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Ali Akbar Ansarin and Mohammad Reza Banan Khojasteh

Retention in Meaning-Based Vocabulary Instruction

Abstract

Vocabulary knowledge is said to play a prominent role in learning a foreign language (Schmitt 2008). There has been considerable debate about the most effective ways for developing learners' vocabulary knowledge. While researchers often claim incidental learning is slow and untargeted, it can supplement in the "contextual" types of word knowledge (Schmitt 2010). Other studies suggest that intentional acquisition is more effective than incidental acquisition (Nation & Meara 2002). There is little research on the effectiveness of various methods within the context of intentional vocabulary learning. In the present study, the effects of conveying meaning through synonyms, dictionary definitions, and context on acquisition and retention of vocabulary items were investigated. Eighty-one female intermediate students of English were taught forty-five vocabulary items using the three abovementioned methods. The results of two delayed post-tests showed that the context method yielded a higher rate of retention both in the immediate test and the delayed post-test compared to the other two methods. The findings of the study suggest pedagogical implications for the incorporation of effective ways of teaching the meaning of vocabulary items in syllabuses.

1. Introduction

Language learners are well aware that mastering a rich vocabulary of the target language is an important ingredient of successful language learning. Learners' needs and the usefulness of the vocabulary items generally determine which items are learned. The following two major types of vocabulary acquisition can be identified: incidental and intentional. Nation and Meara (2002) introduced the following three approaches to vocabulary acquisition: 1) meaning-focused input (listening and reading); 2) meaning-focused output (speaking and writing); and 3) deliberate vocabulary acquisition. Language instructors are tasked with identifying the most

effective way for teaching vocabulary (as well as other language skills) (Hulstijn 1992; de Groot 2006; Schmitt 2008). Therefore, this study aimed at investigating the effectiveness of meaning-based vocabulary instruction in enabling EFL learners to retain vocabulary items.

Researchers emphasize the effectiveness of explicit and intentional methods of vocabulary teaching compared to incidental ones (Schmitt 2008: 341). However, there has been a great debate regarding the most effective way to develop learners' vocabulary knowledge. Within the context of this debate, various pedagogical methods have been considered complementary rather than competing (Hulstijn 1992; Schmitt 2008).

Teachers must adopt a broader view of vocabulary knowledge in the process of vocabulary teaching and learning in an effective and principled way (Schmitt 2008). Among various kinds of word knowledge, teachers can refer to meaning, written form, spoken form, parts of speech, collocations, register, frequency, and associates. If you were to ask "What does it mean to know a word?", the average person might say it means knowing the meaning of the word and knowing how to spell it. At the initial stage, the form-meaning link is the primary aspect of vocabulary knowledge (Schmitt 2010). Laufer (1997) stated that learning a new word involves getting to know its form, word structure, syntactic pattern, meaning, lexical relations of the word with other words (such as synonymy), and common collocations. However, some factors affect the learnability of words, including pronouncibility, orthography, length, morphology, synformy (similarity of lexical forms), grammar (part of speech), and semantic features (such as abstractness, specificity and register, idiomaticity, and multiple meanings). Viewing the question from the perspective of receptive and productive knowledge, Nation (2001) asserted that knowing a word involves getting to know its form (spoken, written, and parts of speech), meaning (concept, referents, and association), and use (grammatical function, collocation, and constraints on use). Field (2003: 15) further argued as follows:

> …every content word appears to have close links to others … learning a new lexical item is not just a question of mastering the form of the item and associating it with a sense or range of senses. It is also linking the item to the whole network of previously learnt words.

It can be inferred that knowing a word is viewed as a continuum from word recognition to productive use. Several studies have examined retention in terms of inferencing from context, attention, conditions, L1 explanation,

incidental and intentional learning, and input modes. For example, Hulstijn (1992) compared the retention of words inferred from a context with words provided with glosses or sample sentences reporting that inferred words were better retained compared to given words, when certain cues were available. Joe (1995) found that attention to new words, retrieval, and especially use in novel contexts ("generation") contributed to word retention. He emphasized the importance of language output in incidental learning. Hulstijn et al. (1996) compared retention of new words in the following three conditions of conveying the meaning of words: through gloss, availability of an electronic dictionary, and control. Their study demonstrated that word frequency contributed to learning when reading was supported by gloss or dictionary. In another study, Laufer and Hill (2000) provided explanations of words in English, L1 translation, sound, root, and "extra" information to learners. They showed that the use of multiple dictionary information such as word explanation in English, L1 translation, sound and root reinforced incidental acquisition. In line with previous research, Hulstijn (2001) conceptualized the notions of incidental and intentional learning, asserting that although the distinction between them could be operationalized in research, such a distinction had no significance for word retention. Webb (2007) examined the effects of context on grammatical functions, syntagmatic association, paradigmatic association, orthography, and meaning and form by measuring receptive and productive knowledge of orthography, meaning, paradigmatic association, syntagmatic association, and grammatical functions. Brown et al. (2008) studied L2 vocabulary acquisition using the following three input modes: reading, reading while listening, and listening to stories. The lowest uptake was in the listening mode.

As Schmitt (2008) and Hulstijn (1992) observed, there is a dilemma in the selection of an effective approach for vocabulary instruction. Hence, the present study intended to investigate the effect of three different ways of conveying meanings of vocabulary items – namely, using context, using dictionary definitions, and using synonyms – on acquisition and retention.

2. Purpose of the study

In order to ensure that the research was in line with the established goals of the textbook used nation-wide in schools, this study compared the effect of three instructive approaches of conveying meanings (using synonyms, definitions, and context) on vocabulary acquisition (through immediate

tests) and on retention of the items (through delayed post-tests). This study investigated the following research questions:

1. Is there any difference among the effects of conveying meaning through synonyms, dictionary definitions, and context on *short-term* learning of vocabulary items?
2. Is there any difference among the effects of conveying meaning through synonyms, dictionary definitions, and context on *long-term* retention of vocabulary items?

3. Methodology

3.1 The participants

The participants were 81 female high school students around the age of 17 studying English as a general course in an EFL context. They were divided into 3 groups of 27; group 1 as the context group, group 2 as the definition group, and group 3 as the synonyms group. The English proficiency level of the participants was assessed (which turned out to be at the intermediate level) using a homogeneity test (Lesley et al. 2005) for comprehension and production.

3.2 Materials

Forty-five vocabulary items were selected to be taught to the participants. Two criteria were taken into account to choose these words. First, the items were chosen from the students' pre-university English textbook which they were supposed to cover the following year; therefore, need and motivation requirements (Oxford & Scarcella 1994) were met. Secondly, the selected vocabulary items were chosen based on their frequency in accordance with the Oxford 3,000 keyword list to comply with the 3,000 most common words English learners need to study. The words on the list were chosen with respect to the three criteria of frequency, range, and familiarity (The Oxford 3000™ 2013).

For the experiment, the context was restricted to single sentences taken from *Oxford Advanced Learner's Dictionary* (Hornby & Turnbull 2008); for example, for the target word "*value*", the sentence "*You'll find this map of great value in helping you to get around in Tehran*" was provided; or for the word "*urgent*", the sentence "*Look! That man doesn't*

know how to swim and needs urgent help" was given. However, some sentences were modified so that they did not include unknown words for the participants. Dictionary definitions, regardless of their length, were also taken from the same source. For the abovementioned examples, the definitions "*the worth of something in terms of money or other goods for which it can be exchanged*" (for the word "*value*") and "*requiring immediate attention or action*" (for the word "*urgent*") were provided. Unlike the context, these definitions were not modified by the researchers. Finally, the synonyms used to convey the meaning were taken from *Oxford Dictionary of Synonyms and Antonyms* (Spooner & Whitcut 1999). For the same target words mentioned above, the synonyms "*worth*" and "*necessary*" were provided.

The selected vocabulary items were divided into three parts (each containing 15 words). Three single-page handouts were constructed and given to students during the treatment. The handouts contained the same vocabulary items for each group; however, each handout used a different way of conveying meaning for the same word across the groups.

3.3 Procedures

Having verified the homogeneity of the groups, the instruction started by randomly assigning the classes to one of the three learning conditions of context, definition, and synonyms. A brief introduction on the importance of vocabulary and the use of respective methods was provided for the participants. Participants were told that they would be asked to learn 45 new English words; however, they were not informed about the immediate and delayed post-tests. The treatment was administered in three sessions; fifteen vocabulary items were taught to the participants during each one of these sessions. Each instruction session lasted for 30 minutes.

After the vocabulary items were taught, a test containing 15 multiple-choice questions was constructed and administered. It must be noted that the participants were not informed that they would be tested on the items being taught to them. The time allotted for each test was 15 minutes for each group.

Two delayed post-tests were administered to investigate the effect of teaching methods on retention of vocabulary items. The tests (each consisting of 15 multiple-choice questions) were constructed as a delayed post-test of the study and were administered 4 weeks and 8 weeks after the

immediate test. Similar to the immediate test, the time allotted for the delayed post-tests was 15 minutes for each group.

4. Results

4.1 Effect of different instructive approaches of conveying meanings

The first objective of the study was to compare the effect of three instructive approaches of conveying meanings (context, dictionary definition, and synonyms through an immediate test).

As Table 1 shows, in the immediate test, the context group outperformed the definition group and the synonyms group with a mean of 12.57 out of 15. The synonyms group also gained better results compared to the definition group with a mean of 10.26. The definition group scored the lowest with a mean of 8.41.

Table 1. Descriptive statistics of the independent groups on tests

Groups	N	Immediate Test Mean	Delayed Post-test 1 Mean	Delayed Post-test 2 Mean
Context	27	12.57	11.53	8.13
Definition	27	8.41	6.56	4.33
Synonyms	27	10.26	5.26	5.04
Total	81			

The mean differences among groups were statistically significant, i.e., the p-value for the groups was less than 0.05 probability of chance, and thus there was a statistically significant difference among the effect of instruction on vocabulary acquisition. See Table 2 for the details.

Because the differences in the immediate test were statistically significant, post hoc comparisons were applied. Based on Scheffé's post hoc analysis (1959), a method for adjusting significance levels in a linear regression analysis to account for multiple comparisons (as summarized in Table 3), the difference between the definition group and the synonyms group was not statistically significant. However, the difference between the context group and other groups was significant, as the p-values are less than 0.05.

Table 2. ANOVA Test for the significance of differences across the groups on the immediate test

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	328.988	2	164.494	21.771	.000
Within Groups	589.333	78	7.556		
Total	918.321	80			

Table 3. Scheffé's post hoc comparison of results among the groups (immediate test)

(I) Groups	(J) Groups	Mean Difference (I–J)	Std. Error	Sig.
Context	Definition	4.159*	.806	.000
	Synonyms	2.307*	.806	.020
Definition	Context	-4.159*	.806	.000
	Synonyms	-1.852	.827	.088
Synonyms	Context	-2.307*	.806	.020
	Definition	1.852	.827	.088

*) The mean difference is significant at the 0.05 level.

4.2 Retention of vocabulary items

The second phase of the research dealt with whether there was a difference among the effects of the selected methods of conveying meaning on retention of vocabulary items. Table 4 shows that the mean difference among groups on the delayed post-test 1 was statistically significant.

Table 4. ANOVA Test for the significance of differences across the groups on the delayed post-test 1

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	690.840	2	345.420	74.049	.000
Within Groups	363.852	78	4.665		
Total	1054.691	80			

Similar to the immediate test, the context group outperformed the definition group and the synonyms group with a mean of 11.53. The definition group also achieved better results than the synonyms group with a mean of 6.56. The synonyms group scored the lowest with a mean of 5.26. These data were already depicted in Table 1. The data were analyzed and revealed a significant difference across the groups in that there was a statistically significant difference among the effect of instruction on (short-term) retention of vocabulary items.

The delayed post-test 1 provided the answer for the second research question regarding whether there was any statistically significant difference among the effects of conveying meaning through synonyms, dictionary definitions, and context on the retention of vocabulary items. However, another delayed post-test was administered to further check the results.

In the delayed post-test 2, the context group outperformed the definition group and the synonyms group with a mean of 8.13 out of 15. The synonyms group also achieved better results than the definition group with a mean of 5.04. The definition group scored the lowest with a mean of 4.33. The results of the one-way ANOVA test, as shown in Table 5, confirmed the mean difference among groups in delayed post-test 2 with a significance value of 0.000.

Table 5. ANOVA Test for the significance of differences across the groups on the delayed post-test 2

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	241.407	2	120.704	18.367	.000
Within Groups	512.593	78	6.572		
Total	754.000	80			

The significant differences across the groups in all three phases of the research can be explained by the fact that there was a statistically significant difference among the effect of selected methods on long-term retention of vocabulary items. Since the mean differences in the immediate delayed post-tests were significant, post hoc comparisons were applied.

As mentioned before, in both delayed post-tests, the p-values for the groups were less than 0.05 probability of chance, so the difference among the effect of the types of instruction on vocabulary acquisition was confirmed statistically. Similar to the immediate test, the results for the context group was significantly different from the results for the definition group and the synonyms group, both in the delayed post-test 1 and the delayed post-test 2. Even though in the ANOVA test there was a mean difference between the definition group and the synonyms group, based on the post hoc analyses, the difference between these two groups was not statistically significant.

Figure 1. Performance in three methods of vocabulary instruction

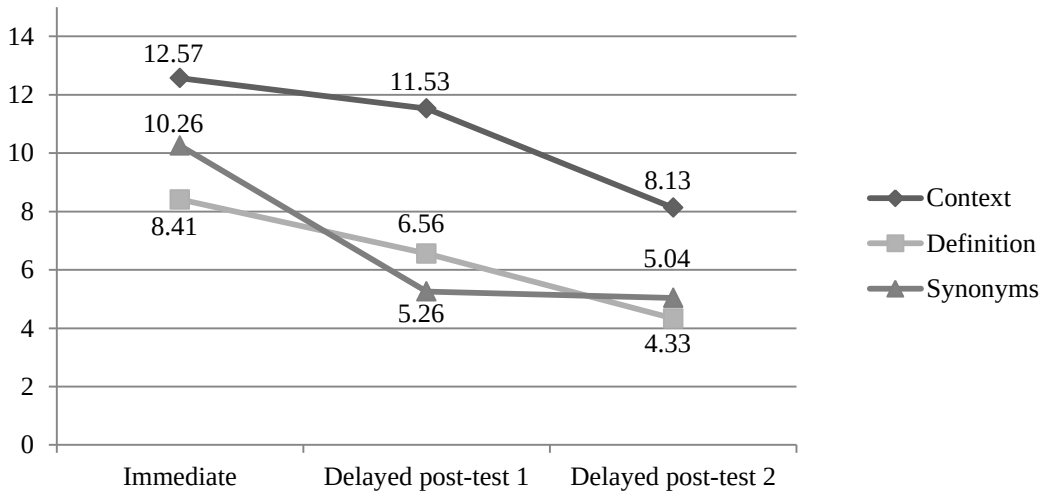

Figure 1 presents an overall view of the means of the immediate test and two delayed post-tests of the current study among the three experimental groups. Compared to the definition and synonyms methods, the context method produced a significant difference. The result indicates the effectiveness of this method of instruction in terms of vocabulary acquisition. Similar gains were observed on the delayed post-test, which is a sign of a durable learning.

3. Discussion

Vocabulary researchers are concerned with both short-term and long-term attrition (language loss that is gradual rather than sudden). According to Schmitt (2010), lexical knowledge is more likely to experience attrition compared to other linguistic aspects, such as phonology or grammar. Attrition happens during an invariant time period but in a systematic way when explicit engagement outperforms incidental engagement.

This study tested the vocabulary knowledge of the learners at recognition level, where learners were asked to choose the meaning of certain words on multiple-choice tests (rather than recalling or producing the target words). All three methods of conveying meaning (through synonyms, context, and dictionary definitions) had an effect on the acquisition of vocabulary. Along these same lines, Hulstijn (2001: 711) observed as follows:

> …an important element of fluent language use is automatic word recognition (in listening and reading) and automatic word retrieval (in speaking and writing). Words cannot be recognized if they are not known. The acquisition of a large vocabulary should, therefore, constitute a key element in any L2 curriculum.

Hence, it can be concluded that the learners knew the words on the tests, a result which demonstrated the effectiveness of instruction.

The results indicated that the context method had a more significant effect compared to dictionary definitions and synonyms. This can be interpreted as real and durable learning, suggesting the potential value of using the context method for higher retention of vocabulary items. Unlike Hulstijn (1992), where meaning explained by synonyms was the least effective task, in the present study the meaning explained by dictionary definitions, though not statistically significant, was the least effective task based on the comparison of means. This might be due, at least in part, to the length of the definitions learners had to keep in their minds compared to single-word synonyms and single-sentence contexts. The fact that the synonym method resulted in a relatively lower mean in the immediate test could be attributed to the effect of discreteness of the given word. The fact that the definition method resulted in the lowest mean in the immediate test can be due to the length of the provided dictionary definitions imposing a greater cognitive load on memory.

The results were also dissimilar to Webb (2007) in that there was no significant difference between the scores of subjects who met target words in a single glossed sentence and those who learned word pairs, suggesting that single glossed sentence context may have little effect on vocabulary knowledge. However, the present study defined vocabulary learning by a subject's ability to demonstrate knowledge of meaning and form as a word recognition activity.

The obtained results confirmed that learning did occur as a result of all three methods; that is to say, the instruction could be considered effective because the vocabulary items were taught by the researchers while conducting the study. The overall superiority of the context method can be attributed to the fact that words are not stored in the mind independently but are connected to previous knowledge (Field 2003).

The fact that the mean scores obtained in the delayed post-test dropped compared to the immediate test can be attributed to the loss of access to the meaning (Field 2003). The results of this study on the delayed post-test confirmed that forgetting (attrition) also occurred, although the degree to which this happened varied. On the immediate test, the students

in the context group were able to retain nearly 1.2 to 1.4 times as many correct words as students in the synonyms and definition groups, respectively. Moreover, the students in the synonyms group were able to retain nearly 1.2 times as many correct words as students in the definition group.

An overall comparison of the means showed a gradual loss for the context method, while the other two methods experienced a sharper loss on the delayed post-tests. In the first delayed post-test, the definition group achieved slightly better (though statistically insignificant) results.

4. Conclusion

This study compared the effects of three instructive methods of conveying meaning – namely, synonyms, dictionary definitions, and context – on acquisition (effectiveness of the method) and long-term retention of English vocabulary items among female third-grade high school students.

In general, the ANOVA test revealed a statistically significant difference among the three instructive approaches. Scheffé's post hoc comparison of the results among the groups in both the immediate and delayed post-tests showed that the context group outperformed the definition group and the synonyms group (with significant p-values).

Overall, it appears that the reason the definition group had the lowest mean was due to the length of the dictionary definitions presented to the learners. The synonyms group achieved a relatively higher mean compared to the definition group due to the fact that the provided meanings were in the form of single words (the shortest among the three groups). Finally, the context method proved to be the most effective method in vocabulary instruction. In other words, conveying meaning through context is a more effective way of teaching vocabulary than dictionary definitions and synonyms.

Emphasizing the role of vocabulary knowledge in an EFL context, it is speculated that recycling and revision activities should be included in vocabulary acquisition programs. Moreover, syllabuses should be designed in a way that recycling occurs within the retention period so that the amount of vocabulary loss is reduced. It is believed that learners are likely to welcome various activities in their classes, assuming these activities are relevant and appropriately contextualized. It is further suggested to include recycling activities – including vocabulary games, explicit review sessions,

and the incorporation of previously taught vocabulary in example sentences – into vocabulary learning curricula.

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Microtypology and the Tsezic Languages: A Case Study of Syntactic Properties of Converbal Clauses

Abstract

This paper analyzes the syntactic properties of adverbial clauses in the Tsezic languages, a group of five to six languages from the Nakh-Daghestanian language family (Caucasus, Russia). These languages make heavily use of converbs and other non-finite verb forms in order to form complex sentences. The syntactic analysis presented builds on Bickel's (2010) variables for the investigation of clause-linkage patterns and is based on data from natural texts. I mainly focus on coreference, scope properties, word order and extraction. Despite being closely related and syntactically rather similar, the Tsezic languages show some variation with respect to coreference and zeros in converbal clauses. This paper thus confirms the validity of microtypological studies and positions Tsezic converb constructions within a cross-linguistic typology of complex sentences.

1. Introduction

The Tsezic languages are a group of closely related languages that form one branch of the Nakh-Daghestanian language family (Russia). They can be divided into East Tsezic, comprising Hunzib and Bezhta, and West Tsezic, comprising Khwarshi, Tsez and Hinuq. The languages are dependent-marking and have absolutive, ergative, genitive and a few other grammatical cases, depending on the language in question, as well as a large number of spatial cases. Their word order is predominantly head-final, but other orders are also admissible. Especially in main clauses the verb often occurs in positions other than the final position. The word order in subordinate clauses is more restrictive, e.g. in Hinuq and Tsez relative clauses only verb-final order is allowed. Most simple main clauses are headed by one of three predicate types: (i) intransitive predicates with at least an S argument, (ii) transitive predicates with at least an A and a P

argument, and (iii) affective predicates with at least an experiencer argument and a stimulus argument. The case marking of S, A, and P arguments is the same for all five languages and as expected for languages with ergative morphology, i.e. S and P must be in the absolutive case, and A must be in the ergative case. The stimuli arguments of affective verbs are also identically marked in all Tsezic languages; they must bear the absolutive case. The marking for the experiencer, however, differs from language to language. It can be dative (Hinuq), lative (Tsez, Khwarshi, Bezhta) or IN-essive (Hunzib).

Gender is a central grammatical category. In all Tsezic languages, nouns can be divided into four or five genders, which are usually not marked on the noun. But many if not most of the vowel-initial verbs have prefixes that express agreement with their nominal (and clausal) absolutive arguments in gender and number.

Tsezic languages have a comparatively rich inventory of verb forms employed in subordinate clauses such as participles, converbs, and verbal nouns. The participles are mainly employed for relative-clause formation, but also in a few complement clauses and occasionally in adverbial clauses. In the latter use they often bear case suffixes. Verbal nouns, i.e. the infinitive and the masdar, occur in complement clauses. Converbs are almost exclusively used in adverbial clauses. They express temporal (e.g. *before, while, after*) or non-temporal (e.g. *because, although, in order to*) meanings. In addition, clauses with 'contextual' (i.e. semantically vague) converbs are the main translation equivalents of clauses linked by coordination in most European languages. All Tsezic languages have more than a dozen of these converb forms.

Although the converbs cannot function as the heads of independent main clauses, they share some properties with predicates of main clauses. First of all, agreement is fully preserved, i.e. converbs and main clause predicates always agree with the argument bearing the absolutive case. Second, converbs preserve their valency frame. Furthermore, a few converbs are also used for the formation of periphrastic verb forms, e.g. the Hunzib perfective converb also occurs in the perfect, the pluperfect and the evidential perfect (van den Berg 1995: 101–105), and the Tsez imperfective converb is employed for various progressive verb forms. At least in some Tsezic languages the imperfective and the perfective converbs are homophonous with and most probably diachronically related to verb forms heading independent main clauses. Thus, the Hinuq and the Tsez imperfective converb suffixes have the same phonological shape as the

simple present tenses in both languages. Imperfective converbs and simple present tenses can be distinguished on functional grounds; however, the distinction is rather weak. Therefore, it has been argued that the finite/non-finite dichotomy familiar from European languages, is not suitable for the analysis of Nakh-Daghestanian languages (cf. Kalinina & Sumbatova 2007; Creissels 2009; Forker 2011; Forker 2013).

In this paper, only the syntactic properties of adverbial clauses containing various sorts of converbs will be analyzed, namely coreference, scope properties, word order and extraction. I will adopt Bickel's (2010) variables for the investigation of clause-linkage patterns and place Tsezic converbs within a cross-linguistic typology of complex sentences. For detailed information on the morphology and the semantics of Tsezic converbs see Comrie, Forker and Khalilova (2012).

The paper is based on data coming mainly from the analyses of corpora. Since at the current moment I have only corpora of four Tsezic languages at my disposal, I will largely restrict myself to Hinuq, Tsez, Bezhta and Hunzib with merely a few occasional remarks on Khwarshi. The Hinuq corpus is currently unpublished. It has been gathered by the author and contains around 43,000 words. The Tsez corpus has been published in Abdulaev and Abdullaev (2010). Around 42,500 words of this corpus have been glossed by André Müller, and have been employed for this paper. The Bezhta corpus (around 38,000 words) consists of the memories of Šeyx Ramazan, written down by himself at the end of the last century, translated and edited by Madžid Xalilov and glossed by myself. Finally, the Hunzib corpus has been published as van den Berg (1995) and contains around 9,000 words.

The paper is organized in the following way: In Section 2 I start with a short introduction to a recently proposed typology of clause linkage on which the body of this paper is based. In Section 3 coreference and disjoint reference are treated. Section 4 treats scope properties and Section 5 word order and the possibility of extraction. Section 6 contains the conclusion.

2. Tsezic adverbial clauses within a broader typology of clause-linkage

Instead of making the traditional coarse-grained distinction between subordination and coordination, or even the slightly more comprehensive distinction of subordination, cosubordination and coordination (cf. Foley & Van Valin 1984), Bickel (2010) proposes a fine-grained typology of clause-

linkage patterns. Due to the lack of sufficient data for the other Tsezic languages, I discuss this typology only with regard to converbs in Hinuq, more precisely with regard to the narrative, the anterior and the posterior converb. Bickel's typology consists of eleven variables, which are displayed in the first column of Table 1. A short description is given in the second column of the same table. More detailed information can be found in Bickel (2010).

Table 1. Clause-linkage patterns of three Hinuq converbs

Variable	Description	Narrative / Anterior, posterior converbs
Illocutionary scope	Which clauses fall within the scope of illocutionary force operators?	local / extensible
Illocutionary marking	Can the dependent clause contain illocutionary force operators?	banned
Tense scope	Which clauses fall within the scope of tense operators?	conjunct
Tense marking	Can the dependent clause contain tense markers?	banned
Finiteness	Does the dependent clause express fewer (non-finite) or the same number (finite) of categories?	non-finite
Symmetry	Can the range of expressed categories in the dependent and in the main clause be different or not?	asymmetrical
WH	Are question words and the focus enclitic inside dependent clauses allowed or not?	ok
Extraction	Is extraction of elements of dependent clauses allowed?	banned
Focus	Can the focus marking appear on the dependent clause?	ok
Position	Can the dependent clause appear before and after the main clause? Can it be separated by other clauses?	flexible-relational
Layer	Can the dependent clause be center-embedded?	AD-V (adjoins to the predicate)

The first two variables concern illocutionary scope and marking. The scope of the illocutionary force markers, i.e. imperative and interrogative suffixes, depends on the type of illocutionary force, and on the converbs (see Section 4 below), but they are either 'local' (i.e. restricted to the main clause) or 'extensible' to both the main clause and the adverbial clause. The marking appears exclusively in the main clause (i.e. 'banned' from the

converbal clause). For example, (1a) consists of a narrative converb clause and a main clause with the verb bearing an interrogative marker. This example has two interpretations: one in which the interrogative suffix has only the main clause in its scope and one in which it has both the adverbial clause and the main clause in its scope. In contrast, the interrogative suffix in (1b) does not have scope over the adverbial clause headed by the posterior converb. Furthermore, interrogative enclitics are not allowed in adverbial clauses.

(1) Hinuq

a. [*xok'o-be=n* *r-uː-n*] *Madina* *maduhal-de-do* *y-iƛ'i-ye?*
khinkal-PL=and NHPL-do-CVB Madina(II) neighbor-ALOC-DIR II-go-Q
'Did Madina make khinkal and go to the neighbor?' or 'Having prepared khinkal did Madina go to the neighbor?'

b. *ked-i* [*idur*(=**e*) *y-aq'e-yƛ'or*] *jašik'* *y-aɣi-me?*
girl(II)-ERG home(=Q) II-come-POST box(IV) IV-open-Q.NEG
'Did the girl open the box before she came home?'

Tense marking is (almost exclusively) 'banned' from the adverbial clause, and the tense scope is 'conjunct', that is, the tense marking in the main clause extends to the adverbial clause. For instance, the interrogative suffixes in (1a, b) express also past time reference which extends to the whole sentence including the adverbial clauses. The only exceptions are conditional converbs (see example (15) in Section 4 below).

From this it is clear that adverbial clauses express fewer categories than main clauses and are therefore in Bickel's terminology 'non-finite' and 'asymmetrical'. Question words and focus markers can occur in adverbial clauses (2a). Extraction of elements out of the adverbial clauses is not allowed (2b).

(2) Hinuq

a. *Šamil* [*se* *qaƛe-n* *idudo*] *Ø-iƛ'i-yo?*
Shamil(I) what sing-CVB home I-go-PRS
'Shamil is going home singing what?'

b. *[*hału* *sumka-ma* _ *gor-no*] *ƛax-a* *gom* *xemu*
this.OBL bag-IN ABS put-CVB tear.up-INF be.NEG stone
(Intended meaning: 'When you put a stone into this bag, it will not tear up.')

The position of the adverbial clauses is variable ('flexible-relational'), e.g. in (1a) appears before the main clause, and in (3) after the main clause. As examples (1b) and (2a) show, adverbial clauses can also be center-embedded ('adjoined to the predicate').

(3) Hinuq

hadbe	*bat'i-bat'iyaw*	*raq-ma-do*	*b-iƛ'i-š=eƛ*	*buƛe*
3PL	different	direction-IN-DIR	HPL-go-PST=NARR	house

yoƛu.koka-qo-r=no	*kur-no*
cindarello-AT-LAT=and	throw-CVB

'They went away into different directions, leaving the house to cindarello.'

Hinuq converbs show thus only minor differences in their behavior. When comparing them with the construction analyzed by Bickel, the result is that there are no constructions in that sample that are completely identical to the Hinuq converbs. This fact justifies this fine-grained, bottom-up typology and enriches it with further data. The constructions that most closely resemble Hinuq adverbial clauses are chaining constructions and temporal converb constructions in the distantly related Chechen language (cf. Molochieva 2008), but also converb and purposive constructions in Belhare, constructions with adverbial participles in Russian and German purposive constructions with *um zu* and *ohne zu*.

However, there is one interesting variable missing in Bickel's typology, namely coreference (and zero arguments), which will be analyzed in the following section. This is a feature where Tsezic converbs show some variability and behave clearly differently from European languages such as English and German.

3. Coreference

Tsezic languages can be described as pro drop. Whenever speakers assume that hearers can retrieve the referents of the arguments from the contexts of utterances, they leave them out. Therefore, looking into corpora one can easily find sentences lacking either the subject-like argument (4a) or all arguments (4b).

(4) a. Hunzib

[*r-oxče-n=no*] *kaɣár* *quwo-n* *li*
V-take-CVB=and letter(V) read-CVB be.V
'Having taken the letter, (the woman) read it.' (van den Berg 1995: 227)

b. Hunzib

"r-uw-á"=ƛe *nɨsə-n*
V-do-INF=QUOT say-CVB
' "(I will do (that)," (the woman) said.' (van den Berg 1995: 226)

In general, it is much more common to leave out overt arguments than to use pronouns. For example, a count of 661 S, A and P arguments in Hinuq texts brought the following results: 290 (i.e. 44%) of the arguments were zeros, 240 (i.e. 36%) lexical NPs, and only 131 (i.e. 20%) pronouns.

Zeros are mostly interpreted as definite, e.g. in (4a) and (4b) the hearer is assumed to know the unique referent of the omitted arguments. However, occasionally zeros can be indefinite. Thus, in (5) the hearer is not assumed to know who has murdered the saint crow. It is clear that someone must have killed it, but since the identity of the murderer is unknown, it is not important. Such sentences are similar to impersonal passives.

(5) Hinuq

hoboži *Malla* *Rasadan* *kutakalda* *Ø-aː-n* *"di* *šayix*
then Mullah Nasredin(I) strongly I-cry-UWPST 1SG.GEN saint(III)

b-uher-no=ƛen"
III-kill-UWPST=QUOT
'Then Mullah Nasredin strongly cried, "My saint was killed." '

3.1 Zero and overt arguments in converbal clauses

By far the most typical way to express coreference between arguments of a converbal clause and arguments of the corresponding main clause is zero, i.e. one (i.e. either converb clause or main clause) or even both clauses do not have overt coreferential arguments (zero anaphora and zero cataphora). This corresponds to the typical way of reference tracking in Tsezic; speakers tend to drop overt arguments if they can be understood from context (6).

(6) Bezhta

[*huliʔ-is* *ataa=na* *m-eƛ'e-na*] *hiłbaxo-yo* *xabar-li-ƛ'a*
there-ABL far=and HPL-go-CVB stay.PL-WPST story-OBL-SPR
'Going away from there (we) stayed for a talk.'

If there are overt pronouns, then they occur (almost) exclusively in the main clause, preceded by the coreferential NP in the converb clause (7).

(7) Tsez

[*esiw*$_i$ *y-ay-run*] *neła*$_i$ *mi* *Ø-exur-a* *yoł*
sister(II) II-come-IMANT 3SG.FEM.ERG 2SG I-kill-INF be
'As soon as my sister comes back, she will kill you.' (Abdulaev & Abdullaev 2010: 150)

If a preceding converb clause contains a pronoun, this cannot be coreferent with a subsequent full NP, thus pronominal cataphora is generally excluded. This constraint is fairly robust in elicitation (8). Note that in familiar European languages pronominal cataphora in adverbial clauses is grammatical.

(8) Khwarshi

*[*žu*$_i$ *Ø-ot'q'-aƛa*] *Nazir*$_i$ *q*^{w}*aq*^{w}*aƛ-še* *Ø-eč-i*
3SG I-come-ANT Nazir(I) laugh-IPFVCVB I-be-WPST
'When he$_{*i/j}$ came Nazir$_i$ was laughing.'

However, under certain circumstances it seems that this constraint can be overridden. Example (9) from Tsez consists of an adverbial clause headed by the anterior converb (and containing two relative clauses), followed by a quote and a main clause framing the quote. The pronoun *yisir* '3SG.MASC.LAT' and the proper name *Bac'ali* refer to the same person, and the pronoun in the adverbial clause precedes the main clause. I assume that it is the long distance between the pronoun and the proper name which makes the coreference in (9) possible.

(9) Tsez

[*suƛƛi* *yisir* [*boc'-zo* *k'icaza-ł* *šiš-äsi*]
suddenly 3SG.MASC.LAT wolf-GEN tooth.OBL.PL-CONT get.stuck-PTCP

ɣˤit'a=n [*hut'za-q=gon* *tut-äsi*] *iyo=n*
goat.wool=and jaw.OBL.PL-AT=CNTR be.stained-PTCP blood=and

b-ukay-nosi] *"hay malˤun, mi=wa dey čanyabi*
III-see-ANT hey villain 2SG=Q 1SG.GEN she.goat.PL

r-ac'-no"=ƛin, *Bac'ali* *boc'-ƛ'o-r* *Ø-oq-no*
NHPL-eat-UWPST=QUOT Batsali(I) wolf.OBL-SPR-LAT I-be-UWPST
'Suddenly, when he$_i$ saw the goat wool stuck between the wolf's teeth and the blood staining on its jaws, Batsali$_i$ began on the wolf: "So then, you villain, have you eaten my goats?" ' (Abdulaev & Abdullaev 2010: 192)

If the order of converb clause and main clause is reversed, then Bezhta and Tsez allow for pronominal cataphora (10a) whereas Khwarshi and Hinuq still ban it (10b). But note that these examples have been elicited. I was not able to find any corpus examples similar to (10a) or (10b).

(10) a. Bezhta

hogo$_{i/j}$ *y-uɣo-s* [*Žamilati$_i$* *äč'enayig=na* *iłna* *ƛi*
3SG.FEM II-die-PRS Zhamilat.ERG ninety=and six year

ömrö=nä *b-oh-na*]
life(III)=and III-do-CVB
'After Zhamilat$_i$ had lived for 96 years, she$_{i/j}$ died.'

b. Khwarshi

žu$_{j/*i}$ *q^{w}aq^{w}aƛ-še* *Ø-ečI* [*Nazir$_i$* *Ø-ot'q'-aƛa*]
3SG.MASC laugh-IPFVCVB I-be-WPST Nazir(I) I-come-ANT
'He$_{j/*i}$ was laughing when Nazir$_i$ came.'

If the pronoun is left out in examples such as (10a–b), then coreference is impossible. If the order of main and converb clause is changed such that the adverbial clause lacking the overt argument precedes the main clause containing the overt NP then coreference is normally the first available interpretation (11a). But again, disjoint reference would also be possible if the context allows for such an interpretation. For instance, in example (11b) two adverbial clauses with no overt A precede the main clause, which contains an overt S. As clear from the context of the story, A and S arguments are not coreferential.

(11) a. Hunzib

[_$_i$ *homhoɬi-lα-α* *ogu=n* *bədaa* *raħátalda* *gil-en*] *bodu*
ERG coolness-OBL-IN 3SG.FEM=and so to.rest put-CVB this

ilbis$_i$ *b-ut'-un* *lo* *q'ere*
demon(IV) IV-sleep-CVB be.IV down
'Having put her down to rest in the fresh air, the demon lay down there too.' (van den Berg 1995: 159)

b. Hinuq

[*ižey* *r-aqi-n*] [*r-aɣi-ƛ'or*] *haw* *šayt'an-za-s* *aqili,*
eye(V) V-close-CVB V-open-POST that devil-OBL.PL-GEN woman(II)

pička *y-iɬi,* *aldoɣo-s* *t'aʕazi* *y-iq-o*
match(IV) IV-similar in.front-ABL disappear II-be-PRS
'(He) closes his eyes and until (he) opens (them) again, the devil woman disappears from there like a match.'

To sum up, pro drop is common in main as well as in adverbial and other types of subordinate clauses. Coreference is normally established by dropping one or more arguments, but pronouns may be used as well. There are almost no syntactic constraints on the establishment of coreference. In elicitation, pronouns in adverbial clauses cannot be coreferent with full NPs in subsequent main clauses (8), though this restriction may be overridden in actual texts (9). The only hard constraint concerns pronouns and zeros (for the relevant example with a zero argument see Comrie, Forker & Khalilova 2012: 178). They may never occur in a preceding main clause and at the same time express coreference with a full NP in a subsequent adverbial clause (10b). This constraint is known as the 'precede-and-command' rule, i.e. pronouns and zeros cannot precede and command NPs (e.g. Lasnik 1976; Reinhart 1981).

3.2 Coreference (and disjoint reference)

Tsezic converb constructions lack coreference or disjoint reference constraints for arguments of converbal clauses, as it is typical of Nakh-Daghestanian languages (see Haspelmath 1995 on Lezgian or Creissels 2010, 2012 on Akhvakh). Disjoint reference is (almost) always possible. The only apparent counterexamples are out-of-context elicited sentences consisting of a perfective/narrative converb clause and a main clause (12). In elicitation, such sentences are judged as odd because the use of the

perfective/narrative converb pragmatically implies that the situation described has some connection with the situation described in the main clause. Such a connection is naturally given if both clauses share one or more arguments.

(12) Hunzib

*[*αbu-l* *baba=n* *m-uq-un*] *kid* *y-ẽƛ'e-r*
father-ERG bread(IV)=and IV-eat-CVB girl(II) II-go-PRET
'After father had eaten the bread, the girl went away.' (van den Berg 1995: 96)

However, even the perfective/narrative converb allows for certain arguments with disjoint reference, if the clauses share other arguments or adjuncts instead (13a), or if other adjacent clauses contain shared arguments or adjuncts, or if it is clear from the context that the situations described are connected and coherent (13b). Such examples are not very typical for the perfective/narrative converb, but nevertheless well attested in all Tsezic languages (see Table 2 below).

(13) a. Tsez

[*nesiqo-si*$_i$ *šeƛ'u* *łi-y-ä=n* *r-iž-in*], *ža*$_i$,
3SG.POSS-PRT clothes(IV) water-OBL-ERG=and IV-take-CVB 3SG

howlo=tow *adoru* *ƛex-asi,* *dow-däɣor* *nex-a*
there=PRT naked remain-PTCP 2SG.OBL-APUD.VERS come-INF

Ø-oqin-č'ey
I-enter-UWPST.NEG
'The water carried his clothes away; he remained naked there and could not come to you.' (Abdulaev & Abdullaev 2010: 32)

b. Tsez

[*ƛe=n* *b-ˁoƛ'u-n*] *dahaw* *šebin ƛexu-s* [*Goqi*
bridge(III)=and III-fall-CVB little thing remain-WPST Goqi(I)

łi-y-ä *Ø-iž-ani-r*]
water-OBL-ERG I-carry-MSD-LAT
'The bridge fell down and Goqi was almost carried away by the water.' (Abdulaev & Abdullaev 2010: 32)

In general, tendencies for sharing or not sharing arguments and/or adjuncts across adverbial and main clause depend on the lexical meaning of the converb. As just illustrated, the perfective/narrative converb, which is

mainly used in clauses with a meaning that is very similar to coordination in European languages, has a strong tendency toward shared referents. The same holds true for purposive converbs with the meaning ‘in order to’, in which the covert subject is controlled by either the subject-like or the object-like argument of the main clause. In contrast, most other converbs tend to have arguments with disjoint reference. For some converbs, the tendency for arguments and/or adjuncts with disjoint reference can be so strong that it is hardly possible to find shared ones. The Hunzib anterior converb -(*V*)-*nsə* has even been named “SWITCH” (i.e. “switch reference”) by van den Berg (1995: 95–96) since in all its occurrences in the Hunzib corpora it does not share the subject with the main clause. However, in elicitation shared subjects or other shared arguments could be approved (van den Berg 1995: 96).

In order to get a better picture of coreference as attested in natural texts, I counted coreferential subjects and subjects with disjoint reference, (i.e. S, A, and experiencer arguments) of three different converbs in the Hinuq, Tsez, Bezhta and Hunzib corpora. I restricted myself to subject-like arguments because they are far more frequent than any other argument types, and I chose the most frequent converbs with clearly distinguishable semantics:

– the perfective/narrative converb (‘after, and’): Hinuq -*n*(*o*), Tsez: -*n*(*o*), Bezhta -*na*, Hunzib -(*V*)-*n*

– the anterior converb (‘after’): Hinuq -*nos*, Tsez -*nosi*, Bezhta -*nas*, Hunzib -(*V*)-*nsə*

– the posterior converb (‘before’): Hinuq -*ƛ’or*, Tsez -*zaƛ’or*, Bezhta -*cal*, Hunzib -*čor*

The perfective/narrative converbs and the anterior converbs are clearly cognate across all four languages. The posterior converbs in all four languages diachronically contain the lative suffixes (-*r* and -*l*). The Hinuq and Tsez suffixes are cognates, and probably the Bezhta and Hunzib suffixes as well.

I counted 100 clauses with the perfective/narrative converbs in each of the languages, and up to 50 anterior and posterior converbs, depending on the available examples from the corpora. The results are displayed in Table 2. As can be seen in this table, the perfective/narrative converbs behave in a strikingly similar way across all four languages, with Bezhta having somewhat more subjects with disjoint reference. With regard to the anterior converb, there is a clear split between the East Tsezic languages Bezhta and Hunzib and the West Tsezic languages Hinuq and Khwarshi. The East

Tsezic languages do not extensively employ these converbs; especially the Hunzib corpus in particular provides only three examples of the anterior converb, and these examples show an overwhelming tendency for subjects with disjoint reference (remember that this converb was even termed "SWITCH" in the Hunzib grammar). In contrast, the West Tsezic languages make extensive use of the anterior converb (e.g. the Hinuq corpus contains around 150 occurrences) and they show only a slight tendency for subjects with disjoint reference. As for the posterior converb, all languages have more examples of subjects with disjoint reference than of subjects with shared reference, though to different degrees. Again the Hunzib corpus contains the fewest examples, which can be explained by its size, since it is around four to five times smaller than the other corpora.

Table 2. Coreferential subjects and subjects with disjoint reference

	Perfective / narrative converb		**Anterior converb**		**Posterior converb**	
	same subject	disjoint reference	same subject	disjoint reference	same subject	disjoint reference
Hinuq	81	19	22	28	11	31
Tsez	81	19	21	29	7	35
Bezhta	66	34	4	24	14	36
Hunzib	80	20	0	3	0	6

If arguments in the converb clause and arguments in the main clause are coreferent, then it is mostly S, A, or the experiencer of the main clause that functions as a cataphor for some argument of the converb clause. However, it may also be a possessor, a local adjunct or some other non-argument type.

Occasionally, one finds partial coreference between arguments and/or adjuncts of main and adverbial clause. Thus, in (14) the referent of the S argument of the main clause, *ziru* 'fox', is partially identical with the referent of the pronoun *yeda* '3PL' and of the zero in the preceding perfective converb clauses.

(14) Tsez

[*howlo* *lilyo-x=tow* *yeda=n* *xeci-n*] [*xan-der=n*
there bank-AD=PRT 3PL=and leave-CVB khan-APUD.LAT=and

b-ik'i-n] *ziru* *c'ok'inay-n*
HPL-go-CVB fox scold-UWPST
'When they left the river bank there and went to the king, the fox scolded.' (Abdulaev & Abdullaev 2010: 32)

4. Scope properties: Tense, evidentiality, illocutionary force, and focus

Converbs do not specify absolute temporal reference by themselves, but only relative (i.e. after, before or simultaneous) temporal reference. Similarly, they are usually not specified for aspect, evidentiality, or illocutionary force. With respect to these features, converbs rely heavily on the predicate in the main clause, which alone can have tense, evidentiality, and illocutionary force marking. For instance, in example (14) above the main clause predicate bears past tense marking and the evidentiality value 'unwitnessed by the speaker'. This marking bears scope over the whole sentence, such that the two adverbial clauses also get past time reference and the evidentiality value 'unwitnessed' although they do not contain any marking.

The only exceptions to this rule are conditional converbs (at least in Bezhta and Hinuq). In a realis conditional construction, the protasis normally has future or present time reference. If one wants to express past time reference in the protasis, the lexical verb must be non-finite (e.g. a narrative/perfective converb or a resultative participle), and has to be followed by an auxiliary verb with the meaning 'exist' or 'be probable' marked by the conditional converb suffix (15).

(15) Hinuq

[*iyo-y* *huł* *konfetbe* *r-ux-iš* *r-ese-yo*]
mother-ERG yesterday chocolates NHPL-buy-PTCP NHPL-be.probable-COND

de *hagbe* *čay-mo-de* *r-ac'-a* *gol*
1SG.ERG those tea-OBL-ALOC NHPL-eat-INF be
'If the mother bought chocolates yesterday, I will eat them with tea.'

In complex sentences the scope of illocutionary force operators (interrogative and imperative suffixes) often depends on the meaning of the

converbs involved and on the loci of the operators. In most naturally occurring examples in *wh*-questions, the scope is the whole sentence, including the main and the converbal clauses, but it can also be the main clause only. In Hinuq, it is possible to have an interrogative enclitic in adverbial clauses, in which case again the whole sentence is in its scope, but only the adverbial clause or a constituent of that clause is in focus.

Imperative illocutionary force can either be restricted to the main clause or else, with the appropriate converb both adverbial and main clauses can fall within imperative illocutionary force. In the following example, the imperative suffix in the main clause does not have scope over the conditional converb, which is typical for converbs with conditional semantics. In contrast, the narrative converb can be interpreted as either being inside the scope of the imperative suffix (first translation) or as being outside (second translation).

(16) Hinuq

[*nagaħ*	*debez*	*de*	*q'waraʕezi*	*b-iq-o*]	[*b-ux-no*]	*hes*
if	2SG.DAT	1SG	need	III-become-COND	III-take-CVB	one

mus	*b-ek'wer-o!*
hair(III)	III-burn-IMP

'If you need me, take one hair and burn it!' or 'If you need me, having taken one hair, burn it!'

Hinuq, Bezhta and Tsez, the only Tsezic languages with identifiable focus enclitics, allow the focus enclitics to occur in converbal clauses, where they normally take scope over the whole clause (17).

(17) Bezhta

[*Ø-äɣiʔ-calaʔ=zu*]	*yak'i-ʔ*	*xäƛe-ll-iyo*
I-stand.up-SIM=FOC	heart.OBL-IN	stick.into-CAUS-WPST

'When (I) got up, my heart beat.'

5. Word order and extraction

Normally, adverbial clauses precede main clauses. The only significant exceptions from this rule are the purposive converbs, which almost exclusively follow main clauses. But all types of converbal clauses may be center-embedded in the main clause or follow the main clause without any change in meaning. The frequency of the three different clause orders

depends on the language, the converb and also on individual characteristics such as the text and/or the speaker. However, in quite a substantial number of sentences it is impossible to decide whether an adverbial clause precedes the main clause or whether it is center-embedded into the main clause. This is always the case when both clauses share at least one argument that bears the same grammatical role (and case-marking) in the two clauses. Thus, the sentence in (18a) starts with a noun phrase in the ergative case, which can either be interpreted as belonging to the first adverbial clause, which is headed by a perfective converb, or as belonging to the main clause.

(18) a. Hunzib

qač'aɣaw-li-l *žo=n* *r-αhu-n* [*diye* *lač'i*
bandit-OBL-ERG thing(V)=and V-take-CVB 1SG.GEN clothes(V)

r-αhu-n] *Ø-oc'-or*
V-take-CVB I-chase-PRET
'A bandit took my things, took my clothes and chased me (masc.).' (van den Berg 1995: 206)

b. Bezhta

ömrö *wahla:* [*sidi.hõso* *b-i<ya>ƛ'e-yaƛ'a*] *m-eƛ'e-š*
life(III) so REC.ERG HPL-kill<PL>-SIM III-go-PRS
'So life, while killing each other, passes by.'

Since from other independent, unambiguous examples (cf. 18b) it is clear that center-embedding is allowed in all Tsezic languages, I divided the sentences into only two groups: (i) adverbial clauses that precede the main clause or are center-embedded, and (ii) adverbial clauses that follow the main clause. I counted again the perfective/narrative converbs, the anterior converbs and the posterior converbs (Table 3).

Table 3. Ordering of adverbial and main clause

	First adverbial clause or center-embedding	First main clause	**Total**
	Perfective/narrative converb		
Hinuq	93	7	100
Tsez	99	1	100
Bezhta	86	14	100
Hunzib	92	8	100
Anterior converb			
Hinuq	49	1	50
Tsez	50	0	50
Bezhta	24	4	28
Hunzib	3	0	3
Posterior converb			
Hinuq	36	6	42
Tsez	41	1	42
Bezhta	38	11	39
Hunzib	3	3	6

The differences between the individual languages are relatively small. Bezhta seems to be the language that has a little bit more variation in its word order, allowing the main clause to precede the adverbial clause more often than the other languages. In contrast, Tsez seems to be relatively strict with regard to the constituent order, having no examples of main clauses preceding the adverbial clause. However, this may well be due to the corpora of the languages. Both the Tsez corpus and the Bezhta corpus are relatively homogenous and contain only texts from one author (Bezhta) or texts that have been prepared by one and the same editors (Tsez). Furthermore, it is possible to observe a minor difference between the anterior converb and the posterior converb because the latter shows a somewhat greater tendency to follow the main clause than the former. This may be explained by iconicity - anterior converb clauses refer to situations that happened before the situation in the main clause. Therefore, if they also precede the main clause, then their linear ordering reflects the temporal ordering of the situations, and the opposite ordering would be rather unnatural. Similarly, situations expressed by the posterior converb are understood to have happened after the situation narrated in the main clause. So if posterior converb clauses follow the main clause, the linear ordering also reflects the temporal ordering of the events.

The word order inside a converb clause is typically SOV, but it is easily possible to find other word orders (19a). However, extraction of constituents out of the converb clause is impossible (19b).

(19) a. Hinuq

[*r-ik'-r-ik'-no* *xuržan-mo-za-ƛ'o* *og-be*] *sadaq* *nuce-s*
NHPL-beat-NHPL-beat-CVB bag-OBL-OBL.PL-SPR ax-PL all honey-GEN

banka-be *r-uher-no* *hayłuy*
jar-PL NHPL-break-UWPST 3SG.FEM.ERG
'Beating with axes on the bags, she broke all the jars of honey.'

b. Bezhta

**öždi* [_$_i$ *y-ĩqo-ł*] *sayɣat* *b-ox-iyo* *okko*$_i$
boy.ERG LAT IV-get-ANT present(III) III-buy-WPST money(IV)
'When the boy got the money, he bought a present.' (Lit. 'When the boy got it, he bought a present, the money.')

6. Summary

In this paper, I have analyzed the syntactic properties of adverbial clauses in the Tsezic languages. I have shown that they exhibit some variability with respect to coreference and zeros. Furthermore, the narrative/perfective has been shown to behave in a relative homogenous manner with regard to shared subjects and its position in the clause. In contrast, the anterior converb displays an east–west split with regard to the tendency for shared subjects. More differences between the adverbial constructions of the different Tsezic languages as well as between various constructions of one and the same language can possibly be detected by using Bickel's (2010) typology for clause-linkage patterns. But due to the current lack of data this remains a topic for future research.

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Abbreviations

I – V	gender classes
ABL	ablative
ABS	absolutive
AD	location 'at'
ALOC	'animate' location
ANT	anterior converb
APUD	location 'at', 'in close contact with'
AT	location 'at'
CAUS	causative
CNTR	contrastive
COND	conditional converb
CONT	location 'contact'
CVB	perfective/narrative converb
DAT	dative
DIR	directional
ERG	ergative
FEM	feminine
FOC	focus
GEN	genitive
HPL	human plural
IMANT	immediate anterior converb

IN	location ‘in(side)’
INF	infinitive
IMP	imperative
IPFVCVB	imperfective converb
LAT	lative
MASC	masculine
MSD	masdar
NARR	narrative
NEG	negation
NHPL	non-human plural
OBL	oblique
PL	plural
POST	posterior converb
PRET	preterite
PRT	particle
PRS	present
PST	past
PTCP	participle
Q	question
QUOT	quotative
REC	reciprocal
SG	singular
SIM	simultaneous converb
SPR	location ‘on’
UWPST	unwitnessed past
VERS	direction ‘towards’
WPST	witnessed past

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Martin Haspelmath

On the Cross-Linguistic Distribution of Same-Subject and Different-Subject 'Want' Complements: Economic vs. Iconic Motivation[1]

Abstract

This paper presents the results of a world-wide typological study of same-subject and different-subject complements of the verb 'want' (sample size: 80 languages). I am interested in whether the subject is overtly expressed only in different-subject complements (e.g. English, Mandarin Chinese, Coptic) or whether it is expressed also in same-subject complements (e.g. Modern Greek, Mixtec, Arabic, where the literal translation of 'I want to go home' is 'I want that I go home'). Not surprisingly, the more economical English pattern is more widespread in the sample languages. I argue that this pattern should be explained in terms of economic motivation, not in terms of iconic motivation or conceptual closeness (as has also been suggested in the literature). The economic explanation turns out to be more general and to make more accurate predictions.

1. Subject omission and formal simplicity in 'want' complements

In this paper, I propose a usage-based explanation of a typological trend in two types of complement constructions of the verb 'want': There is often an asymmetry in the way that same-subject (SS) and different-subject (DS) 'want' complement clauses are encoded across languages. I argue that the asymmetry can be explained by a frequency bias (*economic motivation* in Haiman's 1983 sense). 'Want' complements overwhelmingly show

[1] Earlier versions of this paper were presented at the International Cognitive Linguistics Conference (Stockholm 1999) and at the DGfS Annual Meeting in Marburg (2000). Many people have made helpful suggestions to me at different stages, and they are all gratefully acknowledged here.

referential identity between the wanter argument and the subject (the A or S argument) of the complement clause. Sentences like (1a) are much more frequent than sentences like (1b), apparently in all languages. (Here the symbol Ø is meant to show that the notional subject of the complement clause is not expressed overtly.)

(1) a. *Kim*$_1$ *wants* [*Ø*$_1$ *to go home*].
b. *Kim*$_1$ *wants* [*him*$_2$ *to go home*].

I claim that two aspects of same-subject complement clauses are economically motivated: (i) The fact that the notional complement subject is **unexpressed** in many languages (as illustrated in (1a), where the notional subject of 'to go home' cannot be expressed overtly in its clause), and (ii) the fact that different-subject complement clauses often show a **formally more complex pattern**, as illustrated by German:

(2) German

a. *Kim*$_1$ *will* [*Ø*$_1$ *nach Hause gehen*].
Kim wants Ø to home go
'Kim wants to go home.'

b. *Kim*$_1$ *will,* [*dass er*$_2$ *nach Hause geht*].
Kim wants that he to home goes
'Kim wants him to go home.'

In the different-subject pattern (2b), there is an additional complementizer (*dass*), and the verb form is finite (*geht* 'goes'), contrasting with the infinitival form in (2a), so the DS pattern is more complex in two different ways.

I refer to these frequently encountered properties of same-subject complements as **subject omission** and **formal simplicity**. It should be noted that neither subject omission nor formal simplicity are universal properties. While both English and German exhibit obligatory subject omission, there are quite a few languages that must express the subject overtly in same-subject complements of 'want'. Two such languages are Modern Greek and Standard Arabic, as illustrated in (3–4). Here the subject

in the SS complement in (a) is expressed in the same way as the subject in the DS complement in (b).[2]

(3) Modern Greek

a. *Thél-o* *na* *dhulév-o.* (SS)
want-1SG [SBJV work-1SG]
'I want to work.' (Lit. 'I want (that) I work.')

b. *Thél-o* *na* *dhulév-is.* (DS)
want-1SG [SBJV work-2SG]
'I want you to work.' (Lit. 'I want (that) you work.')

(4) Standard Arabic

a. *ʔ-uriid-u* *ʔan* *ʔa-takallam-a.* (SS)
1SG-want-IND [that 1SG-talk-SBJV]
'I want to talk.' (Lit. 'I want (that) I talk.')

b. *ʔ-uriid-u* *ʔan* *ta-takallam-a.* (DS)
1SG-want-IND [that 2SG-talk-SBJV]
'I want you to talk.' (Lit. 'I want (that) you talk.')

And while German exhibits formal simplicity (of the same-subject pattern compared to the different-subject pattern), English does not: apart from the obligatory omission of the subject, (1a) is not simpler than (1b).

However, in a broader context the subject omission and formal simplicity can be seen as universal properties: Compared to other verbs such as 'believe', 'want' apparently always shows a greater or equal tendency to exhibit subject omission and formal simplicity. Complement-taking verbs that express a propositional attitude, such as 'think', 'believe', 'assume', verbs that express knowledge such as 'know' or 'forget', and verbs that express a speech act such as 'say' or 'tell' occur much more rarely in constructions where the subject is not expressed and must be inferred from the context.

We can thus formulate implicational universals such as the following:

[2] Many linguists call the subject person forms in (3) and (4) "agreement markers", but this is an Anglocentric perspective on these languages. As is argued in Haspelmath (2013), cross-indexes like the subject person indexes in these languages should not be seen as agreement markers, but as elements that serve to co-express the subject.

(5) a. If a language has subject omission in (same-subject) complements of ‘believe’, it also has subject omission in complements of ‘want’.
b. If a language shows formal simplicity in same-subject complements of ‘believe’, it also shows formal simplicity in complements of ‘want’.

Even though ‘believe’ tends to be coded differently from ‘want’, languages may also treat both of them in the same way. An example of a same-subject ‘believe’ construction that shows both subject omission and formal simplicity is shown in (6a) from French, contrasting with the different-subject pattern in (6b). The verb *croire* thus allows the same constructions in which *vouloir* ‘want’ occurs (cf. 7a–b).[3]

(6) a. *Kim croit être seul.*
Kim believes to.be alone
‘Kim$_1$ believes that he$_1$ is alone.’

b. *Kim croit qu’ il est seul.*
Kim believes that he is alone
‘Kim$_1$ believes that he$_{1/2}$ is alone.’

(7) a. *Kim veut être seul.*
Kim wants to.be alone
‘Kim wants to be alone.’

b. *Kim$_1$ veut qu’ il$_2$ soit seul.*
Kim wants that he be alone
‘Kim$_1$ wants him$_2$ to be alone.’

So the contrast between ‘believe’ and ‘want’ is not universal, but when there is a difference between them, then ‘want’ shows subject omission and formal simplicity, while ‘believe’ does not.[4]

[3] However, the complement clause with *que* allows both a same-subject and a different-subject reading in (6b), in contrast to (7b). Thus, *croire* has all the possibilities of *vouloir* and some additional ones. (But note that the complement verb is in the subjunctive in (7b) but in the indicative in (6b), so (6) and (7) are not completely parallel.)

[4] Unfortunately, the evidence for the claims in (5a–b) is purely impressionistic at the moment, derived from my casual observations of many descriptions of languages. But in order to formulate the general tendencies in the coding of ‘want’ complements as testable universals, they need to be contrasted with another type of complement clause. More evidence needs to be provided for these claims in future work.

2. Redundancy and economic motivation

The first formal characteristic of same-subject complements, that the subject is often left unexpressed, is perhaps not very surprising, because its referent can be readily inferred from the context, i.e. expressing it would be **redundant**. However, things are not that simple, for three reasons.

First, the referential identity in (1a) is not simply pragmatically inferred, but is rigidly prescribed by the grammar. In other words, the complement subject is **obligatorily controlled**. It is not just an available or preferred reading, but it is the only possible reading. Such obligatory control is found in many languages, not just in English.

Second, the inference is not watertight, because complements of 'want' do not have to have a subject that is identical to the wanter. In this, they contrast with ability verbs, for example, where a different-subject pattern is simply nonsensical:

(8) a. *Sasha*$_1$ *is able* [*Ø*$_1$ *to lift the suitcase*].
b. **Sasha*$_1$ *is able* [*for him*$_2$ *to lift the suitcase*].

Here it is quite clear that expressing the subject of the complement clause overtly in (8a) would be redundant, because there is no possible contrast. The reference of the complement subject can be predicted with 100% certainty (so we can call this *deterministic redundancy*). Still, some languages opt for full explicitness and express the subject redundantly in such constructions as well, e.g. Modern Greek:

(9) *I* *kopéla* *bor-í* [*na* *aníj-i* *ti* *fiáli*].
the girl can-3SG COMP open-3SG the bottle
'The girl can open the bottle.' (Lit. '…is able that she opens the bottle')

So the fact that English (like most other languages) does not repeat the subject in (8a) is evidently an exploitation of the redundancy that derives from the special semantics of ability. But an analogous explanation is not immediately evident in the case of 'want', because the counterpart of (8b) is perfectly possible (see 1b).

Third, it is by no means always the case that referential identity with an element in the immediate context leads to omissibility of the referential expression. Consider reflexive situations such as (10).

(10) *María*$_1$ *saw herself*$_1$ *in the mirror.*

Here the object argument is referentially identical with the subject argument, so one might think that it can be inferred easily, and that there would be a tendency to omit it. However, the opposite is the case: While English does not allow object omission at all (some kind of pronominal object has to be used), many other languages allow objects to be implicit, but in such cases the object normally gets a disjoint reading (non-identity with the subject), not a reflexive reading.

Thus, it does not go without saying that subject omission in sentences like (1a) gets a same-subject interpretation. This must be a convention of the grammar that could in principle be the opposite and that calls for an explanation. There are thus actually three aspects of the SS-DS contrast in (1a–b) that need to be explained: the omission of the notional subject in (1a), the obligatory coreference with the wanter in (1a), and the greater formal complexity of the DS pattern in (1b). I claim that all these aspects can be explained in terms of the frequency bias (economic motivation).

An alternative explanation that one finds in the literature is in terms of iconic motivation (Haiman 1983; Givón 1990; Cristofaro 2003). The idea is that the "functional integration" of SS complements is iconically reflected in "formal integration". According to Givón (1990: 560), the "degree of finiteness is an **iconic expression** of the degree of integration of the main and complement events". Givón writes:

> Given a hierarchy of ***degree of finiteness*** (or its converse, *degree of nominality*) of verb forms found in a language, the more integrated the two events are,
> (i) the more noun-like is the complement verb likely to be, and
> (ii) the less finite verbal morphology – such as tense-aspect-modality and **pronominal agreement** – is the verb likely to display.
> (Givón 1990: 561.)

In much the same vein, Cristofaro (2003: 252) writes that "lack of TAM and person agreement distinctions (as well as lack of overtly expressed arguments) leads to syntactic integration between clauses, and iconically reflects semantic integration between states of affairs."

The explanation in terms of a frequency bias is a universalist usage-based explanation, i.e. it derives universal tendencies of grammatical form from a universal frequency bias. We thus need to consider what the cross-linguistic formal patterns are, and what the cross-linguistic usage frequencies are. In the next section, we start with the frequency bias, before looking at the cross-linguistic formal patterns in §4.

3. The frequency bias for same-subject constructions

While there is no deterministic redundancy in the case of same-subject 'want' constructions, I argue that subject omission is due to redundancy exploitation here, too. The redundancy is *probabilistic* rather than deterministic, but this is sufficient to lead languages to choose subject-omitting constructions in many cases (even the majority, as we will see in §4). Thus, the argument is that many languages (including English) have constructions like *I want Ø to go home* because 'want' complements overwhelmingly show subject identity, so that the subject can be easily predicted by the hearer and does not have to be expressed overtly by the speaker. Such cases of zero expression exploiting probabilistic redundancy are very widespread in language structure (cf. Haspelmath 2008a), and no ad hoc assumption need to be made here.

But of course, exploiting the redundancy that derives from the frequency bias is not necessary. Languages may instead opt for explicit coding (cf. 3–4 above), just as they may opt for explicit coding even in the case of deterministic redundancy (cf. example 9 above).

The strong usage preference for same-subject 'want' constructions can easily be seen in text counts. Table 1 shows data from English, and Table 2 shows data from written Italian. The trend is so overwhelming that it would be pointless to look at larger corpora.

Table 1. Frequency of same-subject and different-subject complements of *want* in English. Source: ICE-GB (International Corpus of English), Schmidtke-Bode (2012: 433)

same-subject complements	540	89%
different-subject complements	76	11%
Total: cases of *want* with clausal complement	616	100%

Table 2. Frequency of same-subject and different-subject complements of *volere* 'want' in written Italian. Source: Alessandro Manzoni, *I promessi sposi*, 1840–42. (Letteratura Italiana Zanichelli (LIZ) on CD-ROM)

same-subject complements	444	87%
different-subject complements	65	13%
Total: cases of *volere* 'want' with clausal complement	509	100%

Now one might suspect that the frequency asymmetry that we see in English and Italian is not universal, and is in fact due to the formal asymmetry, so that the direction of causality is exactly opposite from what

I have claimed. In other words, it could be that same-subject complements are so much more frequent than different-subject complements because they are shorter and involve less coding effort. Thus, we should also look at languages in which there is no formal asymmetry, and one such language is Modern Greek. Some data from written Modern Greek are given in Table 3 (as I had no electronic corpus available, the absolute figures are very low).

Table 3. Frequency of same-subject and different-subject complements of *thélo* 'want' in written Modern Greek. Source: Kóstas Tzamális, *Stin Athína tu Periklí*, Athen: Estía/Kollaru, pp. 22–122.

same-subject complements	38	88%
different-subject complements	5	12%
Total: cases of *thélo* 'want' with clausal complement	43	100%

By contrast, other complement-taking verbs such as 'think' do not show any preference for same-subject complements.[5]

Despite the limited amount of data,[6] I regard the corpus counts as fairly good evidence that the frequency bias is strong and cross-linguistically systematic, regardless of the formal encoding of same-subject and different-subject complements of 'want'. And the frequency difference is of course not surprising: Humans (like all creatures) are naturally egocentric, and their own actions are much more important to them than other people's actions. Thus, it is expected that we talk more frequently about people's desires concerning their own actions (i.e. same-subject) than about their desires concerning other people's actions (i.e. different-subject). That is, the egocentricity of humans translates into a strong preference for same-subject 'want' constructions.[7] An alternative explanation of the frequency difference appeals to relevance: Our wishes concerning other people's actions are much less relevant than our wishes concerning our own actions, because we cannot directly influence other people's actions.

Whatever the explanation for the frequency differences observed in Table 1–3, what matters in the current context is that there are such

[5] For example, in *The Little Prince*, same-subject 'think' occurs three times, and different-subject 'think' occurs nine times. So, one might even suspect a preference for different-subject complements.

[6] One might wish to have corpus data from a wider range of languages, for example. However, while languages are known to differ grammatically, there is no reason to think that they differ significantly in the frequency with which certain thoughts are expressed.

[7] Interestingly, in the case of "God wants", a different-subject pattern seems to be much more frequent, as a casual web search suggests ("God wants you to be happy" etc.).

frequency differences. The causal chain is from frequency bias to economic coding, and for this causal chain it is irrelevant what might lie at an even earlier point in the causal chain.[8]

Let us now look in more detail at the cross-linguistic encoding patterns.

4. 'Want'-constructions in 80 languages world-wide

My data are from a world-wide convenience sample of 80 languages, for which I have collected data on same-subject and different-subject 'want' constructions from reference grammars and other kinds of grammatical descriptions. These languages are listed in Table 4, with some genealogical information, a bibliographical reference, and the type of relationship between the SS 'want' pattern and the DS 'want' pattern. Seven different types are distinguished:

Type 1: no coding asymmetry (as in Modern Greek and Standard Arabic, see (3) and (4))
Type 2: simple subject omission (see §5)
Type 3: simple complementizer omission (see §6)
Type 4: complementizer omission and different verb form (see §7)
Type 5: shorter 'want' verb (see §8.1)
Type 6: 'want' expressed as desiderative marker (see §8.2)
Type 7: different-subject construction does not exist (see §8.3)

Table 4. The 80-language sample.

Language	**Family**	**Subfamily**	**Reference**
type 1 (no coding asymmetry)			
Mende	Niger-Congo	Mande	Innes 1971: 122
Dagbani	Niger-Congo	Gur	Olawsky 1999: 25
Koyraboro Senni	Songhay		Heath 1999: 326
Standard Arabic	Afro-Asiatic	Semitic	own knowledge
Somali	Afro-Asiatic	Cushitic	Berchem 1991: 253
Hausa	Afro-Asiatic	Chadic	Kraft & Kirk-Greene 1973: 167

[8] A reviewer objects that "frequency per se can't be the explanation, because one still has to explain why X is more frequent(ly attested) than Y". But this does not follow: It could be that we have no idea what causes the frequency of use, but we do know what its consequences are. Alternatively, one could propose that both the frequency difference and the form difference follow from something deeper. I do not know what this unknown factor might be (see Haspelmath 2008b:§8.6.5 for further comments on this issue).

Modern Greek	Indo-European	Greek	own knowledge
Taba	Austronesian	Oceanic	Bowden 2001: 391–392
Abun	West Papuan		Berry & Berry 1999: 167, 176
Warembori	Lower Mamberano		Donohue 1999: 48–49
Bininj Gun-wok	Gunwinyguan		Evans 2003: 640–641
Dogrib	Athapaskan		Saxon 1984
Halkomelem	Salishan		Gerdts 1988
Mohawk	Iroquoian		Baker 1996
Diegueño	Yuman		Gorbet 1998: 11
Maricopa	Yuman		Gordon 1986: 248–250
type 2 (simple subject omission)			
English	Indo-European	Germanic	own knowledge
Supyire	Niger-Congo	Gur	Carlson 1994: 370, 428, 437
Iraqw	Afro-Asiatic	Cushitic	Mous 1993: 109, 266, 291
Godoberi	Nakh-Daghestanian	Andic	Haspelmath 1996: 188
Khanty	Uralic	Ugric	Nikolaeva 1999: 25, 46
Mandarin Chinese	Sino-Tibetan	Sinitic	Bingfu Lu, p.c.
Meithei	Sino-Tibetan	Kuki-Chin-Naga	Chelliah 1997: 83, 95; Bhat & Ningomba 1997: 309
Tagalog	Austronesian	Philippinic	Schachter & Otanes 1972: 268, NT
Maori	Austronesian	Oceanic	Bauer 1993: 42
Mparntwe Arrernte	Pama-Nyungan		Wilkins 1989: 451–452
Nhanda	Pama-Nyungan		Blevins 2001: 132–133
Lakota	Siouan		Van Valin 1977
Retuarã	Tucanoan		Strom 1992: 84, 160
Haitian Creole	creole		NT
Sranan	creole		NT
type 3 (simple complementizer omission)			
Ju|'hoan	Kx'a		Dickens 2005
Yoruba	Niger-Congo	Defoid	Rowlands 1969: 66, 74
Maltese	Afro-Asiatic	Semitic	Sandro Caruana, p.c.
Mupun	Afro-Asiatic	Chadic	Frajzyngier 1993: 471–472
Hmong Njua	Hmong-Mien		Harriehausen 1990: 216, 220, 230
Hopi	Uto-Aztecan		Kalectaca 1978
Tzutujil	Mayan		Dayley 1985: 391–393
Chalcatongo Mixtec	Oto-Manguean		Macaulay 1996

type 4 (complementizer omission and different verb form)			
Kana	Niger-Congo	Cross River	Ikoro 1996: 208–209

Swahili	Niger-Congo	Bantu	NT
Lango	Nilotic		Noonan 1992: 221, 223
Krongo	Kadugli		Reh 1985: 335
Coptic	Afro-Asiatic	Egyptian	Lambdin 1983: 54, 56, 74
Georgian	Kartvelian		Vamling 1989
Lezgian	Nakh-Daghestanian	Lezgic	Haspelmath 1993: 369
Basque	–	–	Andolin Eguzkitza, p.c.
German	Indo-European	Germanic	own knowledge
Kashmiri	Indo-European	Indic	Wali & Koul 1997: 46, 50
Hindi	Indo-European	Indic	NT
Finnish	Uralic	Finnic	Karlsson 1999: 182
Turkish	Turkic		own knowledge
Indonesian	Austronesian	Sundic	Sneddon 1996: 271, 275, 296
Madurese	Austronesian	Sundic	Davies 1999: 46
Kiribati	Austronesian	Oceanic	Groves et al. 1985: 53, 56, 153
Martuthunira	Pama-Nyungan		Dench 1995: 256
Ute	Uto-Aztecan		Givón 2011: 215–217
Purepecha	–		Chamoreau 2000: 92, 121, 163
Mam	Mayan		England 1983: 302
Huallaga Quechua	Andean		Weber 1989: 289
type 5 (shorter 'want' verb)			
Korean	–		Chang 1996: 65, 126
Drehu	Austronesian	Oceanic	Moyse-Faurie 1983: 181–182
Boumaa Fijian	Austronesian	Oceanic	Dixon 1988: 39, 91, 279, 286
Samoan	Austronesian	Oceanic	Mosel 1994: 337–338
Labrador Inuttut	Eskimo-Aleut		Smith 1982
type 6 ('want' expressed as desiderative marker)			
Evenki	Tungusic		Nedjalkov 1997: 27–28
Japanese	–		Kaoru Horie, p.c.
Erromangan	Austronesian	Oceanic	Crowley 1998: 134
Maranungku	Daly	Western Daly	Tryon 1970: 56
Rama	Chibchan		Grinevald 1988: 56, 79, 112, 116, 128, 167–168, 198, 214, 223, 227, 231
Macushi	Cariban		Abbott 1991: 30, 40, 79f.
Guaraní	Tupi		Gregores and Suarez 1967: 128, 177, 179
Nambikuara	Nambikuaran		Kroeker 2001: 38, 41, 76

type 7 (different-subject construction does not exist)			
Acehnese	Austronesian	Sundic	Durie et al. 1994: 177–178
Kalam	Trans-New Guinea	Madang	Pawley 1994: 400
Kombai	Trans-New Guinea	Awju-Dumut	de Vries 1993
Kayardild	Tangkic		Evans 1995: 259
Tümpisa Shoshone	Uto-Aztecan		Dayley 1989
Trumai	–	–	Guirardello 1999: 146, 175
Awa Pit	Barbacoan-Paezan		Curnow 1997: 166

5. Simple subject omission (type 2)

The most common type of frequency effect that we find is the omission of the subject (the S or A argument) in same-subject complements. This happens in the great majority of the languages of the sample. (Only 16 of the 80 languages show the Modern Greek pattern, with no subject omission.[9])

There are 15 languages in the sample in which subject omission is the only economy effect (type 2). One such language is English, as we saw in the very first example (1a–b). A few further examples of languages in which the different-subject construction is identical to the same-subject construction except for the omission of the subject pronoun are given in (11–16) below. (In the examples below, the 'want' verb is printed in boldface, for ease of orientation.)

(11) Mandarin Chinese (Bingfu Lu, p.c.)

Lisi ***xiwang*** *Ø zao dian huijia.* (SS)
Lisi want Ø early little return
'Lisi wants to go back home early.'

Lisi ***xiwang*** *Zhangsan zao dian huijia.* (DS)
Lisi want [Zhangsan early little return]
'Lisi wants Zhangsan to go back home early.'

[9] However, in the larger and more balanced sample of Haspelmath (2005/2011), a quarter of the languages (72 out of a total of 283) have an overtly expressed subject, and almost all of them are like Modern Greek and Standard Arabic.

(12) Haitian Creole (NT)[10]

Eròd té ***vlé*** *Ø touyé-l.* (SS)
Herodes PST want Ø kill-him
'Herod wanted to kill him.' (Mt 14:5)

Li pa-t ***vlé*** *pèsonn konnin li té la.* (DS)
he not-PST want [nobody know he PST there]
'He didn't want anybody to know that he was there.' (Mk 7:24)

(13) Manipuri (Bhat & Ningomba 1997: 309)

əy Ø cət-pə ***pam-mi*** (SS)
I Ø go-INF want-NFUT
'I want to go.'

əy ma-nə cət-pə ***pam-mi*** (DS)
I he-NOM go-INF want-NFUT
'I want him to go.'

(14) Retuarã (Strom 1992: 160)

waʔia Ø-eʔe-ri-ka ***ko-yapa-yu*** (SS)
fish Ø-get-NMLZ-N 3SG.F-want-PRS
'She wants to get fish.'

waʔia yi-eʔ-ri-ka ***ko-yapa-yu*** (DS)
fish 1SG-get-NMLZ-N 3SG.F-want-PRS
'She wants me to get fish.'

(15) Godoberi (Haspelmath 1996: 188)

ilu-łi ***qʼʷaraʕ-an-da*** *Ø b-al-i.* (SS)
mother-DAT want-CVB-COP Ø N-read-INF
'Mother wants to read.'

ilu-łi ***qʼʷaraʕ-an-da*** *waša caXawa wu-n-i.* (DS)
mother-DAT want-CVB-COP boy[ABS] away M-go-INF
'Mother wants the boy to go away.'

[10] For Haitian Creole and a number of other languages, my evidence comes from the New Testament (NT) in these languages.

(16) Tagalog (NT)

ibig *ni* *Herodes* *na* *ipapatay* *Ø* *si* *Juan* (SS)
want ART.ERG Herodes COMP kill Ø ART.ABS John
'Herod wanted to kill John.' (Mt 14:5)

ibig *ba* *ninyo-ng* *palayain* *ko* *ang* *Hari* *ng* *mga*
want Q you.ERG-COMP release I.ERG ART.ABS King GEN PL
Judio? (DS)
Jew
'Do you want me to release for you the King of the Jews?' (Mk 15:9)

In addition to simple subject omission, we observe a number of further economy effects, in all of which the SS pattern tends to be formally simpler or shorter. These are described and exemplified in §6–8.

6. Simple complementizer omission (type 3)

In a number of languages, there is an overt complementizer in different-subject complements, but this complementizer is omitted in same-subject complements, and this is the only difference between the SS and the DS pattern. Languages with this contrast type are Ju|'hoan, Maltese, Chalcatongo Mixtec, Hmong Njua, and Tzutujil.

(17) Maltese (Semitic) (Sandro Caruana, p.c.)

It-tifel ***jrid*** *jiġi* *d-dar* *kmieni.* (SS)
ART-boy 3SG.want.IPFV 3SG.come.IPFV ART-house early
'The boy wants to come home early.'

It-tifel ***jrid*** *li* *jiġi* *d-dar* *kmieni.* (DS)
ART-boy 3SG.want.IPFV that 3SG.come.IPFV ART-house early
'The boy$_1$ wants him$_2$ to come home early.'

(18) Chalcatongo Mixtec (Macaulay 1996: 154–155)

kuní=ri *kée=rí* (SS)
want=1 eat.POT=1
'I want to eat (something).'

kuní=ri *xa=ná-kĩʔĩ=ro* (DS)
want=1 COMP=MOD-go.POT=2
'I want you to go.'

In a few languages, there are complementizers in both patterns, but unlike in the simplest (no-economy) type, they are different (COMP.SS vs. COMP.DS). As expected from the economy perspective, the complementizer used in the same-subject construction is shorter. This is the case in Hopi (see 19) and in Mupun (see 20).

(19) Hopi (Uto-Aztecan) (Kalectaca 1978: 170–71)

Pam *as* *nös-ni-**qe*** ***naawakna***. (SS)
he PTCL eat-FUT-COMP.SS want
'He wants to eat.'

Pam *as* *nu-y* *nös-ni-**qat*** ***naawakna***. (DS)
he PTCL I-ACC eat-FUT-COMP.DS want
'He wants me to eat.'

(20) Mupun (Frajzyngier 1993: 472)

n-ɗem ***n**-man* *ar* *ɗə* *mo* *cin* *dì* (SS)
1SG-want COMP.SS-know way REL they do it
'I want to know how they do it.'

n-ɗem ***kə*** *n-mo* *cin* *dì* (DS)
1SG-want COMP.DS LOC-they do it
'I want them to do it.'

In some cases, the complementizer is reduced and merges with the 'want' verb, but only in the same-subject construction. This is the case in English and in Yoruba:

(21) English

I wanna do it. (< *want to*) (cf. *What do you wanna do?*) (SS)
I want her to do it. (cf. **Who do you wanna do it?*) (DS)

(22) Yoruba (Rowlands 1969: 66, 71)

mo ***fé-ẹ́*** *rà* *á* (< *mo **fẹ́** kí rà á*) (SS)
I want-COMP.SS buy it
'I want to buy it.'

nwọ́n ***fẹ́*** *kí* *ẹ* *máa* *lọ* (DS)
they want COMP.DS you IPFV go
'They want you to go.'

Simple complementizer omission (or complementizer shortness) is rarer in my sample than complementizer omission and different verb form, a type to which we now turn.

7. Complementizer omission and different verb form (type 4)

The largest group of languages in my sample (21 languages) is those that omit the subject, the complementizer (if there is one in the different-subject construction), and also have a different verb form (usually called "infinitive") in same-subject constructions. This was already illustrated for German in (2a–b) above, and some further examples are given below in (23–33).[11]

(23) Lango (Noonan 1992: 223–224)

á-mìttò *bínô* (SS)
1SG-want.PROG come.INF
'I want to come.'

á-mìttò *nî* *ò-bǐn* (DS)
1SG-want.PROG COMP 3SG-come.SBJV
'I want her to come.'

(24) Hindi

šair *ne* *nazm* *paṛh-nii* ***caah-ii.*** (SS)
poet ERG poem[F] read-INF.F want-PST.F
'The poet wanted to read a poem.'

tuu *kyaa* ***caah-taa*** ***hai*** *ki* *maĩ* *tere* *liye* *kar-ũ?* (DS)
you what want-PRS AUX.2SG [that I you for do-SBJV.1SG]
'What do you want me to do for you?' (NT, Mk 10:51)

(25) Finnish (NT)

me ***tahdo-mme*** *näh-dä* *sinu-lta* *merkin* (SS)
we want-1PL see-INF you-ELAT sign
'We want to see a sign from you.' (Mt 12:38)

[11] It appears that when the complementizer is omitted and a different verb form is used, the subject is always omitted as well. At least I am not aware of a language that shows complementizer omission and a different verb form in the same-subject construction, but does not omit the subject. I have no explanation for this.

mihin ***tahdo-t***, *että* *valmista-mme* *pääsiäislampaan...?* (DS)
where want-2SG [that prepare-1PL Passover.meal]
'Where do you want us to prepare the Passover meal?' (Mt 26:17)

(26) Indonesian (NT)

Herodes ***ingin*** *membunuh-nya.* (SS)
Herodes want kill-3SG.OBJ
'Herodes wanted to kill him.' (Mt 14:5)

aku ***ingin***, *supaya* *kamu* *hidup* *tanpa* *kekuatiran.* (DS)
I want that you be without worry
'I want you to be without worry.' (1 Cor 7:32)

(27) Basque (Andolin Eguzkitza, p.c.)

Aita-k *goiz* *etorr-i* ***nahi du*** *etxe-ra*. (SS)
father-ERG early come-PTCP want IND.3SG.ERG house-LOC
'Father wants to return home early.'

Aita-k *ama* *etxe-ra* *goiz* *etor* *dadin*
father-ERG [mother(ABS) house-LOC early come SBJV.3SG.ERG]

nahi du. (DS)
want IND.3SG.ERG
'Father wants mother to return home early.'

(28) Lezgian (Haspelmath 1993: 369)

Nabisata-z *ktab* *k'el-iz* ***k'an-zawa***. (SS)
Nabisat-DAT book read-INF want-IPFV
'Nabisat wants to read a book.'

Nabisata-z *ruš-a* *ktab* *k'el-na* ***k'an-zawa***. (DS)
Nabisat-DAT [girl-ERG book[ABS] read-CVB] want-IPFV
'Nabisat wants the girl to read a book.'

(29) Coptic (NT)

*ten-**ouōš*** ***e**-naou* *e-u-mēini* *ntot-k* (SS)
1PL-want ALL-see.INF ALL-ART-sign from-2SG
'We want to see a sign from you.' (Mt 12:38)

ou *p-ete-**k-ouaš-f*** *nta-ai-f* *na-k?* (DS)
what ART-REL-2SG-want-3SG.OBJ 1SG.SBJV-do-3SG.OBJ for-2SG
'What do you want us to do for you?' (Mk 10:51)

(30) Swahili (NT)

tw-a-taka *ku-ona ishara kwa-ko* (SS)
1PL-PRS-want INF-see sign from-you
'We want to see a sign from you.' (Mt 12:38)

m-na-taka *ni-wa-fungu-li-e mfalme wa Wayahudi?* (DS)
2PL-PRS-want 1SG-2PL.OBJ-free-APPL-SBJV king GEN Jews
'Do you want me to release the king of the Jews for you?' (Lk 19:14)

(31) Krongo (Reh 1985: 335–337)

n-átàasà *àʔàŋ àkò óʊdà* (SS)
1-want.IPFV I INF.eat meat
'I want to eat meat.'

n-átàasà *àʔàŋ t-óshí-kò-n-tú ɲàamà àʔàŋ* (DS)
1-want.IMPF I NOM-cook.IPFV-GEN-TR-2SG things me
'I want you to cook for me.'

(32) Huallaga Quechua (Weber 1989: 289)

Mucha-y-ta ***muna-:***. (SS)
kiss-INF-ACC want-1
'I want to kiss her.'

Mucha-ma:-na-n-ta ***muna-n***. (DS)
kiss-1.OBJ-SUBORD-3.POSS-ACC want-3
'He wants him to kiss me.'

(33) Martuthunira (Dench 1995: 256)

Ngayu ***wiru*** *yungku-ngu-layi ngurnu-tharra-a wirra-tharra-a.* (SS)
1SG.NOM wanting give-PASS-FUT that.OBL-DU-ACC boomerang-DU-ACC
'I want to be given those two boomerangs.'

Ngunhaa mir.ta ***wiru*** *yirna-tharra-a ngayala-tharra-a*
that.NOM not want this-DU-ACC nephew-DU-ACC

nhurnti-ma-lalha-a jankurna-a mungka-lwaa ngurnaa. (DS)
dead-CAUS-PST-ACC emu-ACC eat-PURP(S=P) that.ACC
'He didn't want these two nephews who had speared the emu to eat it.'

8. Other types of formal simplicity

8.1 The verb 'want' is shorter in the same-subject construction (type 5)

In quite a few languages, it is not so much the complement construction, but the verb 'want' itself that is more reduced in the same-subject pattern. In the present sample, this is the case in Samoan (cf. 34), Boumaa Fijian (cf. 35), Korean, Drehu, and Labrador Inuktitut.

(34) Samoan (Oceanic) (Mosel & Hovdhaugen 1992: 710, 714)

e ***fia*** *si'i* *e* *Leona* *Iosefa* (SS)
GENR want carry ERG Leona Iosefa
'Leona wants to carry Iosefa.'

e *lē* ***mana'o*** *le* *teine* *e* *fasi* *ia* *le* *tama* (DS)
GENR NEG want ART girl [GENR hit she ART boy]
'The girl doesn't want the boy to hit her.'

(35) Boumaa Fijian (Dixon 1988: 91)

au ***via*** *nasu-'a* *bulumakau* *yai.* (SS)
I want tie-TR cow this
'I want to tie up this cow.'

au ***vina'a-ta*** *m-o* *la'o* *yane.* (DS)
I want-TR [that-you go there]
'I want you to go there.'

8.2 'Want' is expressed as a desiderative affix (type 6)

The expression of 'want' may be so short that it is affixed as a desiderative marker to the main verb (8 languages in the current sample; 45 out of 283 languages in Haspelmath 2005). For different-subject sentences, a different verb has to be used.[12]

[12] The use of an affix in different-subject 'want' constructions is possible in some languages as well, but it is very rare; an example is Labrador Inuttut (Smith 1982: 173).

(36) Erromangan (Crowley 1998: 134)

yacam-ampy-omonki. (SS)
1SG.PRS-DESID-drink
'I want to drink.'

yacam-naig-i *kik* *ko-nomonki* (DS)
1SG.PRS-want-CONST you 2SG.FUT-drink
'I want you to drink.'

(37) Japanese (Kaoru Horie, p.c.)

Taroo-wa *orenzi-ga* *tabe-**tai***. (SS)
Taro-TOP orange-NOM eat-DESID
'Taro wants to eat an orange.'

Haha-wa *Taroo-ni* *suupu-o* *non-de* ***hosii***. (DS)
mother-TOP Taro-DAT soup-ACC drink-CVB want
'Mother wants Taro to eat a soup.'

8.3 The different-subject construction does not exist (type 7)

In some languages (six in my sample), there simply is no different-subject construction, and some kind of paraphrase has to be used. For example, in Tümpisa Shoshone, *-suwa* expresses 'want', but only in a same-subject configuration:

(38) Tümpisa Shoshone (Dayley 1989: 384)

hi-nna *üü* *hipi-suwa-nna?* (SS)
what-OBJ you drink-want-GEN
'What do you want to drink?'

According to Dayley (1989: 385), "there is no direct equivalent of [the different-subject construction]; the closest would be with a verb of telling instead of wanting... Thus, instead of saying 'I want someone to do something', one would say something like 'I told/will tell someone to do something'."

Similarly, in Acehnese, the verb *tém* can be used in SS patterns such as (39):

(39) Acehnese (Durie, Bukhari & Mawardi 1994: 177)

Lôn-tém woe.
I-want return
'I want to return.'

However, the closest equivalent of the DS pattern is a sentence with *lakèe* 'ask', such as (40) (ibid. 178):

(40) *Lôn-lakèe* *droeneuh* *beu-neu-woe.*
I-ask you SBJV-you-return
'I ask you to return.' (May be used for 'I want you to return.')

Non-existence of a pattern is not strictly speaking a case of "formal complexity". However, one may take the point of view that every meaning can be expressed in some way, and if there is no grammatically paradigmatic expression, then there is some other way of expressing the relevant idea. What matters is that the more frequent pattern is the one that can be expressed compactly and economically by grammatical means.

9. Economy vs. iconicity

There are two main arguments in favour of the economy explanation, and against the iconicity explanation proposed by Givón and Cristofaro. The first is an empirical argument, the second is a methodological argument.

First, from the point of view of the iconicity explanation, there is no reason to expect that participant sharing (on the conceptual side) should be iconically reflected by complementizer omission (on the morphosyntactic side). One would expect it to be reflected by subject omission (as happens in many cases, of course), but not by other kinds of shortness effects. But in §5–7 we saw that these other kinds of formal simplicity effects are also widely found in languages, as predicted by the economy account.

Second, the economy explanation has a clear methodological advantage: The crucial concepts of "conceptual closeness" and "morphosyntactic integration" are both rather vague, and difficult to measure objectively. The economy explanation is much easier to test empirically: Frequency of occurrence can easily be measured by examining texts in almost any language (see §2), and shortness of expression can also be determined quite easily. Thus, this approach has a greater potential of leading to fruitful empirical research, and it should be favoured even if the current empirical data did not already favour the economy model.

In Haspelmath (2008a), I showed that there are quite a few other areas of language structure where economy explanations are the best explanations, even though linguists have sometimes proposed iconicity explanations. I have not shown here that iconicity plays no role, but I have not found any effects that can only be explained by iconicity, and that have no economy explanation. It is therefore more parsimonious not to invoke iconicity in explaining the cross-linguistic patterns.

10. Explanation by functional adaptation and diachronic change

In the foregoing, I have noted a cross-linguistically general correlation between some aspects of language form and usage patterns. But this does not amount to an explanation yet – we still need to demonstrate a possible causal link between the motivating factor of frequency and occurrence and the formal patterns. This is a challenging task, but fortunately, it is not specific to the particular case at hand. Frequency has strong effects on all aspects of language structure, and since Zipf (1935), it has been clear that something like a principle of least effort must be at play, whatever the exact mechanisms (see also Croft 2003: §4.3; Haspelmath 2008a).

It is also clear that the implementation of the usage-form correlation must happen via diachrony. We speak the way we do because we follow other speakers' behaviour, not because we strive for a particular economical design of our language. But making this more precise is very difficult, because we know so little about language change. Only very few languages have an attested history, and the attestation of this history is very rudimentary. Nevertheless, I would like to suggest that there are two diachronic pathways by which the economical patterns that we saw above can be created: **differential phonetic reduction**, and **differential selection** of constructions (see Haspelmath 2008b).

We see differential phonological reduction in the case of English and Yoruba (cf. 21–22 above), in the well-known case *want to* > *wanna*. It has long been known that frequent combinations undergo greater phonetic reduction because the information is more predictable, and speakers can afford to speak with less effort. This is the classical Zipfian explanation.

However, it does not seem likely that this diachronic pathway is particularly important in explaining the patterns of 'want' complements. Subject omission and complementizer omission are not very likely to be due to phonological reduction. Instead, these patterns seem to arise by selection during the process of grammaticalization. In general, tightly

constrained patterns of grammar ultimately derive from looser constructions. Verbs with the meaning 'want', which tend to have tightly constrained complement clause patterns, tend to derive from verbs such as 'wish, desire, need', which often have less tightly constrained complement clause patterns. Compare German *wollen* 'want', which only allows a single pattern, in (41a–b), with *wünschen* 'wish', which allows both a finite *dass*-clause and an infinitival complement in the same-subject configuration (see 42a–b). This is thus a looser pattern, and if something like (42) turns into something like (41), a selection takes place: Only the more economical pattern (42b) survives.

(41) a. *Ich will früh heimkehren.* (**Ich will, dass ich heimkehre.*)
'I want to return home early.'

b. *Ich will, dass du früh heimkehrst.* (**Ich will du früh heimkehren.*)
'I want you to return home early.'

(42) a. *Ich wünsche mir, dass ich früh heimkehre.*
'I desire that I return home early.'

b. *Ich wünsche mir, früh heimzukehren.*
'I desire that I return home early.'

Another looser construction type that may be the antecedent of a 'want' construction is a pattern with nominalization, as in (43).[13] Here the subject may be made explicit by a possessive pronoun, as in (43b–c), but it may also remain implicit.

(43) a. *Ich wünsche mir eine frühe Heimkehr.* 'I desire an early return.'

b. *Ich wünsche mir meine frühe Heimkehr.* 'I desire my early return.'

c. *Ich wünsche mir deine frühe Heimkehr.* 'I desire your early return.'

Again, if in diachronic change, a pattern such as (43a) (with no explicit subject) survives and becomes the only possibility, there is no reduction, just differential selection of economical patterns during grammaticalization

At the earlier stage of pattern freedom, speakers must have preferred the infinitival pattern for the same-subject case because it allowed more economical utterances, whereas the finite *dass* pattern eventually survived

[13] Infinitives in Indo-European languages and elsewhere generally come from verbal nouns of some sort, cf. Gippert (1978), Haspelmath (1989).

only in the different-subject case. Thus, speakers' preferences in utterances can give rise to functionally adaptive patterns in grammar. This account is somewhat speculative, and I cannot prove it, but something along these lines must eventually be said for a complete economy-based explanation of the observed tendencies of 'want' complement clause coding.

11. Conclusion

My economy-based or frequency-based explanation is an instance of what is now generally called "usage-based" explanation of general patterns of language structure. This approach stands in a certain tension to the Saussurean view with its separation of *langue* and *parole* (cf. Newmeyer 2003). In Ferdinand de Saussure's *Cours de linguistique générale*, we find the following metaphor:

> [O]n peut comparer la langue à une symphonie, dont la réalité est indépendante de la manière dont on l'exécute; les fautes que peuvent commettre les musiciens qui la jouent ne compromettent nullement cette réalité.[14] (Saussure 1972/1916: 36)

But in contrast to Saussure's metaphor, in human language, competence (= *langue*) is indeed influenced by performance (= *parole*), through the different treatment of constructions with different frequencies in language change.

However, this was not unknown in Saussure's time, and in fact we also find another quotation in the *Cours*:

> La langue est à la fois l'instrument et le produit de la parole[15] (Saussure 1972/1916: 37)

Thus, a language is crucially different from a symphony, which is a blueprint for the musicians' performance, but cannot be said in any way to be its product. The frequency with which a certain structure is used by speakers has a strong impact on its precise form, through the perpetual recreation of language in language learning and language change, which has no analog in the creation of a symphony.

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[14] "One can compare langue to a symphony, whose reality is independent of the manner in which it is performed; the errors committed by the musicians do not compromise this reality in any way."

[15] "Langue is at the same time the instrument and the product of parole."

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Abbreviations

Category abbreviations follow the Leipzig Glossing Rules. Additional abbreviations:

CONST	construct
DESID	desiderative
ELAT	elative
GENR	generic
MOD	modal
OPT	optative
POT	potential
SUBORD	subordinate

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From Surging Waves to the Spirit of Waves – On the Germanic and Sami Origin of the Proper Names *Ahti* and *Vellamo* in Finnic Mythology[1]

Abstract

This article mainly deals with the origin of the proper names *Ahti* and *Vellamo*. They both occur in Finnic mythology, where *Vellamo* is a female water-deity while *Ahti* has several manifestations, e.g. a male deity of water and forest as well as a skilled warrior. *Ahti* also occurs in farm, village and family names, mainly in southern and western Finland. I propose that the proper name *Ahti* is diachronically a triple homonym. I suggest that two of these three homonymic lexemes have a Germanic etymology. The third lexeme is likely to be of Proto-Sami origin. In addition, I argue that the verbal root in the name *Vellamo* is a Germanic loanword, too. From this and my previous study on the topic (Heikkilä 2012b), I draw the conclusion that a significant number of names of characters in Finnic pre-Christian mythology stem from the Iron Age and are of Germanic origin. It also appears as if some fictional mythical characters may ultimately have been based on a real-world person.

1. Introduction

This onomastic and etymological article continues a discussion of the origin of the names of the characters in Finnic mythology (see Heikkilä 2012b; cf. Salo 2012; Siikala 2012). The primary purpose of the present article is to discover the origin(s) of the polysemic Finnish proper name *Ahti*, whose etymology is obscure (see SMS s.v. *ahti*, SSA s.v. *Ahti*). The name *Ahti* has several manifestations. For instance, *Ahti* is a male deity of water and forest as well as a skilled warrior known as *Ahti Saarelainen*. The origin of the semantically related characters *Kaukomieli*, *Faravid* and

[1] I wish to thank the anonymous reviewers.

Torre as well as another aquatic theonym, *Vellamo*, is discussed, too. In addition, the question about the ultimate historicity of some characters in Finnic mythology is discussed in this article. Where does a particular word come from? This question is often posed by both etymologists and lay people. The answer that one encounters in etymological dictionaries is most often one of the following three alternatives: the word in question is autochthonic and descends from Proto-X; the word is a borrowing from language X; or the origin of the word is unknown/obscure/disputed. In the case of the Finnish proper name *Ahti*, however, it seems as if the lexeme had several different (so far unknown) origins of different ages (cf. Turunen 1979: 12–14; SSA s.v. *Ahti*; Siikala 2012: 280, 283, 372–374).

2. The multiple origins and original meanings of *Ahti*

"Aika on Ahtia sanoa" (Lönnrot 1849 11:1).[2] In the major manifestations of Finnic mythology, that is to say the Kalevalaic rune songs, *Ahti* is among other things a male water spirit, and another water spirit, *Vellamo*, is said to be his wife. In fact, the name *Ahti* occurs in as many as four contexts in the Finnish language, in each of which it turns out to have a different being; two of these *Ahti*s are mythical and the other two are real. Firstly, *Ahti* is best known as the king of waves (Fin *Ahti aaltojen kuningas*), i.e. a deity of water, and his spouse *Vellamo* is the mistress of water (Fin *Vellamo veen emäntä*). In addition, this mythical *Ahti* has also been attested in the meanings 'deity of forest, wind and earth'. This first use of *Ahti* has a cognate only in Karelian poetic language, where *Ahto* means 'deity of the forest' (cf. *oksi* 'bear' → *ohto* 'bear'). The earliest attestation of the mythical *Ahti* is found in Mikael Agricola's catalogue of pre-Christian Tavastian gods in the foreword to his Finnish translation of Psalter from the year 1551 CE. Agricola writes that "Achti wedhest Caloia toi" ['Ahti brought fish from the water']. (Haavio 1967: 87–94; Turunen 1979: 12–13; SSA s.v. *Ahti*; Vahtola 1997: 268–270; Siikala 2012: 372–375.)

Secondly, Finnic epic folk poetry knows a character called *Ahti Saarelainen* ("Ahti the Islander"), a skilled warrior who lives on an island and owns a great deal of gold and silver gained as booty from wars (see further in Chapter 3) (Haavio 1967: 87–94; Turunen 1979: 12–13; SKVR 2006; SSA s.v. *Ahti*; Siikala 2012: 372–375). Thirdly, the name-element *Ahti* commonly occurs in names of farms and villages and related

[2] "It is time to speak about Ahti" (translated by the present writer).

surnames, such as *Ahtiala* (e.g. *Achtialast*, *Achtialan* in 1478 CE), mainly in Finland Proper, Tavastia and Satakunta, and many of them stem from the Middle Ages (SPNK 2007: 16; MapSite). Old Finnish toponyms, mainly farm names, augmented with the common locative and oikonym suffix *-la*/*-lä* are almost exclusively based on a personal name (Kiviniemi 1975: 55). Consequently, *Ahti* too must have been a medieval male name, e.g. *Erich Ahti* in 1465 CE (see Mikkonen & Paikkala 2000: 59–60). The three earliest attestations of the medieval personal name *Ahti* are found in a Papal bull from the year 1340 CE, which mentions <Hactissænpoyca> which must be read **Ahtisenpoika* ['Ahtinen's son'][3] (Diplomatarium Fennicum No. 467).[4]

Fourthly, *Ahti* is a Kalevala-inspired Finnish neo-ancient male name in use since the Finnish National Romantic era at the end of the 19th century. This male name is the youngest of the uses of *Ahti* and its model is Kalevala's character *Ahti*; a mixture of the folk poetry characters *Lemminkäinen*, *Ahti Saarelainen*, *Kaukomieli* and *Veitikka*/*Veitikkä* created by Kalevala's compiler Elias Lönnrot. (Haavio 1967: 87–94; Turunen 1979: 12–13; USN: 24–25, 271–272; Vahtola 1997: 268–270; Siikala 2012: 279–283).

So where does the noun *Ahti* come from? The sound shape of the word accidentally resembles that of the Finnish verb *ahtaa* 'to stuff, cram, pack; hang up to dry' (SSA s.v. *ahtaa*), but this is a pure coincidence because *Ahti* cannot be a *j*-derivative from the Proto-Finnic protoform **akta-tak* of the verb *ahtaa*, which would have rendered either **Akta-j* > ***Aktoi* > ***Ahtoi* or **Akta-j* > ***Akti* > ***Aksi* instead of *Ahti* (cf. **tala-j* > *taloi* > *talo* 'house', *lakka* 'shelter' → **lakka-j* > *lakki* 'cap', *väljä* 'spacious' → **väljä-j* > **välji* > *väli* 'space', (*lape* : *lappeet* 'edge, side' ←) *lappa* ~ **lappa-j* > *lappi*/*Lappi* 'Sami/Lapp', *enä* 'big' → **enä-j* > *enoi* > *eno* 'maternal uncle', *kolja* 'supernatural being' ~ **kolja-j* > *koljoi* > *koljo* 'supernatural being' and *lentää* 'to fly' → **lentä-j* >> *lensi* '(s)he flew' (see SSA passim)). I suggest that the polysemic name *Ahti* has a triple origin, i.e. that there are three different origins behind the four uses mentioned above. In fact, I argue that *Ahti* is originally not one proper

[3] The suffix -(*i*)*nen* is another very common derivational suffix in Finnish farm names (see MapSite).

[4] A mute prothetic initial letter <H> in a word beginning with a vowel is not an uncommon phenomenon in Medieval Latin texts (see e.g. *Gesta Danorum* by Saxo Grammaticus).

name but three homonymic proper names, which have become contaminated to a large extent due to their homophony.

Of these different origins I will first discuss the Continental Germanic etymology for *Ahti* posited by onomastician Viljo Nissilä (1980), because it is already commonly known, although this particular *Ahti* is in my view the second youngest *Ahti*, after the modern male name *Ahti*, which is the youngest one. Nissilä convincingly argues that the medieval male name *Ahti* occurring in farm and village names is a borrowing from an Old Saxon, Middle Low German and Frisian male name which is attested in the forms *Ahti*, *Ahto* and *Achte* (Nissilä 1980: 156; USN: 271–272; Vahtola 1997: 272; Mikkonen & Paikkala 2000: 59–60). The Finnish name *Ahti* also has a variant form *Ahto*, which may be another direct loan from Middle Low German or a Finnish *o*-derivative from the stem-form *Ahti*. Besides *Ahto*, the name *Ahti* has the attested variant forms *Atti* (see footnote 9 below) and *Ati* (USN: 24–25). The form *Ahtiainen* occurs as a family name. The family, farm and village names *Ahti*, *Ahtia*, *Ahtiala*, *Ahtiainen* and *Ahtonen* are noticeably older than the modern first name *Ahti*, which was introduced as late as towards the end of the 19th century (USN: 24–25, 271–272; Mikkonen & Paikkala 2000: 59–60).

The Low German personal name *Ahti* is itself a borrowing from the Greek personal name *Autonomos* "Autocrat". The homonymic Karelian male name *Ahti* is probably of the same origin as the western Finnish male name *Ahti*, but it may alternatively be a borrowing from the Russian male name *Avtonom*, which is itself a borrowing from the Greek name *Autonomos* mentioned above (Nissilä 1976: 49; Mikkonen & Paikkala 2000: 59–60). The many farms and villages called *Ahtiala* in the provinces of Finland Proper, Satakunta and Tavastia are of the same origin (SPNK 2007: 16). I find Nissilä's etymology for the farm, village and family name (element) *Ahti*- convincing and I have nothing to add as to this particular context of use of *Ahti*.

However, the Christian medieval Low German male name does not account for the pre-Christian – and thus pre-historic – Finnic mythological name(s) *Ahti* 'deity of water (forest, wind, earth); skilled warrior in Kalevalaic rune songs'. I therefore suggest that the mythical name *Ahti* is of a completely different origin. I argue that there are two further homophonic mythical *Ahti*s, each of which has an etymology of its own. The invariable vowel /i/ in the second syllable of the name *Aht**i*** (nom.) : *Ahd**i**n* (gen.) (cf. *rist**i*** : *rist**i**n* 'cross') suggests that the word cannot descend from Early Proto-Finnic or even further back, because the word in that case

should show the /i/ ~ /e/ vowel alternation in the second syllable, as in inherited words and old loanwords, e.g. *kiv**i*** : *kiv**e**n* ‘stone’, *nim**i*** : *nim**e**n* ‘name’ and *ves**i*** : *ved**e**n* ‘water’. Consequently, *Ahti* must be relatively young. It very likely stems from the Iron Age, since the “new” /i/ in non-initial syllables emerged in Middle Proto-Finnic at the very beginning of the pre-Roman Iron Age, ca. 500 BCE (Heikkilä, forthcoming). Thus, all the homophonic *Ahti*-names must be younger than ca. 500 BCE.

I argue that the name of the skilled and rich warrior character is a borrowing from the Proto-Scandinavian common noun **āχtiR* ‘wealth, property; family’, which has rendered Old Norse *átt*, *ætt* ‘family, tribe’ and Swedish *ätt* ‘noble family’. In Proto-Germanic, the word had the form **aiχtiz*, whence Gothic *aihts*, OHG *ēht* and OE *ǣht*, all of them meaning ‘property’ (cf. SaN *áittar* ‘owner’ ← EPScand **aiχtēr* > PScand **āχtēr* > LPScand **āttir* > OSwe *iorþattari*[5] ‘land owner’ (Sköld 1961: 110; Álgu s.v. *áittar*)). This noun is a derivative from the Proto-Germanic verb **aigana* ‘to own’, whence Got *aigan* ‘id.’, OHG *eigan* ‘id.’, ON *eiga* ‘id.’ etc.[6] In Proto-Scandinavian, the meaning has changed from ‘property’ (“something that one owns”) to ‘family, relatives’ (“the ones who are related to one by blood”, i.e. “one’s own folk”). (Bjorvand & Lindeman 2007: 1353; Hellquist 2008: 1449–1450.) Thus, the proper name *Ahti* is like a personification of wealth and property. No wonder *Ahti* was described as being rich, because the common noun constituting his name means exactly that.

A slightly older borrowing from the same Proto-Scandinavian lexeme has been preserved in the Finnish place-name *Aihtia* (< LPFin **Aihti* ← EPScand. **aiχtiz*), which is the name of a farm situated on the shore of the lake *Aihtianjärvi* in the Orivesi municipality in Tavastia (MapSite; Names Archive).[7] The onomastic collection of *The Names Archive* also has information about an old-fashioned name of a promontory called

[5] Cf. OSwe *iorþ* with Eng *earth* and Ger *Erde* ‘earth’.

[6] As to semantics, the Finnish proper names *Ahti* and *Aihtia* and the Sami common noun *áittar* ‘owner’ can be compared with the Finnish common noun *haltija* meaning both ‘holder’ and ‘sprite’. This lexeme is a Germanic loanword, too. The etymon is a Proto-Scandinavian **haldijaz* ‘holder’ (SSA s.v. *haltija*). Even the date of the borrowing is approximately the same as in the case of Ahti judging from the word’s sound shape *haltija* (***kalsia*).

[7] There exist parallels for the adding of a secondary final vowel /a/ in Finnish toponymy, e.g. *Nokia*, *Averia* and *Kauttua* (cf. *Ahtiala*) (see Heikkilä 2012a: 63).

Aihtionkärki in the Vesilahti municipality of Tavastia.[8] In addition, the Proto-Scandinavian etymon **ĀχtiR* of the personal name *Ahti* seems to have been recorded in a Danish runic inscription which reads *HarkilaR* (nom. sg.) *Ahti* [āχtī] (dat. sg.) *anul* 'HarkilaR (a male name) to *ĀχtiR (another male name), little-forefather'. The inscription was carved on a bronze strapring sometime between 250 and 320 CE. This personal name has been etymologically linked with the Finnish personal name *Ahti*. (Antonsen 2002: 113–114; Samnordisk Runtextdatabas 2008 s.v. *ahti*).[9] This occurrence suggests that **ĀχtiR* was a Proto-Scandinavian male name, from which the Finnish *Ahti* 'skilled rich warrior' was borrowed.

When was *Ahti* borrowed? The probative sound shape of the name indicates that *Ahti* was borrowed after the Proto-Scandinavian sound change /aiχ/ > /āχ/, but before the similarly Proto-Scandinavian sound changes *i*-umlaut and /χt/ > /tt/ (Wessén 1966: 18–22, 29, 1968: 15–21, 33, 36; Haugen 1976: 153, 155; Ralph 2002: 706–708, 710, 714; Heikkilä, forthcoming). These facts strongly suggest that *Ahti* 'skilled rich warrior' was borrowed from Proto-Scandinavian into Early Finnish between ca. 300 and 500 CE, i.e. approximately during the Migration Period (ca. 375–550 CE) (cf. the dating of the name *Kaleva* in Heikkilä 2012b: 109). This *Ahti* is probably the oldest one, excluding the marginally used name *Aihti*, which is of the same origin and even older.

I further argue that the homophonic *Ahti* with the attested meanings 'deity of water, forest, earth and wind' is of a completely different origin (cf. Siikala 2012: 374). This *Ahti* was probably borrowed into Finnish and Karelian from the Late Proto-Sami noun (SaN *áhčči*, SaLu *áhttjē* 'father' <) **āhččē* 'father' (← EPSa **ȧćȧ* ~ **ȩćȧ* ~ **εćȧ* ~ PF **iśä* > Fin *isä* 'father') (cf. Lehtiranta 1989: 10–11; Álgu s.v. *áhččі*). The Sami word *áhččі* 'father' occurs as an element (epithet) in many ancient Sami deity-names, e.g. the supreme god *Radien Attje* (cf. *Juppiter* "Skyfather", *Pater Noster* and *Our Father*), and it is also an honorific name in the Sami

[8] Another marginally used form of the same personal name is included in the rhyme verses "Armas *Haahti* (< **Aahti*, cf. **ĀχtiR*) saaren vanhin, saaren kuulusa kuningas" ["Dear Ahti, the eldest one on the island, the king of the island"] (SKVR 2006). The initial consonant is prothetic. There are parallels for both the prothetic initial /h/ and the lengthening of the initial syllable vowel before /h/ (see SSA passim). In this case, the prothesis is probably explained by influence of the common noun *haahti* 'boat' after the analogical new base form *haahti* had arisen from the earlier and regularly developed *haaksi* (see SSA s.v. *haahti*).

[9] The Old Danish male name *Atti* possibly has the same etymon (Jørgensen 2011: 53–54).

languages (see Laestadius 2011: 53–58, 63–64, 74, 77). A similar initial syllable vowel substitution occurs, for example, in the names *T**a**mmerkoski*/*T**a**mpere* (← LPSa **TǫmBǫlkuoškǫ*) and *P**a**jainen* ‘name of the Finnish thunder-god in the landscape of Savo’ (← ESa **Pǫjānjǫ* > SaN *b**a**ján* ‘thunder’, *B**a**ján*, *P**ä**jän* (Haavio’s orthography) ‘thunder-god’) (see Haavio 1967: 85; Sammallahti 1998: 89–90; Heikkilä 2012a: 60–65). A similar medial consonant substitution occurs in the Finnish common noun *auhto* ‘damp depression, grove along a river’ (← LPSa **āvčō* > SaN *ávžu* ‘damp grove’, SaLu *ávttso* ‘thicket in damp terrain’) (cf. Fin *aihki* ‘very tall pine’) (SSA s.v. *aihki*, *auhto*; Álgu database s.v. *ávžu*; Aikio 2009: 245). The theonym *Ahti* was probably borrowed from Late Proto-Sami during the Late Iron Age and the already existing homonymic *Ahti* possibly slightly affected its phonetic shape.

In conclusion, the synchronically polysemic name *Ahti* is actually likely to be diachronically a triple homonym of 1) Proto-Scandinavian, 2) Continental Germanic, and 3) Late Proto-Sami origin, but because of this homonymy the originally different lexemes have become intermingled, contaminated, and they have affected each other both phonetically and semantically. A parallel case is found in the Finnic runes, where the warrior *Ahti* (i.e. *Ahti Saarelainen*) and the similar figures *Kaukamoinen* (*Kaukomieli*, *Kauko*(*i*)), *Lemminkäinen* and *Veitikka*/*Veitikkä* are often intermingled (Turunen 1979: 12–13, 111; Siikala 2012: 280).

3. On the semantically related characters *Ahti Saarelainen*, *Kaukomieli*, *Faravid* and *Torre*

One of the several manifestations of the polysemic name *Ahti* is *Ahti Saarelainen* (see above). I assume that the characters *Ahti Saarelainen* and *Kaukomieli* (*Kaukamoinen*, *Kauko*(*i*)), both occurring in Kalevalaic folk poetry and meaning ‘skilled rich warrior’, are partly historically motivated. Like some other scholars, I equate *Kaukomieli* with the King of Kvenland, *Faravid*, mentioned in the Icelandic Egil’s Saga (NB Icel *saga* means ‘history’, not ‘fairytale’). The name *Faravid*[10] “Wide-traveller”, which is not authentic Old Norse, is probably a “home-made” translation of an Old Finnish personal name **Kaukamieli* “Mind longing for the faraway”.

[10] The lacking Old Norse nominative singular ending *-r* points to a foreign origin of the name (cf. the autochthonic North Germanic male name *Eirikr* with the originally Continental Germanic male name *He*(*i*)*nrik_*).

(Julku 1985: 88–92, 1986: 72–80; Salo 2003: 47–52, 2008: 275–282). Unto Salo (2003: 52, 2008: 276–279) has surmised that Faravid, alias **Kaukamieli* (cf. *Kaukamely* from the municipality of Köyliö in 1422 CE), once lived in the manor on *Saari* "Island" (whence *Saarelainen* "Islander") in the Köyliönjärvi lake. Next to this island lies a smaller island called *Kaukoluoto*/*Kaukosaari*. Lalli, the murderer of the apostle of Finland Bishop Henry ("herra Heinärikki") who died in Köyliö in the 12th century CE, is commonly associated with the same island and manor (Haavio 1948: 70–77; Suvanto 1987: 150, 157; Ahl 2007: 138; see also Heikkilä 2013). It is precisely here on Saari in the Köyliönjärvi lake that Finland's richest Iron Age pagan graveyard has been excavated (Salo 2004: 376–382).[11] The burial place dates back to 975–1150 CE. The historical King Faravid was obviously a very wealthy and famous warrior and chieftain from the historical province of Satakunta, and *Aihti*/*Ahti* appears to have meant property, as I have suggested above. The difference between a chieftain and a king is purely semantic, and indeed the Finnic word *kuningas* 'king' is an old Germanic loanword, whose *terminus ante quem* for the borrowing is *i*-umlaut and the syncope of the final syllable, i.e. ca. 600 CE at the latest.

Unto Salo (2008: 158–163) has proposed that another King of Kvenland, Finland and Gotland mentioned in Icelandic sagas, namely *Þorri* (< LPScand **Þorrē*), could have been a historical person as well. A rich chieftain grave of the Gotlandish type was found and excavated in Kalanti (on whose name see Heikkilä 2012b: 111–113) in the year 2004. The site is situated in the modern village of Soukainen. In the vicinity, there is a village called *Torre* (cf. the old farm name *Torra* in Sastamala in Satakunta), where there is a spring called *Torren lähde* "Torre's spring" (Salo 2008: 163, 2012: 205, 394; Heikkilä 2012b: 110). The grave dates to the second half of the 4th century CE (cf. the age of the names *Ahti* and *Kaleva*). A Scandinavian mythical giant called *Fornjótr* ("Ancient Giant"), who is claimed to have been the first King of Kvenland in the Icelandic saga *Fundinn Noregr* ("Found Norway"), is certainly a totally fictive mythical being, but his grandson's grandson *Þorri* need not necessarily be that (see Julku 1986: 60–72). It would not be the first time in the history of humankind that a historical king is claimed to be a descendant of a divine supernatural being.

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[11] Another old and famous manor called *Saari* is situated on the coast of the Archipelago Sea in the municipality of Mynämäki in south-western Finland (Diplomatarium Fennicum No. 219; MapSite).

Consequently, there may after all have been chieftains called *kuningas* 'king' in southwestern Finland during the Roman Iron Age (ca. 1–400 CE), the Migration Period (ca 400–600 CE) and the Merovingian Period (ca. 600–800 CE), as some Finnish nationalistic circles claim in their alternative, "non-Swedish-minded" interpretation of Finland's history based on for example medieval Icelandic sagas (see e.g. The Association of Finnish Culture and Identity), but – slightly embarrassingly for such Finnish nationalists – these "Kings of Finland and Kvenland" would not have been ethnic Finns by birth, but Scandinavians (cf. Kallio 2000: 96–97; Salo 2008: 156–163). However, I think that *Þorri* is more likely a fictive figure, but *Torren lähde* may well have functioned as an ancient place of worship, where the Finns (Kvens) and Scandinavians from the Laitila-Kalanti region (= the original Kvenland (Heikkilä, forthcoming)) sacrificed to *Þorri* (= a god) in order to ensure good skiing conditions in winter. Good skiing conditions were needed in excursions to Lapland (Salo 2003: 34–36, 54–58; Heikkilä, forthcoming). One of the dead in the Saari graveyard was indeed buried wrapped in a reindeer hide (Salo 2004: 382). The sound shape points to the conclusion that the name *Torre* was borrowed from the Late Proto-Scandinavian stratum of mythical proper names because *Þorri* still had the sound shape **Þurzan* 'dry snow' in Early Proto-Scandinavian (Heikkilä 2012b: 110). Regardless of the historical authenticity of the Kings of Finland and Kvenland, the lexical and cultural Germanic influence on Finnic has indisputably been both strong and prolonged in any case.

4. *Vellamo* and *velloa*

It is commonly assumed that the name of the female water spirit *Vellamo* and its variant form *Vellimys* have emerged by agent participle derivation from the Finnish verb *velloa* 'surge, heave' (cf. Fin *vellova* 'surging, heaving'), whose only cognate is the Karelian verb *velluo* 'id.' (Turunen 1979: 377–378; USN: 176; SSA s.v. *velloa*). I find this etymology quite obvious. However, the verb *velloa* itself lacks a convincing etymology. In the etymological dictionary *Suomen sanojen alkuperä* (SSA), this verb is assumed to be descriptive and descriptiveness is implicitly taken as being the origin of the word. But a descriptive word can equally well be a loanword. Descriptiveness does not in itself indicate the origin of the lexeme in question but its semantic properties. Besides, when the origin of the word in question is unknown, it is easy for the etymologist to hide

behind the distribution and descriptiveness of the word (see Anttila 2002: 93–94; Räisänen 2010: 512–513).

A straightforward Germanic loan etymology can be posited for the verb *velloa*. The Old Icelandic verb *vella* means ‘to flow, well forth, boil, bubble, gush’ (< PScand **wellan*), and the Old Saxon verb *biwellan* means ‘foam, boil’ (Bjorvand & Lindeman 2007: 1280–1281). However, this etymology has previously been overlooked (see SKES s.v. *velloa*). The Finnish noun *velli* ‘gruel’ has been borrowed from the Swedish word *välling* ‘gruel’, which is a nominal derivative from the same Germanic verb (SSA s.v. *velli*). The Lithuanian word *vilnis* ‘wave’ and the Old Church Slavonic *vlina* ‘wave’ also belong to the same Indo-European word family, but judging from the phonetic shapes, *velloa* can hardly be considered a Baltic or Slavic loanword. Furthermore, the Germanic verbs lie semantically closer to the Finnish verb *velloa* than the Baltic and Slavic noun. Thus, the Germanic word matches better as the etymon of the Finnish verb *velloa*.

Similarly descriptive are the verbs *vipattaa* ‘swing to and fro’ and its variant forms *vipajaa* and *vipottaa* (SSA s.v. *vipattaa*). However, one can find rather a straightforward Scandinavian loan-etymology for these as well. The etymon is the Proto-Scandinavian verb **wiþatjan*, from which the Swedish verb *vifta* ‘to swing’ has developed (Hellquist 2008: 1340). A phonetically parallel case to the second-syllable syncope and the derivational suffix is the Swedish verb *vänta* ‘wait’, which has developed from the Proto-Scandinavian form **wānatjan* (Bjorvand & Lindeman 2007: 1285). Also consider PScand **ainakjōn* > OSwe *ænkia* ‘widow’ (> Swe *änka* ‘widow’), Nor *enkja* ‘widow’, Icel *ekkja* ‘id.’ as regards the phonetic developments (Hellquist 2008: 1440).

5. Conclusions

The main purpose of this article has been to throw light on the etymology of the proper names *Ahti* and *Vellamo* as well as the verb *velloa*. As I have suggested above, *Ahti* is not one diachronically speaking, but an interesting case of triple homonymy. It has hopefully become evident in both this article and my previous article (Heikkilä 2012b) that there are significant Germanic elements in Finnic Iron-Age mythology, since the names of a number of important characters in Finnic mythology are Germanic loanwords stemming from different periods of the Iron Age, e.g. *Ahti*, *jatuni* ‘giant’, *Kaleva*, *kalevanpoika* ‘strong giant’, *kave*(*h*) : *kape*(*h*)*en*

'creature, mythical being/maiden' (~ SaLu *guobas* 'witch'), *menninkäinen* 'troll', *Niera*, *Tiera* and *tursas* 'sea-monster' (cf. Siikala 2012: 432–449). This is not, however, surprising considering the fact that a considerable amount of the whole Finnic lexicon is of Germanic origin (on which see LÄGLOS I–III), which makes the Finnic languages an essential source of knowledge in historical Germanic linguistics (Koivulehto 1984: 15; Heikkilä, forthcoming). As regards the discussion about *Ahti Saarelainen*, *Kaukomieli* and *Faravid*, for instance, it appears as if some fictional mythical characters may have been based on a real-world person or persons.

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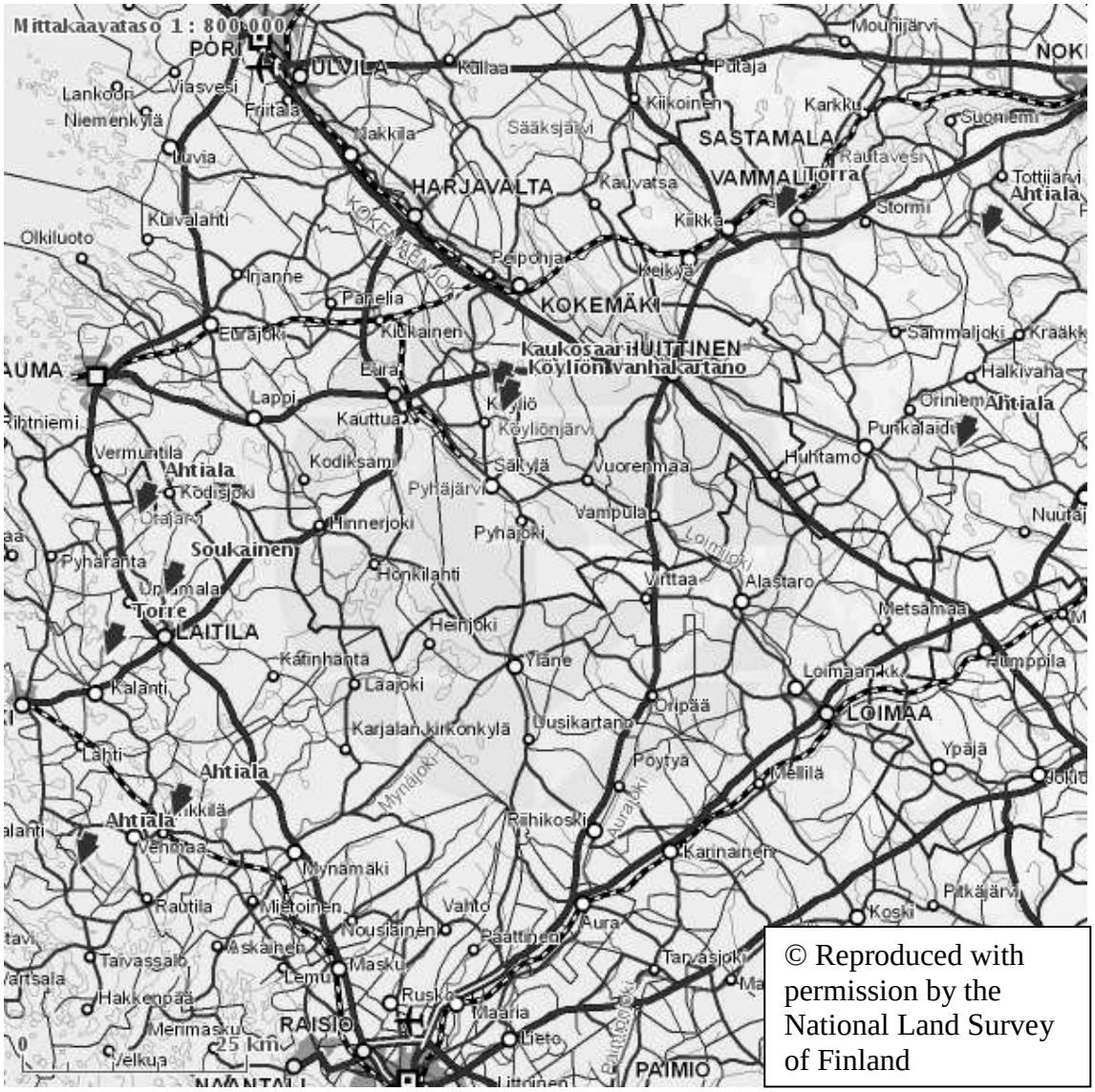
Appendix

A map of place-names referred to in the article



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Abbreviations

A → B = B is borrowed from A; B is derived from A
A > B = A develops into B
* = reconstructed sound shape
** = impossible or non-existing sound shape

dat. = dative
Eng = the English language
EPSa = Early Proto-Sami (ca. 600–1 BCE)
EPScand = Early Proto-Scandinavian (ca. 160–500 CE)
ESa = Early Sami (ca. 600–1000 CE)
Fin = the Finnish language
gen. = genitive
Ger = the German language
Got = the Gothic language
Icel = the Icelandic language
LPFin = Late Proto-Finnic (ca. 1–500 CE)
LPSa = Late Proto-Sami (ca. 1–600 CE)
LPScand = Late Proto-Scandinavian (ca. 500–800 CE)
nom. = nominative
Nor = the Norwegian language
OE = Old English (ca. 700–1100 CE)
OHG = Old High German (Althochdeutsch) (ca. 750–1100 CE)
ON = Old Norse (fornvästnordiska = norrønt) (ca. 800–1350 CE)
OSwe = Old Swedish (ca. 1225–1526 CE)
PF = Proto-Finnic (ca. 1000 BCE–500 CE)
PScand = Proto-Scandinavian (urnordiska) (ca. 160–800 CE)
SaLu = Lule Sami
SaN = North Sami
sg. = singular

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Maija Hirvonen

Sampling Similarity in Image and Language – Figure and Ground in the Analysis of Filmic Audio Description

Abstract

Audio description can be defined as intermodal translation in which the visual representation (for example, of a film) is verbalised and spoken in order to facilitate and enhance reception by visually impaired audiences. By its very essence, audio description requires analysing the relation of language to non-linguistic, visual representation. The theory of Figure and Ground segregation has been developed for both visual perception and language to explain how we perceive "thing-like" figures and "substance-like" grounds in space. This segregation is reflected in language by coding certain elements as figures in reference to a more (static) ground. This paper addresses the Figure and Ground theory both in visual representation and in its linguistic translation. On the basis of theory-led sample analyses on a contemporary film and its different-language audio descriptions, this study presents evidence that the verbal representation can parallel the visual segregation of Figure and Ground. Furthermore, it discusses the application of the theoretical Figure and Ground characteristics and suggests some clarification to them.

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1. Introduction[1]

Audio description (AD) can be defined as a type of intermodal translation that substitutes for visual perception and enhances it by verbal, spoken descriptions (for example, see Cámara & Espasa 2011: 415; Hirvonen 2012: 21–22). For the blind and for others with a severe loss of sight, AD is a capacitating aid that renders the visual world accessible; for people with milder degrees of low vision, it supports visual perception. As AD aims at verbalising a range of visual and, occasionally, auditory phenomena, it can be applied in a variety of situations, such as film, theatre, television as well as art and museum exhibitions.[2] However, this verbalisation is conditioned by contextual and modal factors (see Hirvonen 2012: 23). In a film, both the dialogue and important sound effects restrict the time available for AD. The soundtrack itself must be taken into account in the verbalisation because sounds may also require a verbal description. Finally, the change from the visual to the linguistic mode means, for instance, that an iconic, naturalistic form of representation is conceptualised and abstracted. (Ibid.)

Regardless of the differences, both visual and verbal representations are presupposed to be perceived in terms of Figure and Ground segregation. F/G segregation originates from Gestalt psychology and explains how we organise space to accommodate figure/s and a ground (for example, see Koffka 1936). Figure is described as being smaller and perceptually more salient than Ground, which is used to define Figure. Furthermore, Ground is larger and less defined than Figure. This theory is also applied to explain the perception of film images (Bordwell 1985) and film sound (ibid.; Branigan 2010). In language, Figure and Ground have two different aspects. Figure may be understood as the extra-linguistic object and Ground as the extra-linguistic terrain of reference, or they can be

[1] Several people have contributed to this study. The idea of studying the variation between Figure and Ground first occurred to me while Paula Igareda and myself were analysing this data for other purposes. I am indebted to her for her help in data collection and transcription. I also extend my thanks to Lee Bye and Martina Wiemers for providing the English and German AD scripts for research purposes. Discussions within the Langtram community of the Langnet doctoral programme have been illuminating. In particular, I would like to thank Jukka Mäkisalo and Liisa Tiittula for their support and feedback. Paula Igareda and Bernd Benecke have assisted me with the English translations. Finally, the three anonymous reviewers as well as the language reviser have greatly contributed to improve this paper.

[2] Examples of good introductions to AD are the edited books by Díaz Cintas, Orero and Remael (2007) and by Fix (2005).

understood in terms of foregrounded information (Figure) and back-grounded information (Ground) (Engberg-Pedersen 2011).

As AD involves translation from images to language, it provides data to compare F/G segregation intermodally. Moreover, AD provides a new context and research interest for the study of cognitive phenomena – in particular those that can be triggered and accessed both visually and verbally. Vandaele (2012: 96–97) maintains accordingly that the descriptive parameters developed within the framework of Cognitive Linguistics, such as the "figure-ground alignment", can be used to describe the "mental imagery produced by narrative texts" in general and by AD in particular. The question therefore is whether the verbal description in AD renders a similar idea of spatial organisation as the film image.

The present article is a methodological study that applies the theories of F/G segregation to compare visual and verbal representation in both a film and its different-language audio descriptions. This analysis has two main objectives: The first is to test the theories on the analysis of film imagery and AD. The second is to compare the F/G segregation of the visual representation to its verbal translations in different languages. This orientation to research can lead to detecting interesting differences and parities between the visual and verbal representations concerning Figure and Ground. Furthermore, this study tests the explanatory power of the theories of F/G segregation and suggests a way to apply them. The data are from a mainstream feature film *Slumdog Millionaire* (Boyle & Tandan 2008) and from the audio descriptions of this film in three languages: German, English, and Spanish.

This article is structured as follows. After the theories of F/G segregation are surveyed in Section 2, these theories are applied to the analysis of film and AD in two sample cases in Section 3. The results of the analysis are summarised in Section 4, and the fifth and final section presents the conclusions of this study.

2. The Figure and Ground theories

In this section, I will outline the main ideas of F/G segregation in the cognitively oriented theory of psychology, film and language.

2.1 Figure and Ground in the visual perception and representation

Perception can be defined as a conscious awareness of something, be it thoughts or feelings or environment (Hatfield 2001). According to the cognitive theory of visual perception, a basic process in the visual perception of space is F/G segregation. More specifically, visual perception begins by identifying textures and objects in space, and the next stage involves discerning forms and grouping objects (Evans 2010: 29–31). It is at this point that the principle of Figure and Ground segregation becomes useful. As Evans (2010: 31) observes, this relates to the fact that

> a fundamental way in which we segregate entities in our environment, thereby perceiving distinct objects and surfaces, comes from the our [sic] ability to perceive certain aspects of any given spatial scene as 'standing out' from other parts of the scene.

Even if F/G segregation seems to be an innate human ability, it occurs individually. In other words, each mind organises its visual environment potentially in different terms; hence, the optical illusion known as 'Rubin's vase'[3] can be perceived differently depending on whether we perceive the faces or the vase as Figure (ibid.).

The Gestalt theory defines the aspects or perceptual differences that define the segregation of a visual scene into the categories of Figure and Ground. According to Evans (2010), this theory proposes the characteristics that are listed in Table 1.

Table 1. Figure and Ground characteristics in visual perception (Evans 2010: 32)

Figure	**Ground**
Appears to be thing-like	Appears to be substance-like
A contour appears at edge of figure's shape	Relatively formless
Appears closer to the viewer, and in front of the ground	Appears further away and extends behind the figure
Appears more dominant	Less dominant
Better remembered	Less well remembered
More associations with meaningful shapes	Suggests fewer associations with meaningful shapes

[3] For example, see Goldstein (2010/2007: 108) for a reproduction of Rubin's vase.

Since Evans (2010) provides a summary and disregards more detailed explanations of the attributes of Figure and Ground, resorting to an original source of Gestalt psychology can be useful. Most of these characteristics are found in *Principles of Gestalt Psychology* by Kurt Koffka (1936). In Koffka (ibid.), a central feature is "duo formation", which is described in the table above as the near-distance relation. Figure appears to be in front of Ground, which extends behind Figure (Koffka 1936: 178f.). Furthermore, the *thing*-ness of Figure is also asserted by the properties of solidness and shape, while Ground is "stuff", loose and unshaped (ibid. 187; see also Köhler 1947). If we are more concerned with Figure than with Ground, as Koffka suggests ("where the interest lies, a figure is likely to arise", ibid. 186), this may explain why Figure is better remembered and more easily attributed meaning. Concern can refer to memory, so that because some object is more easily remembered, such as the vase in the Rubin's vase illusion, that object may be interpreted more readily as Figure (Goldstein 2010/2007: 108).

In the everyday scenes we perceive, what then may be conceived of as Figure and Ground? In a landscape such as a street, the sky is Ground while the houses, constituting a shape that stands in contrast to the sky, are Figures (Koffka 1936: 209; Köhler 1947: 186–187, 202). Similarly, for example, a pencil on a desk would appear as a well-marked part, as Figure, while "the desk appears as a relatively formless, featureless mass", that is, Ground (Ehrenstein 2001: 11229). Moreover, Ehrenstein argues that Ground is not necessarily behind Figure: "For example, in looking through a window at a tree, the window screen appears as ground, but is clearly seen in front of the figure, the tree". In addition, the F/G segregation of the visual field is a dynamic event rather than one that is static. The "multivalence of the stimulus field" means that objects and surfaces are definable as Figure or Ground depending on where one's attention is directed. (Ibid.)

Bordwell (1985) adapts the F/G segregation to cinematic audiovisual representation. A central idea of this cognitively oriented theory of film narration is that spectators construct the story space and its components – "figures, objects, and fields" – on the basis of visual and auditory narrative cues (ibid. 113). Consequently, several visual cues in the shot space – the scenographic space delineated by the four frames of the camera – engage

spectators in F/G segregation. This account by Bordwell can be related to the Gestalt characteristics in the following ways:[4]

- *A contour appears at edge of figure's shape*; *Appears closer to the viewer* (F) / *Appears further away* (G): According to Bordwell (1985: 113), overlapping contours differentiate Figure(s) from Ground. This means that when one contour occludes another, we attribute the occluding edge to a near object (Figure) and the other edge to a distant one (another Figure, or the Ground) (ibid.). It is also possible to have more than one Figure on a scene (see Ehrenstein (2001) on the dynamicity of F/G segregation). With respect to near-distance relations, films are capable of furnishing various depth cues. Lighter, warmer, and intense colours seem closer than darker, cooler ones. Furthermore, the knowledge of perspective, that is, how straight lines behave in depth, helps to organise elements in space. Rougher and denser textures also stand out, whereas smoother and less dense textures recede. Bordwell summarises this as follows: "The more indistinct the surface, shape, color, or mass of an object is, the more distant we assume that object to be". (Bordwell 1985: 114.)
- *More associations with meaningful shapes* / *Better remembered* / *Appears more dominant*: The familiar size of objects, such as people, helps "decide what is nearer or farther away" (Bordwell 1985: 114). Furthermore, illumination suggests shapes and areas by highlighting and shadowing. For instance, backlight reinforces the Figure and Ground differences by suggesting planes. Some elements therefore seem to have a clearer shape (Figure), while others are more amorphous (Ground). By guiding our eyes to certain parts of space, light can render some aspects more dominant (Figure), whereas shadow obscures others (Ground). (Ibid.; see also Bordwell & Thompson 1990: 134.)

Another characteristic of Figure that is central in cinema, being *movies*, is movement. This is one of cinema's most important cues for object identification and spatial relations, creating a continuous flow of overlapping contours and "strengthening figure/ground hypotheses"

[4] Kress & van Leeuwen (2006/1996) also describe how visual properties, such as placement in the foreground or background, sharpness and light, affect the "reading" of the (film) image.

(Bordwell 1985: 114). Yet another crucial factor when discussing contemporary films is sound; it segregates to Figure and Ground as well (Koffka 1936: 201; Bordwell 1985: 118–119). For instance, silence can be Ground, although it could be the opposite in a city, Figure (Koffka ibid. 201). In the sonic space, high-pitched tones tend to emerge as Figure from the lower Ground tones (Bordwell ibid.). Apart from the visual representation and in coordination with it, films build "on the relationship of sounds to one another – sonic figure and ground – [and] on the fluid relationship of sounds to an image" (Branigan 2010: 55).

While some characterisations of Figure and Ground that are proposed by the Gestalt theory and by its application to film are intuitively understood ('thing/substance', 'shape/non-shape', and 'closer/more distant'), other aspects remain somewhat ambiguous. For instance, should we understand 'dominant' in terms of size, amount, intensity, or some other property? One answer from the filmic representation is that in terms of intensity, light and colour can be connected to dominance. Regarding the characteristics 'better/less well remembered' and 'more/less associations with meaningful shapes', familiarity seems to be an important aspect of Figure-ness, strengthening meaningfulness and recall.

2.2 Figure and Ground in the linguistic representation

In the linguistic mode, F/G segregation generally has two different meanings. Figure may be understood either as the extra-linguistic object that is referred to by the linguistic expression, or as the knowledge or information that is foregrounded. Similarly, Ground not only refers to the extra-linguistic terrain that is referred to, but may be understood in terms of knowledge or information that is backgrounded. Engberg-Pedersen (2011: 693) distinguishes three different usages of Figure/foregrounding:

1. "The centre of attention as a result of the context, which influences the choice of subject, e.g., *The bike* in *The bike is in front of the house*." The prominent entity in the sentence is Figure.
2. "The centre of attention coded in the sentence as the asserted part, i.e., *is in front of the house*." This suggests that the focus of the sentence is Figure.
3. "The centre of attention that the sentence brings about in our understanding of the represented situation, i.e., the view of the situation that is encoded in the sentence and that makes us

> conceptualise the scene with the bike as the figure and the house as the ground in the Gestalt-psychological sense." This points to the extralinguistic reference entity as Figure (and Ground).

In the present study, Figure and Ground in the linguistic representation are used in the meaning of extra-linguistic figures and grounds, reserving other notions, such as foregrounding and backgrounding, for the pragmatic domain of language.

In the cognitive linguistic framework, F/G segregation is considered to be a linguistic-conceptual phenomenon and is termed 'figure-ground alignment/assignment' (Langacker 1987; Talmy 2000). One instantiation of figure/ground alignment is the trajectory/landmark asymmetry in which elements are predicated in relation to each other so that a trajectory (figure) is "tracked" against the background of other elements (Langacker ibid. 231–232). This study adopts the account by Talmy of extra-linguistic objects and terrains of reference. According to this theory, Figure is "a moving or conceptually movable entity whose path, site, or orientation is conceived as a variable" and which therefore "needs anchoring", whereas Ground is "a reference entity, one that has a stationary setting relative to a reference frame, with respect to which the Figure's path, site, or orientation is characterized"; Ground "does the anchoring" (Talmy 2000: 312). Figure and Ground therefore refer to the extra-linguistic concept or referent as well as to its linguistic realisation. The same conclusion is made by Engberg-Pedersen (2011: 693): "Talmy here [in 2000, 2007] uses *Figure* and *Ground* both of the linguistic entities, i.e., the nominals and clause constituents, and of the referents in a described situation".

A frequently cited example of F/G assignment in language is:

> The bike (F) is near the house (G).
> The house (F) is near the bike (G).
> (Talmy 2000: 314.)

The first sentence specifies *the bike* as Figure, as a conceptually movable entity whose site is described with reference to *the house*, which therefore is the reference entity. The second sentence assigns *the house* as Figure and *the bike* as Ground; a situation that, as Talmy notes, does not "conform with the exigencies of the familiar world" because it is less familiar to conceive of 'house' as variable point and of 'bike' as its reference point. (Ibid.)

Talmy (2000: 315–316) lists a set of characteristics that define Figure and Ground. These are presented in Table 2.

Table 2. Figure and Ground characteristics according to Talmy (2000: 315–316)

	Figure	**Ground**
Definitional characteristics	Has unknown spatial (or temporal) properties to be determined	Acts as a reference entity, having known properties that can characterize the Figure's unknowns
Associated characteristics	more movable	more permanently located
	smaller	larger
	geometrically simpler (often pointlike) in its treatment	geometrically more complex in its treatment
	more recently on the scene/awareness	more familiar/expected
	of greater concern/relevance	of lesser concern/relevance
	less immediately perceivable	more immediately perceivable
	more salient, once perceived	more backgrounded, once Figure is perceived
	more dependent	more independent

The presentation by Talmy (2000: 315–316) of the Figure and Ground characteristics evokes similar questions as those that arose in the characteristics presented by Evans (2010). Talmy's formulation lacks illustration and explanation of some of the features. Certain characteristics even seem controversial and leave open questions. What exactly does 'perception' in "less/more immediately perceivable" refer to, and is the Ground feature of "more immediately perceivable" not in contradiction to the idea that Figure draws attention more easily and is, so being, more immediately perceivable?

Again, additional illustration of the characteristics can be detected in a field that applies F/G segregation to narration: cognitive poetics. Cognitive poetics draws from the cognitive linguistic tradition and considers F/G segregation to be a basic part of a narrative analysis (Stockwell 2002: 15). Since AD has traits of narrativity (Kruger 2010), cognitive poetics can be a useful tool for the analysis of F/G segregation in the audio descriptions. Indeed, some of the Figure characteristics proposed by Talmy (2000; see Table 2) find an equivalent in those suggested by Stockwell (2002: 15):

- *More movable*: Figure will "be moving in relation to the static ground" (Stockwell 2002: 15).
- *Of greater concern/relevance*: Figure will "be more detailed, better focused, brighter, or more attractive than the rest of the field" (Stockwell 2002: 15), if concern and relevance are defined in terms attractiveness and focus of attention.

The remaining Figure characteristics in Stockwell (2002: 15) are comparable in distinct degrees to Talmy (2000) and to the Gestalt theory. For instance, in Stockwell's terms, Figure will "be regarded as a self-contained object or feature in its own right, with well-defined edges separating it from the ground", which seems to conform to two features from the Gestalt framework, namely "appears to be thing-like" and "a contour appears at edge of figure's shape" (Evans 2010: 31–32). However, one contradictory feature is when Figure will "be on top of, or in front of, or above, or larger than the rest of the field that is then the ground" (Stockwell 2002: 15). Talmy (2000: 315–316), in contrast, assigns Groundness to a *larger* element. Another Figure feature from Stockwell, "be a part of the ground that has broken away, or emerges to become the figure", is interesting because it seems to hint at the dynamic relations of Figure and Ground (Ehrenstein 2001), or that parts of Ground can become Figure. Cognitive poetics also links Figure and Ground to concrete narrative entities: characters are Figures and settings Grounds. For instance, characters "have boundaries summarized by their proper names" and "are likely to be the focus of the narrative"; they also move through different settings, that is, across Ground, and evolve psychological traits and perform wilful action (as opposed to attributive or existential action used to describe Ground). The tendency of focusing on characters appears to be due to our interest in tracking their experience in the story. (Stockwell 2002: 15–16.)

3. Testing the theories: Analysing the Figure and Ground in *Slumdog Millionaire* and in the audio descriptions in English, German and Spanish

This section explains the test analysis and presents the two sample cases. The main focus of the analysis is to discern whether the language of the audio descriptions and the extra-linguistic, visual mode of the film are similar in terms of F/G segregation and how the F/G theories may be

utilized as methodological tools. To address this aim, the analysis is a twofold process:

1. The theory of F/G segregation, developed by the Gestalt psychology, as well as its application in the cognitive approach to film (Bordwell 1985) are used in the analysis of the visual filmic representation. How this framework lends itself to the analysis of visual scenes is tested on two sequences of *Slumdog Millionaire* (Boyle & Tandan 2008).
2. The cognitive linguistic theory of F/G assignment by Talmy (2000) is adopted in the analysis of the linguistic representation in AD, and it is supplemented by insights from the cognitive poetics presented in Stockwell (2002). The suitability of the framework in the analysis of language is tested on three audio descriptions of the film sequences, including a UK-English version, a standard-German version and a Peninsular-Spanish version.

The film *Slumdog Millionaire* recounts the story of a boy, Jamal, who lives a difficult childhood with his brother Salim in the slums of Mumbai but then becomes a millionaire on the television show entitled "Who wants to be a millionaire?" and succeeds in rejoining his childhood friend and loved-one, Latika. This film has been audio described on DVD in three languages: English (UK), German (Germany) and Spanish (Spain). In the present study, two sequences from the film have been selected for analysis because they contain two different cases of F/G segregation. In Case 1, an element that is Figure in the first shot becomes Ground in the next one; in Case 2, something that first serves as Ground later becomes Figure (see Herman 1996: 563). These shifts illustrate a familiar situation in (film) narratives: the story action moves from a primary setting (for example, a street) to a secondary location, which itself is located in that setting (for example, a car on the street) (see Schubert 2009: 63).

In order to visualise the shot space, I provide black-and-white drawings of the film shots (see Shot protocols 1 and 2).[5] Above the drawings, a text in `COURIER CAPITALS` describes the soundscape (the sound effects, dialogue, and music) in each shot. The plus symbol '+' refers to a new sound, and the arrow symbol '→' indicates the continuity of a sound between shots. The time code indicating the beginning and the end of the

[5] The drawings are by Eero Tiittula.

sequence adheres to the original version of the film. In the linguistic analysis, the audio descriptions of the sequences are aligned in a table (see Transcriptions 1 and 2). The English, German, and Spanish versions are arranged from left to right, labelled as AD-EN, AD-DE, and AD-ES, respectively. The transcriptions are divided into cells to resemble the way in which they are heard during the film shots. Above the transcriptions, the comments on the soundscape occur in `COURIER CAPITALS`. The translations into English from the German and Spanish audio descriptions are provided in *italics* and are employed in the body text with single quotes unless the analysis requires the use of the original language. The passages that are the focus of interest in the transcriptions appear in bold font.

Although the filmic soundscape provides important cues for the narrative and also segregates to Figure and Ground, this soundscape is not analysed in depth in this study and it is beyond the scope of the present article. It should be mentioned, however, that the different AD versions of the film allow for distinct perceptions of the original sound. Firstly, the number and length of the descriptions vary (compare, for instance, the English and the Spanish version in Case 2/Shot 1), and, secondly, the volume of the describer's voice can be louder than the soundscape and prevent some of the softer film sounds from being heard. For instance, it may be difficult to distinguish the whirring sound in the background of the Spanish AD in Case 2/Shot 2, as one concentrates on the verbal description. During pauses in the AD, however, sounds stand out (see Hirvonen & Tiittula 2012: 393–394).

3.1 Sample case 1: Figure becomes Ground

In this case, a visual element that is Figure in the first shot becomes the Ground of the character action in the following shot. The sequence narrates an event in Jamal's childhood. Jamal, Salim and Latika are being transported from the poor conditions they have lived in, collecting waste in a rubbish dump, to a more prosperous life in an orphanage.

Shot protocol 1. "The bus sequence" (00:23:53–00:24:15 / *Slumdog Millionaire*)

BIRDS SINGING + A DISTANT DRONE OF AN ENGINE	→ BIRDS → DRONE + WHOOPS OF JOY + A WHIRR	→ A DISTANT DRONE + KIDS CHEERING

Shot 1 Shot 2 Shot 3

The first shot depicts a landscape of a forest and buildings from a distance. A road traverses the forest, and on the road is a small (yellow-coloured) object moving along it. It is a minibus (this is represented in the drawing by the small, rectangle-like figure in the middle). We may identify the bus as the same one that transported Jamal, Salim, Latika and other children from the rubbish dump in the previous sequence. In contrast, this landscape has not appeared previously in the film.

Moving in the landscape, the bus "appears to be thing-like" and has "contours" that form its square "shape", which means that it can be "associated with a meaningful shape" (see Evans 2010: 32). This shape moves – in fact it is the only thing that seems to be mobile – and therefore attracts attention. As Bordwell (1985) observes, movement is a strong cue for Figure-ness. Movement reinforces the association with a meaningful shape since the nature of buses is that they move. Due to its light, yellow colour, the bus stands out from the landscape (see ibid.). Although the entire scene appears far away from our vantage point (the camera's standpoint), the bus does seem to hold the Figure feature "in front of the ground" (Evans 2010: 32) because, as described above, it stands out from the scenery due to its physical qualities. Narratively, too, the bus receives Figure features. For example, based on the previous narration, it is "better remembered" (ibid.) than the landscape, which is a new element. When recognised as a bus – and moreover, *the* bus from the previous scene – the element becomes familiar and the focus of narrative attention, and it consequently receives a stronger Figure-ness (see Stockwell 2002). Being Figure, the bus also ought to appear "more dominant" than the landscape (Ground) (see Evans 2010: 32). Yet in this shot, the landscape-Ground is more dominant in terms of size or surface as it fills the image. On the other hand, the light colour contrast against the darker environment serves to

highlight the bus and thus renders it more dominant in terms of attention. Dominance may also be defined in terms of movement (Figure in a *movie* is mobile relative to the static Ground) or narrative weight (movies tell stories about people and their action). Moreover, the audible droning sound of an engine confirms acoustically the visible movement (see Fryer 2010: 207), thereby foregrounding the bus in the scene and strengthening its Figure-ness.

Shot 2 no longer depicts the bus as a "thing" in its whole but rather as "substance", as horizontal and vertical structures in the background (which, in the present context, can be identified as walls and windows of a bus). The characters' faces and upper bodies now fill the frame, and their action, facial expressions and body movement are in the foreground and attract attention. The backlight silhouettes the characters and reinforces their shape. At the same time, the space that is visible from the bus windows can also be regarded as Ground because it is an indistinct bright area (although some objects in it are recognisable later in the shot). F/G segregation thus seems to have a proportional hierarchy. In other words, in relation to the characters, the bus is Ground, but in relation to the bus, the outside space is Ground. This confirms the dynamicity of F/G segregation that is noted by Ehrenstein (2001). In addition, based on the previous narration and recognising familiar characters, we infer that the vantage point is now the interior of the bus. The visual closeness correlates with the soundscape as the droning of the engine has grown louder (see Fahlenbrach 2008: 96). The change in volume represents the perspectival change realistically and the continuation of the sound confirms that the bus is (still) moving and that the location of action has not changed (see Schubert 2009: 120). The Figure-ness of the children in Shot 2 is also enhanced by the point-like whoops of joy that poke out of the soundscape.

The third shot reiterates the Figure function for the bus, but the bus is one of several Figures (playing children) against Ground (a courtyard). The moving bus appears in the upper-right corner of the image, but is less distinguishable than in Shot 1 and less audible than in Shot 2. Accordingly, the scene entails various Figures and all are moving and may also attract narrative attention. For example, the bus appears as an old, familiar element, and the children as new, potentially relevant narrative entities.

Let us now turn to examine the three audio descriptions of this sequence.

Transcription 1. "The bus sequence"

	AD-EN (00:23:53)	AD-DE (00:23:29)	AD-ES (00:23:53)
Shot 1	BIRDS SINGING AND CHIRPING + A DISTANT DRONE OF AN ENGINE		
	(The boys grin and gulp down the drinks.) **The minibus** is driving through lush countryside.	**Der Kleinbus** tuckert eine Straße entlang, vorbei an grünen Bäumen und weiten Feldern. ***The minibus*** *is chugging along a street, passing green trees and extensive fields.*	Más tarde, los tres niños han montado **en la furgoneta amarilla de los desconocidos**. *Later, the three children have got* ***on the yellow minibus of the strangers****.*
Shot 2	→ BIRDS → DRONE + WHOOPS OF DELIGHT + A WHIRR		
	The bus is full of scruffy street kids, gazing **out of the windows**. **The bus** arrives at a large dilapidated residence…	**Im Bus** sitzen Jamal und Salim zwischen anderen Kindern. ***In the bus****, Jamal and Salim are sitting among other children.* Neugierig sehen sie **aus dem Fenster**. *With curiosity, they look* ***out the window****.*	Están sorprendidos y confiados ante la generosidad de los hombres. *(they) Are surprised and trustful due to the generosity by the men.*
Shot 3	→ A DISTANT DRONE + KIDS CHEERING		
	…where numerous children of all ages run around playing in the yard.	Eine Lichtung mit einem Gebäude, dem Waisenhaus. *A clearing with a building, the orphanage.* Kinder laufen umher. *Kids run around.*	**La furgoneta** llega a un poblado lleno de niños que juegan alegremente. ***The minibus*** *arrives at a settlement full of children who are playing joyfully.*

In the first description, ***The minibus*** *is driving through lush countryside* (AD-EN) and '**The minibus** is chugging along a street, past green trees and extensive fields' (AD-DE), both the English and German audio descriptions treat BUS[6] as Figure, that is, it is a moving entity ('the minibus is chugging'; *the minibus is driving*) whose path ('chugging along […] passing…'; *driving through*) is a variable with reference to an entity that has a stationary setting, i.e. Ground ('trees […] fields'; *countryside*). (See Talmy 2000: 312.) The Spanish audio description, 'Later, the three children have got **on the yellow minibus of the strangers**', deviates from the two other AD versions. The Spanish description assigns BUS a Ground function by using a locative prepositional phrase ('on the yellow minibus'), which serves as a reference entity for the action of the character-Figures ('the three children have got on'), and thus anticipates the spatial composition of

[6] Words that are written in capital letters refer to extra-linguistic referents.

the second shot, in which BUS is Ground. Moreover, 'later' marks an explicit temporal transition to a new scene (see Hirvonen 2012: 35).

In the second description, the English and German audio descriptions converge once again: ***The bus*** *is full of scruffy street kids, gazing out of the windows* (AD-EN) and '**In the bus**, Jamal and Salim are sitting among other children' (AD-DE).[7] By making the bus the first element, they continue with the familiar theme from the previous description (*the minibus* → 'in the bus'*/the bus*). Even though BUS is Ground in both, it assumes different syntactic roles. In the AD-EN, it takes the subject role (*the bus is* [...]), and it is the head of a locative PP in the AD-DE (*im Bus*). The Spanish AD diverges again by describing the characters: '(they) Are surprised and trustful due to the generosity by the men'. According to Talmy (2000), this expression is a meta-Figure in that it describes a state of affairs or a property (ibid. 330–332): "Figure and Ground are the same objects (i.e., the Figure constitutes its own Ground)" in a self-referencing event of motion or stationariness (for example, 'the balloon is round'). With a self-reference, the action in the story seems to halt as a state of affairs or as a property that is focused on (see Chatman 1978: 74), and the spatial attention is narrowed down to Figure (see ibid. 102 and Hirvonen & Tiittula 2012: 389). Yet the Ground function of BUS persists implicitly due to the continuity of the droning sound and to the *Prinzip der Raumkonstanz*: the location remains the same if no change is indicated (Schubert 2009: 119). Otherwise, the rise in volume implies that the vantage point is now closer (see Hirvonen & Tiittula 2012: 419). The audible whoops give voice to the characters in the scene, and the audio descriptions assign a Figure function to them.

With reference to the different linguistic representations of BUS in the AD-EN and AD-DE, Talmy (2000: 333) offers a similar example: "Smoke (F) slowly filled the room (G)."/"The room (G) slowly filled with smoke (F)." Talmy argues that the F/G assignment is retained even though the grammatical relations change because the distinction of the variable-point versus the reference-point persists. In the AD-EN, the subject in the utterance *the bus is full of scruffy street kids* functions as an anchor that determines the site of the *scruffy street kids*, whereas in the AD-DE, the locative PP ('in the bus') serves explicitly as a reference entity for the characters' site (see Talmy 2000: 333). The difference arises from the

[7] The sentences illustrate how the extra-linguistic Ground assignment (the bus/'in the bus') disagrees with the pragmatic Ground assignment (the bus/'in the bus' as the focal entity of the sentence) (see Engberg-Pedersen 2011: 693).

vantage point, that is, "where one places one's mental eyes to look out over the rest of the scene in reference" (ibid.). While with the AD-DE solution it feels as if one is inside the bus, the AD-EN description has a more outsider aspect to it and seems to infer that the bus is visualised as a whole entity. Another difference can be detected in the character reference. While the AD-DE recognises the two characters as Jamal and Salim, thus enhancing their grade of familiarity, the AD-EN simply says *street kids*. Indeed, many Figure features comply with KIDS. For example, they are "conceptually movable" and "smaller" than BUS, and as characters are typically the focus of a narrative, they are also "of greater concern/relevance" (see Talmy 2000: 314–316; Stockwell 2002).

Moving on to the descriptions *gazing* ***out of the windows*** (AD-EN) and 'With curiosity, they look **out of the window**' (AD-DE), the English and German audio descriptions imply schematic coherence with regard to BUS by referring to a constituent part of buses, *window/s* (see Schubert 2009: 150–152; Hirvonen & Tiittula 2012: 404).[8] The definite article *the* implies that the reference entity for the act of looking is (still) BUS, which receives a Ground function. Further cues for treating BUS as Ground are the locative adverb *out* (AD-EN) and the locative preposition *aus* (AD-DE); they encode the referent as a region (see Schubert 2009: 172). In contrast, the AD-ES offers the following description: '**The minibus** arrives at a settlement full of children who are playing joyfully', orienting to 'the minibus' as Figure against 'a settlement' as Ground. The same occurs in the next description of the English AD: ***The bus*** *arrives at a large dilapidated residence where* […]. Hence, the AD-EN and the AD-ES redefine the F/G assignment: 'the minibus'/*bus* is now the moving, thing-like element – Figure – that *arrives* at a place, 'a village full of […]'/*a large dilapidated residence where* [...], functioning as Ground.

3.2 Sample case 2: Ground becomes Figure

Case 2 is the beginning of another sequence from Jamal's childhood in which a famous Indian actor visits Jamal's slum in a helicopter. The first shots in the sequence show Jamal relieving himself in an outhouse, a wooden shack. The primary interest lies in the shack element that has different functions in terms of Figure and Ground. Case 2 presents a

[8] Schematic coherence depends on the recipient recognising that windows are constituent parts of buses (see Schubert 2009: 154).

reverse situation of Case 1. This means that the place of action (Ground) of one shot becomes a "thing" (Figure) in the next. However, as we will see in the analysis, it is debatable as to what extent this thing is defined either as Figure or as an element of Ground.

Shot protocol 2. "The toilet sequence" (00:10:10–00:10:19 / *Slumdog Millionaire*)

A BUZZ OF A FLY + CLANKS + A SILENT HUM + A DISTANT WHIRR	DISTANT BARKING OF A DOG + A HELICOPTER BUZZES + A DISTANT WHIRR	→ HELICOPTER → WHIRR + DISTANT SINGING OF BIRDS
		
Shot 1	Shot 2	Shot 3

Shot 1 begins by framing a metal bucket that is being lifted from the floor (this is not depicted in the drawing). The camera then tilts up to reveal the face of the lifter (as the drawing shows), who we recognise as Jamal. He is squatting in a narrow space surrounded by what seems to be timber walls. Yet the character in the foreground attracts attention immediately. A light entering from above highlights his upper body and face and defines his contours, so that we recognise not only a human shape, but the character himself. These properties attribute Figure features to the character. He also moves – his arms lift the metal bucket and his facial expression alters – and this movement is a further and significant cue for Figure. Conversely, the timber walls in the background have several Ground features. For instance, they remain static and appear more substance-like, having some form (resembling timber). The walls also extend behind the character who covers most of the frame and is therefore more dominant in size than what is visible from the timber. The walls seem more distant and in the background due to the darker colour and the brightly lit character in front. This character is likely to be better remembered at this point because he has featured in previous scenes, whereas the timber walls are seen for the first time. In short, the character is more familiar, propels the action and might therefore attract more attention than the wall; these are, again, Figure features.

The second shot depicts another character, Jamal's brother Salim, seated on a chair outside the timber wall of a construction. Against the sky,

this construction is thing-like and has a shape, and, due to the timber wall, it can also be recognised from the previous shot. Hence, Ground in the first shot (timber walls) becomes Figure in the second shot (shack). However, the character and the chair also appear thing-like and their contours and shapes are well defined against the sunlight, so that in relation to the character, the Figure function of the shack may be questioned. The character appears better defined, is in front of the shack and mobile, and may be more readily associated with a meaningful shape (a human) than the shack. Moreover, the character's Figure-ness is enhanced by its function to propel action in a mainstream narrative.

Moving on to the third shot, the vantage point becomes significantly more distant than in the two previous shots: In the sequence, the view departs from the interior of the hut (Shot 1), shifts to its immediate exteriors (Shot 2) and shows the surrounding environment from the perspective of a bird's eye view (Shot 3).[9] In this third shot, the dynamic nature of Figure and Ground prevails: though the shack now features more clearly as a "thing" in the landscape-Ground (there are three of them), it is also part of that landscape – is it therefore part of Ground rather than Figure? According to Stockwell (2002: 15), Figure can also be "part of the ground that has broken away, or emerges to become the figure". For example, the movement of a few characters in the scene is observable by their walking along the path in front of the shacks, whereas the shacks are stationary. Conceptually, the shacks, too, are mobile: their location could be changed. Other Figure characteristics apply as well. As mentioned above, the shacks are thing-like. They are also situated in front of the background consisting of a pond, vegetation and the sky, and have a clearly distinguishable shape. In fact, the shacks appear to be more defined than the characters due to the backlight. Being present in Shots 1 and 2, the shack is also remembered better than the other elements in Shot 3. However, character movement is also likely to attract attention.

Let us now examine the linguistic F/G assignment in the sequence.

[9] The spatial construction of the sequence thus follows the principle of 'out of component parts' that is presented in Bordwell & Thompson (1990: 215), whereas the spatial composition in Case 1 follows the principle of 'analytical breakdown' (ibid.).

Transcription 2. "The toilet sequence"

	AD-EN (00:10:10)	AD-DE (00:09:45)	AD-ES (00:10:10)
Shot 1	A BUZZ OF A FLY + CLANKS + A SILENT HUM + A MELANCHOLIC TONE (?)		
	The five-year-old Jamal squats over a hole **in a makeshift shanty toilet**.	Im Slum. *In the slum.* Der siebenjährige Jamal hockt **in einem kleinen Holzverschlag** und blickt verträumt vor sich hin. *The seven-year-old Jamal squats **in a small wooden shack** and stares dreamily into space.*	Recuerda y vuelve al pasado de su infancia. *He remembers and goes back to his childhood.* Jamal, en cuclillas sobre un agujero, hace sus necesidades **en el interior de una caseta de madera**. *Jamal, squatted over a hole, relieves himself **inside a wooden shack**.*
Shot 2	DISTANT BARKING OF DOG + A HELICOPTER BUZZES + A DISTANT WHIRR		
	Salim sits guard **outside**.	**Draußen** wartet Salim. ***Outside**, Salim waits.*	Su hermano Salim está sentado **frente a la puerta**. *His brother Salim is sitting **in front of the door**.*
Shot 3	→ HELICOPTER → WHIRR + DISTANT SINGING OF BIRDS		
	A man rushes down **towards the toilets**.	**Der Verschlag** steht am Ende eines Stegs. ***The shack** stands at the end of a plank.*	**Son retretes comunales**. ***(they) Are public lavatories**.* No hay saneamiento alguno… *There is no sanitation whatsoever…*
(Shot 4)	(**All** are occupied.)	(Zu beiden Seiten liegen weitere Stege **mit Verschlägen**.) *On both sides, more planks **with shacks**.*	(… y las heces de todo el mundo caen a un pozo común **desde los agujeros**.) *and the faeces of everybody fall into a common pool **from the holes**.*

On the first reference to SHACK, all three audio descriptions refer to it with a locative PP that serves as reference entity for the subject's (Jamal) action:[10] *The five-year-old Jamal squats over a hole **in a makeshift shanty toilet*** (AD-EN), 'The seven-year-old Jamal squats **in a small wooden shack** […]' (AD-DE), and 'Jamal, squatted over a hole, relieves himself

[10] Before referring to Jamal and the shack, the German AD furnishes a short description of the location *im Slum* 'in the slum' and thus renders a different amount of spatial information than is shown visually (a close-up of a character) (see Hirvonen 2012: 24, 29). The Spanish AD also begins by an explicit shift to a new scene: 'He remembers and goes back to his childhood.' This utterance describes Jamal remembering, an action which the sighted audience interprets from the look on his face, shown in the preceding shot, and from the flashback that follows the look.

inside a wooden shack' (AD-ES). The '(small) wooden shack'/*makeshift shanty toilet* can be assigned several Ground characteristics. This is Jamal's location and the reference entity for his squatting. It is also conceived of as more permanently located and larger than the character (the character is INSIDE of it).

Next, all three audio descriptions treat Salim as Figure in the sense that his whereabouts are determined in relation to an outside space. In other words, *Salim sits guard* ***outside*** (AD-EN), '**Outside**, Salim waits' (AD-DE), and 'His brother Salim is sitting **in front of the door**' (AD-ES). The locative adverb *outside* is contextually determined through its relation to the previously introduced place of action, that is, the shack/toilet, which makes SHACK Ground anew. The AD-ES locates Salim 'in front of the door', which activates the SHACK schema (shacks have doors) and seems to assign Figure and Ground more specifically than the English and German descriptions by implying "in front of the shack door". In contrast, 'outside' is more open-ended and potentially complex, so that one must ask what exactly this outside space consists of. In this regard, the AD-EN provides another kind of cue: 'to sit guard' implies an action that involves a vicinity of the actor towards the referent entity, which in this case is SHACK; the person who *sits guard* must be somewhere near the toilet. Therefore, the AD-DE seems the most implicit by both the locative expression ('outside') and the verb ('waits'), which does not imply proximity in the same way as *sits guard* does.

In continuation, the English version pauses but the German and Spanish audio descriptions proceed. In the AD-DE, SHACK converts to Figure ('**The shack** stands at the end of a plank') and is conceptualised as a subject whose location ('stands') is determined in reference to ('at the end of') another element ('a plank'). SHACK is also active and conceptually movable in that it *steht* 'stands'. Moreover, given that the slum is the overall Ground in the AD-DE (recall the first utterance 'in the slum'), SHACK is a smaller and geometrically simpler element. This is also valid for PLANK, as it is a new element and more recently on the scene/awareness. Thus, when framed against the larger spatial entity, the slum, both SHACK and PLANK can be conceived of as Figures. With the next utterance, 'On both sides, more planks **with shacks**', they merge into one Figure, PLANKS WITH SHACKS, consisting of "a multiplicity of points" (Talmy 2000: 312). The AD-ES also refers to SHACK and presents it as Figure but with a distinct approach. Instead of referring to the physical aspects of the scene, the Spanish AD predicates a functional property by '**(they) are public**

lavatories'. The verb *son* '(they) are' refers to SHACK anaphorically since the action that is carried out in it (Jamal relieving himself) relates to the function of lavatories. Instead of one, several SHACKS are identified as toilets. The utterance represents a meta-Figure that describes a property (ibid. 330–332), and the description of a property creates a pause in the story action (Chatman 1978: 74). The AD-ES sequence ends with 'There is no sanitation whatsoever and the faeces of everybody fall to a (common) pool **from the holes**'. The locative PP 'from the holes' evokes the SHACK schema again and assigns it a Ground function.

The English AD continues at the end of the sequence with utterances that extend beyond Shot 3 and these are discussed here because they assign F/G segregation to SHACK: *A man rushes down towards the toilets. All are occupied*. The locative PP *towards the toilets* features as the reference entity, Ground, for the man-Figure's action (*a man rushes down*).[11] The toilet referent is now in the plural, which implies the presence of more than one SHACK. In *all are occupied*, *all* refers anaphorically to *toilets*, yet the passive voice of the sentence seems tricky to interpret in terms of F/G assignment. One interpretation is that due to the passive form *are occupied*, *all* (toilets) are Ground with an embedded or implied Figure; another possibility is that the referent is a meta-Figure (*all are*) that is characterised by a state of affairs (*occupied*) (see Talmy 2000: 331–332). Nonetheless, assigning a meta-Figure function to *all* may present a problem because "being occupied" schematically entails an actor or actors – being occupied by someone – in which case the toilets would be the reference entity, that is, Ground.

4. Results

The analysis showed that the verbal representation of a visual scene can parallel the visual F/G segregation and that the different AD versions both converge and diverge in the verbal F/G segregation. The first shot in both Cases 1 and 2 seems to render the most unanimous segregation. For example, in Case 1, BUS was first assigned the Figure function in the visual composition as well as in the German and English audio descriptions; the Spanish audio description diverged from this order by not describing the first shot *per se*. For most of the time, the English and German audio

[11] A similar case can be found in Talmy (2000: 330): "The red leaf drifted toward the brown leaf".

descriptions proceed "shot by shot", following the visual F/G segregation. The Spanish AD also reflects the spatial organisation of the imagery in terms of Figure and Ground, except for the first shot, but it does this asynchronously to the film shots. As a consequence, the narrative progresses differently in the AD-ES, resulting, for instance, in different combinations of sound and descriptions as in the AD-EN and AD-DE. In the first shot of Case 2, all three audio descriptions corroborate the Ground-ness of SHACK.

However, as the sequences of Case 1 and 2 continue, the linguistic F/G assignment becomes more varied. The audio descriptions do assign BUS a Ground function in the second shot of Case 1, but the English version refers to the Ground element as a grammatical subject (*the bus is full of…*). In the third shot of the sequence, the German AD excludes a reference to the bus completely (a description of the bus comes later). In Case 2, depending on what one relates SHACK to in the second and third shots, Figure and Ground may be assigned differently. With regard to the characters, it is Ground, but in relation with the landscape, it is Figure. Thus, the dynamic nature of F/G segregation plays a role here. After the second shot, the corresponding audio descriptions are indirect and refer to SHACK by an implicit schematic and contextual link (*outside*/'in front of the door'). In the third shot, the linguistic F/G assignment in the audio descriptions differs even more: the AD-DE describes it as Figure ('the hut stands…' and '…more huts with planks'), the AD-EN refers to it as Ground in plural (…*towards the toilets*), and the AD-ES assigns it as meta-Figure ('(they) are public lavatories…'). The passive voice in *all are occupied* is an interesting case since it seems to be more open-ended in terms of F/G segregation (a self-referencing Figure and/or the embedded Ground-ness of SHACK).

As for applying the Figure and Ground theories to the analysis, much of the F/G segregation seems to be definable by a few characteristics. For example, in the visual representation with features such as 'thing-like versus substance-like' and 'appears closer/in front versus further away/behind,' and in the linguistic representation with the characteristics 'spatial properties to be determined versus a reference entity,' 'more movable versus more permanently located,' and 'smaller versus larger'. If, as Talmy (2000: 316) maintains, the definitional characteristics are determinative of Figure and Ground functions, then the question emerges whether and to what extent the rest of the features, in particular the "associated characteristics" (ibid. 315–316), should be applied in the

linguistic analysis. Case 1 touched on the challenge of defining dominance in the feature pair 'appears more/less dominant.' Dominance seems to be definable in terms of both narrative and physical properties. An element not being visually dominant but still encoded as Figure in the AD (recall the bus in the landscape in Case 1) implies that dominance can be understood in terms of narrative relevance. Or, is it that the other Figure features such as movement override dominance in this case? In addition, the analysis of the first case raised incertitude in the characteristic 'more recently on the scene/awareness / more familiar/expected'. Due to the thematic continuity – the familiarity based on the preceding narration – BUS seems "more familiar/expected", which is a Ground feature, than "more recently on the scene/awareness", which should characterise Figure. In contrast, the referents presented as Ground – *lush countryside* (AD-EN) and *eine Straße* 'a street' (AD-DE) – are new elements and therefore more recently focused on. What type of temporal frame is intended with 'recentness' remains obscure.

5. Conclusions

Since audio description refers to translating images into words, it requires studying the relation of language to non-linguistic, visual (and auditory) representation. The framework of Figure and Ground exists in the theory of both visual-perceptual and linguistic-cognitive representation and is therefore suitable for this kind of study. A limitation might be that the present study does not experiment on perception. The Gestalt theory is aimed at explaining how people perceive the environment, whereas here it is applied to model representation. In the present study, the theories of F/G segregation have been applied to the analysis in order to track Figure and Ground in the visual and linguistic data and, basing on the findings, to discuss intermodal differences and similarities of F/G segregation.

Segregating Figure and Ground in a narrative film seems to involve two types of characteristics: physical appearances and qualities such as shape, movement, lightness/colour and proportions, and functional properties such as narrative familiarity and dominance. Indeed, both bottom-up, such as object recognition, and top-down, such as narrative hypotheses, processes are in play while perceiving and interpreting films (Bordwell 1985; Vandaele 2012). In general, perception is governed by the principles of perceptual salience (for instance, the salience and intensity of the material) and subjective proximity (such as self-centredness) (see Wenz

1996: 278). These principles evoke thoughts that relate to the Figure and Ground characteristics. It seems that they can be divided along the dyad of perceptual–subjective, meaning that certain characteristics stem from perceptual salience while others relate to subjective preferences or orientations (though Wenz's subjective proximity refers to the concrete position from which one perceives the things surrounding oneself). Thus, the following Figure features (from the Gestalt account) are defined by the salience of material properties: *appears to be thing-like; a contour appears at edge of figure's shape; appears closer to the viewer and in front of the ground*. Other Figure features are determined more subjectively: *better remembered; more associations with meaningful shapes*. As the analysis demonstrates, the characteristic *appears more dominant* can have both a perceptual and a subjective basis. This also applies to the linguistic Figure (and Ground) characteristics. Thus, *has unknown spatial properties; more movable; smaller; geometrically simpler* and *less immediately perceivable* relate to perceptual salience, and *more recently on the scene/awareness* and *of greater concern/relevance* are more subjective. The characteristics that remain obscure are *more salient; once perceived* and *more dependent* and these could have both perceptual and subjective origins.

In a similar fashion, the verbalisation foregrounds certain aspects of the visual elements (Verhagen 2007: 50) that the present data illustrate with the references *kleinen Holzverschlag*/*caseta de madera* '(small) wooden shack' in Case 2. The expression '(small) wooden shack' refers to physical properties, size, material and type of the construction, whereas the expression *makeshift shanty toilet* profiles a function by the noun *toilet*. In addition, the attributes *makeshift* and *shanty* connote its possible location (slum, shanty town) as well as qualities (inferiority, poverty). As a matter of fact, this duality seems to parallel the two basic regularities people utilise when perceiving visual scenes. The first concerns physical regularities, when orienting to the physical properties of the environment, and the second is related to semantic regularities, when attending to the functions carried out in the scene (Goldstein 2010/2007: 115–117). One explanation for the superiority of sight over other senses in terms of spatial perception is offered by the concept "the gist of a scene", that is, the rapid identification of the essential characteristics and regularities of a view (see ibid. 114). In AD, the way of perceiving the gist of a scene can be compensated for by naming and categorising the view (for example, *countryside*) (see Seiffert 2005: 77). However, by so doing, the linguistic representation seems to render Ground "thing-like", while a "substance-

like" description (for example, *hazy green surfaces*) probably takes longer to utter. Related to this is a particular style of AD that aims at facilitating the following of the story, furnishing the viewers with clear cues about places of action or other narrative entities (see Ofcom 2000).

Although the results of the present study that point to the similarity and differences of conceptualisation are tentative, they are nonetheless intriguing. Regarding these differences, we may ask whether more differences arise when the visual source representation is more complex in terms of Figure and Ground.[12] This might suggest that the more ambiguous or dynamic the F/G relations are in the source material, the more varied the different versions of AD become. The linguistic-cultural framework of the data is Western, so further research is needed to determine whether greater divergence appears in other cultures, such as between the European and Asian AD, as cognitive differences between these have been observed (see Nisbett & Norenzayan 2002). Another issue is how languages prefer, or more easily employ, certain conceptual structures and what consequences this has on F/G segregation or other perceptual-cognitive aspects as well as on AD, in particular to the translation of the AD scripts between different languages. For instance, what shifts occur in the description of movement when a script is translated between "manner" and "path" languages such as English and Spanish (for the terms 'manner' and 'path', see Papafragou, Hulbert & Trueswell 2008)? Having said this, it is important to remember that AD does not necessarily reflect the perception that has taken place before the verbalisation since there may be a difference between a non-linguistic event perception and a linguistic conceptualisation of a scene. A study by Papafragou, Hulbert & Trueswell (2008) indicates that when people prepare to speak about what they see, they may allocate visual attention differently than when no verbal description is requested. This similarity in scene perception without verbalisation also appears cross-linguistically (ibid.). An intriguing conclusion regarding AD is that, between different-language descriptions, the "original" perception of the visual scene by the audio describers could be mutually similar but, due to undertaking the specific task of verbalisation, differences arise because of differences in the linguistic framework.

In conclusion, AD generates a range of topics to be studied from the perspective of the cognitive and psychological phenomena that are reflected in or constrained by language. As space continues to be the focus

[12] I would like to thank the reviewer for pointing out this issue.

of interest when studying the relation between language and thought (for instance, see Evans & Chilton 2010; Levinson 2003; Pütz & Dirven 1996), AD could be utilised as naturally occurring data of perception and verbalisation. Future research could involve experimental and observational studies on the perception, production and reception of the AD.[13] Learning more about the effects that AD has in the minds of the audience and about how audio describers explain, discuss and share their conceptualisations of the visual or audiovisual source material would benefit not only science, but also the practice. Both fields would also be advanced by consistent, audience-involved and in-depth analyses of the perception and interpretation of the soundscape and of the describing voice.

Filmography

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[13] A special issue of *Perspectives: Studies in Translatology* (Mazur & Kruger 2012) reports AD-related reception research with a cross-linguistic and -cultural rationale, and Cristóbal Cabeza-Cáceres' doctoral thesis at the Autonomous University of Barcelona analyses the reception of AD, more specifically, how the speed of speech, intonation and the explicitation of narration affect the comprehension of AD.

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Experimenting with *Pro-drop* in Spanish[1]

Abstract

This paper investigates the omission and expression of pronominal subjects (PS) in Buenos Aires Spanish based on data from a production experiment. The use of PS is a linguistic phenomenon demonstrating that the grammar of a language needs to be considered independently of its usage. Despite the fact that the observed Spanish variety is a consistent pro-drop language with rich verbal agreement, the data from the present study provide evidence for a quite frequent use of overt PS, even in non-focal, non-contrastive and non-ambiguous contexts. This result thus supports previous corpus-based empirical research and contradicts the traditional explanation given by grammarians that overtly realized PS in Spanish are used to avoid possible ambiguities or to mark contrast and emphasis. Moreover, the elicited semi-spontaneous data indicate that the expression of PS is optional; however, this optionality is associated with different linguistic factors. The statistical analysis of the data shows the following ranking of the effects of these factors: grammatical persons > verb semantics > (syntactic) clause type > (semantic) sentence type.

1. Introduction

It is well known that Spanish is a pro-drop ("pronoun-dropping") or null-subject language whose grammar permits the omission of pronominal

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subjects (PS). The widespread term "pro-drop" emerged from the Principles and Parameters model of language within the Generative framework (Chomsky 1981). The newest Generative typology of the pro-drop parameter (see Biberauer, Holmberg, Roberts & Sheenan 2010: 6–13) suggests four identifiable types of null-subject language that facilitate the omission of subjects: Expletive null-subject languages (e.g. German), partial null-subject languages (e.g. Finnish), discourse (radical) pro-drop languages (e.g. Chinese), and consistent null-subject languages (e.g. Spanish). The latter group characteristically shows "rich" verbal agreement inflection (see Section 2).

The use of PS in Spanish constitutes not only a source of contexts with empty subject pronouns, but it also offers many examples of contexts in which the subject is but does not have to be expressed. The subject position must always be empty (Ø) in impersonal and generic structures such as (1a–b), as well as in sentences with inanimate reference (1c):

(1) a. Ø *Está* *lloviendo.*
Ø be.3SG.PRES.IND rain.GERUND
'It is raining.'

b. Ø *Llaman* *a la puerta.*
Ø call.3PL.PRES.IND at the door
'There is someone at the door.'

c. Ø *Está* *sobre la mesa* (*el libro*).
Ø be.3SG.PRES.IND on the table (the book)
'It is on the table (the book).'

Personal sentences in Spanish, however, show null-overt subject pronoun variation, i.e. a subject pronoun can be overtly realized or not (see Example 2):

(2) a. Ø *Estoy* *cantando.*
Ø be.1SG.PRES.IND sing.GERUND
'I am singing.'

b. *Yo* *hablo* *español.*
I.NOM speak.1SG.PRES.IND Spanish
'I speak Spanish.'

Moreover, there are instances in Spanish in which null-overt subject pronoun variation does not occur, i.e. in which an overt pronoun or a null subject is always required. The first case arises when the pronominal subject is interpreted as a focus (3a) or as a contrastive topic (3b); the second case occurs, for instance, in coordination clauses (2nd position) (3c) or in imperatives (3d):

(3) a. *Yo estoy cantando y no Juan.*
I.NOM be.1SG.PRES.IND sing.GERUND and not John
'I am singing and not John.'

b. *Juan habla checo, pero yo hablo eslovaco.*
John speak.3SG.PRES.IND Czech but I.NOM speak.1SG.PRES.IND Slovak
'John speaks Czech, but I speak Slovak.'

c. *Pedro canta y Ø toca la guitarra.*
Peter sing.3SG.PRES.IND and Ø play.3SG.PRES.IND the guitar
'Peter sings and plays the guitar.'

d. *¡ØAbre la puerta!*
Ø open.2SG.IMP the door
'Open the door!'

Extensive research on the use of PS in Spanish combines different perspectives that are usually treated separately in the literature. Traditional Hispanic grammar throughout the past century (e.g. RAE 1973; Badia Margarit 1988; Alarcos Llorach 1994) asserted that the lack of PS is admissible in Spanish due to verbal affixes, which function as proper subjects in clauses (compare with the typological account of *World Atlas of Language Structures* in Dryer 2005). In contrast to this perspective, the Generative framework introduced the empty category *pro*, which occupies the subject position in finite sentences (e.g. *pro hablo* 'I speak') (see e.g. Chomsky 1981, 1995; Rizzi 1982, 1986 for general pro-drop properties; for Spanish see e.g. Bosque 1989; Fernández Soriano 1999; Luján 1999). In addition, this approach investigates the different morphosyntactic and licensing conditions for *pro* and its overt counterpart (see e.g. Montalbetti 1984), it describes cross-linguistic variation and explains language change (see e.g. Fischer 2010) as well as language acquisition (see e.g. Isabelli 2004). The traditional Generative (e.g. Rizzi 1986) as well as Hispanic (e.g. Alarcos Llorach 1994) view on the omission of pronominal subjects in

languages like Spanish is that it is conditioned by "rich" verbal agreement (e.g. *cant**o*** 'I sing'; *cant**amos*** 'we sing', etc.). In contrast to the omission of PS, the expression of PS has been explained using reasons such as ambiguity resolution, contrast, and emphasis. While the first reason addresses the syncretism in the inflectional marking of subject person in certain tenses or moods (e.g. *hablaría* 'I/(s)he would speak'; *hablaba*, 'I/(s)he talked'), the latter deal with their pragmatic functions in discourse. It is important to note that the PS must always be phonetically realized when interpreted as a focus or a contrastive topic (cf. 3a and 3b), whereas their expression is not obligatory in cases of ambiguity (grammatical features), as the inflectional syncretism can be disambiguated by the context (see e.g. Silva-Corvalán 2001).

In comparison to the grammarians' – mostly descriptive non-empirical – point of view, numerous corpus-based studies have examined the variable use of subject pronouns in Spanish (e.g. Bentivoglio 1987; Bayley & Pease-Álvarez 1997; Silva-Corvalán 2001; Lipski 2002; Amaral & Schwenter 2005; Orozco & Guy 2008; Posio 2008, 2011; Aijón Oliva & Serrano 2010, among many others). These empirical analyses have indicated that the variation between null and overt subject pronouns is primarily motivated by internal factors – structural features of a language or dialect – such as grammatical person, morphological and contextual ambiguity, verb semantics, clause type or switch-reference. External – social – factors, which are usually addressed in the variationist studies of the Labovian (sociolinguistic) tradition, do not seem to play a decisive role in the observed phenomenon (see e.g. Bentivoglio 1987; Silva-Corvalán 2001). Regarding the use of PS, the finding of a cross-dialectal variation can be considered to be one of empirical investigations' most interesting contributions (see Table 1):

Table 1. Overt subjects as percentages of the total in different locations (from Otheguy, Zentella & Livert 2007)

Rate of overtly realized PS	**Location**
19%	Mexico
24%	Colombia
27%	Ecuador
33%	Cuba
35%	Puerto Rico
41%	Dominican Republic

As can be observed, the Caribbean dialects (e.g. Puerto Rico, Dominican Republic) exhibit the highest rates of overt pronoun usage among the Spanish dialects. This suggests that these varieties realize overt PS very frequently, even in pragmatically neutral contexts in which the close-to-standard varieties (e.g. Spain, Mexico) prefer empty pronouns (cf. RAE 2010: §33.4c). Some Caribbean varieties also allow for the realization of pronominal subjects in impersonal structures or sentences with inanimate reference (cf. 1a–c). For instance, it is possible to say *Ello está lloviendo* ('It is raining') or *Él* (*el libro*) *está sobre la mesa* ('He (the book) is on the table') in Dominican Spanish (see Henríquez Ureña 1939; Toribio 2000; Hinzelin & Kaiser 2006 for these dialects).

Most empirical studies are based on spoken (e.g. Barrenechea & Alonso 1977) or written (e.g. Lu 1997) language corpora. This paper offers a novel viewpoint pertaining to empirical research on the use of PS in Spanish. It investigates the realization of subject pronouns in semi-spontaneous speech obtained through an elicited production task conducted with 13 native speakers of *Porteño*, the Spanish variety spoken in Buenos Aires. Its aims are twofold: (1) to determine whether a correlation exists between the use of pronominal subjects and selected (intra-)linguistic factors, and (2) to demonstrate that the use of a production task may lead to a better understanding of the usage of grammar in a natural, subconscious way. The study has two hypotheses: First, it is predicted that the overt realization of PS is possible, even in spite of non-focal, non-ambiguous and non-contrastive contexts (**hypothesis 1**). This assumption contradicts the standard explanation given by grammarians and confirms the findings of previous corpus-based empirical research. From this point of view, it thus supports Newmeyer's statement (2003: 25) that "Grammar is Grammar and Usage is Usage", i.e. that the grammar of a language must be characterized independently of its usage. The idea underlying this assumption is that "grammar contributes to an explanation of language use, but usage, frequency, and so on are not represented in the grammar itself" (Newmeyer 2003: 6). But what does this mean? In terms of the phenomenon under investigation, the grammar of Spanish (in a narrow sense syntax and/or morphosyntax) assumes that the pronoun subject must be omitted. Native Spanish speakers are usually conscious of this property when comparing it to a second language such as English (non-pro-drop language), in that the PS must be almost always realized (e.g. '**He** told me that **he** was in Argentina'). However, the use of PS in Spanish, especially in spoken language, seems to be subconscious, and is varied with regards to different,

mainly semantic, discourse and pragmatic, factors. As mentioned above, most previous corpus-based empirical studies have shown that it is necessary to consider various intervening factors concerning the use of PS in Spanish. My investigation concentrates on four linguistic variables: (1) grammatical person (*yo* 'I', *vos* 'you-SG (familiar)', *él*/*ella* 'he/she', *usted* 'you-SG (formal)', *nosotros* 'we', *ustedes* 'you-PL', *él*/*ella* 'they'), (2) verb semantics (epistemic verbs vs. perceptive verbs), (3) type of sentence (declarative, absolute interrogative, *wh*-interrogative), and (4) type of clause according to its structural complexity (matrix clause with or without subordinate clause, subordinate clause) (see e.g. Barrenechea & Alonso 1977; Lu 1997; Otheguy; Zentella & Livert 2007 for an investigation of similar factors). One of the main questions of my study is whether a statistical correlation exists between the overt pronoun rate and the selected factor groups. Special focus will be placed on determining whether grammatical persons (factor 1) demonstrate the same overt pronoun rate under the same conditions (factors 2–4). The grammatical person as a relevant factor in the use of PS has been supported by many empirical studies. For example, a study by Barrenechea and Alonso (1977) on the usage of PS in the spoken language of *Porteño* found a higher overt pronoun rate with singular persons than in the persons of the plural as well as a greater probability of overt pronouns with 1st and 2nd persons than with 3rd persons. In agreement with Barrenechea and Alonso (1977) and other earlier corpus-based empirical research (e.g. Lu 1997), it is expected that the overt pronoun rate is different for every grammatical person, often despite the same or very similar contexts (**hypothesis 2**). The factor "grammatical person" and the three remaining factors will be presented in more detail in Section 2.

The present paper is organized as follows: Section 2 describes the pronominal and the verbal properties of *Porteño* Spanish, outlines existing findings on the use of PS in this dialect and presents the point of departure for this study. Section 3 then describes the methodology and data, while Section 4 offers the results, followed by a discussion in Section 5. Finally, the paper ends with concluding remarks in Section 6.

2. Expression of pronominal subjects in *Porteño* Spanish

In this section I will describe the results of several existing (corpus-based) empirical studies on the use of PS in *Porteño* Spanish. The overt-null subject pronoun variation in this dialect is only possible in personal

constructions, i.e. in sentences with referential (animate) subjects. Example (4) presents the pronominal and the morphologically "rich" verbal system of *Porteño* Spanish in the present tense. The possible omission of the subject pronouns is indicated by parentheses:

(4) a. (*yo*) *cant**o***
I.NOM sing.1SG.PRES.IND
'I sing.'

b. (*vos*) *cant**ás***
you.NOM sing.2SG.PRES.IND
'You (informal) sing.'

c. (*él* / *ella* / *usted*) *cant**a***
he.NOM / she.NOM / you.NOM sing.3SG.PRES.IND
'He/she sings. / You (formal) sing.'

d. (*nosotros* / *nosotras*) *cant**amos***
we.NOM.M/F sing.1PL.PRES.IND
'We sing.'

e. (*ellos* / *ellas* / *ustedes*) *cant**an***
they.NOM.M / they.NOM.F / you.NOM sing.3PL.PRES.IND
'They sing. / You (informal, PL) sing.'

Notice that for etymological reasons, the second persons *usted* and *ustedes* are conjugated in the third person in Spanish. These pronouns are derived from the honorific address *vuestra merced*, 'your mercy', which was used until the middle of the 19th century. The high overt pronoun rate of *usted* found in different empirical analyses (see e.g. Enríquez 1984, 76%) is usually attributed to the historical origin of this pronoun (RAE 2010: §16.1.b, §33.5h, §16.14g) and/or its formality (DPD 2005: 531). Whereas the singular form *usted* is exclusively formal, the plural form *ustedes* is used for both familiar and formal speech in *Porteño*. In Peninsular Spanish, *ustedes* is the plural formal address, a counterpart to the informal 2nd person plural *vosotros*, which is absent in almost all of Latin America (including Argentina). Another feature of Argentinean Spanish is the so-called *voseo*: The usage of the 2nd person singular pronoun *vos* instead of *tú* (Standard Spanish) and the corresponding *voseo*-verb conjugation (e.g. *cantás* instead of *cantas* '(you) sing'; *sos* instead of *eres* '(you) are', etc.).

Regarding the pro-drop characteristics of *Porteño* Spanish, this variety reflects the grammar of standard Spanish and thus exhibits properties typical of null-subject languages such as postverbal subjects, *that*-trace effect, null-expletives, etc. (see e.g. Rizzi 1986; Biberauer et al. 2010). Nevertheless, there are some differences between *Porteño* and other Spanish varieties with respect to the usage of pronominal subjects in spoken language. Comparing the overt pronoun rates from previous empirical findings (see Barrenechea & Alonso 1977 for *Porteño* Spanish; Hochberg 1986 for Puerto Rican Spanish; Soares da Silva 2006 for *Porteño* and Peninsular Spanish), the overt pronoun rate of *Porteño* seems to lie between those of the Caribbean and close-to-standard dialects. For instance, a study by Pešková (2011) on the use of the 2nd person singular showed that *Porteño* tends to realize subject pronouns in certain sentences in which Peninsular Spanish (specifically the Madrid dialect) prefers their omission. Examples are given in (5) and (6) (taken from Pešková 2011: 57):

(5) a. *Porteño* Spanish:
Vos *sabés* *que* *a* *mí* *me* *gustan...*
you.NOM.SG know.2SG.PRES.IND that to me.DAT me.DAT like.3PL.PRES.IND
'You know that I like…'

b. Peninsular Spanish:
Sabes *que* *a* *mí* *me* *gustan...*
know.2SG.PRES.IND that to me.DAT me.DAT like.3PL.PRES.IND
'You know that I like…'

(6) a. *Porteño* Spanish:
¿Vos *me* *querés* *decir* *flaca?*
you.NOM.SG me.DAT want.2SG.PRES.IND tell.INF thin
'Are you wanting to tell me (that I am) thin?'

b. Peninsular Spanish:
¿Me *quieres* *decir* *flaca?*
me.DAT want.2SG.PRES.IND tell.INF thin
'Are you wanting to tell me (that I am) thin?'

These differences between the two varieties were detected on the basis of a comparative analysis of the Argentinean comic book *Maitena* and its Peninsular Spanish counterpart. Although the findings do not tell us much about the systematic use of overt subject pronouns, the examples in (5)–(6)

provide clear evidence of a possible realization of the subject pronouns in *Porteño*, even in pragmatically non-marked, i.e. non-contrastive and non-focused, contexts. The question is how this use of the overt PS should be interpreted. The presence of the pronoun *vos* in *Porteño* probably has some special pragmatic function; it expresses the speaker's attitude and indicates a connection between him and the hearer or other participants in a conversation. The pronoun may be a part of a kind of emphatic or emotional expression. Speakers of the peninsular dialect seem to prefer the omission of PS, probably only using intonation or other element such as *sólo* ('only'). The latter case is demonstrated in (7) (from Pešková 2011: 57):

(7) a. *Porteño* Spanish:
¿Todavía ahí? ¡Vos vivís para trabajar!
still there you.NOM.SG live.2SG.PRES.IND for work.INF
'Still there? You live for work!'

b. Peninsular Spanish:
¿Todavía ahí? ¡Sólo vives para trabajar!
still there only live.2SG.PRES.IND for work.INF
'Still there? You live (only) for work!'

In addition, an empirical comparative study by Soares da Silva (2006) found dissimilarities between the Spanish spoken in Buenos Aires and in Madrid with regards to the overt pronoun rate. His findings are summarized in Table 2:

Table 2. Overt pronoun rates in Peninsular and *Porteño* Spanish in a study by Soares da Silva (2006)

Grammatical Persons		**Peninsular**	***Porteño***
First persons	*yo*	35%	37%
	nosotros	11%	38%
Second persons	*tú/vos*	22%	22%
	usted	31%	40%
	ustedes	33%	37%
Third persons	*él/ella*	12%	19%
	ellos/ellas	9%	23%

Comparing these dialects, Soares da Silva's results show a slightly higher rate of overt pronouns in *Porteño* Spanish for all grammatical persons.

Notice that the formal second person *usted* does not exhibit higher overt pronoun rates as is usually indicated in other studies (see e.g. Rosengren 1974: 56%; Enríquez 1984: 76%; Lu 1997: 90,8%). But what is even more noticeable is the difference between the overt pronoun rates of the 1st person plural (38% in *Porteño* vs. 11% in Peninsular). Unfortunately, no interpretation of this seemingly significant difference is to be found. Even though the rather high rate of the use of *nosotros* in *Porteño* or its very low rate in Peninsular Spanish remain quite suspicious, the results imply cross-dialectal variation within one pro-drop language.[2] It is problematic to say, however, to what extent we can rely on the differences in overt pronoun rate between dialects, as there might be also a disparity within each individual dialect. For example, comparing two empirical studies on the use of PS in *Porteño* (Barrenechea & Alonso 1977; Soares da Silva 2006), we can observe inconsistencies in the rates of overt PS:

Table 3. Overt pronoun rates according to grammatical persons in *Porteño* Spanish in the studies by Soares da Silva (2006) and Barrenechea & Alonso (1977)

Grammatical Persons		**Soares da Silva** (2006)	**Barrenechea & Alonso** (1977)
First persons	*yo*	37%	24%
	nosotros	38%	20%
Second persons	*vos*	22%	36%
	usted	40%	56%
	ustedes	37%	59%
Third persons	*él/ella*	19%	11%
	ellos/ellas	23%	17%

In Barrenechea and Alonso (1977), the overt pronoun rates are lower with regards to the first and third persons, whereas the second persons exhibit higher percentages for the realization of subject pronouns. Nevertheless, both studies show the following tendency: Formal second persons and first persons (at least in Soares da Silva 2006) show higher overt pronoun rates, while the third persons have lower rates of overt pronoun use. This might

[2] Interestingly enough, cross-linguistic variation has also been attested with respect to the use of PS in pro-drop languages. For example, a comparative empirical study by Posio (2012) detected several systematic differences between Peninsular Spanish and the typologically related European Portuguese (both Romance consistent null-subject languages). See also Biberauer et al. (2010) for differences between Spanish and Italian in the Minimalist framework.

have something to do with the function of the subject pronouns in the speech act; second persons are "hearers", first persons are "speakers", and third persons are commonly "non-speakers, non-hearers". The low frequency of the pronouns of 3rd persons is usually attributed to the fact that these are anaphoric, i.e. interpreted as given information or familiar topics in some explanations (see e.g. Frascarelli 2007), and are frequently used in narrative. Additionally, 1st and 2nd persons are deictic (see Cabredo-Hofherr 2006 for a typology of *pro*) and generally appear in interactive speech that involves a greater probability of overt subject pronouns (see Balasch 2008). Furthermore, it should be pointed out that both studies (Barrenechea & Alonso 1977 and Soares da Silva 2006) base their results on the same corpus of spontaneous speech produced by educated speakers from Buenos Aires. The corpus contains free interviews collected in the 1970's and edited by Barrenechea (1987) under the title *El habla culta de la ciudad de Buenos Aires*. The question arises as to why there is such a discrepancy in the realization of overt pronouns between the two studies. One potential explanation might be a methodological problem: The investigators used different corpus sizes for their analyses, chose different speakers and/or used different methods to analyze the data. For instance, maybe they did not exclude all contexts in which the pronominal subject must be obligatorily empty or overt; this means that those contexts showing no null-overt subject pronoun variation. While spontaneous data certainly offer a very important resource for the investigation of linguistic variation, problems may emerge when we attempt to extract information from such data. The corpus-data may be limited to the occurrences of certain linguistic phenomena or they do not establish a comparable and controllable set of data. As for the use of PS, the spoken data do not generate the same conditions for the factors which might influence the use of PS. For instance, the 1st person singular is found in this type of data very often with epistemic verbs: This increases the probability of an overt subject (e.g. *yo creo*, 'I think'). However, one is less likely to find the use of epistemic verbs in the third person (e.g. *ella cree*, 'she thinks'). It will be shown that the production experiment used in the present investigation creates similar contexts for all grammatical persons. Of course, the "data control" is also obtainable through spontaneous speech, in which the independent contribution of the linguistic factor groups is obtained using multivariate methods within different software packages (Varbrul, SPSS, etc.) in many corpus-based empirical studies (e.g. Otheguy, Zentella & Livert 2007). Nevertheless, I agree with Goodall (2010), who points out

that different experimental techniques "can give us more certainty about the status of data where there have been disputes or doubts, as well as more precision in dealing with subtle contrasts among sentences" (Goodall 2010: 233–234).

A manifest discrepancy in the empirical results discussed above served as the point of departure for the present experimental study. As already observed in Tables 2 and 3, empirical data show variation in overt pronoun rates between different grammatical persons (**factor 1**). Regarding the verb semantics (**factor 2**), a small production experiment in the context of Pešková (2011) indicates that the 2nd person singular *vos* is overtly very often realized with epistemic verbs, but very seldom with perceptive verbs. The considerable influence of epistemic verbs on subject pronoun realization has been previously attested in various empirical studies (cf. Enriquéz 1984; Bentivoglio 1987; Lu 1997; Hurtado 2001; Otheguy, Zentella & Livert 2007; Posio 2012). With respect to the type of sentence (**factor 3**), Pešková's study (2011) on the use of PS of the 2nd person singular indicates higher rates in overt pronoun use with declaratives and absolute interrogatives than with *wh*-questions. Finally, the variable "type of clause" (**factor 4**) exhibits a higher overt pronoun rate in simple (matrix) clauses than in complex clauses (Pešková 2011). However, there are some empirical studies stating that these two factors (type of sentence, type of clause) do not in fact play any role in the usage of PS in Spanish (e.g. Lu 1997: 126–127). In order to test statistical significance of the findings, I will use simple chi-square statistics and extend the analysis through the application of multiple regression models with random effects. In addition to presenting the overt pronoun rates, the syntactic and discourse properties of the overt PS will be briefly discussed on the basis of the collected experimental data.

In the following section I turn to the presentation of the methodology and data used in this study in order to contribute my own empirical view on this matter.

3. Methodology and data

This section describes the spoken language corpus which was used as a source of data for the present study. The data stem from a **production experiment** conducted with 13 monolingual *Porteño* speakers in 2009 in

Buenos Aires.[3] The participants were six men and seven women, aged 20–45, all of whom were born and brought up in Buenos Aires. They had all a university degree or were university students at the time of interview, and were totally naïve as to the purpose of the experiment. In order to determine the relevance of the four selected linguistic factors (grammatical person, verb semantic, type of sentence and type of clause), a questionnaire with everyday non-contrastive and non-ambiguous situations was created to acquire target-sentences in which the speaker had the option to either say a subject pronoun or omit it. As an example, a task like *Preguntale a tu padre qué Ø opina de Buenos Aires* ('Ask your father what (he) thinks about Buenos Aires') was intended to lead to a target-question from the participant such as *¿Qué opinás* (*vos*) *de Buenos Aires?* ('What do [you] think of Buenos Aires?'). All contexts were presented by the researcher with empty subjects (Ø) and were repeated no more than three times. Despite the given context, the speakers were asked to express the target-sentences as naturally as possible. It should also be emphasized that the target-utterances considered for the final analysis had no generic reading or inanimate references. The experiment took no more than 45–60 minutes and the data were recorded for later transcription.

The questionnaire was designed as follows: 18 very similar situations were used for each of the seven subject pronouns (*yo, vos, él*/*ella, usted, nosotros, ellos*/*ellas, ustedes*) (**factor 1**). The pronoun *ustedes*, however, was only used as an informal (familiar) address in the experiment. Thus, the questionnaire consisted of a total of 126 situations. An example of the same situation for production with second persons is given in (8) (the target-verb which should be produced with or without the PS is underlined):

(8) Questionnaire Example:
   a. Situation Nr. 2 (*vos*): 'you', SG informal
      Estás hablando con tu padre. Preguntale qué <u>*opina*</u> *de Buenos Aires.*
      '[You] are talking with your father. Ask him what [he] thinks of Buenos Aires.'

[3] The methodology was inspired by the production task used in Pešková (2011) and in the intonation survey proposed by Prieto (2001). As for other experiments with pronouns, different grammaticality judgments tests (see e.g. Pešková 2011; Alonso-Ovalle, Fernández-Solera, Frazier et al. 2002 for Spanish; Carminati 2002 for Italian) or visual-world eye-tracking experiments were also carried out (see e.g. Kaiser & Trueswell 2008; Kaiser 2011 for English and Finnish).

b. Situation Nr. 20 (*usted*): 'you', PL formal
Preguntale al Sr. Brandoni, profesor de la UBA, qué opina de la Argentina.
'Ask Mr. Brandoni, Professor at UBA, what [he] thinks of Argentina.'

c. Situation Nr. 38 (*ustedes*) 'you', PL informal
Estás hablando con tus padres. Preguntales qué opinan de Puerto Madero.
'[You] are talking with your parents. Ask them what [they] think of Puerto Madero.'

Furthermore, each of the 18-situations sets was controlled according to the verb semantics (**factor 2**): Consequently, there were nine situations with epistemic verbs (such as *creer* 'think', *saber* 'know') and nine similar situations with perceptive verbs (such as *escuchar* 'listen to', *mirar* 'to watch'). Additionally, these two verb groups were also controlled for the type of sentence (declaratives, absolute questions and *wh*-questions) (**factor 3**) as well as for the type of clause according to its structural complexity (simple matrix clause, matrix clause with subordinate clause, subordinate clause) (**factor 4**).[4] As for factor 3, the 1st persons (*yo* and *nosotros*) were controlled only by declarative sentences and not by interrogatives. For a better understanding of the method used in the present study, see Appendix I with an example of the 18-situations set used for elicitation of the 2nd person singular *vos*. Observe that every situation led to a target-sentence which was controlled by all four factors (indicated in brackets; the verb-targets are underlined).

Finally, a **statistical analysis** was performed using STATA, version 11 (STATA Corp., Texas, USA). First, I examined whether the relationship between the use of pronominal subjects (dependent variable) and the selected factors (independent variable) was statistically significant. Then I tested the interaction that describes the simultaneous influence of two independent variables (grammatical person plus another of the three factors) on the dependent variable (use of PS). Moreover, the intraclass correlation was incorporated into all regression models with speakers (participants in the experiment) as well as into all models with interaction. The intraclass correlation should explain the extent to which units in the same group resemble one another. Lastly, the strength of the effects of the

[4] Clarifying examples are provided here for a better understanding of the factor "type of clause", where the target-verb appears (underlined): a) simple (matrix) clause (e.g. *Escucho música argentina* 'I listen to Argentinean music'), b) matrix clause with subordinate clause (e.g. *Creo que va a llover* 'I think that it is going to rain'), c) subordinate clause (e.g. *Me gusta lo que escuchás* 'I like what you listen to').

examined factors was observed in order to determine a possible improvement to the intercept model, i.e. a simple model without intervening factors which calculates or predicts the probability of the (non-) realization of PS.

4. Results

This section presents and summarizes the results obtained from the analysis of the empirical data. A total of 1638 tokens were recorded (126 situations per 13 speakers), 12 of which had to be discarded due to speaker failure (*N* = 1626). The results show that the speakers omitted subject pronouns in 52% of all contexts (845 cases). This means that the subject pronouns were overtly realized in 48% of all contexts (781 cases).

For **factor 1**, singular persons were overtly realized more often than plural persons (51% vs. 44%), a finding which supports those common in empirical studies (see e.g. Rosengren 1974; Hochberg 1986). As expected, the grammatical persons differed in overt pronoun rates, in spite of having been controlled for by the same or very similar contextual conditions (factors 2–4), see Table 4:

Table 4. Overt pronoun rate according to grammatical person

Person	**%**	***N***
yo (1SG)	47%	109/234
nosotros (1PL)	36%	85/233
vos (2SG, fam.)	33%	76/232
usted (2SG, form.)	70%	164/234
ustedes (2PL, fam.)	47%	110/232
él/*ella* (3SG)	55%	128/232
ellos/*ellas* (3PL)	48%	109/229
Total	**48%**	**781/1626**

While the overt pronoun rate was quite similar for first persons (*yo* 47% vs. *nosotros* 36%) and third persons (*él*/*ella* 55% vs. *ellos*/*ellas* 48%), there were remarkable differences with regards to second persons (*vos* 33%; *usted* 70%; *ustedes* 47%). The relationship between the grammatical persons and the realization of PS showed statistical significance (Model $\chi^2(6) = 84.7$, $p < 0.001$) and remained significant even after controlling for the heterogeneity in speakers in the random effects logistic regression

model. Thus, we can consider the factor "grammatical person" to be important in the use of PS.

In terms of verb semantics (**factor 2**), the results showed a higher overt pronoun rate with epistemic verbs (57%) than with perceptive verbs (39%) (Model $\chi^2(1) = 48.4$, $p < 0.01$), see Table 5:

Table 5. Overt pronoun rate according to verb semantics

Verb	**%**	***N***
Epistemic	57%	463/816
Perceptive	39%	318/810
Total	**48%**	**781/1626**

Interestingly, the preference for the use of PS with epistemic verbs can be observed for all grammatical persons, see Table 6:

Table 6. Overt pronoun rate according to grammatical person and verb semantics

Verb/Person	*yo*	*nosotros*	*vos*	*usted*	*ustedes*	*él/ella*	*ellos/ellas*
epistemic (%)	58%	44%	36%	77%	52%	65%	65%
perceptive (%)	35%	29%	30%	63%	43%	45%	30%
epistemic (N)	68/117	51/117	41/115	90/117	61/117	76/117	75/115
perceptive (N)	41/117	34/116	35/117	74/117	49/115	52/115	34/114

The difference between the use of PS with epistemic verbs and the use of PS with perceptive verbs was statistically significant for 1st persons, 3rd persons and the pronoun *usted* (*yo* and *ellos*/*ellas*: $p < 0.001$, *él*/*ella*: $p < 0.01$, *nosotros* and *usted*: $p < 0.05$). However, the interaction between verb semantics and grammatical persons was not statistically significant, suggesting that the magnitude of the differences between epistemic and perceptive verbs does not vary significantly between grammatical persons. The factor "verb semantics" can also be considered important in the use of PS.

Concerning **factor 3** (type of sentence), the global overt pronoun rate of subject pronouns was higher in interrogatives (*wh*-interrogatives 53%; absolute interrogatives 52%) than in declaratives (48%). Recall that the 1st persons were not examined for the factor "type of sentence", as the 1st persons mostly appear in declarative sentences, see Table 7:

Table 7. Overt pronoun rate according to type of sentence

Type of sentence	**%**	**N**
declarative	48%	186/387
absolute interrogative	52%	277/536
wh-interrogative	53%	124/236
Total (without 1st persons)	**51%**	**587/1159**

The relationship between the type of sentence and the use of PS was not statistically significant (Model $\chi^2(2) = 1.60$, $p = 0.449$), a finding further supported by the random effects logistic regression (Model $\chi^2(2) = 1.79$, $p = 0.409$). When comparing the overt pronoun rate of each individual grammatical person according to the type of sentence, the results show the following picture (Table 8):

Table 8. Overt pronoun rate according to grammatical person and type of sentence

Sentence	*vos*	*usted*	*ustedes*	*él*/*ella*	*ellos*/*ellas*
declarative (%)	38%	71%	46%	50%	36%
absolute interrogative (%)	34%	68%	44%	61%	52%
wh-interrogative (%)	22%	75%	57%	51%	56%
declarative (N)	29/77	56/79	35/77	39/78	27/76
absolute interrogative (N)	36/106	73/108	47/108	66/109	55/105
wh-interrogative (N)	11/49	35/47	27/47	23/45	27/48

As can be observed, the ranking of these factors according to overt pronoun rate as *wh*-interrogatives > absolute interrogatives/declaratives is supported by the 2nd persons *usted* and *ustedes*, as well as by the 3rd person plural *ellos*/*ellas*. Here, the results exhibited a significant interaction (Model $\chi^2(8) = 16.34$, $p = 0.038$). This indicates that the interaction between sentence type and grammatical person is more important in explaining the use of PS than the effect of the sentence type.

As for **factor 4**, there was a tendency to realize subject pronouns more frequently in simple matrix clauses (50%) or matrix clauses with subordinate clauses (54%) than in subordinate clauses (35%) (Model $\chi^2(2) = 32.1$, $p < 0.001$), see Table 9:

Table 9. Overt pronoun rate according to type of clause

Type of clause	**%**	**N**
simple matrix	50%	359/720
matrix with subordinate clause	54%	299/553
subordinate clause	35%	123/353
Total	**48%**	**781/1626**

The overt pronoun rate according to grammatical person and type of clause is summarized in Table 10:

Table 10. Overt pronoun rate according to grammatical person and type of clause

Type of clause	*yo*	*nosotros*	*vos*	*usted*	*ustedes*	*él/ella*	*ellos/ellas*
simple matrix cl. (%)	48%	38%	32%	77%	54%	47%	49%
matrix with subord. cl. (%)	51%	40%	38%	67%	51%	79%	61%
subordinate cl. (%)	35%	27%	27%	59%	29%	42%	26%
simple matrix cl. (N)	39/81	29/77	37/114	89/116	60/112	53/113	52/107
matrix with subord. cl. (N)	52/102	42/105	26/69	45/67	36/71	53/67	44/72
subordinate cl. (N)	18/51	14/51	13/49	30/51	14/49	22/52	13/50

The relationship between the overt pronoun rate according to grammatical person and type of clause was highly statistically significant for the 3rd person plural (*ellos*/*ellas*; $p<0.001$) and less so for the pronouns *usted* and *ustedes* ($p < 0.05$). The random effects logistic regression confirmed the significant main effect of grammatical person (Model $\chi^2(6) = 18.67$, $p = 0.0048$), but not of the clause (Model $\chi^2(2) = 3.45$, $p = 0.18$). Neither any significant interaction was found here. Therefore, I consider the factor 'clause' to be quite important in explaining the dependent variable.

As a next step, I further observed the use of overt pronoun subjects by the interviewed speakers. Of course, the effect of the speakers was already controlled for all regression models. Nevertheless, it is interesting to show that the overt pronoun rate of the 13 interviewed speakers laid between 35% and 79% (Model $\chi^2(12) = 86.9$, $p < 0.001$). The Table 11 summarized this "between-speaker" variability.

It is, however, difficult to state whether a systematic speaker effect exists or whether each speaker uses the null-overt subject pronoun

randomly. For example, comparing Speaker_08 and Speaker_09, which differ greatly in overt pronoun rates (35% vs. 79%), I observed that the factor "grammatical person" still has a strong effect on the use of PS. Both speakers exhibit different tendencies, however: While Speaker_08 prefers to express the PS with 1st persons, Speaker_09 prefers to express PS with 2nd persons (especially *usted* and *ustedes*). Since I performed the random effects logistic regressions and determined that 7% of the variance in the propensity to use a pronoun can be attributed to the individuals, I consider the effect of the speakers on the use of PS to be lower than the combination of four observed factors.

Table 11. Overt pronoun rate according to speaker

Speaker	**%**	**N**
Pers_01	44%	55/126
Pers_02	60%	74/123
Pers_03	44%	54/124
Pers_04	56%	71/126
Pers_05	56%	70/126
Pers_06	37%	46/124
Pers_07	42%	51/122
Pers_08	35%	44/126
Pers_09	79%	99/125
Pers_10	40%	50/126
Pers_11	40%	50/126
Pers_12	49%	62/126
Pers_13	44%	55/126
Total	**48%**	**781/1626**

In a final step, I measured the strength of effects of the examined factors (Pseudo R = McFadden's R2): The greatest effect was shown by the grammatical person (Pseudo R = 0.04), followed by the type of verb (Pseudo R = 0.025) and the type of clause (Pseudo R = 0.018). The effect of the type of sentence was smaller than that of the remaining factors (Pseudo R = 0.002). The ranking of the strength of the effects of the factors under observation is exposed in (9):

(9) Scale of the strength of effects of examined factors
GRAMMATICAL PERSON > TYPE OF VERB > TYPE OF CLAUSE > TYPE OF SENTENCE

Technically, this analysis was conducted using the intercept model, i.e. a model without any independent variables. This model predicted that the speakers do not realize the PS in 52% of the cases (recall that the speakers omitted the PS in 52% of the cases and realized the PS in 48% of the cases (N = 1626)). After including the intervening factors, I observed a 10% improvement in predictive power compared to the model with intercept only (Pseudo R = 0.10). Comparing the influence of each individual factor, I added the independent variables incrementally to the model only with intercept term. First, I introduced the grammatical person, which improved the model by 4%. Second, I included the sentence type and improved the model by 0.2%. Third, I added the type of verb, which further improved the model by 2.5%. Finally, I included the type of clause, which improved the model by 1.8%.

Appendix II is also of interest in this context, which illustrates the random effects model with only the main effects in order to keep the model as simple as possible. Here, all the four factors are summarized with their odds ratios (OR) and probability (p-) values. The OR-values are a measure of effect size, describing the strength of the association between the dependent and independent variables. The odds represent the *probability* of an event occurring *divided* by the *probability* of an event not occurring. Using the model we can observe, for instance, that the odds (chance) for the realization of *usted* (OR = 4.283) are 4.28 times higher than the odds for *yo* ($p < 0.001$).

5. Discussion

In this section I will discuss the primary findings (5.1), i.e. the results presented in Section 4, as well as the secondary findings presented in 5.2 with regards to topics such as word order and the pragmatic interpretation of the PS found in the data.

5.1 Primary findings

In the production experiment utilized in this study, the interviewed speakers only omitted PS in 52% of the cases. This means that the PS was realized in 48% of all cases, a number which seems to be quite high for a pro-drop language. For such reasons, some scholars have proposed a reformulation of the term "null-subject language". For example, Posio (2012) suggests the terminology "**languages with variable subject**

expression, as subject pronoun expression need not be in any way more marked or less frequent than their omission in a language pertaining to this category, and it is indeed subject to considerable variation" (Posio 2012: 6). Nevertheless, the term "variable subject expression" would only apply to personal sentences in Spanish, but not to impersonal sentences or sentences with inanimate reference (cf. Example 1).

Notice that the overt pronoun rate obtained by the production experiment (48%) in this study is much higher than that in the data analyzed from the empirical studies on *Porteño* by Barrenechea and Alonso (1977, 21%) and Soares da Silva (2006, 32%). Such a difference could be due to the sort of data utilized in my study, which did not stem from free interviews but rather were based on semi-spontaneous speech. In the experiment carried out here, no narrative style was given and a considerable use of epistemic verbs was observed (recall that a narration supports a decrease in the overt pronoun rate, while epistemic verbs supports an increase in the overt pronoun rate).

Two hypotheses were tested and confirmed by the experimental data. The **first hypothesis** suggested that the overt realization of PS depends not only on focus, contrast and morphological ambiguity, but also on other linguistic factors. As for the focus and contrast, the results clearly show that subject pronouns are not always contrastive or focal expressions of their null counterparts. I will discuss this issue further in Section 5.2. In terms of verbal syncretism, it was demonstrated that the use of null/overt PS is not subordinated to the verbal morphology: The PS can be realized in spite of a "rich" verbal agreement inflection without ambiguous interpretation. This also implies that the rich subject-verb agreement is not necessarily a direct cause of the pro-drop, as stated by some grammarians (see e.g. Alarcos Llorach 1994). I would thus support Ackema and Neeleman's statement that "there is an indirect relation between rich agreement and pro drop: rich agreement facilitates pro drop in more contexts" (Ackema & Neeleman 2007: 81).

I now turn to the use of PS according to the four observed linguistic factors. As for **factor 1**, the grammatical person showed the strongest effect on the use of PS. The results also confirmed the **second hypothesis** stating that the overt pronoun rate varies among the grammatical persons, despite these having been controlled for the same or very similar conditions (factors 2–4). Regarding the correlation between the overt pronoun rate and grammatical persons, 3rd and 1st persons showed rather balanced frequencies (3rd singular 55% vs. 3rd plural 48%; 1st singular 47% vs. 1st

plural 36%), whereas 2nd persons showed noticeable differences between *vos* (33%), *usted* (70%) and *ustedes* (47%). Interestingly enough, the 1st person plural *nosotros* and the 2nd person singular (familiar) *vos* exhibited the lowest overt pronoun rates of all grammatical persons (*nosotros* 36%; *vos* 33%). As for 3rd persons, these showed much higher overt pronoun rates (48% singular; 55% plural) compared to those taken from the free interview data (see Tables 2 and 3). This implies that the 3rd persons are expressed more frequently in interactive speech, despite being interpreted as given or familiar information. Furthermore, the expression of 3rd person pronouns seems to exhibit a sort of repetition or echo effect between speaker and interlocutor in statement/question sequences (a similar finding was reported in a study on the use of full NPs as subjects by Dumont 2006). As for 2nd persons, the high rate of overt pronoun of *usted*, *ustedes* can probably be explained by the nominal origin *vuestra merced* ('your grace'), as indicated in the literature (e.g. DPD 2005; RAE 2010). The fact that the pronoun *usted* constitutes a formal address and its plural form *ustedes* is informal (in the data of the present study) might explain the differences between their overt pronoun rates (70% vs. 47%). It is worth mentioning that in some studies, the pronouns of 2nd persons are also interpreted as vocatives for attracting the attention of the addressee (see e.g. Platzack & Rosengren 1994; Alonso-Cortés 1999). Interestingly, the speakers combined the subject pronouns of the 2nd person together with the first name (or surname, in the case of *usted*) and/or the Argentinean colloquial vocative expression *che* ('hey' or 'man'). However, I did not observe any correlation between the null-overt subject variation and the usage of other nominal vocative expressions. Concerning verb semantics (**factor 2**), which exhibited the second strongest effect, the following tendency could be observed across all grammatical persons: Epistemic verbs clearly exhibited higher overt pronoun rates than perceptive verbs. This finding coincides with those from several previous studies (e.g. Pešková 2011). As for **factors 3** and **4**, the type of sentence and clauses did not show as a clear tendency as did factor 2. For instance, comparing the overt pronoun rates of *ellos*/*ellas* (3PL) vs. *él*/*ella* (3SG), we can observe that *él*/*ella* was overtly realized in 50% of declaratives, whereas *ellos*/*ellas* is found in only 36% of declaratives, despite both grammatical persons being controlled by exactly the same conditions. Due to this lack of consistency, I will not attempt to provide an explanation for this interaction. Interestingly enough, this factor had the smallest effect on the

usage of PS of all those examined. This result contests the findings of some previous studies (e.g. Lu 1997).

5.2 Secondary findings

In this section I will very briefly discuss the properties of the overt pronominal subjects at the syntax-pragmatics (and partly prosody) interface. The data indicate interesting variation in word order with respect to the position of the overt PS in a sentence. Syntactically, the subjects were realized as left- or right-dislocated elements (10a–b) or as clause-internal arguments (10c) in interrogatives:

(10) a. *¿Ustedes qué opinan, chicos?*
you.NOM.PL what think.3PL.PRES.IND boys
'What do you think, boys?'

b. *¿Vieron la última película de Almodóvar ustedes en cine?*
see.3PL.PAST.IND the last movie by Almodóvar you.NOM.PL in cinema?
'Did you see the last movie by Almodóvar at the cinema?'

c. *¿Mira usted programas deportivos en la tele?*
watch.3SG.PRES.IND you.NOM.SG sports programs on the TV?
'Do you watch sports programs on TV?'

As for the right- and left-dislocated subjects, we can suggest that the specifier position within the inflectional phrase (IP) is occupied by an empty subject category *pro* (in Generative terminology), which is co-referent with the dislocated subject (e.g. [$_{CP}$ *Ustedes*$_i$ *qué* [$_{IP}$ pro$_i$ *opinan*]], 'What do you think?').

In terms of preverbal subjects in transitive sentences with unmarked word order SVO (for example *Vos mirás programas raros en la tele*, lit. 'You watch strange programs on TV'), it is more difficult to determine whether the preverbal subjects are left-dislocated elements or internal arguments (for a discussion on this issue see e.g. Vallduví 1993; Alexiadou & Anagnostopoulou 1998; Gutiérrez Bravo 2007; López 2009). Furthermore, the SVO order was also observed frequently in yes-no questions (e.g. *¿Usted mira programas deportivos en la tele?*, lit. 'You watch sports programs on TV?'). Perhaps even more interestingly, the preverbal subject was stated four times, even in *wh*-questions (e.g. *¿Qué tipo de música usted escucha?*; lit. 'What kind of music you listen to?').

Nevertheless, the subject-verb inversion in *wh*-questions is supposedly obligatory in Spanish (see e.g. Torrego 1984). According to the present data, the intervening subject only seems to be tolerated in *Porteño* with a complex *wh*-word such as *qué tipo de música* ('what kind of music'). Interestingly, Goodall (2010: 237) established the following hierarchy for the ability of a *wh*-phrase to allow an intervening subject in Spanish: *why* > *complex wh-phrase* > *how* > *where*/*when* > *what*/*who*. It is also noteworthy that in nine (out of 186) declarative sentences, the subject occurred post-verbally in the sentence-final position (i.e. VOS or VS):[5]

(11) a. *No, escuchamos música clásica nosotros.*
no listen.1PL.PERS.IND music classical we.NOM/M
'No, we listen to classical music.'

b. *Che, qué música linda que escuchás vos.*
hey what music nice that listen.2SG.PERS.IND you.NOM.SG
'Hey, what a nice music you are listening to.'

In Spanish, the subject pronouns shifted to the rightmost position of the sentence (with transitive verbs) can be interpreted either as (1) focused constituents which obligatorily bear nuclear stress and are thus prosodically prominent (see e.g. Zubizarreta 1998; Zagona 2002; Gabriel 2007; Gabriel, Feldhausen, Peskova, Colantoni, Lee, Arana & Labastia 2010), or as (2) right-dislocated elements (topics) lacking prosodic prominence (see e.g. Bosque & Gutiérrez-Rexach 2009; Gabriel 2010). I assume that all subject pronouns on the right edge of the sentence such as those in (11) should be interpreted as "afterthought" topics and not as the focus of the present data. There are two reasons for this: First, the situations presented to the speaker included a non-focused subject (pragmatic argumentation), and second, these pronominal subjects were deaccented (prosodic argumentation).

We can thus say that all of the overt subjects in the data as well as their empty counterparts are either familiar (given) or aboutness-shift (new) topics (cf. Frascarelli & Hinterhölzl 2007). They neither present disambiguation nor fulfill the domain of focus or contrastive topics (cf. 3a

[5] The situations presented to the speaker were: (11a) *Ustedes están hablando con un amigo sobre música. Le dicen que escuchan música clásica* ('You [informal, plural] are talking with a friend about music. You tell him that you listen to classical music'); (11b) *Entrás en casa de tu amiga. Ella pone música. Decile que es muy lindo lo que escucha* ('You [informal, singular] enter your friend's house. She turns on some music. Tell her that what she is listening to is very nice').

and 3b). Nevertheless, the explicit PS might present a hidden contrast. The RAE (2010: §33.5e) argues that verbs describing an opinion may establish a hidden contrast between the speaker and other persons in the sequence as in *Yo creo que va a llover* ('I think it is going to rain'). Such an explanation would, however, not apply for other verbs (e.g. perceptive) with non-obligatorily expressed pronominal subjects.

In sum, the overt expression of PS is not required, but rather is optional in many contexts. In addition, the present production experiment has shown that the degree of "optionality" in the use of subject pronouns or empty categories depends on the following intervening factors: Grammatical person (strongest effect) > Verb semantics > Type of clause > Type of sentence (smallest effect).

6. Concluding remarks

This paper investigated the use of PS in semi-spontaneous data as obtained by a production experiment with 13 monolingual speakers of *Porteño* Spanish. There were two main goals to the study: First, to determine whether a correlation exists between an overt pronoun rate and four selected intra-linguistic factors (grammatical person, verb semantic, type of sentence, type of clause), and second, to show that investigations using experimental data may lead to a better understanding of the examined phenomenon and of the usage of grammar in a natural way. As for the first goal, the experiment provided evidence for the expression of PS, which not only had reasons such as ambiguity, contrast or emphasis, but was also dependent on other intervening factors such as grammatical person or verb semantics. As for the second goal, it was shown that experimental techniques play a very important role in allowing us to uncover this type of evidence. As the inductive method used in the present paper also generates a comparable and controllable set of data, it can also be applied to a fine-grained analysis of further intra-linguistic and extra-linguistic factors, as well as in cross-dialectal or cross-linguistic research and in doing so significantly facilitates the empirical corpus-based investigation of the use of PS in Spanish and other null-subject languages.

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Appendix I. Questionnaire for the elicitation of the 2nd person singular vos

1. *Estás hablando con tu amigo Manuel. Preguntale qué opina: ¿va a terminar pronto la crisis mundial?*
   'You are talking to your friend Manuel. Ask him what he thinks: will the world crisis be over soon?'
   [2nd pers. SG; epistemic verb; *wh*-question; simple matrix clause]
2. *Estás hablando con tu padre. Preguntale qué opina de Buenos Aires.*
   'You are talking to your father. Ask him what he thinks about Buenos Aires.'
   [2nd pers. SG; epistemic verb; *wh*-question; simple matrix clause]
3. *Estás jugando con tu sobrinito Felipe. Preguntale si cree en los fantasmas.*
   'You are playing with your nephew Felipe. Ask him if he believes in ghosts.'
   [2nd pers. SG; epistemic verb; absolute question; simple matrix clause]
4. *Estás hablando con tu amiga Mariana sobre diferentes países. Preguntale si se imagina estar viviendo en otro país.*
   'You are talking to your friend Mariana about different countries. Ask her if she can imagine living in another country.'
   [2nd pers. SG; epistemic verb; absolute question; simple matrix clause]
5. *Estás por salir. Ves que hay nubes y le preguntás a tu madre si cree que va a llover.*
   'You are going out. You see it is cloudy and ask your mother if she thinks that it is going to rain.'

[2nd pers. SG; epistemic verb; absolute question; matrix with subordinate]

6. *Estás hablando con tu amigo Manuel sobre Juan y Mariana. Preguntale si sabe que se van a casar.*
   'You are talking with your friend Manuel about Juan and Mariana. Ask him if he knows that they are going to get married.'
   [2nd pers. SG; epistemic verb; absolute question; matrix with subordinate]
7. *Es lunes. Por la tarde tenés el curso de inglés. Tu hermano te llama para salir. Decile que sabe que los lunes nunca podés.*
   'It is Monday. In the afternoon you have English lessons. Your brother calls you to go out. Tell him that he knows that you cannot on Mondays.'
   [2nd pers. SG; epistemic verb; declarative; matrix with subordinate]
8. *Empezaste a estudiar rumano. Tu hermano cree que se parece bastante al castellano. Decile que es mucho más difícil de lo que piensa.*
   'You have started to learn Romanian. Your brother thinks it is very similar to Spanish. Tell him that it is more complicated than he thinks.'
   [2nd pers. SG; epistemic verb; declarative; subordinate clause]
9. *Tu hermana te cuenta sobre su intención de pedir un préstamo. Pero no conoce los detalles. Decile que si piensa que es tan fácil, se equivoca.*
   'Your sister tells you about her intention to ask for a loan. But she does not know all the details. Tell her if she thinks that it is so simple, she is wrong.'
   [2nd pers. SG; epistemic verb; declarative; subordinate clause]
10. *Querés poner música. Preguntale a tu amiga Mariana qué escucha: ¿tango o bossa nova?*
    'You want to turn on some music. Ask your friend Mariana what she listens to: tango or bossa nova?'
    [2nd pers. SG; perceptive verb; *wh*-question; simple matrix clause]
11. *Preguntale a tu amigo Manuel qué estación de radio escucha.*
    'Ask your friend Manuel what radio station he listens to.'
    [2nd pers. SG; perceptive verb; *wh*-question; simple matrix clause]
12. *Estás hablando con tu hermano sobre el cine. Preguntale si vio la última película con Brad Pitt.*
    'You are talking with your brother about the cinema. Ask him if he

saw the last movie with Brad Pitt.'
[2nd pers. SG; perceptive verb; absolute question; simple matrix clause]

13. *Preguntale a tu madre si mira programas políticos en la tele.*
'Ask your mother if she watches political programs on TV.'
[2nd pers. SG; perceptive verb; absolute question; simple matrix clause]

14. *Estás hablando con Manuel sobre los amigos de ustedes. Preguntale si se enteró de que Fernando se va a casar con Elena.*
'You are talking with Manuel about your friends. Ask him if he heard that Fernando was going to get married to Elena.'
[2nd pers. SG; perceptive verb; absolute question; matrix with subordinate]

15. *Hablás con tu compañero sobre la complicada situación en el trabajo. Preguntale si se da cuenta de cuál es el problema.*
'You are talking with your colleague about the complicated situation at work. Ask him if he realizes what the problem is.'
[2nd pers. SG; perceptive verb; absolute question; matrix with subordinate]

16. *Vivís con una amiga. Ella siempre se la pasa mirando programas raros en la tele. Un día le decís que mira programas rarísimos.*
'You live with one friend. She always spends her time watching weird programs on TV. One day you tell her that she watches very weird programs.'
[2nd pers. SG; perceptive verb; declarative; matrix with subordinate]

17. *Entrás en casa de tu amiga. Ella pone música. Decile que es muy lindo lo que escucha.*
'You enter the house of your friend. She turns on some music. Tell her that what she is listening to is very nice.'
[2nd pers. SG; perceptive verb; declarative; subordinate]

18. *Hace tiempo que no te ves con tus amigos. Te encontrás con Manuel. Decile que si ve a los chicos un día, que les mande muchos saludos.*
'You have not seen your friends for a while. You meet Manuel. Tell him that if he sees the boys one day, he should send them your regards.'
[2nd pers. SG; perceptive verb; declarative; subordinate]

Appendix II. Random Effects Logistic Model of the collected data

N = 1626	**Odds Ratio**	Std. Err.	z	**P-Value**	95% CI for Odds Ratio Lower Limit	Upper Limit
Grammatical Person						
1SG‡	–	–	–	–	–	–
1PL	0.623	0.125	-2.36	0.018	0.420	0.923
2SG	0.740	0.175	-1.27	0.205	0.465	1.178
vd	4.283	1.029	6.06	<0.001	2.675	6.859
vds	1.486	0.346	1.7	0.088	0.942	2.345
3SG	2.109	0.492	3.2	0.001	1.335	3.332
3PL	1.492	0.348	1.72	0.086	0.945	2.357
Sentence						
declarative sentence*	–	–	–	–	–	–
absolute question	0.585	0.108	-2.9	0.004	0.408	0.841
wh-question	0.633	0.141	-2.05	0.04	0.409	0.979
Verb						
epistemic*	–	–	–	–	–	–
perceptive	0.451	0.050	-7.16	<0.001	0.363	0.561
Clause						
subordinate clause*	–	–	–	–	–	–
matrix with sub.	3.061	0.573	5.98	<0.001	2.121	4.418
simple matrix	2.886	0.547	5.59	<0.001	1.990	4.184

The estimated intraclass correlation is 0.073
McFadden's R^2=0.09
* Reference category

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Piia Taremaa

Fictive and Actual Motion in Estonian: Encoding Space[1]

Abstract

Fictive motion is a phenomenon whereby linguistic elements describing motion are used to depict static situations. As a result, static and dynamic situations may be expressed alike. However, it has been argued that the encoding of fictive motion differs from that of actual motion in several aspects; the most significant difference is said to be related to the encoding of space which in fictive motion sentences is more restricted than in actual motion sentences (Matsumoto 1996a, 1996b; Matlock 2004a; Ruppenhofer 2006). The current corpus-based study has compared Estonian fictive and actual motion sentences containing the verbs *viima* 'take, lead', *minema* 'go', *suunduma* 'head', *tõusma* 'rise', *pöörama* 'turn', *ületama* 'cross', *kulgema* 'run, move forward', and *looklema* 'wind', and focusing on how these sentences encode space. The results of the study showed that the presence of a locative expression is rather verb-specific, although slightly dependent on the type of construction (i.e., fictive or actual motion construction). If locative expression occurred the main influencer of the choice of spatial relation was the type of the verb: Path verbs incorporating the meaning of direction (i.e., *viima* 'take, lead', *minema* 'go', *suunduma* 'head', *tõusma* 'rise', *pöörama* 'turn') tended to be used together with elements referring to the direction or goal, whereas manner of motion verbs (i.e., *kulgema* 'run, move forward', *looklema* 'wind') and the verb referring to the trajectory of the motion (i.e., *ületama* 'cross') mostly occurred together with elements expressing the location or trajectory. Given this, the consistent windowing hypothesis is proposed.

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1. Introduction

Fictive motion, "discovered" by Talmy (originally *virtual motion*, Talmy 1983), is known as a linguistic phenomenon covering instances dynamically depicting such situations that are believed to be static and using language characteristic of the description of motion. Fictive motion includes many different subtypes (see Talmy 2000a: 99–139); the most commonly discussed type of fictive motion is expressed by a motion verb usually accompanied by a dynamic phrase referring to spatial relations (e.g., *The road goes from Tartu to Tallinn*). Typically, these expressions describe the location or shape of some elongated trajector (e.g., road, fence, wire, etc.).

Researchers have recently shown an increasing interest in fictive motion, which has gained various studies from different perspectives (see, for example: Langacker 1987: 170–173, 2005, 2008: 528–530; Matsumoto 1996a, 1996b; Talmy 2000a 99–175; Matlock 2004a, 2004b, 2006; Matlock & Richardson 2004; Matlock, Ramscar & Boroditsky 2005; Richardson & Matlock 2007; Huumo 2005, 2009; Ruppenhofer 2006; Stosic & Sarda 2009). It is very common across languages to depict static situations dynamically and it has been pointed out that fictive motion engages mental simulation of actual motion to some degree, so that something characteristic of processing actual motion appears also with regard to fictive motion (Langacker 1987: 170–173, 2008: 82–83, 528–529; Matsumoto 1996a: 363–364, 1996b: 185–188; Talmy 2000a: 104–105). Furthermore, psycholinguistic experiments with English conducted by Matlock and Richardson have demonstrated that fictive motion does evoke a mental representation of actual motion (Matlock 2004b, 2006; Matlock & Richardson 2004; Richardson & Matlock 2007).

Therefore, as static and dynamic situations may be expressed alike, the question arises whether there are lexical differences between the two. Indeed, among other differences, it has been suggested that in encoding space, fictive motion sentences are subject to some limitations that do not concern actual motion. Based on English and Japanese, Matsumoto (1996b: 194) has proposed the path condition according to which "some property of the path of motion must be expressed" in a fictive motion sentence: The path may be encoded with some locative expression (as *along the shore* in (1a)) or "as a part of a verb meaning" (as *ascend* in (1b)) (Matsumoto 1996a: 361). In other words, this condition allows the path to be encoded by a verb root alone and not accompanied with some other locative

expression, as in (1b). Fictive motion sentences that do not meet this condition are therefore considered to unlikely occur (see (1c)) whereas actual motion sentences are not restricted in this way, as illustrated in (1d).

(1) a. *The road began to run* ***along the shore***.[2]
b. *The road began to* ***ascend****.*
c. **The road began to run.*
d. *John began to run.*

Furthermore, Matlock (2004a: 226–227) and Ruppenhofer (2006) have claimed that in English the landmark must be overtly indicated in fictive motion sentences whereas in actual motion sentences it must not. This claim is substantiated as without the landmark "the conceptualiser is unable to infer information about the configuration, position, or shape of the TR [trajector] because there is nothing to relate it to" (Matlock 2004a: 227). Accordingly, in fictive motion sentences the relationship between the trajector and landmark must be explicit by having a locative expression in a sentence.

However, relatively little research has been conducted in the field of fictive motion comparing fictive and actual motion sentences, and the findings are often based on little or restricted data, or on introspection. In particular, the differences between fictive and actual motion sentences in expressing spatial information have received little attention in terms of empirical studies. In this paper, fictive and actual motion sentences in Estonian are compared focusing on the encoding of spatial relations and using corpus analysis. The aim of the paper is to determine the similarities and dissimilarities between fictive and actual motion sentences in expressing spatial information and to describe the underlying factors that have an impact on encoding space.

The current study examines Estonian fictive motion sentences containing motion verbs and subjects designating (physical) traversable paths (e.g., road, railway, etc.). Fictive motion is understood in this study to cover only instances when a location (or shape, condition, etc.) of an elongated traversable object is under consideration and when this object is described as moving, illustrated by sentence (2a).[3] Actual motion is

[2] Examples from Matsumoto (1996b: 195).

[3] Matlock divides fictive motion into two types: Type 1 covers fictive motion sentences incorporating traversable paths whereas Type 2 covers instances with no association of motion. Thus, the type of fictive motion to be dealt with is Type 1 fictive motion in

understood as a translocation of a physical entity, illustrated by sentence (2b).

(2) a. *The road goes from Tartu to Tallinn.*
b. *The bus/boy goes from Tartu to Tallinn.*

Fictive motion is abbreviated as FM and actual motion as AM. Also, the study covers FM instances which involve only hypothetical motion or moving focus of attention (3a) and FM sentences that in fact express actual motion (3b).[4]

(3) a. *The highway passes through a tunnel there.*[5]
b. *The highway I was driving on passed through a tunnel then.*

The results of this study indicate that although the type of construction (i.e., FM and AM) does have an impact on the encoding of space, it is shown that in Estonian it depends mostly on a specific verb whether the landmark is obligatory or not. With some verbs it is possible to have sentences without a landmark, while with others a landmark is obligatory, and it applies both to FM and AM. However, there is a stronger tendency to have such AM sentences where the landmark is not overtly marked than FM sentences.

In addition, when the landmark is overtly marked in Estonian, the choice between the source, trajectory/location, and goal is proved to be influenced mainly by the semantics of the motion verb, or more broadly, the type of the motion verb. On the basis of the results obtained and developing Talmy's (2000a: 257–309) approach to the windowing of attention (particularly to the path windowing), the consistent windowing hypothesis is proposed – if the verb windows the final portion of the path (i.e., directional verbs) then also such locative expressions that window the final portion of the path (i.e., expressions of the goal and direction) are preferred; if the verb windows the medial portion of the path (i.e., manner

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Matlock's classification (Matlock 2004a: 230–232), which may be argued to be a subcategory of the coextension-paths category in Talmy's categorisation (Talmy 2000a: 138–139).

[4] For detailed analysis of these two types of FM see Matsumoto (1996a: 360–361, 1996b: 204–205).

[5] Examples from Matsumoto (1996b: 204).

of motion and trajectory verbs)[6] then expressions that window the medial portion of the path are preferred (i.e., expressions of the trajectory and location). The windowing of attention is relevant to the current study because the patterns found support the fact that not only the attention is selective, but the language also reflects this selectiveness in an effective way. That is, the windowing of attention approach can explain why such patterns occur. In addition, the choice between spatial relations was found to depend not only on the consistent windowing, but to some extent also on the *goal-over-source* principle as well as on the type of construction (i.e., FM and AM).

The study consists of two parts: a pre-study and a main study. In general, there are two ways to search FM sentences from a corpus: using nouns referring to static entities that are typically described as moving or using motion verbs that can express FM. In both cases there is a possibility that data is restricted to some extent unless all possible nouns or verbs encountering FM constructions are considered. In this study, it was decided to start from the first option: The pre-study (Corpus study 1; see Section 2) was conducted in order to establish different motion verbs encountered in FM constructions in Estonian. On the basis of the results obtained, the main corpus-based analysis (Corpus study 2; see Section 3) was carried out focusing on the differences and similarities between Estonian FM and AM sentences in encoding space. Corpus study 2, in turn, was divided into three sub-studies to investigate (i) the influence of the construction (i.e., FM or AM) on the presence of a landmark expression (Corpus study 2a; see Section 3.3); (ii) the influence of the construction on the preferable spatial relation in terms of whether there are differences between FM and AM in the choice of the source, trajectory/location, or goal expression (Corpus study 2b; see Section 3.4); and (iii) the influence of the type of the verb on the preferable spatial relation (Corpus study 2c; see Section 3.5).

2. Corpus study 1: Motion verbs in FM sentences

2.1 Methods and materials

The aim of Corpus study 1 was to find different motion verbs that are used to express FM in Estonian. For this, typical nouns indicating traversable paths (i.e., trajectors) were chosen: *tee* ‘path, road’, *rada* ‘path, pathway’,

[6] The reason to include manner of motion verbs to verbs that window the medial portion of the path is detailed in Section 3.5.3.

teerada ‘path, track’, *maantee* ‘road, highway’, *raudtee* ‘railway’, *tänav* ‘street’, *jäljed* ‘track, trail’. For each of these nouns, up to 1000 sentences were searched from the Balanced Corpus of Estonian (Subcorpus of Fiction),[7] which contains 5 million words.[8] In total, 2025 sentences were found, of which 1840 sentences were discarded as non-FM sentences or draft. Among the discarded sentences were also metaphoric FM sentences (i.e., sentences not referring to some concrete spatial path), such as *Our paths took us in different directions after high school* and the sentences containing verbs that express a change of state rather than motion or that are not understood as typical motion verbs (e.g., *algama* ‘start’, *kaduma* ‘disappear’, *kokku saama* ‘meet’), illustrated by the sentence *The pathway ended at the oval place*. Given this, 185 FM sentences such as (4) remained for analysis.

(4) *Aida* *tagant* *läks*[9] *kõrge-s* *rohu-s* *teerada*
barn.GEN from behind go.3SG.PST high-INE grass-INE pathway
tema *maja-ni.*
his/her house-TERM
‘A pathway went from behind the barn in high grass to his/her house.’ (BCE)

2.2 Results

As Table 1 shows, 31 different motion verbs occurred in 185 FM sentences; the most frequent verbs were *viima* ‘take, lead’ (70 instances), *minema* ‘go’ (24 instances), and *kulgema* ‘run, move forward’[10] (15 instances).

[7] Balanced Corpus of Estonian: http://www.cl.ut.ee/korpused/grammatikakorpus/.
[8] The subcorpus of fiction was preferred to non-fiction corpora because describing the location or movement of some physical entity in newspapers and scientific texts was found to be quite limited according to the exploratory corpus search. Although the use of AM and FM sentences in different genres (e.g., newspapers) would definitely be interesting to investigate, these other genres lie outside the boundaries of the current study.
[9] The verb *minema* ‘go’ has suppletive form *läks* ‘go.3SG.PST’.
[10] Note that the meaning definition of the verb *kulgema* (‘run, move forward’) is not very accurate. The verb *kulgema* designates effortless, peaceful and continuous motion covering relatively long distances whereas the trajectory of the motion is unspecified or rather straight.

Table 1. Motion verbs expressing FM

Motion verbs	FM sentences per verb
viima 'take, lead'	70
minema 'go'	24
kulgema 'run, move forward'	15
tulema 'come'	11
looklema 'wind'	9
pöörama 'turn'	5
suunduma 'head'	5
keerama 'turn'	4
keerlema 'whirl, swirl'	4
tõusma 'rise'	4
laskuma 'descend'	3
pöörduma 'change, turn'	3
suubuma 'debouch, disembogue'	3
tooma 'bring'	3
jõudma 'reach, arrive'	2
kääduma 'turn, wind'	2
kerkima 'rise, grow'	2
läbima 'pass, go through'	2
ületama 'cross'	2
jooksma 'run'	1
juhatama 'direct, lead'	1
juhtima 'direct, lead'	1
käänlema 'wind, twist'	1
käima 'walk'	1
kallama 'pour'	1
laotuma 'spread, expand'	1
põikama 'dodge, swerve'	1
ronima 'climb'	1
siuglema 'snake'	1
väänlema 'wriggle, twist'	1
vingerdama 'squirm, wriggle'	1
Total	**185**

2.3 Discussion

The list of verbs in Table 1 shows a great variety of motion verbs, including path verbs (e.g., *suunduma* 'head', *ületama* 'cross') and manner of motion verbs (e.g., *looklema* 'wind', *käima* 'walk'), causative verbs (e.g., *viima* 'take, lead'), verbs of self-motion (e.g., *käima* 'walk', *siuglema* 'snake'), grammatically transitive verbs (e.g., *ületama* 'cross', *viima* 'take, lead'), and intransitive verbs (e.g., *minema* 'go', *käima* 'walk'), etc. (For a

detailed classification of verbs found, see Section 3.2). However, no motion verb profiling source-originated motion (e.g., *väljuma* 'exit') occurred despite the fact that such verbs are perfectly acceptable for expressing FM in Estonian, which points to the limitations of the corpus and data examined. Certainly, the range of verbs that are used to express FM is much broader than that provided here. Additionally, in the current study it remains an open issue as to which motion verbs are not used to express FM as it would require a much broader and presumably different kind of study to establish the verbs which can and which cannot enter FM constructions.

3. Corpus study 2: Encoding space in FM and AM sentences

3.1 Aim and hypothesis

The aim of the Corpus study 2 was to examine FM and AM sentences in how they encode space in order to establish whether there are any principal lexical differences between the two types of constructions in Estonian. It appeared it was necessary to conduct three sub-studies to clarify the extent of the influence of the types of constructions (i.e., FM and AM), as well as the influence of the types of verbs in the encoding of space. Following the previous work mentioned above, the starting hypothesis of the current Corpus study 2 was that the encoding of space in FM sentences should have some limitations compared to AM sentences.

3.2 Methods and materials

For the purpose of studying FM and AM sentences containing different types of motion verbs, firstly it was essential to classify verbs gathered in Corpus study 1. It has been common to distinguish between path verbs and manner of motion verbs. According to Talmy (2000b: 25–26), a motion event has four internal components: Figure, Ground, Path, and Motion. Figure is the moving or movable entity and Ground is the reference entity (Talmy 2000a: 312, 2000b: 25). Path is defined as "The path followed or site occupied by the Figure object with respect to the Ground object" (Talmy 2000b: 25). Manner, as well as Cause, is an external component of a motion event (i.e., co-event). Both Path and Manner (as well as Cause and Figure) may be conflated in a motion verb, therefore resulting in path verbs (e.g., *enter*, *proceed*, *cross*) and manner of motion verbs (e.g., *roll*,

run). Similarly, Levin (1993: 264) distinguishes verbs that inherently reflect direction (most commonly understood as path verbs), as verbs whose meaning "includes a specification of the direction of motion" (e.g., *go*, *enter*, *cross*?),[11] and manner verbs as verbs that do not specify "an inherent direction as part of [their] meaning" (e.g., *roll*, *run*). However, in some studies (mostly examining Japanese), path verbs in turn have been divided into two types: Direction(al) Path verbs (e.g., *go*) and Ground Path verbs (e.g., *cross*). Direction Path verbs express motion in some direction whereas Ground Path verbs comprise information about the Ground (see, for example: Muehleisen & Imai 1997; Uchiyama & Ishizaki 2001).

In Estonian as in English, verbs like *cross* do not depend on the nature of a specific ground, i.e, verbs like *cross* can be used with presumably most entities that need to be crossed differently from Japanese in which there are different verbs to express crossing different types of grounds. Nevertheless, there is a good reason to differentiate between two types of path verbs because verbs like *cross*, which specify the trajectory[12] of the motion (i.e., the medial portion of the path in Talmy's terms (Talmy 2000a: 265–271) or the medium of the motion in Slobin's terms (Slobin 1996: 202)) differ semantically from other path verbs and may determine different syntactic structure in Estonian. For instance, the verbs *ületama* 'cross' and *läbima* 'pass, go through' are grammatically transitive verbs that require an overt object indicating a landmark in a sentence; the verb *mööduma* 'pass by', on the other hand, is an intransitive verb that requires an adverbial (i.e., landmark) to be in elative case.[13]

For that reason, in the current study path verbs are divided into DIRECTIONAL VERBS referring to motion verbs that encode goal-oriented (as well as source-originated) movement, and into TRAJECTORY VERBS referring to verbs that describe motion along a trajectory without specifying the goal or the source. Therefore, following Talmy's (2000a: 265–267) approach to the path windowing and applying this approach to verb roots, it may be argued that directional verbs (such as *leave*, *go*, *head*, *rise*, etc.) window

[11] Note that Levin provides *cross* with a question mark, indicating the possibility to exclude the verb from the verbs that inherently reflect direction (Levin 1993: 264).

[12] The term trajectory is not to be confused with Langacker's term trajector, which is "the figure within a relational profile" (Langacker 1987a: 217). Trajectory is used here instead of the term path for reasons of clarity to designate the portion of the path between the source and goal.

[13] Elative case is a locative case which conveys the meaning of moving out of something (e.g., *majast* 'from the house', as in (5a)).

the initial or final portion of the path, whereas trajectory verbs (such as *cross*, *pass*, etc.) window the medial portion of the path. Based on the verbs found in Corpus study 1, directional verbs in turn may be divided into subtypes on the basis of whether they express general self-motion (e.g., *minema* 'go') or caused motion (e.g., *viima* 'take, lead'); horizontal (e.g., *head*) or vertical motion (e.g. *tõusma* 'rise'); or the change in the direction of motion (e.g., *pöörama* 'turn') (see Table 2).

Beside path verbs, manner of motion verbs are also dealt with in this study. The term MANNER OF MOTION VERBS is considered here to refer to motion verbs that encode the way motion may be executed in a broad sense, classified into manner of motion verbs expressing non-linear motion (e.g., *looklema* 'wind') and manner of motion verbs expressing motion with no salient information about the shape of the trajectory (e.g., *kulgema* 'run, move forward') (see Table 2).

Thus, one possible classification of verbs found in Corpus study 1 (provided in Table 2) takes into account how path and manner are lexicalised. The classification is based on the literal meaning of the motion verbs. The most frequent verb of each subtype (indicated by bold type) was chosen for further examination (i.e., directional verbs *viima* 'take, lead', *minema* 'go', *suunduma* 'head', *tõusma* 'rise', and *pöörama* 'turn'; trajectory verb *ületama* 'cross'; manner of motion verbs *kulgema* 'run, move forward' and *looklema* 'wind').

Table 2. Classification of motion verbs found in Corpus study 1 and their rate of occurrence

General types of motion verbs		Subtypes of motion verbs	Motion verbs and their rate of occurrence
Path verbs	Directional verbs	General path verbs referring to goal-oriented self-motion (grammatically intransitive verbs)	***minema*** ‘go’ (24), *tulema* ‘come’ (11)
		General path verbs referring to goal-oriented causative motion (grammatically transitive verbs)	***viima*** ‘take, lead’ (70), *tooma* ‘bring’ (3)
		Path verbs expressing horizontal goal-oriented motion (grammatically intransitive verbs)	***suunduma*** ‘head’ (5), *suubuma* ‘debouch, disembogue’ (3), *jõudma* ‘reach, arrive’ (2)
		Path verbs expressing vertical goal-oriented motion (grammatically intransitive verbs)	***tõusma*** ‘rise’ (4), *kerkima* ‘rise, grow’ (2), *laskuma* ‘descend’ (3)
		Path verbs expressing the change in the direction of motion (grammatically intransitive verbs)	***pöörama*** ‘turn’ (5), *keerama* ‘turn’ (4), *pöörduma* ‘change, turn’ (3), *kääduma* ‘turn, wind’ (2)
	Trajectory verbs		***ületama*** ‘cross’ (2), *läbima* ‘pass, go through’ (2)
Manner of motion verbs		Manner of motion verbs encoding the motion along a non-linear trajectory (grammatically intransitive verbs)	***looklema*** ‘wind’ (9), *keerlema* ‘whirl, swirl’ (4), *käänlema* ‘wind, twist’ (1), *vingerdama* ‘squirm, wriggle’ (1), *väänlema* ‘wriggle, twist’ (1), *siuglema* ‘snake’ (1)
		Manner of motion verbs encoding the motion along a trajectory, which has an unspecified shape (grammatically intransitive verbs)	***kulgema*** ‘run, move forward’ (15), *jooksma* ‘run’ (1), *käima* ‘walk’ (1), *ronima* ‘climb’ (1)

With each of the verbs selected, up to 1000 sentences were drawn from the Balanced Corpus of Estonian (Subcorpus of Fiction). FM sentences were

extracted from this overall selection, giving a result of 137 sentences (see Table 3). The sentences collected in Corpus study 1 were added to those, so that taken together, there were 238 FM sentences to examine; as the corpus used was the same, in some cases the sentences overlapped (see Table 4). AM sentences were extracted with each of the verbs from the first 300 sentences, giving a result of 563 sentences (see Table 5). One can notice that the proportions of AM and particularly FM sentences are quite low. Mainly, the discarded sentences were various sentences with non-literal uses of the verbs (i.e., all other uses besides expressing the location of some real traversable path or translocation of some physical entity) and draft sentences. In some cases the samples yielded were comparatively small, demonstrating the limitations of the corpus. Despite the small samples, these verbs were not excluded from the analysis, as they had a sufficient amount of either FM or AM sentences to draw at least preliminary conclusions; however, the results therefore need to be interpreted with caution.

Table 3. FM sentences found using verb-based search (up to 1000 sentences considered)

Motion verbs	Corpus sentences found	FM sentences	
viima ‘take, lead’	1000	13	(1.3%)
minema ‘go’	1000	1	(0.1%)
suunduma ‘head’	279	20	(7.2%)
tõusma ‘rise’	1000	4	(0.4%)
pöörama ‘turn’	1000	5	(0.5%)
ületama ‘cross’	417	2	(0.5%)
kulgema ‘run, move forward’	302	52	(17.2%)
looklema ‘wind’	77	40	(51.9%)
Total	**5075**	**137**	(2.7%)

Table 4. FM sentences examined in total

Motion verbs	Sentences with verb-based search	Overlapped sentences	Sentences with path-based search	Total
viima 'take, lead'	11	2	68	**81**
minema 'go'	1	–	25	**26**
suunduma 'head'	15	5	–	**20**
tõusma 'rise'	4	–	4	**8**
pöörama 'turn'	2	3	2	**7**
ületama 'cross'	–	2	–	**2**
kulgema 'run, move forward'	38	14	1	**53**
looklema 'wind'	32	8	1	**41**
Total	**103**	**34**	**101**	**238**

Table 5. AM sentences found using verb-based search (up to 300 sentences considered)

Motion verbs	Corpus sentences found	AM sentences	
viima 'take, lead'	300	**35**	(11.7%)
minema 'go'	300	**127**	(42.3%)
suunduma 'head'	279	**212**	(76.0%)
tõusma 'rise'	300	**55**	(18.3%)
pöörama 'turn'	300	**33**	(11.0%)
ületama 'cross'	300	**66**	(22.0%)
kulgema 'run, move forward'	300	**23**	(7.7%)
looklema 'wind'	77	**12**	(15.6%)
Total	**2156**	**563**	(26.1%)

In order to identify constructional similarities and dissimilarities between FM and AM sentences, linguistic elements encoding space were searched for in both FM and AM sentences. The distinction was made between the encoding of the source, trajectory/location, and goal of the motion (which corresponds to the initial, medial, and final portion of the path to be windowed in Talmy's terms (2000a: 265–267)). Accordingly, in the case of FM these are the fictive source, fictive trajectory/location, and fictive goal. In Estonian these may be expressed with case-marked noun phrases (see (5a), (6c), (7a)), adpositional phrases (see (5b), (6a, d), (7b, c)), or adverbs (i.e., satellites) (see (6b), (7d)). Certainly, a range of other cases, adpositions and adverbs may be used besides the ones provided here. The SOURCE was understood as the starting point of the motion (as *majast* 'from

the house' in (5a)) or the point from the direction of which the motion proceeds (as *maja poolt* 'from the direction of the house' in (5b)).

(5) a. *Ta* *tul-i* ***maja-st.***
s/he come-3SG.PST house-ELA
'S/he came from the house.'

b. *Ta* *tul-i* ***maja*** ***poolt.***
s/he come-3SG.PST house.GEN from the direction of
'S/he came from the direction of the house.'

Under the label of TRAJECTORY/LOCATION, the trajectory of the motion in the sense described above (as *mööda teed* 'along the road' in (6a) and *metsast läbi* 'through the forest' in (6b)) as well as the general location of the mover were classified (as *metsas* 'in the forest' in (6c) and *maja taga* 'behind the house' in (6d)).[14]

(6) a. *Ta* *tul-i* ***mööda*** ***tee-d.***
s/he come-3SG.PST along road-PART
'S/he came along the road.'

b. *Ta* *kõndi-s* ***metsa-st*** ***läbi.***
s/he walk-3SG.PST forest-ELA through
'S/he walked through the forest.'

c. *Ta* *kõndi-s* ***metsa-s.***
s/he walk-3SG.PST forest-INE
'S/he walked in the forest.'

d. *Ta* *kõndi-s* ***maja*** ***taga.***
s/he walk-3SG.PST house.GEN behind
'S/he was walking behind the house.'

The GOAL was interpreted as the endpoint of the motion (as *metsa* 'to the forest' in (7a) and *metsa sisse* 'into the forest' in (7b)), and also as the destination of the motion not known to be achieved, i.e., the landmark

[14] The same approach was taken by Stefanowitsch and Rohde (2004). Here the main reason to cover both the trajectory as well as the general location under one term is borne out of the current corpus studies themselves, as verbs most often accompanied by expressions designating trajectory were also often accompanied by expressions designating general location.

towards which the motion is directed (i.e., direction) (as *metsa poole* 'toward the forest' in (7c) and *edasi* 'forward' in (7d)).

(7) a. *Ta läks* ***metsa***.
s/he go.3SG.PST forest.ILL
'S/he went to the forest.'

b. *Ta läks* ***metsa sisse***.
s/he go.3SG.PST forest.GEN into
'S/he went into the forest.'

c. *Ta läks* ***metsa poole***.
s/he go.3SG.PST forest.GEN toward
'S/he went toward the forest.'

d. *Ta läks* ***edasi***.
s/he go.3SG.PST forward
'S/he went forward.'

Locative expressions were counted in all sentences without considering whether they stood alone or were combined with each other; consequently, the number of locative expressions is higher than the number of sentences. Some linguistic examples are provided in a simplified way for reasons of clarity, and the others are corpus-sentences marked with (BCE).

3.3 Corpus study 2a: Presence of locative expressions

3.3.1 Aim and hypothesis

Following Matlock (2004a: 226–227) and Ruppenhofer (2006), it was predicted that sentences without a locative expression (i.e., landmark) are unlikely to occur or very rare in the case of FM but possible in the case of AM. According to Matsumoto (1996b: 194), it would be acceptable not to mention the landmark "when the verb does convey information about the path", i.e., when the motion verb itself expresses a path one way or another. All the sentences were divided into two groups on the basis of the existence of an element other than the verb that expresses the source, trajectory/location or goal: sentences including locative expression (abbreviated here as loc-sentences) and sentences not including locative expression (0-loc-sentences).

3.3.2 Results

From Table 6 it may be seen that the range of sentences without locative expressions was higher in the case of AM (15.1%) and lower in the case of FM (6.7%). The Chi-square test revealed a significant difference in proportions with a small effect size: $\chi^2(1, N = 801) = 10.06$, $p < 0.001$, Cramér's V = 0.12.[15] FM sentences without overtly marked locative expression were proven to be rare, but not impossible, although the results indicate that that kind of AM sentences are more likely to occur.

Table 6. FM and AM sentences including (loc) and not including (0-loc) locative expressions

	0-loc		Loc		Total	
FM	6.7%	(16)	93.3%	(222)	100.0%	(238)
AM	15.1%	(85)	84.9%	(478)	100.0%	(563)

Yet, the possibility not to present a locative expression in a sentence seems to be rather verb-specific, as only *ületama* 'cross', with its obligatory object indicating the trajectory blocks this possibility in both FM and AM sentences, and *suunduma* 'head' appears to allow the exclusion only in the case of AM. Other verbs do not show such restrictions; the verbs *viima* 'take, lead', *minema* 'go', *tõusma* 'rise', and *pöörama* 'turn' may all be used in such sentences where no other locative expression occurs. What varies is whether nothing else needs to be expressed, as it is in the case of *tõusma* 'rise', or whether something expressing purpose, manner etc. needs to be present in a sentence, as it is for instance with *viima* 'take, lead' (the detailed analysis is provided below in Section 3.3.3).

3.3.3 Discussion

The results of Corpus study 2a do not support the prediction that FM sentences need to have an overtly marked landmark in a sentence in Estonian, although the results indicate a stronger tendency in FM than in AM for an overtly marked landmark. It may be argued that the reason a landmark is not mentioned in a sentence is rather verb-dependent. The association between the construction and presence of a locative expression might be explained in part by the fact that the AM sentences examined

[15] Based on Cohen (1988: 224–225), the effect sizes were interpreted as 0.1 to represent a small, 0.3 a moderate, and 0.5 a large effect size.

describe mostly agentive motion. Involving an agent in a motion event in turn motivates the need to express the purpose of the motion (see (8)); as a consequence, spatial relations are left in the background. As in FM sentences the entity that is described as moving is not a living being, it seems to be impossible to encode the purpose of moving in these sentences. In Estonian, such infinitive constructions expressing purpose do involve a spatial meaning and are often analysed as expressions that encode the goal (e.g., Pajusalu, Kahusk, Orav et al. 2013). Yet, it may be argued that expressing purpose is more salient than expressing some locative meaning, i.e., the goal.[16]

(8) *Agatha läks* ***kingi*** ***Vilma-le*** ***näita-ma*** ... (AM)
Agatha go.3SG.PST shoe.PL.PART Vilma-ALL show-INF
'Agatha went to show Vilma the shoes.' (BCE)

On the other hand, using FM constructions to locate or describe traversable paths *per se* leads to the higher need to express locative meanings, meanwhile AM exhibits a much wider variability in what to depict. It may be stated that if an FM sentence is used to describe the location of some traversable path entity (i.e., trajector), then a landmark needs to be explicitly expressed, as proposed by Matlock. However, if the FM sentence describes the condition or shape of the path, or the way hypothetical (or actual) motion is executed then the space may be left unspecified. In addition, the higher rate of such AM sentences over FM sentences where space is not specified may be due to the presence of the agentive component. As explained above, most AM sentences examined express agentive motion and the agent is much more autonomous than an inanimate mover or path, that is, the range of what can be described is much wider when an animate mover is involved.

Of course, in many cases the spatial information is given by the linguistic context or by world knowledge (see also Stefanowitsch & Rohde 2004: 263). In addition, there are some verb-specific differences associated with the reason not to present the locative expression, as mentioned in Section 3.3.2. The directional verbs *minema* 'go', *tõusma* 'rise', and

[16] As an anonymous referee has pointed out, such infinitive constructions combining the meaning of the purpose and goal might be considered as an intervening instance between overtly indicating and not indicating spatial information (i.e., between Loc and 0-loc). In addition, it is open to dispute what is more salient in these infinitive constructions and how it varies depending on different contextual factors.

pöörama ‘turn’, and manner of motion verbs *looklema* ‘wind’ and *kulgema* ‘run, move forward’ allow sentences without locative expressions both in the case of FM and AM, as illustrated with the verb *tõusma* ‘rise’ in (9a), whereas in both cases with the verb *ületama* ‘cross’ this is impossible, as it is a transitive verb requiring a grammatical object that refers to the landmark, as shown in (9b). Contrary to Matsumoto’s path condition, the manner of motion verb *kulgema* ‘run, move forward’ may occur without locative expression. Generally, there has to be some other element (most frequently a manner expression) to be present in both FM and AM sentences in case the space is not encoded, as in (10a–c). In the FM sentence (10a), the manner is described as the way actual motion along the path is executed (i.e., *nöörsirgelt* ‘straight’), which in turn represents the shape of the path. However, it is possible to express manner in a way that does not have such a strict connection to the path, as illustrated in (10b).[17]

(9) a. *Tee* / *lennuk* *tõusi-s.* (FM/AM)
road / plane rise-3SG.PST
‘The road / plane rose.’

b. *Tee* / *ta* *ületa-s* ***põllu***. (FM/AM)
road / (s)he cross-3SG.PST field.GEN
‘The road / (s)he crossed the field.’

(10) a. *Kui* *tee* *kulge-s* *pikka* *aega* ***nöörsirgelt***,
when road run-3SG.PST long.PART time.PART straight
siis *ol-i* *nei-l* *igav.* (FM)
then be-3SG.PST they-ADE boring
‘When the road ran straight then they felt bored.’ (BCE)

b. *Tee* *kulge-s* ***kiiresti***. (FM)
road run-3SG.PST swiftly
‘The road ran swiftly.’

[17] Matsumoto (1996b: 201–202) argues that in English and Japanese adverbial phrases like *slowly* cannot be used in FM sentences. He finds that there are some cases where such phrases are possible, but only if they describe the shape or the location of the path. Yet, in Estonian this is not the case, as in Estonian phrases like that may be also used to describe the hypothetical or actual motion along the described path.

c. *Poiss kulge-s* ***uimase-s äraoleku-s*** ... (AM)
boy run-3SG.PST dizzy-INE absence-INE
'The boy sauntered dizzily.' (BCE)

The reported fact that FM sentences need to have a landmark present, whereas AM sentences do not, may be argued to be supported only by the verb *suunduma* 'head', in which case there is a possibility not to express space in AM sentences. However, in this case something else must be described instead of space, such as purpose in (11c) (compare with (11a)), whereas in FM sentences it appears to be unacceptable (see (11b)). This in turn is most probably caused by the fact that purpose may be associated only with agentive motion.

(11) a. **Tee / ta suundu-s.* (FM/AM)
path / (s)he head-3SG.PST
'*The path / (s)he headed.'

b. **Tee suundu-s* ***jõge ületa-ma***. (FM)
path head-3SG.PST river.PART cross-INF
'*The path headed to cross the river.'

c. *Ta suundu-s oma* ***naabri-t vaata-ma***. (AM)
(s)he head-3SG.PST his/her neighbour-PART look-INF
'(S)he went to see his/her neighbour.' (BCE)

It is interesting to note that the frequently occurring verb *viima* 'take, lead' is causative and ordinarily used as a transitive verb, so that it always requires a grammatical object representing a patient in AM sentences, as *kirju* 'letters' in (12a). However, in most FM sentences *viima* appeared with no overt object (see (12b)). In many instances there exists an implicit actual mover traversing the path depicted, but in many cases it would be difficult to establish whether such an implicit mover exists due to the lack of contextual information. Despite the fact that in most of the FM sentences examined the verb *viima* is intransitive, there are also a small number of sentences where *viima* occurs as a transitive verb and the grammatical object is presented as if it were a patient (i.e., fictive patient) although it actually refers to the actual mover (i.e., to the agent), as *kaks last* 'two children' in (12c).

(12) a. *Aidann* ... *vii-s* ***kirju*** ... (AM)
Aidann ... take-3SG.PST letter.PART.PL
'Aidann carried the letters.' (BCE)

b. *Tee* *vii-s* *mööda* *peedipõllu-st.* (FM)
path take-3SG.PST past beet.field-ELA
'The path led past a beet field.' (BCE)

c. *Teerada* ... *vii-b* ***kaks*** ***las-t*** *vääramatult* *kokku.* (FM)
pathway ... take-3SG.PRS two child-PART inescapably together
'The pathway brings two children together inescapably.' (BCE)

3.4 Corpus study 2b: Encoding spatial relations from the viewpoint of the type of construction

3.4.1 Aim and hypothesis

The results obtained in Corpus study 2a suggest that there is a stronger tendency to have sentences without locative expression in the case of AM than in the case of FM, although the effect size was comparatively small (Cramér's V = 0.12). In other words, the type of construction does influence the presence of the landmark expression to some degree. Nevertheless, it was suggested that semantic and syntactic properties of a particular verb determine whether space must be encoded or not. That is, the verb seems to be more important than the construction in choosing whether to indicate spatial information overtly or not.

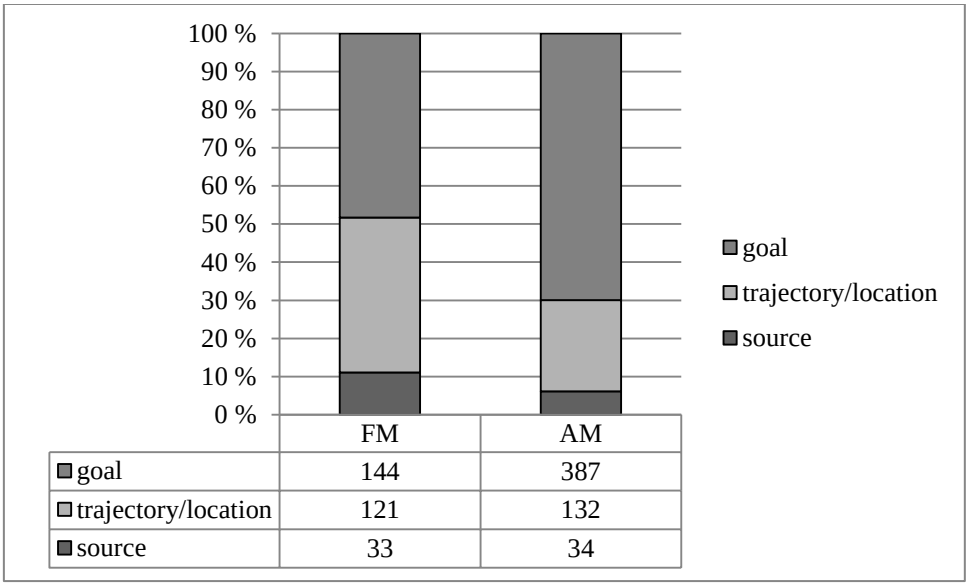
Given this, when spatial relations are encoded the question arises whether there are any differences between FM and AM sentences in encoding them and, if there are differences, whether these differences are caused by the type of construction or by the verb. Therefore, the first step is to clarify the existence of the association between the construction and the expressed spatial relation. To put it differently, the aim of this study is to investigate whether expressing the source, trajectory/location and goal is independent of the construction type (i.e., FM or AM construction) or not. From the *goal-over-source* principle first reported by Ikegami (1987) and elaborated by Verspoor, Dirven and Radden (1998: 87–89), it may be expected that the goal is most commonly expressed. According to the principle, "the goal is usually more important than the source and the source and goal are usually more important than the path" (Verspoor, Dirven & Radden 1998: 89). This tendency is explained as the goal being

the most interesting (Verspoor, Dirven & Radden 1998: 87–89) or informative element referring to space in the sentence (Ungerer & Schmidt 1996: 225–226). The principle is argued to apply especially to agentive motion (Verspoor, Dirven & Radden 1998: 87–89), so that the principle should hold particularly to the AM sentences as the vast majority of those describe agentive motion. The question is whether the goal is the most salient part of the path in FM sentences as well. As a starting point, it is assumed that the goal is the dominant spatial relation to be expressed both in AM and FM sentences in Estonian, and that due to the agentive component AM sentences have the goal encoded more frequently than FM sentences. Here, the locative sentences describing the source, trajectory/location, and goal were counted and not the locative expressions themselves.

3.4.2 Results

The proportions of locative elements in FM and AM sentences are provided in Figure 1. The goal was described in 48% of FM sentences and in 70% of AM sentences. In contrast, the trajectory/location was encoded in 41% of FM sentences and in 24% of AM sentences; the source was comparatively rare in both cases. The difference in proportions was significant with a small effect size, $\chi^2(2, N = 851) = 38.8$, $p < 0.001$, Cramér's $V = 0.21$.

Figure 1. Frequencies of locative expressions in FM and AM sentences



	FM	AM
goal	144	387
trajectory/location	121	132
source	33	34

3.4.3 Discussion

The results yielded suggest that there is a significant association between the construction type and the locative element expressing the source, trajectory/location, or goal of the motion. The effect size appeared to be relatively small (Cramér's V = 0.21), but the effect of the construction type on the encoding of space is larger than in Corpus study 2a (Cramér's V = 0.12). Despite this, the goal is the most frequent spatial relation both in AM and FM sentences, although it should be noted that the trajectory/location and goal are quite equal in proportions in the case of FM. As expected from the *goal-over-source* principle, AM sentences mostly describing agentive motion tend to express the goal more often than FM sentences (as illustrated in (13a)). FM sentences, on the contrary, prefer to have the trajectory/location explicit more frequently than AM sentences (as in (13b)). This tendency illustrates the static base of FM; the encoding of a stationary scene often causes attention to be focused on the path itself and to its location even if the path is described as moving. The latter is seen well in (13b), where the location as well as the condition of the pathway is described.

(13) a. *Raha* *käe-s,* *läks* *Madis* ***poodi*** ... (AM)
money hand-INE go.3SG.PST Madis shop.ILL
'With money in his hands, he went to the shop.' (BCE)

b. *Rada* *läks* ***läbi*** ***metsatuka***, ***juur-te-st***
pathway go.3SG.PST through copse.GEN root-PL-ELA
konarliku-ks *talla-tud.* (FM)
rough-TRANS tread-PTCP
'A pathway trodden bumpy at the roots went through the copse.' (BCE)

3.5 Corpus study 2c: Encoding space from the viewpoint of the type of the motion verb

3.5.1 Aim and hypothesis

The results of the corpus studies previously conducted (see Section 3.3 and 3.4) indicate that FM sentences similarly to AM sentences can sometimes be used without an overtly marked landmark depending on a particular motion verb. Nevertheless, there is a stronger tendency in FM than in AM for an overtly marked landmark. It was also found that when space is

encoded the choice between the source, trajectory/location, and goal is influenced by the construction type (i.e., FM or AM). Subsequently, a prediction can be made that whether the source, trajectory/location or goal of the motion is expressed (in case space is encoded) depends not only on the construction type, but on the semantics of the motion verb as well. In other words, whether initial, medial or final windowing applies is influenced by the semantics of the verb. For purposes of comparison across FM and AM sentences from the viewpoint of motion verbs, verbs were analysed separately, as well as members of a particular verb type (i.e., directional, trajectory, and manner of motion verbs).

3.5.2 Results

The frequencies of different locative expressions connected to verbs are shown in Table 7 (FM) and Table 8 (AM). Directional verbs (i.e., *viima* 'take, lead', *minema* 'go', *suunduma* 'head', *tõusma* 'rise', *pöörama* 'turn') occurred more frequently with linguistic elements describing the goal, whereas trajectory verb (i.e., *ületama*) and manner of motion verbs (i.e., *kulgema* 'run, move forward', *looklema* 'wind') occurred more often with the elements describing the trajectory/location.

Table 7. Frequencies of the types of spatial relations in FM sentences (Note: The highest proportions are bolded)

FM	source		trajectory/location		goal		Total
viima 'take, lead'	10%	(11)	24%	(27)	**66%**	**(75)**	(113)
minema 'go'	12%	(4)	**44%**	**(15)**	**44%**	**(15)**	(34)
suunduma 'head'	12%	(3)	–		**88%**	**(22)**	(25)
tõusma 'rise'	17%	(1)	17%	(1)	**66%**	**(4)**	(6)
pöörama 'turn'	36%	(4)	–		**64%**	**(7)**	(11)
ületama 'cross'	–		**100%**	**(4)**	–		(4)
looklema 'wind'	13%	(8)	**69%**	**(43)**	18%	(11)	(62)
kulgema 'run, move forward'	5%	(2)	**72%**	**(31)**	23%	(10)	(43)
Total	11%	(33)	41%	(121)	**48%**	**(144)**	(298)

Table 8. Frequencies of the types of spatial relations in AM sentences (Note: The highest proportions are bolded)

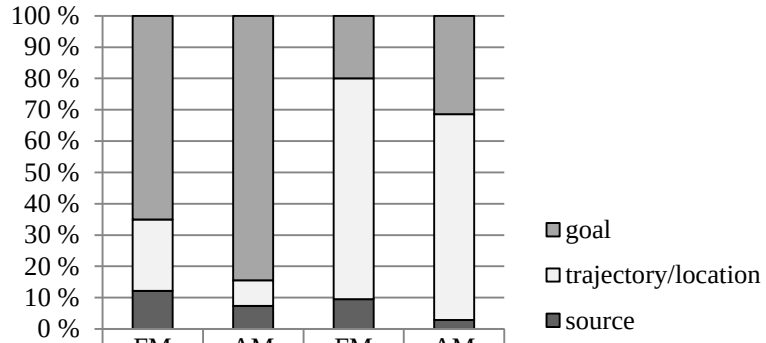
AM	Source		trajectory/location		goal		Total
viima 'take, lead'	–		6%	(2)	**94%**	**(30)**	(32)
minema 'go'	3%	(3)	7%	(7)	**90%**	**(86)**	(96)
suunduma 'head'	4%	(9)	7%	(16)	**89%**	**(211)**	(236)
tõusma 'rise'	23%	(14)	10%	(6)	**42%**	**(26)**	(46)
pöörama 'turn'	16%	(7)	11%	(5)	**73%**	**(32)**	(44)
ületama 'cross'	–		**100%**	**(73)**	–		(73)
looklema 'wind'	–		**58%**	**(15)**	42%	(11)	(26)
kulgema 'run, move forward'	12%	(1)	**88%**	**(7)**	–		(8)
Total	6%	(34)	23%	(131)	**71%**	**(396)**	(561)

In addition, one could notice that there is a considerable variation in the frequency of the verbs in FM and AM constructions. In FM sentences the most frequent verbs were *viima* 'take, lead', *looklema* 'wind', and *kulgema* 'run, move forward', whereas in AM sentences they were *suunduma* 'head', *minema* 'go', and *ületama* 'cross'. This clear difference between FM and AM sentences in favouring different verbs, however, stays beyond the scope of the current research and is not discussed here.

Leaving aside the trajectory verb *ületama*, which always demands the landmark to be encoded in the sentence as a grammatical object in Estonian to express the trajectory (and probably makes it impossible to express the source or goal, at least in Estonian), the association between the verb type and the preferable spatial relation is illustrated in Figure 2. A significant number of FM and AM sentences (65% and 84%, respectively) describe the goal if the verb is directional (i.e., *viima* 'take, lead', *minema* 'go', *suunduma* 'head', *tõusma* 'rise', *pöörama* 'turn'), whereas in the case of manner of motion verbs (i.e., *kulgema* 'run, move forward', *looklema* 'wind'), the trajectory/location is expressed in a large number of FM and AM sentences (70% and 66%, respectively). This interaction between the preferable spatial relation and the type of the verb was supported by the Chi-square test; the difference in proportions was significant in the case of

FM, $\chi^2(2, N = 294) = 67.1$, $p < 0.001$, Cramér's V = 0.48; and in the case of AM, $\chi^2(2, N = 480) = 99.9$, $p < 0.001$, Cramér's V = 0.46. In both cases the effect size was quite large. However, it should be noted that FM versus AM seem to be a significant factor in the choice of spatial relations likewise.

Figure 2. Frequencies of locative expressions in FM and AM sentences with different types of verbs



	FM	AM	FM	AM
	directional verbs		manner verbs	
goal	123	376	21	11
trajectory/location	43	36	74	23
source	23	33	10	1

3.5.3 Discussion

The results indicate that the semantics of the motion verb determine the preferable spatial relation both in FM and AM sentences in Estonian, although the construction type has its impact as well. Directional motion verbs tend to be used with language units expressing the goal, whereas manner of motion verbs occur rather with the trajectory/location, and the trajectory verb always with the trajectory/location expression. To put it differently, a scene described by a sentence has final windowing of the path more often if the motion verb itself windows the final portion of the path (see (14a) and (14b)). Trajectory verbs as *ületama* 'cross' include the notion of the trajectory in their meaning and therefore window the medial portion of the path; verbs like this also demand the landmark to be present in a sentence and in many cases the general location is expressed as well (see (15a) and (15b)). Moreover, it may be appropriate to suggest that, similarly to trajectory verbs, manner of motion verbs window the medial portion of the path. That is, in the case of manner of motion verbs the way motion is executed is in the focus of attention, which in turn may cause

attention to be paid to the location of the mover. The source and goal may then be implicit, or perhaps entirely absent as they possibly play no role in conceptualising the scene (see (16a) and (16b)).

(14) a. ... ***edasi*** *läks* *lai* *teerada.* (FM)
... forward go.3SG.PST broad pathway
'A broad pathway went forward.'

b. *Raha* *käe-s,* *läks* *Madis* ***poodi*** ... (AM)
money hand-INE go.3SG.PST Madis shop.ILL
'With money in his hands, he went to the shop.' (BCE)

(15) a. *Poriligane* *rada* ... *ületa-b* ***kõrge***
muddy.bedraggled pathway ... cross-3SG.PRS high.GEN
kivivundamendi-ga ***lauda*** ***nurga*** ***juures*** ***virtsaoja*** ... (FM)
rock.basement-COM barn.GEN corner.GEN at rivulet.GEN
'A muddy pathway crosses the rivulet at the corner of the barn with a rock basement.' (BCE)

b. ***Korla*** ***linna*** ***taga*** *ületa-si-me* *kuiva* *Tarimi* *jõe* ... (AM)
Korla town.GEN behind cross-PST-1PL dry.GEN Tarim.GEN river.GEN
'Behind the town Korla we crossed the dry River Tarim.' (BCE)

(16) a. *Tee* *kulge-s* ***küngas-te*** ***vahel*** ... (FM)
path run-3SG.PST hillock-GEN.PL between
'The path ran in between hillocks.' (BCE)

b. *Lootsik* ... *kulge-s* ***sois-te*** ***kallas-te*** ***vahel*** ... (AM)
skiff ... run-3SG.PST swampy-GEN.PL lakeside-GEN.PL between
'The skiff swam between swampy lakesides.' (BCE)

Based on these findings, the CONSISTENT WINDOWING HYPOTHESIS may be suggested: The path is windowed in a way that is coherent with verb semantics. That is, there is a correlation between which portion of the path is windowed by the verb and which portion of the path is most preferably windowed by the locative expressions in the sentence: Directional verbs with final windowing tend to be used together with locative expressions windowing the final portion of the path, whereas trajectory and manner of motion verbs with medial windowing tend to be used together with locative expressions windowing the medial portion of the path. These underlying patterns reflect how both attention and language are selective in

foregrounding the most salient features of the scene: The most important portions from an event gain extra attention in terms of having double (linguistic) windows over the scene.

Certainly, the trajectory/location may be expressed in the case of directional verbs and the source and goal may be expressed in the case of manner of motion verbs. Yet, the tendency seems to be to the consistent windowing. Indeed, one could argue that there exists an interaction between the type of the construction, the *goal-over-source* principle, and the consistent windowing tendency, and all in turn are influenced by the semantics of a particular motion verb. As an illustration, there are semantically explicable differences with respect to the extent the consistent windowing correlation applies to a particular verb (see Table 7 and 8 for detailed data). If the verb meaning itself contains a strong sense of directionality, then the rate of expressions expressing the goal is remarkably high; the verb *suunduma* 'head' is a case in point, as the vast majority of locative expressions depict the goal. In Estonian, *suunduma* incorporates the notion of *suund* 'direction', and as a result, locative expressions referring to the goal with other motion verbs (such as *läks metsa* 'went to the forest' in (17a)) acquire more directional meaning with *suunduma*, so that *metsa* would be interpreted rather as *metsa poole* 'toward the forest' (see (17b)). Motion verbs incorporating the sense of general directionality (i.e., *viima* 'take, lead', *minema* 'go') result in the same proportion only if they occur in AM sentences. In FM sentences the rate is considerably lower than in AM sentences; instead, there is a higher rate of trajectory/location expressions in FM sentences than in AM sentences. Differing from these directional verbs is *tõusma* 'rise' – although the goal is prevalent (however, it must not be forgotten that the number of FM sentences with this verb was low, see Table 4), AM sentences often indicate the source as well. The latter may be associated with the vertical motion *tõusma*; due to the vertical motion it seems to become more important to describe where the motion begins, as the goal (i.e., direction) of the motion is often implicitly apparent, as in (17c).

(17) a. *Tee* / *ta läks* ***metsa***. (FM/AM)
path / (s)he go.3SG.PST forest.ILL
'The path / (s)he went to the forest.'

b. *Tee* / *ta suundu-s* ***metsa***. (FM/AM)
path / (s)he head-3SG.PST forest.ILL
'The path / (s)he headed toward the forest.'

c. ***Saunakorstna-st*** *tõus-i-s* *suitsu.* (AM)
sauna.chimney-ELA rise-PST-3SG smoke.PART
'The smoke rose from the sauna chimney' (BCE)

4. General discussion

Static and dynamic situations may be encoded likewise. Nevertheless, it is generally accepted that FM sentences differ from AM sentences in some aspects. One of the most significant differences between encoding FM and AM is claimed to be connected to the encoding of space: In AM sentences it is said to be possible not to mark the locative expression (i.e., landmark) overtly, whereas in FM sentences it may be restricted at least when considering English and Japanese (Matlock 2004a: 226–227; Ruppenhofer 2006; Matsumoto 1996a: 361, 1996b: 194–195).

The results of this study in Estonian indicate that there are significant differences between FM and AM sentences in the presence of a locative expression, but the effect size was found to be quite small. Contrary to Matlock and Ruppenhofer, FM sentences without overtly marked landmarks were found to be possible in Estonian. In fact, it could be stated that expressing space is verb-specific rather than FM- or AM-dependent. The semantics of the verb and its typical linguistic behaviour as well as the general meaning and purpose of the sentence determines whether space is encoded, which seems to apply both to FM and AM sentences. The difference is that FM sentences are by nature used for more restricted purposes than AM sentences due to which describing space in FM sentences is more frequent than in AM sentences. In both cases, it may be more important to express some other aspects than describing the location or the change of location, which in turn causes spatial information to be left to the background, as it is nonessential or because it is given contextually or by world knowledge (see also Stefanowitsch & Rohde 2004: 263).

In addition, if some locative expression is present then the type of construction (i.e., FM or AM) was proven to have a small but significant effect on the preferable spatial relation to be expressed, as in AM sentences the rate of the goal was higher than in FM sentences, whereas in FM sentences the rate of the trajectory/location was higher than in AM sentences. The former may be explained by the *goal-over-source* principle as developed by Verspoor, Dirven and Radden (1998: 87–89). The *goal-over-source* principle argues that the goal is more salient than the source, which in turn is more salient than the path (i.e., the trajectory in the terms

adopted here). Verspoor et al. suggested that the principle applies particularly to agentive motion, which is supported by the current study considering the verbs *viima* 'take, lead' and *minema* 'go'. The latter tendency may be caused by the stative component of FM – conceptualising the stationary scene still dynamically comprises the need to focus attention on the location of the traversable entity or to its physical properties.

Nevertheless, the results indicate that although the way space is encoded depends to some degree on FM or AM, it mainly depends on the semantics of motion verbs: Directional verbs (i.e., *viima* 'take, lead', *minema* 'go', *suunduma* 'head', *tõusma* 'rise', *pöörama* 'turn') tend to encourage the use of elements describing the goal (i.e., goal and direction), whereas trajectory and manner of motion verbs (i.e., *ületama* 'cross', *kulgema* 'run, move forward', *looklema* 'wind') more often cause expression of the trajectory and location. As no motion verb encoding source-originate motion was analysed (caused by the fact that no such verb occurred in Corpus study 1; see Section 2 and 3.2), it is an open issue whether such verbs would most preferably occur with locative expressions describing the source. Developing Talmy's (2000a: 257–309) approach to the windowing of attention, one could argue that directional verbs profile final windowing, whereas trajectory and manner of motion verbs profile medial windowing. Including manner of motion verbs in the medial windowing verbs is motivated by the fact that if manner of motion verbs are used attention is focused on the manner of motion. Focusing attention on the manner of motion may then cause more focus on the location of the actual or fictive mover. Hence, on the basis of the results in Estonian, the consistent windowing hypothesis is proposed: If the verb profiles final windowing (like directional verbs), then locative expressions profiling final windowing are preferred; if the verb profiles medial windowing (like trajectory and manner of motion verbs), then locative expressions profiling medial windowing are preferred. This tendency holds both to FM and AM, although it is also influenced by the *goal-over-source* principle, the type of construction, and the semantics of a particular motion verb. It may be stated that when considering Estonian, the consistent windowing has the largest impact on whether the source, trajectory/location, or goal is expressed. The *goal-over-source* principle may be argued to apply only to directional verbs, but even so the trajectory/location turned out to be somewhat more salient than the source. If the verb depicts the trajectory or manner, it may not be important to express the goal, as attention would focus rather on the trajectory or location itself, or on the manner of motion

in FM or AM. These findings corroborate the ideas of Stefanowitsch and Rohde (2004), who obtained similar results with manner of motion verbs and suggested that in the case of verbs like *cruise* and *stroll* one does not need to have the goal present (neither explicitly nor implicitly), as the motion event is successfully conceptualised without it. However, more research is needed to show the impact of the consistent windowing, the type of construction, the *goal-over-source* principle, and the semantics of a particular motion verb on the encoding of space in FM and AM sentences.

5. Conclusion

This paper investigated how space is encoded in FM and AM sentences in Estonian. The aim of the current study was to determine the effect of the type of construction and the type of motion verb on the encoding of space. The following conclusions can be drawn from the current study. Firstly, similarly to AM, FM was found to permit sentences without an overtly marked landmark although in the case of AM there was a stronger tendency for that; however, whether space may not be encoded is rather verb-dependant. Secondly, to some extent the preferable locative expression (i.e., source, trajectory/location, or goal) is influenced by the construction type and the *goal-over-source* principle. Thirdly, the encoding of space is mainly determined by the type of the verb and therefore the consistent windowing hypothesis is proposed: Motion verbs that profile the final portion of the path (i.e., directional verbs) tend to be used with final windowing locative expressions (i.e., goal), whereas motion verbs that profile the medial portion of the path (i.e., trajectory and manner of motion verbs), tend to be used with medial windowing locative expressions (i.e., trajectory/location).

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Appendix: List of abbreviations

AM	actual motion
FM	fictive motion
1–3	person
ADE	adessive
ALL	allative
COM	comitative
ELA	elative
GEN	genitive
ILL	illative
INE	inessive
INF	infinitive
PART	partitive

PL	plural
PRS	present
PST	past
PTCP	participle
SG	singular
TERM	terminative
TRANS	translative

BCE	Balanced Corpus of Estonian

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