean and Japanese both feature 'radical pro-drop', and they both feature the alternative strategy of using discourse-related morphemes and still differ in how word order variability is employed. Allusions to processing are also likely to fail –the most common measure of processing complexity, dependency length, can hardly differ between these languages. That these run-of-the-mill functional explanations are unlikely to work does not mean that a functional explanation of these patterns is fruitless. However, any functional explanation will have to be more complex than the kind of "case–causes–freedom" explanations (also cf. G. Müller 2002).

A typologically minded person might ask why the present endeavour was not undertaken as a corpus study. At present, corpora and deductive fieldwork have to complement one another. Several detailed corpora studies on word order phenomena were taken as the basis for the discussion in this thesis, such as the studies on the distribution of datives and nominatives in German (Bader & Häussler 2010b, Verhoeven 2015) for clear-cut signs of merger hierarchies, studies on the distribution foci and of postverbal elements in Udmurt (Asztalos 2018, 2021), and the comparative study of postverbal elements in Uralic OV languages (Asztalos et al. 2017, Gugán & Sipos 2017). The corpus studies on Uralic languages controlled for various factors and carefully annotated discourse-related information. That level of detail for a single language can hardly be

achieved for a cross-linguistic comparison at the present moment. This is where Levshina's "token-based" and "gradient" approach to word order comes in (Levshina 2019, Levshina et al. 2023). Levshina's approach of computing the entropy between elements to measure how rigidly they are ordered is useful. However, those values cannot tell how the word order variability *came about*. In those studies, information structure is merely approximated by controlling for pronouns or unrealised arguments. This means that the main criteria for distinguishing between *types* of word order variability in this thesis (free variation, altruism, contrastive fronting) cannot be assessed. But those are only momentary restrictions. As more detailed corpora become available, future corpus studies should also be able to assess the information structure associated with word order variability. At the moment, it is more efficient to deductively elicit sentences or judgements for the structures of interest instead of hoping for the relevant structure to occur in a text naturally. Further caveats that have to be overcome are as follows: available text corpora as the ones used by Levshina (2019) commonly lack minimal pairs, such that it is not possible to know in which of several contexts a given word order would be viable, leading to a lack of negative data; they lack native-speaker comments and judgements, such that they can contain sentences that are not well-formed, leading to false positives; they lack long-enough sentences; they typically lack dialogue data, making it difficult to clearly pin down information structure; and finally, they often lack the kind of marginal, infrequent constructions that generative research is interested in. To conclude, a cross-linguistic corpus study of the information structure associated with word order variability should be part of future research, as in Asztalos et al. (2017) for postverbal elements.

The general contribution of this thesis lies in providing new data and documenting features of endangered languages. Future empirical research can build on these data, finding more detail, variation, and any misrepresentation. Future theorising now has more ground to cover and more material to work with.

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