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Preface

The Second Central European Conference in Linguistics for Postgraduate Students (CECIL'S 2) was held at the Faculty of Humanities and Social Sciences of Pázmány Péter Catholic University, Piliscsaba, Hungary, on 24–25 August 2012. The conference encompassed the core fields of modern linguistics and sociolinguistics, with special focus on languages spoken in Central European countries, and their comparison with other languages. Conference participants presented a total of 39 papers (17 talks and 22 posters) over the course of the two beautifully sunny days, with keynote presentations by Shinichiro Ishihara (Goethe Universität Frankfurt) and Christopher Piñón (Université de Lille 3). The current volume contains 15 selected papers of those delivered at the conference.

CECIL'S 2 was organized by Pázmány Péter Catholic University (PPCU) and our partner institutions: The John Paul II Catholic University of Lublin, Palacky University in Olomuc, and Constantine the Philosopher University in Nitra. We are indebted to Prof. Anna Bondaruk of The John Paul II Catholic University, Prof. Ludmila Veselovska of Palacky University and Prof. Katalin É. Kiss of PPCU for contributing their kind help at various stages of this project. Our special thanks go to the postgraduate students of the Faculty of Humanities and Social Sciences of PPCU who gave their hands both before and after, and particularly during, the days of the conference. Lilla Pintér deserves special mention for making arrangements on site at the campus, as well as for taking such efficient care of accommodation and other practical matters both at the dormitory and at the conference venue. The proceedings volume benefited greatly from the committed and industrious work of Anikó Grosz and Gergő Turi, who kindly assisted in putting the manuscripts into their final shape.

We are also grateful to all of the anonymous reviewers who sorted through the abstracts we had received, narrowing the program down to the papers that were invited for presentation. We cannot adequately express our appreciation to the anonymous reviewers of the submitted manuscripts, who generously provided their constructive criticism and expert advice. A number of the papers in the volume owe a great deal to their helpful comments.

We would like to give special acknowledgment to our sponsor, the International Visegrad Fund, whose Small Grant awarded to this project made it possible to organize the conference, and especially, to produce the present proceedings volume. Many thanks to Ms. Kristína Ácsová of the Fund's Secretariat, who provided her guidance during the initial stages of the process. We are also grateful to Profilantrop Egység for their support and for providing the administrative background for running the project.

My last words of thanks go to Diana Varga, who I have been fortunate to work with. I would like to thank for her generous and unfailing assistance in all matters, small and large, throughout the entire endeavor. Without her persistence and dedication the event could not possibly have become the success that it turned out to be.

Balázs Surányi
(editor)

The Diachronic System of the Left Periphery of Subordinate Clauses in Hungarian*

Júlia Bácskai-Atkári

Adopting a minimalist framework, my paper investigates the diachronic changes affecting complementisers and relative operators in Hungarian subordinate clauses, showing that the elements of the present-day system are derivable via the same mechanisms and that the different positions are chiefly due to different timing. The mechanisms in questions – the relative cycle in particular – derive from general economy principles and as such applicable for all Hungarian complementisers, which started as operators. Moreover, the issue of combinations – multiple complementisers and the co-occurrence of complementisers with operators – will also be shown to be principled. Though the main focus will be on Hungarian phenomena, I will also demonstrate that the processes in question can also be traced in English, albeit with a different outcome, which will also be accounted for. In this way, the diachronic examination of the Hungarian left periphery can prove to be fruitful for a better understanding of diachronic cyclical changes.

Keywords: *complementisers, economy, reanalysis, relative cycle, relative operators*

1 Introduction

In Modern Hungarian, there are various elements that can introduce subclauses. First of all, there are simplex complementisers, which are C heads: these are *bogy* ‘that’, *ba* ‘if’, *mint* ‘than/as’ and *mert* ‘because’. In addition, there also exist (morphologically) complex complementisers, which are likewise analysed as C heads, e.g. *bogyba* ‘that if’, *mintha* ‘as if’ or *mintbogyba* ‘than that if’. Apart from complementisers, relative pronominal operators may also introduce a subclause: these are DPs and AdvPs such as *aki* ‘who-Rel.’, *ahol* ‘where-Rel.’. Finally, it is possible to have combinations of simplex complementisers and relative pronouns, e.g. *mint amilyen* ‘than how’.

The positions of these elements in Modern Hungarian are schematically represented in Figure 1 (following Rizzi’s analysis of the left periphery, cf. Rizzi 1997):

* The present research was funded by the projects SFB-632 and by OTKA-78074. For their helpful remarks at the conference, I am highly grateful to Veronika Hegedűs and Christopher Piñón. Parts of this paper were presented at various conferences; special thanks go to Elly van Gelderen, Anne Breithbarth and Agnes Jäger for their questions and suggestions at the *14th Diachronic Generative Syntax Conference*. Last but not least, I owe many thanks to István Kenesei, Katalin É. Kiss, Gergely Kántor and Éva Dékány for their comments on previous versions of the paper.

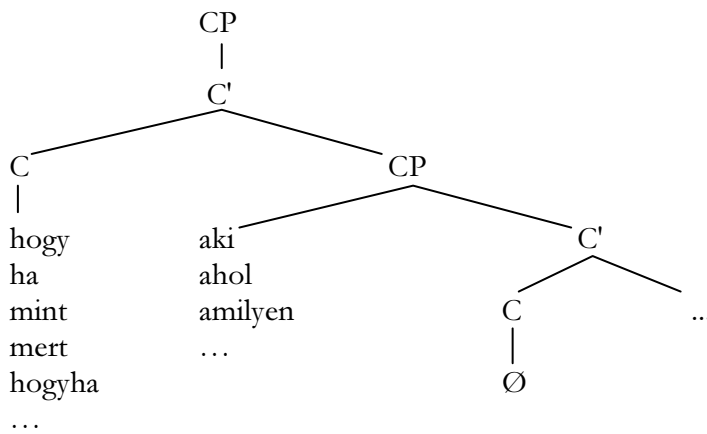


Figure 1

As can be seen, complementisers – either morphologically simplex or complex ones – are located in the higher C head position, while operators invariably occupy the lower [Spec; CP]. Relative operators, as expected, move to this [Spec; CP] position via operator movement (cf. Chomsky 1977; Kennedy & Merchant 2000; Kántor 2008). By contrast, C heads are base-generated in the relevant – higher – C position. It has to be mentioned that in Modern Hungarian only one C head is filled with overt material. In this respect Hungarian is similar to Italian, where it is either the higher or the lower head that is filled but not both of them (cf. Rizzi 1997).¹

Though the representation given above may suggest a clear-cut boundary between complementisers and (relative) operators,² the system is highly dynamic from a diachronic perspective. The question is therefore how the relation of the individual processes leading to the different positions can be described, i.e. whether the differences in the positions are due to there being different processes or rather to different timing (of similar processes). I am going to argue for the latter possibility, showing that complementisers stem from operators and the differences attested between

¹ That this is by no means necessarily so is indicated by the fact that some languages, such as Welsh, may have two overt C heads in the same left periphery. Consider:

- (i) *Dywedais, i mai 'r dynion fel arfer a werthibh y a.*
 say I that the men as usual that sell the dog
 'I said that it's the men who usually sell the dog.' (ex. from Roberts 2005: 122)

As can be seen, there are two C heads – *mai* and *a* – in one single left periphery, hence the co-presence of two C heads is possible. This will also be important for the history of Hungarian subclauses, where similar phenomena will be attested.

² It is worth mentioning that there are different views concerning the relation of relative operators and complementisers in the literature. For instance, Kayne (2009, 2010a, 2010b) argues that complementisers are merely demonstrative/relative pronouns. Naturally, I will not venture to examine this question in detail in the present article: suffice it to mention that there are considerable counterarguments raised against such a stance, and that counterevidence is to a large extent based on diachronic data, cf. e.g. Franco (2012: 12–13 on Germanic). In my view, the diachronic examination of Hungarian further reinforces the structural difference between complementisers and operators, as will be demonstrated in the forthcoming sections. On the difference between complementisers and operators – in Hungarian but also cross-linguistically – see also Kenesei & Ortiz de Urbina (1994).

complementisers and operators and also between certain complementisers can be derived from general rules applying in a language.

2 Operators

In Modern Hungarian, there are four complementisers to consider: *bogy* ‘that’, *ha* ‘if’, *mint* ‘than/as’ and *mert* ‘because’. As has long been argued for in the literature, these were originally operators (cf. Juhász 1991, 1992; Haader 1991, 1995) such that *bogy* meant ‘how’, *ha* meant ‘when’, *mint* meant ‘how’, and *mert* meant ‘why’. Examples of the original pronominal uses are given in (1)³:

- (1) a. *furifcte musia! | etety jymletí. ug hug ana*
 bathes washes feeds breastfeeds so how mother
sciluttet.
 child-ACC.-POSS.3SG.
 ‘she bathes, washes, feeds and breastfeeds him as a mother does her child’
 (KTSz.)
- b. *mvnyb [ele] hat ekunte [ek]effen tegud e[[*
 heaven-ILL.down when looked-3.SG. embellished you-ACC. too
ha lata. jyste[n] | |egnec [ne]we mia ro[la]d
 when looked-3.SG. deity-DAT. name-POSS.3.SG. for you-DEL.
ozun keppe[n] scola
 that.way spoke-3.SG.
 ‘when he looked down to heaven and saw you embellished, he spoke of
 you that way for the name of God’ (KTSz.)
- c. *Ez oz jsten mynt^{nt} efmeriuc!*
 this the God how.him know-1.PL.
 ‘this is God as we know him’ (KTSz.)
- d. *Sydou | | mynth thez turuentelen / | | fyom merth hol*
 Jew how do-2.SG. unlawful son-POSS.1.SG. why dies
byuntelen
 innocent
 ‘Jew, what are you doing unlawfully, why does my son die innocently’
 (ÓMS.)

It has to be mentioned that though all future complementisers went through a functional split from these original operator functions, this did not take place at the same time, which also has a bearing on whether they still have their etymologically related operator counterparts in Modern Hungarian. The differences are summarised in Table 1:

³ List of abbreviations: ABL = ablative; ACC = accusative; COM = comitative; COND = conditional; DAT = dative; DEL = delative; IMP = imperative; INE = inessive; INF = infinitive; PASS = passive; PL = plural; POSS = possessive; PREV = preverb; REL = relative; SG = singular; SUBJ = subjunctive; SUBL = sublative; SUP = superessive.

Complementiser	Original operator	Time of split	Present-day related operator
<i>ha</i> 'if'	<i>ha</i> 'when'	before Old Hungarian – Early Old Hungarian	–
<i>hogy</i> 'that'	<i>hogy</i> 'how'	before Old Hungarian – Old Hungarian	<i>hogyan</i> 'how-INT.', <i>ahogy</i> 'how-REL.'
<i>mint</i> 'than/as'	<i>mint</i> 'how'	Old and Middle Hungarian	<i>miképpen</i> 'how', <i>miként</i> 'how', <i>amint</i> 'how-REL.'
<i>mert</i> 'because'	<i>mert</i> 'why'	Old and Middle Hungarian	<i>miért</i> 'why'

Table 1

Apart from future complementisers, ordinary relative pronouns – e.g. *ki* 'who', *mi* 'what' – were also located in the operator position, i.e. the specifier of the lower CP. An early example of *ki* is shown in (2):

- (2) *Ef uimagguc* || *szent peter urot.* ***Kinec*** *odut botolm*
 and pray-IMP.1.PL. saint Peter lord-ACC. who-DAT. given power
ovdonia. *ef ketnie*
 bind-INF.3.SG. and unbind-INF.3.SG.
 'and let us pray to the lord Saint Peter, to whom the power was given to bind and to unbind' (HB.)

The starting position of all these elements is shown in Figure 2:

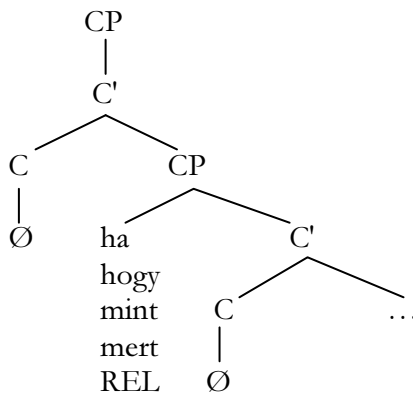


Figure 2

As can be seen, the original position is the same for all the elements in question. Note that these elements could occupy the same position at the same time rather before the Old Hungarian period than later: as changes started to affect some of them earlier, their positions also started to differ, as will be shown in the following sections.

3 Grammaticalisation

The changes affecting the elements in question are instances of reanalysis, which fall into two types. First, one type of reanalysis was responsible for the reinterpretation of operators into (lower) C heads. This is in line with the mechanism of the relative cycle, where an operator – an original pronoun – is reanalysed as a complementiser head, cf. Roberts & Roussou (2003), van Gelderen (2009). This is also attested for English *that*, and is hence far from being language-specific.

In addition, there was a further step of reanalysis: this caused elements to be reanalysed from lower C heads to upper C heads, which is again attested in the case of English *that*, cf. van Gelderen (2009).

The two processes are summarised in Figure 3:

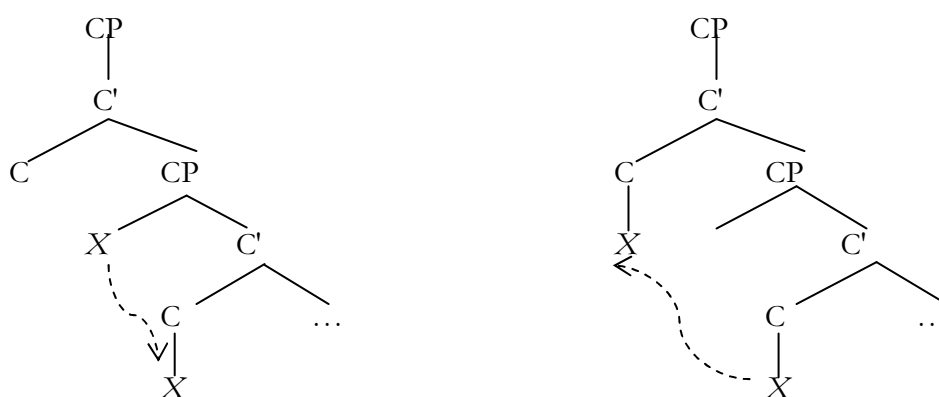


Figure 3

As can be seen in the left-hand side diagram, an element X (an operator) that is located in the lower [Spec; CP] position is reanalysed as the head of that CP (hence as a complementiser). The second step is shown in the right-hand side diagram: the element X (a complementiser) is reanalysed as a higher C head (hence still a complementiser).

Both steps are motivated by economy and hence are required by general principles governing linguistic processes. The relevant requirements on economy are summarised in terms of the Head Preference Principle (HPP) and the Late Merge Principle (LMP) by van Gelderen (2004), both going back to the idea that Merge is preferred over movement (cf. Chomsky 1995). The HPP states that it is preferable to be a head than a phrase, i.e. base-generation is preferred over movement – hence the reanalysis from operator to complementiser.

The LMP states that it is more economical to be base-generated in a higher position than to be moved to that position – hence the reinterpretation of the original lower C as a higher one. The reason behind this latter step is simply that it is the higher C head that is responsible for defining the Force of the clause and the fact that certain overt lower C heads become associated with carrying Force implies that these elements also start moving up to the higher C head. This again leads to a choice between movement and base-generation at a higher point in the structure – and just as in the case of the HPP, the latter configuration is preferred.

As has been mentioned earlier, the functional split between the original operators and the new complementiser functions took place at different times (cf. Table 1 in the

previous section). That is, while for *hogy* ‘that’ and *ha* ‘if’ it happened before the Old Hungarian period and partly in Early Old Hungarian, for *mint* ‘than/as’ and *mert* ‘because’ it took place in Old and Middle Hungarian. This led to a difference in their typical positions in Old and Middle Hungarian: *ha* was invariably an upper C head, while *hogy* was typically an upper C head but could also be base-generated in the lower C position. By contrast, *mint* and *mert* were either lower C heads or were still located in the lower [Spec; CP] position.

As for ordinary relative pronouns (e.g. *ki* ‘who’), they did not develop into C heads and hence stayed in the lower [Spec; CP] position. This is not the least due to relative pronouns being exceptional in some way but it can well be explained by the lack of feature loss in their case. Operators that came to be grammaticalised into C heads had to lose e.g. their person and number features, which is clearly not the case for ordinary relative pronouns. If this is due to feature loss, one may expect a similar process to happen elsewhere too, which is indeed the case: for instance, *where* in certain English dialects may also function as a complementiser, similarly accompanied by a loss of its original syntactic or semantic roles as a relative pronoun, see Comrie (1999: 88) and Brook (2011); similar phenomena are attested in various (southern) German dialects with *wo* ‘where’, cf. Bayer & Brandner (2008). The loss of features is seen as the “associated result” of the Late Merge Principle by Hancock & Bever 2009: 305), in that ‘the word that originally required a theta role, now becomes a pure “syntactic” word without a theta role’.

The possible positions for complementisers and operators in Old Hungarian are shown in Figure 4:

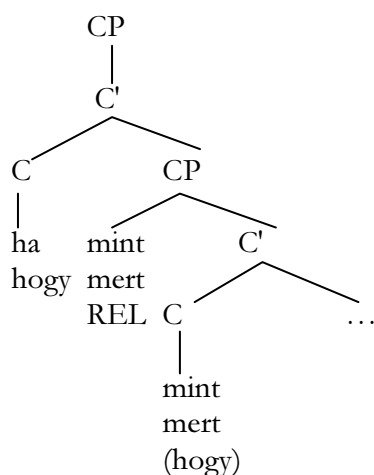


Figure 4

As can be seen, the higher C head was filled by either *ha* or *hogy*, while the lower one hosted either *mint* or *mert*, or – less typically – *hogy*. On the other hand, the lower [Spec; CP] could contain the future complementisers *mint* or *mert*, as well as ordinary relative operators.

4 Combinations

By looking at the positions indicated in Figure 4, the question arises whether elements taking different positions could possibly co-occur in the same subclause. This prediction is borne out: in Old and Middle Hungarian, both co-occurrences of an upper C and a lower C and of an upper C and an operator (cf. Galambos 1907) existed.

If the upper C head was filled by *ha* ‘if’, it produced the combinations *hamint* ‘if as’, *habogy* ‘if that’, as well as various combinations of *ha* + a relative pronoun. Consider the following example of *hamint*:

- (3) *de ha mýnt <ak el aluttak volna*
 but if as only PREV slept-3.PL. be-COND.3.SG.
lelkøketh istennek meg adaak
 soul-Poss.3.Pl.Acc. God-Dat. PREV gave-3.PL.
 ‘but as if they had only fallen asleep, they gave their souls to God’
 (SándK. 28)

Examples for *habogy* are shown in (4) – the fact that the adverb *késen* ‘late’ can appear in between *ha* and *hogy* in (4a) shows that these two elements are base-generated as distinct C heads:⁴

- (4) a. *Ha késen hogy el nyugot az nap, hamar esøt*
 if late that PREV set-3.SG. the sun soon rain-ACC.
váry
 expect-IMP.2.SG.
 ‘if the sun has set late, expect rain soon’ (Cis. G3)
- b. *Az én jó istenem, ha hogy sok ellenség, reám*
 the I good God-POSS.1.SG. if that many enemy I-SUBL.
fegyverkezék, tolok megmente
 arm they-ABL. saved-3.SG.
 ‘my good God, if many enemies armed against me, saved me from them’
 (Balassa: Ének., 32)

An example for *ha* combining with the relative operator *ki* ‘who’ is given in (5):

- (5) *kj tegd zerezh. az nem epedh: ha ky keserg akkor*
 who you-ACC. loves that not longs if who moans then
wýgad
 rejoices
 ‘those who love you, do not long: if they should moan, they rejoice’
 (CzechK. 51–52)

⁴ Though it is not typical for elements such as the adverb *késen* ‘late’ moving into a position above the lower C head, it is by no means impossible and since in (4a) the C heads *ha* ‘if’ and *hogy* ‘that’ clearly belong to one and the same left periphery (otherwise the sentence could not be assigned any valid interpretation), there is no reason to assume that *késen* would be located in a higher clause than the one obviously containing *hogy*.

If the upper C head was filled by *bogy*, it resulted in combinations such as *bogymint* ‘that than’ and *bogymert* ‘that because’, as well as ones of *bogy* with relative pronouns. Consider the example of *bogymint* in (6):

- (6) *edesseget erze nagyoban **hogymint** annak*
 sweetness-ACC. felt-3.SG. greater that.than that-DAT.
előtte
 before-POSS.1.SG.
 ‘(s)he felt sweetness even more than before’ (LázK. 141)

The combination *bogymert* is illustrated in (7)⁵:

- (7) *De**hogy** mert zent ferenc jgen zeretinala ewtett*
 but.that because saint Francis well liked.was-3.SG. him-ACC.
fjzfasagert es alazatosagaert kyt valuala
 purity-FIN. and humility-POSS.3.SG.FIN. who-ACC. have-3.SG.was
Monda nekj
 said-3.SG. him-DAT.
 ‘but because Saint Francis liked him well for his purity and for his
 humility’ (JókK., 46)

An example for *bogy* combining with the relative operator *ki* ‘who’ is given in (8):

- (8) *oljaat teszke rajtad **hog kytol** félz*
 such-ACC. do-1.SG. you-SUP. that what-ABL. fear-2.SG.
 ‘I will do such on you that you fear’ (SándK. 28)

As a matter of fact, the combinations of *bogy/ha* + operator seem to have been rather productive. This is also reinforced by the short survey I carried out on four different translations of the gospels. I took two Old Hungarian ones, the Munich Codex and the Jordánszky Codex, a Middle Hungarian one (the translation of György Káldi) and a Modern Hungarian one (the so-called Neovulgata translation). The number of each combination in each text is given below in Table 2:

	Munich Codex (1466)	Jordánszky Codex (1516–1519)	Káldi translation (1626)	Neovulgata (1997)
<i>bogy</i> + OP	1	2	–	–
<i>ha</i> + OP	14	20	8	–

Table 2

There are only a few examples for the combination with *bogy* but these appear already in Old Hungarian. More importantly, there is a substantial number of *ha* +

⁵ Note that since here I am retaining the original spelling, *bogy* ‘that’ in (7) appears as written together with *de* ‘but’ and not with *mert* ‘because’. However, it should be obvious that syntactically the combination is *bogymert* and there is no complementiser such as **debogy*. *de* is a coordinating conjunct that does not appear in the left periphery of the clause containing the complementisers *bogy* and *mert*.

operator combinations in the Old Hungarian texts, which decreases in the Middle Hungarian translation and completely disappears in Modern Hungarian, which is predictably so because such combinations do not exist in Modern Hungarian.

The relatively large number of *ha* + operator combinations in the Old Hungarian texts, especially when contrasted with the 8 instances in the Káldi translation, is unexpected inasmuch as it partially contradicts the view traditionally adopted by the literature, namely that relative clauses introduced by *hogy* or *ha* and an operator were possible in Old Hungarian but were especially frequent and typical in Middle Hungarian (for such views, see e.g. Galambos 1907: 14–18; Haader 1995; Dömötör 1995).

Naturally, I do not in the least intend to suggest that the frequency of given combinations in the selected texts would precisely reflect their frequency in Old or Middle Hungarian in general; in other words, the fact that there are less *ha* + operator combinations in the one Middle Hungarian text used here than in the two Old Hungarian ones does not imply that the combination would be less typical of Middle Hungarian than of Old Hungarian. However, it should be obvious that the presence of these combinations in Old Hungarian cannot be seen as insignificant.

It is of course likewise important to bear in mind that these texts are translated, which in turn raises the question of how much the original – Latin – text may have influenced the appearance of the relevant Hungarian combinations. It is true that as far as the Munich Codex is concerned, all *ha* + operator combinations there correspond to a Latin *si* ‘if’ + operator combination. In the Jordánszky Codex one finds 6 additional *ha* + operator instances: these, however, correspond to a simple operator in the Latin text. This shows that the construction was in fact largely productive and hence cannot be considered merely as a direct reflex of the Latin text even in Old Hungarian.

The possible structures for the combinations dealt with in this section are shown in Figure 5:

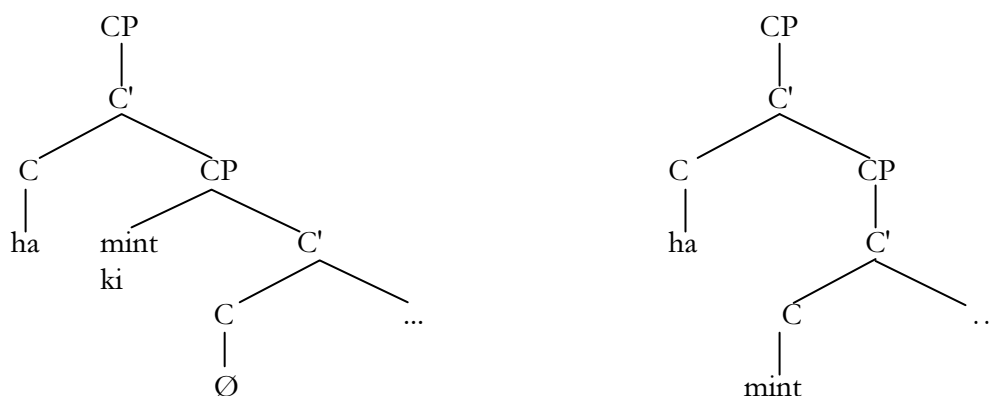


Figure 5

The left-hand side diagram shows the type of combination where a higher C head (e.g. *ha*) is followed by an operator in the lower [Spec; CP] – this operator could be a future complementiser (e.g. *mint*) or an ordinary relative operator (e.g. *ki*). By contrast, the right-hand side diagram shows a structure where two C heads occur in one left periphery: this configuration was not available for ordinary relative operators as they did not develop into C heads at all.

Apart from combinations of the types given in Figure 5, a negative-like MoodP⁶ could also appear between the two CPs (cf. Bácskai-Atkári 2011), leading to combination such as *hogynemmint* ‘that not than’ and *hogysemmint* ‘that neither than’. Consider:

- (9) *az mentól alsobjekben is tob angjal uagon honnem mynth*
 the more down-INE. also more angel is that.not than
az napnak feneben
 the sun-DAT. light-INE.POSS.3.SG.
 ‘there are more angels even in the basest one of them than in the sun’s
 light’ (SándK. 2)

The corresponding structure is shown in Figure 6:

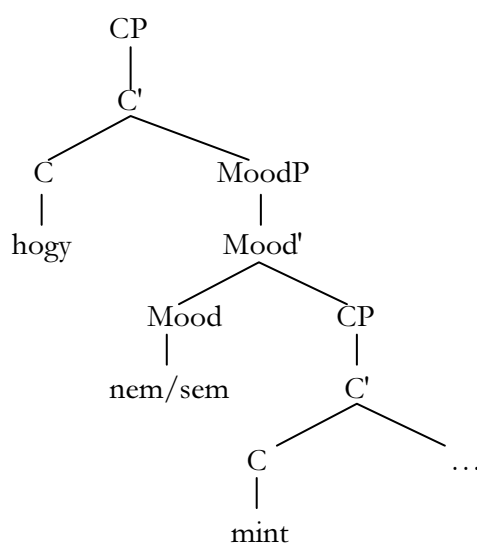


Figure 6

As can be seen, the MoodP appears between the two CP projections headed by two distinct complementisers. It has to be mentioned that *nem* ‘not’ and *sem* ‘neither’ differ in that the former but not the latter became a clitic. This is also demonstrated by the fact that while in the Munich Codex (1466) it is invariably in the form *hogy nem*, in the Jordánszky Codex (1516–1519) it is *honnem (mint)*, i.e. there is phonological assimilation. The same is not true for *sem*; this consideration will be important especially in terms of the changes to be discussed in the next section.

It must be mentioned that the appearance of the MoodP in comparatives is in fact prior to that of *mint* (cf. Bácskai-Atkári 2011): originally, comparative subclauses were introduced by the complementiser *hogy* and contained the Mood head. Consider:

⁶ Please note that MoodP in this paper is taken to be responsible for polarity and I do not wish to address other issues related to modality (e.g. the subjunctive mood) here, as that would be far beyond the scope of the present paper.

- (10) *Mert iob bog megfog'dofuā alguk.még'*
 because better that caught-PAST.PART. bless-1.PL.SUBJ.PREV
vat hog né mégbal'l'óc
 Lord-ACC. that not die-1.PL.SUBJ.
 'because it is better that we should bless the Lord caught than die'
 (BécsiK. 25)

It is a later development that *mint* appeared in the structure – first as an operator in the lower [Spec; CP] and later as a lower C head. Subsequently the Mood head could also be left out, giving *bogymint*, and finally comparative subclauses were introduced by *mint* – now an upper C head – solely.

This diachronic development is also attested by the comparison of the four gospel translations mentioned above: I examined altogether 36 loci and the distribution of the various types of comparatives are shown in Table 3 (note that there are additional ways of expressing comparison, hence the apparent discrepancy that can be observed when comparing the individual columns):

	Munich Codex (1466)	Jordánszky Codex (1516–1519)	Káldi translation (1626)	Neovulgata (1997)
<i>bogynem</i>	34	20	–	–
<i>bogynemmint</i>	–	11	–	–
<i>mint</i>	–	4	23	20

Table 3

The data show that while in the Munich Codex comparative subclauses were introduced by *bogynem* 'that not', the picture was much more diversified already in the Jordánszky Codex, where the number of *bogynem* significantly decreased in favour of *bogynemmint* and the use of single *mint* was also an option. By contrast, in the Káldi and the Neovulgata translation it is only *mint* that is used: as a matter of fact, *bogynemmint* – and also *bogysemmint* – was still possible in Middle Hungarian but they became obsolete before the Modern Hungarian period. At any rate, the appearance of the combination *bogynemmint* is definitely significant.

On the other hand, neither *bogynem* nor *bogynemmint* is a Latin reflex: in all the instances under scrutiny, the Latin text simply contains *quam* 'than'.

The question arises whether complementiser combinations are unique to Hungarian or they are attested in other languages as well. As a matter of fact, English had similar combinations in the Middle English period – with combinations such as *if that* and *for that* (van Gelderen 2005). Examples are given in (11):

- (11) a. *Blameth nat me if that ye chese amys.* (Chaucer, The Canterbury Tales: Prologue)
 b. *Thy wyf and thou moote hange fer atwynne, / For that bitwixe yow shal be no synne.* (Chaucer, The Canterbury Tales: Miller's Tale)

The combination *if that* in (11) is obviously located in one left periphery and is used with the same meaning as simple *if* would be in Modern English. The question of

meaning in combinations will be addressed later; at this point, suffice it to say that combinations of complementisers are definitely not restricted to (earlier periods of) Hungarian.

5 Movement

As was said in connection with simplex complementisers, lower C heads started to move up to the higher C position and were later reanalysed as elements base-generated in that position. Interestingly, a lower C could move up even if the upper C was already filled by another element: in this case the two heads were adjoined. In line with Kayne's Linear Correspondence Axiom, adjunction resulted in the reverse order in the linear structure of the two heads (Kayne 1994); cf. also the Mirror Principle of Baker (1985, 1988).

Accordingly, in Old and Middle Hungarian the reverse order is found in the case of all C + C combinations mentioned in the previous section, hence: *mintba* 'as if', *bogyba* 'that if', *mintbogy* 'than that' and *merthogy* 'because that'. Examples for these combinations are given below:

- (12) a. *kí menének zocafoc zarent mint ha az*
 out went-3.PL. custom-POSS.3.PL. according as if the
imadsagra mēnenec
 prayer-SUBL. go-COND.3.PL.
 'they went out as was their custom, as if going for prayer'
 (GuaryK. 113–114)
- b. *vig orchaul elmegien vala, hogiha ingen*
 happy face-COM. away.went-3.SG. was-3.SG. that.if absolutely
nem hallanája
 not hear-COND.3.SG.
 '(s)he went away with a happy face, as if (s)he had absolutely not heard it'
 (VirgK. 81)
- c. *Melji bozzosagokot frater Bernald. | bizon zent. nem csak*
 which irritations-ACC. brother Bernald indeed saint not only
engedelmezt. | de es vjgasagost zenuediuala: | Mert
 obeying-ACC. but too joyful-ACC. suffered-3.SG.was because
hogy bizonual uoltuolna cristusnak tekelletes
 that indeed-COM. was-3.SG.be-COND. Christ-DAT. perfect
tanojtuanja nepnek vatalaja es emberek
 student-POSS.3.SG. folk-DAT. detest-POSS.3.SG. and people
zemerme
 shame-POSS.3.SG.
 'which irritations brother Bernald, indeed a saint, suffered not only
 obeyingly but also joyfully: for he was indeed a perfect student of Christ,
 and the detest and the shame of people' (JókK. 20–21)

- d. *semi nagob nem mondatbatik: mint hogh*
nothing greater not say-PASS.COND.3.SG. than that
legon istenek ania
be-SUBJ.3.SG. God-DAT. mother-POSS.3.SG.
‘nothing can be said to be greater than that she be the mother of God’
(TihK. 143)

The fact that complex complementisers of the type discussed here actually derive from the ones presented in the previous section suggests that the former type was less frequent in earlier texts than in later ones. This is indeed the case, as reinforced by the short survey I carried out on the four different translations of the gospels (cf. the previous section). The number of each complex complementiser in each text is given below in Table 4:

	Munich Codex (1466)	Jordánszky Codex (1516–1519)	Káldi translation (1626)	Neovulgata (1997)
<i>hogyba</i>	9	8	9	–
<i>mintba</i>	–	1	3	7
<i>mintbogy</i>	–	–	4	1
<i>merthogy</i>	–	1	–	–

Table 4

As can be seen, it is only *hogyba* that has examples in the Munich Codex: all the other ones appear considerably later, with only sporadic examples in the Jordánszky Codex and a possibly more significant number of occurrences in later translations. It has to be mentioned that all of these combinations exist in Modern Hungarian and hence if they happen to be absent from the Neovulgata translation, it is merely accidental. The most important claim here to make is that the early and frequent appearance of *hogyba* is actually not surprising, taking into account that *hogy*, as has been said, preferably moved up even in its combinations with *ba* – as it was preferably a higher C head anyway – and hence it logically follows that *hogyba* appeared considerably earlier than all the other complex complementisers under scrutiny.

Having established this, we can conclude that all C + C combinations regularly developed their complex C counterparts by movement. On the other hand, it follows that the *hogy/ba* ‘that/if+ relative pronoun combinations had no inverse order counterparts as there was no movement either: ordinary relative operators did not develop into C heads.

Though movement of the lower C head to the upper one was responsible for the appearance of complex complementisers, it has to be mentioned that these complex complementisers actually grammaticalised as such, i.e. they started to be base-generated as single C heads. This is again due to economy: base-generation is more economical than movement, cf. van Gelderen (2004).

Hence the structures underlying complex complementisers such as *mintba* could be the following:

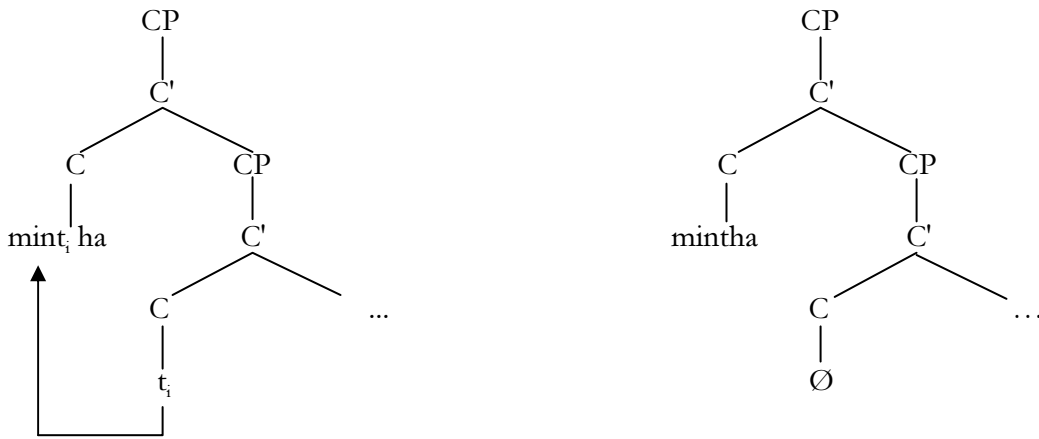


Figure 7

The left-hand side diagram shows the earlier configuration where the complex complementiser is derived by way of the lower C head moving to the upper one to adjoin there. In the right-hand side diagram, the complex complementiser is already grammaticalised and is hence base-generated as a complex unit in the higher C head: in this case the lower C head is zero.

One test of the movement and adjunction analysis for complex complementisers is to see whether the same mechanism can be traced if the structure contained a negative-like MoodP. This is indeed the case, as shown in Figure 8:

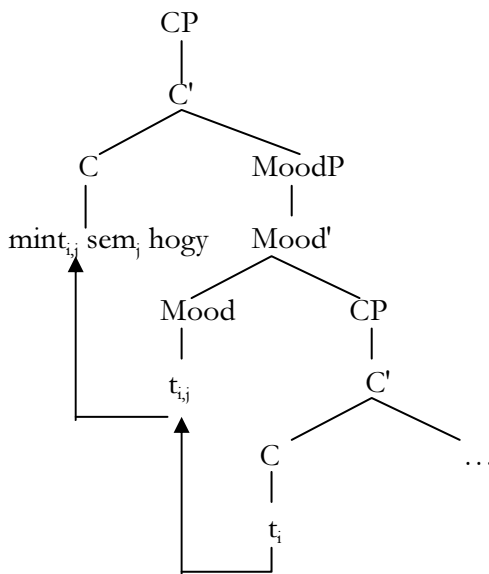


Figure 8

What happens in this case is exactly the same that was seen in connection with C + C underlying combinations (see Figure 7). First the lower C head *mint* moves up to the head of the MoodP, *sem* ‘neither’ and adjunction takes the original lower head to the left of the original higher head, hence resulting in the combination *mintsem* ‘than neither’. Conversely, the combination *mintsem* moved up to the higher C head in the same way, to left-adjoin to *hogy*, ultimately resulting in the combination *mintsembogy* ‘than neither that’.

Note that this process can be traced only if the MoodP was headed by *sem* but not in the case of *nem* ‘not’, which was a clitic (cf. the discussion in the previous section) and hence did not take part in movement.⁷

Turning now to English, where C + C combinations were attested, there are no complex complementisers to be found of the Hungarian type, i.e. the inverse of the original C + C combinations. As was mentioned in section 3, English *that* also grammaticalised into a higher C head from a lower one – however, it seems that it did not engage in head adjunction. This is probably due to different morphological restrictions in cross-linguistics terms – apart from how well-spread certain combinations were before the original lower complementiser was grammaticalised as a higher C head.

Since the aim here is not to provide an explanation for the English phenomena, I will leave this question open here for further research. What is important for us to note is that while the appearance of multiple complementisers in Hungarian is not unique, the development of grammaticalised complex complementisers is by no means a necessity, even if it can well be explained by universal syntactic mechanisms.

6 Further combinations

The question arises whether the mechanisms discussed so far are limited to the combinations of two C heads and of *bogy* ‘that’ / *ha* ‘if’ + a relative operator. If this is not the case, then the analysis is further strengthened as it can then be considered as a fairly general mechanism that was naturally at work in a wider range of subclauses. There are two main extension lines that I would like to discuss here.

First, it is expected that a new grammaticalised simplex upper C head – that is, *mint* ‘than/as’ or *mert* ‘because’ – may co-occur with new operators in the lower [Spec; CP]: this is the case for *mint*, which appears in combinations such as *mint amilyen* ‘than/as + how-Rel.’, *mint ahány* ‘than/as + how many-Rel.’ (cf. Bácskai-Atkári 2011). Consider:

- (13) a. *Mari nyugodtabb, mint amilyen Liza.*
 Mary calmer than how-REL. Liz
 ‘Mary is calmer than Liz.’
- b. *Több macska vana kertben, mint ahány a szobában.*
 more cat is the garden-INE. than how.many-REL. the
 room-INE.
 ‘There are more cats in the garden than in the room.’

The structure for such combinations is given in Figure 9:

⁷ It must be highlighted that since the lower C head ultimately moves up to the higher C head position, its landing in the Mood head is only an intermediate step in the derivation but never a final state. In other words, though there is ample evidence that this movement step actually took place, there are no combinations that would include this step without the further movement of the combination to the higher C head, hence there are no combinations such as **bogy mintsem* ‘that than neither’ attested: if the higher C head was filled by *bogy*, then the result of *mint* moving up was invariably *mintsembogy*, as indicated in Figure 8 – if, however, the upper C head was empty, the combination was realized as *mintsem*.

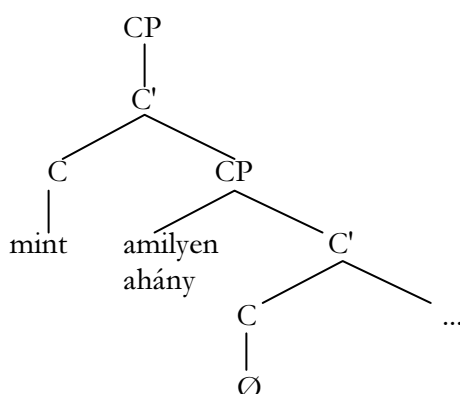


Figure 9

As can be seen, the complementiser *mint* takes the upper C head position and the specifier of the lower CP hosts an operator, e.g. *amilyen* or *ahány*.⁸ This configuration is actually the same as the one established for *bogy/ha* + operator combinations (see the left-hand side diagram in Figure 5). On the other hand, the combination of the comparative complementiser with an operator (that is, the comparative operator) is in fact a standard one, inasmuch as comparative subclauses invariably contain an operator, which in turn may be overt or covert, depending on the settings of the given language (cf. Bácskai-Atkári 2010).

Second, a grammaticalised complex upper C head could also co-occur with another in the lower C: for this option, however, the complex complementiser had to grammaticalise relatively early on, otherwise there would be no element left to be base-generated in the lower C head. As has been discussed, the earliest grammaticalised complex C head was *bogyba* ‘that if’, due to the fact that *bogy* was preferably moved up. Hence the prediction is that if combinations of the type complex complementiser + simplex complementiser existed, then they should be with *bogyba* in the first place. This prediction is borne out: as Haader (2003) notes, the combination *bogybamint* ‘that if than’ was present in Old and Middle Hungarian – conversely, *mintbogyba* ‘than that if’ is a possible configuration in Modern Hungarian.

The structure of *bogybamint* is shown below:

⁸ It must be mentioned that these operators can also be accompanied by a lexical AP or DP (e.g. *amilyen nyugodt* ‘how-Rel. calm’ or *ahány macska* ‘how many-Rel. cat’), hence the specifier of the lower CP can host a visibly fully-fledged phrase. It depends on the setting of the given language whether it allows the presence of these lexical phrases. Since the present paper focuses on complementisers and operators, I will not venture to examine this question here in any more detail. For a relatively recent discussion in connection with Hungarian, cf. Bácskai-Atkári (2011).

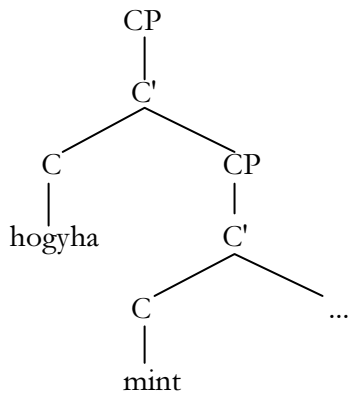


Figure 10

Just as in the case of ordinary C + C combinations, there are two distinct C heads in the structure, the upper C being *hogyha* and the lower C being *mint*: the fact that the upper one is already complex is merely a matter of morphology, i.e. it does no longer stem from the syntactic derivation. Hence the configuration itself is like the right-hand side diagram given in Figure 5.

Furthermore – just like in the case of ordinary C + C combinations – the inverse order of *hogyhamint* is also attested in the form of *minthogyha*:

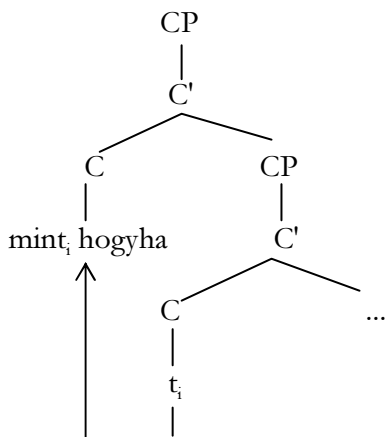


Figure 11

The complex complementiser *minthogyha* is derived regularly via the lower C head – i.e. *mint* – moving up to the upper one and left-adjointing to the latter, in the same way as was shown in the case of two simplex C heads (see the left-hand side representation in Figure 7). Naturally, this configuration could also fully grammaticalise into a single complex C head base-generated in the higher C position.

7 Changes

Last but not least, let us have a look at the main lines of changes involved. First of all, there is an important structural concern, namely that complementisers grammaticalised as higher C heads. This had the immediate consequence of the lower C head remaining

unfilled, from which it should follow that Modern Hungarian no longer has C + C combinations, as there is nothing to occupy the lower C head.

This prediction is in fact borne out: the combinations *bamint* ‘if as’, *babogy* ‘if that’, *bogymint* ‘that than’ and *bogymert* ‘that because’ have disappeared, as opposed to fully grammaticalised complex C heads, which are still present. In this way, the analysis given here is suitable for explaining not only how complex complementisers arose but also why certain configurations necessarily disappeared.

Note that the same holds for further combinations, that is, also for ones having a negative-like MoodP and for ones that morphologically involve three original C heads. While *bogysemmint* ‘that neither than’ no longer exists in Hungarian, its inverse counterpart, *mintsembogy* ‘than neither that’ does. Similarly, while *bogybamint* ‘that if as’ is extinct, *mintbogyba* ‘as that if’ survives into Modern Hungarian.

The combination pairs are accordingly summarised in Table 5:

Original (extinct) order	Grammaticalised (surviving) combination
<i>babogy</i> ‘if that’	<i>bogyba</i> ‘that if’
<i>bogymint</i> ‘that than’	<i>mintbogy</i> ‘than that’
<i>bogymert</i> ‘that because’	<i>merthogy</i> ‘because that’
<i>bamint</i> ‘if as’	<i>mintha</i> ‘as if’
<i>bogynemmint</i> ‘that not than’	–
<i>bogysemmint</i> ‘that neither than’	<i>mintsembogy</i> ‘than neither that’
<i>bogybamint</i> ‘that if as’	<i>mintbogyba</i> ‘as that if’

Table 5

Second, there are also functional changes to be observed, especially in connection with *bogy* ‘that’. It seems that in earlier periods it was a general marker of subordination, in this way similar to how *that* worked in English. This is indicated by the fact that it appeared in a wide range of structures, such as relative clauses or clauses of reason. On the other hand, the complex complementiser combinations *bogy* + X or X + *bogy* usually meant simply ‘X’, hence the presence of *bogy* was not required by the need for expressing a special meaning but it merely marked (finite) subordination. However, as other complementisers also started to inherently mark subordination, this function of *bogy* was eventually lost and it is hence no longer used as extensively as it used to be.

Note that these changes affecting *bogy* were also accompanied by the disappearance of certain original functions, most notably its function of introducing comparative subclauses; cf. the example given in (10). Less typically, *bogy* could also occasionally introduce conditional subclauses on its own in Old Hungarian, which likewise became extinct, though – as has been demonstrated – it is preserved in the grammaticalised combination with *ba* (i.e. *bogyba*). On the other hand, most of the previous functions of *bogy* are actually preserved, i.e. introducing simple embedded declaratives, embedded imperatives, embedded *wb*-interrogatives, clauses of purpose, and resultatives.

8 Conclusion

The aim of this paper was to provide an overview of the major changes concerning Hungarian complementisers and operators and to provide a framework that may accommodate the seemingly different phenomena. It was shown that the changes affecting the left periphery of subclauses are all instances of grammaticalisation, the most important one being the relative cycle. As was seen, the diachronic processes affecting different elements were fundamentally the same and hence the differences that can be perceived when it comes to the diachronic syntactic behaviour of these elements are primarily due to different timing and differences in feature loss.

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GuaryK. = Guary-kódex [Guary Codex]. Before 1508.
HB. = Halotti beszéd és könyörgés [Funeral Sermon and Prayer]. Around 1195.
JókK. = Jókai-kódex [Jókai Codex]. 14th–15th century.
KTSz. = Königsbergi töredék és szalagjai [Königsberg Fragment and its Ribbons].
Middle or second half of the 14th century.
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TihK. = Tihanyi-kódex [Tihanyi Codex]. 1532.
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I Incorporate Nouns of Various Structural Positions and Thematic Roles, Therefore I Am (The Verb)

Bleotu Adina Camelia

The aim of this article is to present an overview of noun-incorporating verbs in Romanian, and to test whether incorporation applies not only to Themes and complements, but to nouns bearing a variety of theta-roles and occupying various structural positions, including the specifier position. In our attempt to test this, we will look at examples with noun-incorporating verbs from English and Romanian, showing that although the data supports the idea that a variety of theta-roles can get incorporated, it does not seem to equally support the idea that nouns occupying any structural position can be incorporated.

Keywords: *incorporation, noun-incorporating verbs, theta-roles, structural positions, incorporated nouns*

1 Aim

The aim of this paper is to exemplify the concept of ‘incorporation’ in the context of noun-incorporating verbs in Romanian, and to discuss it in the light of the incorporation theory proposed by Hale & Keyser (2002).

Its main point is to examine whether it is the case in Romanian that noun-incorporating verbs ‘incorporate’ not only nouns that are themes from a thematic point of view, and complements from a structural point of view, but also non-themes, and non-complements, i.e. specifiers/adjuncts. When considering specifiers, we will look at the specifiers of *v* (agentive subjects), as well as the specifiers of the complement of *v*, trying to see whether it is the case that both the first and the latter can incorporate, or only the latter.

The structure of the paper is as follows: first, we present the incorporation theory of Hale & Keyser (2002), then, we look at the relation between incorporation and theta-roles, and then, at the relation between incorporation and structural positions. Datavise, the verbs we take into account are basically the corresponding Romanian noun-incorporating verbs of the English noun-incorporating verbs.

2 The Incorporation Theory of Hale & Keyser (2002)

We will start by looking at the incorporation theory proposed by Hale and Keyser (2002). According to the authors, incorporation is defined as a syntactic process that takes place in the lexicon, at l-syntax (lexical syntax), by means of which a lexical category becomes the sister of another category that is phonologically (though not semantically) empty, and the two categories are spelled out as a new item (through the phonological process of conflation).

Hale & Keyser (2002) distinguish between **incorporation** and **conflation**: while incorporation is a syntactic phenomenon, “conflation is a term we use to refer to the phonological instantiation of light verbs in denominal verb constructions. Specifically, conflation has to do with the problem of how the verb ends up carrying the phonological matrix of its nominal complement” (Hale & Keyser 2002: 21).

On Haugen’s view (2009), it is not the case that **incorporation** is syntactic, and **conflation** is phonological, rather, both **incorporation** and **conflation** are syntactic phenomena: **incorporation** involves **head-movement** (where move is understood to mean copy), while **conflation** is simply the equivalent of compounding (< **merge**). Incorporation explains denominal verbs like *sing*, while conflation explains verbs like *hammer*.¹

A verb like *to dance* is, for example, the result of incorporating the noun (root) *dance* into a phonologically empty verb that has a meaning similar to *to do* (we can even have the cognate object possibility *to dance a dance*), just like *a dansa* ‘to dance’ is the result of incorporating the noun ‘dans’ (‘dance’) into silent *a face* (‘to do’). The sister items are not of the same lexical category (this would be a case of compounding), but belong to different lexical categories, namely, the first item (the incorporating item) is a V or a P (i.e. complement-taking elements), while the second item (the incorporated item) is an N or an A.²

* This paper owes a great deal to the reviewer’s suggestions, which have led to rethinking what is meant by the notion of incorporation of a specifier. Also, the editor’s (Balázs Surányi’s) suggestions proved to be very useful.

¹ While Haugen (2009) seems to suggest that, in the same language, we can have verbs that result from conflation and verbs that do not, Talmy (1985) explores this idea even further, arguing that there are different types of conflation, and that certain languages present one type, while others present another type. Talmy classifies languages with respect to how semantic components (like Figure, Motion, Path, Manner, or Cause) are conflated onto the verb (as quoted in Mateu 2002: 153). The ‘lexicalization pattern’ typically found in Romance languages involves conflation of Motion with Path (i), whereas the ‘lexicalization pattern’ typically found in Germanic languages like English involves conflation of Motion with Manner (ii):

(i) *Coșilașul a intrat în cameră săpăind.* (Romanian)
 Little child-the has entered in room hopping.
 ‘The little child has hopped into the room.’

(ii) The little child hopped into the room.

While Romanian is satellite-framed, expressing the manner by means of a satellite, English is verb-framed, expressing the manner through the verb.

² An interesting issue that might attract our attention is the status of the incorporated noun: is it a bare noun, an NP, a DP, or a KIP? Interestingly, whenever we paraphrase, we also add an article or a plural form: *He put the books on the shelves, He did a dance*, but these forms as such might be argued not to be able to undergo incorporation, given the fact that they are phrases, and not heads.

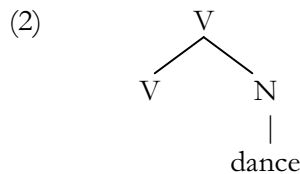
According to Hale & Keyser (2002), the incorporated noun is a bare noun, and evidence for this comes from the verbs that lack a direct object, and which have the same form as the incorporated noun (*I dance everyday*). However, sometimes, the verb can incorporate a kind noun (a KIP, in Zamparelli’s 2002 terms), a case which has received the name ‘classificatory incorporation’ (Damonte 2004: 141). In sentences like (i) and (ii) one can postulate the presence of certain kind nouns which have been incorporated into the verb.

In the theory proposed by Hale & Keyser (2002), incorporation is actually head-to-head incorporation. There are two cases:

A. A complement incorporates into a head:

- (1) a. The lady dressed in green did a dance for us.
 b. The lady dressed in green danced for us.

This case is exemplified by **synthetic verbs**, “verbs derived from nouns”: *belch, burp, cough, crawl, cry, dance, gallop, gleam, glitter, glow, jump laugh, leap, limp, nap, run, scream, shout, skip, sleep, sneeze, snob, somersault, sparkle, speak, stagger, sweat, talk, trot, twinkle, walk, yell*, to which we can assign the following representation:



B. An (obligatory) adjunct (an argument) incorporates into a head, as in (3) and (4):

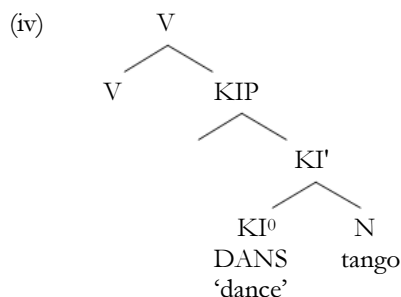
- (3) a. Luke put the books **on** the shelves.

- (i) He fished FISH trout.
 (ii) She danced DANCE tango.

The kind noun becomes visible when it is modified by an adjective:

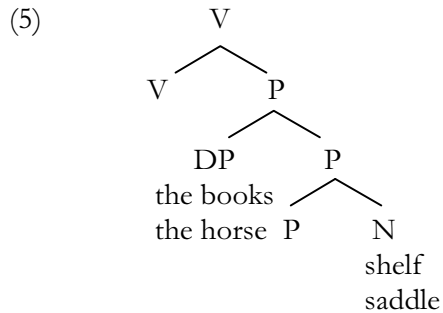
- (iii) *Maria a dansat un dans frumos.* (Romanian)
 Maria has danced-PRT a dance beautiful.
 ‘Maria danced a beautiful dance.’

With this in mind, one can establish the following structural representation, in which case, it is the Kind Noun that gets incorporated, and not the noun following it:



- b. Luke shelved the books.
- (4) a. Matilda fitted the horse **with** a saddle.
 b. Matilda saddled the horse.

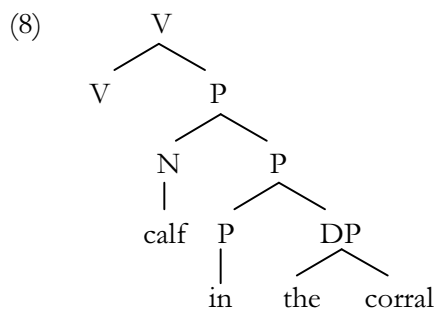
The representation assigned to these sentences is:



Both (3,4 a) and (3,4 b) are examples of head-to-head incorporation. As we can see in (5), the direct object *the books*, a DP, sits in a specifier position, in the tradition of Larson (1988), for whom some direct objects can sit in a specifier position, and, it does not undergo incorporation. Meanwhile, the root N *shelf, saddle* appears as a complement of a null P and gets incorporated into the P, then the P which has incorporated N gets incorporated into V. We thus encounter two cases of head-to-head movement.

“Despite the obvious similarity, conflation is different from syntactic incorporation” (6); conflation of a specifier (the specifier of the complement) is evidently impossible, although incorporation under government would presumably permit this (7).

- (6) Leecil corralled the calves. (cf. put the calves in the corral.)
- (7) *Leecil calved in the corral.



The Uto-Aztecan language Hopi has a number of ‘incorporating verbs’ that permit the adjunction of a bare nominal to a governing verb:

- (9) *Nu' pu-t ki-ʔta.*
 I that-ACC house-HAVE
 'I have that as a home.' (Hale & Keyser (2002): 58 [25b])

According to Hale & Keyser (2002), incorporation of the type attributed to Hopi can be distinguished from conflation, in that the latter never leaves 'a residue' of stranded modifiers. The crucial difference between incorporation and conflation lies, according to their view, in the strict complementation requirement: unlike incorporation, conflation cannot occur if there is an intervening maximal projection, it is a concomitant of Merge. If it is under DP, a noun can incorporate, but not conflate, it can only conflate if it is under an NP.

From a phonological point of view:

- (10) Conflation consists in the process of copying the p-signature of the complement into the p-signature of the head, where the latter is defective.

There are two cases in which a p-signature is 'defective':

- (i) the case where the p-signature is entirely empty, containing no phonological features (zero derivation in English)
- (ii) the head is an affix: the p-signature is partially defective, being bipartite (English, Romanian etc.)

On the view proposed by Hale & Keyser (2002), specifiers (of the phrases occupying the complement position) can incorporate in English, but they cannot conflate. This is why, in a very general sense, we say that incorporation of specifiers (by which we mean the specifiers of the phrases in the complement position) is not possible in English, although it is possible in other languages. It would, however, be more correct to say that conflation of specifiers is not possible in English, and that only conflation of complements is. For the sake of simplicity, we will use the term 'incorporation' throughout the whole paper to deal with both incorporation and conflation in the Hale & Keyser sense, resorting to the concept of conflation as merge in the Haugean sense only when dealing with instrument verbs.

3 Is Noun Incorporation Sensitive to the Theta-Role of the Noun?

An important question we would like to address in this paper is what theta-roles the incorporated nouns have. Although theta-roles do not exist in the theory of Hale & Keyser (2002), being defined on a structural basis, we will nonetheless address this question from a descriptive perspective. According to the traditional view (Baker 1988a, 1996), incorporation is restricted to nouns in the complement position of the verb. As expressed in the Uniformity of Theta Assignment Hypothesis (UTAH):

- (11) *The Uniformity of Theta Assignment Hypothesis (UTAH)*
 Identical thematic relationships are assigned in identical D-structure configurations within and across languages.

Since the UTAH makes sure that theta-roles are uniformly mapped onto syntactic structures, in Baker's framework, **noun incorporation is restricted to themes**, since only themes can appear in the complement position of verbs.

3.1 Incorporation of Themes

The most frequent case of noun incorporation is Theme-incorporation. We find this with activity verbs (verb classification taken from Ciutescu (2010)). Under the label 'activity verbs', there are several classes of verbs.

3.1.1 Manner of Motion Verbs

A first class contains manner-of-motion verbs (*gallop, run, circulate, jump, hop, trot, limp, hobble, march, sway, somersault, crawl, jog, wander, ramble, promenade, leap, roam, climb, rotate, stagger*), which can be decomposed into a null light verb and a noun:

- (12) a. Mary Sunshine promenaded in the park yesterday evening.
 b. Mary Sunshine took a promenade in the park yesterday evening.

The counterparts of these verbs in Romanian are: *a galopa*³ ('to gallop'), *a alerga* ('to run'), *a circula* ('to circulate'), *a sări* ('to jump'), *a țopăi* ('to hop'), *a tropăi* ('to trot'), *a șchiopăta* ('to limp, to hobble'), *a mășălui* ('to march'), *a se legăna* ('to sway'), *a face tumbe* ('to do somersaults/ to somersault'), *a se târî* ('to crawl'), *a face jogging* (lit. 'to do jogging'), *a rătăci* ('to wander, to ramble'), *a se plimba* ('to promenade'), *a face un salt* (lit. 'to make a leap', meaning 'to take a leap' / 'to leap'), *a boinări* ('to roam'), *a urca* ('to climb'), *a se roti* ('to rotate'), *a se clătina* ('to stagger'):⁴

- (13) a. *Maria s-a plimbat prin parc ieri seară.* (Romanian)
 Maria cl-has promenaded in park yesterday evening.
 'Mary promenaded in the park yesterday evening.'

³ The italics in this case indicate that the verb is formed from a noun, i.e. it has incorporated a noun.

⁴ Romanian might be thought to pose a problem for Hale & Keyser's theory: given the fact that it has a rich morphology, verbs are never identical in form to nouns. Moreover, there are many verbs which do not seem to be derived from nouns. This might lead us to the idea that a distributional morphology account (Marantz 1997) might be more suitable to deal with verbs in Romanian, with incorporation affecting roots rather than lexical categories. However, for purposes of discussing issues related to theta-marking and structural positions, we have opted for a lexical-syntactic approach.

- b. *Maria a făcut o plimbare prin parc ieri seară.* (Romanian)
 Maria has made a promenade in park yesterday evening.
 ‘Mary took a promenade in the park yesterday evening.’

Interestingly, not all the noun-incorporating verbs in English have a noun-incorporating counterpart in Romanian: only the underlined verbs contain a noun in Romanian (*a boinări* > *boinar*-Agent), some add the verbal suffix to an interjection, or some simply do not exist, but what we encounter instead are verbal expressions made up of verbs and nouns.

3.1.2 Verbs of volitional acts

Another class of activity verbs incorporating Themes is represented by verbs of volitional acts (*meditate, ruminate, study, think, cogitate, daydream, agree, disagree, frown, grimace, pray, play, fight, box, sing, sleep, swim*):

- (14) a. Julia smiled beautifully.
 b. Julia gave a beautiful smile.
- (15) a. *Iulia a zâmbit frumos.* (Romanian)
 Julia has smiled beautifully.
 ‘Julia smiled beautifully.’
 b. *Iulia a schițat un zâmbet frumos.* (Romanian)
 Julia has sketched a smile beautiful.
 ‘Julia smiled beautifully.’

We find these verbs in Romanian: *a medita* (‘to meditate’), *a cugeta* (‘to ruminate’), *a studia* (‘to study’), *a (se) gândi* (‘to think’), *a cogita* (‘to cogitate’), *a visa cu ochii deschiși* (‘to dream with eyes open’, i.e. ‘to daydream’), *a fi de acord* (lit. ‘to be of agreement’, ‘to agree’), *a nu fi de acord* (lit. ‘to not be of agreement’, ‘to disagree’), *a se încrunta* (‘to frown’), *a face o grimasă* (‘to make a grimace’/ ‘to grimace’), *a se ruga* (‘to pray’), *a se juca* (‘to play’), *a se lupta* (‘to fight’), *a boxa* (‘to box’), *a cânta* (‘to sing’), *a dormi* (‘to sleep’), *a înota* (‘to swim’). In many of the verbs, we notice the reflexive particle *se*.

3.1.3 Verbs of non-verbal expression

Another class of activity verbs incorporating Themes consists of verbs of non-verbal expression (*howl, bark, neigh, cry, laugh, weep, sob, chirp, growl, grunt, oink, quack, tweet*). Their equivalents in Romanian are: *a urla* (‘to howl’), *a lătra* (‘to bark’), *a necheza* (‘to neigh’), *a plânge* (‘to cry’), *a râde* (‘to laugh’), *a plânge* (‘to weep, to sob’), *a ciripi* (‘to chirp’), *a mârâi* (‘to growl’), *a mormăi* (‘to grunt’), *a grobăi* (‘to oink’), *a măcăi* (‘to quack’), *a piui* (‘to tweet’).

These verbs can be analyzed as made up of a null light verb and a noun: a *guița* ‘to oink’/a *scoate* (give) un *guițat*/a *face* (make) *guiț*, a *mârâi* ‘to growl’/a *scoate* (to give) *mârâituri*/a *face* (to make) *mâr*, a *piui* ‘to cheep/tweet’/a *scoate* (to give) *piuituri* ‘tweets’.

- (16) a. The little chicken tweeted.
 b. The little chicken let out/gave a tweet.

- (17) a. *Puiuşul a ţiuit.* (Romanian)
 Chicken-the has tweeted.
 ‘The chicken tweeted.’
- b. *Puiuşul a scos ţiuituri.* (Romanian)
 Chicken-the has given tweets.
 ‘The chicken gave tweets.’

3.1.4 Verbs of manner-of-speaking

Verbs of manner of speaking (*mumble, grumble, scream, shout, yell, sob, whisper, speak, talk, babble, prattle, chatter*) form another class of verbs incorporating Themes. In Romanian, we have: *a murmura* (‘to mumble’), *a mormăi* (‘to grumble’), *a ţipa* (‘to scream’), *a urla* (‘to shout, yell’), *a şopti* (‘to whisper’), *a vorbi* (‘to speak, talk’), *a bolborisi* (‘to babble’), *a trăncăni* (‘to prattle’), *a pălăvrăgi* (‘to chatter’). These verbs can be decomposed: *a urla* ‘to howl’—*a scoate urlete*, lit. ‘to give howls’, *a ţipa* ‘to scream’—*a scoate ţipete*, lit. ‘to give screams’, *a răcni* ‘to bellow’—*a scoate răcnete*, lit. ‘to give shouts’. Some examples are:

- (18) a. The woman screamed.
 b. The woman gave a scream.
- (19) a. *Femeia a ţipat.* (Romanian)
 Woman-the has screamed.
 ‘The woman screamed.’
- b. *Femeia a scos un ţipăt.* (Romanian)
 Woman-the has given a scream.
 ‘The woman gave a scream.’

3.1.5 Waltz verbs

An interesting class is represented by the *waltz* verbs (*to dance, tango, waltz, foxtrot, jive, samba*). The corresponding verbs in Romanian are: *a dansa* (‘to dance’), *a dansa tango* (‘to dance tango’), *a dansa vals/a valsa* (‘to dance waltz/ to waltz’), *a dansa foxtrot* (‘to dance foxtrot’), *a dansa jive* (‘to dance jive’), *a dansa samba* (‘to dance samba’). As we can easily notice, there are no single verbs for the *waltz* verbs in English. Instead, we have the verb *a dansa* (‘to dance’), followed by a noun:

- (20) a. The couple waltzed in the room for one hour.
 b. *Cuplul a valsat in camera o oră.*
 Couple-the-N.sg has waltzed in room-the ART-FEM.sg hour.
 ‘The couple waltzed in the room for one hour.’

3.1.6 Verbs of light emission

Then, we have verbs of light emission (*to glow, glimmer, sparkle, twinkle, glisten, glitter, shine*), with the corresponding verbs in Romanian: *a străluci* ('to glow'), *a licări* ('to glimmer'), *a scânteia* ('to sparkle'), *a sclipi* ('to twinkle'), *a străluci* ('to glisten'), *a sclipi* ('to glitter'), *a străluci* ('to shine'):

- (21) a. The star twinkled far away.
b. *Steaua a scânteiat în depărtare.* (Romanian)
Star-the-F.sg has twinkled in distance.
'The star twinkled far away.'

3.1.7 Verbs of smell emission

Verbs of smell emission (*smell, stink, reek*) represent another class of activity verbs incorporating Themes. The corresponding Romanian verbs are *a miroși*, *a miroși urât*, *a puți*. These verbs can be analyzed as formed at I-syntax from a null light verb and a noun. *A miroși* ('to smell'), for example, can be decomposed as *a răspândi/ emite miros* ('to give/ emit smell'):

- (22) a. The meal smelled wonderful.
b. The meal gave out a wonderful smell.
- (23) a. *Mâncarea mirosea minunat.* (Romanian)
Food-the smelled wonderful.
'The food smelled wonderful.'
b. *Mâncarea răspândea un miros minunat.* (Romanian)
Food-the gave a smell wonderful.
'The food gave a wonderful smell.'

3.1.8 Verbs of sound emission

Apart from these verbs, there are verbs of sound emission (*to rattle, rumble, ring, toll, clatter, clink, crackle, jingle*). The corresponding verbs in Romanian are: *a zornăi* ('to rattle'), *a bubui/ a burui* ('to rumble'), *a suna* ('to ring'), *a bate (about bells)* ('to toll'), *a zdrăngăni* ('to clatter'), *a zăngăni* ('to clink'), *a pocni/ a trosni* ('to crackle'):

- (24) a. The bells on the sleigh have been ringing all evening. How come Santa Claus has not arrived yet?
b. *Clopoștii de la sanie au sunat toată seara.*
Bells from sleigh have rung all evening.
Cum de Moș Crăciun nu a ajuns încă? (Romanian)
How of Santa Claus not has arrived yet?
'The bells on the sleigh have been ringing all evening. How come Santa Claus has not arrived yet?'

In this case, we don't seem to come up with an adequate paraphrase using a null light verb and a noun, although, except for the verb *ring*, there are corresponding nouns. In a sense, the verbs above are 'manner of sound' verbs. On Haugen's (2009) view, this means that they are not formed by incorporation, but by conflation/merge of the 'manner' element directly into the v.

3.1.9 Verbs of involuntary bodily expression

Activity verbs also include verbs of involuntary bodily expression like *sneeze, cough, hiccough, belch, burp, vomit, tremble, vibrate, sweat, totter, throb*, etc. The corresponding Romanian verbs are *a strănuta* ('to sneeze'), *a tuși* ('to cough'), *a sughîta* ('to hiccough'), *a rîgîi* ('to belch', 'to burp'), *a vomita* ('to vomit'), *a tremura* ('to tremble/to throb'), *a vibra* ('to vibrate'), *a transpira* ('to sweat'), *a se clătina* ('to totter'). If we take an example such as *to cough*, we notice that we can analyze it as the result of the incorporation of a noun into a verb:

- (25) The student gave a series of nervous coughs before starting his presentation.

However, in this case, given the fact that the verb is a semelfactive, the noun that gets incorporated does not have a singular form. However, in the case of Romanian, we do not seem to be able to create such paraphrases. Given that the verbs seem to indicate 'manner' of body motion, we might be tempted to adopt the same view, and argue that, in this case, just like in the previous one, we are actually dealing with conflation/ merge rather than incorporation.

Nevertheless, most verbs from the activity class can be analyzed as being formed from the incorporation of a Theme noun into a silent light verb.

3.1.10 Verbs of Animal-Birth Giving

Another class of verbs significant for Theme-Incorporation is represented by Verbs of Animal-Birth Giving: *foal, whelp, calve, spawn, pup, lamb, fawn*, etc.:

- (26) a. Betty foaled (the sweetest creature ever) yesterday.
b. Betty gave birth to the sweetest foal yesterday.

We do have a corresponding verb in Romanian for the verb *foal*, namely, *a mînzî*. However, we do not have exact corresponding verbs for the others: *a fîta*, *a da naștere* (to give birth), *a depune ouă* (spawn), *a face (pui)* ('to make babies') (for the other verbs). The difference would be that, while in English, we have Theme-incorporation, in Romanian, incorporation does not take place.

3.1.11 Verbs of Dining

Another interesting class of verbs consists of the verbs of 'Dining', such as *lunch/have lunch, dine/have dinner, breakfast/have breakfast, picnic/have a picnic, etc.* All of these verbs have paraphrases consisting of the verb *have* and a noun expressing the 'eating' event:

- (27) a. The mysterious lady dined in the morning.
b. The mysterious lady had dinner in the morning.

We have corresponding verbs in Romanian: *a prânzi* ('to lunch')/*a lua prânzul* ('to take lunch-the'), *a cina* ('to dine')/*a lua cina* ('to take dinner'), *a lua micul dejun* ('to take breakfast') etc. Unlike English, however, the verbs in Romanian are not paraphrased by the verb *have*, but by the verb *a lua* ('to take'):

- (28) a. *Doamna misterioasă a cinat dimineața.* (Romanian)
 Lady-the mysterious has dined morning-the
 'The mysterious lady dined in the morning.'
- b. *Doamna misterioasă a luat cina dimineața.* (Romanian)
 Lady mysterious has taken dinner-the morning-the.
 'The mysterious lady had diner in the morning.'

3.1.12 Verbs of Harvesting

Verbs of Harvesting such as *hay*, *berry*, *mushroom/get mushrooms*, *fish/get fish*, *whale*, etc. represent another category of verbs that incorporate Themes:

- (29) a. My grandpa mushroomed in the forest all day long
 b. My grandpa collected/ picked mushrooms in the forest all day long.

We do not have corresponding verbs in Romanian, we have combinations of verbs and nouns, such as: *a aduna fânul* ('to collect hay'), *a aduna ciuperci* ('to collect/ pick mushrooms'), *a prinde pește* ('to catch fish'), *a vâna balene* ('to hunt whales'), etc:

- (30) *Copilul vrea să adune ciuperci.* (Romanian)
 Kid-the wants to pick mushrooms.
 'The kid wants to pick mushrooms.'

As in the previous case, English allows incorporation of the Theme into the verb, while Romanian does not.

3.1.13 Weather verbs

An interesting class is represented by weather verbs: *to rain*, *to snow*, *to hail*, *to sleet*, *to thunder*, *to lighten*, *to snow etc.*, with the corresponding Romanian verbs: *a ploua* ('to rain'), *a ninge* ('to snow'), *a da grindină* ('to hail'), *a da lapoviță* ('to sleet'), *a tuna* ('to thunder'), *a fulgera* ('to lighten'), *a cerne* ('to snow').

Weather verbs represent an interesting class, because they sometimes behave like unaccusatives and sometimes like unergatives across languages and even within the same language (cf. the case of Italian, where they can take both auxiliaries, as argued in Benincà & Cinque 1992). The debate would be whether the raining simply occurs, or whether it is the sky or divinity doing the raining. From an l-syntactic perspective, this would translate in the question whether we also project a CAUSE predicate apart from FALL, or just FALL.

Irrespective of how many predicates we project in the structure, the noun *rain* gets incorporated (as a Theme).

3.2 Incorporation of Locatums

It seems that, indeed, Theme-incorporation is very frequent. Apart from the classic cases of Themes, we also find special cases of Themes, such as ‘Locatums’, a particular instance of Theme, more exactly, displaced Theme. Under the label ‘locatum verbs’, we find verbs such as:

- (31) to bandage, bar, bell, blindfold, bread, butter, clothe, curtain, dress, fund, gas, grease, harness, hook, house, ink, oil, paint, paper, powder, saddle, salt, seed, shoe, spice, water, word

Not all have a corresponding verb in Romanian:

- (32) *a bandaja*, ‘to bandage’, *a bara*, ‘to bar’, *a purta un clopoșel* (lit. to wear a bell), ‘to bell’, *a lega la ochi pe cineva* (lit. to tie to eyes on somebody), ‘to blindfold’, *a găti cu pesmet/pâine* (lit. to cook with biscuit/bread), ‘to bread’, *a îmbrăca*, ‘to clothe’, *a pune perdele la ferestre* (lit. to put curtains at windows), ‘to clothe’, *a îmbrăca/a decora*, ‘to decorate’, *a prepara*, ‘to prepare’, *a consolida/ a finanța*, ‘to fund’, *a gaza*, ‘to gas’, *a unge cu unsoare* (lit. to smear with grease), ‘to oil’, *a picta*, ‘to paint’, *a înhăma*, ‘to harness’, *a prinde în cârlig* (lit. to catch in hook), *a găzdui* (lit. to shelter), ‘to shelter’, *a locui*, ‘to live’, *a scrie cu cerneală* (lit. to write with ink), ‘to ink’, *a unge*, ‘to oil’, *a picta*, ‘to paint’, *a împacheta în hârtie* (lit. to wrap in paper)/*a pune pe hârtie* (lit. to put on paper), ‘to paper’, *a pudra*, ‘to powder’, *a înșeuă* ‘to saddle’, *a săra* ‘to salt’, *a semăna* ‘to sow’, *a potcovi/a încălța* ‘to shoe’, *a condimenta* ‘to spice’, *a uda* ‘to water’, *a exprima prin cuvinte/a formula* ‘to express/formulate’.

‘To butter’, for example, paraphrased as ‘to put butter on...’ in English, does not have a corresponding verb in Romanian. Instead, we have ‘*a pune unt pe...*’ (‘to put butter on...’). We have, nonetheless, verbs like *a bandaja* (‘to bandage’), *a săra* (‘to salt’), or *a înșeuă* (‘to saddle’).

3.3 Incorporation of Location

However, incorporation is not restricted to Themes or Locatums, but extends to nouns bearing other theta-roles as well.

The most obvious case is represented by Location nouns which, by incorporating into a null light verb, give rise to Location verbs such as:

- (33) to bag, bank, bottle, box, cage, can, corral, crate, floor (opponent), garage, jail, package, pasture, pen, photograph, pocket, pot, shelve, ship (the oars), shoulder, tree
- (34) *a pune în sac* (lit. to put in bag) ‘to bag’, *a îndigui/a depune la bancă* (lit. to put at bank), ‘to bank’, *a pune într-o sticlă* (lit. to put in a bottle), ‘to bottle’, *a pune într-o cutie* (lit. to put in a box), ‘to box’, *a băga într-o colivie* (lit. to put in a cage), ‘to cage’, *a pune în conservă* (lit. to put in can), ‘to can’, *a îngrădi/a înconjura*, ‘to corral’, *a pune într-un coș sau ladă* (lit. to put in a basket or a case/chest), ‘to crate’,

a pune la pământ (lit. to put to earth), ‘to floor’, a duce în garaj (lit. to carry in garage), ‘to garage’, a arunca pe cineva la închisoare (lit. to throw on somebody to prison), ‘to jail’, *a împacheta*, ‘to package’, a pune pe o pășune (lit. to put on a pasture), ‘to pasture’, a închide într-un țarc (lit. to close/ shut in a pen), ‘to pen’, *a fotografia* ‘to photograph’, a pune în buzunar (lit. to put in pocket), ‘to pocket’, a pune în oală (lit. to put in pot), ‘to pot’, a pune pe rafturi (lit. to put on shelves), ‘to shelve’, a transporta pe vas (lit. to transport on ship), ‘to ship’, a pune pe umăr (lit. to put on shoulder), ‘to shoulder’, a face pe cineva să se urce în copac (lit. to make on somebody CONJ climb in tree), ‘to tree’.

What we can easily notice is that most of these verbs do not have a corresponding verb in Romanian: instead, we find combinations of verbs and nouns, such as ‘a pune pe raft’ (‘to put on the shelf’/ *to shelve*), ‘a pune în buzunar’ (‘to put in pocket’/ *to pocket*), ‘a pune în cutie’ (‘to put in box’/ *to box*), or ‘a băga la închisoare’ (‘to put in jail’/ *to jail*).

However, Romanian does not lack verbs which incorporate Location. It is possible, for example, to say something like:

(35) *Mama a îndosariat documentele.* (Romanian)
 Mother-the has put-in-files documents-the.
 ‘Mother has filed the documents.’, or like:

(36) *Copilașul a îngropat ursulețul și a început să plângă.*
 Kid-the has buried teddy-bear-the and has started to cry.
Crezuse că a murit.
 Thought that has died.
 ‘The kid buried the teddy-bear, and started to cry. He thought it had died.’

In the examples above, we notice the presence of two verbs: *a îndosaria* and *a îngropa*, both containing the prefix *în-*. *A îndosaria* can be paraphrased as ‘*a pune în dosare*’ (lit. to put in files), and ‘*a îngropa*’ can be paraphrased as ‘to put in the hole/ground’, i.e. *to bury*.

What we notice, therefore, is that, while in English, the verbs incorporating the Location and the Location are identical to the nouns they incorporate, in Romanian, either there is no corresponding verb (instead, we have a paraphrase), or the verb containing the noun contains a prefix, in addition to the infinitival termination, like the prefix *în-*. Of course, in Romanian, there are also verbs that are almost identical to the nouns incorporated: Locatum verbs such as *a bandaja* (‘to bandage’), *a sufixa* (‘to suffix’), *a prefixa* (‘to prefix’), *a prăfui* (‘to dust’), *a săra* (‘to salt’), *a tapeta* (‘to wallpaper’), or Location verbs such as *a pășuna* (‘to graze’), *a zări* (‘to see’), *a fabrica* (‘to fabricate’).⁵

⁵ I have selected these verbs from a bilingual dictionary (a Romanian-Norwegian dictionary) by Halvorsen (2007), which I looked through so as to find all the noun-incorporating verbs incorporating various theta-roles.

3.4 Incorporation of Instruments

Apart from Themes, verbs can also incorporate instruments, as it happens in the case of *hammer* verbs:

- (37) ‘If I had a hammer,/I’d hammer in the morning,/I’d hammer in the evening/All over this land.’ (*If I Had a Hammer (The Hammer Song)*, Lee Hays and Pete Seeger)
- (38) *Maria a periat hainele ca să fie frumoase.* (Romanian)
Mary has brushed clothes-the that to be beautiful
‘Mary brushed her clothes to make them beautiful.’
- (39) *Femeia a pieptănat cățelușul.* (Romanian)
Woman-the has combed puppy-the.
‘The woman has combed the puppy.’

Apart from these, there are Instrument-incorporating verbs like *a biciui* (‘to whip’), *a ciomăgi* (‘to club’), *a fluiera* (‘to whistle’), *a mânui* (‘to handle’), *a săpa* (‘to spade/burrow/dig’), *a vâsli* (‘to oar’), *a pistonă* (‘to push or extract liquid with a piston’), *a claxona* (‘to honk’), *a cârmi* (‘to steer’).⁶

Actually, in this case, in order to avoid the problem of the Instrument being an adjunct, Haugen (2009) argues that we are not dealing with incorporation, but with conflation, and that the ‘instrument’ is simply merged into the v.

3.5 Incorporation of Agents

It has been argued that Agents never incorporate. There are, however, exceptions to this rule. As argued in Damonte (2004), in a language like Chuckchee (isolate, Siberia), it is possible to incorporate the Agent into the verb (‘child-came’):

- (40) *ətlon ɲinqe-etə-lʔet- gʔe* (Chuckchee; Polinsky 1995, 350)
he-abs child-int-come-3sg.Aor
(lit.) ‘Many children came to him.’ (i.e. ‘He got many children.’)

According to Baker (1988), Agents do not incorporate into verbs. However, in Romanian, we notice that there is, for example, a verb like ‘a asasina’ (*to assassinate*), where one might speculate that the near-identity of form between the verb (*a asasina*) and the noun (*asasin*) is the result of the incorporation of the Agent into the null light verb, something inexplicable under a theory which disallows incorporation of specifiers. Moreover, if we look at Romanian, we notice that there are other verbs that seem to incorporate Agents, like *a spiona* (‘to spy’), *a arbitra* (‘to arbitrate’), *a găzdui* (‘to shelter’), *a hoinări* (‘to roam’), *a meșteri* (‘to tinker’), *a slugări* (‘to slave around’), containing the noun *slugă* (‘slave’), *a guverna* (‘to govern’),

⁶ These verbs have again been picked from the same bilingual dictionary (a Romanian-Norwegian dictionary) by Halvorsen (2007).

a măcelări ('to butcher'), *a patrula* ('to patrol'), *a (se) bărbieri* ('to shave (oneself)').⁷ In the next section, we will look deeper into this issue, trying to see whether it is really the case that an Agent can incorporate.

Nevertheless, despite the fact that we have not looked at all theta-roles, from the data we have looked at so far, one can gather that noun-incorporation seems to apply to a variety of theta-roles.

4 Is Noun Incorporation Sensitive to the Structural Position of the Noun?

Another important question we would like to answer is whether noun incorporation is sensitive to the structural position of the noun. In short, while noun incorporating verbs incorporate complements, it is not so clear whether they can incorporate specifiers. On the view put forth by Hale & Keyser (2002), they cannot incorporate specifiers, neither specifiers that are c-commanded by the incorporating head, nor specifiers that are placed higher in the tree (like agentive subjects). However, on Damonte's (2004) view, specifiers that are c-commanded by the incorporating head can be incorporated.

According to Baker (1988: 81ff, 244ff), there are certain descriptive generalizations which can be made with respect to incorporation. For one thing (i), not everything can incorporate: external arguments (agentive subjects) or adjuncts are precluded from incorporation, while internal arguments like Theme/Patient objects, Theme/Patient, subjects (of unaccusatives), as well as Goals are possible incorporees. Secondly (ii), there is a locality/minimality constraint, which says that a syntactic constituent that is (or is contained in) an argument of a direct argument of the verb cannot be incorporated, unless the direct argument of the verb is itself incorporated. Thirdly (iii), the incorporee has to have a certain syntactic structural status: only simplex elements (syntactic heads) may incorporate, syntactic phrases (multi-word units) cannot. According to Baker, there is a condition on incorporation:

- (41) Incorporation is available to lexical items which, when in their un-incorporated basic positions, are governed by the host of incorporation.

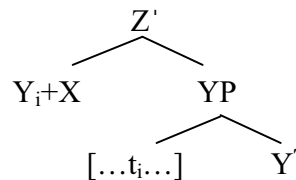
Baker's condition, in turn, is derived from the Empty Category Principle (ECP), a general condition requiring the trace position of any movement to be properly governed.

According to Damonte (2004), the only necessary syntactic constraint on incorporation is that there be a c-command relation between the head being incorporated to and the head that incorporates. This allows the incorporation of the specifiers of the complement of *v*, while disallowing the incorporation of the specifiers of *v*. Actually, this view is not so different from the one put forth by Hale & Keyser (2002), who argue that incorporation of the specifiers of the complement of *v* is possible in English, but not the conflation of specifiers. On Damonte's view, no distinction is made between conflation and

⁷ The verbs have again been picked from the same Romanian-Norwegian dictionary by Halvorsen (2007).

incorporation; his claim is that it is possible for a head to incorporate into another head from a specifier position that is c-commanded by the incorporating head:

(42) *Incorporation out of a specifier position*

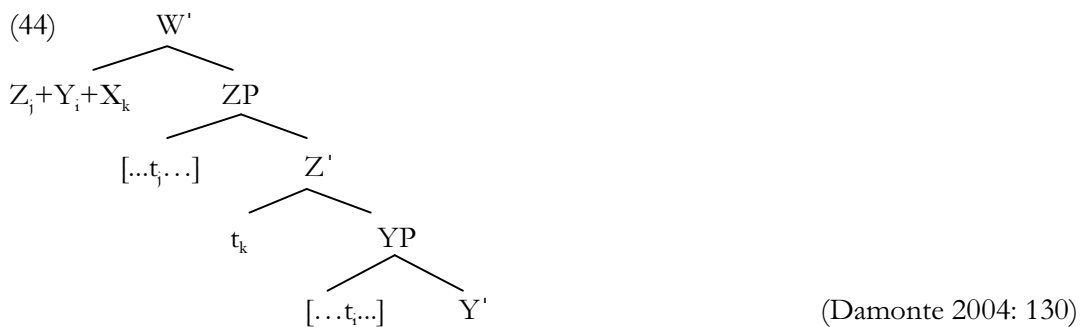


Actually, this view is not so different from the one put forth by Hale & Keyser (2002), who argue that incorporation of specifiers is possible in English, but not conflation of specifiers.

Assuming X to be the verb, which has moved to the head of the functional projection ZP, incorporation of a head out of [Spec, YP] into the verb is possible, since X c-commands all the heads in [Spec, YP]:

(43) *Gin-waya-sgowl-bi*
 neck-knife-cut-he/them
 ‘He cut their heads off with his knife.’
 (Takelma; Mithun 1984, 875; as quoted in Damonte 2004: 129)

On Damonte’s view, (43) is a case of multiple incorporation:



According to Damonte (2004), in this case, both nouns are specifiers, and get incorporated into the verb, with ‘neck’ occupying the higher specifier, and ‘knife’ occupying the lower specifier.

A Theme occupying a specifier position might strike us as odd if we look at it from a bakerian perspective. However, even Hale and Keyser (2002) put forth an analysis in which the above is the case: the ‘direct object’ in ‘put the books on the shelves’ occupies the specifier position of the PP selected by the verb ‘put’. Instrument verbs like ‘to hammer’ may behave differently, however. It may be the case that ‘to hit something with a hammer’ and ‘to cut something with a knife’ receive a different structural analysis from location and

locatum verbs. This intuition was exploited by Haugen (2009), who argued that instrument verbs are cases in which the instrument ‘hammer’ gets merged directly onto the verb.

However, a question arises: if we adopt Damonte’s proposal, if it is true that specifiers do incorporate, then why doesn’t the direct object ‘books’ get incorporated in ‘Mary PUT the books ON the shelves’, where ‘the books’ is in the specifier of the PP selected by the null light verb? A possible explanation for this could be the fact that the direct object is more important (syntactically, semantically, pragmatically). Moreover, in English, the incorporation of Location seems to block the incorporation of the Theme (*‘He shelved-books’).

Although the conflation of specifiers seems to be possible in other languages, it does not seem to be the case in English, or Romanian for that matter, where (40) is not possible. One can thus distinguish between languages where conflation of specifiers is possible, and languages where it is not.

As for the incorporation of the specifiers that are not c-commanded by the noun-incorporating verbal head, like agentive subjects, a solution is needed to cope with verbs like *a spiona* (‘to spy’), *a arbitra* (‘to arbitrate’), *a boinări* (‘to roam’), *a meșteri* (‘to tinker’), *a slugări* (‘to slave around’), containing the noun *slugă* (‘slave’), *a guverna* (‘to govern’), *a măcelări* (‘to butcher’), *a patrula* (‘to patrol’), *a (se) bărbieri* (‘to shave (oneself)’).

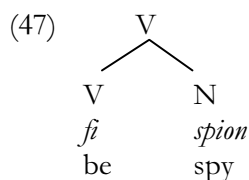
A possible way out of Agent incorporation would be to argue that, in these cases, it is not the case that the verb incorporates the noun, but, actually, it is the other way round, we are dealing with regressive derivation: the noun is derived regressively from the verb. However, the dictionary entries (according to <http://dexonline.ro/>) do not indicate backformation in the case of the nouns corresponding to the verbs, thus, we are forced to abandon this alternative.

Another way out would be to say that even though we are dealing with incorporation, it is not Agent incorporation that we are coping with, but, rather, what gets incorporated is the predicate of a Small Clause copula phrase, i.e. a complement:

(45) Tom is a spy.

(46) Tom spies.

Although the nouns in themselves denote Agents, they are not Agents in the underlying I-syntactic representation. A null light verb, possibly *be* (or perhaps *act*, with the meaning *fulfill the obligations of a spy, in this case*) incorporates the complement noun *spy*, giving rise to the verb *to spy*:



By adopting this point of view, Agent incorporation is eschewed. This is a desirable move, given the fact that, if we accept the idea that external arguments can be incorporated, then the immediate question to be answered is why it is the case that this does not happen

with all external arguments, but only with some. Although we can have something like *Spionul spionează*, ‘The spy spies.’, where the noun is almost identical in form to the verb, we nevertheless have *Cântărețul cântă*, ‘The singer sings.’, with a noun that adds the agentive suffix *-er* to the verb. In this case, the agentive noun is formed from the verb, and not the other way round. Of course, in this case, one could say that a possible explanation could be the fact that subjects of transitive verbs never incorporate, as argued in Baker (1988). However, there is no cognate subject even in the case of an unergative verb like *a plânge* (‘to cry’). As argued in Damonte (2004) with examples from Mohawk, only the subjects of unaccusative verbs can be incorporated (48a), while the subjects of unergative verbs cannot be incorporated (45b):

- (48) a. *Wa'-ka-wir-a'-ne'*
 aor-Nsg-baby-fall-punc
 ‘The baby fell’
- b. **Wa'-t-ka-wir-absa'tho'*
 aor-dup-Nsg-baby-cry-punc
 ‘The baby cried’

(Mohawk; Baker 1996: 293-4, from Damonte 2004: 136)

Following this line of thought, we will adopt the view that specifiers that are commanded by a verb can be incorporated, whereas specifiers that are not, such as agentive subjects, cannot be.

As for adjuncts, it seems to be the case that sometimes adjuncts incorporate, whereas, in other cases, they do not. This could be considered a lexical idiosyncrasy, an accident, or it could be related to the obligatory/ optional status of the element, or the structural relation between the element and the verb.

The optional locative *plajă* (‘beach’) in (49) does not incorporate into the verb (there is no verb *a plăjui*, ‘to beach’, with the meaning ‘to sleep on the beach’).

- (49) *Maria a dormit pe plajă ieri.*
 Maria has slept on beach yesterday.
 ‘Maria slept on the beach yesterday.’

In English, there is a verb *to beach*, but its meaning is quite different, it means ‘to shipwreck, to reach the shore (in a loose sense, ‘to arrive on a beach’), it is a Goal locative with a very specific meaning.

While, in English, the obligatory locative (i.e. argument) in a phrase like ‘put the books on the shelves’ may be incorporated, giving rise to a verb like ‘to shelve’, there is no verb *a răftui* (‘to shelve’) in Romanian. As a matter of fact, there are few location verbs of incorporation in Romanian: *a pășuna* (‘to graze’, where *pășune* means ‘field’), *a zări* (‘to see’, where *zare* means *horizon*), *a fabrica* (‘to fabricate’, where *fabric* means ‘factory’). Instead, we generally find full expressions (*a pune ceva pe/în ...*, ‘to put something on/ in...’).

We can, hence, notice crosslinguistic differences between Romanian and English. Moreover, within the same language, sometimes locatives are incorporated, and sometimes

they are not. However, it is not the case that optional locatives are never incorporated, while obligatory locatives are. The existence of verbs like *a pășuna*, ‘to graze’, where *pășune*, ‘field’ expresses the location, or *a fabrica*, ‘to fabricate’, where *fabrică* means ‘factory’ proves that even optional locatives can be incorporated.⁸ Optional locatives seem to pose the same problem as instruments: they are adjuncts, but are, nevertheless, incorporated.

A possible solution for this problem would be to say, along the lines of Surányi (2009), that the adjuncts which undergo incorporation are c-commanded at base structure by the incorporating head. In other words, there are adjuncts that are c-commanded by the verb, and adjuncts that are not, and only those that are c-commanded by the head can undergo incorporation. In Surányi (2009), for example, Source locatives (particles) in Hungarian behave differently from Goal locatives, and they are unattested in preverbal position. Indeed, we do not have a verb such as *a teatru* (*to theatre*) to express the meaning ‘to go to the theatre’. Adopting such a view, however, could not explain why there is not a great number of verbs incorporating optional locatives (why, for example, we do not have a verb like *a câmpul* to express the meaning ‘to go to/ in the field’), given the fact that optional locatives are to be found quite often in the discourse. Then again, most English location verbs do not have a corresponding verb in Romanian.

Another solution would be to argue that, in the case of optional locatives, the process taking place is conflation in the sense of Haugen (2009) rather than incorporation: the locative is simply merged onto the verb. This would result in the proposal that obligatory locatives are incorporated, while optional locatives are conflated, just like instruments, where *hammer*, instead of being incorporated, is simply conflated/merged into the verb.

5 Conclusion

In conclusion, we have shown on the basis of some Romanian data that noun-incorporation does not apply only to Themes/complements, it also applies to other thematic roles (semantically), and, it can apply to specifiers (syntactically). However, it cannot apply to those specifiers that are not c-commanded by the incorporating verb. In the case of instrument verbs, the process taking place may be taken to be conflation (merge), not incorporation, just like in the case of optional locatives. As far as Agents are concerned, they can never be incorporated, as they are not c-commanded by the verb. When they are

⁸ As argued by Surányi (2009) for Hungarian, unselected locative adjuncts (particles in this case) can undergo pseudo-incorporation if generated sufficiently low:

- (i) *Benne aludt János (a régi szekrényben)*
 in-3SG slept-3SG John-NOM (the old wardrobe-in)
 ‘John slept in the old wardrobe.’

According to Surányi (2009), the apparent ‘incorporation’ (pseudo-incorporation) of locative elements in Hungarian essentially corroborates Baker’s proposal that only elements that are c-commanded by the head can undergo incorporation. The conclusion established on the basis of Hungarian data might suggest a similar line of thought for Romanian.

incorporated, they are not Agents in that structure, although they denote Agents from a semantic point of view, but may be argued to be the complement of a null light verb, possibly the predicate of a copular structure.

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English learners' perception of Czech palatal stops in high-front vs. other vowel contexts

Kateřina Braunová

The present study is focused on the perception of palatal stops /c/ and /ɟ/ by native English learners of Czech. Palatal stops are a new category for them, therefore their perception could be difficult. However, their perception could be also influenced by their context. Palatal stops could be more difficult to perceive if followed or preceded by high-front vowels /ɪ/ or /i/ than by other vowels (suggested by some findings by Atkey, 2001). The hypotheses were tested on a group of 12 native English speakers and a control group of 14 native Czech speakers by means of Forced Choice Phoneme Selection task. L1 English speakers did not have major problems with the perception of palatals in context of different preceding vowels. However, they had problems with the perception of palatals in context of different following vowels. They had problems with the perception of both voiced and voiceless palatals followed by high-front vowels.

Key words: *high-front vowels, non-native contrast, palatal stops, perception*

1 Introduction

The present study deals with the perception of Czech palatal stops by native English learners. They can have problems with their perception since they do not have them in their phonemic inventory.

Before I proceed to the description of palatal stops I will first introduce abbreviations used in my paper. English learners when acquiring a second language (L2) in this case Czech, which is called target language, have already knowledge of their native language grammar, which is called the first language (L1). In my paper I will therefore use the following abbreviations: L1en for their native language and I will refer to them as to L1en speakers and to native Czech speakers as to L1cz speakers.

The palatal stops /c ɟ/ are oral stops which means that from the articulatory point of view they are characterised by creation of complete closure of the airflow in the vocal tract and its sudden release which is followed by a burst of noise. The closure during their production (see Figure 1) is made by the tongue blade, which is raised towards the hard palate. Moreover, the tip of the tongue is leaning against the lower teeth (incisors), which enables to raise the tongue blade toward the palate. The palatal stop /ɟ/ is produced at the same place like /c/ but unlike /c/ the vocal cords are vibrating during its production (see Petr 1986, 44).

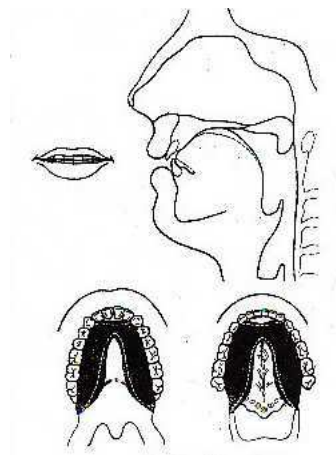


Figure 1:
Articulation of Czech palatal stops /c/ and /ɟ/ (adapted from Hála 1975, 183)

The duration of palatal stops is very variable. It depends on the position and quality of surrounding vowels. The following values are average values for palatals in the intervocalic position as measured by Machač (2006). The voiceless palatal stop /c/ has the constriction interval about 65 ms long and the voiced /ɟ/ shorter (about 49 ms) (Machač 2006, 36).

Czech palatal stops are also characterised by the longest duration of burst from all Czech consonants. The average time of burst for /c/ is 46 ms and for /ɟ/ 25 ms (see Machač 2006, 36).

The burst of palatal stops is very specific, which is due to their production. Creating a closure of /c/ involves movement of the largest part of the tongue. The tongue blade is raised to touch the hard palate, making the contact area the most extended from all articulatory movements there are. During the release of the closure there is a long and low gap between the hard palate and the tongue through which the air escapes during the burst. The shape of the gap may cause rapid flow of air and turbulences, marked in the spectrum as higher frequency noise.

The formant transitions for palatals are, except for F1, usually falling. The locus for F2 is very high, around 2.5 kHz (Palková 1994, 225). When followed or preceded by high-front vowels, which have high F2 (average values are between 2.1 - 2.8 kHz) there are going to be virtually no CV formant transitions (see Figure 2) because the locus of /c/ for F2 is in the same place as F2 of /ɪ/. However, when a palatal stop is followed e.g. by /a/ which has middle values of F2 (average values are between 1.1 - 1.5 kHz) there are falling F2 formant transitions (see Figure 3) so the palatal stops should be distinguished more easily.

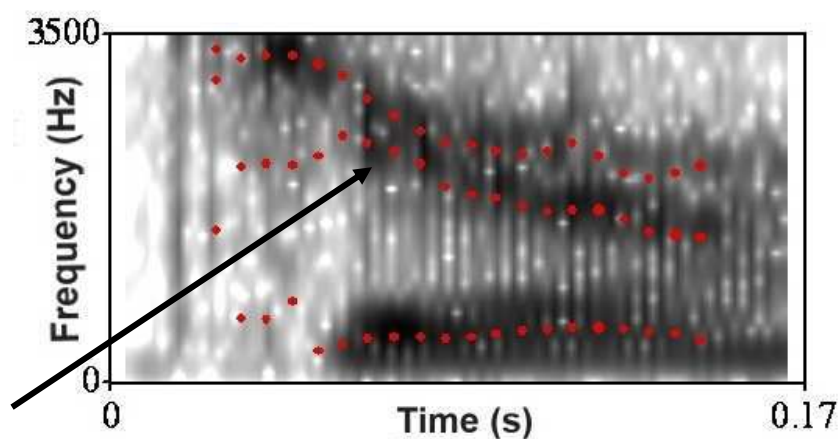


Figure 2:
Spectrogram of syllable **[ca]** from word **[cafo]** as pronounced by a native female speaker of Czech; the arrow points to F2.

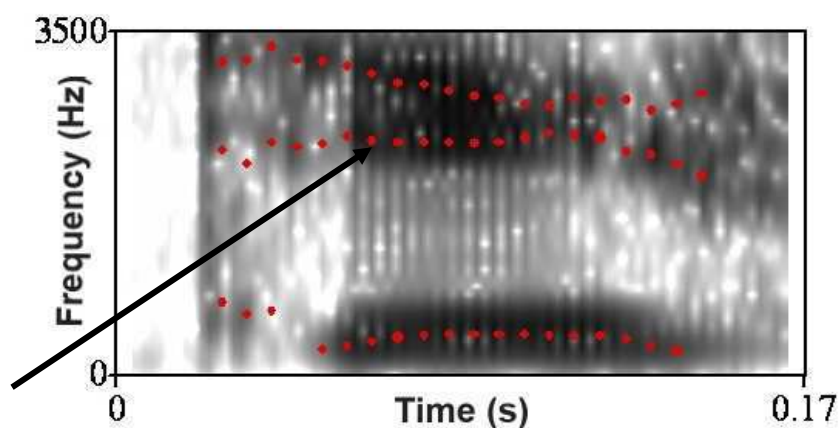


Figure 3:
Spectrogram of syllable **[ci]** from word **[cifo]** as pronounced by a native female speaker of Czech; the arrow points to F2.

2 Hypotheses

The hypotheses for my study are the following. The first of them is that for English learners of Czech, palatal stops are more difficult to perceive than alveolar or velar stops because they are a new category for them.

However, the perception of palatal stops could also be possibly influenced by their context: by preceding or following vowels. For English learners of Czech, palatal stops could be more difficult to perceive if followed or preceded by high-front vowel /ɪ/ or /i:/ than by other vowels (as suggested by some findings by Atkey, 2001) because the locus of /c/ of second-formant C-V transitions is in the same place as F2 of /ɪ/, therefore there are not going to be any large and audible C-V formant transitions.

3 Methodology

3.1 Subjects

The present study tested the hypotheses on a group of twelve native speakers of American English (L1en speakers) between 20 and 46 years of age who self-reported normal-hearing (except for Subject 6 who reported problems with one ear). All subjects had English speaking parents and were born in the USA. They lived in the Czech Republic for a longer period of time though the length of their exposure to Czech was not the same. It ranged from one year and two months to twenty years.

All subjects lived in the Czech Republic, but they used Czech in different situations and had different motivation to learn Czech. Some of them worked in the Czech Republic as missionaries; they used Czech for their work and therefore needed to speak Czech in the most-native sounding way. A few of them reported that they used Czech minimally, only in some situations, when speaking with Czech friends and for a basic public communication. Others were working there as university teachers, and used Czech in various situations in family and in public places.

Some of the subjects attended Czech language courses either before or after their arrival to the Czech Republic.

In the perception experiment a control group of fourteen native Czech speakers was also included. The L1cz speakers were students at Palacký University Olomouc, they were between 22 and 29 years of age and all self-reported normal-hearing.

3.2 Stimuli

Both groups of subjects identified the tested segments /t/, /d/, /c/, /ʃ/, /k/ or /g/ in the Forced Choice Phoneme Selection (FCPS) task. The task consisted of 250 disyllabic nonsense words stimuli, which resembled real Czech words as little as possible. Each of the stimuli contained one of the tested segments /t/, /d/, /c/, /ʃ/, /k/ or /g/. (Velar stops were included in the perception experiment because it was supposed that L1en speakers could perceive a new category of palatal stops possibly as either alveolar stops or velar stops, because both categories are next to palatal stops.)

The tested segments occurred in the stimuli word initially, medially and finally; voiced stops /d/, /ʃ/ and /g/ were not in the word final position because in Czech they are subjects to final devoicing.

To test my hypothesis each of the tested segments in the word initial and medial position were followed, in case of word final stops preceded, by each vowel /a/, /ɛ/, /ɪ/, /o/, /u/; by both short and long vowel (in case of palatal stops followed by a vowel only word final palatals were analyzed, since in the FCPS task there were no stimuli in the word medial position preceded by high-front vowels). Examples of some stimuli in the FCPS task can be seen below in the Table 1.

word initial	[cɛfo]	[cɪfo]	[cafo]	[cofo]	[cufo]
stop	[cɛ:fo]	[ci:fo]	[ca:fo]	[co:fo]	[cu:fo]
word medial	[mudɛs]	[mudɪs]	[mudas]	[mudos]	[mudus]
stop	[mudɛ:s]	[mudi:s]	[muda:s]	[mudo:s]	[mudu:s]
word final	[sulɛk]	[sulɪk]	[sulak]	[sulok]	[suluk]
stop	[sulɛ:k]	[suli:k]	[sula:k]	[sulo:k]	[sulu:k]

Table 1: Examples of nonsense stimuli in the FCPS task.

The nonsense word stimuli were produced by two female native Czech speakers, students at Palacký University, age 22 and 26. Stimuli were edited and approximately half of the stimuli in the FCPS task were by one speaker and half by the other; both speakers were represented almost equally, with respect to tested segments and quality of vowels.

The stimuli in the FCPS task were presented in a random order and each of them was presented only once. Subjects could hear the stimulus twice because in the FCPS task there was a replay button.

3.3 Procedure

The FCPS task was presented on computers. The test was run in Praat. The subjects heard the stimuli over Sennheiser HD 202 headphones and on the computer screen they saw six response buttons, with labels *t*, *d*, *t'*, *d'*, *k* and *g* and were asked to click on the button according to which tested segment they heard in the stimuli.

Before the proper test began subjects were given instructions in Czech and there was a trial test to make subjects familiar with the procedure. There were six response buttons and a replay button in the trial test and the tested segments were in the word initial, medial and final position as in the FCPS task. Unlike in the proper test there were only 18 stimuli with tested segments and the stimuli were real Czech words; e.g. *ticho* [cɪxɔ] ‘silence’, *puk* [puk] ‘puck’ or *mladý* [mladi:] ‘young’.

Subjects were also told that the sound they heard in e.g. [pocɛfi:] is represented by the button with the label *t'* not to confuse the sound with its orthographical representation. The orthographic form of [pocɛfi:] is *pořeší* so they might have clicked on the button with label *t*.

After the trial test subjects proceeded to the experiment. Between both tests and within the FCPS task there were breaks to avoid test fatigue.

4 Analysis of results

Results of the FCPS task were submitted to repeated measures ANOVA with one between-subject factor, L1 (Czech, English), and two within-subject factors, Place (alveolar, palatal, velar) and Voice (voiced, voiceless), which revealed that there was no significant effect of Voice and that there was also no significant interaction of Voice with other factors, therefore this factor was excluded from the analysis.

Repeated measures ANOVA with one between-subject factor L1 (Czech, English) and one within-subject factor Place (alveolar, palatal, velar) revealed that there was a significant interaction (can be seen on Figure 4) of Place and L1 [$F(2, 48) = 4.2107$, $p = .0207$].

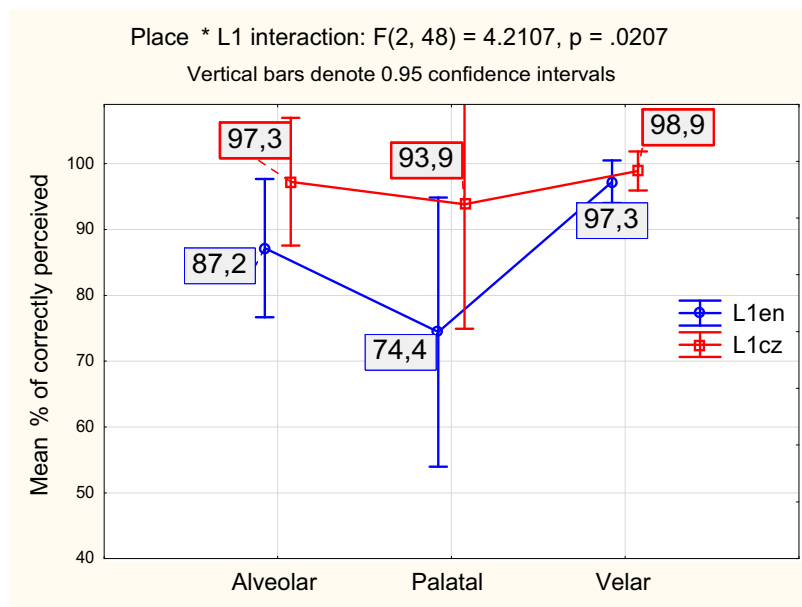


Figure 4:
Mean percentage of correctly perceived alveolar, palatal and velar stimuli followed by a vowel by L1en and L1cz speakers.

Tukey's *post hoc* test revealed that there was a significant difference between L1cz speakers' and L1en speakers' responses to palatal stimuli followed by a vowel and between L1en speakers' responses to palatal and velar stimuli followed by a vowel at $\alpha=0.01$. According to Tukey's *post hoc* test L1en speakers' responses to palatal stimuli did not differ significantly from their responses to alveolar stimuli followed by a vowel.

As I focused in this paper on perception of palatal stops by L1en learners of Czech, the following analysis will consider only palatal stops followed by a vowel.

The data for the L1en learners were submitted to repeated measures ANOVA with within-subject factors Following Vowel (high front, other) and Voice (voiceless, voiced), which revealed that the main effect of Voice was not significant ($p=.1635$). However, the main effect of Following Vowel was found to be significant [$F(1, 11) = 19.775$, $p = .0001$]. The L1en learners of Czech perceived correctly about 65% of palatals followed by high-front vowels and about 84% of palatals followed by other vowels and there was not any significant difference between L1en responses to voiced and voiceless palatal stimuli.

Repeated measures ANOVA with one between-subject factor L1 (Czech, English) and with one within-subject factor Following Vowel (high front, other) revealed no significant interaction of L1 and Following Vowel ($p = .1564$). There was not any significant difference between perception of L1cz and L1en speakers. This means that L1cz speakers had also problems with perception of palatals followed by high-front vowels.

Now I will concentrate on the perception of palatal stops preceded by vowels, as it was accounted for above, only on palatal stops in the word final position. To examine the perception of palatal stops preceded by a vowel, repeated measures ANOVA with between-subject factor L1 (Czech, English) and within-subject factor Place (alveolar, palatal, velar) were carried out which revealed a significant interaction (as can be seen in Figure 5) of Place and L1 [$F(2, 48) = 6.3877, p = .00347$].

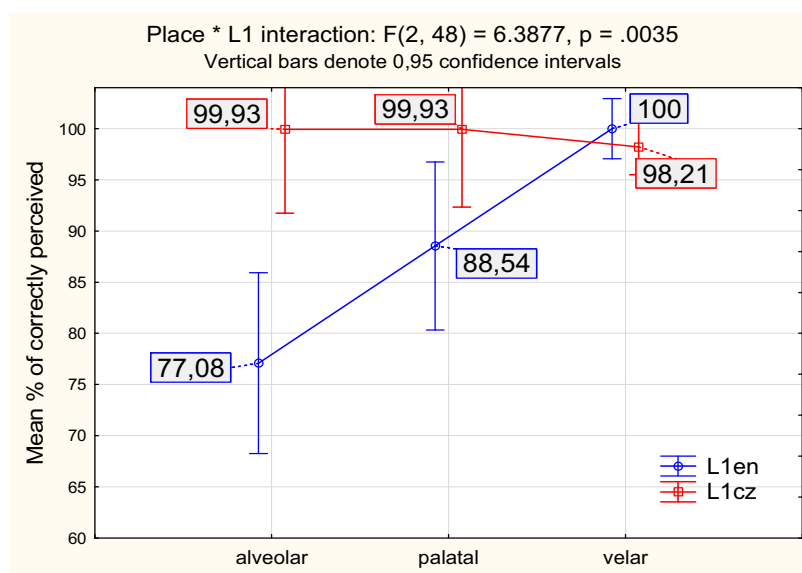


Figure 5:
Mean percentage of correctly perceived final alveolar, palatal and velar stimuli preceded by a vowel by L1en and L1cz speakers.

Tukey's *post hoc* test revealed that there was a significant difference between L1en speakers' and L1cz speakers' responses to alveolar stimuli preceded by a vowel and between L1en speakers' responses to alveolar and velar stimuli preceded by a vowel at $\alpha=0.01$. According to Tukey's *post hoc* test L1en learners' of Czech responses to palatal stimuli preceded by a vowel did not differ significantly from L1cz speakers' and they also did not differ from their responses to alveolar stimuli preceded by a vowel.

Repeated measures ANOVA with one within-subject factor Preceding Vowel (high front, other) indicated that L1en learners of Czech did not have any significant ($p = .6482$) problems with perception of palatal stops preceded by high-front vowels.

Repeated measures ANOVA with between-subject factor L1 (Czech, English) and with within-subject factor Preceding Vowel (high front, other) revealed that there was not any significant ($p = .6151$) interaction of L1 and Preceding Vowel. Neither group of speakers have any problems with the perception of palatal stops preceded by high-front vowels.

5 Conclusions

To summarize the findings of my research: the first hypothesis was not confirmed in its entirety. L1en learners of Czech had more problems than L1cz speakers with perception of palatal stops followed by vowels. However, according to *post hoc* Tukey's test there was

no significant difference between L1en speakers' responses to palatal and alveolar stimuli followed by vowels, there was a difference only between their responses to palatal and velar stimuli followed by a vowel.

Velar stops unlike palatal stops were for L1en learners of Czech an old established category and therefore they did not have problems with their perception. However, the category of palatal stops was probably confused with alveolar stops, therefore there was not a significant difference between their perception.

On the other hand, L1en learners of Czech did not have significant problems with word final palatals preceded by a vowel. Tukey's *post hoc* test revealed that there was not any significant difference between L1en and L1cz speakers' responses to this palatal stimuli preceded by a vowel. As in the case of consonants followed by a vowel, there was no significant difference between L1en speakers' responses to word final palatal and alveolar stimuli preceded by a vowel.

The second hypothesis was also only partly confirmed. L1en learners of Czech did not have problems with the perception of word final palatals preceded by high-front vowels. However, they perceived palatal stops significantly worse in the context of different following vowels. They had problems with the perception of both voiced and voiceless palatals followed by high-front vowels. In spite of the fact that voiceless palatal stops have stronger burst and so the speakers could possibly have less problems with their perception, the difference between the perception of voiceless and voiced palatal stops was not significant.

Results of the perception experiment suggests that the context could be also important for the perception of non-native contrast and that palatals followed by high-front vowels were perceived differently from word final palatals preceded by high-front vowels, they were probably identified by transitions into consonants.

The present paper brings up questions and suggestions for further research. It seems that there is a close link between the ability to perceive and produce non-native contrasts. According to a range of studies, the summary of them is in Llisterra (1995), it is supposed that perception precedes production and that second language learners are able to produce sounds they are able to categorize and distinguish perceptually.

Results of the perception experiment revealed that L1en learners of Czech could have problems with the perception of palatals in the context of high-front vowels. The production of palatal stops by L1en learners of Czech should be examined if they would be able to produce palatal stops and would produce better palatals followed by other vowels than palatals followed by high-front vowels.

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On-line Chatting with People of Public Importance

Kateřina Danielov

The paper deals with the pragmatics of chat communication. The main focus is on the analysis of a sample of chat conversations that took place within the online version of a Czech newspaper Prvo. A referential corpus of chats was obtained from the Czech statutory television broadcast, in particular from the interactive programme series called Hyde Park. Both sources were analysed with respect to features that signify the level of pragmatic norms observation. The gender of the communicants was regarded as an important variable. The main purpose of the research was to state whether communicants tend to ignore pragmatic norms due to the anonymous environment of chat.

Key words: *chat, disinhibition, gender, politeness norms*

1 Introduction

1.1 Objectives

This paper presents the results of a linguistic analysis focussing on the specific shape of communication taking place on chats. Two different sources are to be analysed with respect to the same set of criteria. This will enable me to make a comparison between the communication behaviour with respect to the format of the media. It is interesting to follow the influence of the communication channel on the form and content of the interaction. The (preliminary) comparison will be based on an interaction of one guest who has participated in both formats. I will follow the form as well as the meaning conveyed in the prompts provided for the guest. The differences on the level of the communication format will be accounted for.

1.2 Terminology used throughout the paper

Throughout the paper, the term *prompt* is used for all kinds of communicative forms addressed to the guests and seeking their reaction either phatic or informative. The decision to use a *prompt* instead of a question was motivated by the fact that the communicants do not always stick to seeking information only, but they mention their own attitude and start a brief polemic, they produce more than a question. Moreover some *prompts* are not formally questions or they are not questions at all and still they seek a reaction of the guest.

2 Theoretical background

Language as used in communication is generally regarded as a type of behaviour such that is cooperative. As Grice (1975, 48) states, the speaker and the hearer observe a common goal. It is true that the common goal may be only too general a notion encompassing contradictory goals of each communicant. Both speaker and hearer

assume that the other party behaves in a cooperative way. The principle of cooperation is further described by means of four maxims, quality, quantity, manner and relation (Grice 1975, 47). These maxims may sometimes collide with the principles of pragmatics, such as the principle that advises communicants to be polite and friendly.

Given that cooperation results in effective communication, it is extremely important for the speaker-hearer-relationship that the Rules of Pragmatic Competence (Lakoff 1973, 296) be observed. The speaker is bound to be clear and polite. Being polite means that the speaker should, firstly, refrain from imposing the hearer, secondly, give the hearer an opportunity to choose his own reaction. Thirdly, the speaker should be contributing to a feel-good atmosphere. The first two rules correspond to negative politeness, since they observe the needs of the hearer's negative face. The third rule reflects the needs of the hearer's positive face as defined by Brown and Levinson (1987, 61). Following Goffman's (1967) concept of face, Brown-Levinson state that each communicant as a rational human being has a face to protect and fight for in communication. A face comprises both a positive face, i.e. how a person wishes to be seen and treated, and a negative face, i.e. referring to what a person wishes not to experience (1987, 59). Normally, due to the fact that communication is a form of cooperation, it is useful for the communicants to protect their partners face as well.

I will mainly focus on violations of formal politeness, i.e. using and misusing the formal conventionalized cues of polite behaviour. These cues as presented in table 1 are used to build up the positive face of the communicant. Specific description of each cue will be given bellow (see part 9).

The definition of impoliteness is a tricky task, Culpeper (2011, 23) defines impoliteness as follows:

Impoliteness is a negative attitude towards specific behaviours occurring in specific context...Situating behaviours are viewed negatively, that is considered impolite, when they conflict with what one expects them to be, wants them to be, or thinks they ought to be. Such behaviours have or are presumed to have emotional consequences for at least one participant, they cause or are presumed to cause offense.

Bellow I will explore whether the anonymity of chat communication changes the subjective and interactional importance of the politeness rules.

3 Specific features of chat communication

Differences in communication habits are mostly caused by specific features of the communication channels used when speaking and writing, respectively. The format of a chat has inspired me to explore the communication norms applied for chatting, since this means of contact maintenance often represents a combination of written and spoken features both on the level of form and content. To elaborate on this, it will be necessary to consider the main possible reasons for people using chat as a means of communication. Within this paper, the term *chat* refers to means of communication in a specific environment called rooms and using internet connection. I regard chat a specific instance of synchronous dialogical communication (Jandová 2010, 361). First, the synchrony of the communication is a very important feature with respect to my sample because the time ascribed to the interaction is fixed institutionally, but even for the regular phatic chats it is inevitable for the communicants to be connected to the internet at the same time to be able to produce fluent interaction.

Second, another, nonetheless important, feature of chats is the social symmetry of the communication, or the symmetry of the communicants' position. The symmetry, however, is not a compulsory trait; it is sometimes rather assumed, due to the anonymity of communication which masks the social distance between communicants. Chats can be used for a symmetrical communication; i.e. communication among partners who are equal in their status, they have equal rights and they are equally protected by the communication environment; their real-life social status is usually alike. This is the case of virtual friends using chat to keep in touch, to kill time in virtual social interaction or to establish new anonymous contacts.

Anonymity of communication plays a crucial role in the interaction. Psychologists speak of *disinhibited environment* (Šmahel 2003, 15) which enables people to forget their social anxiety, set themselves free from their physical bodies and in extreme cases create a new virtual identity tailor-made to the communicant's wishes. However, the material analysed for the purpose of the paper is substantially different.

It is commonly stated that chat users are involved in multiple communication at the same time. I regard this as an important feature of chat communication and at the same time as an important proof that regular chat communication is of a phatic nature.

4 Working hypotheses

There were several hypotheses about the shape of chat communication. First of all, people use chat to communicate anonymously and to express ideas that they would not (always) express face-to-face.

Secondly, people ignore politeness cues because they are not identified with their civic selves.

Thirdly, people will try to get personal information about the guests they question. However, some people try to enhance their own self-importance by using personal information and getting rid of the anonymous masque of the chatters.

5 The material analysed

The above mentioned corpora consisted of 50 chat communications that may be further subdivided into two uneven groups. The main group contained 40 chats that took place within the virtual space provided by an online newspaper *Novinky.cz*. The referential corpus consisted of 10 chats that were broadcasted within the format of *Hyde Park*, an interactive program provided by the news station of the Czech statutory television ČT 24.

There were substantial differences between the corpora as far as their form is concerned. The *Novinky.cz* corpus was solely a written source, providing interaction between the guests and the newspaper followers for a specific time during workdays. Only the length of the contact was fixed for an hour. Both the specific day and the time during the day were variables, which may have influenced the load of the *prompts* sent to the guest.

Hyde Park, as already mentioned, is an interactive source offering various ways for its audience to get into contact with the guest. The audience can either use primarily written or primarily spoken channels. Only the formals were paid attention to. The means of written contact included Facebook discussion page, Twitter discussion page,

SMS, email, and a chat room. As for the frequency of usage of individual means it is important to say that Twitter played a minor part probably due to the fact that Facebook, the competing social network, is far more popular. Chat was used quite often, as it is a free internet means of connection and it offers a chance to create a situation-specific nickname. This might have motivated some communicants to prefer chat to Facebook. The SMS *prompts* are as usually paid for and; in addition to this disadvantage, the extent of the *prompt* is very limited.

The spoken means of contact establishment included Skype video telephone and telephone. I have excluded these from the analysis because the condition of at least half anonymity of the communicants is not fulfilled. These means establish both visual and aural contact for communicants using Skype with a web camera and at least aural contact for those using a telephone. Aural contact reveals a lot about the communicant's gender, age and current state of mind which gives the guest a relevant set of information to adjust his or her reaction to. Another reason for excluding the fully spoken *prompts* is their clearly spoken mode as such because no clash of communication mode and content is present in the spoken *prompts*. Creating both corpora, I have exploited archival instances of the chats that were first published in 2010. I have selected this year because an important format change took place in Hyde Park, the audience was first given an opportunity to vote for questions they liked or were interested in hearing the answers to. I decided to involve this factor in the analysis to determine whether the notion of being monitored and assessed influences the degree of politeness applied by the speakers towards the guests as well as the other way round.

Let us start with the larger and more salient corpus, *Novinky.cz*. The corpus represented a one-year production. In the case of Hyde Park I have decided to choose individual instances by the guests, paying attention to the ratio of men and women which had to be in relative correspondence. In exact numbers the ratio of women to men was stated by the *Novinky.cz* corpus to be 1:4. The correspondence of gender ratio is important from the viewpoint of the gender-bound research question.

The most important feature differentiating the material from chats in the traditional sense was the partial violation of the anonymity condition. The fact that the guests were so called VIP made an important pragmatic difference. As a result there were two main interactional limitations. First, the temporal dimension of communication was not random, on the contrary, the time of contact was appointed as well as its duration which was limited to an hour for *Novinky.cz* and to on average 50 minutes for *Hyde Park*.

Second, the fact that the guest was a generally known person imposes some limits to interactional norms.

6 Pragmatic characteristics of the material analysed

The communication distance is maintained at least as far as addressing is concerned; in most cases the guest is addressed with 2nd person plural i.e. the polite form.

There are cases on both parts when the communicants care to express special reverence to their communication partner. Sometimes this is helped by the communication environment as for example in the case of a female politician who uses introductory greetings and parting greetings for every single prompt she reacts to.

On the part of the prompt providers, there are some cases when the anonymous communicants get rid of their anonymity and sign their prompts. There are several levels of signatures, first name signature (*Jiří; Alena, Šárka*); surname signature (*O. Kovařík, J.*

Čadová) and full name signature (*Jan Klásek, Radim Novák, Radek Složil, Martin Chvátal*). First name signature may co-occur with localization, (*Lubomír P., Orlová Lutyně.*) or the communicant may wish to sign his/her contribution e. g. *čtenář z Brna* 'a reader from Brno.' This may follow the tradition of *Readers Letters* in printed magazines and newspapers which were usually published under this type of a (semi-anonymous) signature.

From the viewpoint of the communication content it may be the case especially for the politicians who are ascribed general responsibility for the political and economical development of the state, that the content of the chat may easily be foreseen and that it will reflect current issues. For the other two groups of guests, the experts in some field of science and the celebrities proper, it holds true that the topics are to some extent predictable but the proportion of topical issues depends on individual combinations of communicants.

The fact that chat is used as a means of phatic communication enlarges the distance between chatting and a standardised debate. Nevertheless, the communicants usually come up with real questions and demand real answers. There are of course exceptions to this rule: in several minor cases the prompts had an only one purpose, to express support either directly or indirectly. Example (1) not only expresses thanks and thus support, but also uses several grammatical means showing reverence for the guest.

- (1) *Dobrý den pane Sokole, chci Vám poděkovat za Vaši profesionální práci, která pomůže v nekonečném boji této republice. S pozdravem Policista, který byl v Janově 17. 11. 2008*

Good day Mr.-VOC.SG.MASC. Sokol-VOC.SG. MASC. I want to thank you-POLITE.DAT. behind your professional work which will help in the never ending fight to this republic. With greeting A policeman who was in Janov on November 17 2008

'Good morning, Mr. Sokol, I want to thank you for your professional work which will help this republic in the never ending fight. With best regards, a policeman who was in Janov on November 17 2008.'

Positive face can also be supported indirectly. In the following example the appreciation is implicated by a concern for the guest's health and good mood; such as in:

- (2) *Jen Vám chci popřát hodně zdraví a hezký den!!! (martin.kentaur)*

Only you-POLITE.DAT want wish a.lot.of health and nice day!!!

'I only want to wish you good health and a nice day!!!'

It would not be easy to post such contributions at Hyde Park because the program is bound to support content-based discussion and as a result all contributions must be topic relevant. This is why the personal experience of the prompt providers is often mentioned as a reason to ask the question that follows. (*Mám zkušenost s postiženým dítětem a může se to lehce stát.* 'I have my own experience with a handicapped child, this can happen easily.')

The purpose of such questions is to verify the ideas of the person who provides the prompt.

- (3) *Nebojíte se,* *žě se na vás*
 Be.afraid-NEG.2.POLITE.PRES. that on you-POLITE.ACC
Natálka moc fixuje a pak vy budete jejím otrokem?
 Natalka much fixes and you-NOM.POLITE will.be her slave.
 ‘Aren’t you afraid, that Natalka will get too fixed on you and you will become her slave?’

Strictly speaking, such a prompt does not give the guest the freedom of choice because it presumes that there is a reason to be afraid, but the prompt uses several politeness cues. It is justifiable to conclude that its purpose was to express concern about the future of a little child, rather than provoke fear in Natalia’s mother.

With respect to the environment that should be *disinhibited*, it is surprising that there were only a few purely rude contributions. This may be caused by the activity of the chat moderators as well as by the fact that the media are made responsible for any violations of the law.

7 Pragmatic features of the contact

There is no (direct) aural and/or visual contact between the communicants, they are not physically present. The absence of physical contact and the impossibility to use the (primary) auditory signal makes it necessary to substitute a set of visual cues such as using capital letters for emphasis or even shouting.

- (4) *PANE PAROUBEK TAK CO UDELATE*
 Mister-VOC.SG Paroubek-NOM.SG so what you do-2.POLITE.FUT
PRO PODNIKATELE (marzipo)
 for businessmen?
 ‘So what are you going to do for businessmen, Mr. Paroubek?’

The combination of vocative and nominative forms in the address formula usually shows lack of respect. The word *tak* (so) is a redundant particle which signifies lessened distance between the speakers. It sounds disrespectful, when used to address a stranger.

A more natural (emotionally neutral) emphasis is substituted by capital letters:

- (5) *Kdy začnete splácet dluh Č.R.? (DLUH, nikoliv úroky dluhu)*
 ‘When are you going to pay off the debt of the Czech Republic? (the DEBT not interests of the debt)’

The capital letters convention does not apply for Hyde Park because all prompts are written in capitals for the sake of their legibility.

Emotions are typically expressed by means of partly conventionalized icons also known as emoticons. The basic emotion symbols for happiness and sadness are generally known and are used conventionally across ages and social groups. This can be proved by the fact that some of the users of *Novinky.cz* chat have openly admitted that they are retired, or at least older than in their teens and twenties. Despite this, emoticons are used and interpreted by both the anonymous users and the guests without any inconvenience. In case emoticons are used by the guests, they signify lessened social distance or an intention to make ones words sound less serious. This is a classical example of a situation

when the guests invited to answer questions step out of their conventionalized role ascribed to them by their social status. The politicians may choose to use emotionally coloured language to indicate that they are aware of the seriousness of the situation discussed. In contrast with politically correct language that is expected, the guests may choose a remarkably colloquial language, to express that their disagreement with the current situation is as real as the disagreement expressed by the prompt provider.

The spontaneity of communication ensures an uncontrolled source of opinions that are presented to the guest in an unamended form. This is true for both analysed sources. However, there is an important difference in the extent of grammatical aid needed for successful interpretation of the prompts of *Hyde Park* in comparison with *Novinky.cz*. The difference may be caused by various factors mostly external to the language system. First, it is a question of the speed of communication which prevents people from proofreading their prompts. Second, the space for a prompt is limited for *Hyde Park* to 230 characters, this seems to force communicants to use condensed structures which are more difficult to correct. Some influence may even be ascribed to the fact that there is a moderator in the studio.¹ An illustrative example of how communication speed clashes with the logical structure of the message, as we would expect it on the basis of extra linguistic knowledge:

- (6) *Pomohlo by odebrání příspěvků rodičům,*
 Help-3.PRES.NEUTR.COND. confiscation of allowances parents-DAT.PL
kteřé nepošílají děti do školy?
 who-ACC.PL. send-NEG.3.PL.PRES. children-NOM.PL. to school.
 ‘Would it help if social allowances were confiscated to parents whom the children do not send to school?’

Concerning social norms in the broadest sense, it is necessary to keep in mind the following. The use of vulgarisms is prohibited and the communicants are not allowed to violate the democratic principles of our society, that is to express open support to extremism, to use generalizations expressing depreciation of a group of fellow citizens. There is an example of brief rules posted on the Facebook page of *Hyde Park*:

Vulgar contributions as well as, flaming, spam and off- topic contributions will be erased. They do not respect the terms and conditions that are obligatory for registered users of the services provided by Facebook.com., accepted by all users prior to registration. We care for a critical yet correct debate. Thank you for your kind understanding. (<http://www.facebook.com/hydeparkct24>)

Psychologists argue that the way we communicate changes depending on the environment we are in. It is also true, that people tend to regard the internet as an environment more anonymous than it really is (Šmahel 2003, 18.)

¹ One of the functions of a moderator in any programme is to maintain interaction between communication partners.

of these phases. I have monitored features of two basic levels of importance, on both levels the features differ with respect to their being compulsory from the pragmatic viewpoint. These features include: greetings, addresses to the guest, giving thanks for an answer, parting formulas. All these can be and often are considered a part of pragmatics, but my point here is that except for giving thanks for an answer which is a feature on the edge of dialogue construction and pragmatics, all the remaining three are vital for the dialogue construction. A greeting establishes contact between the speaker and the addressee, an address itself helps to establish mutual relation of the communicants. It may remind the addressee of his social role and position. This is the intrinsic purpose of an institutional address (Nekula 2010: 241). Giving thanks for an answer may be a signal that the message emitted has reached the addressee in full, as it usually occurs on the very end of a message.

Pragmatically bound features that seem to reflect politeness maxims include the following two features, i) expressing support or a distanced attitude to the guest and ii) using a signature. On both levels some interesting deviations were found to be addressed later. It must be mentioned that the two layers of features are not regarded as equally compulsory; this is especially true of expressing support or the maxim of acceptance. Although support constitutes a crucial part of positive face building and it certainly helps to establish a friendly, feel-good atmosphere.

The features found in individual prompts were monitored with respect to the indicated gender of the person who provided the prompt. Greetings as basic instances not only of politeness, but also of contact maintenance and establishment are interesting from the point of view that they often show a property of chat bordering with spoken discourse. This is the case of performative greetings. In Czech it is possible to use a performative verb (a verb dicendi) instead of a conventional greeting formula typically chosen according to the specific time of the day. It can be said that this is a spoken feature square because we do not normally use greetings in official written communication. Instead, we use addresses alone. In both corpora more than 50 performative verbs *zdravím* 'I greet (you)' were attested.

It may be a feature attesting a social distance that many of those prompts which use greetings within Hyde Park (broadcasted live in the evening), use the formula 'good evening' (*dobrý večer*) even in case the prompts come from informal sources such as SMS or social networks. In colloquial spoken Czech a universal greeting formula used between strangers would be the less specific *dobrý den* ('good day'). By admitting that the communication takes place in the evening the communicants may wish to implicate that it is appreciable that this part of the day was dedicated to the conversation.

It is also important to notice that sometimes politeness clashes with language competence of the prompt provider. This is the case of forms used to address people. Apart from statutory address which can be used in contact with persons of public role, such as *pane ministrě; paní místopředsedkyně* ('mister minister; missis vice-chair') Czech also has means of addressing people by their proper names, preferably by surnames in cases analogical to ours when the communicants do not know each other in person. For this type of addressing vocative form is prescribed as unmarked polite means; for example:

- (8) *pane* *Paroubku*
 Pan-VOC.SG.MASC *Paroubek*-VOC.SG.MASC
 'Mr. Paroubek'

However, there is a growing tendency to replace this form by its incongruent counterpart (see example 4.)

Nominative is, in such contexts, generally considered a lower standard or an impolite, careless means. Its high occurrence may be explained by the fact that some proper names contain consonant clusters that make users dubious about appropriate endings for the prescribed vocative case; they may wish to substitute nominative form where no ending is required.

There is yet another issue to be discussed in connection with addressing the difference between 2nd person singular and plural. Singular is expected for situations when the distance between the communicants is comparatively smaller. The distance can be determined by the length of acquaintance or it can be diminished artificially by the notion of small age gaps, this may be the reason why some communicants tend to get on first name terms with guests who are of similar age or perhaps perceived as young for the role they play in politics. The second mentioned option may be illustrated by an interaction with Kristýna Kočí (in her 30s) a program manager of a new born political party. Her youth is explicitly mentioned in the prompt an excerpt of which is presented under (9).

- (9) *zdravím* *vás* *Kristýnko,*
 Greet-1.SG.PRES. You-ACC.POLITE. Christine-VOC.DIM
můžete *mě říct, co vás*
 can-2.POLITE.PRES. I.DAT tell what you-ACC.POLITE
přivedlo *do politiky? (J.u.r.i.n.a.c)*
 lead-3.PAST to politics?
 ‘My greetings to you Kristýnka, can you tell me what brought you into politics?’

10 Politeness cues

The analysis focused on the conventionalized cues of politeness used in dialogical interaction. I decided to include the conventionalized cues because they are easy to follow and interpret within written versions of a dialogue. This gives the speaker the opportunity to be successfully impolite whenever any of the following cues is omitted in face-to face communication. However, none of the guests refuses to engage in communication or applies any sanctions on the grounds that politeness cues were not used.

There are of course other means of impoliteness, for instance irony, but since the interpretation of irony depends on intonation, the meaning can easily be lost in indirect contact either written as it is the case for *Novinky.cz* or in case the contact is reconstructed by some other speaker such as the moderator in *Hyde Park*.

The three politeness cues analysed here work within the frame of positive face. This is especially true of greetings, expressing reverence in case they combine with polite plural forms. Where more informal greetings are used, usually in dialogues of teenagers, the form suggest friendliness, acceptance within the group as well as the wish of the greeting communicant to belong to the group of young VIP.

Addresses are generally used to attract the attention of a person we wish to speak to. From this point of view an address is to a certain extent redundant in contexts where the VIP addressee assumes that s/he is the one to answer all prompts. On the other hand, a greeting reveals important information about the social distance of the

communicants. It can also reveal to what extent the person addressed is revered with respect to his/her social position. As some of the examples show some morphologically deviant forms may be interpreted as either depreciative or over-polite.

Expressing thanks is the most complex of the politeness cues listed here. Brown and Levinson say that by expressing thanks the speaker posts himself into the position of someone who is indebted. S/he also slightly imposes the partner to fulfil the speaker's wish and to do what is asked. However, in the examples analysed the thanks were in a way expressed ex-post. There were generally two types of context where thanks were used.

- i) Conventional thanks for answering a prompt: this instance of giving thanks was deprived of its imposing power by the fact that it never was the speaker who was responsible for the fact that a VIP guest participated in a chat. The guest was invited by an institution to take part in an activity that had a purpose and by accepting the invitation he accepted the purpose of the activity as well as the consequences of the purpose,
- ii) ex-post thanks were used to express appreciation of previous behaviour of the VIP guest. Given that the praised behaviour was usually connected with the profession of the guest, it was partly independent of his/ her free will as it became a part of a professional duty. Moreover, the thanks expressed were made anonymous due to the medium of communication and it can thus be perceived to be somewhat less indebteding.

From the viewpoint of the VIP the thanks may impose him or her to sustain the behaviour praised and may thus be threatening their negative face.

Cue	Hyde Park	VIP chat
Greeting	643	24
Address	321	8
Thanks	295	9
Replicas total	1148	121

Table 1: Total number of politeness cues

As for politeness cues in combination: the survey listed only instances that occurred at least 15 times in the corpus. Combinations that were not salient enough to get listed, but which at the same time occurred at least three times in the corpora included in relative order: address+ support, address + leaving , leaving formula + support + thanks , greeting+support+ leaving formula, thanks + leaving formula.”

Cues combination	Absolute frequency
Greeting; thanks	132
Greeting; address; thanks	71
Greeting; support	35
Greeting; support; thanks	32
Greeting; address; support	28
Address; thanks	19

Table 2: Politeness cues in combination

11 Gender clues in the language system

Gender is a systematic category in Czech and it may to some extent be considered a language universal. In languages that use gender, it signifies the classification of the animate referents as man, woman or immature creature. In Czech as used in communication, the gender manifests obligatorily on verbs expressing the participants of communication or objects of reference. For the grammatical system of Czech it is true that masculine gender is grammatically unmarked, although it could be marked pragmatically due to extra linguistic knowledge shared by the communicants. Based on the assumption that masculine is an unmarked gender, some guests dare to assume that those of the prompt providers whose nickname is underspecified with respect to gender are men. The guests themselves were (incidentally) men. Some guests, however, have preferred signalling their uncertainty and observe the pragmatics rather than the grammar.

It is important to note that only language bound markers of the gender were taken into account. This was possible due to the fact that Czech is an inflectional language and it provides various morphological markers for the speakers' gender.

The nicknames used by individual users of chat were at this point excluded from gender-oriented analysis, as they can for the first thing be chosen at random, for another thing their morphological motivation may not be clear, or the nicknames may even be borrowed or stolen from their real owners.

Gender cues were obtained from Czech morphology of autonomous parts of speech, mainly of verbs, nouns and to some extent of adjectives. For nouns it was crucial that there are pairs of lexemes in Czech that specify the gender of their referent. There are many binary oppositions such as:

- (10) a. *Mám* *manžela.*
I have-1.SG.PRES. husband-ACC.SG.MASC.
'I have a husband.'

- b. *Mám manželku.*
 I have-1.SG.PRES. wife-ACC.SG.FEM.
 ‘I have a wife.’

Moreover, some nouns typically connote a specific gender, the semantic relation is usually based extra linguistically, and such set of nouns was attested in the chat with a gynaecologist.

In the case of adjectives, syntax had to help us figure the information out, as gender is manifested through agreement, being visible from the contrast of a zero ending(0) for masculine versus positive ending for feminine (and neuter gender).

- (11) a. *váš volič*
 Your-NOM.SG.MASC.POSS.POLITE supporter-NOM.MASC.
 ‘a supporter of yours’
- b. *Vaše fanynka*
 Your-NOM.SG.FEM.POSS.POLITE fan-NOM.FEM.
 ‘a fan of yours’

The predicate as a representative of verbal morphology also manifests agreement with its subject; this unfortunately does not always signify a cue to gender. Gender can only be stated in past tense forms and/or conditional forms, in copular predicates with adjective or a predicative component. A predicative is a special subclass of adjectives that can no longer express adjectival meaning as an attribute. The most commonly used form of a predicative is *rád/ráda* (‘like’) (cf. Komárek 2006, 46-52).

There is yet another obstacle concerning the usage of verbal morphology as gender determiner. The obstacle is rooted in the pronominalization of the subject which has a reference to the speaker. Indexing the speaker by *já / I* deprives us of the opportunity to determine the gender. This is caused by the above mentioned index nature of *já*. The trap lies in the fact that *já* is often not articulated for modesty reasons; (cf. Leech maxims 1983) *Já/I* is thus moved to the position of a semantic participant expressing “with respect to somebody”. It is normal that people say (literally): ‘With respect to me, it would be interesting whether...’ *Zajímalo by mě, zda ...* There is a formal correspondence between *to me.Acc* and *mě.Acc* which requires that in Czech the verb takes the form of 3rd person singular real conditional (ending in *-lo*). Thus the verb manifests agreement with a formal expletive subject that does not show any gender characteristics.

All this and the fact that communicants do not overuse introductory signals of a coming question, can be regarded a reason why I have found less gender specified material than expected. To present some statistical data, there were 290 gender specified stimuli, out of which 86 were female users. However, due to the limitations mentioned above, gender was determined only in about 25% of the replicas.

12 The nicknames

There were three basic types of nicknames attested in both corpora.

Nickname type	Hyde Park	Novinky.cz	Example
Surname revealing	60	430	liborlor;popelkova.eliska;zdenek.novotny15
Anonymous	20	409	7rd; kuky; tajnyagentkgb
Using surname or name	31	307	cic-jita; podzimj

Table 3: Types of nicknames

Nicknames falling into the anonymous class may have no obvious meaning *7rd* or may have a meaning that is pragmatically decoded as impossible for a personal name such as a general label *tajnyagentkgb* (a secret agent of the Soviet communist intelligence service), which is for the first thing too general to be a proper name. Second, such a “name” is also anchored in pragmatics; i.e. this function is usually disapproved by the society. The third example *kuky* may be an accidental nickname, an original hypocoristic, or an allusion to a recent Czech cultural context, given that *Kuky* refers to a teddy-bear character of a modern children’s film by Jan Svěrák.

The difference between the other two groups lies in the fact that the revealing nicknames were always used with an anonymous prompt, unlike the ones using a name or a surname which were at least once used accompanied by the signature.

Nicknames as a class represent an integral part of many modes of colloquial, especially spoken, communication. Throughout the interaction some nicknames arose to signify how other communicants see the special individual properties of a person who has earned a nickname. The fact that nicknames were ascribed to the people wearing them is an important difference in comparison with how nicknames arise in chat. Real-life nicknames are motivated from outside, they are decided about by perceivers of the person being nicknamed, as a result these nicknames resemble the person they signify at least to a certain extent and at least to certain group of communicants. On the other hand, nicknames used on chat represent an internal self-image of the speaker. Other communicants usually do not know how the nickname was born or what specific property, personality trait or feature it refers to. As a result the nicknames in a traditional sense may signify an outstandingly bad or an outstandingly good feature related to their bearer. Chat nicknames scarcely signify a bad trait of their user, but they may refer to a specific attitude to cultural issues or to some features that constitute the social identity of the group the communicants belong to.

We are getting to the fact that nicknames used on chat usually help build up anonymity of the speaker. This is regarded as the main purpose of a nickname used on the internet; however with adult users of this alternative means of communication the situation proved to be somewhat different. The difference may be caused by two competing factors of variable importance. First, the adult users do not need to experiment with their identities and explore themselves in a way people in their teens and early twenties often do. Second, the people providing prompts may be partly aware of the fact that they communicate with a VIP and as a result they may wish to make an

impression of a reliable communication partner, whose prompts are of importance and who deserves a serious answer or reaction. Surprisingly, many people have used nicknames based on their civic identity. Or to put it the other way round, a surprisingly small group of people has made use of the opportunity to stay anonymous. An even smaller group of people has played with the opportunity to become an anonymous communicant. They usually showed their anonymity awareness by using a special nickname such as *prostemejl* ('justanemail'); *user 021*; *mp2*.

There was a noticeable difference with regard to the internal salience of anonymity for the users with respect to their assumed age group. It is true that we do not have exact data about the age of individual communicants; however, we can make several psychologically anchored assumptions. First, the communicants usually ask question concerning issues that are relevant for them personally. Second, if the VIP guest is extremely young or much younger than the average for the sample analyzed, s/he attracts attention of communicants similar in age. Young communicants confirm the definition of chat as more or less phatic communication. They seek contact rather than information. However, they do not hesitate to express strong disagreement with the doings of the guest. They are the only communicants to seriously violate the language taboo prohibition as an instance of politeness norms. This proves that on chat it is easy to lose control and at the same time that it is not perceived necessary to provide rational arguments for one's opinions. The disagreement, the sole purpose of a prompt, is expressed by a very vulgar remark: *Stydte se vy píce*. ('Feel ashamed, you bastards'). It is important to note that there is a vital correlation between the guests' youth and their falling into the group of proper celebrities, i.e. people made famous by their artistic careers. However and interestingly enough, the importance of lower age applies even to politicians who are somehow less revered than their older colleagues. Communicants show less respect to young women in politics; this is proved by the fact that socially-distanced means of address are not used; instead the guest is addressed with 2nd person singular and her first name diminutive. This sounds patronizing which contrasts with the notion that politicians are to be revered persons.

13 Interaction and the media used

The purpose of this section is to exemplify the difference in interaction depending (leaving aside other possible influences) on the media used. First, there is an indisputable influence of the variety of the means of establishing communication contact. It was impossible to state what motivates the audience to use the means they use, but it is true, that in some relations the written contributions were overwhelmed by the spoken ones. This is the case of the pair presented here. The communication will be presented in a form of a set of schemes. Unless obvious, the individual parts of a scheme will be glossed with respect to the pragmatic function and pragmatic meaning they convey.

- (12) Hyde Park with Jana Bobošíková a female-leader of a small liberal political party²
 - a. Greeting; address, Y/ N question seeking permission to use the address. Explicit reason is mentioned for stating the question. The reason based

² For the sake of brevity only generalized models of prompts are used as examples (12) and (13).

on previous statement of the guest on this issue. An emoticon signalling the question is not really meant (.-)) is used in the end of the prompt.

- b. Greeting, quotation to introduce a question, an Y/N question form is used instead of a wh-question. The Y/ N question suggests a tighter spectrum of possible answers. An unfinished speculative question in negative form is used.
 - c. Address, statement of past doings of the guest as a basis for an alternative question.
 - d. Wh- question with no punctuation signals seeking a personal opinion and at the same time providing an opinion of the prompt provider. A series of five statements describing the situation and expressing a negative view of it follows.
 - e. Address, Y/N question seeking a personal opinion.
 - f. Statement presented as a quote of a crucial document, statement expressing objective impossibility to fulfil what the document promises, alternatively hedged wh-question offering an improbable possibility.
 - g. Address, wh-question expressing a proposal of an action leading to a change of the present state to its contrary.
 - h. Greeting, time specified, polite introduction to a question, wh-question, statement, a request to use specific examples as evidence.
 - i. Greeting, introductory part, two interrelated wh-questions, thanks.
 - j. Address, wh-question concerning two different issues; the difference signaled by numbering them.
- (13) Novinky.cz with Jana Bobošíková
- a. Wh- question, epistemic statement relativized by a hearsay put in contrast to a competing hearsay statement. Y/ N question demanding confirmation of the changed attitude.
 - b. Address, speculative irrealis, thanks, leaving signature revealing identity.
 - c. Performative greeting, expressing personal preferences, expressing assumptions about the future and at the same time supporting the personal preferences, asking for the confirmation of the high probability of the mentioned preferences fulfilment, thanks.
 - d. Greeting, address, wh-question, wh-question logically bound to wh-question one; consequence of the first question, personal support based on personal preferences, first name signature in official form in contrast with hypocoristic form in the nick.
 - e. Greeting, speculative, speculative bound wh-question, thanks.
 - f. Greeting, introduction of a question giving specific information. Wh-question, thanks, signature.
 - g. Greeting, address, statement of personal opinion somewhat negative personally explained and developed by inferred expected behaviour of a politician, personal opinion supported by a general negative statement expressing impossibility to succeed using the above mentioned strategy. As a consequence a demand is verbalised trying to get a specific opinion, thanks, leaving formula.
 - h. Greeting, wh-question based on the change of a situation.

- i. Greeting, introductory section prior to alternative Y/N question, expressing personal preference concerning the matter in question, giving support, thanks.
- j. Address probably meant ironically as over-politeness, statement as a context for a wh-question, assumed answer for the question stated, thanks.
- k. Greeting, introduction to a question, two interrelated wh-questions, a general question is followed by a specialised one, full signature.
 - l. Wh-question seeking personal opinion.
- m. Wh-questions seeking an opinion, thanks, signature.
- n. Greeting, statement describing past doings of the communicant and a change of his attitude accompanied by a reason of this change, stating results of this change and future actions as results square (results of the results), negative question seeking the guest's opinion on the described past doings of the mother organization in the view of the previously mentioned effects on the electorate.
- o. Greeting, negative question, a proposal, reason for stating the question based on personal view of reality, leaving formula, signature may serve in this context as a signal of a borrowed nick.
- p. Y/N question.
- q. Address, negative question presuming an answer, the question is internally argued for, following an openly interpretative negative question seeking a guest's opinion concerning the reaction of the electorate.
- r. Greeting, preconditioned wh-question.
- s. Y/N question seeking a personal opinion.
- t. Alternative question about future intentions.
- u. Address, support, introduction to the question, wh-question, an example of the matter at the heart of the wh-question, thanks, first name signature.

14 Conclusions

Due to the fact that the position of communicants is rather asymmetrical, we observe some specific features of the analysed chats, they are rather informative in comparison with time killing chats of purely phatic functions. In a broader sense, it may be said that this subtype of chat shares some content features with discussion group format. However, the users can only estimate the topics discussed on the basis of extra-linguistic knowledge. The choice of topics reflects current issues, thus they cannot be stated beforehand. The set of communicants who provide their prompts for one VIP guest is too heterogeneous for a discussion group to be established. The degree of formal relations between the communicants also varies on the basis of their mutual social position rather than as a result of a set of rules. The guests try to support their image of a public person, especially if they are older and belong to some influential class of people (for instance, the politicians stick to their role answering questions, they do not express personal opinion, instead they support the institutional opinion of their mother organization)³. The official position of the VIP guest is sometimes ridiculed, see the irony

³ See Svobodová (2011) for details.

in (12f), (13g), (13j). It is also important for the VIP, especially politicians, who rely on their public image, to build their careers, to care for the positive face of their audience. I assume that, for example, a signature and a greeting used in the end of every single response may be a substantial help in this task. The addressees would feel valued by a person of a higher social status.

As far as the media is concerned, the quicker the communication is, the more omitted the language gets and the more serious obstacles arise to mutual understanding. The speed of communication counteracts most tendencies of the speakers to take formulation time using introductory signals for a coming question. Consequently, the informativity is to a certain extent lessened, some time and space are “wasted”. On the other hand, with some people for whom the speed of interaction proves extremely important the logic of language that reflects the real world situations is not observed. Consequently, some of the prompts do not make sense, i.e. do not reflect the reality; some show that the rules of basic grammar get sacrificed to the speed of communication.

As for the gender indices, though in spoken discourse it is mainly at the opening point of communication that gender specific language cues get involved, in chat communication the gender tends to stay hidden because some of the prompts take a form which does not manifest it. The grammatical gender being neutral, the statement gets objectivised. It may not be a merely coincidence that these objectivised introductions to a prompt are usually expressed by verbs of intellectual value (*to interest sb*), on the other hand, introductions that show gender of their authors also show emotional involvement (*like, love, want to know*). As a result there are quite few gender specific replicas to draw general conclusions. It is true that both men and women ignore politeness cues. However, it is not always the case that an omission has a relevant value as information.

It is even the case that communicants participating in *Hyde Park* did not significantly change their habits concerning the usage of politeness cues after the Facebook fans were allowed to vote for prompts to be answered by the VIP.

From the viewpoint of the interaction the chats are specified with respect to turn taking. The prompt providers cannot be sure that they will be given more than one chance to participate in the communication. As a consequence the communicants tend to express multiple prompts. The turn taking mechanism also influences the shape of a debate, as the prompt providers do not wait for the guests expressing their opinion, instead they say as much to the matter discussed as possible, giving the guests important cues which can help them shape the reactions to suit the prompt providers, and consequently build up an appropriate image.

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Reported Speech and Reportative Grammaticalization in Besleney Kabardian*

Ksenia Ershova

This paper focuses on reported speech in the Besleney dialect of the Kabardian language. The main reported speech strategies are given. I discuss the issue of referential ambiguity in such constructions and reach the conclusion that there is no deictic shift at hand; rather, there are two strategies that display ambiguity in certain contexts. A part of the paper is devoted to a partially grammaticalized converb used mainly for introducing reported speech. I come to the conclusion that this converb combines traits of both a fully-fledged word and a grammaticalized conjunction, thus posing a problem for the theory of grammaticalization as described by Lehmann (1995), according to whom the parameters of grammaticalization are expected to correlate.

Keywords: *Kabardian, reported speech, grammaticalization*

0 Introduction

Reported speech has been a topic of interest for many researchers of linguistics and philosophy in the past years. The opposition of the actual and reported speech acts, the differences between direct and indirect speech, strategies that are intermediate between direct and indirect speech, the phenomenon of so-called “indexical monsters” have been subjects of both theoretical and typological work (Coulmas 1986a; Toldova 1999; Güldeman and von Roncador 2002; Schlenker 2003).

To understand the nature of reported speech it is important to distinguish the actual and reported speech acts, and correspondingly the actual and reported speaker and hearer (Li 1986, 38-39).

(1) Joshua said to me: “I have a headache.”

In (1) Joshua is the reported speaker, and I am the reported hearer and also the actual speaker.

* The data was collected during RSUH linguistic expeditions in the summers of 2011 and 2012 to the village Ulyap (Krasnogvardeysky District, Republic of Adygea). This work has been financially supported by the Foundation for Fundamental Linguistic Research, grant No. A-23, and the Russian Foundation for the Humanities, grant No. 12-34-01345. The author is grateful to all participants of the expeditions to Adygea, in particular Yury Lander and Peter Arkadiev, to the speakers of Kabardian for their help, and to Barbara Partee for discussion and useful remarks.

Abbreviations: A – agent; ABS – absolutive; ADD – additive; ADV – adverbial; BEN – benefactive; CAUS – causative; CIT – citative; COND – conditional; DAT – dative; DEM – demonstrative; DIR – directive; ERG – ergative; F – feminine; FCT – factive; FUT – future tense; IMPV – imperative; INS – instrumental; IO – indirect object; IPF –imperfective; LNK – linker; LOC – locative preverb; MAL – malefactive; MNR – manner; MSD – masdar; NEG – negation; OBL – oblique case; PL – plural; POSS –possessive; PR – possessor; PRS – present tense; PST – past tense; RE – reffective; REL – relativizer; SG – singular; TAG – tag question marker; VOC - vocative.

This work focuses on the strategies of conveying reported speech in the Besleney dialect of the Kabardian language (Circassian < Northwest Caucasian), and a phenomenon which is closely connected to this topic – a partially grammaticalized converb used mainly for introducing reported speech. Kabardian is a polysynthetic language with verbal and nominal indexing, ergative alignment and generally SOV word order (Bagov et al. 1970; Kumakhov and Vamling 2009). The data for this research were obtained mainly through elicitation. The paper contains occasional examples from spoken texts, since the studied constructions are relatively common in the spoken language.

0.1 Direct vs. indirect speech

The distinction between direct and indirect speech has been discussed for many years. Direct speech (or *mention* in formal semantics (Kaplan 1989)) presents the speech act through the reported speaker’s viewpoint; all features of the original utterance, such as expressive interjections, exclamations etc., are retained (2a). By contrast, in indirect speech the original speech act is reinterpreted by the actual speaker, and is thus replaced by a paraphrase (2b) (Partee 1973, 410-411; Toldova 1999):

- (2) a. Joshua said: “Gee-whiz, what a headache I have!”
 b. Joshua said that he had a headache.

There are several major distinctions between direct and indirect speech (Coulmas 1986b; Li 1986; Toldova 1999):

- 1) direct speech is quotation with the preservation of all original expressiveness (2a), indirect speech is paraphrase (2b);
- 2) the form of the predicate: subordinate form in indirect speech vs. independent form in direct speech (cf. temporal agreement in English indirect speech (3b) versus absence of it in direct speech (3a));
- 3) expressing coreference with the speaker of the reported speech act: deictic pronouns in direct speech (2a) vs. anaphoric or logophoric pronouns in indirect speech (2b);
- 4) the presence of a reportative marker or subordinate conjunction (*that* in English (2b)) in indirect speech vs. absence of such markers in direct speech;
- 5) temporal and spatial reference to the context of the reported speech act is deictic in direct speech (e.g. words like *here* and *now*) vs. anaphoric in indirect speech (e.g. *there* and *then*);
- 6) the possibility of using such categories as vocatives, imperatives, interrogative and exclamative constructions in direct speech (cf. preservation of interrogative inversion in English direct speech (4a) and absence of it in indirect speech (4b); the exclamative construction in (2a) and the absence of it in (2b)).

- (3) a. He said: “I don’t want any broccoli.”
 b. He said that he didn’t want any broccoli.
 (4) a. He asked: “Where do you think you’re going?”
 b. He asked me where I thought I was going.

The opposition between direct and indirect speech isn't apparent for many languages, since strategies that are intermediate between direct and indirect speech are typologically common, and these are not only marginal strategies (e.g. the quotative *mol* in example (5) from Russian, where the deictic pronoun 'I' can refer both to the actual and reported speaker), but – for a wide selection of languages – the main way of conveying reported speech (see Schlenker 2003 for Amharic, Maier 2012 for Ancient Greek, Ljutikova 2001 for Bagvalal), as, for example, in Dargwa (6).

- (5) *A ty skazi: ja, mol, prikazal i vsjo tut.*
 and you say.IMV I CIT ordered and all here
 1. 'Say that I ordered it to be so and that is it.'
 2. 'Say: "I ordered it to be so and that is it."' (Arutjunova 1992, 46)
- (6) *aħmal-li haʔib [du ʔa-ka-r=ax-an-ni]*
 Ahmed-ERG said I NEG-DOWN-F=come.IPF-FUT-3
hebli du ka-r=ač'-ib-da
 CIT I DOWN-F=come.PF-PST-1
 'Ahmed said that I wouldn't come, but I came.' (Xuduc dialect, field data)

In (6) we can see that there is a deictic first person pronoun in the reported speech clause that refers to the actual speaker (as in indirect speech), but the embedded predicate is in the third person (as in direct speech).

0.2 Reportative markers

Reported speech is often introduced by a special marker: a subordinating conjunction (*that* in English) or a reportative (or quotative) element, which most often takes the form of either a bound morpheme or a particle (e.g. enclitics in Georgian (Hewitt and Crisp 1986, 121-123), the marker *-er* in Archi (Chumakina, Daniel 2010)). It is common for partially or fully grammaticalized forms of a predicate with the meaning 'say' to be used as such a marker (e.g. reportative converbs in Agul (Merdanova 2006)).

Verbal forms used as reportative elements often undergo grammaticalization, i.e. lose some properties of a fully-fledged word; thus, they may have a restricted paradigm, function as a clitic or lose their original lexical meaning (see Lehmann 1995 on the theory of grammaticalization, Lord 1976; Heine and Kuteva 2004, 267-268 on the grammaticalization of verbs of speech). Further grammaticalization often involves a semantic shift; thus, reportative elements can sometimes be used not only with utterance predicates, but also with propositional attitude predicates, such as *believe* and *think* (e.g. in Agul, see Maisak and Merdanova 2010).

In this paper I investigate the degree of grammaticalization of a form of the Besleney verb *ž'əʔe-* 'say' – the converb *ž'jerjə*, which is used to introduce reported speech. I look for the following evidence of grammaticalization (Heine and Kuteva 2004, 2-5):

- 1) erosion, or phonetic contraction;
- 2) decategorialization, or loss of morphosyntactic features;
- 3) desemanticization, or loss of lexical meaning;
- 4) extension, or broadening of contexts of use.

The rest of the paper is organized as follows. Section 1 gives an overview of the reported speech strategies in the Beslenny dialect of the Kabardian language and addresses the issue of referential ambiguity in such constructions; section 2 is devoted to the reportative converb *ž'jerjə*. I give a conclusion in section 3.

1 Reported speech strategies

In this section I give an overview of the strategies of conveying reported speech in Beslenny Kabardian.

The Circassian languages employ two main reported speech strategies:

– a non-finite strategy with the predicate marked with the adverbial ending *-w(ə)* or the factive prefix *zerə-* and case markers:

- (7) *abəm qə-d-ž'-jə-l-a [a çəx^w-xe-m zeč'e txəl-xe-r*
 DEM-OBL said to us DEM person-PL-OBL all book-PL-ABS
zer-a-hə-ž'-a-r / ja-hə-ž'-a-w]
 FCT-3PL.A-carry-RE-PST-ABS 3PL.A-carry-RE-PST-ADV
 'He said that these people took away all the books.'

– a finite strategy without markers of subordination:

- (8) *[we wə-djele] qəžž'jəla aslen*
 you 2SG.ABS-stupid said to me Aslan
 1. 'Aslan said to me_i: "You_i are stupid."
 2. 'Aslan said to me_i that you_i are stupid.'

The non-finite strategy displays features of classic reported speech, i.e. deictic pronouns¹ cannot refer to the reported speaker or hearer:

- (9) *aslen qəžž'jəla [se sə-djel-wə]*
 Aslan said I 1SG.ABS-stupid-ADV
 'Aslan said that I am stupid.'
 *'Aslan said: "I am stupid."'

The second construction, on the other hand, exhibits "mixed" traits, as we can see in (8): deictic pronouns can refer both to the actual and reported speech acts. Anaphoric pronouns also display ambiguity – they can refer both to the actual speech act, as in direct speech (10), and the reported speech act, as in indirect speech (11):

- (10) *aslen se šhač'e qəžž'jəla [a-r deβ^w me-pš'erəh]*
 Aslan I for said DEM-ABS good.ADV PRS-cook
 'Aslan said about me_i: "She_i is a good cook."'

¹ In this paper I use the term *pronoun* not only for pronominal words, but also for verbal and possessive personal markers (cf. the term *bound pronouns* in Kibrik 2011).

- (11) *aslen [nwebe ž'eš'nev^wəneč'e^lwex^w jə-še-ne] ž'jəʔa*
 Aslan today in.the.evening work 3SG.A-do-FUT said
 'Aslan_i said that he_i is working tonight.'

This construction loses its “mixed” character if it contains elements characteristic of direct speech, such as vocatives, imperatives and exclamations: in this case the ambiguity disappears and there is only one meaning left – deictic elements refer only to the reported speech act, as in direct speech:

- (12) *amjənat qeg^wewa [je zarjana w-jə-ʔaleč'*
 Aminat yelled VOC Zarina 2SG.PR-POSS-kerchief
qe-b-ve.n-a]
 DIR-2SG.A-leave-PST
 'Aminat yelled (to Zarina_i): “Hey, Zarina, you_i left your kerchief!”
 *‘Aminat yelled to Zarina_i (about you_i) that you_i left your kerchief.’

Anaphoric elements in this case cannot refer to the reported speech act:

- (13) *zarjəne marjəne ž'ərjəʔa [jə-nape fjex-jə*
 Zarina Marina said.to.her POSS-face dirty-ADD
thač' ž'-je-rjə]
 wash.IMV mouth-3SG.A+say-ADD
 'Zarina said to Marina_i: “Her_{i/*i} face is dirty, wash it.”'

It is important to note that other deictic elements choose what speech act to refer to in accordance with the reference of deictic pronouns. Thus, if the reported speaker and hearer are marked in the speech act with deictic elements, temporal deixis refers to the reported speech act, as in direct speech (14a); if the reported speaker and hearer are marked anaphorically, temporal deictic elements refer to the actual speech act, as in indirect speech (14b):

- (14) a. *zarjəne dəv^wase ž'jəʔa [jane nwebe*
 Zarina **yesterday** said POSS+mother **today**
jə-mex^weč' ž'-je-rjə]
 POSS-holiday mouth-3SG.A+say-ADD
 'Zarina said yesterday that her mom has a holiday today.'
- b. *zarjəne dəv^wase ž'jəʔa [s-jane*
 Zarina **yesterday** said 1SG.PR-POSS+mother
nwebe jə-mex^weč' ž'-je-rjə]
today POSS-holiday mouth-3SG.A+say-ADD
 'Zarina said yesterday: “My mom has a holiday today.”'

Hence we reach the conclusion that the finite reported speech strategy is in fact not mixed. Rather, there are two “unmarked” constructions which display ambiguity in certain contexts.

2 The converb *ž'jerjə*

This section is devoted to the morphosyntactic and semantic properties of the converb *ž'jerjə* (from the verb *ž'əʔe-* ‘say’²), the main function of which is the introduction of reported speech:

- (15) [*sekartweške-r swəpsəneqəm ž'-je-rjə*]
 I potato-ABS I.will.not.shave mouth-3SG.A+say-ADD
qəž'jəʔa aslen
 said Aslan
 ‘Aslan said: “I won’t peel the potatoes.”’

2.1 Morphological structure

The converb *ž'jerjə* is formed from the verb *ž'əʔe-* ‘say’ by means of the additive marker *-rjə*. This morpheme is used in the Besleney dialect to mark clauses with the semantics of preceding (16) or simultaneous (17) action:

- (16) *č'eleçəqə-r ʔə.s-rjə məʔarəse-r jəšxa*
 boy-ABS sit-ADD apple-ABS ate
 ‘The boy sat down and ate the apple.’
- (17) *pšaše-r sup je-šx-rjə č'ale-r š'e j-we-fe*
 girl-ABS soup DAT-eat-ADD youth-ABS milk drinks
 ‘The girl is eating soup and the boy is drinking milk.’

In grammars of Standard Kabardian this marker is called coordinative (Colarusso 1992, 180; Kumakhov and Vamling 1999, 55-60). In this paper we will call the form *ž'jerjə* a converb for several reasons.

Firstly, the temporal semantics of the marker *-rjə* is typical for converbs (Nedjalkov 1995, 107).

Secondly, a variety of structural features indicate that reported speech with *ž'jerjə* is subordinate with respect to the main clause; a strong argument for a subordinate structure is the behavior of this construction when one of its arguments is relativized.³

Circassian relativization is structured this way (see Lander 2012 about Adyghe): all arguments besides the absolutive, when relativized, are indexed on the verb with the relative prefix *zə-*. The head of the relative clause can be external – in this case the relative clause is preposed to the head noun – or internal, i.e. embedded into the relative clause. In the first instance the case endings marking the syntactic role of the noun phrase in the main clause attach to the head noun (18a), in the second instance the head

² The verb *ž'əʔe-* ‘say’ is formed through incorporating the nominal root *ž'ə* ‘mouth’ into the verbal root *ʔe-*, for which the only known lexical meaning is ‘be’. I will use the gloss ‘say’, since there is no apparent evidence that *ž'əʔe-* ‘say’ is a derivative of the verb *ʔe-* ‘be’.

³ Relativization also serves as an argument for the subordinate relation between the converb and the reported speech clause, see 2.3.1.

noun is marked with the adverbial ending and the case of the whole noun phrase is marked on its predicate (18b).

- (18) a. *[[we wjəg^w z-e-p-t-a] pšaše-r] mjəs*
 you your heart REL.IO-DAT-2SG.A-give-PST girl-ABS this
- b. *[we wjəg^w pšaš-wə z-e-p-t-a-r] mjəs*
 you your heart girl-ADV REL.IO-DAT-2SG.A-give-PST-ABS this
 ‘This is the girl you gave your heart to.’
 (Arkadiev and Lander, in preparation)

Relativization can serve as evidence for the subordinate and not coordinate status of the converb clause. In the construction with the converb *ž’jerjə*, if an argument is relativized out of the main clause, it may be that no argument is relativized out of the converb clause:

- (19) *mjes č’elečək-wə [aslen jə-wəč’ə-n-wə ž’je-rjə*
 that boy-ADV Aslan 3SG.A-kill-FUT-ADV mouth-3SG.A+say-ADD
q-je-g^wew-a-te-r]
 DIR-DAT-yell-PST-IPF-ABS
 ‘That is the boy_i that yelled at Aslan_i that he_i will kill him_i.’

In (19) the absolutive argument – *č’elečək* ‘boy’ – is relativized out of the main clause; the agent of the converb *ž’jerjə* is coreferential with this argument, but it does not undergo relativization.

If the converb clause were a coordinate clause, this would be a serious violation of the Coordinate Structure Constraint, first formulated in (Ross 1967), which states that no part of a conjunct may be moved out (20a), unless it is symmetrically extracted from the second conjunct also (20b):

- (20) a. *I wanted the apple that John ate ___ and Mary ate a pear.
 b. I wanted the apple that John bought ___ and Mary ate ___.

Thus, we must conclude that the form *ž’jerjə* is not a conjunct to the main clause, but an embedded structure.

The last argument for the term ‘converb’ is that, although *ž’jerjə* can introduce complements, it seems that its original syntactic status is adverbial, since no other forms marked with *-rjə* can introduce complements:

- (21) *se zexesxa a-r šhan^wəbže-m qə-tje-we-rjə*
 I heard DEM-ABS window-OBL DIR-LOC-knock-ADD
 ‘I heard him knock on the window and...’
 *‘I heard him knock on the window.’

In (21) the sentence remains unfinished, since the marker *-rjə* implies antecedence and cannot be used to mark a well-formed complement.

Thus, we conclude that the form *ž’jerjə*, although marked by the additive marker *-rjə*, exhibits traits typical of a converb and will use this term hereafter.

2.2 Contexts

This section is devoted to the types of subordinate clauses *ž'jerjə* can introduce and matrix verbs with which it can be used.

2.2.1 Matrix verbs

The converb *ž'jerjə* can introduce complements and adjuncts in the following contexts:

– with utterance predicates (*ž'əʎe*- ‘say’⁴ (15), *č'ewəpč'e*- ‘ask’ (18), *jeχ^wene*- ‘scold’ (22), *qjež'e*- ‘call’ (29) etc.):

- (22) *[aslen jəzerəž'e q^wedameqəg^wetč'a ž'-je-rjə]*
 Aslan his arrowwood branch we.broke mouth-3SG.A+say-ADD
qedex^wena
 scolded us
 ‘Aslan scolded us for breaking the branches of his arrowwood.’

– with propositional attitude predicates (*qəfeše*- ‘seem’, *jeg^wəšəpse*- ‘think’, *g^wjewəbədə*- ‘think’ (23) etc.):

- (23) *[aw stakan-pštərə-m qjeʎabwə š'jəšteč'e ž'a-bə]*
 but cup-hot-OBL touching if.he.takes DEM-OBL
ʎəve xelxjə sədek^wene ž'-je-rjə]
 courage is.in.him I.will.marry.him mouth-3SG.A+say-ADD
pšaše-m jə-g^w r-jə-wəbəd-a
 girl-OBL POSS-heart DAT-3SG.A-catch-PST
 “‘But if he takes the hot cup with his hands (lit. touching it), there is courage in him, and I will marry him,’ – she thought (lit. caught in her heart)’ (AA)

– in other contexts with speech semantics (24), (25), (26), (27), and it is not obligatory for the reported speaker to be coreferential with any argument of the matrix verb (cf. (25)).

- (24) *g^wəš'əʎažš'əʎa [wəlaž'eme ləž pšxəne ž'-a-rjə]*
 saying there.is if.you.work meat you.will.eat mouth-3PL.A+say-ADD
 ‘There is a saying: you’ll eat meat if you work (= no sweet without sweat).’
- (25) *se zexesxa [we wədek^wene ž'-a-rjə] a-r šəpqe*
 I heard you will.marry mouth-3SG.A+say-ADD DEM-ABS truth
 ‘I heard that you’re getting married, is that true?’
- (26) *sjade sjəwəč't [we wə-djele ž'-je-rjə]*
 my father beat.me you 2SG.ABS-stupid mouth-3SG.A+say-ADD
 ‘My father beat me with the words: “You are stupid.”’

⁴ Some speakers consider the use of *ž'jerjə* with the verb *ž'əʎe*- ‘say’ tautological.

- (27) *pis'mo wərasə-m x^wjətχ ž'aš'twə [bžedəχ^wjətre*
 letter Russian-OBL wrote.to.him thus two Bzhedugs
adəyjəš're dweχ^wə ž'-je-rjə]
 two Adyghe we.become mouth-3SG.A+say-ADD
 'He wrote to the Russian thus, saying: "Among us were two Adyghe and
 three Bzhedug people"' (AT)

Hence it is evident that the converb *ž'jerjə* considerably broadens the use of reported speech strategies, making them possible not only as complements of utterance and propositional attitude predicates, but in a wide variety of contexts, both as complements and adjuncts.

2.2.2 Reported speech strategies

The converb *ž'jerjə* can be used with several reported speech strategies:

- non-finite strategy marked with adverbial ending *-w(ə)*:

- (28) *aslen qəzž'jəla [nwebe mə-κ^we-n-wə ž'-je-rjə]*
 Aslan said.to.me today NEG-go-FUT-ADV mouth-3SG.A+say-ADD
 'Aslan said that he won't come today.'

- finite strategy, both direct (29) and indirect (30):

- (29) *zarjəne fatjəme ž'ərjəla [twejə ž'ene-daxe pš'əbər*
 Zarina Fatima said.to.her how dress-pretty you are wearing
ž'-je-rjə]
 mouth-3SG.A+say-ADD
 'Zarina said to Fatima: "What a pretty dress you have!"'

- (30) *[jəsəhat qəš'əχ^wəpša ž'-je-rjə] zarjəne marjəne jež'a*
 her watch she.forgot mouth-3SG.A+say-ADD Zarina Marina called
 'Zarina called after Marina, saying that she forgot her watch.'

This converb does not combine with the form marked with the factive prefix *zerə-* and case endings (cf. (7)):

- (31) *aslen qəzž'jəla [nwebe **zerə-mə-κ^we-ne-ɾ** (*ž'-je-rjə)]*
 Aslan said to me today **FCT-NEG-go-FUT-ABS** mouth-3SG.A+say-ADD
 'Aslan told me that he won't come today.'

The selective usage of *ž'jerjə* is semantically motivated. The Besleney factive form has the semantics of *fact* as in (Kiparsky and Kiparsky 1970; Arutjunova 1988) – an element of the mental world that most often belongs to the presupposition of an utterance, *definite truth* in the terminology of (Ransom 1986) (32a) – and is contrasted in this sense to the adverbial form (see Gerasimov and Lander 2008; Serdobolskaja and Motlokhov 2009 on this contrast in the closely related Adyghe). The adverbial form is non-factive; it denotes a non-referential element of the mental world with an indefinite truth value (*undefined* or *indefinite truth* in the terminology of Ransom 1986) (32b) (Ershova 2012, 69-73).

- (32) a. *se sšaqəm* [a-bə txələ-r zer-jə-hə-ž'-a-r]
 I didn't know DEM-OBL book-ABS **FCT-3SG.A-carry-RE-PST-ABS**
 'I didn't know that he brought the book (the book is already there).'
- b. *se sšaqəm* [a-bə txələ-r jə-hə-ž'-a-w]
 I didn't know DEM-OBL book-ABS 3SG.A-carry-RE-PST-**ADV**
 'I didn't know if he brought the book (maybe, he didn't).'

The finite strategy is used only with utterance and propositional attitude predicates – a typical context for non-factive propositions with an indefinite truth value, thus we can assume that its semantics is similar to that of the adverbial form.

Besides the adverbial and the finite strategies, propositional attitude predicates employ another type of complement, where the predicate is marked with the instrumental case marker *-č'e*. This type of subordinate clause has the semantics of a *definite occurrence* in the terminology of (Ransom 1986) or *event* in the terminology of (Arutjunova 1988; Zaliznjak 1990) – a state of affairs that has taken place in the real world (Ershova 2012, 76-83). The converb *ž'jerjə*, although acceptable for most speakers with propositional attitude predicates, cannot combine with this strategy (33a) (cf. *ž'jerjə* with the adverbial form in (33b)):

- (33) a. *məjəlesə-m* *dwənje-r* *q'wəte-ž'ə-n-č'e*
 this.year-OBL world-ABS break-RE-FUT-**INS**
 (*ž'-a-rjə) *sweš'əne*
 mouth-3PL.A+say-ADD I am frightened
 'I am scared that the end of the world will be this year.'
- b. *məjəlesə-m* *dwənje-r* *q'wəte-ž'ə-n-wə*
 this.year-OBL world-ABS break-RE-FUT-**ADV**
 ž'-a-rjə *sweš'əne*
 mouth-3PL.A+say-ADD I.am.frightened
 'They say that the end of the world is this year, and I am scared.'

There are two possible reasons for the fact that the converb *ž'jerjə* cannot combine with the instrumental strategy: the semantically motivated selectiveness of the converb in question or the partial preservation of its original lexical meaning – complements of utterance verbs cannot be marked with the instrumental case. In any case, the fact that the converb *ž'jerjə* is unacceptable with the factive form indicates that the selectiveness of the converb is at least partially semantically motivated, i.e. it can only introduce non-factive propositions with an indefinite truth value.

In this section we saw that the converb *ž'jerjə*, on the one hand, significantly broadens the usage of reported speech strategies, but on the other hand, demonstrates a semantically motivated restriction on its compatibility with different strategies.

2.3 Degree of grammaticalization

In this section I investigate the degree of grammaticalization that the converb *ž'jerjə* has undergone in terms of phonology, morphology and syntax.

2.3.1 Erosion and decategorialization

Morphological features

The converb, like a fully-fledged word, can inflect with personal markers corresponding not only to the agentive and absolutive participants, but also to other participants; in (34) we can see that the converb contains a benefactive marker introducing an indirect object:

- (34) [*we wəçəx^wədəx^w p-x^wə-ž'ə-s-ʔe-rjə*] *sə qəwex^weχ^wa*
 you are.a.good.person 2SG.IO-BEN-mouth-1SG.A-say-ADD I toasted
 'I toasted you with the words: "You are a good person."'

On the other hand, the converb has contracted forms in the third person:

- (35) a. *ž'-jə-ʔe-rjə* → *ž'jerjə*
 mouth-3SG.A-say-ADD
 b. *ž'-a-ʔe-rjə* → *ž'arjə*
 mouth-3PL.A-say-ADD

Thus we can see that the converb in question has retained a full-fledged paradigm, but some of its forms have undergone phonological attrition, i.e. erosion, which is a symptom of partial grammaticalization of form.

Syntactic features

The converb *ž'jerjə* functions as a matrix verb with respect to the clause with reported speech semantics: it occurs in rigid postposition to the dependent clause in conformity with the Kabardian SOV word order:

- (36) **aslen we šhač'ezəx^wəž'jəʔar* [*a-bəm*
 Aslan you for.which.he.said.about DEM-OBL
 [*ž'-je-rjə*] *pš'erəhač'e jəçəx^wəqəm]*
 mouth-3SG.A+say-ADD how to cook she doesn't know
 'Is it about you that Aslan said: "She cannot cook?"'

On the one hand, the strict postposition of the converb is evidence for its status as the head with respect to the reported speech clause. On the other hand, this same fact is an indication of the limitation of its abilities as an independent predicate, since word order in Besleney is relatively free and the subordinate clause usually can be both in pre- and postposition to the main predicate (cf. (13) and (31)).

Once again, the most straightforward way of proving that we are dealing with a subordinate structure, where the reported speech is embedded into the clause headed by the converb, is appealing to relativization.

I illustrated earlier the mechanisms of Circassian relativization. There is one more aspect of this process that must be noted: when a participant of the dependent clause

undergoes relativization, the coreferential participant in the main clause is also relativized (see Lander 2012 about Adyghe):

- (37) *mjəs* [*fəz-wə* *sə-z-de-ʔapəq^wə-n-wə*
 this woman-ADV 1SG.ABS-**REL.IO**-COM-help-MSD-ADV
sə-z-x^wəje *zəpətə-r]*
 1SG.ABS-**REL.IO**-want always-ABS
 ‘This is the woman I always want to help.’
 (Arkadiev and Lander, in preparation)

In (37) the noun *fəz* ‘woman’, relativized out of the complement, is also indexed on the matrix verb with the relative marker *zə-* in the position of the indirect object.

On the other hand, if the participant of the main clause is relativized, it does not have to be relativized in the subordinate clause. This situation can be observed with the converb *ʒʹjerjə*. The agentive argument of the converb can undergo relativization, and in this case the coreferential participant in the subordinate clause may not be relativized (38a) (note that the coreferential argument in the main clause does undergo relativization despite the absence of overt marker on the matrix verb – the argument is absolutive and thus not specially indexed); but if the argument from the subordinate clause is relativized, it is also relativized in the clause headed by the converb (38b).

- (38) a. *mjes* [[*ʃʹeleçək-wə* *aslen* *jə-wəçʹə-n-wə*]
 that boy-ADV Aslan 3SG.A-kill-FUT-ADV
ʒʹə-zə-ʔe-rjə *q-je-g^wew-a-te-r]*
 mouth-**REL.A**-say-ADD DIR-DAT-yell-PST-IPF-ABS
 b. *mjes* [*ʃʹeleçək-wə* *aslen* *zə-wəçʹə-n-wə*]
 that boy-ADV Aslan **REL.A**-kill-FUT-ADV
ʒʹə-zə-ʔe-rjə *q-je-g^wew-a-te-r]*
 mouth-**REL.A**-say-ADD DIR-DAT-yell-PST-IPF-ABS
 ‘That is the boy_i that yelled at Aslan_i that he_i will kill him.’

Thus we come to the conclusion that the reported speech is embedded in the clause headed by the converb.

From (38) we can see that the argument of the converb can undergo relativization; this is evidence for the syntactic autonomy of the form in question. Another piece of evidence is that there can be an overt agentive noun phrase in the clause headed by the converb:

- (39) [[*psənçʹwə* *qe-k^we-ʒʹ]* *fəzə-m* *ʒʹ-je-rjə]*
 fast come.IMV woman-OBL mouth-3SG.A+say-ADD
ʃʹeleçəkə-m *qježʹa*
 boy-OBL called
 ‘The woman called to the boy: “Come home quickly!”’

In (39) the oblique case ending, which is used to mark ergative arguments, on the word *fəz* ‘woman’ is evidence that it is an argument of the transitive converb; the predicate *ježʹe-* ‘call’ is intransitive and demands an absolutive argument.

On the other hand, the converb cannot be modified by an adverbial:

- (40) **marjəne qəzewəpčə* [[*tawe majk^wep dəzerək^wener*]
 Marina asked.me how Maykop how.will.we.go
šex-wə ž'-je-rjə
 quiet-ADV mouth-3SG.A+say-ADD
 *‘Marina asked me, quietly saying: “How will we get to Maykop?”’

It is possible that an adverbial modifier is unavailable in this construction not because of the converb’s morphosyntactic grammaticalization, but because of its partial desemantization.

Thus, we can conclude that the converb *ž’jerjə* preserves most syntactic features of a full-fledged predicate (such as the ability to inflect and to head a clause), but its partial desemantization leads to the limitation of its syntagmatic freedom, i.e. the inability to be modified by adverbials.

2.3.2 Desemantization

The converb in question can be used with propositional attitude predicates (23), and most speakers allow the use of it with the predicate *ž’əʔe-* ‘say’, from which it is formed (15), which is evidence for the partial loss of the lexical meaning ‘say’. In the previous section we saw that the converb *ž’jerjə* cannot be modified by an adverbial phrase (40), which is also a sign of desemantization.

It is also important to note that, besides reported speech, this converb can introduce purpose clauses with no speech semantics. The subordinate predicate in this case takes the form of an action nominal (masdar in traditional terminology (Kumakhov 2006: 163)) with the marker *-n* (41) or *-n-wə* (42) or of a finite verb in the future tense (with the marker *-ne*) (43):

- (41) *bže-r jezβetaqəm* [[*wə-qə-če-ha-n*]
 door-ABS I.didn’t.close 2SG.ABS-DIR-LOC-enter-MSD
ž’ə-s-ʔe-rjə
 mouth-1SG.A-say-ADD
 ‘I didn’t lock the door so that you could enter.’
- (42) *supə-r zeč’erjə sšxəž’aqəm* [[*zerə-p-x^wə-rjəq^wə-n-wə*]
 soup-ABS all I didn’t eat FCT-2SG.IO-BEN-suffice-MSD-ADV
ž’ə-s-ʔe-rjə
 mouth-1SG.A-say-ADD
 ‘I didn’t eat all the soup so that there was enough for you.’
- (43) [[*aslen šxe-ne*] *ž’-je-rjə* *qetəsa*
 Aslan eat-FUT mouth-3SG.A+say-ADD sat down
 ‘Aslan sat down to eat.’

It is worth noting that only the masdar with an adverbial ending (*-n-wə*) can be used as a purpose construction without the converb *ž’jerjə* (44); the other forms cannot be used as adjuncts.

- (44) *bže-r jezβetaqəm* [[*wə-qə-če-ha-n-wə*]
 door-ABS I didn’t close 2SG.ABS-DIR-LOC-enter-MSD-ADV
 ‘I didn’t lock the door so that you could enter.’

Syntactically and morphologically the converb used in these purpose constructions is similar to the same converb used with reported speech: it takes personal markers (see (41) for first person); there can be an overt agentive noun phrase in the converb clause (45); the argument of the converb can be relativized (46); the converb cannot be modified by an adverbial phrase (47b) (cf. (47a), where the adverb *dəb^wase* ‘yesterday’ modifies the main predicate *ɣəç’ə* ‘launder’).

- (45) *[[qə-z-de-ʔapəq^wə-n]* *ç’ale-m* *ž’-je-rjə]* *qe-k^w-a*
 DIR-1SG.IO-COM-help-POT youth-OBL mouth-3SG.A+say-ADD came
 ‘The boy came to help me.’
- (46) *mjəs* [*ç’al-wə* *melə-r* *fe-zə-bzə-n-wə*
 this youth-ADV sheep-ABS MAL-REL.A-cut-POT-ADV
ž’ə-zə-ʔe-rjə] *qe-k^w-a-r*
 mouth-REL.A-say-ADD DIR-go-PST-ABS
 ‘This is the boy that came to kill the sheep’
- (47) a. *dəb^wase* *š’əbən-xe-r* *z-ɣəç’-a* *[[nwebe uže*
yesterday clothes-PL-ABS I.washed today already
ɸ^wəše zerə-χ^wə-ž’ə-n-wə] *ž’ə-s-ʔe-rjə]*
 dry FCT-become-RE-POT-ADV mouth-1SG.A-say-ADD
- b. **š’ə.bə.n-xe-r* *z-ɣəç’-a* *[[nwebe uže* *ɸ^wəše*
 clothes-PL-ABS I.washed today already dry
zerə-χ^wə-ž’ə-n-wə] *dəb^wase* *ž’ə-s-ʔe-rjə]*
 FCT-become-RE-POT-ADV **yesterday** mouth-1SG.A-say-ADD
 ‘I washed the clothes yesterday, so that they would be dry today.’

Thus we can see that the converb *ž’jerjə* has undergone partial desemantization and functions as a subordinating conjunction that introduces reported speech and purpose constructions.

2.3.3 Extension

Let us review the functions that the converb *ž’jerjə* has obtained through grammaticalization.

Firstly, the converb in question can introduce reported speech not only as complements (18), (23), but also as adjuncts (26) (a similar situation is observed in Ewe and is considered a feature of subordinating conjunctions (Lord 1976)). We can see in (48) that if the reported speech is in an adjunct position, the converb *ž’jerjə* may not be omitted.

- (48) *rwəslan* *qəsš’ətχ^wa* *[bz-jə-pš* *s-we-še*
 Ruslan praised me ten languages 1SG.A-PRS-know
**(ž’-je-rjə)]*
 mouth-3SG.A+say-ADD
 ‘Ruslan praised me, saying that I know ten languages.’

Secondly, the converb *ž'jerjə* is used in purpose constructions (41)-(43). This path of grammaticalization is also known in typology (Heine and Kuteva 2004, 265-267).

3 Conclusion

As a result of this work we arrive at several conclusions.

Firstly, we can distinguish three main strategies of reported speech in the Besleney dialect of the Kabardian language: the non-finite indirect strategy; the finite direct and indirect strategies. The presence of two finite strategies of conveying reported speech leads to ambiguity and the false impression that there is a mixed strategy.

Secondly, there is a special reportative element in the Besleney dialect which is formed from the verb *ž'əʔe*- 'say' – the converb *ž'jerjə*. This converb, on the one hand, has preserved structural features of a fully-fledged word, i.e. a morphological paradigm and the ability to head a clause, and on the other hand, has obtained some traits of a conjunction, such as the ability to introduce reported speech as both complements and adjuncts in a wide variety of contexts. This converb is also used to mark purpose constructions. Thus, we come to the conclusion that the converb *ž'jerjə* combines traits of both a fully-fledged word and a grammaticalized conjunction. This poses a problem for the theory of grammaticalization as described by Lehmann (1995): the parameters of grammaticalization are expected to correlate at least to a certain extent, but the converb *ž'jerjə* accumulates a combination of considerable extension and desemantization, slight erosion (contracted forms of the converb in third person) and almost no decategorialization, thus showing a lack of correlation between parameters.

Reported speech in Besleney Kabardian presents both a typological and theoretical interest, accumulating non-trivial traits such as the falsely “mixed” reported speech strategy and the use of a highly desemanticized reportative converb that has at the same time retained most of the structural features of a fully-fledged word.

Sources

AA: Aliberdova, Aminet M. “Hot tea”

AT: Tlinov, Aslan J. “The Russian”

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Icelandic vowel length and representational theories of phonology*

Marcin Fortuna

The purpose of this article is to provide a critical evaluation of two modern representational theories of phonology (Standard Government Phonology and Strict CV) by confronting them with the phenomenon of vowel quantity distribution in Modern Icelandic. It will be demonstrated that the extant theories face several serious problems when all facets of the phenomenon are taken into account. It will be argued that Icelandic is a very good material to bring out the inadequacies of both theories. SGP fails especially due to constant violation of the Projection Principle. Strict CV also incorrectly predicts vowel length in several more complicated cases, especially due to the surface-based nature of the lengthening rule. Also, a very problematic case of apparent melodic conditioning for morphosyntactic domain resolution will be discussed.

Keywords: *Government Phonology, Icelandic, phonology, Strict CV, vowel length*

1 Introduction

Phonological theory aims at attaining a level at which it will be possible to account for all attested (and only those) phonological phenomena in all human languages. Among the theories that have so far been proposed, two major groups can be identified. The first is *overgenerating* theories (including most notably SPE - Chomsky & Halle 1968, and Optimality Theory - Prince & Smolensky 1993), which use omnipotent mechanisms producing both attested and unattested patterns. The second group includes *undergenerating* theories, which use very restrictive mechanisms which are more probable models of human phonological competence, but often fail to successfully account for various bodies of data. These theories comprise especially representation-based approaches, like Government Phonology.

The purpose of this paper is to critically evaluate two modern representational theories of phonology (Standard Government Phonology and Strict CV) against the phenomenon of vowel length distribution in Modern Icelandic. It will be demonstrated that neither SGP nor Strict CV (as it stands now) successfully explains the distribution of vowel length in Icelandic when all facets of the phenomenon are taken into account. What is more, the phenomenon shows several inadequacies of the extant approaches. Although no full-fledged analysis will be put forward (the paper is intended as being mainly negative and of general relevance for the theory of GP), some suggestions will be made as to what a satisfactory representational explanation should contain. Also, some directions for further research will be fleshed out, with the hope that the thread will be picked up in the nearest future.

* I would like to thank Tobias Scheer and Shanti Úlfsbjörninn for discussing with me several issues raised in this article during the EGG Summer School in Wrocław. The comments made by the anonymous reviewer also certainly contributed to raising the quality of the paper. Obviously, all flaws are only mine.

It is an important caveat that the paper basically takes into account only two ‘dialects’ of Government Phonology: the standard model practiced by Gussmann (2002, 2006ab), and Strict CV exercised in the work of Scheer (2004, 2012). Obviously, there is a lot of work in Government Phonology which is noticeably distinct from these two embodiments of the theory. Undoubtedly, other versions of the framework would sometimes make different predictions with regard to the phenomena described in this article. Nevertheless, the main point of departure for the present paper is *the already existing accounts of Icelandic data*. It is, however, undisputable that other work in Government Phonology at least has a potential to prove useful while trying to find a solution for the problems raised in this article.

The basic facts pertaining to the distribution of long and short vowels are available in every textbook of Icelandic (Einarsson 1945: 4-5, Kress 1982: 19). Long vowels may occur only in the stressed position, in several phonologically defined configurations:

- a) _#, e.g. *búi* [pu:] ‘farm’
- b) _V, e.g. *líti* [‘lu:i] ‘weariness’ *búa* [‘pu:a] ‘to live’
- c) _CV, e.g. *taka* [‘tʰa:kʰa] ‘to take’, *ráða* [‘rau:ða] ‘to rule’
- d) _C#, e.g. *þak* [θa:kʰ] ‘roof’, *bús* [hu:s] ‘house’
- e) _*ptks+jvr*, e.g. *sötra* [‘sø:tʰra] ‘to slurp’, *þepja* [‘nɛ:pʰja] ‘bad weather’, *götva* [‘kø:tʰva] ‘to discover’, *flýsja* [‘flɪ:sja] ‘to peel’
- f) _*bdg+r* only in loanwords, e.g. *Madrid* [‘ma:trit], *febrúar* [‘fɛ:pruar]

Before all other clusters only short vowels may occur:

- g) *hestur* [‘hestyr] ‘horse’, *kambur* [‘kʰampyr] ‘comb’, *snerta* [‘snerta] ‘to touch’, *finna* [‘finna] ‘find’, *labba* [‘lappa] ‘walk’

This state of affairs arose in Icelandic as a result of a change named by Haugen (1976: 258) *the great quantity shift*. Most probably it operated between the 16th and 18th centuries. In Old Icelandic the rules of syllable structure were much less constrained, with both long and short vowels occurring before both single consonants and consonant clusters or geminates. The shift led to a significant limitation of possible syllabic configurations, basically introducing complementary distribution between vocalic and consonantal length in stressed syllables.

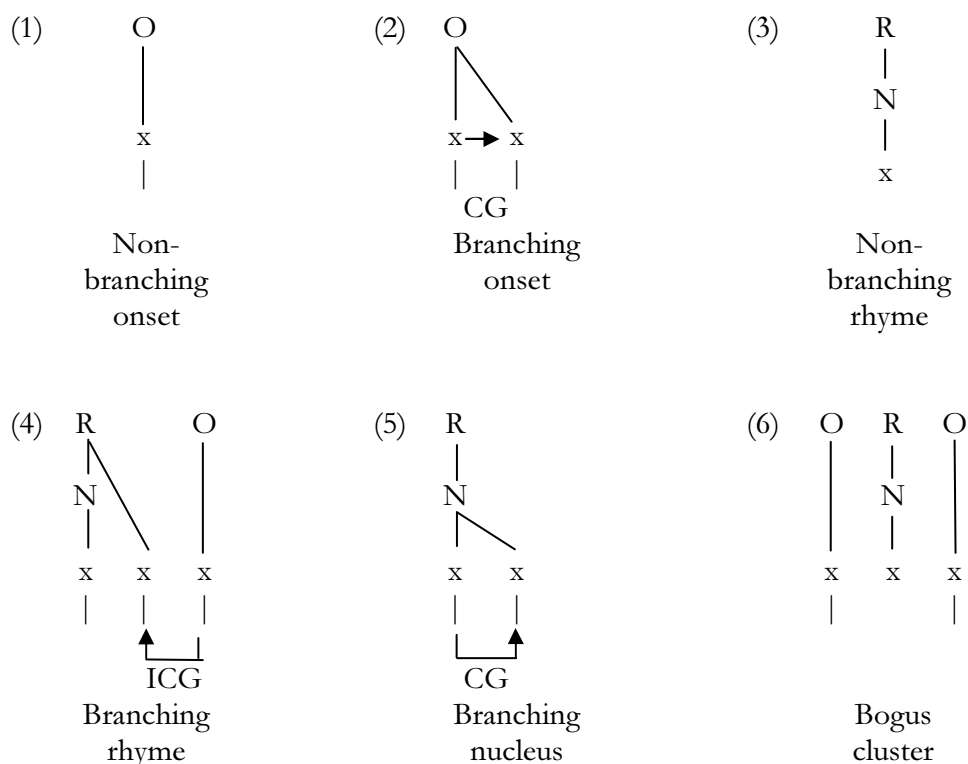
It is most commonly assumed that vowel length is not distinctive. All vowels are underlyingly short and are lengthened in “stressed open syllables”. A competing, but much less popular view is that vowels are basically long, but they are shortened in various strictly specified environments. A still different hypothesis is that vowel quantity in Icelandic is distinctive, but to a very large extent predictable (for arguments see Árnason 1998).

Varying explanations for this pattern of quantity distribution have been proposed in a wide range of frameworks. For instance, Malone (1953) and Haugen (1958) provide an explanation within classical taxonomic phonemics, Anderson (1969ab) offers a treatment which makes use of rule-based generative phonology, Murray & Vennemann (1983) develop a syllable-based account of lengthening, Booij (1986) offers a description couched within the model of Prosodic Phonology.

Modern representational approaches are represented by Gussmann (2002, 2005, 2006ab), who worked within Standard Government Phonology, and Scheer (2004) using the Strict CV theory.

2 Icelandic vowel length in Standard Government Phonology

Standard Government Phonology (KLV 1985, 1990, Charette 1991, Harris 1994) is a very restrictive model of phonology which was proposed as a response to the highly overgenerating rule-based generative paradigm.¹ One of the main contributions of Government Phonology is a highly reduced version of traditional syllabic arborescence, which disposes of e.g. ternary branching or constituents like ‘appendix’. In Government Phonology, all constituents may be maximally binary branching, with the proviso that all segments need to be syllabified. Let us analyse all possibilities:



As one can easily infer from figures 1-6, an onset may either not branch (as in example a) or branch (example b), and the rhyme may either not branch (example c), branch to accommodate a coda (example d), or branch at the level of the nucleus to

¹ The anonymous reviewer points out that Standard Government Phonology is „a framework which is rather outdated now and has virtually no proponents”. Even though mosts GP-ists advanced their views and turned to various forms of Strict CV or to GP 2.0, several relatively recent publications written within the traditional model include Gussmann 2007, Bloch-Rozmej 2008, Pöchtrager 2010. Also, it is hoped that some criticism of SGP laid out in this paper may be of use for linguists working in more up-to-date frameworks, who certainly don't want their current models to fail to account for such a common phonological process as open syllable lengthening/closed syllable shortening.

accommodate a long vowel or a diphthong (example e). Word-final consonants are universally believed to be onsets (Harris & Gussmann 1998, 2002). Arboreal structure is accompanied by government and licensing relationships holding between respective constituents. Thus, within a branching onset, the first consonant (governor) contracts Constituent Government with the following consonant (governee). Also, within a branching rhyme, a coda (which is not a constituent in SGP, being relegated to the status of a rhymal complement) needs to be governed by the following onset. This type of government is known as Interconstituent Government. In both cases the governor cannot be less complex than the governee, whereby complexity is calculated as a number of elements making up a given segment.

Thus, consonant clusters typically involve one of the two types of government: Constituent (branching onsets) or Interconstituent (coda-onset clusters). There are, however, some clusters in which neither kind of government can be contracted, for instance [tl]. Such clusters are assumed to be two distinct onsets separated by an empty nucleus. They are usually dubbed bogus clusters, presented in figure (6).

The syllabic structure (organised according to the principles laid out above) is assumed to be stored in the lexicon. Thus, resyllabification is impossible in the course of further derivation. This is secured by the phonological Projection Principle:

Governing relations are defined at the level of lexical representations and remain constant throughout phonological derivation. (KLV 1990: 221)

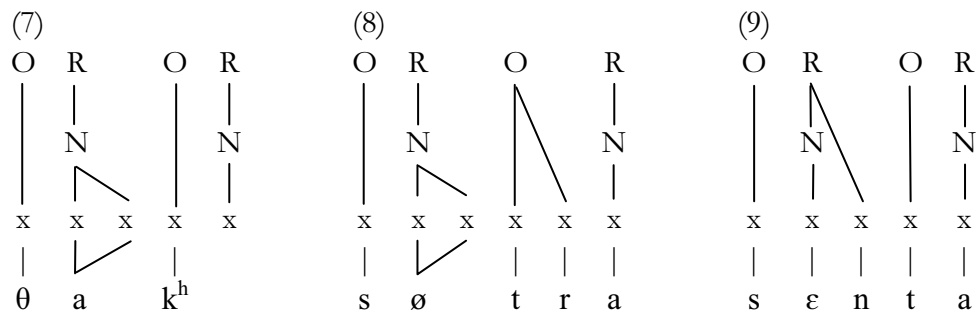
The Projection Principle is the cornerstone of Government Phonology, with numerous empirical arguments for its existence (KLV 1990). Taken altogether, Government Phonology provides a very restrictive inventory of possible syllabic structures. It will be argued, however, that restrictiveness is a double-edged sword, when it fails to account for linguistic data.

Government Phonology was applied to the study of Icelandic in a number of publications by Gussmann (1999, 2000, 2002, 2003, 2006ab, 2011 and some other). Three of these are devoted mainly to the topic of Icelandic vowel length: (2006ab, 2011), it occupies also a relatively large part of his (2002) introductory handbook of phonology. Additionally, Gussmann (2001) is a decent overview of previous treatments of the problem. It will be demonstrated that Icelandic data led Gussmann to abandon some of the key ingredients of the original GP model.

Gussmann's explanation of the distribution of vowel length is included in the following statement:

Stressed rhymes in Modern Icelandic must branch either in having a long nucleus or in having a short vowel and a consonant in the rhymal position. (2006a: 32)

Examples of phonological structures compatible with Gussmann's proposal are presented below:



The Government Phonology account covers all examples and has several unquestionable advantages. For example, it naturally explains the long vowel in monosyllabic words ending in a single consonant, like *þak* [θa:k^h] ‘roof’ and *hús* [hu:s] ‘house’. Since word-final consonants are no longer codas, but onsets, a long vowel preceding them is the expected state of affairs. Note that in order to explain the non-coda behaviour of word-final consonants traditional syllabic theories need to introduce special mechanisms of dubious nature, like *extrametricality* (Kiparsky 1984: 153, Booij 1986). This is not the case in Government Phonology.

Nonetheless, the Icelandic data and Gussmann’s attempt to handle them pose two theory-internal problems.

First of all, as it was mentioned above, not all consonant clusters can be coda-onset clusters. A coda should always be less complex than the following onset, or, in the worst case, it may be of equal complexity. It cannot, however, be more complex. Nevertheless, this is what the Icelandic data seem to reveal. Note forms like *emja* [‘emja] ‘wail’, *hefja* [‘hevja] ‘heave’, *biðja* [‘piðja] ‘ask’, *evri* [‘evri] ‘upper’, *veðra* [‘veðra] ‘erode’, *sofna* [‘sɔpna] ‘fall asleep’, *ugla* [‘ykla] ‘owl’. Traditionally, in Government Phonology it is assumed that the semivowel [j] consists of {I} only, and [r] contains only {A}. It is doubtful whether such structures can licence anything in the preceding coda, be it a fricative ([v] or [ð]) or a nasal.

Gussmann, being perfectly aware of the problem, offers two possible solutions. The first is to analyse Icelandic sonorants as consisting of more elements than it is traditionally assumed. For instance, it is possible to postulate that [j] is a palatal fricative and contains the noise element {h}. The second proposal is to review complexity condition for coda-onset clusters:

[T]he case forces us to reassess the licensing requirements and specifically the role of complexity in government (...). [T]he Icelandic facts cast doubt on the role of complexity understood as element computation in automatically determining the governor/goveree status. (2006a: 32)

Whereas the first proposal introduces idiosyncrasy only to the analysis of the Icelandic language, the second one has more far-reaching consequences for the whole theory of Government Phonology. It would entail abandoning one of the main ingredients of the model, as advocated since the very beginning of the existence of the theory (Harris 1990).

The second problem pertaining to Icelandic data is much more serious. The principle of branching rhymes introduces numerous vowel length alternations into paradigms:

- (10) *heim* [hei:m] ‘world, acc. sg.’ *heims* [heims] ‘gen. sg.’
gulur [ˈkʏ:lʏr] ‘yellow, nom. sg.’ *gulra* [ˈkʏlra] ‘gen. pl.’
sæl [sai:l] ‘blessed, fem.’ *sælt* [sai]t] ‘neut.’
ljúf [lju:v] ‘dear, fem.’ *ljúfri* [ˈljuvri] ‘dat. sg.’
dæmi [ˈtai:mɪ] ‘I judge’ *dæmdi* [ˈtaimtɪ] ‘I judged’

Resyllabification is ubiquitous and concerns most Icelandic lexemes. The same consonant is syllabified as an onset in the forms on the left, and as a coda on the right. If the depicted pairs of forms are phonologically related, this phenomenon flies in the face of the Projection Principle.

Gussmann does not mention the Projection Principle, advocating at the same time the phonological conditioning of the alternation. Since he does not take an overt stance as to the position of the Principle in the theory, it is not easy to infer whether his incarnation of GP should possess such a mechanism, but some statements suggest that it should not. For instance, he argues the “non-preservation – or non-existence – of the syllabic identity of the morpheme” (2006a: 22). Consider also the following quotation:

The vowel length regularity clearly shows that the same morpheme – *fagur/fagr(an)* – has two different representations, one with the voiced velar spirant in the onset and one with the same consonant in the rhymal complement position. In other words, we are once again led to reject the classical generative shibboleth of ‘one morpheme – one phonological representation’. Phonological representations of linguistic forms must be determined solely by phonological criteria and there is no obvious or necessary reason why different phonetic shapes of a morpheme should be fully accountable by phonological regularities, i.e. why they should all be reducible to a common denominator. (...) The only argument in favour of a single representation is nothing more than the dogma of single underlying representation for each morpheme. Icelandic vowel length shows quite dramatically that the dogma has to be jettisoned as phonology clearly determines the representations on the basis of phonological effects rather than a priori conditions like single ‘underliers’. (Gussmann 2006a: 33)

This is a very controversial statement for several reasons. It is not clear to what level of linguistic structure the length alternations actually belong.

First, since the phonological configuration plays the crucial role, one could think of a phonological process, but phonological processes *per definitionem* operate on one underlying representation. It is not clear how phonology can ‘establish’ or ‘determine’ underlying representations, and on what material. This implies a dynamic process of syllabification, which produces two surface forms (but not representations!): with a short and with a long vowel. This is very much incompatible with the GP line of thinking.

It is curious what lexicon looks like in Gussmann’s view and what he actually meant by ‘representations’. One option is that it does not contain any syllabic structure, unlike what is commonly held among GP-ists (and what equals to the rejection of the Projection Principle). It contains only a string of segments, which are associated with syllabic arborescence within the course of derivation - this is named ‘determining of representations’. Nevertheless, since his representations are not stored, but are effects of computation over a string of segments, this influences the whole classification of his theory on the representation vs. computation scale. Even though he uses many theoretical tools typical for GP, like the whole constituent structure, empty nuclei, and government and licensing relations, Gussmann’s (2006a) model of Government

Phonology would not be a representational theory, since representations do not exist *a priori*. It would be most appropriate to call it Derivational Government Phonology. Nonetheless, it is possible that Gussmann actually meant something else.

A different (and probably the correct) reading of Gussmann's proposal is that the lexicon contains not an unsyllabified string of segments, but simply two underlying representations (as he overtly says). The 'determining of representations' would then take place during the process of language acquisition. Icelandic children would construct two underlying representations on the basis of surface vowel length fluctuation.² But in such a case, the link between the two representations is missing. Why could both of them be realisations of the same lexical item? The self-imposing solution is phonologically conditioned allomorphy. Thus, two alternants have different underlying representations, which are selected on the basis of phonological criteria. This proposal saves the Projection Principle, but suffers from a serious flaw of a different kind. If we assume that almost every Icelandic lexeme has two separately stored allomorphs, one with a long and one with a short vowel, we double the storage. This is a very unrealistic theory of the lexicon. Recall that a similar English alternation *keep* ~ *kept* was moved by Kaye (1995: 312) into morphophonology, but this is wholly acceptable, since it concerns only a couple of lexicalized and phonologically non-parsable forms, whereas in Icelandic the alternation is a living phonological regularity which is valid for the whole language. It is very unlikely that speakers of Icelandic store almost every morpheme twice. For this reason, phonological means should be exploited to express the regularity, without recourse to positing distinct underlying representations for both forms.

Even though this paper concentrates primarily on Gussmann's way of handling the phenomenon (since his publications are devoted specifically to the Icelandic data), it cannot be left unmentioned that there has also been another way of explaining the process of open syllable lengthening/closed syllable shortening in Standard Government Phonology. In order to complete the picture and to present the overall lacking potential of SGP to account for this phenomenon, an alternative view will also be addressed. Kaye (1990) is one of the founding papers of the theory, where the author introduces the principle of coda licensing. He scrutinises also the phenomenon of closed syllable shortening, providing examples from languages like Yawelmani and Turkish. The author concludes that the process actually does not have anything to do with closed syllables, contrary to what is traditionally assumed. His explanation is advanced along a different way of reasoning, which is already reminiscent of the Strict CV approach. In his account, all alternating vowels are underlyingly long, i.e. associated with two skeletal positions. All clusters provoking shortening are assumed to be bogus clusters and enclose an empty nucleus. Kaye's generalisation runs as follows:

A long vowel shortens when the following nucleus is the licensed empty nucleus. (Kaye 1990: 317)

It is necessary to admit that this way of explaining closed syllable effects is devoid of the problems accompanying Gussmann's proposal, but its disadvantage lies in the lack of logical connection between the process and its environment. Why should a vowel

² This process is by no means incompatible with the assumption that syllabic arborescence is stored. This idea does not exclude the possibility of the existence of a syllabification algorithm, since the syllabic structure somehow needs to find its way into the lexicon. Note that people learn new words all life long, and they also need to be syllabified.

shorten when the following nucleus is a licensed empty nucleus? In the theory of SGP there is no mechanism, no lateral force, no constituent interaction, which would be able to explicate this kind of relation between two nuclei. A successful theory of phonology should be able to provide a precise reason for a lengthening/shortening. Only then it could be said to have an explanatory value. Kaye's generalisation actually constitutes a reformulated observation, rather than an explanation.

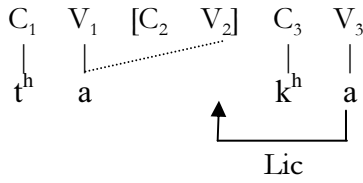
To sum up, regardless of how one would formulate the lengthening rule in Standard Government Phonology, some complications appear. If we state that rhymes always need to branch, we violate the complexity condition on licit coda-onset clusters. If we say that the stems of words like *gulur* and *gylra* share the same underlying representation, we violate the Projection Principle. If we move the alternation into morphophonology, we arrive at an unrealistic theory of the lexicon. Finally, if we follow Kaye (1990) and state that vowels are shortened before a licensed empty nucleus, it still remains unclear why the process takes place at all. All these factors contribute to the fact that it is hardly possible to express Icelandic tonic lengthening as a phonological process in Standard Government Phonology. The framework simply was not created to deal with vowel length alternations governed by a phonological process. Given that, it is necessary to admit that Gussmann (2006a) quite impressively squeezed out of SGP as much as it was possible. It ended up, however, in the rejection (or at least a rigorous redefinition) of the Projection Principle and the Coda Licensing Principle. The case of Icelandic lengthening proves unambiguously that Standard Government Phonology in its original formulation is not successful at explaining all phonological phenomena (especially the ones pertaining to alternations of vowel length) and that alternative accounts are welcome.

3 Icelandic vowel length in Strict CV

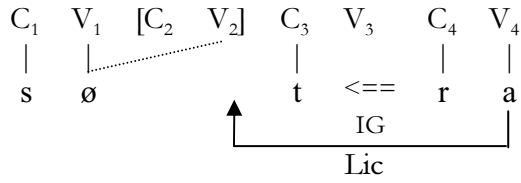
Strict CV theory, laid out mainly in Scheer (2004), is one of the most recent developments of Government Phonology. It takes the lateral idea of GP into its logical end by completely disposing of arboreal structure and placing the responsibility on two lateral forces: government and licensing. The theory develops Lowenstamm's (1996) proposal that constituent structure boils down to the sequence of strictly alternating onsets and nuclei. In Strict CV a CV slot (an onset followed by a nucleus) is the smallest possible phonological unit. Neither a C nor a V can exist in isolation. The consonantal position may be simply empty, i.e. not associated with any phonetic substance. The vocalic position is normally pronounced. If we need an unpronounced nucleus, i.e. when we face a consonant cluster, some special conditions need to be fulfilled, gathered under the notion of ECP (*Empty Category Principle*). One possibility is that the empty nucleus is governed by the following nucleus. Another is that it is enclosed within the domain of Infrasegmental Government. The latter takes place in obstruent-sonorant sequences, where the sonorant can govern the preceding obstruent. A still different way to satisfy ECP is exercised by domain-final empty nuclei: these are parametrically governed.

Scheer (2004: 255-259) formulates an overall, cross-linguistically relevant theory of tonic lengthening. He proposes that stress projects an additional empty CV slot coming immediately after the stressed vowel. The melody of the stressed vowel can spread into the empty V slot on condition that the latter is licensed. Relevant Icelandic examples are depicted below:

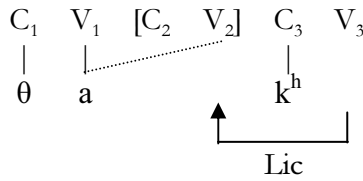
(11)



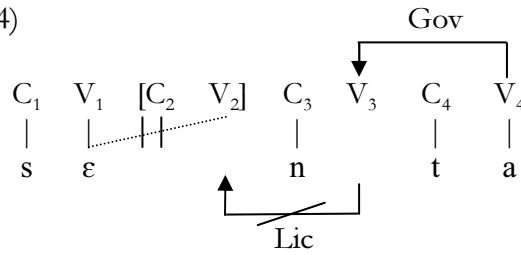
(12)



(13)



(14)



In example (11) V_3 can licence V_2 , hence the melody from V_1 can spread on it and the vowel comes out long. In example (12) V_3 is enclosed within the domain of Infrasegmental Government, which means that its lateral forces are disabled and that it is invisible for V_4 . This is why V_4 may reach V_2 and licence it. In example (13) an important property of the model is presented. FENs (Final Empty Nuclei) are parametrically either laterally enabled or disabled, i.e. they can licence and govern or they cannot do so (Scheer & Ziková 2010, Scheer 2012: 166). In Icelandic the parameter is on, which means that FENs can licence a CV provided by stress and vowels in simple CVC words are always long. Finally, example (14) depicts a word with a coda-onset cluster, in which the vowel is necessarily short. V_4 governs V_3 , hence V_4 cannot licence V_2 and the vowel from V_1 cannot spread onto it.

Scheer's account successfully overcomes both weaknesses of Standard Government Phonology described in the previous section.

First, the problem of complexity condition on coda-onset clusters disappears, since in Strict CV there is no mechanism of Coda Licensing. All clusters which are not domains of IG are bogus clusters, with an empty nucleus demanding government. It does not matter what melodic structure the flanking consonants have, and words like *senda* with falling sonority behave exactly like *biðja* or *evri*, which have rising sonority slopes.

Second, in Strict CV there is no problem of resyllabification, since all consonants are onsets anyway. What is more, the proposed solution is purely phonological and the mechanism operates on a single representation for every word under discussion.

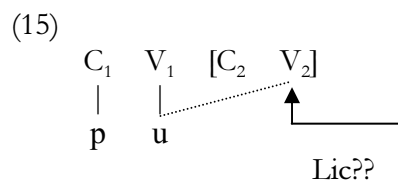
Nevertheless, it needs to be emphasised that Scheer's account is not perfect either, since there are several complications of theory-internal and empirical nature. Some of them may be overcome quite easily, by introducing cosmetic changes to the theory. Some other cast doubt on the whole mechanism of lengthening and architecture of the phonological system.

3.1 Monosyllabic CV words

Scheer asserts that licensing is an indispensable criterion for the empty CV slot to have the melody from the preceding vowel spread: "the complement of alternating long

vowels must be licensed. Vocalic melody cannot spread onto unlicensed targets” (Scheer 2004: 265). There are cases in which this condition appears not to be fulfilled.

First of all, there is no obvious source of licensing in monosyllabic CV words. Consider the following example:



There is no nucleus coming after V_2 . Therefore it should not be licensed and the vowel should emerge as short, but it doesn't. A similar problem occurs in many other languages with tonic lengthening (e.g. Italian). Scheer (2004) does not include such examples in his account. This is certainly a gap of his proposal.

A welcome modification of the model would be introducing parametric licensing, which was proposed by Zdziebko (2010: 172, 2012: 89) to account for lengthening in domain-final position in Scottish varieties of English. Also Scheer (p.c.) indicates that the CV provided by stress is parametrically licensed when it is domain-final. If domain-final empty nuclei can be parametrically governed (this is the condition on their very existence), they can also be parametrically licensed. This is most probably the best (or the only?) thing to do. However, a question which arises is whether the stress-induced CV should be any different from other CVs in the representation. Preferably it should not, since an additional type of phonological object (“a CV provided by stress”) would have to be recognised. This would be a factor limiting the restrictiveness of the theory.³ Assuming that it is not different, one should try to answer why only this final empty CV should undergo parametric licensing? It would be more logical to assume that all domain-final empty CVs in a representation may be parametrically licensed. Zdziebko (2010:172) formulates the Final Nucleus (FN) licensing parameter:

(16) License FN [ON]/OFF

Actually, Zdziebko's proposal goes even one step further. His parameter licences all final nuclei, be it empty or not. This is a strong formulation, which is probably worth rethinking, unless it is convincingly demonstrated that licensing produces some effect on final phonetically expressed nuclei. So far, the only postulated working of the parameter is that spreading may occur onto an empty licensed nucleus from the preceding nucleus. It has no effect on FENs coming immediately after consonants, and no effect on phonetically expressed final nuclei. Of course, it is possible that it accidentally does not produce a noticeable result, but in order to postulate such a parameter more properties

³ The anonymous reviewer points towards another problem: since Scheer's intervocalic licensing applies in the same conditions as Proper Government, the licenser/governor needs to be able to distinguish their targets. This implies that there *is* a difference between the CV provided by stress and other CVs, indeed. Note that Scheer and Ziková (2010: 420) give priority to government over licensing in cases when both could apply. This suggests that long vowels should never surface. This is another flaw of Scheer's proposal which could be added to the ones described in the main body of the present article.

should be identified for which it could be responsible. Exploring the effects of parametric licensing of final nuclei would be a research-conducive area, but for the time being, it is more economical to propose that only FENs are licensed by a parameter.

Thus, parametric variation at the right edge of domains would look in the following way: parametric government would be responsible for the existence of word-final empty nuclei. FENs can be also parametrically licensed or not. Normally, it should not produce any noticeable result. It manifests itself only in systems with tonic lengthening and related phenomena. In such cases, the CV provided by stress is parametrically licensed and monosyllabic CV words can always have a long vowel on the surface.

Note, however, that the positive setting of the parametric government of FENs is not the prerequisite for the positive setting of the parametric licensing. Languages without ‘true’ FENs may also have tonic lengthening. Italian is the case in point: whereas there are no consonant-final words (except a few loanwords), there is tonic lengthening and it applies also to monosyllabic words. This means that Vs in the CV provided by stress in monosyllabic words are the only FENs in this language. Consequently, only they are affected by the Final Licensing parameter.

An alternative way of dealing with the lack of licensing in monosyllabic CV words could be postulating the existence of a template for a minimal word. Minimal word requirements are common in various languages of the world, and sometimes lead to phonological modifications which are otherwise inexplicable. The standard example is provided in Mester (1994: 22). The vowel in the Latin form *dā* ‘give, imp. sg.’ is lengthened only to satisfy the minimal word requirement (which happen to be equal to two moras in Latin). The vowel of the stem is lexically short, as evidenced in the infinitive *dāre* and by all other paradigmatic forms. The argument put forward in the moraic framework may be easily reformulated in Strict CV by stating that the minimal word in Icelandic must span over two CV slots. This is a promising result, but it is necessary to recognize that it would introduce a disjunction into the explanation of causality of vowel lengthening in Icelandic.

3.2 The fate of the empty CV in closed syllables

Another problem with Scheer’s theory is that it is not clear what happens to the empty CV in closed syllables, like *senda*. It is not licensed, which is why the melody from the preceding nucleus fails to colonize it. But note that it is also ungoverned. If the empty CV stays in the representation, the ECP demands that there are no ungoverned nuclei. Since there is no source of government, the ECP is not satisfied and the representation is ill-formed. If, however, the empty CV is removed from the representation, the process of “removing” should be somehow formalized and justified. It is a controversial move, since it would suggest that we may remove any CV slots from the representation whenever it is convenient. This should not be possible, especially when we once again emphasise that this CV should not be different from any other CV slots.

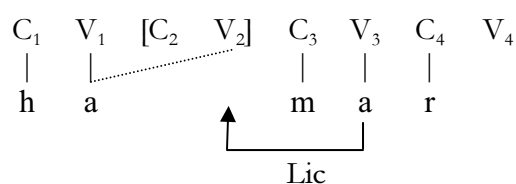
This problem is of a much wider provenience that one may think, since it provokes questions about the integrity of the skeleton in Strict CV. In Standard Government Phonology removing skeletal slots was banned due to the Projection Principle and the Structure Preservation. Most skeletal positions were involved in the net of static lateral relations and removing any slot would change one of them, even though some slots happen to have no associated melody and thus not to be pronounced on the surface. However, in its original formulation the Projection Principle is of no use in Strict CV,

because licensing and government relations belong to computation anyway. An exception is Infrasegmental Government, which is defined in the lexicon (Scheer 2012: 145, see also the discussion in the next section). Hence, if we assume that the Projection Principle is still valid in Strict CV, its only effect would be assuring that the relation of Infrasegmental Government is not broken within the course of derivation. If it does not exist, there should be a different tool which assures that it is impossible to remove skeletal positions from the representation. As a matter of fact, the very mechanism of stress inducing a CV insertion is suspicious, since it also modifies the underlying prosodic structure. Phonological operations definitely should be able to do things like link, delink, and spread melodic units, but the skeleton itself should always remain intact. Probably a constraint like *Skeleton Integrity*, which bans any modification of the prosodic structure, is necessary.⁴ This is still missing from the theory.

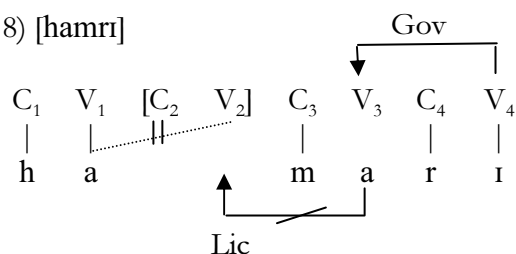
3.3 The nature of “branching onsets”

A still different complication arises in cases in which the “branching onset” is created by a vowel-zero alternation. First, examine the following example:

(17) [ha:mar]



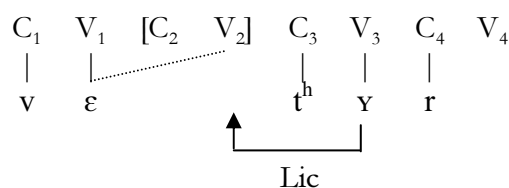
(18) [hamri]



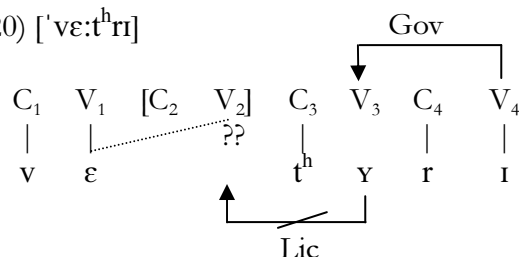
In the word *hamar* ['ha:mar] ‘hammer, nom, sg.’ V₃ is ungoverned, hence it can fulfil its lateral duties and license the CV provided by stress. This is why the vowel is long. In the dative form *hamri* ['hamri] V₃ is governed, which is why it is delinked and laterally disabled. Therefore V₂ remains unlicensed and the stressed vowel is pronounced short. In this way Scheer’s account correctly predicts the length alternation between *hamar* and *hamri*. Note, however, that similar behaviour could be expected before all clusters arising as a result of vowel ~ zero alternation. This seems not to be the case:

⁴ It is worth pointing out that the postulated principle of *Skeleton Integrity* is not in conflict with Scheer’s (2012) Direct Interface. Boundary information may be still represented in phonology as an empty CV slot, since it does not influence the skeletal representations of morphemes *per se*, but is inserted between morphemes.

(19) ['vɛ:tʰɪr]



(20) ['vɛ:tʰrɪ]



In example (20) V_4 also governs V_3 . For this reason V_3 should not be able to licence V_2 . However, both *vetur* ‘winter, nom. sg.’ and *vetri* ‘dat. sg.’ have a long vowel. This particular *tr* cluster is not a branching onset in Strict CV terms, i.e. it cannot be a domain of Infrasegmental Government, since it hosts a vowel ~ zero alternation. It is a bogus cluster and it should be preceded by a short vowel. The theory does not predict the possibility of IG being secondarily established. Even if it did, it would still be more natural to expect a short vowel, since otherwise it would have to be assumed that lateral forces may be redefined and that derivation may at some point move backwards. This is incompatible with Scheer and Ziková’s proposal that phonological computation proceeds invariably from right to left (2010: 428).

A question of a very similar nature is whether IG can be established on a morpheme boundary. “Branching onsets” which provoke lengthening sometimes are created by concatenating an inflectional ending. Compare the following data:

(20) *flata* ['fla:tʰa] ‘flat, acc. sg. fem.’ *flatrar* ['fla:tʰrar] ‘gen.sg.’
lík [li:kʰ] ‘similar, fem.’ *líkri* ['li:kʰrɪ] ‘dat.sg.’
ljót [ljou:tʰ] ‘ugly, fem.’ *ljótra* ['ljou:tʰra] ‘gen.pl.’

(21) *ljúf* [lju:v] ‘dear, fem.’ *ljúfri* ['ljuvrɪ] ‘dat. sg.’
góð [kou:ð] ‘good, fem.’ *góðra* ['kouðra] ‘gen.pl.’

If the adjectives in (20) are stored in the lexicon as CVC simplexes, this would imply IG being a dynamic process. Otherwise, these “branching onsets” should behave like bogus clusters. This poses a fundamental question: is Infrasegmental Government a piece of computation (like Licensing and Government) or exists in the representation prior to it? Scheer (2012: 145) asserts that Infrasegmental Government “defines a TR cluster as a branching onset in the lexicon”. This is irreconcilable with the data presented

in (20). Also, storage of the whole paradigm would not be probable, judging by the full productivity.⁵

What is conspicuous in these data is the surface-based nature of the conditioning environment of lengthening: it does not take place before any abstractly defined “domains of Infrasegmental Government”, but before *surface* clusters of *ptks* + *jvr* (and *bdg* + *r* in loanwords). The frameworks of Government Phonology and Strict CV demand, however, different representations for “true” branching onsets, different for branching onsets enclosing an alternation site, and still different for clusters arising as a result of morphological concatenation. The latter two should behave like bogus clusters. A stance should be taken about the representation of such clusters and about the status of Infrasegmental Government in the theory.

3.4 Peculiar behaviour of stem-final fortis plosives

The problem presented in this subsection is a challenge not only for Strict CV, but for many other phonological theories. It concerns the behaviour of fortis plosives on morpheme boundaries and its interaction with the rule of lengthening. The data come predominantly from Gussmann (2002: 181-184).

The addition of the gen. sg. *-s* ending to a CVC stem almost always blocks lengthening:

- (22) *heim* [hei:m] ‘world, acc. sg.’ *heims* [heims] ‘gen. sg.’
 dal [ta:l] ‘valley, acc. sg.’ *dals* [tals] ‘gen. sg.’

But when the stem ends in a fortis plosive, length is often retained (with the aspiration being released, at least in the northern dialect). When it is not, the plosive undergoes lenition to a plain plosive or a fricative. The forms appear to be in free variation:

- (23) *tap* [t^ha:p^h] ‘loss’ *taps* [t^ha:p^hs] or [t^haps] or [t^hafs]
 rit [ri:t^h] ‘writtenwork’ *rits* [ri:t^hs] or [rits] or [ris:]
 bak [pa:k^h] ‘back’ *baks* [pa:k^hs] or [paks] or [paxs]⁶

Even though not all possible words with stem-final fortis plosives have all three variants (token frequency appears to play a role here, see Lindqvist 2010: 69 for discussion), the pattern is still very conspicuous.

⁵ A different view of Infrasegmental Government which reinterprets the force as established in the course of derivation is advocated by Zdziebko (2012: 97). This proposal appears to be much more adequate for analysing Icelandic data. Nevertheless, it also does not predict the possibility of establishing Infrasegmental Government over a floating vowel.

⁶ These transcriptions are applicable only to the northern dialect, the so-called *harðmæli*, in which aspiration is released in fortis plosives word-initially, intervocally, and word-finally. In the southern dialect, *linmæli*, which is usually considered ‘standard Icelandic’ and is a basis for handbooks, only word-initial plosives are aspirated. Nevertheless, the delineated length phenomena are equally relevant for both dialects. Thus, *taps* in *linmæli* may pronounced as [t^ha:ps] or [t^haps] or [t^hafs], whereas *dals* only as [tals].

Similar behaviour with respect to length can be observed in compounds and words with stressed suffixes. In most cases the vowel in compounds is short, unless the stem ends in a fortis plosive or /s/.

- | | | |
|------|---|---|
| (24) | <i>von</i> [vɔ:n] ‘hope’
<i>vonlaus</i> [ˈvɔnlæys] ‘hopeless’
<i>baf</i> [ha:v] ‘ocean’
<i>vor</i> [vɔ:r] ‘spring’
<i>rauður</i> [ˈrœy:ðʏr] ‘red’ | <i>vonlegur</i> [ˈvɔnlɛyʏr] ‘reliable’
<i>hafkola</i> [ˈhavkɔla] ‘sea breeze’
<i>vorkeildi</i> [ˈvɔrkɛlti] ‘spring chill’
<i>rauðleitur</i> [ˈrœyðleitʰʏr] ‘reddish’ |
| (25) | <i>brosa</i> [ˈprɔ:sa] ‘to smile’
<i>bak</i> [pa:kʰ] ‘back’
<i>bvítur</i> [ˈkʰvi:tʰʏr] ‘white’ | <i>broslegur</i> [ˈprɔ:sleʏʏr] ‘smiling’
<i>bakpoki</i> [ˈpa:kʰpʰɔcʰi] ‘rucksack’
<i>bvítleitur</i> [ˈkʰvi:tʰleitʰʏr] ‘whitish’ |

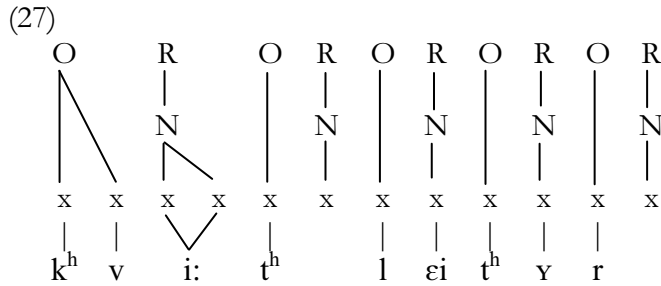
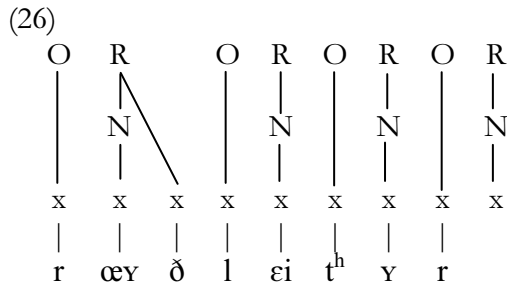
Sequences like [tʰl] and [sl] are certainly not branching onsets (since they never are morpheme-internally); it definitely cannot be proposed for [kʰpʰ]. Also, it is clearly not the property of the suffix that causes/blocks lengthening (since it produces different results in different words), but the melodic structure of the final consonant of the stem.

An aim at which the system seems to be striving is clear: an excessively complex expression containing {H} refuses to be syllabified in the coda, i.e. to occur after a short vowel. What we observe is a conspiracy of different effects leading to it.⁷ Both the retention of length and the lenition of the plosive before -s are two of such effects. Preaspiration may be considered another instantiation of this conspiracy. In the preaspiration process a complex fortis plosive which would be syllabified as a coda is split into [h] and a lenis plosive.

The peculiarity of the phenomenon consists in the impossibility to say unambiguously how many domains are involved, when respective morphemes are concatenated, i.e. domain resolution is conditioned by complexity of the final consonant of the stem. It looks like normally compounds/gen. ending merge into one phonological domain, when the first consonant of the second morpheme can make a coda out of the last consonant of the first morpheme. Since fortis plosives cannot be syllabified as a coda, the first morpheme remains a separate phonological domain. Hence, in the word *rauðleitur* there is one phonological domain: the [l] looks to the left, makes its coda out of the [ð], and the vowel comes out short. In contrast, in the word *bvítleitur* the [l] looks to the left, but it cannot make a coda out of [tʰ], hence the first morpheme remains in a separate phonological domain.

Before the perspective of Strict CV on the problem is analysed, it is worth taking a look at how Standard Government Phonology handled (or rather failed to handle) the problem. Gussmann (2002: 184) interprets the phenomenon along the lines of the syllabification requirements, according to which fortis plosives always need to be syllabified in the onset. He assumes a dynamic syllabification algorithm, which makes full use of empty nuclei. Figures (26) and (27) depict representations of *rauðleitur* [ˈrœyðleitʰʏr] ‘reddish’ and *bvítleitur* [ˈkʰvi:tʰleitʰʏr] ‘whitish’:

⁷ The notion of conspiracy was introduced into phonology by Kisseberth (1970).



This proposal is empirically adequate and allows us to cover almost all examples. However, what is missing is a representation for the morpheme boundary. *Hvítleitur* can have a long vowel *only* because the cluster arises on a morpheme boundary. If underlying /t^hl/ is morpheme-internal, the vowel comes out short and the plosive is preaspirated: *ætla* ['aihtla] ‘intend’. The boundary is the culprit and if Gussmann’s syllabification operated blindly, it would not distinguish between *hvitleitur* and *ætla*, returning the same result in both cases: either lengthen the vowel, or produce preaspiration. A syllabification algorithm which does not consider the boundary makes a false prediction and fails to account for the difference of vowel length in these examples.

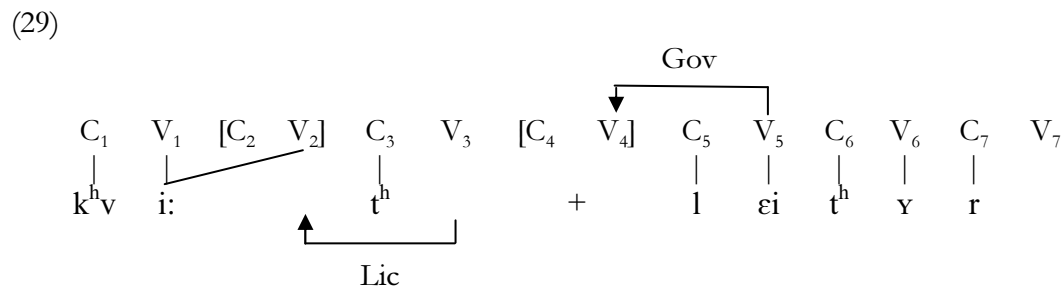
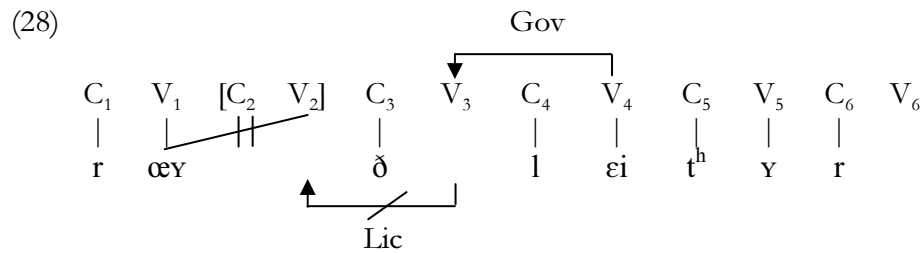
Segments which behave in this way include not only the three fortis plosives, but also /s/, which sometimes syllabifies as a coda (morpheme-internally, e.g. *taska* ['t^haska] ‘bag’, *veisla* ['veisla] ‘party’), and sometimes as an onset (when stem-final, e.g. *brosgjarn* ['pro:scartŋ] ‘funny’, *broslegur* ['pro:sleŷyR] ‘smiling’). This is why Gussmann (2002: 187-93) dubs it a ‘double agent’. Árnason (2011: 197) correctly points out the arbitrary nature of this suggestion and lack of autonomous explanation for the dichotomy. What is really at issue here is not the double life of /s/, but interface activity, the representation of which is missing from SGP.

As Scheer (2012: 145) points out, there has never been any way to represent a morpheme/word boundary in Standard Government Phonology. Neither the melody nor syllabic arborescence (onsets, nuclei, rhymes) qualify for this purpose. This is why such data as the above mentioned Icelandic case are unsolvable with traditional SGP tools.

Within Strict CV representation for boundary information is an inherent (and very important) part of the framework. Scheer (2012) introduces a theory of morphology-phonology interface, known as *Direct Interface* (DI). The cornerstone of DI is that it disallows the presence of purely morphosyntactic vocabulary in the phonological representation. Such a move violates modularity. This is why diacritic symbols like # or + cannot function as phonological entities: they cannot be addressed or instructed by phonological computation in any way, they are incomprehensible in a strictly modular

world. However, whenever morphosyntactic boundaries really play a role in phonology, i.e. whenever there are processes which take place (or are blocked) in the presence of the boundary, a way needs to be identified to represent these boundaries. The requirement of DI is that they should be represented as truly *phonological units* and defined in phonological vocabulary. This boils down to empty syllabic space, expressed in a form which is dependent on the analyst’s framework: an empty skeletal position, an empty mora, or an empty CV slot. Thus, a # or a + present in the morphosyntax is translated into phonological vocabulary and manifests itself (in Strict CV) as an empty CV unit. Possible effects of the empty CV are that it provides syllabic space for some processes to occur or, in other cases, it blocks some processes which call for adjacency.

Figures (28) and (29) depict possible Strict CV representations for *rauðleitur* ‘reddish’ and *hvítleitur* ‘whitish’. In the former case the suffix attaches synthetically, i.e. it does not produce the empty CV. In the latter example, the morpheme boundary translates into an empty CV slot, thanks to which the vowel of the suffix cannot reach V₃. Thus, V₃ (being domain-final) is laterally enabled, can license V₂ and the word can surface with a long vowel.



The Strict CV representation is superior to the SGP one also with respect to the requirements of the interface between morphosyntax and phonology, since it provides us with a uniform way of representing a morpheme boundary. However, what still remains unsolved is the explanation for the trigger for translation. Translation of boundary information into a CV slot cannot take place in arbitrarily selected contexts, or be dependent on phonological factors. This is always decided by the morphosyntax, and different morphemes have different properties in this respect. It would be desirable to state unambiguously whether the gen. sg. -s ending or the *-leitur* suffix attaches synthetically or analytically, or whether it produces an empty CV or not. It cannot be both. The issue should be decided by morphosyntax and be an inherent property of this particular morpheme. Here, the process seems to be phonologically conditioned.

Of course, an appealing solution would be to postulate that phonological domains in compound words are determined lexically, i.e. stored in the lexicon for every lexical

item. In such a way *rauðleitur* would have one phonological domain, because it is stored as a simplex, and *bvítleitur* is stored as bimorphemic (or dynamically derived), which manifests itself also in its phonological behaviour. Probably for some words it is the case, but this cannot be the whole truth, since this does not account for full productivity. The data in (24) and (25) show the productive, living pattern, in which the degree of dependence on phonological factors is astonishing and cannot be considered accidental. Also, this certainly would not work for the genitive *-s*, partly due to the variation involved, and partly due to the fact that inflection is universally believed to be computed rather than stored.

Also, in compounds demonstrated in (24) and (25) the domain vacillations are evidenced by other phenomena. Note that in *vorkuldi* ['vɔrkyltɪ] ‘spring chill’ the process of sonorant devoicing by the following fortis plosive takes place. This is an additional piece of evidence for adjacency of the two consonants on the skeleton (or for their belonging to the same domain, or for the absence of the empty CV between them). Besides, words like *bakþoki* ['pa:k^hp^hɔc^hi] ‘rucksack’ are bizarre from the phonotactic point of view. Even putting the phenomenon of vowel length aside for a moment, the phonetic sequence of two aspirated fortis plosives [k^hp^h] is not a usual thing to have domain-internally. The workings of the boundary are here unquestionable.

An empirically adequate generalisation would be the following: if the stem ends in a fortis plosive or /s/, concatenate inflectional/derivational suffixes analytically (which translates into: provide an empty CV). If the stem ends in any other consonant, concatenate inflectional/derivational suffixes synthetically (=do not provide an empty CV). In other words, translation of boundary information in Icelandic appears to be determined by melodic factors.

The traditional story is that domains are provided by morphosyntax; phonology normally does not have the power to “destroy” the boundary between them, or to influence it in any way. Also, specifically within Strict CV, it cannot simply remove the boundary-induced CV when the melodic structure of neighbouring consonants meets some complexity requirements. It is also doubtful whether the failure of a representation-based explanation can be compensated for by phase-based phonology. The phase structure for one and the same suffix, like *-leitur*, should be uniform for all cases in which it occurs: either [root-suffix], or [[root]suffix], and cannot be dependent on melodic conditioning.

The causality of interface phenomena *always* lies in the morphosyntax. This is (or at least should be) true for every framework of phonology and modularity-faithful theory of phonology-morphosyntax interface. With this in mind, Icelandic data are a big challenge.

4 Conclusion

The paper demonstrated that current representational approaches to phonology have several drawbacks, which make it impossible to provide a satisfactory account of Icelandic vowel lengthening. We can observe a classical conflict between a restrictive theory and a set of data which do not “fit in”. Icelandic data put Standard Government Phonology in a very unfavourable situation - the kind of constituent structure postulated there, when combined with the Projection Principle, is very difficult to be married with systems involving tonic lengthening. Scheerian Strict CV allows a much better formulation of the regularity, but there are some minor complications which demand

either modifying some principles of the model or analyzing tonic lengthening in a different way.

Especially the surface-based nature of clusters provoking lengthening should be taken into account: since Icelandic “branching onsets” sometimes contain a nucleus and sometimes not, but still behave in the same way with respect to length, it is worth considering that lengthening belongs to some post-lexical component (the existence of which the architecture of CVCV does not contain), or to phonetic implementation (note the feeding relationship of the rule). The peculiar behaviour of *p*, *t*, *k*, *s* on morpheme boundaries definitely calls for closer examination.

On the whole, a successful representational account of Icelandic vowel length should:

1. provide a *phonological* explanation of the process;
2. explain why CV words have a long vowel (licensing-based accounts have a problem here, unless parametric licensing, or a similar mechanism, is assumed);
3. explain why CVC words have a long vowel (classical syllabic approaches fail);
4. explain why only *ptks+jvr* and *bdg+r* clusters provoke lengthening and no other clusters;
5. explain the surface based-nature of the lengthening (problems for theories without more than one derivational stage); and
6. explain the peculiar behaviour of *ptks* on morpheme boundaries (problems for all theories of phonology-morphosyntax interface).

An alternative approach to the phenomenon of lengthening in Icelandic (and Faroese) was presented in Fortuna (2013ab). A modification of the Strict CV theory argued there allows us to overcome some of the difficulties mentioned in this paper, although by no means all. A still different line of research towards length phenomena was envisaged in Pöchtrager (2006), one of the founding works of GP 2.0, a new, very promising version of Government Phonology. One way or another, it is hoped that progress in linguistic theory will one day bring a solution to all problems addressed in this article.

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Free choice and Focus: FCIs in Hungarian

Tamás Halm

This paper examines free-choice items (FCIs) in Hungarian and puts forward the main claim that these items have the capacity to display both universal and existential quantification, depending on their syntactic position, especially their optional location in the Focus position. The semantics of focused FCIs will be derived from the existence and exhaustivity presuppositions standardly associated with the Focus position and the universal inference of the FCI (due to the scalar presupposition). This result neatly corresponds to semantic accounts proposed for the *wh-ever* family of FCIs in English. This paper presents a useful contribution to the general debate on FCIs in many ways: 1) it presents a clear-cut case of the universal/existential reading of an FCI being constructed compositionally on the sentence level, and 2) shows that free relatives with an FCI flavour (*wh-ever* words) can either be encoded in the lexicon separately from general-purpose FCIs (e.g. English) or can be constructed compositionally (e.g. Hungarian).

Keywords: *syntax, semantics, free-choice items, focus*

1 Introduction

This paper is concerned with free-choice items (FCIs) in Hungarian and especially their interaction with the identificational Focus position. It will be shown that while in general, FCIs in Hungarian act as universals, an existential reading can be elicited compositionally in the Focus position. This reading will be derived straightforwardly from the interaction of the semantics of the FCI *bárki* ‘anyone’ and the inferences of existence and exhaustivity standardly associated with the Focus position. It will further be shown that a focused FCI in Hungarian has a reading that corresponds to that of the free relative-like FCI *wh-ever* in English. This indicates that languages have two separate strategies for encoding the two main flavours of FCIs (i.e. *any* and *wh-ever*): a lexical strategy exemplified by English and a compositional one (e.g. in Hungarian).

This paper is organized as follows. In Section 2, the outlines of the main problem and its significance will be provided. Next, a short overview will be given on the behaviour of FCIs cross-linguistically and the main theoretical approaches and accounts (Section 3). In Section 4, we examine the morphology, semantics and syntax of FCIs in Hungarian. Section 5 contains our proposal for an account of the behaviour of FCIs in the Focus position and outlines the wider implications of this solution for the general theory of FCIs. As a conclusion, Section 6 summarizes the main findings of this paper, pointing out some open issues warranting further research.*

* I wish to thank Katalin É. Kiss, Balázs Surányi and an anonymous reviewer for their valuable comments and advice. All remaining errors are mine.

2 The problem: FCIs and Focus

FCIs and the focus position interact delicately in Hungarian:

- (1) *(Ha) bárki meg jön, üdvözöld őt.*
 [_{AspP} bárki [_{AspP} meg jön...]]
 (if) anyone PRT comes, greet him.
 ‘If anyone comes, greet him.’
- (2) *(*Ha) BÁRKI jön meg, üdvözöld őt.*
 [_{FocP} bárki jön_i [_{AspP} meg t_i...]]
 (*if) anyone comes PRT, greet him.
 ‘Whoever comes, greet him.’

The sentences below display the FCI *bárki* ‘anyone’ in a non-focused (1) and in a focused (2) position; the relative order of the (resultative) verbal particle and the verb being one of the standard diagnostics of the identificational focus construction in Hungarian. (Following tradition, the focused element is capitalized.)

The two sentences above raise some thorny questions (to be answered in the sections that follow):

- a) Independent evidence (see Section 4) shows that FCIs act as universals in Hungarian. Universals, however, are taken to be bad candidates for predicate nominals cross-linguistically (Giannakidou and Quer 1995, Puskás 1998, Surányi 2002) and thus non-focusable in Hungarian.
- b) Focus has a profound effect on information structure. How and why exactly do the two sentences above differ in meaning?
- c) What exactly licenses the FCI in the focused sentence? The environment is clearly not modal as the particle *ha* ‘if’ renders the sentence ungrammatical.

3 FCIs cross-linguistically: theoretical background

Intuitively, FCIs are elements that express free choice (Vendler 1967) and are further distinguished by their (non-)availability in a number of specific environments:

Affirmative episodic:

- (3) *I invited anyone.

Possibility modal:

- (4) I may invite anyone.

Generic:

- (5) Any owl hunts mice.

Negation:

- (6) I did not invite anyone.

One school of thought aimed to analyze FCIs as a class of polarity-sensitive items (Baker 1970), with Ladusaw (1979) distinguishing between two kinds of *any*: polarity-sensitive *any* (appearing in negative contexts) and free-choice *any* (appearing elsewhere). Kadmon-Landman (1993) proposed a uniform analysis of both kinds of *any* (see below).

FCIs have also been closely scrutinized in terms of their quantificational power. While some studies argued for *any* having a (quasi-)universal quantificational force (Reichenbach (1947), Quine (1960), Horn (1972, ch.3, 2000), Lasnik (1972), Kroch (1975) and Eisner (1995); others aimed to accommodate both a universal and an existential reading of *any* (Horn (1972, ch.2), Ladusaw (1979), Carlson (1981), Linebarger (1981) and Dayal (1998)):

The apparently variable quantificational force of indefinites and their special morphological composition in many languages have given rise to the analysis of FCIs as indefinites (Heim 1982, Partee 1986, Kadmon and Landman 1993, Lee and Horn 1994, Giannakidou 2001, Kratzer and Shimoyama 2001, Giannakidou and Quer 2012).

Other important factors considered relevant to the behaviour of FCIs include contextual vagueness (Dayal 1997), nonveridicality and nonepidodicity (Giannakidou 1997 and 2001), scalarity (Fauconnier 1975, Lee and Horn 1994, Rooth 1985, Hoeksema and Rullmann 2000, Krifka 1995, Lahiri 1998, Kadmon and Landman 1993) and widening (Kadmon-Landman 1993, Aloni 2002).

4 FCIs in Hungarian

4.1 Morphology

FCIs in Hungarian are morphologically complex, being made up of a lexical element with independent meaning and a wh-indefinite:

$$\begin{array}{l}
 \text{akár- ('even')} \text{ or } \text{bár- ('even though')} \\
 + \text{ wh-indefinite } \text{-ki ('who'), -mi ('what'), -hol ('when')} \\
 = \text{ akárki ('anyone'), akármi ('anything'), akárhol ('anywhere')}
 \end{array}$$

Figure 1

This is in fact a general pattern for quantifiers in Hungarians:

	-ki ('who')	-mi ('what')	-hol ('where')
akár- ('even')	akár ki ('anyone')	akár mi ('anything')	akár hol ('anywhere')
bár- ('even though')	bár ki ('anyone')	bár mi ('anything')	bár hol ('anywhere')
minden- ('every')	minden ki ('everyone')	minden mi ('everything')	minden hol ('everywhere')
vala- (-)	vala ki ('someone')	vala mi ('something')	vala hol ('somewhere')

Figure 2

Similar patterns have been found in several languages such as Japanese and Lithuanian (Kratzer-Shimoyama (2002), Abrusán (2007)).

A peculiarity of Hungarian is that there are in fact two families of FCIs: the *akár-* ('even') paradigm and the *bár-* ('even though') paradigm. As far as their syntactic distribution and semantics are concerned, these two versions of FCIs (*bár-* and *akár-*) are completely interchangeable. While Szabó (2012) does point out some frequency differences in certain constructions, we believe these are due to stylistic factors rather than grammaticality.

4.2 Licensing Environments

As far as licencing environments are concerned, FCIs are ungrammatical in plain episodic affirmative sentences:

- (7) #*Meg néztem bármit.*
 PRT saw-1PSG anything
 'I had a look at anything.'

They are grammatical in possibility modal contexts:

- (8) *Akárhova (el) utazhatsz.*
 Anywhere PRT travel-S2P-POSSIB
 'You can/may travel anywhere.'

Unlike in many other languages (e.g. English), FCIs in Hungarian are ungrammatical in generic statements:

- (9) **Bármelyik bagoly egerekre vadászik.*
 any owl mice-onto hunts
 'Any owl hunts mice. (Owls hunt mice).'

As far as polarity-sensitive (PS-) *any* is concerned, the picture is somewhat complicated. FCIs are ungrammatical in straight negative episodic sentences:

- (10) a. **Nem láttam bárkit.*
 Not saw-1PSG anybody
 'I did not see anybody.'
 b. *Nem láttam senkit.*
 Not saw-1PSG nobody.
 'I did not see anybody/I saw nobody.'

However, FCIs are grammatical in weakly non-veridical (Tóth 1999) constructions:

- (11) a. *Kevesen mondtak bármit (is).*
 Few said anything (too)
 'Few people said anything.'
 b. *Ki ballott bármit (is)?*
 Who heard anything (too)?
 'Who has heard anything?'

- c. *Bánom, hogy bármit (is) el mondtam.*
 Regret-1PSG that anything (too) PRT said-1PSG
 ‘I regret that I said anything (at all).’

In sum, FCIs in Hungarian behave similarly to those in other languages in classical free choice environments, however, they are not licensed in generic constructions. As far as polarity-sensitivity is concerned, FCIs are not licensed in straight negative sentences but are grammatical in weakly non-veridical constructions. Their superficial absence under straight negation may be connected to Negative Concord, however, we will not pursue this topic any further in this paper.

4.3 FCIs in Hungarian: Semantics

Abrusán (2007) provided the first and so far only (semantic) analysis of FCIs in Hungarian, concentrating on the FCI *akárki* ‘anyone’. In her account, the FCI *akárki* is composed of two elements:

<i>akár</i> ‘strong even’:	<i>even</i> (with additive presupposition) +Exhaustive Operator
+ <i>-ki</i> :	wh-indefinite
= <i>akárki</i> :	FCI

Figure 3

The meaning of *akárki* is thus compositional based on the meanings of its two elements. Abrusán (2007)’s strategy is to first derive the distribution of the particle *akár* and then claim that the distribution of the FCI *akárki* falls out automatically from this. The two meaning components of *akár* (additive presupposition and exhaustivity) are stipulated to clash unless *akár* is situated in a suitable environment (e.g. possibility modal) which defuses this inherent tension.

While Abrusán (2007)’s explanation is elegant and fits nicely with solutions proposed for other languages (Lahiri (1998), Kratzer-Shimoyama (2002)), we believe that it has a number of significant shortcomings both in terms of empirical cover and theoretical grounding.

As far as empirical cover is concerned, it is important to point out that the *bár*-family of FCIs is completely ignored. We have seen that *bár*- FCIs have an identical meaning and distribution to *akár*- FCIs. If Abrusán (2007)’s theory holds, one would expect to be able to derive their properties compositionally, i.e. from the respective meanings of *bár*- and the wh-indefinite. However, *akár* (strong ‘even’) and *bár* (‘even though’) have different meanings and syntax in Hungarian:

- (12) a. *Akár a diák is jelentkezik.*
 Even the student too register-3PSG-POSSIB
 ‘Even the student may register.’
- b. *Bár a diák is jelentkezik,*
 Even though the student too register-3PSG-POSSIB
ajánlás is szükséges.
 recommendation too necessary.
 ‘Even though the student may register, a recommendation is also necessary.’

If we assume that the meaning of FCIs in Hungarian is constructed compositionally from the meanings of their elements, the difference in the meaning of *bár* and *akár* would necessarily lead to a difference in meaning (and distribution) for the FCIs *bárki* ('anyone') and *akárki* ('anyone'). In fact, however, these two sets of FCIs have identical meaning and syntactic distribution.¹

More generally, analyzing Hungarian FCIs in a compositional way is questionable. Their makeup of a lexical element and a *wh*-indefinite may simply be a fossilized relic of language history that is no longer transparent synchronically. Note that the existential *valaki* is made up of a *wh*-indefinite *-ki* 'who' and a bound morpheme 'vala' which has no synchronic existence or meaning.

Theoretically, to assume that a single lexical element (*akár* 'strong even') has a meaning that is contradictory in itself (unless inserted in the right environment) seems arbitrary and contrary to the notion of compositionality.

A key element of the account of Abrusán (2007) is that FCIs in Hungarian contain an Exhaustive Operator. However, in Hungarian, it is the identificational focus position that is standardly taken to be associated with exhaustivity (e.g. Horváth 2000). Therefore, if FCIs do indeed contain an Exhaustive Operator, one would expect them to be obligatorily focused, which is not the case.

While we are not going to present a full-fledged theory of FCIs in Hungarian here, concentrating instead on the interaction of FCIs and the Focus position, it should be noted that as far as the environments examined by Abrusán (2007) are concerned, the behaviour of FCIs in Hungarian can be predicted based on standard theories of FCIs (Kadmon-Landman 1993, Aloni 2002 etc.).

4.4 Syntax

So far, attention in the literature has been mainly focused on the semantics of FCIs in Hungarian. In this section, we present the results of tests to establish the quantificational force and syntactic position of FCIs in Hungarian.

Bár- ('any') patterns with universals in the standard test of modification by adverbials (Horn 1972)²:

- (13) a. **szinte valaki*
 almost somebody
 'almost somebody'

¹ An anonymous reviewer argues that there is a version of *bár* that is interchangeable with *akár*.

- (i) *Jöjjön bár/akár a pápa ne enged be!*
 Come-IMP.3SG even though/even the pope not let-IMP.2SG in
 'Should even the pope come, do not let him in.'

Using this version of *bár*, *bárki* can be derived the same way as *akárki* following Abrusán (2007). I accept this does go a considerable way towards salvaging the account of Abrusán (2007), I nevertheless wish to point out that this use of *bár* is rather archaic, meaning that while this compositional account may be plausible from a diachronic point of view, it is not necessarily synchronically relevant. Which again leads us to the more general question whether these *wh*-indefinite-based quasi-quantifiers are synchronically transparent or just fossilized remnants of language history.

² It is to be noted, though, that the use of the *almost*-test as a means to gauge quantificational force is controversial (Penka 2006).

- b. *szinte mindenki*
almost everybody
'almost everybody'
- c. *szinte bárki*
almost anybody
'almost anybody'

Likewise, *bár-* ('any') patterns with universals in the test of modification by an exceptive phrase:

- (14) a. **?Meg hívhatasz valakit, kivéve Jánost.*³
PRT invite-2PSG-POSSIB someone except John
'*You can invite someone except John.'
- b. *Meg hívhatasz mindenkit, kivéve Jánost.*
PRT invite-2PSG-POSSIB everyone except John
'You can invite everyone except John.'
- c. *Meg hívhatasz bárkit, kivéve Jánost.*
PRT invite-2PSG-POSSIB anyone except John
'You can invite anyone except John.'

As far as the syntactic position of FCIs vis-à-vis universal quantifiers, focus and negation is concerned, we are to show that the facts are mainly consistent with a quantifier position. The Hungarian sentence structure adopted here is based on É. Kiss (2010):

$$[TP [NegP [FocP [NegP [PredP/AspP [vP [VP \dots]]]]]]]]$$

Figure 4

I adopt the analysis of Q-raising as adjunction, targeting PredP/AspP, FocP or NegP (É. Kiss 2010).

First, we examine the iteration and relative position of several FCIs. Just like universals or existential quantifiers⁴, one or several FCIs can appear both pre- and postverbally, with the appropriate scope readings:

- (15) a. *Bárki bármit meg nézhet.*
Anyone anything PRT look-3PSG-POSSIB
'Anyone can have a look at anything.'
- b. *Bármit bárki megnézhet.*
- c. *Bárki megnézhet bármit.*
- d. *Bármit megnézhet bárki.*
- e. *Megnézhet bármit bárki.*
- f. *Megnézhet bárki bármit.*

³ An anonymous reviewer finds (14a) acceptable. My very clear personal intuition is that this sentence is unacceptable, and this intuition is shared by several native speakers I consulted.

⁴ All sentences in (15-17) work the same way if we exchange the universal quantifier *mindenki* with the existential quantifier *valaki*.

The relative position of FCIs and universal quantifiers shows a similar picture:

- (16) a. *Mindenki bármit meg nézhet.*
 Everyone anything PRT look-3PSG-POSSIB
 ‘Everyone can have a look at anything.’
 b. *Bármit mindenki megnézhet.*
 c. *Mindenki megnézhet bármit.*
 d. *Bármit megnézhet mindenki.*
 e. *Megnézhet bármit mindenki.*
 f. *Megnézhet mindenki bármit.*

The relative position of FCIs and focused elements is also consistent with the hypothesis that FCIs occupy the position of quantifiers:

- (17) a. *A DLÁKOT látogathatja meg bárki.*
 the student-ACC visit-3PSG-POSSIB PRT anyone
 ‘It is the student that anyone can visit.’
 b. *Bárki A DLÁKOT látogathatja meg.*
 c. **A DLÁKOT bárki látogathatja meg.*

(17) c. is ungrammatical because of an independently motivated phonological constraint (cf. Kenesei 1994:330). To conclude, the tests of modification by adverbials and modification by an exceptive phrase indicate that the FCIs have a universal quantificational force. The tests for the syntactic position of FCIs show that FCIs occupy a quantifier position.⁵

5 FCIs and Focus

Identificational focus is a much-examined phenomenon in Hungarian (Brody 1991, Szabolcsi 1981, É. Kiss 1998, Horváth 2004 among others). The focus position is generally described as a pre-verbal position targeted by the movement of the element to be focused, which also brings about the movement of the main verb (one indication of which is the change of the surface order of the verb and the verbal particle in sentences which contain a verbal particle in the first place). Semantically, the focus position expresses exhaustive identification:

- (18) a. *Péter meg érkezett.*
 Peter PRT arrived
 ‘Peter has arrived.’
 b. *PÉTER érkezett meg.*
 Peter arrived PRT
 ‘It is Peter who has arrived.’

⁵ It should be noted that these results do not reveal whether FCIs in Hungarian are true universals or existentials with a universal inference.

The FCI *bár-* cannot be focused in simple sentences:

- (19) a. *Bármelyik virágot ki választhatod.*
 Any flower PRT choose-2PSG-POSSIB
 ‘You can choose any flower.’
- b. **Bármelyik virágot választhatod ki.*
 Any flower choose-2PSG-POSSIB PRT
 ‘It is any flower that you can choose.’

This is in fact to be expected if we assume that FCIs in Hungarian are universals. Cross-linguistically, universals have been found to be bad candidates for predicate nominals (Giannakidou and Quer 1995, Puskás 1998, Surányi 2002) and thus predicted to be non-focusable in Hungarian.⁶

FCIs in Hungarian can, however, be focused in certain constructions:

- (20) *(Ha) bárki meg jön, üdvözöld őt.*
 [_{AspP} bárki [_{AspP} meg jön...]]
 (if) anyone PRT comes greet him.
 ‘If anyone comes, greet him.’
- (21) *(*Ha) BÁRKI jön meg, üdvözöld őt.*
 [_{FocP} bárki jön_i [_{AspP} meg t_i...]]
 (*if) anyone comes PRT greet him.
 ‘Whoever comes, greet him.’

While (20) is a straightforward case of modal licensing in the antecedent of a conditional, (21) is more intriguing and raises a number of questions:

- What licenses the FCI in this clearly non-modal environment?
- If *bár-* is universal, how is it possible to focus it?
- How exactly does the combination of focus and an FCI elicit a free relative reading (cf. *wh-ever* in English)?

As a first step, we examine the subtle but very significant differences in meaning between the two sentences. The sentence with Focus (21) seems to presuppose that:

- Someone will come (whereas the focusless sentence only entertains the possibility of somebody coming).
- There is exactly one event of ‘coming’ being referred to; however, the exact identity of the person (or set of persons) satisfying this ‘coming’ event is unclear/irrelevant.

This is even more visible if we consider a paraphrase of (21):

⁶ Surányi (2006a,b) deals with a somewhat similar situation: the availability of N-words (variously universals or indefinites based on their syntactic position) in the Focus position.

- (22) *Bárki is legyen az, aki megjön, üdvözöld őt!*
 ‘No matter who will be the person that comes, greet him.’

Formally:

- (23) *BÁRKI jön meg, üdvözöld őt.*
 ‘Whoever comes, greet him.’
 Paraphrase:
 ‘No matter who will be the person that comes, greet him when he comes.’
 Existential presupposition:
 ‘There will be someone that comes.=The event of coming will materialize’
 Exhaustivity inference:
 ‘There is exactly one event of ‘coming’ being referred to, with the identity of the ‘comer’ being unclear/irrelevant.’⁷

These facts show that focused FCIs in Hungarian have an existential and exhaustive interpretation. This corresponds neatly to the two presuppositions generally associated with the focus position: existence and exhaustivity.

An interesting question is how the movement of the FCI into Focus position brings about a reading akin to the free relative *wh-ever* in English. Consider another paraphrase:

- (24) *BÁRKI jön meg, üdvözöld őt.*
 ‘Whoever comes, greet him.’
 Paraphrase: ‘There are several possible courses of events, but what is certain is that a ‘coming’ event shall take place, and that it is the person or sets of persons satisfying this event that I want you to greet.’

The interaction of the FCI and the exhaustivity-inducing focus can be mapped as follows. The FCI itself introduces a universal inference because of the scalar presupposition (e.g. Kadmon-Landman 1993, Rullmann 2000, Abrusán 2007): the proposition is true of the least likely candidate and of all the likelier candidates. To be more precise, let *S* denote the set of the least likely candidate and all the likelier candidates, and *S'* the set which contains all the possible subsets of *S*. Then, in each accessible possible world, the proposition is true for a subset of *S'*, and in at least one possible world, this subset of *S'* contains at least one set that contains the least likely candidate.

⁷ The editor of this volume provided an apparent counterexample to this claim: A hotel manager tells a newly hired receptionist:

- (ii) *Bárki jön be, üdvözöld őt.*
 whoever comes in greet him
 ‘Whoever enters, greet him.’

The editor points out that this exhortation surely refers to all the guests that may enter, not only the first one. I believe, however, that this is only a superficial problem. The instruction given by the manager refers to the generalized event of a guest coming (whoever that guest may exactly be). Therefore, what we have here is a single event being referred to.

Because of the exhaustive operator of the focus, the proposition is only true for one element of S' in each possible world, that is, for one subset of S. That is, in each accessible possible world, one person (or set of persons) will satisfy the 'coming' event.

This corresponds nicely to current theories of *wh-ever* (Dayal 1997, von Stechow 2000):

- (25) There is a lot of garlic in whatever Arlo is cooking.
 Presupposes:
 'there are at least two accessible possible worlds which differ in what Arlo is cooking.'
 Asserts:
 'in all accessible possible worlds, there is a lot of garlic in what Arlo is cooking'

It is interesting to note that there is another construction in Hungarian where a scalar element and Focus interact, namely, the case of focused cardinals:

- (26) a. *Meg ettem öt fánkot.*
 PRT ate-1PSG five bagel
 'I ate five or more bagels.'
 b. *Öt fánkot ettem meg.*
 five bagel ate-1PSG PRT
 'I ate exactly five bagels.' ('It was five bagels that I ate.')

While cardinals in neutral sentences refer to an interval with an open upper bound, the exhaustivity induced by the focus reduces this interval to one element, that is, its lower bound.

6 Conclusion

This paper was concerned with free choice items (FCIs) in Hungarian and especially their interaction with the identificational Focus position. It was shown that it is possible to derive the semantics of focused FCIs from the exhaustivity standardly associated with the focus position and the universal inference of the FCI (attributed to the scalar presupposition). Moreover, this result neatly corresponds to semantic accounts proposed for the *wh-ever* family of FCIs in English (Dayal 1997, von Stechow 2000).

These results present a useful contribution to the general debate on FCIs in many ways: 1) they present a clear-cut case of the universal/existential reading of an FCI being constructed compositionally on the sentence level, and 2) show that the free relatives with an FCI flavour (*wh-ever* words) can either be encoded in the lexicon separately from general-purpose FCIs (a strategy employed by English) or can be brought about compositionally, by using the focus construction and exploiting the presuppositions of existence and exhaustivity (maximality) associated with it. Also, 3) by showing that exhaustivity is in fact a differentiating factor between plain FCIs (e.g. *any*) and FCIs with a free relative reading (e.g. *wh-ever*), these results provide a challenge for recent accounts of FCIs based on exhaustivity (e.g. Giannakidou and Quer 2012).

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Wondering about OARE: Is it a Q-particle for Romanian?

Rudmila-Rodica Ivan

The aim of this paper is to analyze the contribution of the Romanian interrogative particle *oare* to the semantic interpretation of interrogative sentences. It will first look at the distribution of this particle, show its lack of preference for a pinpointed location within the sentence and then compare it to a related German discourse particle, *wohl*. The comparison will lead to the semantic discussion of how this lexeme modifies the interpretation of its context and its relationship to focused elements. The study will also contrast the findings related to *oare* with the behavior of Q-particles, attempting to determine whether a connection could be established between the two.

Keywords: *interrogative particle, Focus, Q-particles, Romanian*

1 Introduction

This paper is an attempt to analyze the behavior of the interrogative particle *oare* in Romanian and offer a possible account regarding its contribution to the semantics of the sentence. While the main focus is describing *oare* as such, a point of interest will be whether it can be argued that *oare* bears similarity to Q-particles.

What actually prompted the interest in researching this fragment of language was that most languages do not seem to show a direct counterpart of *oare*. This particle is optional in Romanian, it may only appear in [+Q] contexts and it affects discourse. In the end, what is the difference between the sentences in the example below and why is *oare* so hard to translate into other languages?

- (1) a. *Care este diferența?*
Which is difference.the
'What is the difference?'
- b. ***Oare*** *care este diferența?*

A number of the Romanian-English dictionaries which we have consulted offer the translation of 'really' for this particle, but any native speaker of Romanian will find this specific translation to be odd. German does have a discourse particle, *wohl*, which appears to behave like *oare* in interrogative sentences; however, this particle may also appear in declarative contexts as well, changing its meaning depending on the force of the sentence. A comparison between the two particles will be available in section 4 of this paper.

The main theoretical concepts which are important in terms of our analysis of *oare* are Hagstrom's (1998) and Cable's (2007) descriptions of overt Q-particles and Zimmerman's (2004) analysis of *wohl*. This paper will also refer to Motapanyane's (2000) brief analysis of *oare* and Sava's (2012) account of focus particles in Romanian.

In terms of the organization of this paper, section 2 will deal with the theoretical background and it will provide a brief summary of some accounts of what Q-particles are and which of their features are relevant to this paper.

In section 3 we will look at the distribution of *oare* in Romanian and at its different possible locations within the sentence. The fourth section begins with a brief description of Zimmerman’s (2004) take on the interrogative function of the German particle *wohl*, information which will be relevant to the semantics of *oare* discussed in 4.2.

The fourth section will also analyze the relationship between *oare* and the focused elements within the sentence and will try to offer an account of how this particle affects the focused elements. Sava’s (2012) study on restrictive focus particles in Romanian will be of aid in deciding whether *oare* can be a focus particle or not.

Before summing up the article and reaching a conclusion, the fifth section will compare the behavior of *oare* to Q-particles and it will offer some lexical evidence which might help determine whether there is reason to believe that *oare* bears similarity to Q-particles.

2 What are Q-particles?

Ever since the beginnings of generative grammar there has been talk about the existence of a Q-morpheme that would appear in interrogative sentences. After some debate, Cheng (1991) offers an extensive analysis, concluding that all that is needed to license questions is the existence of a [+Q] feature on the complementizer. This hypothesis mainly relies on a Q-morpheme that should be responsible for typing the clause. In other words, if the Q-morpheme is present, the sentence is interrogative. In some languages, it is phonologically void, like in English, but in others, such as Japanese, it is overt.

- (2) *dare-ga* *hon-o* *kaimasita* *ka?* (Japanese)
 who-NOM book-ACC bought Q
 ‘Who bought books?’

The example above, taken from Hagstrom (1998), shows that the Q-morpheme is overt in Japanese and that it is expressed through the particle *-ka*. Other languages such as Tlingit, Sinhala and Okinawan present an overt Q-morpheme as well, whose behavior is comparable to that of the Japanese *-ka*.

Hagstrom suggests that *-ka* initially merges with the *wh*-word and then moves from a clause internal position to an external one – in Japanese, to the right periphery¹. This movement can be either covert or overt, depending on the characteristics of the language.

Cable (2007) looks at Tlingit where the Q-particle remains in the vicinity of the *wh*-word. He suggests that the Q-particle overtly moves to SpecFocP /SpecCP alongside the *wh*-expression. Cable also argues that Q-particles are focus-sensitive operators, which means that they put the constituent they are attached to (the *wh*-word) in focus position. This could explain why *wh*-expressions are always focused within *wh*-questions.

¹ Please note that Japanese is a head final language and that the complementizer would be placed at the end, in the right periphery. Should *oare* be a Q-particle for Romanian, the intuition is that it should move to the left periphery since Romanian is a head-initial language.

Furthermore, Cable agrees that irrespective of which *wh*-expression it will attach to, the Q-particle will not change its meaning.

Before moving on to the description of the Romanian particle *oare*, let us restate the most salient aspects of Q-particles as far as this paper is concerned.

- (3) A. Q-particles assign the [+Q] feature to sentences, marking them as interrogative;
 B. If the Q particle is attached to some constituent, then it must be focused;²
 C. they may overtly move to the periphery of the sentence;
 D. their meaning is invariant.

Having these characteristics of Q-particles in mind, the following sections will look at the distribution and the semantics of *oare*. After having described the behavior of *oare* in Romanian, we will return to the main ideas in (3) to see if they hold for the Romanian interrogative particle as well.

3 Sentences: Where does *oare* fit in?

Before analyzing the meaning of *oare*, it would be best to first have a look at its distribution. This section will focus on the types of sentences which license *oare* in Romanian and then take a look at the flexibility of this particle in terms of where it may appear within the sentence.

3.1 Sentence Type Sensitivity

The purpose of this section is to show that *oare* may only appear in [+Q] sentences. This indicates that *oare* should not be grammatical within declarative or imperative sentences.

- (4) a. *Elena a plâns două ore aseară.* (declarative)
 Elena has cried two hours yesterday evening
 ‘Elena cried for two hours yesterday evening.’
 b. **(oare) Elena a plâns oare două ore (oare) aseară (oare).*
- (5) a. *Fă-ți temele (odată)!* (imperative)
 Do-your.clitic homework.pl (already)!
 b. *Fă-ți oare temele (odată)! / *Oare fă-ți temele (odată)!*

As it can be seen from the examples in (4b) and (5b), *oare* may not appear in [-Q] sentences. The distribution of *oare* in interrogative sentences is illustrated below³. The

² *Wh*-expressions are *inherently focused*, therefore (3B) still holds for *wh*-questions (the Q particle attaches to the *wh*-element). While initially the criterion in (3B) was related to the behavior of Q-particles in *wh*-questions, an anonymous reviewer suggested the present version of the criterion, which is better suited for the purposes of this study.

³ Examples (7) and (9) are taken from the Romanian Language Dictionary of the Romanian Academy. The examples appear under the lexical entry for *oare* as prototypical uses, dating from 1644 and 1880.

particle in itself will not be translated in order to focus only on the type of question that it attaches to. The meaning that the particle adds to the sentences will be discussed in the following section.

- (6) **Oare** *Ion a încuiat ușa ieri?* (Yes/No questions)
 Ion has locked door-the yesterday
 ‘Did Ion lock the door yesterday?’
- (7) *Nu știu oare fi-m-vor mie aceste au ba?* (Alternative questions)
 not (I) know be – my.cl.-will (they) my these or not
 ‘I do not know, will these be mine or not?’
- (8) a. *?A făcut asta, oare nu-i așa?* (Tag questions)
 (he) has done that, not-is so
 ‘He did that, didn’t he?’
 b. A: *A plecat.* B: **Oare?** (Discourse related tag questions)
 A: (he) has left.
 A: ‘He left’ B: ‘Did he?’ / ‘I wonder...’
- (9) *(Dar) ce făcuse oare în vremea aceea Ileana împărăteasa?* (Wh-questions)
 (but) what did in time.the that Ileana empress-the
 ‘(But) what had the empress Ileana done at the time?’
- (10) *Cine ce a gătit azi oare?* (Multiple wh-questions)
 Who what has cooked today
 ‘Who cooked what today?’
- (11) *Se întreba cine oare plecase mai devreme.* (Embedded questions)
 Refl.pron asked who left more early
 ‘He was wondering who had left earlier.’
- (12) *Maria are [**(*oare)** cu cine **(*oare)** vota **(*oare)**].* (Free Relatives)
 Maria has with who vote.INF
 ‘Maria has somebody she can vote for.’

As the examples illustrate, *oare* is perfectly acceptable in any matrix questions (yes/no questions, wh-movement and multiple wh-movement questions) and even in embedded questions⁴. It should be noted, however, that the example in (11) still retains a sense of doubt. This particle is not very often used in genuine tag questions, as it can be seen in example (8a), but it may often appear in rhetorical questions or as a genuine expression of doubt such as in (8b), where it seems to be more discourse-related. The fact that *oare* is ungrammatical when used in the context of free relatives, as in (12) for instance, can be viewed as further evidence that the particle only pertains to interrogative sentences.

⁴ With respect to the embedded questions, this paper does not discuss the classes of predicates which license *oare* in their subordinate clauses. From the information I have gathered so far, only non-assertive matrix predicates may license *oare* in their subordinate clauses. This requires further research.

The examples discussed show that *oare* may only appear in [+Q] contexts but they also show that it can appear in different locations within the sentence. This characteristic will be discussed in more detail below.

3.2 Place within the sentence

Knowing that *oare* is restricted to interrogatives, we can now look at how this particle behaves in terms of word order within the sentence proper. This section will simply show the preference of this particle (or lack thereof) for a certain position in the derivation, based on the examples provided in 3.1. For reasons of space and clarity, we will review only some of the contexts which allow *oare*, namely (6), (9), (10) and (11) reanalyzed in the examples below in terms of the location of the particle with respect to the constituents of the sentence. Please note that in the examples (13) and (14) *oare* is in a pre-verbal position and it is post-verbal in the rest.

- (13) Left periphery / before subject DP or *wh*-word
- a. **Oare** [_{DP} Ion] a încuiat [_{DP} ușa] [_{AvP} ieri]?
Ion has locked door.the yesterday
'Did Ion lock the door yesterday?'
 - b. **Oare** [_{SpecCP} ce] făcuse [_{PP} în vremea aceea] [_{DP} Ileana împărăteasa]?
What had done in time.the that Ileana empress.the
'What did the empress Ileana do at the time?'
 - c. **Oare** [_{SpecCP} cine ce] a gătit [_{AvP} azi]?
who what has cooked today
'Who cooked what today?'
 - d. *Se întreba* [_{WH-INT} **oare** [_{SpecCP} cine] plecase [_{AvP} mai devreme]].
(he) refl. asked who left more early
'He was wondering who had left earlier.'
- (14) After Subject DP / *wh*-word, pre-verbal
- a. [_{DP} Ion] **oare** a încuiat [_{DP} ușa] [_{AvP} ieri]?
[_{SpecCP} Ce] **oare** făcuse [_{PP} în vremea aceea] [_{DP} Ileana împărăteasa]?
[_{SpecCP} Cine ce] **oare** a gătit [_{AvP} azi]?
[_{WH-INT} *Se întreba* [_{SpecCP} cine] **oare** plecase [_{AvP} mai devreme]].
- (15) Before DP argument in situ, post-verbal
- a. [_{DP} Ion] a încuiat **oare** [_{DP} ușa] [_{AvP} ieri]?
[_{SpecCP} Ce] făcuse [_{PP} în vremea aceea] **oare** [_{DP} Ileana împărăteasa]?
[_{SpecCP} Cine ce] a gătit **oare** [_{AvP} azi]?
[_{WH-INT} *Se întreba* [_{SpecCP} cine] plecase **oare** [_{AvP} mai devreme]].
- (16) Before adjunct PP/AvP, post-verbal
- a. [_{DP} Ion] a încuiat [_{DP} ușa] **oare** [_{AvP} ieri]?
[_{SpecCP} Ce] făcuse **oare** [_{PP} în vremea aceea] [_{DP} Ileana împărăteasa]?
[_{SpecCP} Cine ce] a gătit **oare** [_{AvP} azi]?
[_{WH-INT} *Se întreba* [_{SpecCP} cine] plecase **oare** [_{AvP} mai devreme]].

(17) Right periphery / sentence-final position

- a. [DP *Ion*] *a încuiat* [DP *ușa*] [AVP *ier*] *oare?*
- b. [SpecCP *Ce*] *făcuse* [PP *în vremea aceea*] [DP *Ileana împărăteasa*] *oare?*
- c. [SpecCP *Cine ce*] *a gătit* [AVP *astăzi*] *oare?*
- d. *Se întreba* [WH-INT] [SpecCP *cine*] *plecase* [AVP *mai devreme*] *oare?*

What is interesting is that the number of options available to *oare* in terms of its position within the derivation seems to grow alongside the number of constituents the sentence has.

In order to clear the air a bit, please note that *oare* may not intervene between the auxiliary verb and the past participle in the Romanian “perfect compus”/ “passé composé” (**a oare plecat*). One explanation provided by the literature is that in Romanian the auxiliary verb is a clitic and ‘perfect compus’ will be regarded as one constituent and full-fledged adverbs may not intervene. Only short/clitic adverbs can be placed between the auxiliary and the lexical verb and as Motapanyane (2000) shows, *oare* is not a clitic adverb since it is not obligatorily adjacent to the inflected verb either.

Similarly, it should be noted that *oare* cannot appear within constituents such as “*în (*oare) vremea (*oare) aceea*” or “*Ileana (*oare) împărăteasa*”, which are a separate PP and DP respectively, hence separate constituents. *Oare* will need to be placed either before or after the entire construction.

To sum up the information that the examples provide, *oare* may appear in sentence initial position, in front of a SpecFocP as in (13) or possibly after it as in (14) – in other words, before or after the *wh*-expression, though Romanian native speakers do show a preference for the latter. It may also appear in sentence final position as in (17) or actually next to an internal constituent, argument or adjunct, as in (15) and (16). The examples show that *oare* is not licensed only in one single designated location and that it may appear next to different types of phrases.⁵ In any case, the occurrence of *oare* is optional and flexible.

4 The semantics of *oare*

Since the context of appearance for *oare* and its variability in terms of location has been more or less exemplified, let us have a look at a possible counterpart of *oare* in German, that of *wohl*. Based on the comparison between the two particles, we may begin to predict the semantic behavior of *oare* and look into the relationship of this particle with the focused elements within the sentence.

4.1 *Oare* vs. *wohl*

This section shall briefly introduce Zimmerman’s (2004) analysis of *wohl* and compare it to *oare*. Unlike *oare*, the German particle *wohl* may appear in both declarative and interrogative sentences, its meaning being slightly different in declarative sentences. This

⁵ Please have in mind that this paper does not discuss the possibility of *oare* being placed between the two *wh*-phrases in a multiple question, such as **Cine oare ce a gătit?* (who *oare* what has cooked) since it appears to be ungrammatical. Based on the fact that *oare* seems to attach only to constituents and that Romanian is a multiple *wh*-fronting language, one might be inclined to believe that “*cine ce*” acts as a unique constituent in Romanian multiple questions.

dual characteristic of *wohl* leads Zimmerman to believe and argue that *wohl* is a modifier on Force, since its meaning depends on whether the sentence is declarative or interrogative. If it is true that *wohl* is a modifier on Force, Zimmerman argues that it is located in the left periphery at LF – in SpecForceP. This particle indicates a form of uncertainty in both declarative and interrogative sentences. Since *oare* appears only in interrogative sentences, the present paper shall focus solely on this aspect of *wohl* from now on.

Zimmerman shows that *wohl* seems to be infelicitous in an interrogative clause whenever the addressee can be assumed to know the answer for sure (such as when asking for information at an information kiosk) and he distinguishes the following two uses of *wohl* in interrogatives:

- (18) a. BOTH ADDRESSEE (B) AND SPEAKER (A) UNCERTAIN:
 A to B: *Ist dies wohl der richtige Weg?*
 Is this the right way
 ‘Would /could this be the right way?’
- b. ONLY ADDRESSEE UNCERTAIN:
 Teacher to student: *Was ist wohl die Hauptstadt von Tansania?*
 what is the capital of Tansania
 ‘What would be the capital of Tansania?’

The main point of his analysis is that when the speaker uses the particle *wohl* in interrogatives, he or she ASSUMES that the hearer does not know the answer for sure. Zimmerman goes on to say that semantically speaking, *wohl* indicates a particular kind of propositional commitment (mainly uncertainty) and that syntactically, *wohl* moves from its VP internal position (*wohl* being an adverb) to SpecForceP at LF. He adopts Rizzi’s (1997) left periphery hypothesis which can be subsumed below.

- (19) [_{ForceP} Force⁰ ... [_{TopP} Top⁰ [_{FocP} Foc⁰ [_{FinP} Fin⁰ [...

Zimmerman’s own example of what yes/no questions containing *wohl* look like at LF is given in (20c). Please note that in German yes/no questions any constituent may be focused by means of prosodic focus. This means that if *wohl* should be placed in SpecForceP, it would c-command the focused element. Please note that in the examples below *hat* is the auxiliary verb and ‘+int’ stands for the fact that the sentence is interrogative.

- (20) a. *Hat Hania wohl auch ihren Chef eingeladen?*
 Has Hania also her boss invited
- b. [_{ForceP} hat+int Hania [_{VP} wohl [_{VP} auch ihren Chef eingeladen]]]?
- c. [_{ForceP} wohl_i hat+int Hania [_{VP} t_i [_{VP} auch ihren Chef eingeladen]]]?

As for *wh*-questions, since *wh*-expressions are inherently focused, Zimmerman argues that they will move to SpecFocP in Rizzi’s expanded left periphery as shown in (19) while *wohl*, being placed in SpecForceP, can c-command the focused constituent. The tentative LF-structure he provided for this type of questions is shown below.

- (21) *Wen hat Peter wohl eingeladen?*
 Who has Peter invited
 [_{ForceP} wohl_i int [_{ForceP} wen_i Foc [_{FinP} hat Peter t_i t_i eingeladen]]]

Comparing Zimmerman’s analysis to what we know about *oare* so far, the only aspect we can be certain of is that they both appear in interrogative sentences. It should be noted that the Romanian Language Dictionary (Dicționarul Limbii Române 2010) classifies *oare* as an interrogative adverb and *wohl* is an adverb as well. However, for reasons which shall be discussed in the following section, it is perhaps best not to adopt this view. The fact that *oare* can attach to almost any phrase within the sentence and that *wohl* seems to appear more or less in the same position may be of no consequence since Romanian has lax word order and German does not.

Zimmerman’s paper sheds some light on the contexts in which *oare* may appear. The uses Zimmerman distinguished in (18) hold for the Romanian interrogative particle as well. Probably the best translation of interrogative *wohl* and *oare* is that of ‘I wonder’, since both particles suggest a sense of uncertainty concerning at least one of the participants in discourse. The reason why this paper refrained from translating the meaning of *oare* up to this point is that the particle seems to bring no contribution to the descriptive aspect of interpretation; it is of importance only in terms of how the speaker evaluates that which has been said – namely, with a degree of uncertainty.

If *oare* and *wohl* are similar, this might mean that *oare* could also move to SpecForceP at LF. By doing so, *oare* will be in a position from which it could choose the type of clause it should attach to. This could be an explanation for the fact that *oare* may only appear in [+Q] / interrogative contexts.

However, the fact that *oare* displays the ability of adjoining to any phrase within the sentence should have an impact on interpretation. This issue shall be discussed in section 4.3, where we will try to see how the different places *oare* occupies may affect the meaning of the sentence.

4.2 The meaning of *oare*

As previously mentioned, *oare* is a unique functional category which is only licensed in interrogative sentences. When used, it implies a sense of doubt, of uncertainty.

- (22) a. *A plecat trenul?*
 has left train-the
 ‘Has the train left?’
 b. ***Oare*** *a plecat trenul?*

The basic difference between (22a) and (22b) is that while the first one mainly asks for the truth value of the sentence, without implying anything related to the knowledge that the speaker has of the answer, the latter suggests that things are less certain in the speaker’s mind, more tentative. (22b) is a question that one would expect to hear in a dialogue between two friends/acquaintances, the speaker thinking that the hearer does not know the answer for sure. Of course, since it is more of an indirect question, it could also be used as a manner of politeness, not to impose on the hearer – presumably someone you have just met at the train station. However, as Zimmerman puts it, one

would find it odd to hear sentence (22b) at the information booth, since the clerk should have accurate information regarding train departures.

Oare-sentences are also very often used in what would be defined as the thought process, stream-of-consciousness, diaries and the like where one tends to be more introspective and generally more unsure about truth value, like in (23). Naturally, they may also be used rhetorically and/or sarcastically, like in (24), but this is not the most salient issue at this point. Please note that although speaker B only says *Oare?*, the full sentence would actually be *Oare cerul e albastru?* and the rest has presumably been deleted for reasons of language economy.

(23) **Oare** e bine ce fac?
 is good what do.1SG
 ‘Am I doing the right thing?’

(24) A: *Cerul e albastru.*
 A: sky.the is blue
 A: ‘The sky is blue.’
 B: **Oare?**
 B: ‘Is it?’ / ‘You think?’

So far, the purpose of *oare* within the sentence seems to be that of expressing a form of doubt, behaving similarly to *wobl*. Now that there is some idea of how *oare* contributes to the meaning of the sentence, the paper will look into how the position of *oare* within the sentence may affect its interpretation.

4.3 *Oare* and Focus

It has been established in 4.2 that *oare* denotes a degree of uncertainty when used in interrogative sentences. Furthermore, *oare* may appear within sentences where a particular element is focused.⁶ This section will try to explore the relationship between *oare* and those elements and see how and if *oare* affects the sentences in this sense.

While the research regarding the behavior of focused elements and focus particles in Romanian is not as explored as it is in other languages, one of the works that shed light on the matter is Sava’s (2012) study on restrictive focus particles. Her study is based on the equivalents of ‘only’ in Romanian, *numai* and *doar*, and it offers some general guidelines for Romanian focus particles. These features, taken from Sava (2012, 182) are subsumed below.

- (25) Properties of focus particles in Romanian:
- i. their associate must be focused (or in case of phrases containing more than one lexical item, one of their constituents must be focused);

⁶ It has been argued (see Motapanyane 1998) that the focus position in Romanian is between C⁰ and T⁰. [focus] and [wh] are seen as two separate features. Since *wh*-elements raise to SpecCP, but they are also inherently focused, the prediction is that *wh*-phrases target the focus position to check the [focus] feature, after which they will move to SpecCP to check the [wh] feature of C⁰. Motapanyane (1998) suggests that the focus position is actually in SpecTP, but it could also be possible for there to exist a separate FocP which selects the TP. The exact location of the focused elements within the derivational tree is beyond the purpose of this study.

- ii. they attach to maximal projections (they only attach at XP level);
- iii. the particle must c-command its associate;
- iv. the associate cannot be a sub-constituent of a syntactic island.

According to Sava (2012), focus particles in Romanian should associate with a constituent or phrase that is marked prosodically by pitch stress, they cannot appear inside a prepositional phrase or a determiner phrase and since focus particles are quantifiers over properties, they would have to move at LF to a position from where they could take the entire clause as their argument. In order to see if *oare* can be considered a focus particle, we will analyze how *oare* affects the focused elements from the perspective of the guidelines given by Sava.

The previous subsection discussed the fact that *oare* expresses a degree of uncertainty. This would mean that whenever one uses *oare* in an interrogative sentence, the array of possible answers or at least the likelihood of having unexpected answers should increase. Since it is a discourse particle affecting the entire sentence and not only one constituent, in this case, it could be argued that *oare* should move at LF to a position from where it can c-command the rest of the derivational tree. Motapanyane (2000) concludes that the morpheme *oare* is a discourse marker, licensed in syntax by the [+wh] feature of the complementizer C^0 . While, for this paper, it may still seem uncertain where exactly *oare* would move at LF, it is at least clear that it should move above the TP/IP layer, behaving similarly, in this respect, to focus particles as analyzed by Sava (2010). Another similarity between the two concepts is the fact that neither *oare* nor focus particles can occur within a PP or a DP, as discussed in section 3, both attaching only to maximal projections.

Oare does appear to behave like Romanian focus particles in two respects: it can attach to any XP and it should raise above the TP level at LF. But does *oare* associate with focused elements? And if it does, how does this particle affect them?

- (26) a. *Fata a spart o farfurie ieri ?* A: Yes/ No.
 girl.the has broken a plate yesterday
 'Did the girl break a plate yesterday?'
 b. *FATA a spart o farfurie ieri?* A: Yes/No, the boy did.
 c. *Fata A SPART o farfurie ieri?* A: Yes/No, she washed it.
 d. *Fata a spart O FARFURIE ieri?* A: Yes/No, a bowl.
 e. *Fata a spart o farfurie IERI?* A: Yes/No, today.

The example above shows how prosodic focus may modify the type of answer the question is looking for. If no particular constituent is stressed, like in (26a), the question would expect a simple yes or no answer. Should the stress fall on a certain word within the question, then the expected answer would be more in reference to that particular word than to the sentence as such.⁷ Let us now look at the possibilities of interpretation for a question like the one in (26) when *oare* becomes part of the equation.

⁷ Focus in Romanian may also be achieved by means of moving the focused constituent to the left periphery. To continue with the example given in (26), should one choose to ask whether it was *yesterday* that the girl broke a plate, one would have two alternative structures.

- (i) *IERI a spart fata o farfurie?*
- (ii) *Fata IERI a spart o farfurie?*

- (27) a. **Oare** fata a spart o farfurie ieri?
 b. Fata **oare** a spart o farfurie ieri?
 c. Fata a spart **oare** o farfurie ieri?
 d. Fata a spart o farfurie **oare** ieri?
 e. Fata a spart o farfurie ieri **oare**?

When looking at the word order in the sentences in (27), one notices that *oare* has 5 possible places of occurrence. While it is possible to place *oare* in either of these positions, would all of them have the same meaning? The native speaker intuition is that (27c) and (27d) are incompatible with the (26a) reading. When a native speaker comes across (27d), for instance, the sole possible reading is that of (26e), placing contrastive prosodic focus on the adverb meaning ‘yesterday’. Similarly, it would be more natural to assume that a question like (27c) would expect the answer of (26d) than that of the neutral reading.

Furthermore, (27a) can have any of the readings in (26). This means that when *oare* is placed in the left periphery, it can still be connected to the focused element irrespective of the distance between them. This could also be true of (27e), when *oare* is in the right periphery, but when it comes to longer questions, Romanian native speakers show preference for placing *oare* in the beginning and not at the end of the sentence.

The proposition that this paper puts forth is that *oare* is initially generated next to the focused element, should there be one, and it would then move to sentence initial position. There is a possibility that *oare* is actually the marker for prosodic focus and that intonation dictates the initial position of this particle. If *oare* is placed within a considerably long question and not at the periphery, this would act as a prompt for native speakers to put stress on the constituent immediately following *oare* – which is why in (27d) prosodic focus would be placed on *ieri*.

Should the proposition hold, when *oare* does not overtly raise to the CP layer, it could also indicate the trace of moved constituents. For instance, (27c) could easily be read as (28.c.i.), where *fata* ‘the girl’ is focused because *oare* c-commands the trace of the DP within SpecVP, the base-generated position of the subject. In other words, *oare* may initially merge with *fata* in the SpecVP position, after which the DP *fata* raises to SpecFocP and *oare* may either stay in situ, within the VP, or it may raise above the TP layer like in (28.a.ii).

The examples below offer the possible interpretations for the questions in (27). The examples which are preceded by a question mark are not ungrammatical, although they are less common and harder to process. The readings that would sound highly unlikely have been omitted.

- (28) a. **Oare** fata a spart o farfurie ieri?
 i. **Oare** fata a spart o farfurie ieri ? A: Yes/ No.
 ii. **Oare** FATA a spart o farfurie ieri? A: Yes/No, the boy did.

The first example illustrates *ieri* ‘yesterday’ moving to SpecFocP while the subject DP, *fata*, remains in its situ position. In the second example, the subject DP would raise to SpecTopP and *ieri* would again move to the SpecFocP position beneath it. This is possible because Romanian has lax word order and generally any constituent could be fronted. However interesting this matter is, it is not relevant for this paper in terms of how *oare* can affect the sentence. Focus by means of *oare* should be analyzed only in cases where *oare* changes position so as to avoid any possible confusion.

- iii. **Oare** fata A SPART o farfurie ieri? A: Yes/No, she washed it.
 - iv. **Oare** fata a spart O FARFURIE ieri? A: Yes/No, a bowl.
 - v. **Oare** fata a spart o farfurie IERI? A: Yes/No, today.
- b. Fata **oare** a spart o farfurie ieri?
 - i. ? Fata **oare** a spart o farfurie ieri? A: Yes/ No.
 - ii. FATA **oare** a spart o farfurie ieri? A: Yes/No, the boy did.
 - iii. Fata **oare** A SPART o farfurie ieri? A: Yes/No, she washed it.
- c. Fata a spart **oare** o farfurie ieri?
 - i. FATA a spart **oare** o farfurie ieri? A: Yes/No, the boy did.
 - ii. Fata a spart **oare** O FARFURIE ieri? A: Yes/No, a bowl.
- d. Fata a spart o farfurie **oare** ieri?
 - i. Fata a spart o farfurie **oare** IERI? A: Yes/No, today.
- e. Fata a spart o farfurie ieri **oare**?
 - i. Fata a spart o farfurie ieri **oare** ? A: Yes/ No.
 - ii. ? FATA a spart o farfurie ieri **oare**? A: Yes/No, the boy did.
 - iii. ? Fata A SPART o farfurie ieri **oare**? A: Yes/No, she washed it.
 - iv. ? Fata a spart O FARFURIE ieri **oare**? A: Yes/No, a bowl.
 - v. ? Fata a spart o farfurie IERI **oare**? A: Yes/No, today.

The examples illustrate that the most natural reading for a sentence in which *oare* is not placed at the periphery is to put focus on the constituent immediately following it. As mentioned previously, the only position of *oare* which easily allows any reading, either with or without a focused element, is the sentence initial position (28a). While (28e) could behave similarly, (28.e.ii) is harder to process and more difficult to utter than (28.a.ii), for instance. Romanian native speakers show a strong preference for the left periphery as opposed to the right one, at least when it comes to longer sentences.

One possibility is that since native speakers are used to using *oare* next to any XP phrase, with a bit of effort, one could achieve the (28.b.i) interpretation. After spending some time pondering on how *oare* affects the utterance, it may become problematic for the native speaker to distinguish between what is perfectly natural and what is slightly forced which is why the examples above provide only the most common readings. Since *oare* displays so much flexibility within the sentence, it is not difficult to assume that it may become confusing even for native speakers.

In any case, the assumption would be that *oare*, irrespective of its location in the utterance, could associate itself with the element in focus position. In order to c-command the focused element, *oare* would have to raise, either covertly or overtly, in a position above SpecFocP. An argument in favor of the connection between *oare* and focused elements is that no matter where one places *oare* in wh-questions, no other item except for the *wh*-expression will be focused.

- (29) a. Cine *i* - a cumpărat Mariei inelul ieri?
 Who clitic.3RDPERS has bought Mary.DAT ring.the yesterday
 ‘Who bought the ring for Mary yesterday?’
- b. **Oare** CINE *i*-a cumpărat Mariei inelul ieri?
 - c. CINE **oare** *i*-a cumpărat Mariei inelul ieri?

- d. CINE *i-a cumpărat* **oare** *Mariei inelul ieri?*
- e. ?? CINE *i-a cumpărat* *Mariei* **oare** *inelul ieri?*
- f. ?? CINE *i-a cumpărat* *Mariei inelul* **oare** *ieri?*
- g. ? CINE *i-a cumpărat* *Mariei inelul ieri* **oare?**

The only element which can be focused in the sentences in (29) is the *wh*-expression. As it is explained in the literature, *wh*-expressions are inherently focused because they are initially merged with a Q-particle which will move to the periphery of the derivation at LF. Example (29g) is harder to process because the sentence is too long, requiring a heavier computational load, and it would be easier to just place *oare* in the left-periphery. When hearing sentences such as the ones in (29e) and (29f), a competent speaker would assume that the constituent immediately following *oare*, namely *inelul* ‘the ring’ for (29e) and *ieri* ‘yesterday’ for (29f) should be placed in the Focus Position. However, since *wh*-elements are inherently focused, the Focus Position is already occupied (either by the *wh*-element per-se or by its trace), and constituents other than *wh*-elements cannot be focused.

Taking into consideration the aspects discussed so far and the fact that both (29b) and (29c) are acceptable readings, one would wonder where the exact position of *oare* is since it can appear both before and after the *wh*-expression. Motapanyane (2000), discussing examples with a similar structure to (29c), proposes that *oare* should be placed in C^0 . However, if this is the case, what would happen in (29b) where *oare* is pronounced before the *wh*-expression? Furthermore, there are examples in which *oare* can co-occur with complementizers, which is why it seems unlikely that *oare* should share the same position.

If *oare* can be uttered before the *wh*-expression and since *wh*-expressions are inherently focused, it should mean that *oare* can be placed above SpecFocP/SpecCP. Should that be the case, if Rizzi’s (1997) left periphery hypothesis applies for Romanian as well, it would not be unreasonable to assume that *oare* behaves similarly to *wh* and that it may be placed in SpecForceP. This position would also account for the fact that *oare* only occurs within [+Q] contexts.

The matter of what happens in examples like (29c) would have to remain an open question as far as this paper is concerned. However, one should take into consideration the fact that Romanian has determiners which are formed by compounding *oare* with a pronoun as it can be seen in the examples below.

- (30) *oarecine*, *oarecare*, *oarecum*, etc.
 Q+who, Q+which, Q+how
 ‘someone’, ‘somewhat/someone’, ‘somehow’

In this case, a sentence like (29b) would be harder to process since the pronunciation of *oarecine* ‘someone’ and *oare cine* ‘(I wonder)...Who...(ever)?’ is the same. Perhaps, the speaker would rather pronounce *oare* after the *wh*-expression in order to avoid confusion. If this is so, it could be possible for *oare* to simply raise to the SpecFocP position alongside the *wh*-phrase by means of pied-piping, while its phonologically void functional features would raise in a higher position.

This section has discussed the relationship between *oare* and focused elements, observing that the placement of *oare* may lead to a certain pattern of intonation. It is apparent that when *oare* is placed within the question, the most likely constituent to be stressed is the one immediately after the particle. Furthermore, when *oare* is placed in the

left periphery of the sentence, all possible readings are available, which could act as a hint that *oare* might raise above SpecFocP at LF.

When comparing the behavior of *oare* to Romanian focus particles as described by Sava (2012) there appears to be a match: both *oare* and focus particles have to attach to a maximal projection, not to an intermediate one, both associate with a constituent or phrase that is marked by means of pitch stress and both would have to raise at LF to a position from where they could c-command the entire sentence. While the issue regarding the exact position where *oare* would move to at LF is still an open one, it has been proposed that *oare* will initially merge with the focused constituent and then either move to the left periphery, stay in situ or it could even move to SpecFocP with the focused element by means of pied-piping.⁸ In any case, there is a considerable number of contexts in which *oare* seems to act as a focus particle in Romanian.

5 *Oare* vs. Q-particles

After having characterized the behavior of *oare* with respect to its meaning, its place within the sentence and how it affects the interpretation of the question in itself, we can now see if there is any reason to believe that *oare* could be a type of Q-particle. In order to do so, the features of Q-particles which were singled out in the first section will be repeated below.

- (31) A. Q-particles assign the [+Q] feature to sentences, marking them as interrogative;
B. If the Q particle is attached to some constituent, then it must be focused;
C. they may overtly move to the periphery of the sentence;
D. their meaning is invariant.

Since *oare* may only occur in [+Q] contexts and since *oare* is a question in itself, it could be argued that *oare* might actually be the particle to assign the [+Q] value to the sentence. As it has been pointed out in section 4, *oare* bears similarity to the German discourse particle *wohl* which, as Zimmerman argues, types the clause. If *wohl* and *oare* are so alike and since *oare* is a focus particle that should raise to a higher position, it could be possible that *oare* actually assigns the [+Q] value.

As for (31.B), the previous section has shown that *oare* may act as a focus particle for Romanian and that it might be base generated next to *any* focused phrase, including *wh*-expressions. The contexts of occurrence for *oare* also take into consideration the focused elements. Generally, when *oare* is located within the sentence and not at the periphery, this acts as a prompt for native speakers to put stress on the adjacent constituent. Consequently, *oare* may merge with the focused elements / *wh*-expressions.

Furthermore, the most common place of occurrence for *oare* is at the periphery of the sentence, showing a strong preference for the left periphery. It is not yet certain why *oare* may also appear in the right periphery, but speakers generally avoid using long questions which end with *oare*. While *oare* may overtly move to the periphery, it has been

⁸ If *oare* can move by means of pied-piping to SpecFocP with the focused element, this could explain examples such as (28.b.ii.) *FATA oare a spart farfuria ieri?* or even a case like *IERI oare a spart fata farfuria?* where the focused element can be pronounced before the particle *oare*.

argued that it will always covertly move to the left periphery at LF in order to take scope over the entire sentence.

With respect to (31.D), the meaning of *oare*, similarly to *wohl*, is that of uncertainty. *Oare* will not modify the meaning of the phrase it attaches to, it will only place it in focus position and change the meaning of the sentence with respect to discourse. In all situations where *oare* is used, its meaning is that of an „added question mark”, if you will, which is why it is so difficult to translate into other languages. Simply put, *oare* always expresses doubt, be it fake or genuine, depending on the pragmatical context.

Should we assume that Zimmerman’s analysis applies for *oare* as well, it could mean that the position of the Q-particle and that of *oare* coincide at LF. If *oare* were a Q-particle, it would have to merge with the *wh*-word. Since this paper has emphasized that *oare* may be a focus particle for Romanian, it would also merge with any focused phrase, not only *wh*-expressions.

We believe that the reason why *oare* (and possibly *wohl*) cannot qualify as a full overt Q-particle is exactly due to the propositional meaning that it implies – uncertainty. *Oare* does not modify the descriptive meaning of the sentence, but it does play a role in discourse. However, when the speaker feels a need to include *oare* within the utterance, this particle seems to behave very similarly to overt Q-particles as described by Hagstrom (1998) and Cable (2007). *Oare* could be a phonological remnant of a Q-particle which has retained or possibly added some discourse properties. When this added shred of doubt has no reason to be expressed, a phonologically void version of *oare* would merge with the focused constituent and then raise above the TP layer. When the speaker desires to use *oare*, the interrogative particle becomes phonologically salient in order to add extra meaning at the level of discourse.

Further evidence that *oare* and the Japanese Q-particle *-ka* are alike may lie in the lexical domain. It is worth mentioning that *-ka* in Japanese, when not being used as a Q-particle, also indicates choice or doubt, similarly to *oare*. Furthermore, compounding of relative/interrogative pronouns and *oare* or *ka*, yield indefinite pronouns in both languages. Hagstrom (1998) argues that in the examples taken from Kuroda (1965) which will be repeated below, the *-ka* within the indefinite pronouns and the Q-particle *-ka* are the same lexical item but with different uses.

- (32) a. **dare-ka-ga** *hon-o* *katta*.
 who-Q-NOM book-ACC bought
 ‘Someone bought books.’
- b. *John-ga* **nani-ka-o** *katta*.
 John-NOM **what-Q-ACC** bought
 ‘John bought something.’

(Kuroda 1965:97, Hagstrom 1998:17)

When comparing the Romanian examples in (30) with the Japanese ones in (32) we can see a similar behavior. Both particles, *ka* and *oare*, can be found within indefinite pronouns – pronouns which offer an array of possible universes. This array of possibilities could come from the fact that both *ka* and *oare* express multiple options.

It is worth mentioning that throughout time, the meaning of *oarecine* and *oarece* has shifted. The meaning of these lexical items is now closer to that of ‘somewhat’ or ‘in a way’, since there are also other Romanian lexical items which would have the meaning of *someone* and *something*, namely *cineva* and *ceva* (*cine + va* ‘who + va’, *ce + va* ‘what + va’). What is interesting is that the morpheme *va*, which is compounded with the

wh-elements in the examples above, comes from the Latin verb *volo* ‘want’, the same verb from which *vel* ‘or’ came from in Latin. Some sources indicate that *volo* and *vel* gave birth to two different short words in Romanian – *oare* and *ori*. It is believed that while *ori* ‘or’ refers to an either/or expression, *oare* was used to express and/or relationships, which could explain why *oare* now indicates a sense of doubt or the existence of more than one possible universe. Furthermore, the indefinites *oricine* and *orice* in Romanian mean ‘anyone’ and ‘anything’ as opposed to the indefinites containing *oare* whose meaning is closer to ‘something’. The entry for *oare* in the Romanian Language Dictionary (2010) states that it is an interrogative adverb, but *oare* does not behave like ‘why’ or ‘how’ and as Motapanyane (2000) proves, it does not behave like full-fledged Romanian adverbs either. A study on these indefinites and on the difference between *oare* and *ori* could also be of help in a better understanding of the concept of *oare*.

As a final remark, *oare* does seem to be a type of Q-particle. It may only appear in [+Q] contexts, it is also a focus particle, hence it merges with the focused element/*wh*-expression and it then may overtly move to the periphery of the sentence. Its meaning within the question is invariant and it also appears in different Romanian indefinite pronouns, similarly to the Japanese Q-particle *-ka*.

6 Conclusion

This paper has been written with the hope of proving that *oare* is a unique functional category. While it is true that *oare* is not an obligatory particle in Romanian questions and that its location within the sentence is variable, it may be the case that it behaves as an overt Q-particle when the context allows it or that it may at least be a phonological remnant of a Q-particle.

Oare may only appear in [+Q] contexts and it does not contribute to the descriptive meaning of sentences, however, the meaning it brings to discourse remains invariant – uncertainty. The fact that *oare* has a function in discourse inhibits it from occurring in all interrogative sentences, which is why it is not a full-fledged Q-particle.

Since *oare* is very similar to *wh* it may raise to the left periphery, occupying the same place Q-particles do. *Oare* seems to be a focus particle which would also explain its close relationship to the *wh*-elements in *wh*-questions. Since *oare* is both a focus and a discourse particle affecting the entire sentence, it may be argued that *oare* moves from its base-generated position, after having merged with the focused element, to a position higher than SpecFocP.

It would be interesting for one to research the relationship between *ori* and *oare* and the difference between sentences like ***Oare*** *fata a spart o farfurie ieri?* and ***Ori*** *fata a spart o farfurie ieri?* since the latter is a possible but very rare occurrence. Another interesting topic would be deciphering the position to which *oare* actually raises at LF and what the difference is between the sentences where *oare* occurs before the *wh*-expression and those where *oare* occurs afterwards or even in the right periphery.

The main purpose of this article was to raise questions as to what *oare* is and how it functions. While the paper has attempted to satisfy some of these curiosities, most questions are still left unanswered. Hopefully further research will point in the same direction that *oare* is a type of a Q-particle, overt when it has a function in discourse and covert when it does not. Either way, one may never cease to wonder about *oare*.

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Agreement Morphology in Early Serbian*

Mirjana Mandić

This research deals with the acquisition of agreement inflections on the sample of 4 children from the *Corpus of Early Serbian Child Language*. The results support the continuity approach, according to which children's grammars do not differ from the adult ones. Finite main clauses are attested from the earliest stages of production and almost 90% of the verbs bear correct agreement inflections. It is argued that the initial structure of children's clauses in Serbian includes at least IP level.

Several types of non-adult like forms are also attested. The most frequent error is the inflectional marker omission, which results in the use of a form identical to the 3rd person singular of the present tense. It is argued that this form might be taken as the default form which Serbian learners use whenever they fail to provide an appropriate verbal inflection and could be considered as a root infinitive analogue.

Keywords: *agreement morphology, language acquisition, root infinitive analogue, verbal inflections*

1 Introduction

Previous research on child language acquisition has shown that two-year-olds know much of the syntax of their language, particularly the system of inflection and verb movement. Nevertheless, children produce different types of non-adult forms. It has been argued that these forms are generated by the child's grammar, which differs in some minimal way from the adult grammar (Shütze & Wexler 1996: 670).

This paper deals with the acquisition of finiteness and agreement paradigm in early Serbian. Regarding the Serbian verbal morphosyntax, I address the following questions: how and when is the subject-verb agreement acquired by Serbian-speaking children; are there any early root non-finites (root infinitives, bare verb stems, or bare participles), and if there are, what are their properties; and are functional categories (such as IP or CP) present in early Serbian grammar, and if so, to what extent?¹

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¹ Abbreviations: SG – singular, PL – plural, 1 – first person, 2 – second person, 3 – third person, M – masculine gender, F – feminine gender, N – neuter gender, PRES – present tense, AORIST – aorist tense, PAST – past tense, FUT – future tense, PLUPF – pluperfect tense, COND – conditional tense, PPART – past participle, INF – infinitive, AUX – auxiliary, MOD / Mod. – modal, SUBJ.COMP – subjunctive complementizer, CL – clitic, NEG – negation, Q – question (particle), T – tense, Agr – agreement, Cop. – copula, Imp. – imperative, Vf – finite verb, Err – error, RI – root infinitive, BP – bare participle, MLU – mean length of utterance, MLUw – mean length of utterance in words, CHI – child, EXP – experimenter, MOT – mother, FAT – father, IP – Inflectional Phrase, CP –

Before looking at empirical evidence in early language, I will briefly summarize the theoretical accounts on early child grammars, as well as the syntax of verbal morphology in adult Serbian.

1.1 Early child grammars

1.1.1 Previous Hypotheses

In the generative framework, there are two main accounts that are currently dealing with the nature of initial grammars developed by young children, namely a maturational account and a continuity account.

According to *the maturational account*, functional projections are not fully available initially and they develop (mature) over time. Some authors (Radford 1990, among others) claim that early clause structures are purely lexical in nature and characterized by the absence of functional category systems (including both IP and CP). According to Radford's study, all major lexical categories projections (NP, VP, AP and PP) are acquired before all major functional categories projections (CP, IP and DP). Nevertheless, there are some other alternative accounts within the maturational approach. According to one, lower functional projections (such as IP) are initially present, but not the higher ones (such as CP) (Meisel & Muller 1992).²

Arguments for the maturational account are based on the early absence of morphophonological material associated with functional projections. The absence of auxiliaries and agreement markers is taken to be the evidence for the early absence of IP (Radford 1990), and the absence of complementizers from early subordinate clauses indicates the early absence of CP (Meisel & Muller 1992). Empirical data that support this view mostly come from languages with a morphologically poor verbal system, such as English, Swedish, or French.

One of the predictions that this approach is giving rise to is the random distribution of the agreement morphology. If the earliest stages of language development are characterized by the absence of functional categories, this implies not only that children would omit verb inflection markers, but also that they would distribute them across verbs without any rules. Thus, one could expect a large proportion of agreement errors in early grammars.

According to *the continuity account*, all elements of the child's grammars are 'in place' from early on and early grammars have all the adult properties (Poeppel and Wexler 1993, Borer & Rohrbacher 2002, Guasti 1993/1994). This view states that most (if not all) functional categories are present very early in the grammatical system, and are innately given by UG. The differences between early and adult grammars are accounted for by the assumption that children must learn language-specific properties. It is also argued that even though children are able to represent the functional projections, they might be underspecified for certain features.³

Complementizer Phrase, NP – Noun Phrase, VP – Verb Phrase, AP – Adjective Phrase, PP – Prepositional Phrase, DP – Determiner Phrase.

² In the literature, the maturational account is also referred to as *Gradual Development Hypothesis* (Borer & Rohrbacher 2002, following Deprez 1994).

³ As Guasti explains, underspecification accounts argue that a feature that is usually present in a finite clause optionally fails to be specified or is optionally missing in a given structure representation. For example, tense and/or agreement feature (Wexler 1994, Wexler 1999) or number feature (Hyams 1996). When this happens, the morpheme expressing that feature cannot surface and the syntactic processes for which this feature is responsible do not occur (Guasti 2002: 133).

Arguments for this hypothesis are based on the early presence of syntactic movement linked to functional structure. The correlation of finiteness and verb placement with respect to negation in early French is taken to be the evidence for the presence of the IP (Pierce 1992). The position of the verb (V2 or verb-final) with respect to the finiteness in early German is taken to be the evidence for the presence of the CP, since it requires V-to-C movement (Poehpel & Wexler 1993). However, this view is mostly supported by Romance null subject languages (Italian, Spanish and Catalan), which all have a morphologically rich verbal system. Studies of the acquisition of verbal inflection suggest that children have full knowledge of the subject-verb agreement in their languages from very early on, which implies that at an early age at least some functional projections are available to them.

In finite clauses, the inflectional node I is specified for tense and agreement features, which express finiteness. Thus, if children demonstrate the knowledge of agreement system, this means that in their grammars agreement is a structure-dependent relation between a head and a specifier (Guasti 2002: 147). This would rule out the possibility for the random use of agreement markers, so one of the predictions that this approach is giving rise to is a small proportion of agreement errors.

1.1.2 *Previous findings*

Even though there are striking cross-linguistic similarities in the course of language development, numerous studies have shown that there are also cross-linguistic differences in the ways in which child grammars differ from the adult ones. In line with the continuity hypothesis, it is argued that in languages with overt agreement morphology, children almost always show the subject-verb agreement from very early on. On the other hand, in languages which do not have overt morphology, children's earliest utterances seem to lack tense and agreement markers, resulting in the production of bare verbs (in English) or root infinitives (in other Germanic languages, and French, for example). These facts have been usually taken as evidence for the maturational hypothesis.

Since this paper deals with the acquisition of agreement paradigms, I will summarize previous findings in this domain on the basis of the data available in the literature.

With regard to *subject-verb agreement*, different studies indicate that in languages with overt agreement morphology, children almost always use the agreement morphemes appropriately, where required. Table 1 provides the frequencies of agreement errors occurring in finite clauses. The percentage of utterances with incorrect subject-verb agreement is low in null-subject Romance languages (Italian, Spanish) and Slavic languages (Russian, Polish, and Slovenian). The percentage of such errors is always under 4%.⁴ In addition, it is argued that the majority of errors are errors of omission rather than errors of substitution (Guasti 1993/1994, Phillips 1995, Rus 2006). This means that children rarely use incorrect agreement suffixes. They almost never substitute one suffix for another one, but rather only omit them.

⁴ The same remark was made in the paper of Hoekstra & Hyams (1998: 84), where the review of error frequencies in early German, Italian, Spanish and Catalan is provided.

Language	Child	Age	N	%Err	Source
Italian	Martina	1;8–2;7	478	1.6%	Guasti 1993/1994
	Diana	1;10–2;6	610	1.5%	Guasti 1993/1994
	Guglielmo	2;2–2;7	201	3.3%	Guasti 1993/1994
Spanish	Inés	1;8–2;6	731	0.67%	Buesa García 2007
Russian	Kristina	1;9–2;0	153	3.08% ^a	Kallestinova 2007
	Tanya	2;5–2;7	161		Kallestinova 2007
	Varya	1;6–2;4	1120	0%	Kallestinova 2007
Polish	Aleksandra	1;9–3;3	2707	0.55%	Klepper-Pang 2003
Slovenian	15 children ^b	2;0	83	2.1%	Rus 2006

Table 1: Percentage of subject-verb agreement errors in early language⁵

With respect to *root infinitives* (henceforth: RIs), it is observed that children acquiring non-null subject languages, such as German, Dutch, Swedish, French and many others, pass through a grammatical stage of language development in which they produce main clauses containing an infinitive verb rather than a finite one. This option is not allowed in their target languages. The root infinitive stage begins with the earliest multiword productions and lasts until about 3 years of age (Guasti 2002: 128). Although RIs are attested in many languages, there are several typological differences observed with respect to the nature of RIs and their presence (or absence) in different languages. In languages such as German or French, the nonfinite forms are actual infinitives, whereas in languages such as English there is no infinitival marker and children produce uninflected (bare) forms. Another important difference is that in null subject languages RIs are very rare. Table 2 provides the frequencies of RIs in different languages (see also Hoekstra and Hyams 1998, for another review).

Language	Child	Age	N	%RIs	Source
Italian	Martina	1;8–2;7	513	4.9%	Guasti 1993/1994
	Diana	1;10–2;6	621	0.3%	Guasti 1993/1994
	Guglielmo	2;2–2;7	212	1.9%	Guasti 1993/1994
Spanish	Inés	1;8–2;6	768	4.2%	Buesa García 2007
Polish	Aleksandra	1;9–3;3	2804	3.46%	Klepper-Pang 2003
Slovenian	15 children	2;0	196	4.6%	Rus 2006

⁵ *Note.* N = number of utterances with the correct agreement. %Err = percentage of utterances with the incorrect agreement, i.e. the frequency of agreement errors.

^a The percentage of incorrect verb forms presented here joins together data from two children (Kristina and Tanya). The author did not provide the distribution of incorrect agreement forms across children. It is only stated that in the corpora of these two girls a total number of 10 bare stems has been found. I have calculated the percentage based on the number of correctly inflected forms and total number of utterances.

^b This is a study based on a collection of spontaneous production data from 15 children.

Language	Child	Age	N	%RIs	Source
Russian ⁶	Kristina	1;10	62	69.4%	Kallestinova 2007 ^a
		1;11	187	34.2%	
		2;0	69	8.7%	
	Tanya	2;5	36	22.2%	Kallestinova 2007
		2;5–2;6	82	9.8%	
		2;6–2;7	100	3.0%	
Varya	1;6–1;8	438	17.4%	Kallestinova 2007	
	1;10–2;4	1039	3.4%		
French	Augustin	2;0–2;9	780	10.5%	Rasetti 2003
	Marie	1;8–2;6	1666	10.7%	Rasetti 2003
	Louis	1;9–2;3	1219	11.6%	Rasetti 2003
Swedish	Sara	1;11–2;11	1274	10.8%	Josefsson 2002
	Markus	1;10–2;0	399	17.8%	Josefsson 2002
	Harry	2;0–2;5	380	26.3%	Josefsson 2002
	Tor	1;11–2;2	126	56.3%	Josefsson 2002
Dutch	Hein	2;4–3;1	4489	16.0%	Haegeman 1995

Table 2: Percentage of root infinitives in early language⁷

As we can see from the table, RIs rarely occur in null-subject languages (excluding Russian, where the percentage of RIs is always lower than 5%), unlike in non-null subject languages where the frequency of RIs is higher (although dependent on the child and the language). This is why the distinction is made in the literature between RI and non-RI languages.

⁶ Even though Russian has rich morphology, it differs from null subject languages since it does not allow null subjects in all types of utterances. There is an ongoing debate on whether Russian is a pro-drop or non-pro-drop language. The higher proportion of RIs in Russian in comparison to pro-drop languages favors the view of Russian as a non-pro-drop language (cf. Bar-Shalom & Snyder 1997).

⁷ *Note.* N = total number of verb forms uttered. %RIs = percentage of root infinitives. ^a In this paper the frequency of RIs (and other verb forms as well) has been divided into stages. I have replicated the data exactly as given in the paper, since it gives us an insight into the drop of RIs with age.

Not all of the studies summarized here mainly deal with the RIs in the languages in question. Thus, not all of them provide the same amount of data with regard to the number of utterances, number of finite or nonfinite forms, and not all of them provide the exact percentage of RIs or other forms. Some studies provide the frequency at particular ages, and some of them gather the frequencies in an age range. If not provided by the author, I have calculated the percentage of RIs by dividing the number of RIs with the total number of verb forms reported in the studies. With regard to the total number of verb forms, not all of the studies count the same verb forms. It is suggested by Guasti (2002) to exclude copulas and imperatives from the final counting, since these verbs never occur as root infinitives. Nevertheless, there are studies that do not count just main verbs, but copulas and imperatives as well. When this was the case, I replicated the number of utterances and the frequency of RIs as given in the paper.

1.2 The syntax of verbal morphology in adult Serbian

The Serbian language has extremely rich verb morphology, with Tense, Agreement, and Aspect expressed by verb affixes, as well as a flexible word order with second-position Wackernagel clitics. The grammatical system of Serbian is a three-gender (masculine, feminine, neuter), two-number (singular, plural), and three-person (1, 2, 3) morphological system, with two types of agreement: subject-finite verb and subject-past participle agreement. The Serbian verbal system distinguishes *finite* and *nonfinite* verbal forms.

Finite forms are inflected for tense and agree with their subjects in person and number. Complex tenses containing the past participle also agree in gender. The inventory of tense forms in Serbian is: present, past, future, aorist, imperfect, pluperfect, future 2 (Progovac 2005). In this section, I will focus on the forms relevant to our paper.

The present and aorist tense are the only simple tenses. They are inflected for person and number. There is no distinct Tense marker for *the present tense*. The productive present tense endings carry both the T and Agr features (the suffixes are agreement markers).⁸ In the case of *aorist*, the Tense feature [+Past] probably comes from the suffixes. We should bear in mind that aorist has its own suffix -h- (also realized as -s- or -š-) which is distinct from person and number suffixes.⁹ Examples of present and aorist tense are provided in (1) and (2). The present and aorist tense paradigm is given in Table 3.

- (1) *Čita-m.*
read-PRES.1SG
'I read.'
- (2) *Pad-ob.*
fall-AORIST.1SG
'I have (just) fallen.'

person	Present tense		Aorist tense	
	singular	plural	singular	plural
1	-m, -u	-mo	-(o)h-	-(o)s-mo
2	-š	-te	-/-e	-(o)s-te
3	-	-e /-u /-ju	-/-e	-(o)š-e

Table 3: The paradigm of the present and aorist tense in Serbian

Given the data in Table 3, one can observe that the third person singular of present, as well as the second and third person of the aorist tense, are the least marked forms of the verbal paradigm, since they have no distinct endings.

The past tense is formed by the (imperfective) present tense form of the auxiliary *biti* 'be', and the past participle of the main verb. The auxiliary can be either in a full form, as

⁸ Progovac (2005) suggested that this could be interpreted as present tense being the default Tense or no Tense, i.e. there are no Tense features on present tense.

⁹ The aorist, formed mostly from perfective verbs, serves to narrate events and expresses events that are perceived as surprising. Although it is not found in all dialects, the standard retains aorist as optional past tense. In colloquial speech, this tense is usually replaced with the past tense.

in the example (3a), or in the enclitic form, as in the example (3b). It is argued that the feature [+Past] is supplied by the auxiliary clitic (Progovac 2005: 63).

- (3) a. *Je-sam stig-la juče.*
 be-1SG.AUX arrive-PPART.FSG yesterday
 ‘I arrived yesterday.’
 b. *Stig-la sam¹⁰ juče.*
 arrive-PPART.FSG be-1SG.AUX.CL yesterday
 ‘I arrived yesterday.’

The *pluperfect tense* is formed by the perfect tense of the auxiliary *biti* ‘be’ and the participle of the main verb (Bošković 1995: 256), as in the example (4).¹¹

- (4) *Davno sam bi-la nastupa-la.*
 Long ago be-1SG.AUX.CL be- PPART.FSG perform- PPART.FSG
 ‘I had been performing long ago.’

Past participles are marked for gender/number agreement. Therefore, information on the subject agreement is found in two places: person/number agreement on the auxiliary and gender/number agreement on the participle. It is proposed that the two sets of agreement features are checked in two split segments of Agr_SP (Progovac 2005: 63). Given that participle is specified for agreement, it will raise to Agr_S to check its agreement features.

The *future tense* is formed by finite modal clitic and infinitive or subjunctive-like constructions¹² with finite lexical verbs (Mišeska Tomić 2004: 519). The modal auxiliary clitic inflects for person and number. In the future tense with infinitives, modal auxiliary clitics precede the infinitive if there is another constituent to their left, to which they can encliticize (5a). Otherwise, the clitics follow and encliticize to the infinitive. In this case, the infinitive marker is dropped and the modal clitic left-adjoins to the root of the verb (5b). The infinitive marker is preserved if the infinitive is marked with the suffix *-ći*, as in (5c).

- (5) a. *Ja ću nastupa-ti sutra.*
 I will-1SG.MOD.CL perform-INF tomorrow
 ‘I will perform tomorrow.’
 b. *Nastupa-ću sutra.*
 perform-INF+1SG.MOD.CL tomorrow.
 ‘I will perform tomorrow.’
 c. *Do-ći ću sutra.*
 come-INF will-1SG.MOD.CL tomorrow
 ‘I will come tomorrow.’

¹⁰ It is worth mentioning that I have not hyphenated inflectional morphemes in auxiliary and modal clitics since their morphology is irregular to some extent and one could not easily separate the inflectional ending from the stem.

¹¹ The pluperfect is a much less frequent past tense. It is used as a reference to a distant past. The other way of forming this tense (with the imperfect of ‘be’ as the auxiliary and past participle) is rarely used.

¹² There is no distinct morphology for subjunctive: it has the same morphology as present tense.

In the future tense in which the modal clitics take as a complement a subjunctive-like construction, the modal clitics agree in person and number with the verb of the subjunctive construction, as in the examples given in (6). The subjunctive-like construction is introduced with the complementizer *da* (Mišeska Tomić 2004: 517–519). It is argued that the feature [+Future] is supplied by the auxiliary verb (Progovac 2005: 62).

- (6) a. Ja *ću* *da* *dode-m* sutra.
 I will-1SG.MOD.CL SUBJ.COMP come-1SG tomorrow
 ‘I will come tomorrow.’
- b. Ti *ćeš* *da* *dode-š* sutra.
 You will-2SG.MOD.CL SUBJ.COMP come-2SG tomorrow
 ‘You will come tomorrow.’

The Serbian modal clitics have full, lexical (non-clitic) counterparts – the present tense forms of the lexical modal verb *hteti* ‘will/want’ (Mišeska Tomić 2004: 520).¹³ These forms also take as a complement infinitive or subjunctive-like constructions, but differ from modal clitics in that they have aorist and past tense and the verb does not necessarily agree with the verb of the subjunctive construction, as given in (7).

- (7) *Ho-ću* *da* *dode-š*.
 will/want-PRES.1SG.MOD. SUBJ.COMP come-2SG
 ‘I want you to come.’

As we saw, there are two auxiliaries in Serbian: *biti* ‘be’ and *hteti* ‘will/want’, both are used in the formation of complex tenses (past and future, respectively). The features [+Past] and [+Future] are supplied by them.

Nonfinite forms relevant for this paper are the infinitive and the past participle. Serbian *infinitives* are formed by the infinitival endings *-ti* or *-ći* which are added to the (infinitival) stem of the verb (some verbs have two distinct stems, commonly referred to as the infinitival and the present stem), as in *pevati* ‘to sing’ and *doći* ‘to come’. Infinitives are used either in the future tense constructions, or as complements to modal verbs.¹⁴ According to Progovac (2005: 63–64), the infinitive form cannot raise to the Agr_S projection, since it has no agreement or tense features to check.

Past participle is used in complex tenses. This form obligatorily bears the information on number and gender. Since it is specified for agreement, it is argued that this form can raise to Agr_S in order to check its features (Progovac 2005: 64).

1.3 The aim and the hypotheses

Starting from the fact that Serbian has a very rich verbal morphology system and based on the findings and theoretical accounts, I expect to find a small number of agreement errors and a small number of root infinitives (if any at all) in early Serbian. In other words, I assume that the agreement paradigm is acquired early in Serbian. This would

¹³ These forms are not the cases of future tense.

¹⁴ For detailed explanations on the use of the infinitive in different frameworks cf. Arsenijević 1997 and Belić 2005.

imply the existence of at least T/Agr_S level in early Serbian, since in adult Serbian, according to the theory I have adopted (Progovac 2005), inflected main verbs enter the derivation at V and in finite clauses move successively to T and Agr_S to check their inflectional features.

2 Data and method

2.1 Sample

The data for this study are taken from the *Corpus of Early Serbian Child Language* (Anđelković, Ševa & Moskovljević 2001). The sample for this corpus consisted of eight monolingual Serbian children (4 from Belgrade and 4 from Banja Luka), whose speech was longitudinally recorded from 1;6 till 4;0 years of age. The recordings were made at 2-month intervals and lasted 90 minutes each. The recording sessions included spontaneous interaction between a child and the adults who were present during the recording (e.g. parents, siblings, relatives, family friends, and the experimenters). The material was collected, recorded and transcribed into electronic form according to the CHILDES system procedures (MacWhinney 2000).

The analysis was conducted on the sample of 4 children from this corpus, two boys and two girls, all from Belgrade: Danica, Jelena, Luka, and Miloš. The analysis is provided for ten different ages (age range 1;6–3;0). The mean length of utterance (MLU) per age for each child is given in Table 4. MLU values are calculated automatically by the use of the CLAN program. They are computed in words, not in morphemes.

Child Age	Danica MLUw	Jelena MLUw	Luka MLUw	Miloš MLUw
1;6	1.22	1.26	1.10	1.17
1;8	1.33	1.12	1.56	1.19
1;10	1.75	1.08	1.77	1.31
2;0	1.80	1.53	1.95	1.05
2;2	2.50	1.68	2.17	1.14
2;4	2.47	1.65	2.52	1.27
2;6	2.14	1.89	2.30	1.34
2;8	2.97	2.63	2.50	1.61
2;10	3.14	2.75	2.82	1.68
3;0	2.02	2.05	2.85	1.90
Average 1;6-3;0	2.13	1.76	2.15	1.37

Table 4: Mean length of utterance in words (MLUw) for all children

2.2 Method: counting procedure and verb types

For this purpose, I have included all verb-containing utterances that occurred spontaneously and can be interpreted by a Serbian native speaker. An utterance was excluded from the final counts if it was not completed or fully intelligible, if it was an

imitation of a previous adults' utterance or a memorized rhyme, or if it was the repetition of the child's own previous utterance (unless the verbal inflection changed from one token to the next). Utterances containing either an overt or a null subject have been considered. The correctness of sentences containing a null subject has been established on a contextual basis.

I did not take into account the utterances with 3SG form if it was impossible to interpret whether the subject was actually 3SG or another person. Also, if it was impossible to interpret whether the verb is in the form of 3SG of present tense or 2SG of imperative (since these forms are homophonous for some verbs), they were excluded.

I have examined sentences with main lexical verbs. The only type of sentences containing a main lexical verb that are excluded from the analysis are existential sentences with the verb *imati/nemati* 'to have / not to have'. In existential sentences the verb and the noun phrase do not agree in phi-features. The verb is inflected only for the 3rd person singular, thus it shows no distinct morphology for other persons.

Constructions with modal verbs, i.e. modal-type verbs selecting an infinitive or a subjunctive-like complement are also included in the study. Imperatives, as well as the verb *biti* 'be' used as a copular verb, were excluded from the analysis.

Since the aim of the study is to explore the acquisition of agreement, the correctness of the subject-verb agreement was checked on the basis of the correctness of the following: person/number agreement of the subject and the main/modal verb in simple tenses; person/number agreement of the subject and the verbs in subjunctive-like constructions; person/number agreement of the subject and the auxiliary *biti* 'be' in past tenses and person/number agreement of the subject and the auxiliary *hteti* 'will/want' in the future tense; gender/number agreement of the subject and past participle.

3 Results

Two relevant types of clauses (verb-containing utterances) are identified in the production of Serbian-speaking children: finite and nonfinite clauses. Identified finite clauses resemble adults' clauses and show correct agreement marking on the verb. Identified nonfinite clauses fall into three subcategories: clauses with incorrect agreement, clauses with bare participles (which consist of bare participle forms which are not preceded by the obligatory auxiliary verb), and root infinitive clauses which contain a matrix infinitive verb. Table 5 shows the breakdown of all the utterance types in the count (note that imperatives and copulas are excluded). The analysis is based on a total of 5480 utterances.

Type	Vf	Mod.		V	Err		BP	RI	Σ
		Mod+Vf	Mod+Inf		Mod+Vf	Mod+Inf			
Danica	989	72	1	87	38	1	42	4	1344
Jelena	871	95	3	64	23	0	34	0	1211
Luka	2043	94	1	201	17	0	65	0	2533
Miloš	337	14	1	12	3	1	5	0	392

Table 5: Breakdown of all clause types in the data¹⁵

Given that a modal verb can have either an infinitive or a subjunctive-like complement, categories Mod. and Err contain two types of constructions. The former is labeled Mod+Vf, representing a modal verb selecting a finite (subjunctive-like) complement. The other one is labeled Mod+Inf, representing a modal verb selecting an infinitive complement. In the table, the total number of modal constructions is presented. However, in the final counts every verb (modal, infinitive and subjunctive-like) is treated separately in the categories of correct agreement and agreement errors. This is why the total number of verb forms included in the analysis is higher than the number of utterances.

The examples of all categories included in the analysis are given in (8).

- (8) a. *juri-m* loptu. Vf
 chase-PRES.1SG ball.
 ‘I am chasing the ball.’
- b. *ne-će* zec da *plač-e.* Mod+Vf
 not-will-PRES.3SG rabbit SUBJ.COMP cry-PRES.3SG
 ‘The rabbit will not cry.’
- c. *(b)o-ću* *na-ći* ovo. Mod+Inf
 want-PRES.1SG find-INF this.
 ‘I want to find this.’
- d. ti *voli-m* ovu žutu. Err, V
 you like-PRES.1SG this yellow
 ‘You like the yellow one.’
- e. *ne-ću* batu *drž-i-* Err, Mod+Vf
 not-want-PRES.1SG brother hold-PRES.3SG
 ‘I don’t want to hold the baby brother.’
- f. *ho-ću* *do-ći* tamo Aća Err, Mod+Inf
 will-PRES.1SG come-INF there Aća
 ‘Will Aća come there?’

¹⁵ Vf = finite lexical verb or modal verb without the complement, Mod. = construction with modal verbs, Inf = infinitive complement, Err = agreement error, V = agreement error on the lexical verb, BP = bare participle, RI = root infinitive, Σ = total number of all verb forms included in the analysis.

- g. *ku^{pi}-o.* BP
 buy-PPART.MSG
 ‘(I) bought.’
- h. *ima-ti ovu.* RI
 have-INF this one
 ‘(I) have this one.’

3.1 Finite and nonfinite verbal forms in early Serbian

In this section I first examine to what extent verbal morphology is mastered by Serbian-speaking children. Chart 1 shows the proportion of finite and nonfinite forms in early Serbian (for all 4 children). Appendix contains tables with exact number and percentage of these forms per child.

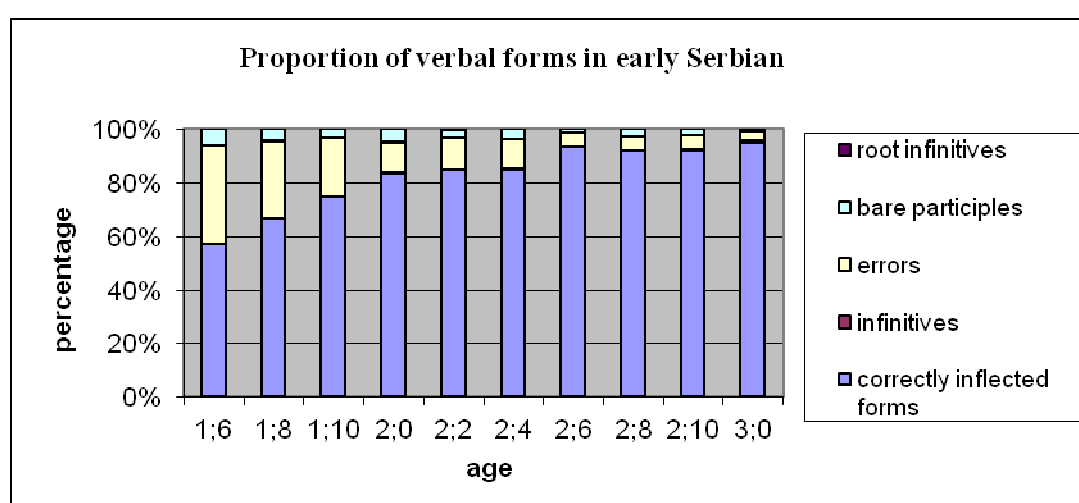


Chart 1: Proportion of verbal forms with respect to age

From very early on, the vast majority of sentences produced by Serbian-speaking children is finite, and there appears to be no stage during which nonfinite clauses prevail. In the age range 1;6–3;0, children correctly inflect the verbs in about 90% of the utterances. The overall rate of agreement errors for each child is 9.7% in Danica’s, 7.6% in Jelena’s, 8.8% in Luka’s and 4.1% in Miloš’ speech, which conforms to the previous findings in the acquisition of different languages.¹⁶ The rate of agreement errors decreases with age and we can observe a developmental change. The percentage of bare participles is lower than 3% for all children, but even at earlier ages never raises above 7%. Root infinitives are reported in the speech of only one child (Danica), and their rate (0.3% in the overall sample) supports previous findings on the root infinitives in non-RI languages (cf. Table 2).

¹⁶ The overall number of utterances and the age at which the verbs first appear is different for Miloš than for the other children. Except for one case of inflected verb at 1;10, there are no intelligible, non-repeating, verb-containing utterances before the age of 2;4. As can be seen in Table 4, Miloš’ MLU is exceptionally low in comparison to the other children. However, except for the amount of talking, there are no other observable differences: Miloš shows low number of agreement errors and bare participles and a high rate of correct forms.

Since this study comprises a rather broad age range, it is more important to take a look into the distribution of correct and incorrect agreement across different ages. At earlier ages, the number of correct forms is lower in comparison to other studies. At the beginning of the earliest verb production, in Jelena's and Luka's speech, around 50% of verbs is correctly inflected for person/number and we find almost the same number of agreement errors: 45.5% and 44.1% for Jelena and Luka, respectively (see also Appendix). In addition, the rate of agreement errors does not drop under 10% before the age of 2;8, 2;6, 2;4 and 2;2 for Danica, Jelena, Luka and Miloš, respectively. Before these ages the percentage of incorrectly agreed verbs is higher than reported in other languages. It reaches 23.5% at 1;6 in Danica's speech, 45.5% at 1;8 in Jelena's speech, 44.1% at 1;6 in Luka's speech and 66.7% at 1;10 in Miloš's speech. These figures are much higher than expected in a language with such a rich agreement system. Note, however, that the ages with the highest error rate are the ones where the overall number of sentences is rather low (cf. Appendix).

3.2 Distribution of finite forms in early Serbian

Even though there is a large proportion of correctly inflected verbs, children do not have an access to all agreement forms immediately. Chart 2 shows the proportion of person and number distinctions with age (for all children).

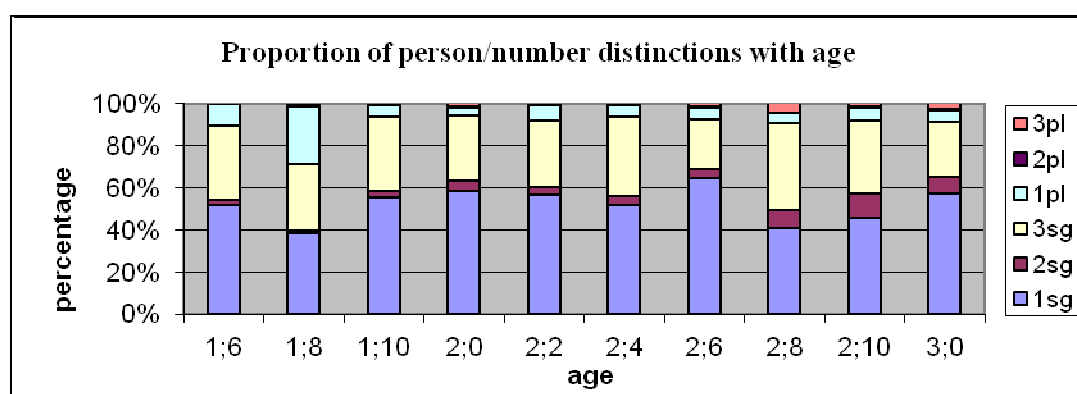


Chart 2: Proportion of person/number distinctions with respect to age

All singular person inflections emerge earlier than the plural ones, with 1SG and 3SG being the most productive ones. In Luka's speech, the first occurrence of first, second and third person singular inflection is at 1;6, whereas for Danica all three person inflections occur at 1;10. For Jelena and Miloš the first appearance is at 2;4 and 2;6, respectively. First person plural is attested early for Danica and Luka (at 1;8 and 1;6) and very common at later ages as well. Third person plural emerges later for all children, whereas second person plural is only sporadically used in the speech of all four children.

Other studies also report on the later emergence of plural inflections in the course of language development (Guasti 1993/1994, Rus 2006). It is argued that this delay of plurality characterizes verbal and other ways of marking the plurality. Nevertheless, in our data, 1PL is early reported and frequent in Danica's and Luka's speech. I assume that the absence of 2PL and 3PL especially at earlier ages is not just due to the delay of plurality, but due to the fact that there are few 2PL and 3PL contexts.

3.2.1 Productivity of verbal inflections

An important distinction between the mere presence of an inflection and its productivity should be made. Not all inflections are productively used, although present in the data, and not all verbs are productively inflected, meaning that there are verbs that are preferably used in one and the same form. Productivity in the domain of verbal morphology means that a child is able to use the same verb with different inflections and in different forms, if that is required by the context. In particular, it means that there is a contrast between at least two different forms of the verb.

In order to clarify the notion of productivity, I will briefly present the examples of non-productive forms first. There are examples in the sample which suggest that certain verbs almost always appear in the same form. This is the case with the verbs *otići* 'to go / to leave' and *pasti* 'to fall', which all children almost always use in the form of 3SG of the aorist tense, especially at earlier ages. Examples are given in (9). One possible explanation for the use of these simplex forms is the fact that they are one of the simplest forms in the overall paradigm of these verbs, in addition to their irregularity in other forms (these verbs belong to the group of verbs whose stems also change).

- (9) a. ovo *pad-e*. (Luka, 2;0)
this fall down-AORIST.3SG
'This (a toy) has just fallen down.'
- b. *od-e* loptica. (Danica, 1;8)
go- AORIST.3SG ball (diminutive)
'The ball has (just) gone.'

Based on this, we can state that verbs *otići* 'to go / to leave' and *pasti* 'to fall' are not productively used at earlier ages. In addition, verbs are used in the aorist tense only with 3SG inflection.¹⁷ Thus, this tense could not be considered as being productive at all.

However, the diversity of forms found in the sample supports the claim that children have mastered the agreement paradigm, despite the percentage of agreement errors found in the production of some children at the earlier ages.

At 1;6, Danica uses 6 different verbs, but only with 3SG inflection. Nevertheless, the number of different verbs increases at 1;8: she uses 12 different verbs inflected for 3SG, 4 for 1SG and 6 for 1PL. More importantly, at this age there are 4 verbs inflected for 2 different persons. These are *kopati* 'to dig' and *otvoriti* 'to open' (with 1SG and 1PL), and *hteti* 'to want' and *ručati* 'to dine' (with 1SG and 3SG inflections). At 1;10, Danica uses 17 different verbs inflected with 3SG, 11 with 1SG, and 7 with 1PL inflections. The verb *kupati* 'to bathe' is inflected with all these inflections, while 4 other verbs (*hteti* 'to want', *sesti* 'to sit', *pasti* 'to fall' and *naći* 'to find') are inflected for two different persons. At 2;0, the verb *voziti* 'to drive' is inflected for 1SG, 3SG, 3PL, the verb *staviti* 'to put' is inflected for 1SG, 3SG, 1PL, verbs *praviti* 'to make' and *skloniti* 'to put away' are inflected with 1SG and 1PL, verbs *spavati* 'to sleep' and *ljudjati se* 'to swing' with 3SG and 3PL, the verb *videti* 'to see' with 2SG and 3SG and *hteti* 'to want' for 1SG and 3SG. Some examples are given in (10).

¹⁷ The number of verbs used in the aorist tense is 21, 19, 30 and 16 for Danica, Jelena, Luka and Miloš, respectively (age range 1;6–3;0). Only 3 examples of verbs inflected for 3PL were found in Danica's sample. All other examples are inflected for 3SG.

- (10) a. da ga *kuḡa-m.* (Danica, 1;10)
 SUBJ.COMP it bath-PRES.1SG
 ‘I am going to bath it.’ (it=teddy bear)
- b. *kuḡa-* ga Nana. (Danica, 1;10)
 bath-PRES.3SG it Nana
 ‘Nana is bathing it.’
- c. sad *kuḡa-mo.* (Danica, 1;10)
 now bath-PRES.1PL
 ‘We are bathing (it) now.’

At 1;6, Luka uses 4 different verbs inflected for 1SG, 1 verb inflected for 2SG, 5 verbs inflected for 3SG and 5 for 1PL. At this age, the verb *bteti* ‘to want’ is inflected for 1SG, 3SG and 1PL and the verb *staviti* ‘to put’ for 1SG and 1PL. At 1;8, 11 verbs are inflected for 1SG, 3 verbs for 2SG, 6 verbs for 3SG and 10 verbs for 1PL. Some of these verbs bear different inflections: *bteti* ‘to want’ 1SG, 2SG, 1PL, *imati* ‘to have’, *skinuti* ‘to take off’ and *igrati* ‘to play’ 1SG and 1PL, *spavati* ‘to sleep’ 1SG and 2SG, *prskati* ‘to sprinkle’ 1SG and 3SG. At 1;10, Luka produces 17 different verbs inflected for 1SG, 3 verbs inflected for 2SG, 19 verbs inflected for 3SG and 3 for 1PL. Some of these verbs bear different inflections: *bteti* ‘to want’ bears all three singular inflections, *ići* ‘to go’ bears all three singular inflections and 1PL, *popraviti* ‘to make something work’, *vozići* ‘to drive’, *jesti* ‘to eat’ 1SG and 3SG, *baciti* ‘to throw’ 1SG and 1PL. At 2;0, there are 20 verbs inflected for 1SG, 7 for 2SG, 16 for 3SG and 1 for 1PL. The verb *bteti* ‘to want’ is used with all these inflections. The verbs *ići* ‘to go’ and *skinuti* ‘to take off’ are inflected for 1SG and 3SG, and the verbs *imati* ‘to have’ and *videti* ‘to see’ are inflected for 2SG and 3SG. Some examples are given in (11).

- (11) a. *ide-m* (sa) mamom. (Luka 1;10)
 go-PRES.1SG (with) mom
 ‘I am going with mom.’ (talking about going to the seaside)
- b. MOT: pitaj ga jel ide on u školicu. (Luka 1;10)
 ‘Ask him if he is going to school.’
 CHI: *ide-ŝ?*
 go-PRES.2SG
 ‘Are you going?’
- c. ovuda vo:zi: *id-e.* (Luka 1;10)
 this way drive-PRES.3SG go- PRES.3SG
 ‘It drives this way, it goes.’ (it = the bus)
- d. a sad *ide-mo.* (Luka 1;10)
 and now go- PRES.1PL
 ‘And now we are going.’

The number of different verbs produced before the age of 2;0 is smaller for Jelena and only one verb (*bteti* ‘to want’) shows the contrast between the inflections. At 1;6, 3 verbs are inflected for 1SG and 2 for 3SG, while only one of them bears both inflections (*bteti* ‘to want’). At 1;8, she uses 2 verbs inflected for 1SG and 2 inflected for 3SG, one of them (*bteti*) bears both inflections. At 1;10, she uses 1 verb inflected for 1SG and 2 for 3SG (*bteti* is one of them). However, at 2;0 the number of verbs increases. She uses 12 verbs inflected for 1SG and 6 inflected for 3SG (only *bteti* has both inflections). Examples are given in (12).

- (12) a. MOT: donesi stolicu! (Jelena 1;6)
 ‘Bring the chair.’
 CHI: *ho-ću!*
 will/want-PRES.1SG
 ‘I will.’
- b. MOT: pa neće tako da se kotrlja. (Jelena 1;6)
 ‘It won’t roll like that.’
 CHI: *ho-će!*
 will/want-PRES.3SG
 ‘It will.’

Miloš does not use inflected verbs before the age 2;4 (except for one example of 3PL, which could not be considered as being productive at all).

The diversity of inflections that have been found on different verbs and on novel verbs in Danica’s and Luka’s speech is important evidence for the claim that children have mastered the agreement system. As we have seen from these observations, even at the earliest ages (from 1;6 until 2;0 years of age) most children show the ability to mark the agreement with different inflections. I hope to have shown that the productivity of novel verbs, as well as the use of different inflections proves that verbs are not learned by rote.

3.2.2 Tense forms

The use of tenses in child language will not be analyzed in depth here, since this would be beyond the scope of the paper. Nevertheless, the overall number of different tense forms children use could further support the idea that children are able to use different inflections. Table 6 shows the overall frequency of different tenses and the age at which each of the tense form first emerged in the age range 1;6–3;0.

Form	PRES		FUT		PAST		AORIST		PLUPF		COND	
	N	Age	N	Age	N	Age	N	Age	N	Age	N	Age
Danica	1004	1;6	86	1;10	54	1;10	21	1;6	1	2;10	/	/
Jelena	975	1;8	32	2;2	56	2;4	19	1;8	/	/	/	/
Luka	1790	1;6	137	1;8	283	1;10	30	1;6	1	3;0	3	2;6
Miloš	315	2;4	30	1;8	8	2;8	16	2;8	/	/	/	/

Table 6: Distribution of different tense forms for all children

As Rasetti points out (Rasetti 2003: 44), the robust production of tensed clauses from the earliest recorded period can be interpreted as a strong indication that IP is largely available as soon as verbs are used. Children in the sample use different tense forms, both simple and complex. This is particularly important because in the past and pluperfect tense, the auxiliary is inflected for person and number and the past participle for number and gender. In the future tense, the modal clitic (auxiliary) which selects the subjunctive-like complement has the person/number inflection in two places. If a child

accurately inflects both, this supports the fact that the child has mastered the agreement system.

However, if we look at the data before the age of 2;0, the use of different tense forms is not productive at all. The number of verbs inflected for present tense is clearly much higher than the proportion of other tenses. The frequency of past and future tense is very low at earlier ages. The first contrast between the tenses is reported at different ages for different children. At 1;6, Danica uses only present and aorist tense, and at 1;10 she adds future and past tense. Jelena uses present and aorist at 1;8, future and past tense are added later (2;2 and 2;4 respectively). At 1;6, Luka uses aorist and present tense, future and past tense are added at 1;8 and 1;10, respectively. Miloš starts using present tense at 2;4, but aorist, past and future tense are added at 2;8. Therefore, the only productive tense form at the earliest ages is the present tense.

3.3 Types of agreement errors

Different types of agreement errors were found in the corpus. Table 7 shows the total number and percentage of different error types for each child.

Type	incorrect suffix		suffix omission		incomplete stem		non-existing suffix		incorrect participle agreement		Σ
	N	%	N	%	N	%	N	%	N	%	N
Danica	29	22.1	82	62.6	15	11.4	4	3.1	1	0.8	131
Jelena	31	33.7	39	42.4	14	15.2	7	7.6	1	1.1	92
Luka	38	17	142	63.7	28	12.6	7	3.1	8	3.6	223
Miloš	5	31.2	6	37.5	5	31.2	0	0	0	0	16

Table 7: Number and percentage of different error types

1) Incorrect suffix – these are the cases where the child uses an agreement suffix in an inappropriate context, i.e the suffix does not match the person and/or the number of the subject, as in the examples given in (13).

- (13) a. EXP: (h)očěš? (Jelena, 2;4)
 ‘Do you want (the scarf)?’
 CHI: (h)o-ěe.
 want-PRES.3SG
 ‘I want.’
- b. gde *id-e* lavovi? (Luka, 2;4)
 where go-PRES.3SG lions
 ‘Where do lions go?’

- c. *nađ-u* d(r)ugu. (Danica, 1;10)¹⁸
 find-PRES.3PL another
 ‘(I) find another one.’ = ‘I’m going to find another one (the sock).’

As we can see from the table, the overall percentage of this error type is around 20% for Danica and Luka, and around 30% for Jelena and Miloš. It should be pointed out that most of the cases represent the use of the 3SG inflection instead of other verbal suffixes: 23/29 (Danica), 25/31 (Jelena), 35/38 (Luka), 3/5 (Miloš), out of which some examples involve lack of agreement for number (Danica: 7, Jelena: 1, Luka: 7, Miloš: 1) (as in (13b)). This means that 93.2% of this error type are examples where children use the third person singular form instead of some other form (mostly instead of 1SG).¹⁹

Only a small proportion of these errors are errors of substitution of one suffix for another one: 6/20 (Danica), 4/31 (Jelena), 2/38 (Luka), 2/5 (Miloš). It is important to bear in mind that this substitution does not refer to the third person singular suffix.

2) Suffix omission – these are the cases where the child does not use an agreement suffix when it is required in the context.

When present tense agreement suffixes are omitted, most of the forms are identical to the form of third person singular (cf. example (14a)). The number of utterances with suffix omission that results in the same form as 3SG is: 74/82 (Danica), 35/39 (Jelena), 112/142 (Luka), and 4/6 (Miloš). Most of the examples with 3SG form are used in the context with the 1SG subject: 55/74 (Danica), 27/35 (Jelena), 96/112 (Luka), and 2/4 (Miloš). This means that 83.6% of this error type are examples where the lack of agreement suffix results in a form identical to 3SG form.

One might argue that the use of the 3SG form in the child language does not indicate an error, but rather represents the cases where the child is referring to him/herself in the third person. Hence, some authors suggested that these cases should not be counted as errors (cf. Rus 2006 for Slovenian). In the data used here, only Danica and Miloš refer to themselves in the third person and these are mostly the cases with the overt 3SG subject (usually their names or nicknames). However, I have considered an example with a verb in 3SG as an error if an utterance did not contain the subject and the child was clearly referring to his/her own activities. The main reason for this is the fact that the same children use verbs in 3SG form with overt 1SG subjects, where they clearly do not refer to themselves in the third person (cf. (14b)).

Still, there are few forms which clearly lack any suffix, resulting in the use of bare stems (cf. (14c)). The number of these verbs is 4, 2 and 9 (in Danica’s, Jelena’s and Luka’s speech, respectively).

In a few utterances with covert subjects it was difficult to establish whether the subject was singular or plural, but certainly it was not the third person (cf. (14d)).

¹⁸ In this example, the form of 3PL is used instead of the 1SG form. The correct 1SG form of the verb *naći* ‘to find’ is *nađem*. The form reported here *nađu* is the same as 3PL. However, few verbs in Serbian have the suffix *-u* as the 1SG present tense marker. It is possible that this example is not the case of the wrong agreement marker, but rather a case of morphological overgeneralization.

¹⁹ One might argue that the use of 3SG form of the verb *hteti* ‘to want’ is not suffix substitution but rather suffix omission, since all other forms contain 3SG form except for 1SG form which bears different suffix (e.g., *hoću*, *hoćeš*, *hoće*, *hoćemo*, *hoćete*, *hoće*).

We have also attested a small number of examples (4, 2, 21, and 2 in Danica's, Jelena's, Luka's and Miloš' speech, respectively) where the child omits the participle suffix and uses the form which is the same as 3SG or a bare stem (cf. (14e)).

- (14) a. FAT: ti voziš, je-I? (Luka, 1;6)
 you drive-PRES.2SG be-Aux.3SG+Qparticle
 'You are driving, aren't you?'
 CHI: vozj-
 drive-PRES.3SG
 'I drive.'
- b. CHI: da ja pije- (Danica, 2;4)
 SUBJ.COMP I drink- PRES.3SG
 'Let me drink.'
- c. EXP: očeš lopticu? (Danica, 1;8)
 want-PRES.2SG ball (diminutive)
 CHI: oč-
 want-BARE STEM
- d. CHI: da ugasi- (Luka, 2;2)
 SUBJ.COMP turn off-PRES.3SG
 'Let me turn off (the light) / Let's turn off (the light).'
- e. CHI: (u)daji- [: udario] se. (Danica,1;10) hit-
 BARE.STEM reflexive particle
 'He hit himself.'

Suffix omission is the most frequent error type in the overall sample. The overall rate is around 40% for Jelena and Miloš, and around 60% for Danica and Luka.

3) Incomplete stem – these are the cases where the child omits not just the suffix but some part of the verbal stem as well (usually, it is the consonant from the stem that is missing). This omission results in the production of the first syllable of the verb. Some examples are provided in (15). I did not find any report on this type of form in the literature. This might mean that the authors simply did not count these forms as intelligible. Nevertheless, I have decided to include them in the analysis, because they do represent an attempt of the child to use the verb, and a failure to use it right.

- (15) *ba-* (baciti, 'to throw'), *bo-* (bojati *se*, 'to afraid'), *spa-* (spavati, 'to sleep'),
sta- (staviti, 'to put'), *vi-* (videti, 'to see')

4) The use of non-existing suffixes – these are the cases where the child adds a formative to the stem. This element is used as a suffix, even though it does not exist as a verbal suffix in Serbian.²⁰ The most common form of this type is the form: stem + 'suffix' *-i* instead of the correct 1SG, 3SG, or 3PL suffix. Examples are provided in (16).

- (16) *oči* instead of *hoću* ('I want.'), *neči* instead of *neću* ('I don't want.'),
doneči instead of *doneću* ('I will bring')

²⁰ I did not find any report on this type of form in the literature.

The percentage of these examples is small for all children (this error type is not attested in Miloš's speech). It seems that these forms represent an attempt of a child to inflect the verb. The child knows that the verb should be inflected for person/number, but the correct inflection is still not available.²¹

5) Incorrect gender and/or number agreement of participle – these are the cases where the subject and the participle do not agree in gender and/or number. The examples are given in (17).

- (17) a. ja sam ti stavi-la (Luka, 2;6)
 I-MSG be-AUX.1SG you put-PPART.FSG
 'I have put it for you.'
- b. tu bi-la k(r)aka.²² (Danica, 2;0)
 there be-PPART.FSG frog- MSG (name)
 'There was a frog.'

Only few examples of this error type were reported in the sample (Miloš never produces this type of error). The small proportion of this error type might indicate that when past participles are used, there is correct agreement between the subject and the verb. Note, also, the small number of examples where the child fails to use the participle suffix at all (in the type 2 of errors).

With respect to the type of agreement errors it is worth mentioning that the results presented here support previous findings in the acquisition of various languages (Guasti 1993/1994, Kallestinova 2007, Rus 2006, Klepper-Pang 2003, among others). The most frequent cases are the ones where a child fails to use the agreement inflection, producing a form identical to the form of 3SG. Even those verbs whose 3SG form differs from the stem are mostly used in 3SG form. The use of 3SG in inappropriate contexts is the most frequent error which all children make, whereas the substitution of agreement suffixes is quite rare.

These results indicate that the third person singular form might be taken as a default form that Serbian-speaking children use whenever they fail to provide an appropriate inflection. This might be due to the fact that this form is the simplest and contained in all other forms. The default verbal form is usually 3SG of present tense, for most of the verbs. On the other hand, some verbs might have other (also 3SG) default forms. For verbs *pasti* ('to fall') and *otići* ('to leave'), this default form is 3SG of aorist tense.

3.4 Early nonfinite forms: bare participles and root infinitives

Beside agreement errors that have been reported at earlier stages of language acquisition, there are also two types of nonfinite forms found in the child language: bare participles and root infinitives.

²¹ An alternative explanation for this type of error would be mispronunciation. However, this is clearly not the case, since children usually add the same suffix.

²² The example (17b) could even be considered as appropriate agreement, even though it refers to a masculine entity, since the noun *kraka* belongs to the grammatical class of nouns of feminine gender.

Clauses with bare participle consist of a bare participle form which is not preceded by the obligatory auxiliary verb. One account of the auxiliary omission and the resulting bare participles is proposed and empirically supported by different authors: following Phillips (1995), Rasetti (2003: 357) argues that omissions in early grammars represent options which emerge as a response to a need to reduce structure, which is related to performance constraints imposed on the computational capacities of the child. However, there is not enough evidence that this is the case in Serbian. The question of bare participles is controversial in the literature regarding adult Serbian, so we could not say that bare participles are clear cases of non-adult like forms. Their use is highly restricted to particular contexts in adult language (cf. Progovac 2007), but by no means absent. For these reasons we will leave the cases of bare participles to be further investigated. For the time being, their percentage is separately counted and does not belong to either the group of adult-like nor to the group of non-adult like forms. It is noteworthy that, except for the earliest ages, the use of bare participles appears to be optional, given that both bare participles and full forms of past and pluperfect tense are present at the same time.

3.4.1 Root infinitives

In order to obtain data comparable with those in Italian, Spanish, Catalan and other null subject languages, we have applied the methodology summarized in Guasti (2002). Given that RIs are found only in root clauses and that copulas and imperatives cannot show up in RI clauses, we have analyzed only the main clauses.

Four examples of root infinitives are attested, only in Danica's speech. The overall rate of main clause infinitives produced by this child is 0.3%. The percentage of RIs is calculated by dividing the number of RIs by the total number of uttered verb forms.

The earliest use of RIs is reported at the age 2;2 (3 examples, their overall rate at his age is 1.7%). One example of RIs is found at the age 2;8 (0.4%). The examples of RIs are given in (18).

- (18) a. EXP: šta si radila? (Danica, 2;2)
 'What were you doing?'
 CHI: *zalepi-ti žižu onu.*
 paste-INF sticker that
 'Paste that sticker.'
 EXP: mh
 CHI: *zalepi-ti žižu.*
 paste-INF sticker
 'Paste the sticker.'
- b. CHI: ja ima- ovu! (Danica, 2;2)
 I have-PRES.3SG this one!
 EXP: mh@fp, dobro.
 'mh@fp, good.'
 CHI: *ima-ti ovu.*
 have- INF this one
 'Have this one.'
- c. CHI: da pi. (Danica, 2;2)²³
 da-CONJ drink [suffix missing]

²³ Context: Danica is taking two glasses from the experimenter and putting them back on the radiator.

- CHI: da *pi-ti*.
 da-SUBJ.COMP drink- INF
 ‘Let (me) drink.’
- d. CHI: zavari, *uz-e-ti*, zavari.²⁴ (Danica, 2;8)
 braze-PRES.3SG take- INF braze-PRES.3SG
 Braze, take, braze.’

It is obvious that none of the utterances with RIs contains any subject. This finding is in accordance with the assumption that the subjects could not appear in nonfinite clauses (Liceras, Bel & Perales 2006: 210). According to Rizzi’s Truncation Hypothesis (1993/1994), a given structure with a nonfinite verb root is a truncated structure at the level of the TP. This analysis implies that, if AgrP and TP are not projected, we could not expect to find subjects with a nonfinite root form.

In addition, 3 out of 4 examples of RIs (22 a, c, d) clearly show that the child expresses an intention to *paste*, *drink* and *take*, which is also in accordance with previous assumptions that root infinitives express modal meaning (Hoekstra and Hyams 1998, Liceras, Bel & Perales 2006). However, it is impossible to make any further generalizations about root infinitives in Serbian on the basis of such a small sample.

Nevertheless, an important observation should be made with respect to all data we have obtained in the analysis of Danica’s sample. The age of 2;2 seems very significant for the development of her grammar. At this age, Danica uses not only root infinitives, but she starts using infinitives as a complement in the future tense (cf. Table 8 below). At the same age, the highest rate of bare participles is attested. In addition, she starts using constructions with modal verbs followed by a subjunctive-like construction (with the subjunctive complementizer *da*). Even though this age seems rather late for the first occurrence of RIs in child language, it appears that there is a correlation between different phenomena which happen at the same time.

In the data of other children there are no examples of RIs. Moreover, the number of infinitives in early language is small in our data. Table 8 shows the overall number of infinitives in the production of all children, with regard to age. We can observe that children start using infinitives in the future tense construction (Aux + infinitive) or in the modal constructions (Mod. + infinitive) at later ages. In addition, they preferably use subjunctive-like constructions as complements to the auxiliary verb *hteti* ‘will/want’ in the future tense or to the modal-type verbs in modal constructions.

Age	2;0	2;2	2;4	2;6	2;8	2;10	3;0	Σ
Danica	-	3	-	-	-	12	3	18
Jelena	-	-	1	-	-	9	2	12
Luka	4	-	2	6	3	2	4	21
Miloš	-	-	-	-	1	4	5	10

Table 8: Number of infinitives with regard to age

4 General discussion

If we consider the overall sample (age range 1;6–3;0), the results of this research are in line with the continuity approach to language acquisition and falsify the claims that early

²⁴ Context: Danica is taking the cubes from her brother.

grammars are purely lexical in nature. Finite main clauses are attested from the earliest stages of production and constitute the vast majority of sentences produced by the children in the sample.

This study shows that children acquiring a language with overt agreement morphology seem to be sensitive to morphosyntactic properties of the target language from the earliest stages of production. This claim is supported by empirical evidence that almost 90% of the verbs are correctly inflected for person and number. The productivity of novel verbs, as well as the ability to make agreement contrast and use different inflections also proves that verbs are not learned by rote. The delay of plural inflections is reported, especially for the 2nd and 3rd person plural. However, I follow Guasti (1993/1994) in maintaining that this delay of plurality should not be taken as the evidence that children lack knowledge of agreement. The productivity of other person inflections, particularly the contrast between 1SG and 3SG, which children make in the use of novel verbs, shows that the notion of agreement is well embedded in the child grammar. In addition, there is no random distribution of agreement markers, and they are almost always used appropriately.

The fact that children are able to morphologically analyze verbal forms leads to the conclusion that at least the functional category containing the verbal inflection is present in the early grammar. I assume (with Progovac 2005) that this is the functional category T/Agr_S, since all lexical verbs, as well as the auxiliary verbs used in the past and future tense need to raise in order to check agreement features. This also implies the presence of verb movement, which is taken as evidence for the presence of functional categories.

Nevertheless, it is noteworthy that children also make agreement errors. Higher percentage of errors is reported at earlier ages, but they disappear progressively. The proportion of errors in the sample of all children is 7.6%. This proportion is higher than the one reported for other languages, where the percentage of errors is usually lower than 2% and certainly never above 4% (cf. Table 1). The reason for this difference might be in the counting procedure, since I have calculated as errors examples where children failed to provide the correct agreement with respect to the overall sample which excluded copulas and imperatives, whereas some of the previous studies included these types of forms, or excluded others (cf. Guasti 1993/1994 and Rasetti 2003).

Several types of agreement errors were attested, but the most frequent one is the suffix omission. This observation confirms previous findings in the acquisition of different languages – that failure to use the appropriate suffix is a much more common error than the substitution of suffixes (Guasti 1993/1994, Phillips 1995). Suffix omission, which frequently leads to the use of a form which is identical to 3SG, as well as the incorrect distribution of 3SG suffixes instead of other agreement markers, indicates that 3SG form might be taken as the default form which Serbian L1 learners use when they fail to provide an appropriate inflection. As pointed out in Phillips (1995), when verbal agreement morphemes are missing, children commonly use an affix which indicates nonfinite morphology. He argues that this should be taken as regression of some kind to a more general, default form. While in Western European languages, infinitives most commonly serve as the default verbal forms, there is no reason why they should be the privileged default form across languages. I assume that the form of 3SG is the default form in Serbian. Moreover, this form could be considered as an analogue to root infinitives in Germanic languages or French, or an analogue to bare forms in English.

If we focus on the first few ages in the sample (1;6-2;0), we can observe that there is no productive use of other tenses except for the present tense, and that the use of 3SG form prevails – either as a form which correctly agrees with the 3SG subject, or as a result

of suffix substitution/omission. This finding supports the hypothesis that 3SG can be a root infinitive analogue, but contradicts both the results obtained for the overall sample in this study and the results obtained in previous studies. I therefore think that the earliest ages of verbal production deserve more careful study, involving a different methodology.

With regard to root infinitives, it seems that the stage of actual root infinitives does not exist in early Serbian, since only few examples have been attested in the speech of only one child (0.3% of the overall verb use). The small rate of root infinitives in Serbian is consistent with the data from other null subject languages (cf. Table 2). In languages such as Italian, Spanish or Catalan, root infinitives are very rare. On the other hand, as pointed out by Phillips (1995), the rate of RIs is by no means zero, not even in the non-RI languages. How can we then account for the complete absence of RIs from the speech of three other children investigated? There are few possible explanations for its absence in early Serbian. First of all, the overall use of infinitives in early language is rare (cf. Table 8). Unlike in some other languages, where infinitives are morphologically less marked and thus basic elements of the paradigm, they are not that neutral in Serbian. As we saw in the Introduction, infinitives are very marked forms. There are two dedicated infinitive suffixes (*-ti* and *-ći*) which are used only as the infinitival markers and nowhere else in the paradigm. Thus, one might assume that they are lately acquired. It is also noteworthy that the frequency of infinitives is low in the adult language as well (Belić 2005).²⁵ Unlike in some other languages, where infinitives are frequent in the adult speech, the use of infinitives is decreasing in Serbian, and there is an option to choose the subjunctive-like complement instead of using the infinitive form. Hence, I assume that the frequency of infinitives in the input plays an important role in their acquisition.

It should be pointed out that this study shows important similarities in the grammatical development of different Serbian-speaking children. Particularly, we saw that agreement is present in the speech of every child at the beginning of their verbal production. In addition, the progressive disappearance of agreement errors in the samples also conforms to the view that children develop their grammars in the same way.

5 Concluding remarks

In this paper, I have argued that Serbian-speaking children have the knowledge of the agreement paradigm from the earliest utterances on and that Serbian early grammars include at least the functional categories T and Agr_S. However, even though it appears that the Serbian-speaking children have been very efficient in mastering the verbal inflection system, this system still seems to be unstable, especially at the earliest ages (before the age of 2;0). I have also argued that the form of the third person singular of present tense is a default verbal form which children produce whenever they fail to provide an appropriate suffix and could be considered as a root infinitive analogue.

Several limitations of this study should be acknowledged. In order to fully understand children's grammatical development, every observed phenomenon should be examined in more detail. It is important to provide a more detailed study of the

²⁵ Belić's research examined complement variation of verbs, nouns, adjectives and adverbs which select for an infinitival or a subjunctive-like complement. In this study, 204 Serbian-speaking adults participated. Results show that 78.69% of the participants prefer the use of subjunctive-like complement, 15.35% use infinitives, and 5.96% used both complements.

individual differences, since they might give us an insight into more subtle properties of grammatical development. In addition, a more careful study of grammatical properties at particular ages, as well as developmental changes from one age point to another could show us which grammatical phenomena are characteristic of particular ages and which phenomena correlate. The earliest ages around the age of 1;6 should be closely looked at. The phenomena of root infinitives and bare participles still remain unclear; therefore the contexts where they occur deserve careful examination. A broad research on these phenomena in adult language could also help us determine their status and properties.

Given that there are no previous studies on the acquisition of agreement in Serbian, this paper represents a preliminary study. The aim was to provide some answers with respect to agreement morphology in early Serbian, but also to open new questions and point out some characteristics of early grammars that could be interesting for future research.

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Appendix

Tables 1 to 4 show the distribution of finite and nonfinite forms in early Serbian. Following the procedure reported in several papers (Phillips 1995, Kallestinova 2007), I have calculated the percentages of agreement errors, root infinitives and bare participles with respect to all forms analyzed in the study (cf. Guasti 1993/1994 and Rasetti 2003 for different procedures).

Under the column *Finite forms* we find the verbs correctly inflected for person and number, whereas under the column *Infinitives* we find verbs in the infinitive form used as complements to modal verbs (note that infinitives used in the future tense constructions are included in Finite forms). In the column *Nonfinite forms* we find three different types of non-agreeing forms: verbs which are incorrectly inflected for person/number/gender with regard to the context (agreement errors – Err), verbs used in the past participle form

that lack auxiliary (bare participles – BPs), and main clause verbs used in the infinitive form (root infinitives – RIs).

	Finite forms		Nonfinite forms								Σ
			Infinitives		Err		BPs		RIs		
	N	%	N	%	N	%	N	%	N	%	
1;6	12	70.6	-	0	4	23.5	1	5.9	-	0	17
1;8	34	80.9	-	0	7	16.7	1	2.4	-	0	42
1;10	68	79.1	-	0	12	13.9	6	7.0	-	0	86
2;0	85	89.5	-	0	7	7.4	3	3.1	-	0	95
2;2	133	76.0	-	0	27	15.4	12	6.9	3	1.7	175
2;4	94	77.0	-	0	24	19.7	4	3.3	-	0	122
2;6	49	83.1	-	0	10	16.9	-	0	-	0	59
2;8	212	88.7	-	0	16	6.7	10	4.2	1	0.4	239
2;10	317	92.2	1	0.3	22	6.4	4	1.2	-	0	344
3;0	162	98.2	-	0	2	1.2	1	0.6	-	0	165
Total	1166	86.8	1	0.1	131	9.7	42	3.1	4	0.3	1344

Table 9: Distribution of finite and nonfinite forms (**Danica**)

	Finite forms		Nonfinite forms								Σ
			Infinitives		Err		BPs		RIs		
	N	%	N	%	N	%	N	%	N	%	
1;6	7	87.5	-	0	1	12.5	-	0	-	0	8
1;8	6	54.5	-	0	5	45.5	-	0	-	0	11
1;10	31	73.8	-	0	10	23.8	1	2.4	-	0	42
2;0	57	87.7	-	0	4	6.15	4	6.15	-	0	65
2;2	109	91.6	-	0	10	8.4	-	0	-	0	119
2;4	96	75.0	1	0.8	22	17.2	9	7.0	-	0	128
2;6	150	94.9	-	0	6	3.8	2	1.3	-	0	158
2;8	229	92.7	-	0	16	6.5	2	0.8	-	0	247
2;10	220	89.4	2	0.8	11	4.5	13	5.3	-	0	246
3;0	177	94.7	-	0	7	3.7	3	1.6	-	0	187
Total	1082	89.3	3	0.3	92	7.6	34	2.8	0	0	1211

Table 10: Distribution of finite and nonfinite forms (**Jelena**)

	Finite forms		Nonfinite forms								Σ
			Infinitives		Err		BPs		RIs		
	N	%	N	%	N	%	N	%	N	%	
1;6	29	49.1	-	0	26	44.1	4	6.8	-	0	59
1;8	48	60.8	-	0	26	32.9	5	6.3	-	0	79
1;10	167	74.2	-	0	53	23.6	5	2.2	-	0	225
2;0	246	81.2	1	0.3	41	13.5	15	5.0	-	0	303
2;2	218	89.0	-	0	23	9.4	4	1.6	-	0	245
2;4	265	92.7	-	0	12	4.2	9	3.1	-	0	286
2;6	393	94.7	-	0	14	3.4	8	1.9	-	0	415
2;8	234	94.4	-	0	5	2.0	9	3.6	-	0	248
2;10	156	98.7	-	0	0	0	2	1.3	-	0	158
3;0	488	94.7	-	0	23	4.5	4	0.8	-	0	515
Total	2244	88.6	1	0.03	223	8.8	65	2.6	0	0	2533

Table 11: Distribution of finite and nonfinite forms (**Luka**)

	Finite forms		Nonfinite forms								Σ
			Infinitives		Err		BPs		RIs		
	N	%	N	%	N	%	N	%	N	%	
1;6	-	0	-	0	-	0	-	0	-	0	0
1;8	-	0	-	0	-	0	-	0	-	0	0
1;10	1	33.3	-	0	2	66.7	-	0	-	0	3
2;0	-	0	-	0	-	0	-	0	-	0	0
2;2	-	0	-	0	-	0	-	0	-	0	0
2;4	15	100	-	0	-	0	-	0	-	0	15
2;6	14	93.3	-	0	1	6.7	-	0	-	0	15
2;8	88	95.7	-	0	4	4.3	-	0	-	0	92
2;10	75	90.4	1	1.2	6	7.2	1	1.2	-	0	83
3;0	176	95.7	1	0.5	3	1.6	4	2.2	-	0	184
Total	369	94.1	2	0.5	16	4.1	5	1.3	0	0	392

Table 12: Distribution of finite and nonfinite forms (**Miloš**)

Means of Coherence and Cohesion in Spoken and Written Discourse

Petra Martinková

This paper deals with a linguistic experiment which has been conveyed following the research of coherence and cohesion in authentic written texts and spoken dialogues and monologues. Our research is based on spoken narratives to which speakers have additionally provided written versions. The recorded and collected material consists of 50 spoken texts and 50 written texts by 50 different respondents. The objective of this work is to extend previous similar linguistic experiments and to bring more experimental material to compare results obtained with the means of coherence research. In this paper, our research also aims to explain basic principles that make the texts intelligible for their recipients. Special attention has been paid to the thematic development of texts because the concept of thematic progressions (Daneš 1968, 1974) can reveal important cohesive chaining.

Keywords: *coherence, cohesion, spoken discourse, written discourse, thematic progressions*

1 Introduction

This contribution is concerned primarily with the analysis of coherence and cohesion means in spoken and written texts¹. When analyzing an utterance, it is not enough to describe its structure, it is necessary to approach it with respect to the actual communication situation. Each intelligible text should be coherent. Cohesion and coherence belong to the standards of textuality (de Beaugrande, Dressler 1981).

1.1 Coherence versus Cohesion

“For the last three decades cohesion and coherence and their relationship have been a topic of intense debate in the international linguistic community” (Hůlková, Jančaříková 2009: 5). Coherence is a concept the understanding of which is still not fully agreed upon. However, the concept of cohesion has been accepted as an established category for discourse analysis since the publication of *Cohesion in English* (1976). Many linguists make a functional distinction between coherence and cohesion, considering them to be two different approaches (e.g., de Beugrande, Dressler 1981, Hoey 1996).

1.1.1 Means of Cohesion

Cohesion used to be described as “the way certain words or grammatical features of a sentence can connect that sentence to its predecessors and successors in a text” (Hoey 1996: 3). According to Tárnyiková, to put it simply, the cohesion presents “a surface structure linkage between elements of a text” (2009:30).

Continuity of content corresponds with language expression, a text has to be cohesive in continuation of statements or paragraphs. The unity of a text is enforced by

¹ For me, a text is any material written or spoken (monologic or dialogic) based in an actual communication situation. I use the term *text* as a synonym for *discourse*.

particles, repetition of words, deictic pronouns and adverbials, referring in the frame of the text and out of text as well, further grammatical means, e.g., genus and number (Čechová 2008). Halliday and Hasan (1976) speak about cohesive ties (cohesive links) usually divided into 5 groups: conjunction, reference, substitution, ellipsis and lexical cohesion. Reference is a semantic relation which can be realized exophorically or endophorically (within this class either as an anaphoric or cataphoric reference). Grammatical cohesion comprises morphological categories (tense, verbal voice, verbal mood, definiteness, recurrence with a shift in parts of speech). Some syntactic categories can also express grammatical cohesion (recurrence of a sentence pattern, recursiveness, junction, punctuation marks). Lexical cohesion involves many types of lexical replacements (repetition, synonymy, antonymy, hyponymy and others). Cohesion can also be realized by implicit (zero) signals, defined as follows: “those surface representations which are realized by a phonologically null anaphoric or cataphoric element, the explicit reading of which is recoverable on the basis of commonly shared knowledge of the language system in general.” (Tárnyiková 2009:52)

1.1.2 Means of Coherence

Coherence is a feature of the underlying structure of a text. I use the term coherence for the content, thematic and semantic fields of a text (based on cause and effect relations, temporal frames, sequencing of events etc.). I use the term cohesion for explicit expression of content-based connection. Cohesion is one of the articulations of isotopic relations (Daneš 1985), but it is important to keep in mind that “coherence of the text is not guaranteed by the presence of cohesive ties.” (Coulthard 1994:174)

In my opinion, it is necessary to research cohesion and coherence together because they signal how the text is connected together and how it conveys its message (see also e. g., Hoffmannová 1983). One way to pursue and verify the level of coherence of the texts analyzed within the experiment is to observe traces of thematic development. The basic framework of a coherent text is created by its thematic structure which belongs to the main factors of text coherence (Daneš, Hlavsa, Grepl 1987).

František Daneš (1968) started exploring the thematic-rhematic aspect of *functional sentence perspective* and applied the framework of functional sentence perspective to the research of higher textual units. Daneš published an important contribution in 1968 in which he described *thematic progressions* (henceforth TP). Daneš (1985) also explored thematic-rhematic structure of an utterance later on, paying attention to “how the choice of theme is motivated by the previous context.”

2 Spoken Discourse versus Written Discourse

In earlier days, linguists focused mainly on written texts. But the second half of the 20th century is characterized by the pluralization of speech activity research. One of the causes of this situation is the so-called pragmatic turn. It has been possible to research spontaneous spoken texts thanks to the development in technology, and thanks to the shift to process-oriented analysis of texts (Košenský 2003).

The issue of spokenness and writtenness is very extensive. Natural language messages are communicated by written and acoustic (spoken) form. The relation between these modes is intricate and ambiguous; there are even theories which treat the concepts of writtenness and spokenness as two variants of one system. Current linguistics treats

spoken and written language as two language dimensions which are at the users' disposal, and the usage of one of them is enacted, keeping in mind the other one (Alexová 2000).

It is important to notice that because, due to the development of technical devices used for communication, the traditional differentiation of spoken and written texts, cf. the expressive tendency to dialogue in written text (Müllerová, Skácel 1997), have become relative.

2.1 Aspects of Spoken Discourse

In everyday spontaneous spoken interactions which contain looser structural configurations, it is not so easy to differentiate between the main and secondary communicative lines. The use of loose co-ordination is also characteristic of spoken mode, using the conjunction *and* to connect simple clauses (Chafe 1988). It is not easy to analyze spoken texts because of the high occurrence of irregular sentences as well as non-sentences. Specifics of spoken texts arise from insufficient syntactic ordering of speaker's ideas, often also from unpreparedness and from the effort to say the ideas in the fastest and the most accurate way. Spoken word flows in time, it is not possible to hold it back, but the written discourse allows us to do so (Müllerová, Skácel 1997).

According to Čermák (2008), the characteristic aspects for Czech spoken discourse are the following: non-literary, morphological modifications, rectification, slips, elliptic constructions, anacolutha, juxtaposition and hesitation sound. From the textual viewpoint, evaluative words and particles are used with higher frequency, more forced by the need for a formulation within time-space relations. Spoken texts are strongly influenced by the actual communication situation.

2.1.1 *Morphological and Syntactic Characteristics of Spoken Discourse*

The spoken language grammar is described from the viewpoint of written language, pointing out the main differences. The morphological characteristic of spoken texts depends on the language of the analysed text. But in many languages it is possible to find some deviant forms of conditional clauses, of congruence between the person and form of a verb in some speakers' speech. In inflectional languages differences can be found in the spoken version of the instrumental case of plural nouns. There can also be some differences in the declination of adjectives as well as in forms of pronouns. Czech spoken language shows an obvious oscillation between literacy language and non-literacy language, it means a clash between the usage of the correct morphological form or the more comfortable incorrect form (Čmejrková 2011).

In spoken discourse some syntactic constructions are identical with the constructions in written texts. But more often the constructions are modified, in some manner are irregular and seem to be deviant (Müllerová 1994). The most usual syntactic phenomena are the crossing sentence perspective, anacolutha, unfinished syntactic construction, false starts of a syntactic construction (repetition), and additive constructions. For spontaneous spoken texts the parallel constructions are also typical: these constructions show no explicit relation between them, the repertory of conjunctions is limited. The sequence of events is usually attached with the conjunction *and* (sometimes together with *so*). Other phenomena typical of spontaneous texts are parallelism of development of constructions as well as rectifications and elliptic constructions. During the analysis of spoken text we can recognize parentheses, idioms, deictic means, contact particles, indeterminate expressions and quotations of other speakers' (not one's own) speech (Müllerová 2011).

2.2 Aspects of Written Discourse

Written communicates offer more chances of planning and preparation, in comparison with spoken communicates. These aspects also imply more precise ordering and organization (Čechová 2008). “Traditionally, written complexes are prototypically associated with a higher degree of complexity, more intricate ways of integrating particular clauses within the complex, as well as a higher probability of longer, more compact (condensed), or fused (amalgamated) structures...” (Tárnyiková 2007:58).

Written text does not assume the unity of place and time between its author and recipient. Decontextualizations, impossibility of immediate reaction or non-expressivity do not characterize electronic written communication (sms, e-mail, chat and communication using social networks). These texts are on the border-line of spokenness and writtenness. Despite this recent development, it is still true that written texts in official environment serve a more prestigious function (Čechová 2008).

3 Description of the Experiment and the Data

The experiment consisted of recording 50 different people. The records provided a set of 50 spontaneous conversations taking place in the circle of the respondents' friends and family. Observing the content of their conversation, the speakers have written down their speeches as narratives. This material enables us to analyze authentic spoken and written texts with the same content. The speakers were Czech males and females, young and old as well (see Authors of Analyzed Texts). Speakers did not know that they were being recorded, but they have given a previous consent with being recorded in some unspecified time. We can thus say that the analyzed material represents spontaneous spoken texts. This is the instruction which the speakers were given after telling their story: “Write the story which you have been narrating, please. Try to write it in the way of standard written formulation of the same content. Please, write your story regardless of its spoken version.”

The records used for transcription and subsequently for confrontation with written versions of the stories were provided in the years 2009–2011 and represent two hours and 30 minutes of clear time. The shortest story took 2 minutes and 45 seconds, the longest one 8 minutes and 13 seconds.

3.1 Problems during the Experiment

Some of the respondents tried to write down pseudo-spoken communication with all its features, they stylized with dialectal characteristics which does not correspond with the written norm of the Czech language. Some of respondents stylized, some of them did not know the written norm and the individual style of others might be influenced by the electronic media. I presumed that the results would be clear-cut as was the instruction, but the realization of the task was heterogeneous. It is a consequence of obtaining results from any experiment like this. Alexová (2000) carried out a similar experiment (she focused it on the syntactic description of texts) and fumbled with analogous problems.

3.2 Authors of Analyzed Texts

The collection of recorded and written texts consisted of 36 texts by women and 14 texts by men (for detailed information see the charts below). The charts reflect written texts from all participants. Young women were mostly university students; the recording took place at the college.

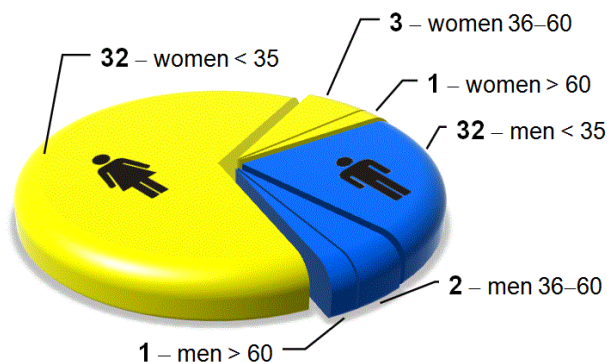


Figure 1: Age and sex of the experiment participants

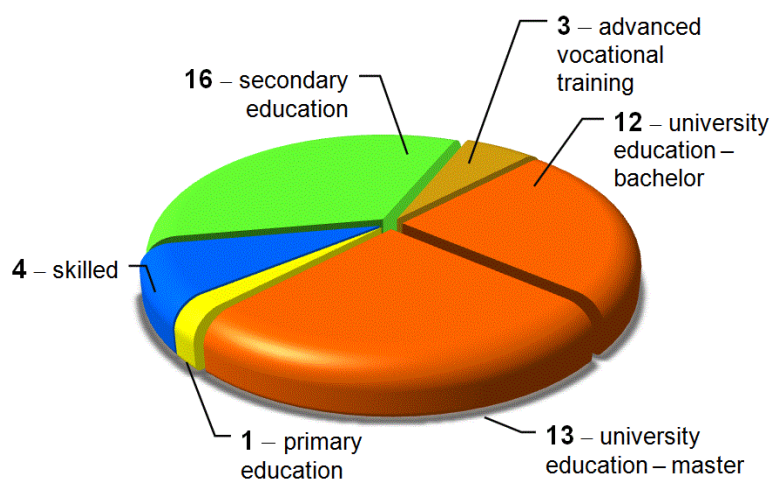


Figure 2: Education of the experiment participants

4 Methodology

The recording process adhered to basic sociologic fundamentals (Silverman 2005). The transcription of records was made according to the conversation analysis tradition followed in the Czech environment (see e.g., Müllerová, Hoffmannová, Schneiderová 1992). I would like to start with the research that focussed on the means of coherence, in particular on thematic development of texts (Daneš 1968, 1974, 1985). To be able to compare the two modes of text production, I will also aim to reveal in the collected material the cohesive ties which can (together with thematic structure analysis) show

differences (or similarities) of means of coherence and cohesion used in written and spoken discourse.

4.1 The Framework of Thematic Progressions (TP)

The notion of TP concentrates on how texts develop the ideas they present. The most interesting question within this issue is where themes come from. TP can be investigated by exploring cohesive ties.

Before Daneš (1968), thematic text connections have been researched (using the same methodology) by Daneš' professor Mathesius who follows the French linguist Weil. But it was only Daneš (1974:114) who gave this phenomenon its name *thematic progressions*: "By this term we understand the choice and ordering of utterance themes, their mutual concatenation and hierarchy, as well as their relationship to the hyperthemes of the superior text units (such as a paragraph, a chapter, ...) to the whole text, and to the situation."

Daneš (1974) described several basic types of TP (see figures below) where *theme* is "what the speaker is talking about" and *rheme* means "what is said about the theme."

4.1.1 Simple Linear Theme

The first type of TP is called *simple linear TP* (the theme of the second sentence is created from the rheme of the previous sentence). The label *simple linear TP* refers to its exploring, cogitation and description. It is possible to attest this type of TP e.g., in textbooks, in technological descriptions or in reports (Daneš 1968).

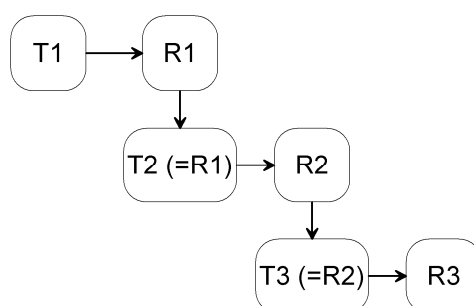


Figure 3: Diagram of *simple linear TP*

4.1.2 TP with Continuous Theme

The second type of TP is called *TP with continuous theme* (one theme enters into a relation with several rhemes). This type of TP should be primarily attested in non-scenic descriptions or in narratives. From the stylistic point of view, this TP requires variability in the formulation of the repeated theme (Daneš 1985).

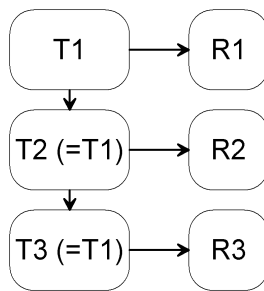


Figure 4: Diagram of *TP with continuous theme*

4.1.3 *TP with derived Themes*

The third type of TP is named *TP with derived themes* (themes are derived from one hypertheme). *TP with derived themes* and also *TP with continuous theme* are predominantly used in poetry (Daneš, Hlavsa, Grepl 1987).

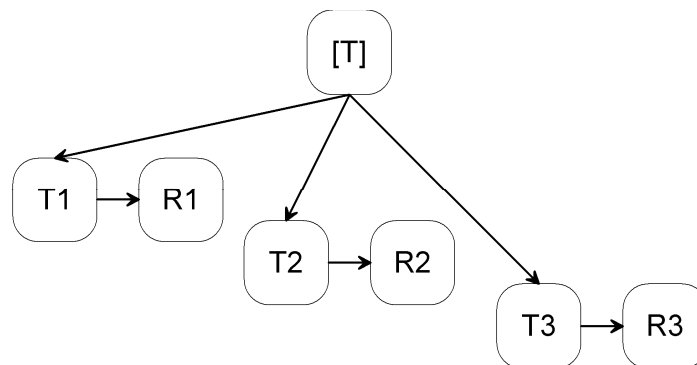


Figure 5: Diagram of *TP with derived themes*

4.1.4 *The Exposition of Split Rheme*

The diagram shows a rheme split into several parts which are subsequently developed in the lines of their own (Daneš 1974).

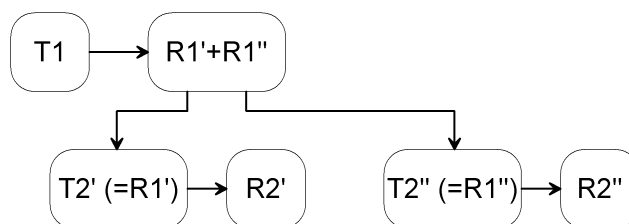


Figure 6: Diagram with *exposition of split rheme*

4.1.5 *Thematic Jump (TP with an omitted link)*

Daneš (1968) defines *thematic jump* as a *TP with continuous theme* which is realized in a distant way: it means that there is at least one break between the utterances and then the TP continues again. Daneš acknowledges that the enumeration of TP is not complete, as for various modifications or some new types.

5 Hypotheses and Research

Based on previous work on this issue I state four hypotheses which the research will verify. *Hypothesis 1* supposes that spoken and written texts will use different means of coherence and cohesion. *Hypothesis 2* presumes that written texts will contain more visible TP and will use more complicated TP; such as *TP with derived themes*. *TP with continuous theme* and *simple linear theme* should be characteristic of spoken texts (see e.g., Müllerová 1976, 2000, Hoffmannová 2000, Alexová 2000, Bäcklund). *Hypothesis 3* predicts that the framework of TP is applicable also to higher thematic units (so-called thematic chunks).

First, I have analyzed the structure of the texts. Constructive functions of individual utterances helped me reveal the conversation structure – its beginning, continuation and conclusion. Thanks to constructive functions it was possible to recognize that some written texts contain an introduction and a conclusion in spite of the fact that these parts are not realized in the spoken version. Writers may have wanted to introduce the issue to the readers.

I have observed the thematic development of texts, their segmentation to thematic chunks², I have noticed excursions from a topic and changing topics because of the establishment of text coherence. We could see Daneš's types of TP on a higher level, i.e. between thematic chunks.

I determined the basic cohesive ties in the written and in the spoken texts. I tried to determine the thematic-rhematic structure of the texts. In written texts there were no problems, but in the spoken texts there were some breaks of themes which made the determination more difficult. There was also a problem with non-sentences which I had to paraphrase as sentences to be able to determine their thematic-rhematic structure.

6 A Sample Text

R	TB	Speaker	Spoken version	Written version
1	A	X	<i>co bylo / co doma</i> ↑ <i>zemáky vykopené</i> ↑ (Czech) what was / what was at home ↑ are potatoes unearthed ↑ (English)	
	A	Y	<i>HÓvnó / ježžmarjá</i> // (<i>listuje v poště</i>) shit / gosh // (<i>he is reading his mails</i>)	
2	A	Y	<i>zelenina schovaná / vybytá / všechno / Lístí není POhrabané</i> // vegetable is harvested / unearthed / everything / leaves are not raked off // <i>tráva JE jako poseČEná / to jó @ / pOhrabaná / ještě komPOstery zbhývají mi SCHOvat</i> / grass is mowed / that is yeah / it is raked off / just composters have to be put aside /	<i>.....brambory jsou už dávno vykopené, zelenina schovaná a</i> ... potatoes were unearthed long time ago, vegetable is harvested and <i>tráva posečena. Před zímou ještě zbhývá pOhrabat listí a schovat kompostéry.</i> grass is mowed. Before winter there is leaves raking off and putting the composters aside.

² Thematic chunk is the part of dialogue where there is consensus between communicants. The thematic chunk is based on one theme and it is created by minimum two replicas.

	A	Y	<i>jako / také černé pixsle do kerých jako se dává bioodpad / na blínu / takže toto musím //</i> like / such big black boxes where bio-waste is put inside / for slay / so I have to do this //	
	A	Y	<i>(tišeji) á // to listí / jinak je to v pohodě / no // co ještě se musí udělat ↑ //</i> <i>(quietly) and // the leaves / otherwise it is ok / well // what else has to be done ↑ //</i>	
	B	Y	<i>ted' sem dělal budku pro ptaky / bo se stara rozPADla / přes přes nedělu //</i> on these days I have been making a bird box / because the old one has broken / during Sunday // <i>musím ještě natřít na ňu střechu / poVĚsit //</i> I have to paint its roof yet / hang it up //	<i>Přes neděli jsem dělal ptačí budku a zbývá mi ji ještě natřít, dát plech na střechu a vymyslet uchycení...</i> On Sunday I was making a bird box and I have to paint it, put sheet metal on the roof and I have to come up with a mounting for it...
3	C	Y	<i>a musím si spravit tu @ natáčecí @ zařízení na @ parabole protože je to vy vyšínuté kousek blbě //</i> and I have to repair the @ rotation adjustment on @ satellite dish because it is off off centre a little bit silly // <i>a nemáme / nekopíruje to úplně ideálně ten orbit / těch družic //</i> and we do not have / it does not copy the electron orbit perfectly / orbit of the satellite //	<i>Jo, a ještě upravit natáčecí zařízení k satelitní anténě, bo už ideálně nekopíruje orbit a nefungují některé družice.</i> Well, I have to set up a rotation adjustment for the satellite antenna because it does not copy the orbit perfectly and some satellites have not been working.
	C	Y	<i>a tak někdy až bude pěkně // ted' se to nedá</i> and so sometimes when the weather is nice // now it is not possible	

Table 1: Dialogue of two friends (workmates)

The above cited text is a dialogue between two workmates who were sitting in their office on Monday. Communicant X is 28 years old, Y is 25. One colleague wants to know what his friend did at home. Y reads the mails first, later he speaks about the situation at home. *Thematic chunks* which are realized in texts: A – work in the garden, B – making a bird box – temporary theme related to garden, C – satellite adjustment. Thematic development on higher level is linear in both texts; from A through B to C.

Main cohesive ties that can be determined in the spoken text: 1) *what at home* (hyperonym) – *shit* (reference to hypertheme) – *vegetable, leaves, grass, composters* (kohanonym) – *composters, black boxes* (synonymy); 2) *what has to be done* (hyperonym) – *bird box* (hyponymy) – *roof* (meronymy) – *mounting*; 3) *what else* – *satellite* – *rotation adjustment* – *repair* – *do not copy* – *when the weather is nice*. In the written version of this text the main cohesive ties are the following: 1) *potatoes* – *vegetable* – *grass* – *leaves* – *composters*; 2) *bird box* – *sheet metal* – *mounting*; 3) *rotation adjustment* – *orbit* – *some satellites*.

Finally, I was interested in the thematic-rhematic structure within one replica and finding out its relation to other thematic-rhematic structures of other replicas. I have made the diagram of TP for each of the 50 spoken and written texts, see example below. The example text shows that the relation of cohesive ties to thematic structure of the text is very strong.

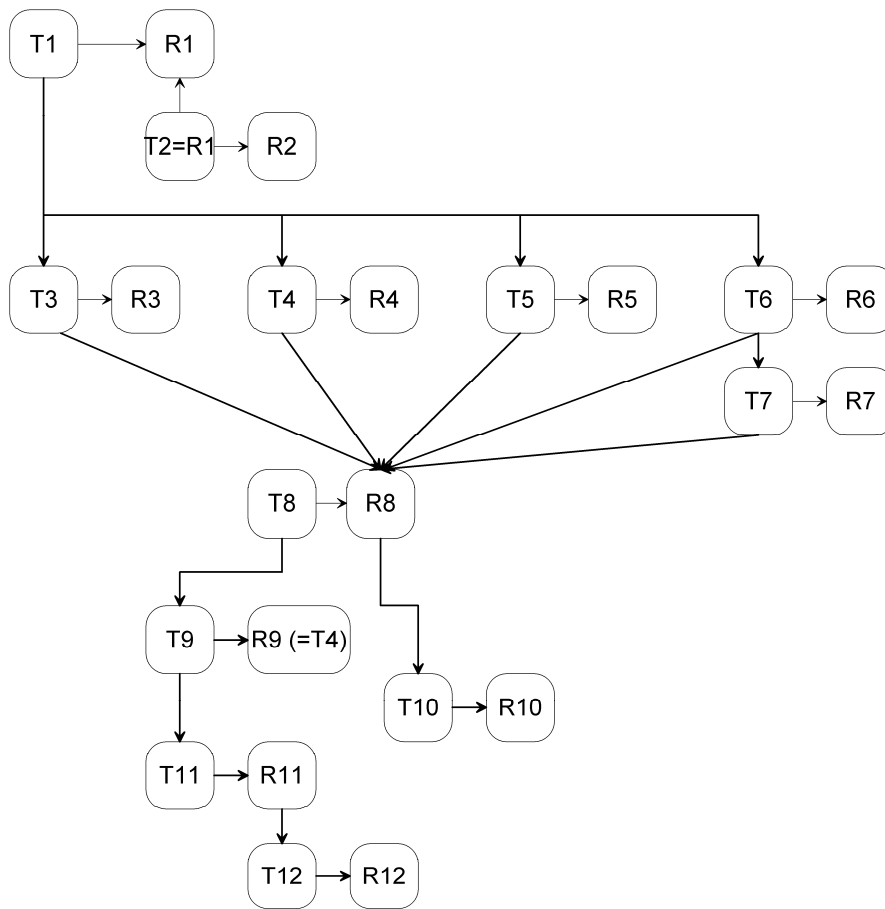


Figure 7: Thematic progressions in the spoken version

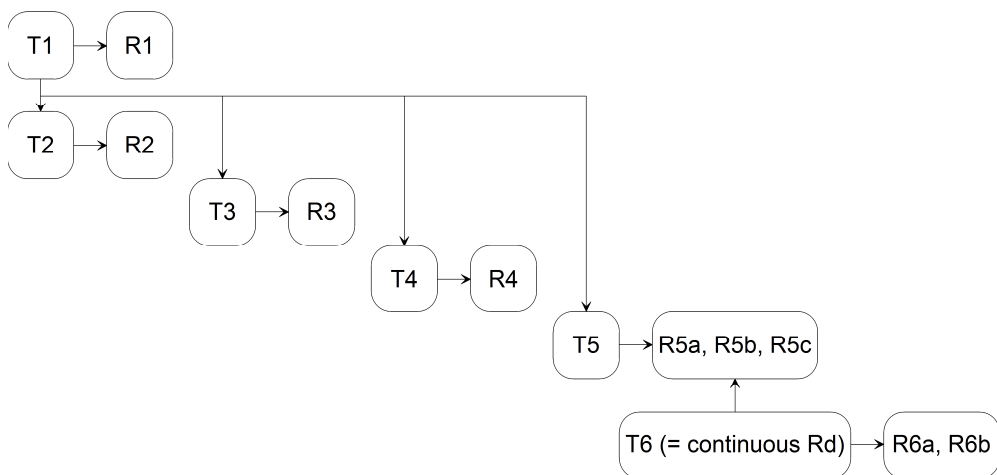


Figure 8: Thematic progressions in the written version

In both versions of the text input descriptions of individual cohesive ties are introduced, they usually become themes of the utterance (e.g., *vegetable, leaves, grass*). Further ones related to them mostly have the function of a rheme (*composters, bird box* etc.). The mechanism of textual cohesion is in these texts predominantly based on the

cohesive ties mentioned. Other means are explicit connectors at the beginning of textual units. In spoken versions: *that is yeah, like, and, well, what else, and, and, and, and so*; one of these connectors (in a broader sense) was also used in the written version: *well and*. The repertory of them in the spoken version corresponds to those commonly used in spontaneous spoken communication.

The usage of the gender of the verb is similar, in both texts, the author is modest so he starts with the third person and says what was done. But it was him who did it, so he could have used the first person. He uses the first person for self representations in the second half of the text, where he talks about more complicated things, as making a bird box and repairing the satellite. The respondent used three tenses in a time axis; he started in the present, continued in the past and finished by future duties.

The diagram above shows that in the spoken text *simple linear theme, TP with continuous theme, rhematization of previous theme* (e.g., R9=T4) were realized, but the most important principle in this text is *TP with derived themes from hypertheme* (what was at home). The written text was shorter, but contained the same information and the basic principle stayed the same – *TP with derived themes from hypertheme*. The written text does not use another similar principle pattern (just once *simple linear theme*) as the spoken version of the story but a *split rheme* occurs.

7 Results

The basic types of ordering the themes in 50 spoken texts (on the level of thematic chunks) look like this:

- A – B – C – /D/
 - A – A1 – A2 – A3
 - A – B – A – /B – A – B/
 - A – (A + B) – B – C – D – E
 - A – * – A – * – A – B – C
- * A progression of thematic chunks was interrupted by themes related to the communicative situation.

In nine spoken texts *linear progression of theme* (A – B – C) was realized. In eight shorter texts a split theme occurred in various modifications (A1 – A2 – A3). The return of the theme in five spoken texts which had a pattern: A – B – A – /B – A – B/ was also interesting. Five texts were interrupted by themes referring to communicative situations (e.g., *I will close the window; do you want a cup of tea; close the door, please*). Other texts used a lot of combinations of these patterns of thematic chunks development. Twenty-one spoken texts have a pattern identical to written texts. These are mainly the shorter texts. On the other hand, the omission of a whole thematic chunk (in some instances more thematic chunks) was observed in 13 texts. The elided chunks were closely connected to the communicative situation and some were parts of an incorporated dialogue (reactions to a replica of the other partner, questions and answers to them). Very often the introductory and concluding thematic chunks were omitted; writers focussed just on the central part of the speech. It could also be caused by memory capabilities of each communicant.

The analysis of cohesive ties helps to reveal the thematic development, sometimes a lot of pronouns were used in spoken texts. As far as connectors are concerned, their

usage was similar to the example text, i.e. redundant conjunctions and some other grammatical parts of speech were used to order the speakers' ideas.

The analysis of thematic-rhematic development in the level of the utterance revealed that in each text there is one dominant principle of thematic development. The most common types of TP used in spoken texts seem to be *simple linear TP* (in 22 texts) and *TP with continuous theme* (in 20 texts) and there were also instances of *TP with derived theme* (in 8 texts). In written texts the results were similar: *TP with continuous theme* (in 19 texts), *simple linear TP* (in 23 texts) and *TP with derived theme* (in 8 texts). There were 16 instances when the basic principle of development was different in the spoken and in the written versions. For example speaker no. 3 used TP with continuous theme in his speech, but mainly simple linear theme in his written version, talking about his experience at college. Other differences were in speaker no. 8 who used simple linear theme in the spoken version, but in the written version she preferred TP with theme derived from hypertheme in her narration about her birthday.

It is not easy to observe the reasons for using the two most common types of TP, but I am able to say in which instances speakers (as well as writers) used *TP with a theme derived from hypertheme*. These types of TP were chosen for narrations concerning some experience (eating food and speaking about a recipe) or some events (birthday, christening of children, a visit of some place) etc., where the hypertheme was broken down into several secondary themes. Here a description is usually used and cohesive ties are created by hyperonyms, hyponyms and kohyponyms.

8 Comparison with Previous Research

Müllerová (1976) explored thematic chunks on a high level of thematic development; she sees an analogy to Daneš's TP (*TP with continuous theme, thematic derivation, simple linear TP* and also *split rheme*). Müllerová analyzed working dialogues also on the level of thematic chunks which was the most common place of occurrence for a *simple linear TP*, but she ran across „a nestful of ordering themes“ which can be identified as modification of *TP with continuous theme*.

Hoffmannová (2000) pursued themes and rhemes in telephone conversations by people who reported a fire. In announcing that there is a fire somewhere, the callers very often thematize what they know i.e. the place of fire. The callers put the action of something burning to the rheme. If callers put the place of fire to the rheme, it is often the case that the answering fireman starts his replica by repeating the place of fire; it can be considered as *simple linear theme*. Sometimes there was also a simple linear utterance and Hoffmannová wrote also examples of *TP with continuous theme* where callers were talking about the place of fire in more replicas.

Less successful application of the framework of TP to 8 telephone conversations was carried out by Bäcklund (1992). She inquired into TP in telephone conversations from the London-Lund corpus of spoken English. According to Halliday's theme (a theme which is at the beginning of the sentence), she revealed 61 examples of *theme iteration (TP with continuous theme)* which can be explored by focusing on their personality in their speeches, and 42 examples of *chaining (simple linear TP)*. There were many parts of texts which she was not able to interpret through the framework TP.

Also Alexová (2000) took notice of the existence of types of TP in spoken communication and the fact that they are important means of text coherence. In her

dissertation she analyzed spontaneous spoken narration and later asked the narrator to write the story down. In the spoken as well as in the written version the basic principle of the story was *TP with continuous theme*, the author further refers to frequent thematization of previous components in the spoken version and to the occurrence of *TP with derived themes* in the written version.

Cloran (1998) chose dialogues between mothers and their children of pre-school age for her analysis of TP. She has noticed some TP: “We are, thus, exploring four logical possibilities in TP: (i) Theme → Theme; (ii) Theme → Rheme; (iii) Rheme → Theme; (iv) Rheme → Rheme” (Cloran 1998:392). It is clear from her description that she noticed *TP with continuous theme*, *TP with continuous rheme*, *simple linear theme* and *simple linear rheme*.

Authors in partial research found out that *simple linear TP* was also superior in written texts (e.g., Dubois 1987; Rørvik 2003; Cromton 2004; Herriman 2011; Fries 1995), others wrote that the principle of development in their materials was *TP with continuous theme* (Nwogu 1995; Carther-Thomas 2008). These analyses of written texts were focused on scientific texts. But similar results were revealed also in other texts of various functional styles (Červenka 1976, Drápela 2008, Dušková 2010 etc.). As Martinková (2012) noticed, it is difficult to draw universal conclusions because of the small differences in the research methodology.

I uncovered that spontaneous spoken conversation can be based on several types of TP. It was interesting that the most common principles used in spoken texts were simple linear TP and TP with continuous theme. In accordance with previous research of TP in spoken text, I can confirm the fact that it is very difficult to determine the types of TP in dialogues and it is necessary to provide better criteria for successful determination of TP in dialogues. There were utterances which I was not able to classify.

In comparison with previous studies of TP in written texts, my material embodies the same results as other works. Writers used the two most common types of TP which are considered basic (Daneš 1968).

9 Conclusion and Proposal for Further Research

This research shows that one way to approach propositional coherence is through theme/rheme analysis. The demonstrativeness of spoken and written discourse is an issue. For the following research it will be interesting to make a similar experiment in a reversed order that is, the speaker should write the story first, and only later tell it. Or there is one more way to compare the results and verify their reliability – follow the same process as in this experiment and add one more narration of spoken version after writing the story. These two alternative designs of the experiment can reveal how the written version is influenced by the fact that the ideas of the narration are construed for the second time.

The present contribution dealt with a linguistic experiment entrapping authentic spoken material and a written version of each spoken story. There are a lot of ways in which we can reveal coherence and cohesion of text (see e.g., 1.1.1; 1.1.2). I chose mainly one option which is given by the framework of TP.

I have verified 3 hypotheses. *Hypothesis 1* was confirmed because spoken texts were based on special connectors. *Hypothesis 2* was only partly confirmed. Thematic development in spoken texts was really more complicated, but the most common

principles in written as well as in spoken texts are *TP with continuous theme* and *simple linear theme*. The *TP with derived themes from hypertheme* was used in some written and also in the same number of spoken texts, so it is not possible to claim that this type of TP is characteristic of one mode of communication. *Hypothesis 3* was fully confirmed and the framework of TP is fully applicable to higher units of communication, on thematic chunks.

In this paper it was demonstrated that *thematic progressions* play a very important role as means of text coherence. The research also revealed that almost each of Daneš' type of TPs was represented in each of the analyzed written and spoken texts. Each analyzed text was coherent, it was possible to find the TP at a high level of structure and within one speech as well. Spoken utterances used more complicated TP and thematic jumps as well (speakers suddenly started to speak about something different). In further research it is necessary to deal with spoken texts, as there are still a great number of questions to be answered.

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Influence of Liverpool Welsh on Lenition in Liverpool English

Hannah Paton

The purpose of this research was to provide evidence for the Welsh language having an influence on the Liverpool accent with a specific focus on the lenition and aspiration of voiceless plosives. Lenition and aspiration of the speech of participants from Liverpool and North Wales were determined using an acoustic software. The data suggested lenition did occur in the speech of the Welsh participants. However, lenition seemed to be trending amongst people in Liverpool as plosives were lenited a stage further than previous research suggests. Conclusions may be drawn to highlight an influence of the Welsh language on lenition in Liverpool.

Keywords: *lenition, Liverpool, sociophonetics, Wales, Welsh language*

1 Introduction

The use of aspirated voiceless plosives is a common feature in British accents of English (Ashby & Maidment 2005). However, the aspiration of voiceless plosives in a word-final position is normally not audible and if it is medial, it takes on the characteristics of other syllables in the word (Roach, 2000).

Some accents of English exaggerate the aspiration of the voiceless plosives /p, t, k/ although this is not generally found in most Northern English accents of English (Wells 1982). There are only two English accents of English that have been found to do this through previous research. These are London and Liverpool English (Trudgill, Hughes & Watt 2005). Due to the influence of London English on Estuary English, this feature can be heard in the South West of England. Most accents of English that do have this feature have some interference from another language that heavily aspirates voiceless plosives such as Irish, Welsh, Singaporean or African-American English (Wells, 1982).

The accent of Liverpool English is also known as 'Scouse'. Some of the phonological features of Scouse are very different from those of the surrounding areas despite the Liverpool accent originally being part of a Lancashire-Cheshire dialect continuum (Honeybone 2004). One of the most prominent differences between Liverpool English and the surrounding areas is the ability for Scousers to lenite the plosives /p, t, d, k/ into several allophonic varieties (Watson 2007). Speakers of Liverpool English may also use [ɾ] in place of [t] word-medially. Some of the most distinct features of Liverpool English have mainly been attributed to the mass influx of Irish migrants into the city from the 18th century onwards (Trudgill et al. 2005) such as the fricativisation of plosives. Liverpool became a major port after the first dock was built in 1715, originally linking the city with the slave trade between Africa, Britain and the Netherlands (Russell 2007). As the dock grew in importance, it became England's second busiest dock with trade links across the world. This meant the city increased in wealth and prosperity and became a popular place for immigrants to travel to and settle, with the aim to find work. Also, as travel links between Britain and America expanded, the port was used as a main immigration and emigration base from Ireland and to

America (Russell 2007). Becoming such a busy port and a newly multicultural city during the 18th century meant the accent started changing from its Lancashire origin to what is heard today (Coslett 2008).

The increase in fortune for Liverpool as a city attracted a high number of Welsh people into the area, amongst people from other nationalities. At least 20,000 Welsh migrants arrived into the city each decade between 1851 and 1911, with immigration peaking in the 1880's. There were two Welsh Anglican churches and over 50 nonconformist chapels, schoolhouses and missions in Liverpool where ministers held services only in Welsh. Most of these were situated in the north of the city around Anfield, Everton, Tuebrook and West Derby (Davies 1994).

A feature of Liverpool English that has recently been of particular interest to linguists is the lenition of the voiceless plosives /p, t, k/. Lenition is used to describe different processes which normally turn plosive phonemes into affricates, fricatives or glottals (Watson, 2007). The range of allophones used by the people of Liverpool instead of the voiceless plosives /p, t, k/ is vast and something which has become a popular topic of research in recent years and discussed below. The type of lenition of the voiceless plosives is a unique aspect of Liverpool English which is probably not found anywhere else in England.

There are many phonetic aspects of the Liverpool (Scouse) accent which also occur in the speech of people living in North Wales. The dental realisation of /t, d/ and the strong aspiration of voiceless plosives in Welsh English have both been attributed to the influence of the Welsh language (Thomas 1984). The aspiration of voiceless plosives becomes stronger in Welsh-speaking areas, especially word-finally (Trudgill & Hannah 2002). These phenomena also occur in Liverpool English. Another similarity between the Welsh and Liverpool accents of English is the use of [x] and [ç] as allophones for /k/ (Marotta 2005). The velar fricative is the representative of orthographic <ch> in Welsh although it may be realised as uvular in the north of Wales. These allophones do not exist in any other English accents of England (Wells, 1982). However, these allophones only occur in Liverpool English due to lenition.

Based on the connections between the two dialects and the distinguishing features of the accent of Liverpool which do not occur in other varieties of English in England, the research question will be:

To what extent has the Welsh language influenced the lenition of voiceless plosives in the Liverpool English accent?

The data yielded a similar likelihood to lenite between Liverpool and North Wales English although the stages, according to Honeybone (2001), differed in the Liverpool participants' leniting further than the participants from North Wales. These differences have been attributed to social factors and an increase in the social status of Liverpool as a city.

The paper will be set out with a review of previous findings in the field of lenition and Welsh and English phonetics, along with the historical links between the two areas. Following this, there will be a description of the methodology. The results will then be described, analysed and followed by the concluding remarks.

2 Literature Review

The research question above was chosen as it seems to fill a gap in this particular field of research. This section expands on the research question and looks at previous research and theories that will help to explain the data and the motivation behind the research.

2.1 Emigration and Immigration in Wales and Liverpool

In the 1800's, many Welsh people emigrated abroad and set up new colonies in countries such as Canada, Argentina and the United States (Williams 1991). Many more moved to the newly affluent cities in England to find work in factories and mines. An extremely high number of Welsh people emigrated into Liverpool during the 1800's, especially from rural North Wales. In 1813, 10% of the population of Liverpool were Welsh and by the early 20th century, over 120,000 people had migrated to Liverpool making it the city with the highest number of Welsh language speakers in England (Russell 2007). In 2001 there were 5133 people born in Wales and living in Liverpool. Due to the sheer number of Welsh people migrating to Liverpool during the 1800's, Liverpool has previously been referred to as the capital city of North Wales (Russell 2007). The Welsh National Eisteddfod, which is primarily a Welsh-medium festival, has also been held in Liverpool on three occasions during the later 19th, early 20th century. As most of the Welsh immigrants into Liverpool were from rural North Wales, they would have spoken Welsh, probably as a first language (L1) and as monolinguals. This would mean that any features that transferred and contributed to the accent of Liverpool from the Welsh speakers would have been influenced from the Welsh accent they spoke.

During the Industrial Revolution and the coal mining boom, Wales became a popular place for migrants looking for work. Most migrants into Wales came from England and Ireland but smaller numbers came from Europe. However, most of them emigrated into the south of Wales as this was where the mining industry was mainly based.

Many of the immigrants in Liverpool during the 18th century came from Ireland, rural Wales and northern Scotland although there were also high numbers from England itself. Despite there being immigration into Liverpool from many different places, it is easy to conclude that Liverpool English has had its main influences from the Irish migration into the city during the 19th century. This is because of the strong familial ties to Ireland along with the strong links in the features of both accents which have been recognised in several pieces of research. In 1841, about 25% of Liverpool's inhabitants were born in Ireland and in the most recent census of 2001, about 60% of all Scousers had an Irish origin (Marotta & Barth, 2005). However, not all of the phonetic features of the Liverpool accent are borne from Irish English.

2.2 Irish Influence on Liverpool English

The Liverpool accent was originally similar to the surrounding areas in Lancashire (Coslett 2008). The unique realisations of phonemes in Liverpool English compared to English English has mainly been attributed to the sheer number of Irish immigrants that visited, and often stayed, during the potato famine (Watson 2007). The many ways in which /t/ can be lenited in Liverpool English is strongly linked to the allophones of /t/ in Irish English (Kallen 1997). Wells (1982) also relates plosive frication in Scouse English to that of Irish English.

Kallen (1997) looked at the link between lenition in Irish English and Liverpool English. It was concluded that the lenition of /t/ in Liverpool English is related to Irish, however, not word-initially. The lenition of /p, k/ and word-initial /t/ have developed from other influences.

Another feature that occurs in Liverpool English but not in Irish is that of the velar nasal plus (Honeybone 2004). This is the realisation of /g/ in the suffix /ing/ so it is pronounced as [ŋg]. Lastly, the alveolar tap [ɾ] is used in place of /t/ in Liverpool but not in Irish English. Even though there are several features that are similar to Irish English, not all features in the two accents are the same. The influence of the Welsh language, and the similarities between the two, has only recently been looked at.

2.3 Influence of English in Wales

English phonology has had the greatest effect on Welsh English in the places where Anglicisation has been around the longest. So areas along the English-Welsh border such as Monmouthshire (Figure one, below) have a more English accent of Welsh English than Gwynedd, where the Welsh-speaking population is larger, (Jones 1998) i.e. an accent with fewer features taken from Welsh and more from Standard English. This is why most of the research into the Anglicisation of Welsh English focuses on South Wales as this is the area that has mostly been exposed to sustained Anglicisation. The south east of Wales is highlighted as having an accent that has little influence from the Welsh language and a high proportion of English phonetic influence (Coupland & Thomas 1998).

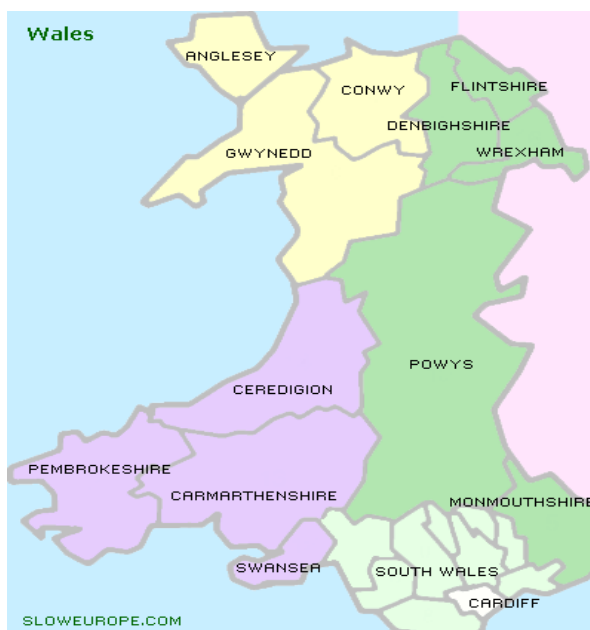


Figure 1: Counties of Wales post 1996 (Wales.gov.uk, 2012)

Despite the lack of research into the influence of English on northern Welsh varieties, there have been some studies that assess the influence that Liverpool English has had on its surrounding area, including North Wales as far down as the Menai Strait (river that separates Anglesey from Gwynedd). Trudgill et al. (2005) state that the influence of Liverpool English can be found in the neighbouring areas such as the Wirral

and Cheshire and as far as North Wales. From as far back as the 1970's Liverpool English has been perceived as having its influence across Chester and over the border through Wrexham and North Wales (Knowles 1978). The development of the A55 as a main coastal route linking Chester to Holyhead (Anglesey) means there has been increased geographical mobility from the North West of England, especially to coastal towns such as Llandudno and Rhyl (Coupland & Thomas 1990).

Cremer (2006) conducted a study in which he looked at the influence of the Liverpool accent in North Wales. The participants lived within 20 miles of Bangor, in Gwynedd and were either first or second language Welsh speakers. Cremer assessed the level of affricated /t/ in the participants' free speech. Cremer hypothesised that the higher the level of affrication in a person's speech, the more Welsh their accent was deemed to be. He then followed up the results with a questionnaire about the opinions of the Welsh and Liverpool accents of English to see if positive opinion of an accent correlated with the features used. Cremer found there was a positive correlation between having a favourable opinion of the Welsh accent and the use of affricates which agreed with his hypothesis. The level of affricated /t/ was the only phonological variable in this study as it was mainly focussed around accent attitudes and labelling the accent the participants spoke with. Despite researching the influence of the Liverpool accent in North Wales, Cremer (2006) maintains that affrication of voiceless plosives originated from the Welsh language. This does mean that there were no 'Scouse' variables to test the influence of Liverpool English in and around Bangor. However, it shows support for the lenition of /t/ in North Wales English.

The main differences between standard Welsh English and standard English appear at the level of localised dialects (Trudgill & Hannah 2002). This means that the influence of English in Wales or Welsh on Welsh English would be dependent on the level of Welsh used both by the individual and within the individual's community.

2.4 Phonetic Interference from L1 or L2

De Leeuw, Schmid & Mennen (2010) found that an L2 (second language) can influence the accent of native L1 speakers that have moved to a country that speaks the L2 language. The extent of influence is dependent on the level of code-switching and the amount of time spent speaking the L1. The higher the immersion into an L2, the higher the phonological effect on the L1 (De Leeuw et al. 2010). Verhoeven (2007) assessed the phonological awareness of early Turkish-Dutch bilinguals and found evidence for phonological transfer from Turkish (L1) to Dutch (L2). Despite the L1 influence, the participants who were more proficient in both languages had an increased phonological awareness in comparison to those who were L1-dominant. These findings can be used to explain the potential transfer of Welsh phonetic and phonological features into the English speech of the Liverpool Welsh.

Hickey (1996) explained how lenition in Irish English has derived from a morphological device used in Celtic language mutation. However, as Irish and English have different morphological rules, lenition cannot be transferred to English to be used in the same way. This means that the lenition transfer appears erratic at first. Once speakers become bilingual in Irish and English, lenition can either be dropped completely or regularised by the speakers (Hickey, 1996). If it was to be regularised, then lenition in English would develop and appear in its own phonological environments, seemingly without the influence of the original Celtic language.

The main research into the effect of the Welsh language on English seems to focus on the Anglicisation of the Welsh accent in the South of the country which is considered above (2.3). There has been little research that specifically assesses the impact of the Welsh language on Welsh English. The most prominent piece of research that looks at the impact of Welsh on English is the Survey of Anglo-Welsh Dialects (SAWD). Penhallurick (1991) researched the North Wales volume which looked at Gwynedd and Clwyd English (the current counties of Wrexham, Denbighshire and Flintshire). The purpose of the SAWD was to replicate the Survey of English Dialects (SED), headed by Orton between 1950 and 1961 (Orton, Sanderson & Widdowson 1978) by focussing on traditionally Welsh-speaking villages with participants selected to adhere to Orton's NORM criteria. This meant that the participants had to be native of the village, male and aged over 60 years old, resident in the village without any significant interruption, not formally educated beyond 15 years old. Participants also had to be free from speech impediments. 44 participants were chosen from 17 villages in the counties of Gwynedd and Clwyd which were a maximum of 20 miles apart from each other. The villages had between 3,000 and 10,000 inhabitants. All participants had Welsh as their L1 and English as their L2.

Participants' details were taken from a questionnaire and included place of birth, use of Welsh language, education and then the same information taken for their parents and spouse. The questionnaire used in SED was adapted to fit Welsh life and used in the interviews.

The results showed aspiration for /p/ both word-initially and finally with [p:] medially. /k/ was aspirated throughout, although there were no instances of lenition. /t/ was the most varied phoneme with [t̪][t̪ʰ][t̪˥][t̪ʰ] being found initially, [t̪˥][t̪ʰ][t̪˥][t̪] medially and [t̪][t̪˥] [t̪˥][t̪ʰ][t̪ʰ] word-final. This coincides with other literature (below) that states that /p, t, k/ are aspirated in most places and /t/ is dental. There was also a form of spirantisation word-finally with [t̪˥] which is also found in Liverpool English although this was only affricated and lenition to a fricative was not found.

Despite these findings, no additional technology was used to determine what sounds were being uttered by the participants. The allophones transcribed are only based on what Penhallurick could hear from tape recordings of his data. This means these results may be flawed and inaccurate as fricativisation seemed to be overlooked when analysing /p, t, k/ and only aspiration and affrication were considered.

Thomas (1984) discusses several features of Northern Welsh English that derive from features of the Welsh language. In this, he states that voiceless plosives are more strongly aspirated in North Wales English. This includes voiced plosives such as /b, d, g/ becoming devoiced during the release stage. There is also a dental realisation of the alveolar phonemes /t, d, n/ and of inter-vocalic plosives following a short, stressed vowel. Wells (1982) also highlights the strong aspiration of voiceless plosives. However, he states that this is only in Welsh-speaking areas. Wells (1982) explains that there are some consonantal sounds which are used in Welsh and appear in Welsh English through the use of proper nouns such as the names of people and place names. Welsh speakers would pronounce the village name 'Llanfechell' as [l̪anvɛxɛl̪] regardless of whether the person was speaking English or Welsh even though [ɸ] and [x] do not appear in the English English phonological system. It is noted again that speakers of North Wales English heavily aspirate voiceless plosives but, in addition to this, they do not glottalise word-final voiceless plosives, which now occurs in several accents of English (Trudgill & Hannah 2002). North Wales English generally has no glottalisation of its consonants

although they do undergo the same process of lenition as in Liverpool English (Cremer 2006). This is because the final voiceless plosive is strongly pronounced which creates a good environment for aspiration and fricativisation. Penhallurick (2004) describes the phonological features of Welsh English although he does not specify which features are typical of North or South Wales English. Again, the strong aspiration of the voiceless plosives and the dental realisation of alveolar phonemes are cited.

The dentalisation of /t/ and /d/ is not generally a feature that is found in South Wales and is attributed to the influence of the Welsh language as an L1 on L2 speakers of English. This is because it is mainly found in areas of high Welsh L1 speakers (Wells 1982). This is also the case for the strong aspiration of voiceless plosives. The more ‘Welsh’ an area is, the stronger the aspiration is (Coupland & Thomas 1990). So areas in the north of Wales such as Gwynedd and the Llŷn Peninsula which have historically had the highest numbers of Welsh speakers have the strongest aspiration levels. This is potentially related to the rules of mutation in Welsh.

2.5 Mutation

It was proposed by Hickey that lenition is in fact a Celtic phenomenon as it has been transferred over as a result of mutation in Celtic languages (Hickey, 1996). The rules for mutation are prominent in Welsh and can be heard in the everyday speech of Welsh speakers. Mutation in Welsh holds many complex rules and environments and so the discussion here will be limited to those that are related to the lenition of voiceless plosives to either affricates, fricatives, glottal /h/ (debuccalisation) or complete deletion.

There are three types of mutation in Welsh: soft, aspirate and nasal (see figure 2, below). As nasal refers to the nasalisation of initial plosives, it will not be considered here (highlighted grey in figure 2).

Initial	Soft	Nasal	Aspirate
c [k]	g [g]	ng[h] [ŋh]	ch [x]
p [p]	b [b]	mh [mʰ]	ph [f]
t [t]	d [d]	nh [nʰ]	th [θ]
g [g]	(disappears)	ng [ŋ]	
b [b]	f [v]	m [m]	
d [d]	dd [ð]	n [n]	
ll [l̪]	l [l]		
m [m]	f [v]		
rh [r̥]	r [r]		

Figure 2: Mutation in Welsh

The most relevant mutation rule in Welsh is the aspirate mutation (the right hand column, above). This mutates initial /p, t, k/ to /f, θ, x/ under certain conditions, such as when following <a> e.g. *te a thost* ‘tea and toast’. Other mutation rules that are relevant to the phenomenon of lenition are the soft mutation of /d/ to /ð/ and /t/ to /d/ which are both prominent features in Liverpool English. Hickey states that when monolingual speakers who are used to this process in their language, such as Liverpool Welsh, begin speaking a second language, i.e. English, mutation transfers. However, as English does not have any rule-based form of mutation, it will either be completely removed by the speaker or retained and regularised through inter-generational transmission and

community regularisation. These small communities of Welsh speakers, located in different parts of Liverpool, could then transfer this feature along with others to the speech of native Liverpool English speakers through the process of 'koinéisation'.

2.6 Koinéisation

Koinéisation refers to the process of levelling, mixing or simplification. Accents, dialects and languages can all be influenced when coming into contact with a different variety. An example is the pidgin languages, mainly developed as part of the slave trade. When slaves that spoke different languages had to communicate, one language was not adopted by all but a mixture of two or more languages. This is the same for accents and dialects too and can occur in areas of high immigration from different nationalities. Milton Keynes is a city that was developed during the 20th century in order to accommodate a population boom in England. The people that moved there came from different backgrounds and different areas of the South East. Williams & Kerswill (1999) looked at the dialect-levelling of children in this area. They interviewed children of four, eight and twelve years of age and analysed their accent and dialect. They found that the youngest children had retained the accent of their parents' whereas the eight and twelve year olds had developed a new accent that was unlike any of the surrounding areas. In-migration has also had an effect on Norwich English which, like Liverpool, has developed an accent with many phonological features unlike the rest of East Anglia (Trudgill 1986). Again, this variability within the accent is accounted for in terms of dialect mixture.

There is evidence that koinéisation has also occurred in Liverpool. Immigrants mainly came from the British Isles, China and the British Empire (2.1) and because of this the dialect was not replaced by one single accent. There was not a single, overwhelming force that replaced the local people but a mixing of many cultures, languages and dialects. This means that the new accent and dialect of Liverpool has a mixture of features from different accents. The aim of this research is to assess whether the lenition of voiceless plosives in Liverpool English is a feature brought over from the Welsh language through the in-migrations of the Liverpool Welsh.

2.7 Aspiration in English

An average plosive sound has complete closure in the vocal tract for about 120 milliseconds (Ashby & Maidment 2005) and after this, the articulators part to allow the air to pass through and the sound is produced. As they are voiceless sounds, the vocal folds are far apart so air passes through normally which causes no vibration. Aspiration of a plosive occurs when the voice onset time (VOT) of the next sound is increased. This is produced by a slower parting of the articulators which creates fricativisation of the preceding voiceless plosive (Ashby & Maidment, 2005).

The average length of aspiration is dependent on the phonological environment it is found in. Plosives can be found word-initially, post-vocally or word-finally in English. When it is found word-finally it can also be pre-pausal which means the phoneme is at the end of a phrase (Watson 2002). Other factors that can affect the length of aspiration are the plosive, the vowel that precedes or follows it and the stress placement. Due to this, no exact aspiration lengths can be given for English consonants. However, averages can be taken and compared with the results in order to assess the validity of the results for conclusions.

The average voice onset time for an unaspirated plosive is around 10ms with aspiration becoming audible after around 30ms (Ashby & Maidment 2005). Aspiration is shorter with a bilabial, intermediate with an alveolar and longest with a velar. The average lengths of VOT given by Cho & Ladefoged (1999) show [p^h] as 58ms, [t^h] as 70ms and [k^h] as 80ms in English. However, these only represent word-initial plosives.

Aspiration is found in English accents of English. Wells (1982) describes how most accents have aspiration before a stressed vowel. However, some accents of English exaggerate the length of aspiration such as the Scouse and Cockney accents. In addition to aspiration, these accents can also allow for affrication and voicing of /p, t, k/ depending on the phonetic environment. Jones & Llamas (2003) found word-final pre-aspiration in Middlesbrough and Newcastle English but this was only with the phoneme /t/. It was concluded that the final aspiration was due to incomplete deletion i.e. the articulators did not make contact to create the plosive burst. If /t/ was found post-vocally, it was glottalised.

Despite this, non-aspiration is mainly associated with Lancashire and the Pennine valleys north of Manchester (Wells 1982). Aspiration of voiceless plosives tends to be associated with the south of England although it is not an audible friction (Jones & Llamas 2008), so below 30ms. Trudgill & Hannah (2002) stated that Singaporean English has aspirated voiceless plosives but only in a final position. Accents that have been influenced by Celtic languages have strong aspiration of the voiceless plosives and final plosives are also pre-aspirated (Kallen 1997). Due to this, a lot of research on the lenition and aspiration of voiceless plosives has focussed on Irish English.

2.8 Lenition

Lenition involves the ‘weakening’ of a plosive to an affricate or a fricative. The term ‘lenition’ came from the word ‘lenis’ which means ‘weak’, which is how a fricative is produced (Bauer 1988). As the fricative is weakened, the energy in the vocal tract becomes more intense and the articulators move close together instead of creating the block and so create friction. Honeybone (2001) proposes several stages of lenition before complete deletion of the plosive (Figure 3, below).

Phoneme	Stage One Affrication	Stage Two Fricativisation	Stage Three Debuccalisation	Stage Four Deletion
/p/	-	[ϕ]	/h/	∅
/t/	[tʰ]	[s]	/h/	∅
/k/	[kʰ]	[x]	/h/	∅

Figure 3: Stages of Lenition (Honeybone, 2001)

The stages of lenition progress from affrication where the plosive burst is still audible to the final stage where the lips are furthest apart and there is no sound.

In the case of voiceless plosives, this would involve the voiceless plosive being weakened to the voiceless affricates [tʰ, kʰ] which could then further be weakened to a voiceless fricative such as [ϕ, s, x] then a glottal fricative [h] and ending as a deletion (Honeybone, 2001). Whether a plosive is lenited or not is dependent on the phonological environment. Articulatory undershoot can be a factor that promotes lenition in some of these environments. It is described as the process in which a coronal plosive is converted

to an affricate or fricative before a high vowel (Hall, Hamann & Zygis 2006). Articulatory undershoot will only provide a phonological environment for lenition if fortition is also a phonological feature of the accent. Fortition is the opposite of lenition and involves a strengthening of the phoneme to create an allophone (Hall et al. 2006).

Trudgill et al. (2005) observe that /p, t, k/ can be affricated to [tʃ, s, x] respectively. Wells (1982) differs slightly in his analysis of the affricates found in Liverpool English, giving [tʃ, ts, x] as the allophones of /p, t, k/. This is due to the fact that the stops lack complete closure. Wells (1982) states that the frication of the alveolar stops is due to Irish influence; however, the extension to other consonants such as /p, k/ is a phenomenon only in Liverpool English.

Watson (2007) explains how much of the consonantal system of Liverpool English is the same as other varieties of English. It is the allophonic variety of these consonants which makes the accent stand out from others around it. The voiceless plosives /p, t, k/ can be aspirated in word and utterance-final positions (Watson 2007). One of the most common lenition features of Liverpool English is spirantisation, a feature which is the realisation of /t/ as [s] or an allophone of the two sounds. This normally occurs post-vocally or word-finally and can even result in debuccalisation. The affrication of /t/ is most common word-initially. Also, /k/ can either be fricativised or affricated although this is dependent on the preceding vowel (a low vowel such as [a] would create a fricative and a high vowel such as [i] would create an affricate. /p/ is the least likely to be lenited in Liverpool English but can be fricativised in certain phonological environments (Watson 2007).

Marotta & Barth (2005) and Honeybone (2001) agree that the voiceless plosives are not only lenited to affricates but also that Liverpool English is one of the very few varieties of English in England that do this. Another variety is Middlesbrough English who also had an Irish majority emigration there during the 1800's (Jones & Llamas 2008). Marotta & Barth (2005) expand this further by offering the range of allophones found in their study with [x, ç] being allophones of /k/, [θ, s] allophones of /t/ and [tʃ, f] allophones of /p/.

As noted above, there has been an increased interest in the lenition of voiceless plosives in Liverpool English in recent years. Despite this, there is still little research on lenition in Liverpool English (Marotta & Barth 2005) and none on Welsh English.

2.9 Hypothesis

Based on current research found and cited above, my experimental hypothesis would be as follows:

If lenition and aspiration of voiceless plosives are related to language contact, then Scouse voiceless plosives will show similar lenition or aspiration to Welsh voiceless plosives.

The implication of this would be that the voiceless plosives in the two accents are articulated very differently giving rise to no similarity between the two. If the data were to show this, then it would falsify the experimental hypothesis.

3 Methodology

The independent variable in the study was the accent of the speaker. To make the results quantifiable, the amount of participants for each accent was kept at four each. This was further broken down into two males and two females for each accent. The differences between the two sexes were not analysed as this was not a focus of the study but it was felt necessary to have an equal measure of the two. Previous studies such as Trudgill's study of Norwich in 1972 (Trudgill, 1986) and Wolfram's study in Detroit in 1969 (Eckert, 1999) showed that women are more likely to use Standard English than men. Ensuring an equal number of men and women gave the results more credibility as possible gender differences would not affect the data. Age was not a variable in the study, however, participants of similar ages were sought in order to give better reliability and comparison in the results.

All participants had to be free from speech impediments as this could potentially affect the results. The only other criterion for the Scouse participants is that they needed to have lived in Liverpool all of their life. The Welsh participants had to speak Welsh as a first language and have grown up in the counties of Gwynedd or Anglesey. These counties were chosen due to the high proportion of speakers of Welsh as a first language (Jones, 1998). This would keep the influence of the English language to a minimum as the participants would use Welsh most of the time. Participants who had grown up in the city of Bangor were excluded due to the high student population and influence of the English language in that area.

The participants' age, sex, place where they grew up and whether they were Welsh/Scouse was firstly recorded. Names and contact details were not taken from the participants to ensure complete anonymity. Some unrecorded conversation took place before taking the participant's supporting information and the recording in an attempt to make the participants feel more comfortable. Topics included local news, compliments on the area they lived in and an attempt to converge the participant's accent and views.

For the free-speech part of the recording, participants were asked: "what makes you proud to be Welsh/a Scouser?" Participants were requested to begin their reply with "I'm participant/number... and I'm proud to be Welsh/Scouse because..." The number aspect was inserted so it was easier to keep track of the credentials of each participant. This question was asked first as people are more likely to use their usual accent when they are talking about a topic that has some emotional significance (Labov 2003). This topic was expected to influence their native accent as participants were discussing how proud they were of their hometown. One participant did introduce the recording with his first name instead of a given number but as this was the only personal data given, the recording was kept.

Once the participant had finished the free-speech part of the recording, they were prompted to read through a set of statements twice. These were a set of six nonsense sentences typed onto a sheet of A4 with instructions at the top¹. Some participants read out the instructions as well as the sentences but this was not included in the data. They were instructed to read the six sentences out loud then read them again once they reached the end, so that the participant could get used to reading them, which would ensure more naturalistic data was recorded. Both sets of sentences were recorded but only the second set was analysed. This part of the recording was necessary because free speech would not necessarily have provided all the data needed. Reading a passage gives

¹ A copy of the sentences is given in the Appendix.

the study the same elicited data from all of the participants that free speech would not. Each participant was given a slip of paper stating that they could remove themselves from the study at any point by emailing the researcher.

The voiceless plosives /p, t, k/ were each represented six times in the passage. Each sound was produced word initially, post-vocally and word-finally and preceded by either the open front unrounded vowel [a] or the front close unrounded vowel [i] with the exception of word-initial analyses, that were followed by [a] and [i]. Monitoring the preceding vowel prevented any fricative-bias in the results due to articulatory undershoot. Each of the key words containing the sounds was included twice so any anomalies could be highlighted. A total of 278 sound files were analysed as some of the key words were not elicited correctly. The data was recorded and analysed using the softwares Audacity and Praat.

Once all data had been collected the individual sound files were extracted from the full recordings and compared across all variables. Particular attention was paid to the length of aspiration, if any, and whether any lenition occurred as these factors would best answer the research question.

4 Results

The results are grouped by the independent variable of place of birth and comparisons between the different groups are discussed in the next section. The length of aspiration, if any, is reported for the voiceless plosives in each place along with any forms of lenition found.

4.1 Welsh Participants

4.1.1 /p/

Affrication to [ɸ] occurred word-initially along with [p^h]. Affrication was only found preceding the open vowel [a] on two occasions. The remainder were aspirated plosives. The mean length of aspiration was 40ms with a range of 29ms. Post-vocalic /p/ was also either lenited or aspirated with a mean aspiration length of 46ms. In most cases, [p] was realised then followed by [ɸ] after a short silence. Word-finally, /p/ was affricated or was followed by aspiration with a mean aspiration of 63ms. There were two occasions of debuccalisation when following the closed vowel [ɪ].

4.1.2 /t/

When /t/ occurred word-initially, it was weakened to [t^s]. There were also cases of prespirantisation where the plosive was preceded by frication but no silent period. This also occurred post-vocally and word-finally. There was one instance of aspiration at 70ms and one of lenition to the glottal fricative [h].

4.1.3 /k/

Aspiration was average word-initially in comparison to the totals given by Cho & Ladefoged (1999) with a mean length of 55ms and a range of 40ms. Aspiration was found both preceding [a] and [ɪ]. Lenition to affrication and fricativisation was also found in this position. Lenition to [x] or [ç] was found in most of the post-vocalic data for /k/. There were also some instances of [k^x]. When occurring word-finally, /k/ was most likely

to be aspirated with eight occurrences of [k^h]. The mean length of aspiration was 54ms with a range of 27ms. There was also one instance of debuccalisation following [a]. There were three fricatives and one affricate replacing /k/.

4.2 Liverpool Participants

4.2.1 /p/

Lenition to [ɸ] and aspiration of /p/ was found word-initially. Lenition was found preceding both the front and back vowels but aspiration was more frequent. The mean length of aspiration was 33ms with a range of 31ms. Again, the voiceless bilabial fricative [ɸ] was found in place of post-vocalic /p/ along with [p^h]. Aspiration was generally longer here with a mean of 64ms and a range of 70ms. The aspiration was slightly longer when /p/ occurred finally with a mean of 67ms. /p/ was more likely to be lenited when following [ɪ] but there were still cases following [a]. Debuccalisation almost occurred in one instance where the sound wave showed no plosive burst but fricative energy was slightly higher than expected for the glottal fricative. One occasion of [ɸ] sounded more like an alveolar tap with frication.

4.2.2 /t/

Word-initially, /t/ was spirantised. Some of these consisted of just the fricative [s] but some behaved differently. Some lenited forms of /t/ consisted of pre-spirantisation with an audible release. Despite this, it had no period of silence before the release. Post-vocally, /t/ was lenited to [t̪], [s] or [h]. Two occasions of [s] were of a low frequency so not far away from debuccalisation. Word-finally, debuccalisation was more likely to occur when following a low vowel and spirantisation occurred more when it was preceded by a high vowel.

4.2.3 /k/

/k/ was lenited to [x] or [k̪] in all but two occasions word-initially. This was realised as [k^h] with an aspiration length of 20ms when preceding [ɪ] and 60ms when preceding [a]. Post-vocalic /k/ was very similar with the majority of examples showing fricativisation. There were three occurrences of the plosive with frication showing as [k̪]. When /k/ appeared finally, it was lenited in all but one sample of the data which was aspirated with 72ms of aspiration. There was one case of debuccalisation when following [a], five instances of affrication and five of fricativisation. The preceding vowel did not affect the type of lenition.

This chart shows the mean time (ms) of aspiration in Liverpool and Welsh English in comparison to the averages given by Cho & Ladefoged (1999). The lengths of aspiration were run through the SPSS statistical software 14.0. Values were calculated for the standard deviation and an independent samples t-test. The majority of aspiration lengths were found to be significant at <0.05 with only two being statistically insignificant at >0.05.

Aspiration generally seems to be similar for both accents, even when the mean times diverge from the averages for English accents of English. The main difference is the absence of aspiration for /t/ in Liverpool English and the single case of it in Welsh English. Also, despite the two accents being more similar in comparison with the average for English English, the lengths of aspiration are not the same and there can sometimes be up to 20ms difference.

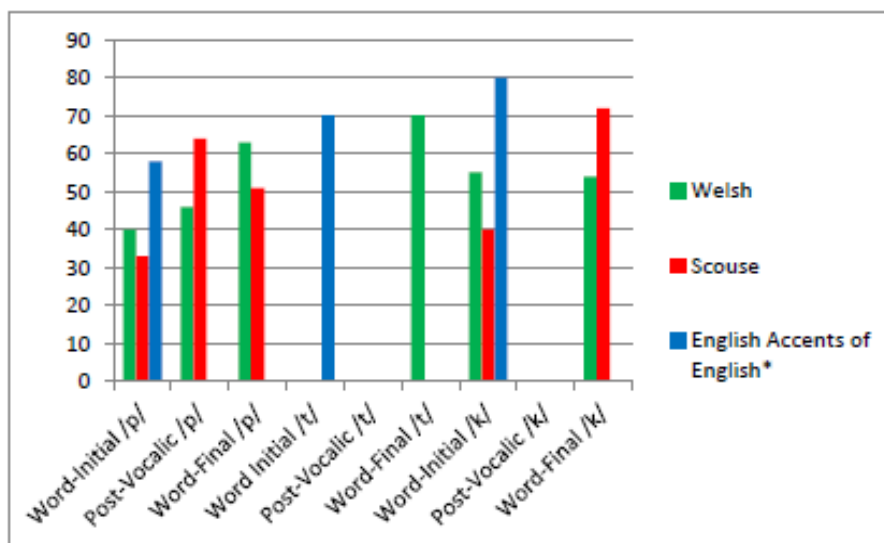


Figure 4: Lengths of aspiration in Liverpool, North Wales and English English²

5 Discussion

The results show some support for research previously undertaken which have been highlighted in our review of the literature (Section 2). They also represent new areas for discussion which have not previously been found and published. The main focus of the research was on the similarity of the voiceless plosives /p, t, k/ from North Wales English and Liverpool English and these will be analysed and discussed, along with any in- and cross-group phonetic variation.

5.1 /p/

/p/ can lenite to [ɸ] in Liverpool English through a weakening of the plosive burst to a fricative. Previous research has found /p/ to be the least lenited out of the three voiceless plosives being analysed as part of this research. Despite this, one instance of debuccalisation was found word-finally when preceded by the closed vowel [ɪ] from a Welsh participant and one instance of near-debuccalisation from a Scouse participant. The near-debuccalisation has been labelled as so due to its low-energy frication. Debuccalisation of /p/ has not been recorded in published studies of Welsh and Liverpool English so this could be a new phenomenon that is occurring. As it is normally found only in post-vocalic and final /t/, debuccalisation may be becoming overextended and being applied to other phonemes that are phonetically similar. However, as it only occurred twice and following two different vowels, it could either be in the earliest stages of extension to more phonemes and its usage is erratic, as was lenition in Irish English (Hickey 1998) or could be due to individual differences.

² This is an average and does not consider articulatory restraints such as stress placement, vowel conditions or manner and places of articulation. English lengths of aspiration are taken from Cho & Ladefoged (1999).

Word-initial lenition was more likely to occur with the participants from Liverpool than North Wales, with participants in Liverpool almost three times more likely to lenite than those from North Wales (32% compared with 12%, respectively). Despite this, the likelihood to lenite was much lower than that for /t, k/. The low numbers of lenited /p/ word-initially could be explained from previous research by Watson (2007). This states that lenited /p/ only occurs post-vocally and word-final. This could show a move towards standardising lenition across all three places in the two accents. Despite this, the Welsh participants only lenited /p/ when it preceded the open vowel [a]. As articulatory undershoot would occur more likely with [i], it can be discounted here for that reason. There were slightly more instances of lenition when /p/ was post-vocalic than word-initial. However, affrication to [tʃ] was more likely to occur with the Welsh participants although this difference was small. Lenition was just as likely to occur when following an open vowel [a] or a close vowel [i] but this may be because the following phoneme was [i] for both target words. The sound waves seemed to show a burst of sound after the preceding vowel followed by a short period of silence before either another burst and aspiration or just frication. This is probably a final release of energy before the articulators close for the plosive sound release.

There were no anomalous results when analysing post-vocalic /p/.

When occurring word-finally, /p/ was realised as [p^h], [tʃ] or [h]. Taking the total amount of sound files for analysis for each accent (16 each), /p/ was affricated or aspirated a similar number of times. However, whereas the Welsh speakers were more likely to lenite the plosive when following [a], the Scouse speakers were more likely to lenite when following [i]. The occurrence of lenition following [i] from the participants from Liverpool could be due to articulatory undershoot. As /p/ is bilabial and articulated at the front of the mouth, the articulators do not need to move as quickly to create the close, unrounded vowel. This could provide some extension of the plosive as a fricative as the articulators move towards making the next sound. As discussed above, there were two occurrences of debuccalisation, one classed as near-debuccalisation.

Despite this, one participant from Liverpool articulated an affricate of /p/ that was similar to the voiced alveolar tap [ɾ] with frication over it. The voiced alveolar tap is a distinct feature of Liverpool English although it is normally found in place of post-vocalic /t/. No previous research could be found on this specific sound occurring. As there was only one occurrence of it in the recordings and due to the similarity of the phonetic environment with /t/ where it normally occurs, this has been treated as a mispronunciation.

5.2 /t/

/t/ has generally been found to be lenited more than /p, k/. This can be affricated to [tʃ], further fricativised to [s], debuccalised to [h] or dropped completely. Lenition was found in all but one case of /t/ across the three word positions where aspirated /t/ was found. /t/ was lenited across all three stages but there were some positional restraints.

The Welsh participants were more likely to affricate /t/ to [tʃ] word-initially with only one case of stage two lenition of fricativising the /t/ to [s]. Half of the Scouse participants affricated /t/ and the other half fricativised it. The appearance of stage two lenition in word-initial /t/ does not corroborate with previous research into lenition in Liverpool English, which states that fricativisation only appears post-vocally and word-finally (Watson 2007). However, this could be a case for fortition, as found in the

speech of people from the South East of England (Buiza & Plug, 2012). As fortition is not of concern here, this finding would be beneficial for further research. Affrication of /t/ occurs word-initially. Again, this could show a lenition process in which the voiceless plosives in Liverpool English are gradually becoming more lenited. Lenition has never been discussed in Welsh English although the similarities in lenition between the data and research into lenition in Liverpool could highlight a possible transfer effect from the immersion of Welsh language in Liverpool from the 18th century.

The only individual difference was an instance of creaky voice in one affricate articulated by a participant from Liverpool. Despite the creaky voice, the plosive and affrication was still audible and visible in the sound wave.

When uttered post-vocally, /t/ was spirantised in all but two cases by the Welsh participants. In the two anomalies, /t/ was affricated. Spirantisation also occurred in the Liverpool English recordings. However, there were also cases of debuccalisation including one of near-debuccalisation. This highlights a difference in the articulation of Welsh and Liverpool English post-vocalic /t/. Debuccalisation did not occur in any of the Welsh participants but was present with a high number of participants from Liverpool. Lenition seems to go to a further stage in the data from the Scouse participants than the Welsh although this could be due to a number of different factors. As the Liverpool accent is different from the accents in the surrounding area, the accent could be diverged further by exaggerating the features that are unique to the Liverpool accent, such as lenition. It could be that lenition is an older feature in Scouse than in Welsh English, so has progressed further than it has in Welsh where it is a relatively new feature in comparison.

Word-final /t/ was more likely to be fricativised by the Welsh participants although there were also cases of debuccalisation, affrication and aspiration. The Scouse participants either fricativised or debuccalised word-final /t/. Debuccalisation occurred when following both a back and front vowel, although it was more likely to occur following [a], with spirantisation more frequent when following [ɪ]. The single case of debuccalisation with the Welsh participants followed [ɪ]. These findings are consistent with Watson (2007) who found debuccalisation of /t/ occurred word-finally. Most word-final /t/ with the Welsh participants was fricativised to [s] with two phonemes affricated to [tʃ]. This is in line with the data from the Liverpoolian participants who were also more likely to fricativise word-final /t/ to [s].

5.3 /k/

According to previous research, /k/ is more likely than /p/ but less likely than /t/ to be lenited. It can either be affricated to [kʃ] or fricativised to [x]. Watson (2007) found this depended on the vowel that followed it. If /k/ followed [a] it was more likely to be a fricative and if it followed [ɪ] then it would be realised as an affricate.

Debuccalisation was not found word-initially, but this was expected as previous research has found it does not occur in this position. There were four instances of [kʰ] in the recordings. Two instances occurred for each target word, one from each accent group. However, the length of aspiration did not provide a pattern in the two groups. Affricates were more likely to appear in both groups with half of the phonemes being lenited to [kʃ]. There was no preference for the position of the following vowel, with lenition evenly assigned to both the high and low vowels. Lenition levels were similar for both the Welsh and Liverpoolian participants.

Lenition to affrication and fricativisation occurred post-vocally. There were no instances of debuccalisation but this was expected as there has been no previous research showing this. Fricativisation to [x] was more common, especially when following [ɪ]. The main difference between the Scouse and Welsh recordings were that Scousers were more likely to lenite further to fricativisation than the Welsh participants. This seems to be a pattern in Liverpool English, especially when compared with previous research into lenition. However, as lenition does not seem to have been previously researched or found in Welsh English, patterns of lenition could show cross-linguistic influence of the Welsh language on Liverpool English or of Liverpoolian on Welsh due to the close proximity to each other.

/k/ was either aspirated or lenited to an affricate or fricative. There was one case of debuccalisation for each accent group, both following [a]. Lenition was more likely to occur in the Liverpool participants' speech than with the Welsh speakers who were more likely to aspirate /k/. Lenition generally occurred when the plosive was following [ɪ] although there were some cases following [a]. Despite this, the only difference between the speech of the Welsh and Liverpool participants was the aspiration of /k/ by the Welsh and the lenition shown with the participants from Liverpool. Previous research into Welsh voiceless plosives shows that /k/ is aspirated in all positions and this data is consistent with that. Only three instances of fricativisation were found word-finally although the lack of lenition agrees with Welsh phonological rules that the final plosive is pronounced (Wells 1982).

5.4 Aspiration

The aspiration of the plosives was dependent on the phonological environment it was found in. /p/ was aspirated by both accent groups word-initially, finally and post-vocally. The features of the vowel that followed did not significantly affect the rate of occurrence of [p^h] or length of aspiration. Word-initial /p/ had the shortest length of aspiration with the median occurring post-vocally and the longest aspiration being found word-finally. Overall, /p/ was aspirated the highest number of times by both accent groups. Aspiration rates were similar for both the Welsh and Scouse participants and the findings were in line with previous descriptions of the voiceless plosives by Wells (1982) and Trudgill et al (2005) that state /p/ is heavily aspirated by both accent groups. All lengths of aspiration for [p^h] were determined to be statistically significant with all of the data showing as <0.05%. This would infer that generalisations from this data could be extended from just the participants to wider society. Standard deviation tests showed a greater difference from post-vocalic /p/ than word-initial or word-final for both Welsh and Scouse participants. This shows a trend in the statistical data as well as the actual quantitative data which could further highlight a similarity in the aspiration lengths of the participants.

[t^h] did not occur in Liverpool English in any of the recordings and only once word-finally with the Welsh participants. Aspiration was realised following [a] with a length of 70ms. As this did not occur in any other instance, this has been labelled as an individual difference. /t/ has a wide allophonic variety in comparison with /p/ and /k/. Previous research has highlighted this along with the ability to aspirate /t/ in the speech of Welsh speakers' of English and people from Liverpool. However, only one case of [t^h] was found in the recordings which could be an evidence for a change in the realisation of /t/. Fricativisation to *s+ or debuccalisation was not recorded in Penhallurick's findings

(1991) but there are clear cases of this occurring in the English of the Welsh participants. This could be an evidence for the influence of the accent of Liverpool in North Wales. However, as Penhallurick (1991) only transcribed what he could hear; fricativisation may have been present but not recognised or overlooked and considered an affricate. As aspiration only occurred once, no statistical tests were conducted.

[k^h] was not found post-vocally and only on four occasions word-initially. The following vowel did not affect the length of aspiration in this position. Individual results were mixed, with the Scouse participants realising a longer length of aspiration with [a] and an extremely short burst of aspiration when preceding [ɪ]. Comparably, the Welsh participants realised a longer aspiration length with [ɪ] and a shorter burst of aspiration with [a]. Again, this could be associated with the data found for /p/ highlighted above. Further research is needed to explain why this occurs. When /k/ appeared word-finally, aspiration was generally longer for both accent groups. The Welsh participants were more likely to utter [k^h] in comparison with just one Scouse participant realising the aspiration on one occasion. These results are not consistent with previous research conducted by Penhallurick (1991) who found that Welsh speakers heavily aspirate /k/ in all places. In addition to this, speakers from Liverpool are also considered to heavily aspirate voiceless plosives (Trudgill, Hughes & Watt 2005) which was not the case with /k/. Using the independent samples t-test highlighted statistical insignificance from both data sets for word-initial /k/. Standard deviation was also high at 28.28 for both the Scouse and Welsh participants. Due to the statistical insignificance, generalisations outside of the participant groups cannot be made.

6 Conclusion

The focus of the present research was to assess the extent of the similarity between the voiceless plosives /p, t, k/ in northern Welsh English and Liverpool English. This was achieved through analysing and comparing the length of aspiration, if any, and the stage of lenition. There were three places of analysis for each plosive: word-initial, post-vocalic and word-final. This research has filled a gap in the field of phonetics and variation as research into lenition in Welsh has not been previously published.

In comparison with previous research, lenition seems to occur more often in Liverpool English. The voiceless plosives are being lenited in more phonological environments and to a further stage. This could represent a growing trend in the lenition of plosives. As the accent of Liverpool is quite different from those surrounding it, there may be a form of divergence occurring as the influence of the accent spreads over the borders to Halton and the Wirral. As lenition is a distinguishable feature, the people of Liverpool may be unconsciously diverging their accent to keep their identity unique. The city of Liverpool was previously stigmatised, with people from that area stereotyped as being thieves and unfashionable. In 2008, it became the European Capital of Culture and many events were arranged that displayed the vitality and celebrated the passion of the city. Along with this, celebrities who are from the city are displayed in popular media as beautiful and well-dressed which is now being attributed to Liverpool itself. In addition to this, the phrase “Scouse not English” is appearing on football banners and accessories which gives the people of Liverpool their own individual identity. It may well be that the people of Liverpool are highlighting features specific to their accent such as the lenition of voiceless plosives and exaggerating these features.

Similarly, the Welsh participants were just as likely to lenite the voiceless plosives with the exception of word-final /k/. Lenition occurred in all other phonological environments although did tend to be a stage behind the plosive lenition in Liverpool. However, as there is no previous research on lenition in Welsh, there cannot be any diachronic comparison as there is for Liverpool English. Despite this, the similarity in levels of lenition between the two accents cannot be ignored as previous research has shown there is no other occurrence of this in English accents of English.

The lenition of /t/ in Liverpool English has been attributed to the migration of Irish into the city from the 18th century onwards. However, lenited /p/ and /k/ are not found in Irish English. From the data, it was shown that this did occur in the speech of the Welsh and Scouse participants and at an extremely similar rate. Due to the similarity of the extent of lenition between the two accents and the fact that this phenomenon does not occur in any other accent of English it can be fair to say that Welsh has had some influence on the lenition of /p/ and /k/ in Liverpool English.

The most distinguishing difference between the two accents was the aspiration of word-final /k/ by the Welsh participants. As [k^h] was realised by the majority of the Welsh participants and [x, ç] by the majority of the Scouse participants, this was a notable difference. Despite this, it was found that the lenition of /p, t, k/ progressed further than what previous research had found. This could mean that what would have previously been a phonological environment for aspiration has now become part of an overextension of lenition, as discussed above.

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Appendix

Read all of the sentences out loud.

Repeat them a second time once you reach the end.

- The **bat** was **sitting** by the lake **sipping** a **can** of coke and licking a lolly ice. He liked to **sit** in this spot as he could get a **tan** while listening to the ducks **quacking**. Apart from the ducks, you could hear a **pin** drop.
- The **pan** was made of **tin** and needed a **lick** of paint. The little boy used it for **batting** balls and to **sip** water out of. After he had finished playing, he would leave it **sitting** in the porch.

- The **wrapping** paper made a noise that sounded like a duck **quacking**! As the girl tried to **wrap** the **tin** of sweets she had bought for her friend, the dog kept **licking** her face and giving her a **kiss**. It sounded very strange having **wrapping** paper that went “**quack quack**”!
- A **bat** will **sit sipping** a **can** of coke for hours on end but cannot **lick** a lollipop for more than 10 seconds.
- He will eat the chicken **wrap** and **sip** the glass of coke. Then he will try to get a **tan** while **licking** the sauce off his fingers which makes a noise like a **kiss**.
- The girl used the **pan** when she was **batting** the ball but the **pin** fell out.

Polish coordination as adjunction*

Anna Prazmowska

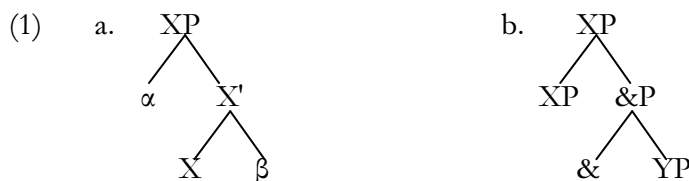
This paper aims to determine whether Polish coordination has an adjunction structure rather than a complementation structure. We discuss Zhang’s (2010) arguments for the complementation structure of coordination and identify some problems with these arguments. In support of the adjunction structure of Polish coordination, we point to certain similarities between traditional Polish adjuncts and Polish *and*-phrases. An attempt to apply Hornstein’s (2009) theory of Decomposed Merge to Polish coordination is made for patterns of verbal agreement with coordinate subjects and the apparent movement phenomenon inside the coordinate complex. We conclude that, although Polish coordination appears to have the adjunction structure, analyzing it under the theory of Decomposed Merge produces inconclusive results.

Keywords: *adjunction, agreement, coordination, Decomposed Merge, Polish*

1 Introduction

Coordination seems to be one of those syntactic constructions whose structure, despite attracting a lot of linguists’ attention, has not as yet been established conclusively. What appears to be generally accepted is that coordination has a binary structure (as opposed to the previously assumed flat structure, e.g. Chomsky 1965, Dik 1968, among others) and that the coordinator is a head and forms a constituent with the second conjunct.

However, there are two major competing approaches to analyzing the basic structure of coordination. One of them treats the first conjunct as a specifier of the head coordinator and the second conjunct¹ as a complement of that head (e.g. Zoerner 1995, Johannessen 1998, Zhang 2010; see (1a)). The other one treats the *and*-phrase (the coordinator and the second conjunct) as adjoined to the first conjunct (e.g. Munn 1993, Larson 2010, 2012; see (1b)).



Since presenting these two approaches in detail is beyond the scope of this paper, the discussion is limited here to two more recent “embodiments” of these approaches, namely to Zhang (2010), who advocates the complementation structure of coordination,

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¹ The term ‘second conjunct’ refers to the final conjunct in a coordination of two conjuncts.

and to Larson (2010, 2012), who adopts Munn's (1993) adjunction analysis of coordinate complexes.

The goal of the paper is twofold. Firstly, we demonstrate that it is more plausible to treat the structure of Polish coordination as adjunction rather than complementation. Secondly, we attempt to determine whether Polish coordination, just like adjunction, can be analyzed under Hornstein's (2009) theory of Decomposed Merge (DM).

First, we present Zhang's (2010) arguments for the complementation structure of coordination she proposes and identify certain problems with these arguments.² We start with the immobility of *and*-phrases, then briefly discuss interactions between coordinators and second conjuncts, and compare the solution Zhang (2010) puts forward for the problem of categorial make-up of coordinate complexes to the one offered by the advocates of the adjunction analysis.

The next part of the paper is devoted to the discussion of an adjunction structure of Polish coordination. First, we point to some similarities between traditional Polish adjuncts and Polish *and*-phrases (*i*-phrases). Next, we present an overview of Hornstein's (2009) theory of DM and then discuss the application of this theory to Polish coordination, focusing on (apparent) movement phenomena and coordinate subject-verb agreement.

2 Complementation structure of coordination

As mentioned above, Zhang (2010) is one of the linguists who advocate the complementation structure of coordination, as illustrated in (1a). In (1a), α is the first conjunct, β is the second conjunct and X is the head coordinator which projects to XP. In other words, α and β are the respective specifier and the complement of X, which heads the maximal projection XP, i.e. the coordinate complex.

In the following three sections, we examine three of Zhang's (2010) arguments supporting her complementation structure of coordination, namely, immobility of *and*-phrases, head-complement interactions between coordinators and second conjuncts, categorial make-up of coordinate complexes, and provide some critique of these arguments.

2.1 Immobility of *and*-phrases

In the complementation structure of coordination, the *and*-phrase is an intermediate projection. As illustrated in example (2b), *and*-phrases cannot be moved to the left because this results in an ungrammatical sentence.

- (2) a. [Tall and slim]_i though Helen is $\bar{_}$ _i, ...
b. *[And slim]_i though Helen is [tall $\bar{_}$]_i, ... (Postal 1998:191)

In (2a), the whole coordinate complex *tall and slim* can be moved to the left but the constituent *and slim* cannot be moved on its own, i.e. without the first conjunct (as in (2b)).

² The problems under discussion pose difficulties for analyzing the structure of coordination as adjunction in general and are not specific to Polish coordination.

Zhang (2010) argues that the immobility of *and slim* can be explained if one assumes that this constituent is an intermediate projection and that movement of intermediate projections is prohibited (Chomsky 1994, 1995). According to her, the immobility of the *and*-phrase cannot be accounted for in the adjunction analysis. In the adjunction analysis, the constituent formed by the coordinator and the second conjunct is an adjunct, which means that it is a maximal projection and, at least in theory, is free to move, which seems not to be the case in (2b).

However, Munn (1993) claims that *and*-phrases can move. The ability of *and*-phrases to move (as in (3)) has been used by Munn (1993) to show that they are not intermediate but maximal projections, which supports his adjunction analysis of coordination.

- (3) John bought a book yesterday, and a newspaper. (Munn 1993:15)

Zhang's (2010) analysis does not allow not only leftward movement of *and*-phrases but also rightward movement of these constituents. She offers an alternative analysis of the data in (3) by resorting to stripping which is "a rule that deletes everything in a clause under identity with corresponding parts of a preceding clause, except for one constituent" (Hankamer and Sag 1976:409), as illustrated below:

- (4) John bought a book yesterday, and [[a newspaper], ~~he also bought t yesterday~~].
(Zhang 2010:25)

Zhang claims that the possibility of the stripping analysis weakens Munn's (1993) account involving movement. However, note that the stripping analysis is also possible if we assume the adjunction structure of coordination. The fact that an *and*-phrase in an adjunction analysis is a maximal projection and free to move, does not mean that it has to move. The sentence in (3) can be a result of stripping under either the complementation or adjunction analysis of coordination.

In section 3.3, we discuss an alternative analysis involving the adjunction structure of coordination and the theory of DM, and compare it with the stripping analysis.

2.2 Coordinator–second conjunct interactions

In support of her complementation analysis of coordination, Zhang (2010) also points to interactions between coordinators and second conjuncts as interactions between a head and its complement. One example of such interaction comes from the Papago language where there is head raising from Inflection to the position of a coordinator.

- (5) a. 'Uwi 'o cipkan
woman is working
'The woman is working.'
b. 'A:nĩ 'aĩ ko:s
I am sleeping
'I am sleeping.'
c. 'Uwi 'o cipkanĩ 'a:n ko:s
woman is working amI sleeping
'The woman is working and I am sleeping.' (Zhang 2010:26-27)

In Papago, the word order is Subject-Auxiliary-Verb (as in (5a,b)). However, when two clauses are conjoined, the order of the second clause is Auxiliary-Subject-Verb (as in (5c)). Zhang (2010) claims, after Zoerner (1995), that the word order in (5c) is a result of the Auxiliary (of the second clause/conjunct) raising from the Inflection position to the position of the coordinator which is possible only if the second conjunct is not an adjunct but a complement, “since head movement may neither launch from nor land in an adjunct” (Zhang 2010:27).

However, in both the complementation and the adjunction structures, the coordinator is a head and the second conjunct is a complement of this head and, therefore, in both cases, certain interactions between coordinators and second conjuncts are expected. If we assume the adjunction structure of coordination, when Infl in Papago launches from within the second conjunct and lands in the position of a coordinator, it launches from within a complement and lands in a head position and the fact that the *and*-phrase is an adjunct is irrelevant in this situation. The space within which the raising takes place is a phrase that consists of a head and a complement and there is no adjunct inside that space. Hence, such interactions constitute no support for the complementation structure.

2.3 Categorical make-up of coordinate complexes

Zhang (2010) observes that, since coordinators are heads and since, in principle, heads are responsible for projecting categorial features onto their phrases, a coordinator should project its categorial features onto its coordinate complex. However, coordinators such as *and* in English or *i* in Polish do not display any categorial features that could be projected further. Bearing this in mind and that “all grammatical operations in natural languages are category-based” (Radford 1997: 29), Zhang (2010) proposes that there is a feature percolation, first from the first conjunct (specifier) onto the coordinator (head) and, from there, onto the whole coordinate complex.³

Zhang (2010) observes that it is first conjuncts that are c-selected by heads with which coordinate complexes are merged. For example, when coordinate complexes are merged as complements of prepositions, for instance, *on* (as in (6)), the first conjunct may be a DP but not a tensed clause, whereas the second conjunct of the merged complex is not so restricted.

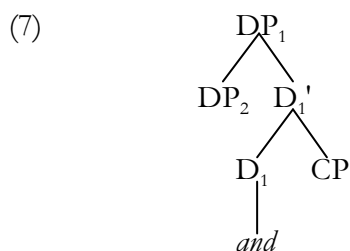
- (6) a. You can depend on my assistance and that he will be on time.
 b. *You can depend on that he will be on time.
 c. *You can depend on that he will be on time and my assistance.
 (Zhang 2010:50)

³ Zhang (2010) observes that the categorial feature percolation from the first conjunct (specifier) that she proposes is similar to, for instance, the percolation of negation feature in sentences like the one in (i) below:

- (i) Nobody’s car would I borrow. (Zhang 2010:56)

In (i), the subject-modal inversion is a result of sentential negation which is obtained by percolation of the negation feature out of the word *nobody* in the specifier position of the possessive DP (Zhang 2010:56).

The data indicate that “first conjunct (...) must satisfy the category requirements that are imposed on the whole coordinate complex” (Zhang 2010:51), but the categorial features of the second conjunct are syntactically invisible to the c-selecting requirements of the head merging with the coordinate complex. The grammaticality of (6a) and the ungrammaticality of (6c) suggest that the categories of coordinate complexes headed by coordinators like *and* should be the same as the categories of their first conjuncts (Zhang 2010:54). According to Zhang’s (2010) analysis, since the first conjunct in the grammatical sentence is a DP, this means that the head is a D lexicalized with a coordinator, and the whole coordinate complex is a DP, as illustrated in (7) below.



As has been already mentioned, this categorial make-up of a coordinate complex is achieved by the percolation of categorial features from the first conjunct onto the head and from the head onto the phrase the head projects. However, the proposal that a terminal node has a completely different label from the category of a word with which the node is lexicalized is hardly acceptable. The gist of Zhang’s (2010) analysis is that coordination does not involve any coordination-specific phenomena, i.e. that all the phenomena present in coordination can be found in other syntactic constructions. Nevertheless, the situation described above (where feature percolation results in a terminal node with a label of a certain category being lexicalized with a word of a different category) is not found in any other structure.

On the other hand, the solution to the question of the categorial make-up of coordinate complexes offered by the adjunction approach appears to be much less problematic.

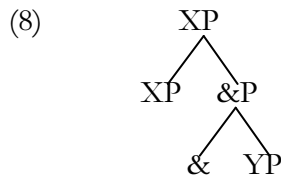
Similarly to Zhang (2010), Munn (1993) and Larson (2010, 2012) point to the fact that only first conjuncts are c-selected and the category of second conjuncts plays no role in c-selection. In the adjunction structure, the head of the first conjunct is the head of the coordinate complex. In this analysis, there exists a coordination-specific category. The head coordinator labelled, for example, &, projects to its own maximal projection (&P) and this maximal projection adjoins to the first conjunct (also a maximal projection) but does not influence its category. In this respect, *and*-phrases are like traditional adjuncts, i.e. the category of the phrase to which the adjunct/*and*-phrase adjoins is the same as the category of the output structure.

This solution to the question of the categorial make-up of coordinate complexes appears more straightforward and less problematic than the one proposed by Zhang (2010). First of all, the category of the coordinate complex is the same as the category of its head, i.e. the same as the category of the first conjunct. At the same time, the terminal node that hosts the coordinator is labelled &, and lexicalized with an *and*-like (i.e. featureless) coordinator and cannot or does not need to be filled with a word of any other category, which is expected. Secondly, since only the first conjunct is c-selected, and not a featureless coordinator or the second conjunct, the maximal projection that

adjoins to the first conjunct can be an &P and does not have to be a projection of any traditionally recognized category.

3 Adjunction structure of Polish coordination

One of the most influential works advocating the adjunction analysis of coordination is Munn (1993) where the following structure is proposed for coordination:



In this structure, the *and*-phrase is adjoined to the first conjunct. As in the complementation structure, the coordinator is a head but, here, it is a head of its own maximal projection and not of the whole coordinate complex.

The discussion in sections 3.1-3.4 is devoted to the adjunction structure of Polish coordination. First, we point to certain similarities between traditional adjuncts and Polish *i*-phrases. Next, we present an overview of Hornstein's (2009) theory of Decomposed Merge (DM). Then, we discuss the application of this theory to Polish coordination focusing on (apparent) movement phenomena and patterns of verbal agreement with coordinate subjects.

3.1 Similarities between adjuncts and *i*-phrases

Strong support for the adjunction structure of coordination is offered by Larson (2010), who points to similarities between the properties of traditional adjuncts (as observed by Hornstein and Nunes 2008) and those of *and*-phrases. These resemblances can also be found between Polish adjuncts and *i*-phrases, as discussed and illustrated below.

Lack of influence on the host phrase

Adjunction does not affect the category of the host phrase, i.e. the category of the phrase to which the adjunct adjoins is the category of the output structure (in the case of coordination, the category of the coordinate complex is that of the first conjunct and is not influenced by the category of the second conjunct), as illustrated in (9) and (10):

- (9) [VP [VP [VP *śpiewa* *piosenkę*] [_{AdvP} *głośno*]] [_{PP} *na scenie*]]
 sings song loudly on stage
 'S/he sings a song loudly on the stage.'

- (10) *te drzewa kwitną* [_{DP} [_{DP} *jesienią*]] [_{&P} *i*] [_{PP} *na wiosnę*]]
 these trees bloom autumn and in-spring
 'These trees bloom in the autumn and in the spring.'

Iterativity

Adjuncts are iterative, i.e. there is no restriction on the number of adjuncts in a structure (in the case of coordination, the number of &Ps in a structure is unrestricted).

- (11) *Jan oglądał telewizję w domu kolegi po południu od 17.*
 Jan watched TV at friend's-house in-afternoon from 5 p.m.
 'Jan watched TV at his friend's house in the afternoon from 5 p.m.'
- (12) *Gosia i Magda i Ania i Kasia oglądały telewizję.*
 Gosia and Magda and Ania and Kasia watched TV
 'Gosia, Magda, Ania and Kasia watched TV.'

Optionality

Adjunction is optional, i.e. the absence of an adjunct from a structure does not influence its grammaticality (in the case of coordination, the absence of &P does not influence the grammaticality of the sentence).

- (13) *Jan oglądał telewizję (w domu kolegi).*
 Jan watched TV at friend's-house'
 'Jan watched TV (at his friend's house).'
- (14) *Jan obejrzał horror (i komedię).*
 Jan watched horror and comedy
 'Jan watched a horror (and a comedy).'

Lack of hierarchical organization

The structure of multiple adjunction is flat, i.e. there is no hierarchical organization in adjunction (in the case of multiple coordination, all &Ps have equal status), as illustrated in (11) and (12).

Permutability

Adjunction is permutable, i.e. the order of multiple adjuncts can be reversed⁴ (in the case of multiple coordination, the order of &Ps can be reversed).

- (15) a. *Jan oglądał telewizję w domu kolegi wczoraj.*
 Jan watched TV at friend's-house yesterday
 'Jan watched TV at his friend's house yesterday.'
- b. *Jan oglądał telewizję wczoraj w domu kolegi.*
 Jan watched TV yesterday at friend's-house
 'Jan watched TV yesterday at his friend's house.'
- (16) a. *Gosia i Magda i Ania oglądały telewizję.*
 Gosia and Magda and Ania watched TV
 'Gosia, Magda and Ania watched TV.'
- b. *Gosia i Ania i Magda oglądały telewizję.*
 Gosia and Ania and Magda watched TV
 'Gosia, Ania and Magda watched TV.'

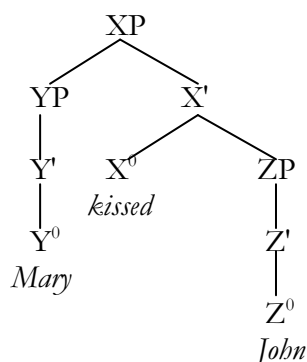
⁴ Since the category of the adjunct does not influence the category of the host phrase to which it adjoins (as mentioned above), the order of multiple adjuncts can be reversed which does not affect labels of any constituents, e.g. in (15), the VP *oglądał telewizję* remains a VP regardless of the category of the adjuncts that are adjoined to it (whether the adjunct is a PP *w domu kolegi* or a DP *wczoraj*).

These properties shared by traditional Polish adjuncts and *i*-phrases imply that the structures of adjunction and coordination resemble each other, which makes it possible to analyze them by means of the same tool. The tool employed in this paper (first used for coordination by Larson 2010) is Hornstein’s (2009) theory of Decomposed Merge.

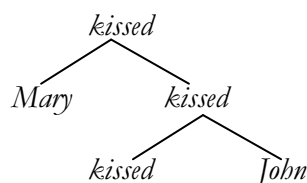
3.2 Overview of Hornstein’s (2009) theory of Decomposed Merge

The Bare Phrase Structure (Chomsky 1994) remodels the traditional representation of *Mary kissed John* in (17a) into the one in (17b):

(17) a. X-bar Theory



b. Bare Phrase Structure



In short, what is most relevant for the present discussion is that, in the Bare Phrase Structure, there is only one maximal projection per head which poses some problems for the analysis of adjunction, and for the adjunction structure of coordination.

In the traditional structure of adjunction, both *worked* and *worked on Friday* are maximal projections and as such each can serve as an input for certain operations. For example, VP-ellipsis can be applied to either the inner VP, as in (19a) or the outer VP, as in (19b):

(18) Mary [_{VP} [_{VP} worked] on Friday]

- (19) a. ...and Sue did so on Saturday.
 b. ...and Sue did so, too.

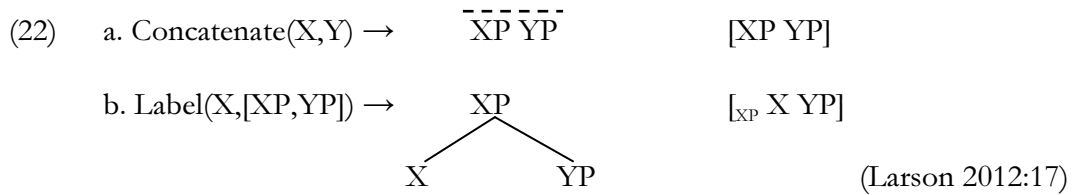
However, in the Bare Phrase Structure, what was an inner VP in the traditional structure is no longer a maximal projection and, hence, it cannot be operated on, i.e. if we want to apply VP-ellipsis, the only thing we can elide is the whole *worked on Friday* because it is the only maximal projection here (there are no means to apply VP-ellipsis to just *worked*).

(20) Mary [_{VP} [_v worked] on Friday]

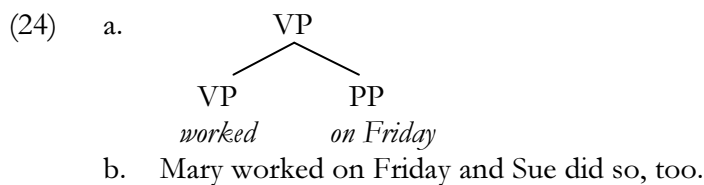
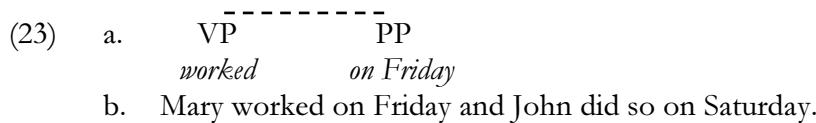
To solve this problem, Hornstein (2009) proposes to decompose the Merge operation into Concatenate and Label. Chomsky’s (1995) Merge combines two elements and one of them projects as the Label of the combination:



Hornstein’s (2009) Decomposed Merge consists of Concatenate (in (22a)), which combines two atomic syntactic units and Label (in (22b)), which makes one of the concatenated units serve as a Label. Concatenate followed by Label makes the complex of two atomic units an atomic unit itself.



According to Hornstein (2009), adjuncts can undergo only Concatenate or Concatenate and Label with the host phrase. If they undergo only Concatenate (as in (23)), adjuncts are, so to say, untouchable to these operations that target their host VPs. This is because, before Label, they are somewhat outside the targeted phrase and not ready to take part in any operation that applies to that phrase. Adjuncts that have undergone both Concatenate and Label with their host phrases are ready to be operated on (as in (24)):



If the adjunct and its host VP have undergone just Concatenate, the ellipsis that targets the whole phrase applies only to the VP *worked* (without the PP *on Friday*) with the result of only *worked* being elided. On the other hand, when the adjunct and its host VP have undergone both Concatenate and Label, the ellipsis that targets the whole phrase applies to the whole VP (*worked on Friday*) with the result of the whole phrase being elided.

3.3 ‘Movement’ inside the coordinate complex and the DM analysis

As mentioned in section 2.1, in support of his adjunction analysis of coordination, Munn (1993) claims that *and*-phrases are maximal projections and, as such, can move which can be seen when some element, e.g. an adverbial, separates the first conjunct from the *and*-phrase. On the other hand, Zhang (2010), who advocates the complementation structure of adjunction, claims that *and*-phrases are intermediate projections and, hence, cannot be moved and even if they appear to be moved, this, in fact, represents stripping, not

movement. It has also been observed that, although *and*-phrases in the adjunction structure are maximal projections and are free to move, they do not have to move, and that the possibility of stripping is not restricted to the complementation structure, it can be applied to the adjunction structure as well.

However, if one adopts the adjunction structure of coordination and the theory of DM, another possibility emerges which assumes the immobility of *and*-phrases and the ability of the first conjuncts to move.

- (25) a. *Jakkolwiek Iza by nie była [wysoka i piękna], nigdy nie zostanie*
 however Iza would not be tall and beautiful never not become
modelką.
 model
 ‘However tall and beautiful would Iza be, she’ll never become a model.’
- b. *Jakkolwiek [wysoka i piękna]_i Iza by nie była _i, nigdy nie zostanie*
 however tall and beautiful Iza would-not-be never not become
modelką.
 model
- c. *Jakkolwiek [wysoka]_i Iza by nie była [_i i piękna], nigdy nie zostanie*
 however tall Iza would not be and beautiful never not become
modelką.
 model
- d. **Jakkolwiek [i piękna]_i Iza by nie była [wysoka _i], nigdy nie zostanie*
 however and beautiful Iza would-not-be tall never not become
modelką.
 model
- (26) a. *Iza płakała [głośno i długo].*
 Iza cried loudly and long
 ‘Iza cried loudly and for a long time.’
- b. *[Głośno i długo]_i Iza płakała _i.*
 loudly and long Iza cried
- c. *[Głośno]_i Iza płakała [_i i długo].*
 Loudly Iza cried and long
- d. **[I długo]_i Iza płakała [głośno _i].*
 and long Iza cried loudly

Sentence in (25a) does not exhibit any movement. In (25b) and (25d), the *i*-phrases and the first conjuncts have undergone both Concatenate and Label and, as a result, the *i*-phrases can move together with the first conjuncts (hence the grammaticality of (25b)) but not on its own (hence the ungrammaticality of (25d)). According to Hornstein (2009), “the Label prevents the insides of the Labelled elements from being targets of movement” (Hornstein 2009:91). In other words, after Label, only the whole coordinate complex can be a target of movement because Label makes two atomic units (the first conjunct and the *i*-phrase) an internally inaccessible atomic unit itself.

Similarly, the first conjuncts and *i*-phrases in (26b) and (26d) have undergone both Concatenate and Label which made them an atomic unit. The elements of such an atomic unit cannot be separated by a movement operation and, therefore, the *i*-phrase moves together with the first conjunct to which it is adjoined (as in (26b)) but is forbidden to move on its own, i.e. without its host phrase (as in (26d)).

On the other hand, the *i*-phrases and the first conjuncts in examples (25c) and (26c) have undergone just Concatenate and, therefore, the *i*-phrases can be stranded. Without Label, when the whole coordinate complex is targeted by a movement operation, the only element to which the movement operation can apply is the first conjunct, the second conjunct is invisible to the operation. According to Hornstein (2009), “when adjuncts don’t move with the elements they modify, it is because they are not members of the Labelled concatenate that has moved” (Hornstein 2009:91).

However, if we compare this account to the stripping analysis, stripping appears to be more successful in accounting for the apparent displacement of *and*-phrases. Firstly, examples in (25c) and (26c) can be both derived by means of stripping, as shown in (27):

- (27) a. *Jakkolwiek wysoka Iza by nie była i [[piękna]; ~~jakkolwiek~~ Iza by nie była t_i].*
 however tall Iza would-not-be and beautiful however
Iza by nie była t_i].
 Iza would not be
- b. *Głośno Iza płakała i [[dlugo] ~~Iza płakała~~].*
 loudly Iza cried and long Iza cried.

Secondly, the DM analysis cannot account for the following example:

- (28) a. *Janek kupił chomika w sklepie i klatkę.*
 Janek bought hamster in shop and cage
 ‘Janek bought a hamster in the shop and a cage.’
- b. *Janek kupił chomika i klatkę w sklepie.*
 Janek bought hamster and cage in shop
 ‘Janek bought a hamster and a cage in the shop.’

In (28a), the first conjunct and the *i*-phrase are separated but the first conjunct is in its base position (as in the sentence in (28b) which do not exhibit any movement) and not in a derived position, which should be the result of the DM analysis (cf. (25) and (26)).

Even if one attempts to derive (28a) from (28b) by moving the *i*-phrase to the right, it is not possible to do so with structurally similar sentences in (29) and (30):

- (29) *Janek kupił aspirynę w aptece i chomika.*
 Janek bought aspirin in drugstore and hamster
 ‘Janek bought some aspirin in the drugstore and a hamster.’
- (30) *Janek kupił aspirynę i chomika w aptece.*
 Janek bought aspirin and hamster in drugstore
 ‘Janek bought some aspirin and a hamster in the drugstore.’

If (29) is derived by moving the *i*-phrase to the right, it would mean that the sentence prior to movement is the one in (30), which does not seem to be the case. The sentence in (30) implies that both items, i.e. aspirin and the hamster, were bought in the drugstore, which is at least improbable. The sentence in (29) carries no such implication, i.e. aspirin was bought in the drugstore but the hamster was bought in a different place. Consequently, the sentence in (29) cannot be derived from the one in (30) simply by moving the *i*-phrase to the right.

Therefore, stripping appears to be superior to the DM analysis or the one involving movement of *i*-phrases since it accounts for more data.

3.4 DM analysis of Polish coordinate subject-verb agreement patterns

Zhang (2010) excludes the issue of agreement from her analysis⁵ by claiming that in the syntax of coordination “agreement is affected by multiple factors, not all of which are syntactic” (Zhang 2010:54).⁶ However, for languages with rich inflectional morphology that employ overt morphological agreement markers, like Polish, it seems necessary to incorporate agreement facts into the analysis.

Polish is an SVO language (with an alternative VSO word order)⁷ with different patterns of coordinate subject-verb agreement.

When a coordinate subject appears before a verb, the verb is plural⁸, as in (31):

- (31) *Jan i Marek przyszedli/ *przyszedł.*
 Jan and Marek came-PL/came-SG
 ‘Jan and Marek came.’

However, when a coordinate subject appears after a verb, the verb may be either plural or singular⁹, as in (32):

- (32) *Przyszedli/ Przyszedł Jan i Marek.*
 came-PL/ came-SG Jan and Marek
 ‘Jan and Marek came.’

Since Polish allows singular agreement with post-verbal coordinate subjects it makes it similar to Arabic.¹⁰ The Arabic patterns of agreement with coordinate subjects discussed in Larson (2012)¹¹ are the same as the Polish ones described above, i.e.:

⁵ Nevertheless, other analyses of the complementation structure of coordination do not avoid the issues connected with agreement, for instance, see Citko (2004), Marušić et al. (2007), Bošković (2009), É. Kiss (2012).

⁶ For further discussion, see Zhang (2010:21).

⁷ In fact, Polish displays all six possible word orders (e.g. Szczegielniak 2001).

⁸ In the literature, the possibility of the Last Conjunct Agreement with abstract pre-verbal subjects in Polish is noted (see Buttler 1971:333-334, Ruda 2010), for example:

- (i) *Ból i miłość zmieniła go.*
 pain-MASC and love-FEM changed-SG,FEM him
 ‘Pain and love changed him.’

In these cases, singular agreement is dependent on the type of the coordinated NPs (abstract or inanimate nouns) and is, therefore, irrelevant for the present discussion. Conjunct-sensitive agreement is also possible in disjunctive coordination but, again, is irrelevant for the present discussion.

⁹ If the first conjunct of the post-verbal coordinate subject is singular, the verb is singular, if it is plural, the verb is plural, regardless of the number of the second conjunct (First Conjunct Agreement).

¹⁰ One of the most prominent (although rather irrelevant for the present discussion) syntactic differences between Polish and Arabic is the fact that Polish is an SVO language with an alternative VSO word order, whereas Arabic is a VSO language with an alternative SVO word order.

A. plural agreement with pre-verbal coordinate subjects:

- (33) *Omar w Karim mšaw/*mša*
 Omar and Karim left-PL/left-SG
 ‘Omar and Karim left.’

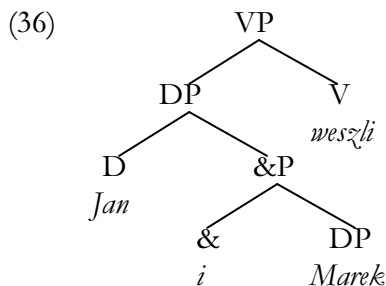
B. plural or singular agreement with post-verbal coordinate subjects:

- (34) *šā/ šaw Omar w Karim*
 came-SG/ came-PL Omar and Karim
 ‘Omar and Karim came.’

As already mentioned, assuming the theory of DM and the adjunction structure of coordination, it is possible for the first conjunct and the *i*-phrase to undergo either Concatenate or both Concatenate and Label. The optionality of Label allows Larson (2012) to account for Arabic patterns of agreement with coordinate subjects. Here, the theory of DM will be employed to account for the Polish agreement patterns with coordinate subjects.

The most problematic for the analyses of both languages has been the possibility of a singular agreement with post-verbal coordinate subjects because the default plural agreement with a coordinate subject stems from the actual plurality of the extralinguistic entities the subject denotes and, hence, is expected. The structure of the sentences in (35)¹² is the one in (36):

- (35) a. *Jan i Marek weszli (do pubu).*
 Jan and Marek entered-PL (to-pub)
 ‘Jan and Marek entered the pub.’
 b. *(Do pubu) weszli Jan i Marek.*
 (to-pub) entered-PL Jan and Marek
 ‘Jan and Marek entered the pub.’



¹¹ Arabic examples in (33) and (34) are adopted from Larson (2012).

¹² Representations in (36) and (38) are very simplified. For the present discussion, we assume that, in order to derive the VS order, the verb moves to a higher position above the subject but we do not determine the precise position of the verb. In this analysis, we assume, after Wiland (2009:59), that functional heads in Polish have the sequence as in (i) and that the base position of the subject is in SpecVoiceP.

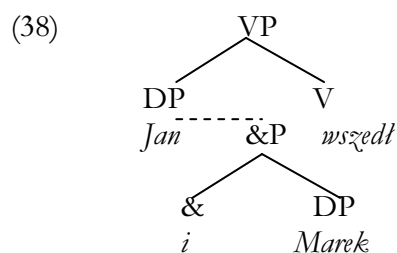
(i) ... [AgrP Agr^o [TP T^o [NegP Neg^o [VoiceP Voice^o [vP v^o [vP v^o ...

If one assumes a single one-step Merge operation, it is rather tricky to account for the possibility of both plural and singular agreement with coordinate subjects,¹³ like in the sentences in (37). However, if we adopt the theory of DM, where the Merge operation consists of two steps, namely Concatenate and (optional) Label, we are equipped with two ways to approach the problem with the same tool.

- (37) a. (Do *pubu*) *weszli* Jan i Marek.
 (to-pub) entered-PL Jan and Marek
 ‘Jan and Marek entered the pub.’
- b. (Do *pubu*) *wszedł* Jan i Marek.
 (to-pub) entered-SG Jan and Marek
 ‘Jan and Marek entered the pub.’

The structure of (37a) corresponds to the one in (36). Under the DM analysis, the agreement in (37a) is plural because the first conjunct and the *i*-phrase have undergone both Concatenate and Label, which makes them an internally inaccessible atomic unit with a plural number feature.¹⁴

On the other hand, the structure of the sentence in (37b), where the agreement with the coordinate subject is singular, is the one in (38) below:



Here, (as suggested by Larson 2012 for Arabic) the first conjunct and the *i*-phrase have undergone only Concatenate. The coordinate complex *Jan i Marek* has not undergone Label and thus, as a whole, it is not a targetable atomic entity and, as such, cannot serve as an external argument to a verb (it cannot be a subject). On the other hand, the DP *Jan* can serve as an external argument because it is a targetable atomic entity (it is a maximal projection and, in order to at least Concatenate with the *i*-phrase, must have undergone Label). The head V moves to a higher position above the subject (which results in a VS order) and T agrees with the DP *Jan* as the only element in its c-command domain available to agree with because the *i*-phrase and its contents are

¹³ For more discussion on the plural/singular variation in such sentences, see, for example, Larson (2012:2-10), Lorimor (2007:20-60) and Bhatia (2011:76-214), who provide an overview of some of the possible analyses of the phenomenon.

¹⁴ Here, we assume that the plural number of the coordinate complex is a sum of two singular features of the conjuncts. However, this simple solution is far from perfect. As observed by Büring (2002), a plural coordinate complex that consists of two singular conjuncts, e.g. DPs, cannot always be treated as a typical plural DP. For instance, *one of* can be followed by a plural noun or pronoun (a plural DP) but not by a coordinate complex (which is supposed to function as a plural DP):

- (i) a. One of them entered the pub.
 b. *One of Jan and Marek entered the pub.

invisible to T. In other words, the only element in (37b) that can be Merged (Concatenate + Label) with the verb is the singular DP *Jan*, which results in a singular number on the verb.

4 Conclusions

To conclude, none of Zhang's (2010) arguments discussed is strong enough to effectively support the complementation structure of coordination. Firstly, the immobility of *and*-phrases does not prove that they are intermediate projections, they may as well be adjuncts (maximal projections). Secondly, interactions between coordinators and second conjuncts only prove that the coordinator is the head and the second conjunct is a complement, which is the case in both structures. Finally, feature percolation as Zhang's (2010) solution to the problem of the categorial make-up of coordinate complexes seems hardly acceptable.

Therefore, the adjunction analysis appears more appropriate for Polish coordination than the complementation analysis. Analyzing Polish coordination as adjunction is motivated by many resemblances in characteristics and behaviour between traditional adjuncts and *i*-phrases. Assuming an adjunction structure for Polish coordination makes it possible to analyze it under Hornstein's (2009) theory of DM, which produces rather successful results in accounting for Polish patterns of verbal agreement with coordinate subjects. However, it fails to account for the structure of sentences with coordinate complexes whose first conjunct and *i*-phrase are separated by some element. Accounting for the structure of such sentences seems to be better achieved by means of stripping.

On the whole, although Polish coordination appears to have the adjunction structure, analyzing it under Hornstein's (2009) theory of DM produces inconclusive results, calling for further research.

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Some remarks on gender differences in Turkish colour vocabulary

Kaidi Rätsep

The article focuses on the gender differences in Turkish natives' colour vocabulary. 56 native Turkish speakers completed two tasks, colour listing (i.e. elicitation task) and colour naming task (with 82 colour stimuli). This research confirms previous studies showing that female participants have a larger and more specific colour vocabulary than males. Differences in mean values are statistically significant in the list task.

Generally, male participants were more inclined to use a basic term or a basic term with *açık* 'light' or *koyu* 'dark' modifier in the naming task than females, i.e. male participants showed a preference for the use of modifiers.

Keywords: *colour listing task, colour naming task, colour vocabulary, gender differences, Turkish*

1 Introduction

The focus of this article is on the gender differences in Turkish natives' colour vocabulary. 56 participants completed two tasks, colour listing (i.e. elicitation task) and colour naming task. In the latter 82 stimuli, i.e. 65 standard stimuli selected by Davies and Corbett (1995) and 17 additional from the blue-green region of colour space were used. The research was originally designed to ascertain Turkish basic colour terms (cf. Özgen and Davies 1998, Rätsep 2011)*. From the universalist viewpoint, Berlin and Kay (1969:5-6) defined a basic colour term as a term which is monolexemic and psychologically salient, but with its signification not included in any other colour term and its application is not restricted to a narrow class of objects. A language with a fully-developed basic colour terminology usually has eleven basic terms. The Turkish basic colour terms are *yeşil* 'green', *sarı* 'yellow', *siyah* 'black', *kırmızı* 'red', *mavi* 'blue', *beyaz* 'white', *mor* 'purple', *kahverengi* 'brown', *pembe* 'pink', *turuncu* 'orange' and *gri* 'grey' (Özgen and Davies 1998, Rätsep 2011). *Lacivert* 'dark blue', an exceptional basic colour term candidate, was disqualified by Özgen and Davies (1998:919) due to the fact that it was a subset of *mavi* 'blue'. For ascertaining the possibly basic status of *lacivert* 17 additional stimuli from the blue-green region of colour space were used in the naming task. In the following analyses the basic colour terms are viewed as simple terms, while the non-basic terms are viewed as specific.

Previous research has indicated that females generally have a larger and more specific colour vocabulary. Does the data support the hypothesis that females have a larger colour vocabulary (list task) and males use more basic terms (naming task)? Which colours are preferred by female participants and which by male participants?

The results of DuBois' (1939: 380-382) study confirm the Ligon's hypothesis of a "colour-naming special factor" rather than a verbal factor accounting for the sex difference in the Woodworth-Wells colour-naming tests.

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Robin Lakoff (1973: 49) remarks on how women make far more precise discriminations in naming colours than men, suggesting that some terms, e.g. *beige*, *ecru*, *aquamarine*, *lavender* are “unremarkable in a women's active vocabulary, but absent from that of most men”. Speculating on the why, she comments on how “men tend to relegate to women things that are not of concern to them, or do not involve their egos” and since fine colour distinction is among these problems, that is relegated to women as a non-crucial decision, as a sop. Lakoff (1975) comments on how these words are not, basically, “feminine”, but rather signal “uninvolved” or “out of power” thus “any group in a society to which these labels are applicable may presumably use these words” as they are often considered “feminine”, “unmasculine” because women are the “uninvolved,” “out of power” group par excellence.

Rich (1977) found that even nuns score higher than the men and that women score higher than men, even if their occupation is the same, which suggests “that this difference is determined quite early in life before adult occupations are chosen”. Simpson and Tarrant (1991) concur that women use more specific colour names than men, although in their sample older subjects used more elaborate names thus older men had a more elaborate vocabulary than younger women.

Frank (1990), analysing mail-order catalogues, found that “women’s colours” were complex, varied, abstract and expressive, e.g. *raspberry sorbet*, *daffodil yellow*, *blush*, while “men’s colours” were simple, straightforward, conventional, real-world, e.g. *royal blue*, *gold*, *grey*. According to Frank (1990) women’s colours are *red*, *purple*, *white*, and men’s colours are *black* and *brown*.

Yang (2001), who assessed English colour names given by Chinese students majoring in English, found that female students knew more colour terms, gave more specific terms and left fewer colour terms undefined.

2 Subjects

The interviews were conducted in Ankara and Antalya on 17-23 March and 12-26 July 2007 by a native or fluent Turkish speaker. The participants colour vision was tested with The City University Colour Vision Test (Fletcher 1998). Only the data from the participants (N=56) with normal colour vision was included.

Altogether there were 56 native Turkish speakers, 30 females and 26 males. Their ages ranged from 14 to 79. Most of the participants (33%) were young adults (between the ages 19-35). The mean age of female participants was slightly lower (28.7) than that of the male participants (35.6). It must be noted that most of the subjects tested were full-time university students, who were in the middle of obtaining university education.

While 5 different places were given as residence (including İstanbul, Kahramanmaraş and Kırıkkale), most of the subjects resided either in Ankara (40 subjects) or Antalya (16 subjects). 32 different birth places were given, e.g. Ankara (10 subjects), Antalya (7), İstanbul (4), Sivas (4), Çorum (3), Isparta (3), İzmir (2), Kayseri (2), Malatya (2), Adana (Ceyhan), Afyon, Amasya, Balıkesir, Batman, Bolu, Burdur, Diyarbakır, Elazığ, Gazi Mağosa, Hakkari, İskenderun, K. Maraş, Kastamanu, Konya, Kozluk, Silifke, Mersin, Osmaniye, Trabzon, Uşak, Van, Yozgat.

All the subjects were native Turkish speakers; some with dialectal background, e.g. *Yörük* (Yuruk), but most were university students with little or some knowledge of foreign languages. Most subjects did not identify their dialects.

3 Stimuli and Procedure

The field method devised by Davies and Corbett (1995) for the identification of basic colour terms in fieldwork conditions was used.

Each participant completed the list task, followed by the colour naming task. In the list task the participants were asked to list all the colours they knew. There was no time limit. All the answers were written down exactly as said by the participant.

In the naming task the participants were asked to name 65 standard, i.e. the same stimuli used by Davies and Corbett and 17 additional tiles. The tiles measuring 5 x 5 cm were covered with Color-aid Corp. Standard Set of coloured papers. The additional 17 tiles were selected from the blue-green area of colour space to specify the status of *lacivert* 'dark blue'. The 82 tiles were presented one-by-one, on a neutral grey background, in random order and in natural daylight.

4 Results

4.1 List task

The list task results confirm previous studies, which have shown that female subjects have a larger and more diverse colour vocabulary. There were four more female participants (N=30) than male participants (N=26). Female participants listed 611 terms, 146 of them different terms, while male participants listed 368 terms, 72 of them different. Therefore, females listed twice as many different terms as males. The mean average for female participants was 13.06 and for male participants 8.51 terms per list. The mean value for all participants was 11.35. Differences in mean values are statistically significant ($p < 0.001$). Figure 1 gives an overview of the most frequent terms (≥ 6) in the list task ranked by their mean position from low to high. High frequency usually correlates with low mean position, i.e. basic terms should have lower mean positions than specific or modified terms. In Figure 1 the first specific term is *ela* 'hazel' which precedes only two basic terms *kabverengi* 'brown' and *gri* 'grey'.

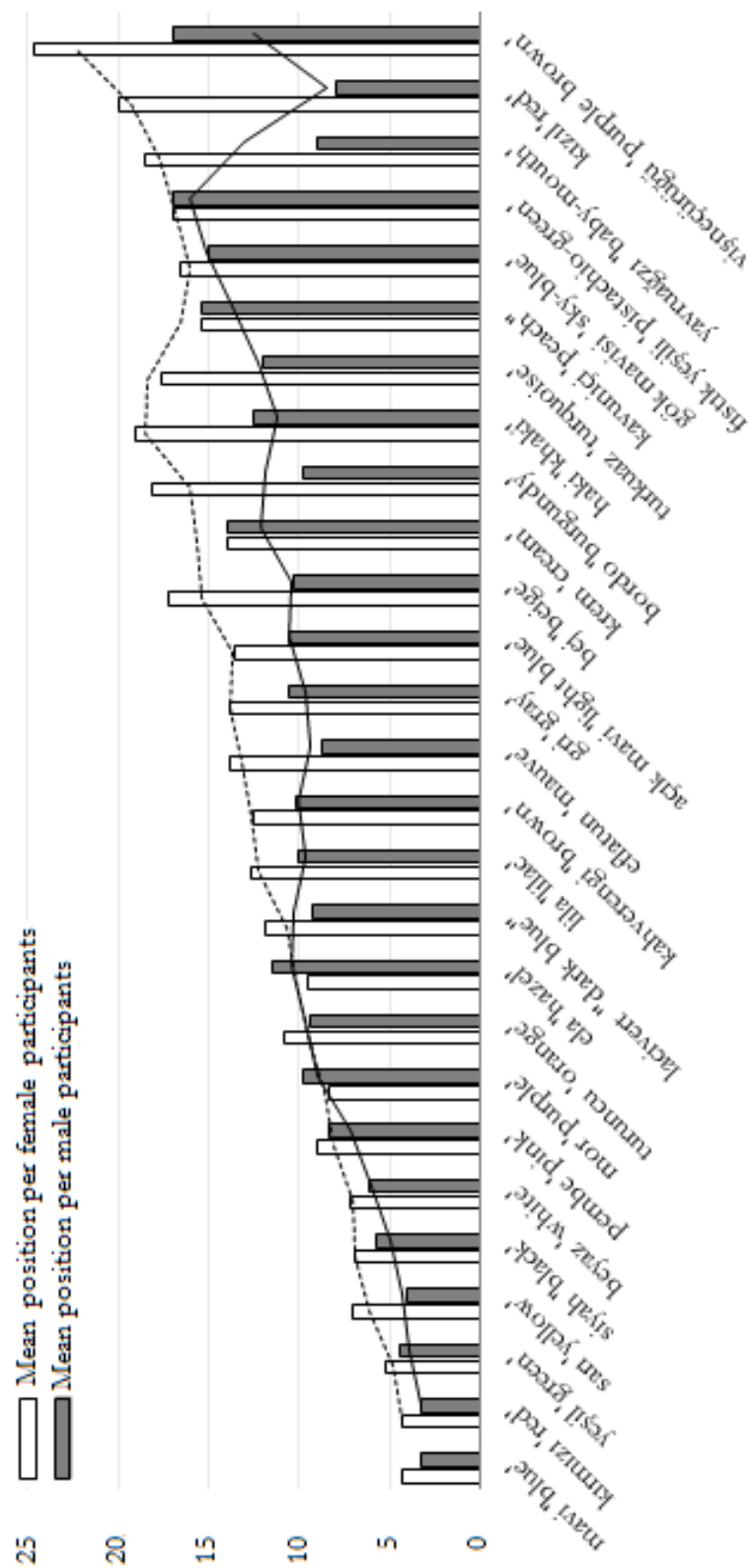


Figure 1: Mean positions (from low to high) per male and female participants

The mean position for male participants was higher than female mean position for 16 terms. Most importantly, for the basic term *mor* ‘purple’ and the specific term *ela* ‘hazel’ (see Table 1).

The cognitive salience index (Sutrop 2001) score takes into account the frequency of use in the list task (F), the number of participants (N), and the mean position (mp), i.e. $S = F / (N \times mp)$. More salient terms have a higher salience index ($0 > 1$). The salience index is higher for males participants for most basic terms (except *pembe* ‘pink’ and *mor* ‘purple’), but as the frequency declines and the mean position (see Figure 1) increases the female participants’ cognitive salience index surpasses the male participants’ index.

Terms	Gloss	Mean position			Cognitive salience index		
		Females	Males	Total	Females	Males	Total
<i>mavi</i>	blue	4.3	3.2	3.8	0.199	0.288	0.235
<i>kırmızı</i>	red	4.3	3.3	3.8	0.199	0.28	0.233
<i>yeşil</i>	green	5.2	4.5	4.9	0.191	0.207	0.197
<i>sarı</i>	yellow	7	4	5.7	0.133	0.228	0.164
<i>siyah</i>	black	6.8	5.8	6.4	0.146	0.161	0.152
<i>beyaz</i>	white	7.1	6.1	6.7	0.141	0.145	0.142
<i>pembe</i>	pink	9	8.3	8.6	0.104	0.074	0.091
<i>mor</i>	purple	8.3	9.7	8.9	0.108	0.071	0.09
<i>turuncu</i>	orange	10.8	9.4	10.2	0.077	0.078	0.077
<i>kahverengi</i>	brown	12.5	10.1	11.5	0.069	0.072	0.07
<i>lacivert</i>	dark blue	11.8	9.3	10.6	0.056	0.075	0.064
<i>gri</i>	grey	13.8	10.6	12.5	0.055	0.062	0.057
<i>lila</i>	lilac	12.6	10	11.3	0.05	0.027	0.041
<i>eflatun</i>	mauve	13.9	8.7	11.8	0.034	0.04	0.035
<i>bordo</i>	burgundy	18.1	9.8	14.3	0.024	0.043	0.03
<i>bej</i>	beige	17.3	10.3	13.8	0.023	0.019	0.022
<i>turkuaz</i>	turquoise	17.7	12	14.8	0.026	0.006	0.019
<i>ela</i>	hazel	9.5	11.4	10.6	0.014	0.017	0.015
<i>krem</i>	cream	14	14	14	0.014	0.011	0.013
<i>yavruağaç</i>	peach	18.5	9	17.4	0.014	0.004	0.009
<i>açık mavi</i>	light blue	13.5	10.5	12.5	0.01	0.007	0.009

Terms	Gloss	Mean position			Cognitive salience index		
		Females	Males	Total	Females	Males	Total
<i>fıstık yeşili</i>	pistachio-green	17	17	17	0.01	0.007	0.008
<i>baki</i>	khaki	19	12.5	14.7	0.004	0.012	0.007
<i>kavuniçi</i>	light pinkish yellow	15.3	15.3	15.3	0.007	0.008	0.007
<i>gök mavisi</i>	sky-blue	16.6	15	16.3	0.01	0.003	0.007
<i>vişneçürüğü</i>	purple brown	24.6	17	22.4	0.007	0.005	0.006
<i>kızıll</i>	red	20	8	18	0.008	0.005	0.006

Table 1: The most salient terms in the Turkish list task (ranked by cognitive salience index)

The female participants preference for listing pink more frequently (93% of females listed it) than the male participants (listed by 58% of males) is hardly surprising. Females also listed *lila* 'lilac' (by 33%), *turkuaz* 'turquoise' (29%), *bej* 'beige' (25%), *yavruağzı* 'peach' (23%) and *mor* 'purple' (21%) more frequently.

The following terms were listed only by the female participants *çimen yeşili* 'grass-green', *fıme* 'smokey', *kiremit rengi* 'brownish orange', *parlament mavisi* 'cobalt blue', *şampanya rengi* 'champagne coloured', *askeri yeşil* 'army-green', *camgöbeği* 'pale bluish green', *petrol mavisi* 'petroleum-blue'. Male participants used only two terms that did not appear in the lists of female participants, *bronz* 'bronze' and *metalik gri* 'metallic grey'.

4.2 Naming task

In the naming task the differences in the colour vocabulary were not as large as in the preceding list task. In the naming task female participants named the given stimuli with 481 different colour terms and male participants with 274 terms.

Term	Gloss	Percentage from all possible answers given to stimuli in the naming task (> 1%)		
		Females	Males	Total
<i>mavi</i>	blue	8.70	8.49	8.59
<i>yeşil</i>	green	4.59	6.38	5.49
<i>mor</i>	purple	5.16	4.88	5.02
<i>açık mavi</i>	light blue	2.89	5.58	4.23
<i>kahverengi</i>	brown	2.85	3.61	3.23

Term	Gloss	Percentage from all possible answers given to stimuli in the naming task (> 1%)		
		Females	Males	Total
<i>gri</i>	grey	2.76	3.56	3.16
<i>lacivert</i>	dark blue	2.89	3.19	3.04
<i>pembe</i>	pink	2.40	3.42	2.91
<i>kırmızı</i>	red	2.36	3.38	2.87
<i>koyu mavi</i>	dark blue	1.99	3.71	2.85
<i>açık yeşil</i>	light green	1.91	3.00	2.46
<i>turuncu</i>	orange	2.52	2.25	2.39
<i>sarı</i>	yellow	1.95	2.63	2.29
<i>siyah</i>	black	2.03	2.25	2.14
<i>koyu yeşil</i>	dark green	0.98	2.81	1.89
<i>eflatun</i>	mauve	0.85	1.78	1.32
<i>lila</i>	lilac	1.83	0.70	1.27
<i>koyu pembe</i>	dark pink	1.10	1.41	1.25
<i>açık pembe</i>	light pink	0.98	1.45	1.21
<i>beyaz</i>	white	1.26	1.08	1.17
<i>yavruağzı</i>	peach	1.54	0.52	1.03

Table 2: Most frequent terms in the Turkish naming task

Since 17 additional stimuli from the blue-green region of colour space were used in the naming task, it is not surprising that basic terms *mavi* 'blue' and *yeşil* 'green' are the most frequent answers given. The modified terms *açık mavi* 'light blue', *koyu mavi* 'dark blue', *açık yeşil* 'light green', *koyu yeşil* 'dark green' are intervened with other basic terms. *Lacivert* 'dark blue', sometimes considered the exceptional 12th Turkish basic colour term, is the first specific term. In Table 2 all basic terms with *açık* 'light' and *koyu* 'dark' modifiers are more frequent for male participants, even light and dark pink.

The proportion of the use of the following basic terms in the naming task was higher for males *yeşil* 'green', *kahverengi* 'brown', *gri* 'grey', *pembe* 'pink', *kırmızı* 'red', *sarı* 'yellow', and *siyah* 'black'. The following basic terms were more frequently used by female participants *mavi* 'blue', *mor* 'purple', *turuncu* 'orange' and *beyaz* 'white'.

It appears that male participants prefer using the specific term *eflatun* 'mauve' in both tasks instead of another newer loanword *lila* 'lilac', which is more salient for female participants.

The Appendix displays the percentage of female and male participants with their most frequently given name to the stimuli. The higher the percentage of use (consensus per stimuli) by participants the more likely that the stimulus is named with a basic colour term. If female and male participants' most frequent terms given to the same stimulus were different, e.g. for stimulus Y-S2 the most frequently given term by female participants was *haki* 'khaki' (10%) and by male participants *kahverengi* 'brown' (23%), then the consensus is more likely to be lower.

For naming some tiles males used basic terms with modifiers as the most frequent term while females used specific or descriptive terms, e.g. *açık sarı* ‘light yellow’ and *krem* ‘cream’ or *kavuniçi* ‘light pinkish yellow’; *açık mavi* ‘light blue’ and *turkuaz* ‘turquoise’; *koym yeşil* ‘dark green’ and *petrol yeşili* ‘petroleum-green’ or *askeri yeşil* ‘army green’. In some instances females’ most frequent designation for a tile was a descriptive term while males used a basic term, e.g. *kiremit rengi* ‘brownish orange’ and *kahverengi* ‘brown’; *yavruağzı* ‘peach’ and *turuncu* ‘orange’ or *pembe* ‘pink’.

Occasionally, female participants gave a basic term or a simple specific term, while males used basic terms with modifiers, e.g. *mavi* ‘blue’ and *açık mavi* ‘light blue’ or *koym mavi* ‘dark blue’; *turuncu* ‘orange’ and *koym sarı* ‘dark yellow’; *krem* ‘cream’ and *açık sarı* ‘light yellow’; *pembe* ‘pink’ and *koym pembe* ‘dark pink’; *yeşil* ‘green’ and *koym yeşil* ‘dark green’.

5 Summary

Similarly to previous research, my research confirms that females have a larger colour vocabulary than males, as the mean position was significantly higher. In general, female subjects made longer lists than males, listed and named a larger number of different terms, and gave more descriptive or specific names to the stimuli.

In the naming task male participants were more inclined to use a basic term or a basic term with a *açık* ‘light’ or *koym* ‘dark’ modifier than females, while female participants used more descriptive or specific terms both in listing and naming tasks.

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Appendix

Standard and additional (*) stimuli with their most frequent term given by female and male participants in percentages. Bold font indicates that the term with the highest consensus (%) was the same for female and male participants.

Color-aid	Term	F (%)	Term	M (%)
Y	<i>sarı</i> 'yellow'	83	<i>sarı</i> 'yellow'	92
Y-S2	<i>haki</i> 'khaki'	10	<i>kahverengi</i> 'brown'	23
	<i>hardal sarı</i> 'mustard-yellow'	10		
	<i>kahverengi</i> 'brown'	10		
YOY	<i>sarı</i> 'yellow'	53	<i>sarı</i> 'yellow'	65
YOY-T4	<i>krem</i> 'cream'	23	<i>açık sarı</i> 'light yellow'	19
YOY-S2	<i>hardal sarı</i> 'mustard-yellow'	20	<i>koyu bej</i> 'dark beige'	12
YO	<i>turuncu</i> 'orange'	27	<i>koyu sarı</i> 'dark yellow'	31
YO-T3	<i>kavuniçi</i> 'light pinkish yellow'	20	<i>açık sarı</i> 'light yellow'	27
YO-S3	<i>kahverengi</i> 'brown'	40	<i>kahverengi</i> 'brown'	50
OYO	<i>turuncu</i> 'orange'	70	<i>turuncu</i> 'orange'	50
O	<i>turuncu</i> 'orange'	67	<i>turuncu</i> 'orange'	54
O-S1	<i>kiremit rengi</i> 'brownish orange'	20	<i>kahverengi</i> 'brown'	42
O-S3	<i>kahverengi</i> 'brown'	60	<i>kahverengi</i> 'brown'	42
ORO	<i>turuncu</i> 'orange'	23	<i>turuncu</i> 'orange'	38
ORO-T3	<i>yavruağzı</i> 'peach'	37	<i>açık turuncu</i> 'light orange'	15
ORO-S3	<i>yavruağzı</i> 'peach'	20	<i>bej</i> 'beige'	15
RO	<i>kırmızı</i> 'red'	83	<i>kırmızı</i> 'red'	77
RO-T3	<i>yavruağzı</i> 'peach'	23	<i>pembe</i> 'pink'	23
RO-S3	<i>kahverengi</i> 'brown'	50	<i>kahverengi</i> 'brown'	42
ROR	<i>kırmızı</i> 'red'	57	<i>kırmızı</i> 'red'	69
ROR-T3	<i>yavruağzı</i> 'peach'	30	<i>pembe</i> 'pink'	46
ROR-S3	<i>açık pembe</i> 'light pink'	13	<i>açık pembe</i> 'light pink'	19
R	<i>koyu pembe</i> 'dark pink'	20	<i>kırmızı</i> 'red'	50
R-T4	<i>pembe</i> 'pink'	33	<i>pembe</i> 'pink'	35
R-S3	<i>kahverengi</i> 'brown'	63	<i>kahverengi</i> 'brown'	54
RVR	<i>pembe</i> 'pink'	27	<i>koyu pembe</i> 'dark pink'	27
RVR-S1	<i>eflatun</i> 'mauve'	13	<i>pembe</i> 'pink'	19
Color-aid	Term	F (%)	Term	M (%)
RVR-S3	<i>açık lila</i> 'light lilac'	23	<i>açık pembe</i> 'light pink'	19
RV	<i>koyu pembe</i> 'dark pink'	23	<i>mor</i> 'purple'	35
RV-T2	<i>pembe</i> 'pink'	53	<i>pembe</i> 'pink'	58
VRV	<i>mor</i> 'purple'	63	<i>mor</i> 'purple'	58

VRV-S3	<i>lila</i> 'lilac'	57	<i>lila</i> 'lilac'	19
V	<i>mor</i> 'purple'	93	<i>mor</i> 'purple'	58
VBV	<i>mor</i> 'purple'	63	<i>mor</i> 'purple'	54
VBV-T4	<i>lila</i> 'lilac'	43	<i>eflatun</i> 'mauve'	27
BV	<i>mor</i> 'purple'	37	<i>lacivert</i> 'dark blue'	50
BV-S2	<i>mor</i> 'purple'	43	<i>koyu lacivert</i> 'dark dark blue'	19
BVB	<i>mavi</i> 'blue'	23	<i>koyu mavi</i> 'dark blue'	46
BVB-S3	<i>gri</i> 'grey'	47	<i>gri</i> 'grey'	58
B	<i>mavi</i> 'blue'	53	<i>mavi</i> 'blue'	54
B-T1	<i>mavi</i> 'blue'	77	<i>mavi</i> 'blue'	77
BGB	<i>mavi</i> 'blue'	57	<i>mavi</i> 'blue'	73
BGB-T3	<i>mavi</i> 'blue'	23	<i>açık mavi</i> 'light blue'	42
BG	<i>yeşil</i> 'green'	20	<i>yeşil</i> 'green'	35
BG-T1	<i>turkuaz</i> 'turquoise'	23	<i>yeşil</i> 'green'	27
			<i>açık mavi</i> 'light blue'	27
BG-S2	<i>petrol yeşili</i> 'petrol green'	23	<i>koyu yeşil</i> 'dark green'	46
GBG	<i>yeşil</i> 'green'	43	<i>yeşil</i> 'green'	54
GBG-S2	<i>açık yeşil</i> 'light green'	27	<i>açık yeşil</i> 'light green'	31
G	<i>yeşil</i> 'green'	57	<i>yeşil</i> 'green'	62
G-S3	<i>yeşil</i> 'green'	30	<i>koyu yeşil</i> 'dark green'	54
GYG	<i>yeşil</i> 'green'	53	<i>yeşil</i> 'green'	69
GYG-T4	<i>açık yeşil</i> 'light green'	33	<i>açık yeşil</i> 'light green'	54
GYG-S1	<i>yeşil</i> 'green'	53	<i>yeşil</i> 'green'	38
YG	<i>yeşil</i> 'green'	27	<i>yeşil</i> 'green'	42
YG-S3	<i>askeri yeşil</i> 'army green'	20	<i>koyu yeşil</i> 'dark green'	38
YGY	<i>açık yeşil</i> 'light green'	17	<i>açık yeşil</i> 'light green'	42
	<i>yeşil</i> 'green'	17		
	<i>fıstık yeşili</i> 'pistachio-green'	17		
YGY-S3	<i>açık yeşil</i> 'light green'	33	<i>açık yeşil</i> 'light green'	35
ROSE RED	<i>pembe</i> 'pink'	23	<i>kırmızı</i> 'red'	35
SIENNA BROWN	<i>kiremit rengi</i> 'brownish orange'	33	<i>kahverengi</i> 'brown'	31
WHITE	<i>beyaz</i> 'white'	70	<i>beyaz</i> 'white'	65
GRAY-1	<i>beyaz</i> 'white'	27	<i>gri</i> 'grey'	31
Color-aid	Term	F (%)	Term	M (%)
GRAY-2	<i>gri</i> 'grey'	33	<i>gri</i> 'grey'	50
GRAY-4	<i>gri</i> 'grey'	77	<i>gri</i> 'grey'	58
GRAY-6	<i>gri</i> 'grey'	57	<i>gri</i> 'grey'	54
GRAY-8	<i>siyah</i> 'black'	67	<i>siyah</i> 'black'	73

BLACK	<i>siyah</i> 'black'	100	<i>siyah</i> 'black'	92
SIENNA BROWN	<i>kiremit rengi</i> 'brownish orange'	33	<i>kahverengi</i> 'brown'	31
BV-T1*	<i>mavi</i> 'blue'	20	<i>mor</i> 'purple'	31
BV-T2*	<i>lila</i> 'lilac'	27	<i>mor</i> 'purple'	19
BV-S1*	<i>mor</i> 'purple'	63	<i>mor</i> 'purple'	54
BVB- T1*	<i>mavi</i> 'blue'	43	<i>mavi</i> 'blue'	50
BVB-T2*	<i>mavi</i> 'blue'	43	<i>açık mavi</i> 'light blue'	46
BVB-T3*	<i>mavi</i> 'blue'	40	<i>açık mavi</i> 'light blue'	58
BVB-S1*	<i>mavi</i> 'blue'	27	<i>mavi</i> 'blue'	27
B-T2*	<i>açık mavi</i> 'light blue'	37	<i>açık mavi</i> 'light blue'	62
B-T3*	<i>mavi</i> 'blue'	33	<i>açık mavi</i> 'light blue'	42
B-T4*	<i>açık mavi</i> 'light blue'	43	<i>açık mavi</i> 'light blue'	50
B-S1*	<i>mavi</i> 'blue'	30	<i>mavi</i> 'blue'	38
B-S2*	<i>mavi</i> 'blue'	30	<i>koyu mavi</i> 'dark blue'	38
B-S3*	<i>lacivert</i> 'dark blue'	60	<i>lacivert</i> 'dark blue'	42
BG-T2	<i>turkuaç</i> 'turquoise'	27	<i>açık mavi</i> 'light blue'	31
Cobalt Blue*	<i>mavi</i> 'blue'	53	<i>mavi</i> 'blue'	46
Navy Blue*	<i>lacivert</i> 'dark blue'	50	<i>lacivert</i> 'dark blue'	35
Cyan Blue*	<i>mavi</i> 'blue'	67	<i>mavi</i> 'blue'	54

Acquisition of New L2 Sounds without Separate Category Formation*

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This study focuses on acquisition of English [b g] by Pakistani learners. Three groups of learners, two from Pakistan and one from England participated in this study. The findings are based on acoustic analyses of the target sounds produced in words and sentences. The findings demonstrate that Pakistani learners of English experience difficulty in the acquisition of native-like VOT for English voiced stops [b g]. They rather transfer L1 VOT values for English [b g] producing them as pre-voiced. The results are analyzed in light of the speech learning model (Flege 1995) of second language acquisition and element theory (Buckley 2011). The findings of this study accord with those of the previous studies which claim that acquisition of voiced stops of aspiration languages like English is difficult for the speakers of voicing languages. The study also points out that the speech learning model lacks a solid scale to accurately calculate L2 learning.

Key words: *English, L2 Acquisition, pre-voicing, Saraiki, VOT*

English was introduced in the Subcontinent (India and Pakistan) in the 17th century (Baumgardner 1993). It has been the official language in this area since 1857. After Pakistan came into being in 1947, English speaking rulers returned to their homeland but their language remained the official language of the newly created state of Pakistan and still enjoys the same status in the country. It is taught as a compulsory subject of study at all levels of education starting from class 1 onto BA as a compulsory part of study even in the educational institutions which use Urdu, the national language of the country, as a medium of instruction. Therefore, anyone educated in Pakistan knows English. Saraiki is a Pakistani language of the Indo-Aryan family (Masica 1993, Varma 1936). The current study focuses on the acquisition of English voiced stops [b g] by adult Pakistani learners who speak Saraiki as L1.

The paper is divided into the following five sections. Section 1 provides a theoretical background relevant to the study and section 2 is based on the research methodology used. The results are presented in section 3 and analyzed and discussed in section 4. The paper ends with a conclusion in section 5.

1 Theoretical Background

The current paper studies the acquisition of English [b g] by Pakistani learners. The study focuses on the voice onset time of the target consonants. The current study is based on the postulates and paradigms of the speech learning model (Flege 1995) and element

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theory (Harris 1994, Backley 2010). In the following subsections, a brief introduction of VOT, element theory and the speech learning model is given.

1.1 Voice Onset Time

Voice onset time, commonly called VOT, is the time interval between the burst of a stop and onset of the following vowel (Docherty 1992). It is calculated in milliseconds. Lisker & Abramson (1964) divide sounds of world languages into three classes on account of VOT ranges; first, short-lag VOT, if the vocal folds of speakers start vibrating soon after the burst, such sounds are phonologically voiceless, unaspirated consonants. (However, in languages like English (Kager et al. 2007) and German (Hamann 2011), voiced stops are also produced with short-lag VOT). Second, if the vocal folds start vibrating long after the burst, this is called long-lag VOT and the sounds are called voiceless, aspirated consonants. Third, if the vocal folds start vibrating before the burst, this is called lead-voicing and the sounds are called pre-voiced or truly voiced consonants. The duration of lead-voicing is calculated in negative values. The examples of languages having pre-voiced stops are Japanese (Nasukawa 2010), Saraiki (Syed 2012a), Arabic (Flege & Porte 1981), Hungarian (Lisker & Abramson 1964), Dutch (Simon 2009, 2011), Spanish (Flege & Eefting 1988), Russian (Backley 2011), etc.

The languages of the world are divided into aspiration and voicing languages on account of the nature of laryngeal contrasts for consonants (Backley 2011, Iverson & Salmons 1995, Harris 1994). The voicing languages differentiate between phonologically voiced and voiceless unaspirated stops on the basis of the feature [voice] whereas the aspiration languages differentiate between these consonants on the basis of the feature [spread glottis]. Phonologically voiced stops are normally produced with pre-voicing (negative VOT) in the voicing languages but with short-lag VOT in the aspiration languages. The examples of aspiration languages are German (Hamann 2011), English (Honeybone 2005), Swedish, Korean, Icelandic (Backley 2011), etc. The L1 of the participants of this study (Saraiki) is a voicing language and the L2 (English) is an aspiration language.

There is a large body of literature on the acquisition of English stops by adult L2 learners of different linguistic backgrounds. It has been observed that L2 learners of English who speak voicing languages can acquire English aspirated stops but face a lot of difficulty in the acquisition of English voiced stops. The studies by Simon (2009) on Dutch learners, Syed (2012b) on Pakistani learners and Flege & Eefting (1988) on Spanish learners show that the speakers of Dutch, Saraiki and Spanish which are voicing languages, can acquire English voiceless aspirated stops. However, the studies by Flege & Porte (1981) on Arabic learners, Simon (2009, 2011) on Dutch learners and Shimizu (2011) on Korean, Thai and Japanese learners of English show that it is very difficult for the L2 learners who speak voicing languages to acquire voiced stops of English with short-lag VOT.

1.2 The Speech Learning Model (SLM)

Several models of second language acquisition emerged during the last five decades after Lado (1957) which attempted to find out the reasons for errors in the acquisition of L2 sounds in L1 grammar. The speech learning model (Flege 1995) is one of these models. According to the SLM, L2 learners develop equivalence classification between an L2 and the corresponding L1 sound if they do not perceive some phonetic difference between

the two sounds. Such equivalence classification results in the blockage of a new phonetic category for the new L2 sound in the L2 phonemic inventory of learners. In such a context, the learners have the same representation for both the new L2 and the corresponding L1 sound in their L2 phonemic inventory. In some cases of equivalence classification, L2 learners can perceive some difference between an L2 sound and the corresponding L1 sound but they do not perceive the difference big enough to enable them to develop a new phonetic category for the L2 sound. In such situations, learners develop a representation for the new L2 sound which is a merger of the phonetic characteristics of the new L2 and the closest L1 sound. This is called the ‘merger hypothesis’ (Flege 1987).

The SLM further claims that if L2 learners perceive phonetic distance between a new L2 sound and the corresponding L1 sound, they develop a separate phonetic category for the new sound. Thus, according to the SLM, there may be three possible learning outcomes; first, strong equivalence classification between L1 and L2 in which case learners simply transfer to the new L2 sound the characteristics of the closest L1 sound; second, weak equivalence classification in which case a little improvement is observed in learners’ performance as a result of which they develop a representation for a new L2 sound which is a merger of the L2 and the corresponding L1 sound; third, a situation in which L2 learners perceive some phonetic distance between a new L2 and the closest L1 sound clearly and develop a separate phonetic representation for the L2 sound. However, the SLM further predicts that the phonetic representation developed by L2 learners for the new L2 sound may be deflected away from that of monolinguals of the L2 (Flege 1995, 239).

As mentioned before, it has been observed that for speakers of a voicing language it is very difficult to acquire accurate phonetic representations for L2 voiced stops of an aspiration language. In light of the existing literature, we develop a hypothesis that it is very difficult for Pakistani learners of English to acquire English voiced stops [b g]¹ with accurate VOT ranges because the L1 of these learners is a voicing language (i.e. has stops with lead-voicing) whereas English is an aspiration language (i.e. has voiced stops which are commonly produced with short-lag VOT). The current study aims to test this hypothesis.

1.3 Element Theory (ET)

Feature geometry factors out sounds into smaller properties called features (Clement 1985, 225). The feature geometry uses place features like [labial], [coronal] and [dorsal] to

¹ The reason for not including [d] in this study is that the English voiced alveolar stop [d] does not exist in Saraiki as such. Corresponding to the English alveolar [d], Saraiki has a retroflex and a dental stop. In other words, Saraiki coronal stops are not only different from English [d] phonetically in terms of VOT, but also they are different phonologically in terms of coronal features in that the Saraiki dental stop is [+anterior, +distributed] and retroflex is [-anterior, -distributed] whereas English [d] is [+anterior, -distributed]. In the language of Element Theory, English alveolar [d] is $\left| \underset{\sim}{A} \right|$ whereas the Saraiki dental stop is $\left| I \right|$ and the Saraiki retroflex is $\left| \underset{\sim}{\Delta} \right|$. Owing to these differences, the English coronal stop [d] does not make part of this study. The plosives [b g] have been exclusively selected for this study also because, according to the ET classification, they make a single class by sharing U element (Backley 2011) (although some proponents of the Element Theory (e.g. John Harris & Geoff Lindsey) disagree with the idea of labials and velars sharing a single element.) Some models of feature geometry (e.g. Rice & Avery 1993) also consider labial and velar stops lying under the same peripheral node of place of articulation, thus classifying them into a single type of sound.

explain places of articulation of sounds. It uses features like [spread glottis], [constricted glottis], [voice], etc. for laryngeal specifications of sounds and the features [nasal], [continuant], etc. for the manner of articulation of sounds (Botma, Kula & Nasukawa 2011). But element theory, on the other hand, uses the elements U, I and A for different places of articulation.

According to Backley (2011, 5) “An element is the smallest unit of segmental structure to appear in phonological representations.” The Element Theory (ET) does not assume separate class of elements for laryngeal settings and manner of articulation (ibid, 114). Rather, it uses the same elements H ? L for aspiration, manner and voicing. H represents frication as a primary position and aspiration as a secondary articulation. L reflects voicing and nasality whereas the element ? represents stops. The element-based representation of English allophones [p^h p b] and Saraiki pre-voiced [b] is given in the following figure adopted with some modifications from Backley (2011, 140, 151).

Saraiki [b]: <u>U</u> ? <u>L</u>
English [b]: <u>U</u> ?
English [p]: <u>U</u> ? H
English [p ^h]: <u>U</u> ? <u>H</u>

Figure 1: ET representation of plosives²

The above representation shows that in Saraiki, the phoneme /b/ is a bilabial (U) stop (?) which has pre-voicing (L) as a salient acoustic feature, and place and pre-voicing are head elements in Saraiki /b/ whereas the absence of the element L from the representation of the phoneme /b/ in English indicates that it lacks pre-voicing. The presence of H as a head element in the phonological representation of the voiceless aspirated allophone [p^h] of the phoneme /p/ in English indicates the existence of strong aspiration (long-lag VOT) as a salient acoustic cue whereas its presence without headedness in [p] indicates weak aspiration (short-lag VOT). The head elements are underlined in element theoretic representation. In the succeeding sections we will recapitulate some relevant studies on the acquisition of English stops by learners of voicing languages like Dutch and Saraiki.

² According to an anonymous reviewer, element theoretic expressions may not have two heads. However, the current paper follows the Element Theory version presented by Backley (2011) which uses two heads for expressing some of the phonemes as reproduced above. It is also worth pointing out that L without having headed representation in the Element Theory stands for nasality. Since nasality is not topic of discussion in this paper, non-headed L does not make part of the discussion. It is also important to note the difference between H and L in the Element Theory. H stands for aspiration as a secondary articulation. If it is headed, it represents voiceless aspirated stops and if it is non-headed, it represents unaspirated voiceless stops because phonology differentiates between aspirated and unaspirated stops which are different from each other on the basis of gradient phonetic difference in the quantity of aspiration or VOT. But there is no such phonological difference between less pre-voiced and more pre-voiced stops in L languages so headed and non-headed representations of L do not reflect two different allophones of the pre-voiced stops.

2 Literature Review

Simon (2009) studied the acquisition of English voiced and voiceless aspirated stops by Dutch learners. In Dutch, voiced stops are pre-voiced but in English they are produced with short-lag voicing. Dutch does not have voiceless aspirated stops. It only has voiceless unaspirated stops. The aim of this study was to determine if Dutch learners of English transfer their L1 laryngeal contrasts by equating the short-lag and long-lag stops of English with the pre-voiced and short-lag stops of Dutch respectively, or they develop new representations for English [b p^h]. English voiceless stops were studied in two stressed positions, namely stops followed by vowels and those followed by sonorants (e.g. in words like 'play, pray,' etc.).

For the study, 16 Dutch advanced learners of English selected from a university, were asked to speak Dutch and English in 8 groups of dyads (two persons in each group) for 30-45 minutes. The participants spoke Dutch first and English later in a spontaneous conversation session which was recorded. The second task of the experiment was to read some words presented on a screen with 3 seconds inter-stimulus-intervals (ISI). Ten out of the sixteen Dutch subjects who had taken part in the spontaneous conversation task also participated in the word-reading task. Thirty-seven Dutch and thirty eight English words spoken by the Dutch informants were recorded in all. Out of 38 English words, 20 carried word initial voiced stops, 3 carried voiceless stops in word-initial stressed position, and 5 were word-initial clusters of stop+sonorants (e.g. pray, play etc).³ The remaining words started with fricatives (which served as control sounds). Ten native speakers of English were also recorded as a control group for comparison. The target sounds were edited and transcribed using Praat.

The first research question in this study was related to the acquisition of the voiced stops of English by the Dutch learners. The reading list (stimuli) had 20 words of English and Dutch, each with voiced stops in initial position, which gave 200 tokens of the voiced stops in English and an equal number of tokens in Dutch spoken by the Dutch learners of English. An equal number of tokens in English were also recorded from the English control group. The results show that 93% of Dutch and 92.5% of English voiced stops were pre-voiced in the reading of the Dutch learners. On the other hand, 72.5% of the English voiced stops produced by the native speakers of English (the control group) were not pre-voiced. The results show that the Dutch learners of English had failed to suppress the transfer of the L1 pre-voicing to the L2 plosives.

The study of aspiration contrast was another objective of this research. For this purpose, voiceless word-initial stops in stressed syllables were selected where aspiration is quite clear. For voiceless aspirated stops, 525 tokens of English words spoken by the Dutch participants were analyzed, out of which 509 were used for further discussion. In the word-reading task, the Dutch speakers produced voiceless stops word-initially with 80 msec. VOT in the English words and 21 msec. VOT in the Dutch words. The average VOT of the native English speakers (the control group) for the voiceless stops of English in stressed word-initial position was 76 msec. However, the VOT of the Dutch speakers in the production of word-initial stressed English voiceless stops in spontaneous English speech (continuous conversation) was 48 msec. which is much less than that of the English native speakers (control group). These results show that the learners had acquired English aspirated stops with accurate VOT values (80 msec.) in

³ The results relating to stop+sonorant are not discussed here because they are irrelevant for the present study.

word-reading task but not in the spontaneous conversation task, because their VOT is 48 msec. for aspirated stops in spontaneous conversation task whereas the VOT of the native speakers is 76 msec. for the same sounds.

In light of these results, the author concludes that the learners transfer pre-voicing to English stops from the L1. Overall, English aspirated stops with long-lag VOT have been acquired by the Dutch learners in exclusive word-reading task, but those with a short-lag VOT have not been acquired. In the opinion of the author, it is because of the acoustic salience of aspiration cues (Simon 2009, 401) that the learners perceive the English aspirated stops easily. It is also possible, in the opinion of the author, that the participants have shown good performance in the acquisition of aspirated sounds on account of the training that they had received from their university, since they were learning English and had already been taught to produce aspirated stops. However, they had not been taught to produce the voiced stops of English, because voiced stops are part of the phonemic inventory of their L1, whereas the aspirated phonemes are new for them. Regardless of the reason, the results of the study show that the Dutch learners acquired voiceless aspirated stops but they could not acquire voiced stops of English.

Syed (2012b) studied the acquisition of English voiceless aspirated and unaspirated stops by a group of 29 adult Pakistani learners of English who were doing MA in English in Pakistan. The study was focused on the acquisition of allophonic variance of English voiceless stops. The stimuli used in the experiment were English words 'peak, speak, teeth, steal, key, ski.' The participants were asked to read a list containing these words in continuous sentences and as isolated words. There were six repetitions for each of the words. The results were based on 174 repetitions (6 repetitions* 29 participants) of each of the allophones of the English plosives. The results show that Pakistani learners of English acquired aspiration contrast in velar stops but they did not acquire the same contrast for bilabial stops. They rather neutralized the aspiration contrast on bilabial position and produced both aspirated and unaspirated bilabial stops ([p] and [p^h]) as unaspirated [p]. The current study is based on the acquisition of the voiced stops [b g] of English by the same group of Pakistani learners along with four other groups of adult learners.

As pointed out earlier, the previous research on acquisition of English stops shows that it is relatively easier for L2 learners speaking voicing languages to acquire voiceless stops of English but more difficult for them to acquire voiced stops of English. The current study aims to investigate if Pakistani learners who speak a voicing language can acquire voiced stops of English.

3 Research Methodology

The current study focuses on the acquisition of English [b g] phonemes by adult Pakistani learners of English. The details of the participants and the methods used for data collection are explained in the following sub-sections.

3.1 Participants

A total of 105 subjects participated in this experiment. The participants were divided into five groups. Group one comprised 29 students of MA English in Pakistan. In this study they will be called '*Student*' learners. The second group of participants was of 30 teachers in Pakistan who were teaching different subjects of study in post-graduate colleges but

none of them was teaching English language. They will be referred to as ‘*Teacher*’ group in this study. The participants of both these groups were selected from public sector colleges of central Pakistan. The third group comprised 22 UK-based Pakistani learners of English. They will be referred to as ‘*UK*’ group in the following discussion. The UK-based learners migrated from those areas of Pakistan where the first two groups of Pakistan-based learners of English were living. The UK participants had been living in England in the County of Essex for an average of 65 months (standard deviation 77.45) at the time of the experiment. All the participants of these three groups speak the same L1 Saraiki which is predominantly spoken in central Pakistan (Shackle 1976).

Two control groups of participants were also selected to obtain the VOT values for the target sounds from monolingual speakers of English and Saraiki. For this purpose, ten Saraiki monolinguals were selected from the same area to where the three groups of learners belonged. They will be referred to as ‘*Saraiki*’ monolinguals in the following discussion. A number of 14 native speakers of English, who were living in Essex in the same area from where the UK-based Pakistani learners of English were selected, also participated in the experiment. They will be referred to as ‘*native English*’ (NE) group in the following discussion. The purpose of selecting the control groups and the study groups from the same areas was that the learners may be judged against the same standard of the L2/L1 which they were listening around them. The details of the participants are given in the following table.

Group	No	Age (in years)	Speaking English (No. of hours/day)	Listening English (No. of hours/day)
Student	29	22.28 (2.56)	2.03 (1.21)	2.79 (1.61)
Teacher	30	32.66 (7.8)	1.23 (1.5)	0.63 (0.96)
UK	22	32.91 (7.46)	5.73 (2.73)	5.36 (3.05)
Saraiki	10	29.6 (10.32)	--	--
NE	14	45.92 (22.09)	--	--

Table 1: Details of the participants

The above table shows the mean age of the participants in years and number of hours they speak and listen to English per day. The standard deviations are given in the parentheses. The above table shows that the UK-based learners speak and listen to English more than five hours daily whereas the ‘Student’ learners speak English for almost two hours and listen to it for 2.79 hours daily. The ‘Teachers’ listen to English less than an hour and speak for approximately 1.23 hours daily. It is important to point out that the two Pakistan-based groups of learners only listen to Pakistani English

whereas the ‘UK’ group of participants mostly listen to the English spoken by native speakers.

3.2 The Data Collection

All the participants were given a word-reading task. English words *beak* and *geese* written on a paper exclusively and in a carrier sentence were given to the participants. The carrier sentence was *I say beak/geese again*. The list of the stimuli also had some other words along with the target words so the participants did not know the target words. They were asked to read in a natural normal speed the list of sentences and words. Each word had six repetitions in the list, three times in the carrier sentence and three times as exclusive word. The purpose of recording the target words in two different contexts i.e. carrier sentence and exclusive words, was to find out if there was any difference in the VOT of the participants in continuous speech and exclusive words. Previous studies (Birdsong 2007) show that accuracy in word-production is a necessary but not sufficient condition of L2 acquisition because competence in continuous speech implies competence in exclusive word-production but not vice versa. M-audio track-II digital recorder was used for recording the productions and Praat (Boersma & Weenink 2012) was used for acoustic analyses of the target sounds.

The Saraiki monolinguals did not read English words. They were given another list of Saraiki words starting with [b g] sounds of their L1. They also produced words carrying the target sounds three times in a carrier sentence and three times as exclusive words. The words of Saraiki used as stimuli were *beebee* (‘sister’) and *geesee* (‘slope’) and the carrier sentence was *ay beebee/geesee hey*. (‘This is a sister/slope’).

4 Results

The mean VOT values obtained in the context of the continuous sentences and those obtained as exclusive words by all five groups of the participants were compared. There was no significant difference between the two VOTs ($p > .1$). Therefore the VOT values obtained in both contexts were merged together. The following table shows the mean VOT values of the target sounds produced by the participants in 6 repetitions (3 repetitions in words and 3 in sentences).

Group	[b]	[g]
NE	8.91 (2.40)	31.71 (4.73)
UK	-77.18 (55.45)	-41.77 (52.70)
Teacher	-107.41 (27.67)	-76.04 (28.99)
Student	-106.92 (22.85)	-70.89 (23.85)
Saraiki	-99.77 (14.98)	-72.81 (13.53)

Table 2: The average VOT values

In the above table, the average VOT values of the participants are given with standard deviations in the parentheses. The table shows that the L2 learners and the Saraiki monolinguals produced the target sounds with negative VOT values. The Saraiki monolinguals produced the target sounds in their L1 with lead-voicing which confirms that the L1 of the participants has pre-voiced stops.⁴ However, the native speakers of English (NE group) produced these sounds with short-lag VOT.

A repeated measures ANOVA with place of articulation (labial and velar) as within group contrast and grouping as between group factor shows that the place of articulation has a highly significant ($F=98.544$, $p>.001$) effect on the VOT. Overall group variance is also strongly significant ($F_{4,100}=44.177$, $p>.001$). However, Bonferroni post hoc comparisons further confirm that the differences between the mean VOT values of the ‘Teacher’, ‘Students’ and ‘Saraiki’ monolinguals are non-significant ($p>.1$). The UK group of learners and NE group are significantly different from each other as well as from all other groups ($p<.005$). The interaction between grouping and place of articulation is non-significant ($p>.1$).

The individual results show that all Saraiki monolinguals produced [b g] with negative VOTs in all repetitions and all native speakers of English produced them with short-lag VOTs in all repetitions. Most of the learners produced [b g] with negative VOT in most of the repetitions but with positive VOT in some of the repetitions as the following table shows.

⁴ This is the first detailed empirical study on the VOT of Saraiki, so there is no previous research which could confirm that voiced stops in Saraiki are pre-voiced.

Repetitions	No. of the participants who produced repetitions with positive VOT					
	[b]			[g]		
	UK R=132 ⁵ N=22	Teacher R=180 N=30	Student R=174 N=29	UK R=132 N=22	Teacher R=180 N=30	Student R=174 N=29
0	10	23	28	9	21	15
1	2	4	1	1	3	13
2	2	2	0	1	2	0
3	1	1	0	3	2	1
4	3	0	0	2	2	0
5	2	0	0	4	0	0
6	2	0	0	2	0	0
Total positive VOT Repetitions	43	15	1	52	21	16
Percentage	32.58	8.33	0.57	39.39	11.67	9.20

Table 3: No. of time [b g] were produced with short-lag VOT

The above table shows that most of the learners did not produce even a single token of English [b g] with short-lag VOT and only two of the ‘UK’ participants produced both target sounds with short-lag VOT in all six repetitions consistently. The remaining L2 learners produced some of the repetitions with short-lag but most of them with lead-voicing. Among all three groups of learners, the performance of the ‘Student’ group in the production of [b] is most L1-like in that only one out of 29 participants of this group produced English [b] with short-lag VOT in one repetition only. As the total number of repetitions in different groups varies, the productions with short-lag VOT are reflected in the following figure in percentage to compare the group performance.

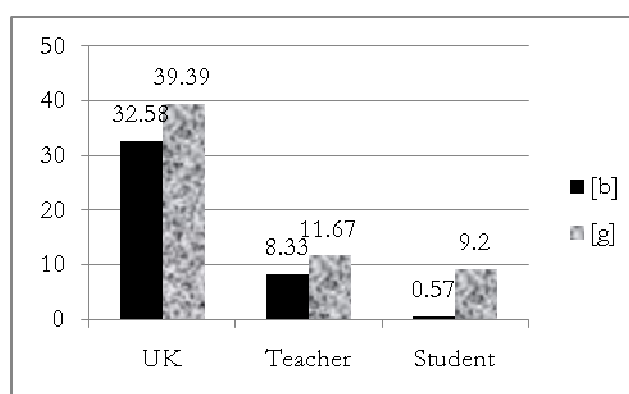


Figure 2: No. of time (in percentage) a sound was produced with short-lag VOT

⁵ In this row R stands for total number of repetitions and N for total number of participants. Total numbers of repetitions are obtained by multiplying total number of participants with 6 because there were six repetitions for each sound by each of the participants (3 in words and 3 in sentences). However, in the columns only the number of participants is given who produced English [b g] with short-lag VOT.

The above figure and table show that the ‘Student’ group of learners are the poorest and the ‘UK’ group are the best in the production of English [b g] with short-lag VOT. The results also show that the performance of the participants is better on [g] than on [b]. Overall, none of the groups as a whole could acquire English [b g] with accurate VOT. We shall discuss and analyze these results in the following section.

5 Analysis and Discussion

The results presented in the preceding section show that the ‘Student’ group of participants performed worst of all as only one of the ‘Student’ participants produced one out of 174 repetitions (29 participants* 6 repetitions) of [b] with English-like short-lag VOT. The performance of the ‘UK’ group is the best of all. Although the UK-based participants could not acquire English-like VOT range for the target sound, but they performed significantly better than the other two groups. The ‘Teacher’ group of participants is in between the other two groups of learners in their performance. The performance of the participants on [b] and [g] is different but the pattern of learning is the same in that only a little improvement is observed in the ‘UK’ group on both sounds. No significant interaction between grouping and place of articulation confirms this trend. However, as an individual factor, the effect of place of articulation is significant in that the overall performance of all learners is relatively better on velar [g] than on labial [b].

The best performance of the ‘UK’ group is ascribed to their stay in the United Kingdom during which they have been receiving input from native speakers of English. As the results show, two participants of the ‘UK’ group consistently produced both of the target sounds with native-like VOT ranges in all six repetitions. In other words out of 22 ‘UK’ learners, two were able to develop native-like accurate phonetic representations for English [b d] (i.e. with short-lag VOT). Although the ‘Student’ group of learners spend more time on speaking and listening to English than the ‘Teachers’ do (see table 1 above), their performance is not better than the ‘Teacher’ group. The results of repeated measures ANOVA show that the group variance between ‘Student,’ ‘Teacher’ and ‘Saraiki’ monolinguals groups is non-significant. This means the two Pakistan-based groups of learners simply transferred the L1 VOT values to the L2 stops. Following the SLM, we conclude that the learners of the ‘Student’ and ‘Teacher’ groups do not perceive the phonetic difference between the L1 and L2 [b g] sounds, so they have developed an equivalence classification between the L2 and the corresponding L1 sounds in their L2 phonemic inventory. This also confirms the hypothesis that it is very difficult for speakers of a voicing language to acquire voiced stops of an aspiration language.

The results of the ‘UK’ group need a separate analysis. The mean VOT of the ‘UK’ participants is significantly different from all other groups, namely those of the Saraiki monolinguals, English native speakers and the two Pakistan-based learners groups (i.e. ‘Student’ & ‘Teacher’). The mean VOTs of the ‘UK’ learners in the production of English [b] and [g] are -77.18 and -41.77 msec., whereas the L1 (Saraiki) VOT values for these sounds are -99.77 and -72.81 msec., respectively. The differences between the L1 and L2 VOT values of the productions by the UK-based participants are significant ($p < .005$). This means the ‘UK’ learners tried to suppress L1 transfer of pre-voicing but they could only improve their productions to some extent (since the VOT values of their productions are significantly different from the L1 VOT values for the same sounds). However, they could not reach the native level (since their VOTs are also significantly different from those of the native speakers of English). Maximum improvement in this

regard is observed in the velar stop [g]. The mean VOT value of the 'UK' group for [g] is -41.77 msec. which is between the L2 VOT (short-lag VOT) and the L1 VOT (-72.81 msec.). This can be an example of a merger. The learners perceive some of the differences between the L2 and the L1 sound but not as much as may be helpful for them to acquire a native-like VOT. The improvement in the production of [b] by the 'UK' participants is not so much. Thus we conclude that the Pakistan-based learners of English failed to acquire accurate VOT for English [b g]. Only the 'UK' participants who have access to native speech show some improvement particularly in learning English [g]. The findings are according to the predictions of the SLM that equivalence classification between L2 and L1 sounds blocks the establishment of a new phonetic category for the L2 sound and in case of a weak equivalence classification, learners perceive some phonetic difference between L2 and the closest L1 sound but they improve little or only develop a merger of the two sounds. Now we try to analyze why the UK-based Pakistani learners of English who have been living in England for such a long time (approximately 65 months) and receiving input from native speakers of English, could not acquire English [b g] accurately.

The reason for the 'UK' learners' not acquiring English-like [b g] is that some of the native speakers of English also produce voiced stops with negative VOT (Simon 2009, Docherty 1992). Therefore, they mostly perceive a prevoiced stop of non-native speakers as native-like (Syed 2013). Even though some of them may not perceive it as native-like, they at least do not confuse it with any other sound. Thus there is no communication gap likely to occur between the non-native L2 speakers and the native English listeners. On the other hand, if L2 learners confuse English [p^h] with [p] and produce words like 'peak' without strong aspiration, there is a probability that the native speakers of English perceive such a production as 'beak' because there is no significant difference between unaspirated [p] and [b] in terms of VOT in most of the dialects of English. In other words, there is no lexical semantic load on the learners for acquiring voiced stops in a native-like manner but there *is* a strong lexical semantic load on them for acquisition of English aspiration contrast. That is why the L2 learners are more likely to acquire the aspiration contrast rather than the voicing contrast in English stops.

The reason for the difficulty in the acquisition of voiced stops of English faced by Pakistani learners is also of a phonological nature. We can interpret it using the terminology of the Element Theory (Bacley 2011, Harris 1994). The Element Theory studies sounds on the basis of elements (Botma, Kula & Nasukawa 2011). According to the theory, L represents pre-voicing and H represents aspiration. In this way pre-voiced stops are L-headed and voiceless aspirated stops are H headed. But the stops with short-lag VOT are not specified for the elements H (aspiration) or L (voicing). Since beginning, Pakistani learners of English (like the speakers of other voicing languages), produce English voiced stops as pre-voiced on account of negative transfer from the L1 and under the influence of Pakistani English, which means their English voiced stops are actually L-headed. The following figure reflects this.

Saraiki [b g]	English [b g]
X	X
<u>L</u>	
?	?

Figure 3: Voiced stops of Saraiki & English

For acquiring English voiced stops with accurate VOT ranges, Pakistani learners have to delete the element L which, being a head element in their grammar is very prominent. The head element on account of being the most salient element in a sound may be very difficult to delete. In simple language, it is less liable for the learners to neglect very salient acoustic cues but relatively easier to neglect less prominent cues. Therefore, the acquisition of English voiced stops is always very difficult for the Saraiki learners and voiceless aspirated stops are easier for them to acquire. It is because of this acoustic saliency of the aspiration cues which, Simon (2009) thinks, helps L2 learners to perceive and produce English voiceless plosives accurately.

On the other hand, these Pakistani learners can easily acquire voiceless aspirated stops of English. The English aspirated stops are produced unaspirated by Pakistani learners (Rahman 1990, 1991, Mahboob & Ahmar 2004). Therefore, for acquiring the aspirated stops, these learners have to simply add headedness to the already existing H element of the voiceless stops in their L2 phonemic inventory. This is not difficult for them because such H-headed stops already exist in most of the Pakistani languages including Saraiki since aspiration contrast is phonemic in most of the languages spoken in Pakistan. In this way, Pakistani learners of English can easily acquire English aspiration contrast on account of a positive transfer from the L1 and the specific nature of the elements involved in the target sounds. The following figure shows the difference between the initial stage production of Pakistani L2 learners (including Saraiki learners) and the target sounds of English as L2.

Initial learning stage ([p k])	Target [p ^h k ^h]
X	X
H	<u>H</u>
?	?

Figure 4: Stages of acquisition of voiceless stops of English by Pakistani learners

As the above figure shows, for acquiring voiceless aspirated stops, the L2 learners who have only voiceless unaspirated stops, or who equate both aspirated and unaspirated stops of English with only unaspirated stops of the L1 (as the adult Pakistani learners do), need to add headedness to the H element which already exists in voiceless unaspirated sounds in their L2 phonemic inventory. That is why the speakers of voicing languages who have unaspirated stops in their L1 find it easier to acquire English aspirated stops but difficult to acquire voiced stops of English (Pater 2003, Simon 2009, 2011).

Lastly, the findings of this study point out a possible gap in the SLM. The SLM predicts that a new phonetic category acquired by L2 learners may be deflected away from monolinguals of that language. But it does not provide any statistical scale to determine how ‘deflected away’ may be the new phonetic category of the L2 sound from the monolingual category. In the current study, we came across many cases of [g] which were produced with a negative VOT which was significantly different from the VOT for the L1 [g]. One interpretation of such productions is that the pre-voiced [g] of these learners, which is different from both the L1 and L2 [g], is an indication of a merger situation in the L2 phonemic inventory of these learners. However, we can also claim that the learners have acquired a new phonetic representation for English [g] which is a little deflected away towards pre-voicing from the native-like category of English [g]. This viewpoint is further strengthened by the fact that some native speakers of English also produce voiced stops with pre-voicing (Docherty 1992, Simon 2009). The SLM does not provide any statistical measure to determine the border-line between different stages of learning, like a little improvement without formation of a new phonetic category, which occurs in weak equivalence classification context, and a new category which is deflected away from that of monolinguals of an L2. It also does not provide any statistical matrix to calculate the perceptual distance between two sounds. These results point out the gap in the SLM which has already been pointed out in previous studies (e.g. Larson-Hall 2004, Harnsberger 2001, Schmidt 1996, Levy 2009, Wester et al. 2007, etc.) i.e. that the SLM lacks a solid statistical matrix to calculate learning and perceptual distance between sounds. In the absence of such a scale, a categorical boundary may not be clearly drawn between new phonetic categories and learning without establishment of separate phonetic categories for new L2 sounds.

6 Conclusion

The current study was based on the acquisition of English [b g] by adult Pakistani learners. The findings show that it is very difficult for Pakistani learners to produce voiced stops of English with short-lag VOT. They normally produce these plosives with pre-voicing. Most of the ‘UK’ participants in this study could not produce the target sounds with native-like VOT despite living among native speakers for more than five years. The study also points out a gap in the speech learning model, that it does not provide any statistical yardstick to calculate the improvement observed in L2 learners. This leads to confusion as for how to differentiate between different learning outcomes. Developing a possible yardstick to calculate the perceptual distance between L2 and L1 sounds may be an interesting research question for future research.

7 References

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Perfect in Ingrian Finnish*

Iuliia Taran

Ingrian Finnish, an endangered Finnish variety in contact with several languages, provides a remarkable possibility to observe the ongoing changes in its tense-aspect system. The particular focus of this paper is the use of perfect tense, which is presumed to be an unstable category and which is absent from Russian (a dominant language in this territory). An analysis of all main contexts for perfect in Ingrian Finnish allows to identify relevant sentence features influencing its temporal reference. The perfect forms are being replaced by the general past forms and the tense-aspect system of Ingrian Finnish is undergoing considerable changes apparently due to the contact influence. Further evolutionary ways for Ingrian Finnish perfect are discussed.

Keywords: *Ingrian Finnish, language contact, perfect, tense-aspect system*

1 Introduction

The meaning and development of perfect forms in the languages of the world and the evolution of tense-aspect systems have been subjects of many typologically oriented studies (see Comrie 1976, Nedjalkov 1988, Dahl 2000, Bybee 2004). It has been shown that the main function of perfect forms was to indicate the continuing present (or current) relevance of a past situation. Other meanings of perfect were also identified, such as experiential, when the event is expressed as an experience which happened at least once, without respect to a particular location in time. There can be also a continuous meaning, when the event begun prior to the moment of utterance is relevant because of its continuation until the moment of utterance. In Dahl (2000) perfect was defined as a gram with a current relevance (CR) meaning and at least one of the four following meanings: resultative, experiential, inferential, reportative.

The path of a European perfect, a diachronically very unstable category, can be usually traced from a resultative construction consisting of an auxiliary and a past participle through a full perfect tense to a new category without the CR meaning. After losing its central function the former perfect forms can develop a general past meaning and replace other past tense in the system (French, Russian). Another possibility is to transform into a category with evidential functions (the case of Balkan perfects). The relations between perfect and evidential meanings such as reportative and inferential were discussed by Anderson (1982, 1986) and Wiemer (2010). The latter is a study of grammatical means to express hearsay in a wide range of European languages including Baltic languages and Estonian.

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In this paper, I will discuss the use of perfect forms in contemporary Ingrian Finnish. I will analyze the data collected in-field from the native speakers of Ingrian Finnish. The changes in its tense-aspect system against the typological background will be considered, taking into account also a complex sociolinguistic situation in the region. The evolution of perfect in a language is more dramatic in case of an endangered language in contact with a perfectless language and is generally more rapid and radical than in a “healthy” language. Contact-induced changes in an endangered language also demonstrate the reinforcement of forms and structures already shared with the dominant language (see Groff 2004, Riionheimo 2010, Aikhenvald 2012). In this paper, I will focus on internal language processes rather than on the areal influence of Russian, but I have to recognize the importance of that influence – in the present case, the influence of Russian on Ingrian Finnish – being taken into consideration. More specifically, in morphology it seems likely that most interference will involve either new means of expressing functional categories already present in the receiving language or the loss of previously existing categories. Although Ingrian Finnish and Russian belong to different language groups (Finnic in the Ugro-Finnic family and Slavic in the Indo-European, respectively) and are considerably different typologically, it is fair to say that in case of established language contact of significant duration and intensity, such as the present case, the effects of typological distance on the expected kinds of interference features are limited, if not negligible (see Thomason & Kaufman 1991).

The paper is structured as follows. Section 2 contains the data and methods for the study, as well as some facts on the sociolinguistic situation of Ingrian Finnish. In section 3, I will give an overview of three tense-aspect systems in contact: Ingrian Finnish, Standard Finnish and Russian. In section 4, I will analyze all contexts of use for the perfect in Ingrian Finnish and point out possible explanations for the different rates of perfect forms used in each context. As a conclusion, section 5 summarizes the main findings of the paper and discusses possibilities for further development of Ingrian Finnish perfect.

2 Data

The present study considers contemporary Ingrian Finnish, a common term for several endangered Finnish varieties in contact with other languages in the historical Ingria. Ingrian Finnish can be viewed as a group of closely related Southeastern Finnish dialects (see Kettunen 1930) originally spoken in the territory of Ingria (now the main part of the Leningrad region in Russia) since the 17th century. Ingria, or Ingermanland, is the historical province in the area of the Gulf of Finland, between Estonia and Finland, in the vicinity of the present St. Petersburg. The dialect situation in this region is very complex, as several cognate Finnic languages have been here in contact for centuries, Ingrian, Votic, Ingrian Finnish and Estonian. All the data discussed below are collected from the speakers of Eastern or Western Hatsina dialects (by the classification of Ingrian Finnish dialects provided in Muslimov (2009)). For convenience, throughout the paper I will refer to them as Ingrian Finnish.

The study is based on a corpus of 200 elicitation phrases recorded from 12 informants. They were asked to translate different perfect-oriented questionnaires from Russian into

Ingrian Finnish. The interviews were conducted during two expeditions to the Hatsina district of the Leningrad region (Central Ingria) which took place in the summers of 2010 and 2011. All informants were born in Ingria in the 1920s-1930s. There are only a few hundred Ingrian Finnish speakers left in Ingria, all of them bilingual Finnish-Russian and showing signs of first language attrition. The latter include difficulties to retrieve lexical items and restructurization of sentences according to second language patterns.

The language is no longer actively used or transmitted, its use in everyday life is very limited and only possible when speakers have relatives and friends who also speak or understand Ingrian Finnish. Russian is largely preferred in every situation.

3 Tense-aspect systems in contact

The tense-aspect of Ingrian Finnish is in many regards similar to Standard Finnish. The tense-aspect system of Standard Finnish includes 4 grammatical tenses. They are shown in (1), where the present tense is a nonpast which can only express a particular meaning through the context, the use of a time adverbial or nominal aspect (total or partitive case of the object). Generally speaking, there are two possible *aspectual* interpretations for a Finnish nonpast form: present – imperfective and future – perfective. To describe an imperfective continuous situation in the future one must use lexical means.

- (1) Present (nonpast) – *synthetic*
 Past (preterite) – *synthetic*
 Perfect – *periphrastic*
 Pluperfect – *periphrastic*

Before presenting the time-aspect system of Ingrian Finnish I will also briefly describe the one of Russian. Russian has 4 grammatical tenses and 2 aspects with 5 possible combinations, shown in (2):

- (2) 3 tenses:
 Present – *synthetic*
 Past – *synthetic*
 Future – *synthetic (perfective) / periphrastic (imperfective)*
 2 aspects:
 Perfective (only past and future)
 Imperfective

As in Standard Finnish, in Russian the difference between perfective future and present can be reduced to a difference in aspect, the morphological markers for the future form being the same as those that distinguish between perfective and imperfective past tenses. Russian future imperfective, on the other side, is a periphrastic construction consisting of the inflected auxiliary verb *byt'* ‘to be’ and the infinitive.

We move to the tense-aspect system of Ingrian Finnish, shown in (3), and now we can see that it is based on the Standard Finnish system, where the notion of nominal aspect is

also present and can distinguish between imperfective present and perfective future meanings of the same nonpast form:

- (3) Present (nonpast) – *synthetic*
 Past (preterite) – *synthetic*
 Perfect – *periphrastic*
 Pluperfect – *periphrastic*
 Future Imperfective – *periphrastic*

Ingrian Finnish has also developed a special form for future imperfective. This form is a periphrastic construction consisting of the inflected auxiliary verb *käyvä* ‘to walk’ and an infinitive (uninflected supine). It should be noted that in Standard Finnish, as well as in Estonian, there are also some periphrastic constructions with other auxiliaries that can be used to denote future events. The difference with respect to contemporary Ingrian Finnish is that, as my personal findings show, this form has a distribution much more similar to future imperfective in Russian.

4 Perfect in Ingrian Finnish

4.1 Perfect in Standard Finnish

Finnish perfect can be described as the tense of ‘present relevance’, close to English perfect (see Comrie 1976, Karlsson 1999 and Hakulinen et al. 2004). It is used to describe the result of a situation in which the interpretation focuses on the impact or the outcome of the situation, as shown in (4) (state-result) and (5) (experiential). It can be used also to indicate the previously started, but still ongoing situation, so that now there is continuity, as shown in (6) (perfect of persistent situation or continuous perfect), (see Hakulinen et al. 2004, § 1534-7). Examples (4)-(6) are from Hakulinen et al. (2004), glossing is mine:

- (4) *Nyt minä ole-n syö-nyt tarpeeksi.*
 now I be-PRS.1SG eat-PTCP.PST enough
 ‘Now, I have eaten enough.’
- (5) *E-n oo ikinä käy-nyt Tampere-lla.*
 NEG-PRS.1SG be never go-PTCP.PST Tampere-ALL
 ‘I have never been to Tampere’
- (6) *Hän on asu-nut sama-ssa talo-ssa koko ikä-nsä.*
 he be.PRS.3SG live-PTCP.PST same-ILL house-ILL whole life-POSS3
 ‘He has lived in the same house all his life.’

¹ Abbreviations: 1, 2, 3 – person, AD – adessive case, ALL – allative case, GEN – genitive case, ILL – illative case, IN – inessive case, INF – infinitive, NEG – negation, PART – partitive case, PL – plural, POSS – possessive, PRS – present (nonpast) tense, PST – past tense, PTCP – active participle, SG – singular.

4.2 Perfect in Ingrian Finnish

In this section, I will present the analysis of the data starting with a brief discussion of the methods I used and some general remarks on the collected data.

4.2.1 Methodology

To collect the data I presented 12 informants with a questionnaire consisting of 12 Russian stimuli sentences in no particular order. 9 of 12 informants were successful in translating the entire questionnaire into Ingrian Finnish. The others had difficulties in lexicon retrieval or showed clear signs of serious interference with Standard Finnish. The aim was to study the forms used by the speakers in the contexts of unambiguous current relevance of a past situation.

While direct translation implies greater influence from the language in which the stimuli are presented, I chose this particular method over collecting spontaneous speech to study perfect for the following reasons. As my preliminary findings, based on independently collected texts and general questionnaires, show, the perfect forms are quite rarely used by Ingrian Finnish speakers. Another issue with the spontaneous texts is that they are typically narrative sequences which normally do not allow the use of some grammatical forms, perfect included, due to their specific nature.

All examples presented in the paper below are either actual utterances collected from the informants or versions of these utterances. The latter illustrate the case where the informants used general past instead of perfect and were then presented with a version of the same sentence containing perfect form and were asked to evaluate² it (*Can you say it like that? Does that mean the same thing? Is it better to say like that?*).

4.2.2 General remarks on the data

The general features of the Russian stimuli in the questionnaire are summarized in Table 1 below. In the first column, the conventional number of the stimulus in the questionnaire is given. The second column presents the type of perfect context in the stimulus. The third and fourth columns manifest the transitivity of the predicate and the volition of a subject, respectively, in the corresponding Ingrian Finnish sentence. In the last column the aspect meaning used in the Russian stimulus is given. The features in the last three columns are ascribed positive (+) and negative (–) values according to the existent or non-existent expression of the corresponding grammatical meaning so that transitive, volitive and perfective are all positive.

² In this case a sentence is labeled by OK/?/* marks.

Stimulus nr.	Context type	Transitivity (tr / intr)	Volition (vol / invol)	Rus. stim. aspect (perf / imperf)
1	Continuous	–	+	+
2	CR of recent past	+	+	–
3	CR of recent past	+	+	+
4	CR of recent past	+	+	+
5	CR of recent past	+	+	+
6	CR of recent past + state-result	+	+	–
7	CR of recent past + state-result	–	+	–
8	CR of recent past + state-result	–	+	+
9	State-result + CR	–	–	+
10	State-result + CR	–	–	+
11	State-result + CR	–	–	+
12	State-result	–	–	+

Table 1: Features of questionnaire phrases

The results of the study are presented in Diagram 1 below. On the vertical axis, the ratio of perfect forms for each stimulus in the questionnaire is marked. The results clearly show the preference for general past forms in the prototypic perfect CR context. There was a considerably lower ratio for stimuli 7 and 9-11. It can be explained if we compare the sentence features from Table 1 with the ratios of perfect from Diagram 1. We can see that any combination of two negative values in one sentence significantly adds to the use of general past forms. The only exception is the stimulus (12) which is also the only one that got more than 50% of perfect forms. This is a context of pure state-result, where the construction is more resultative than perfect (see 4.2.5. for further discussion).

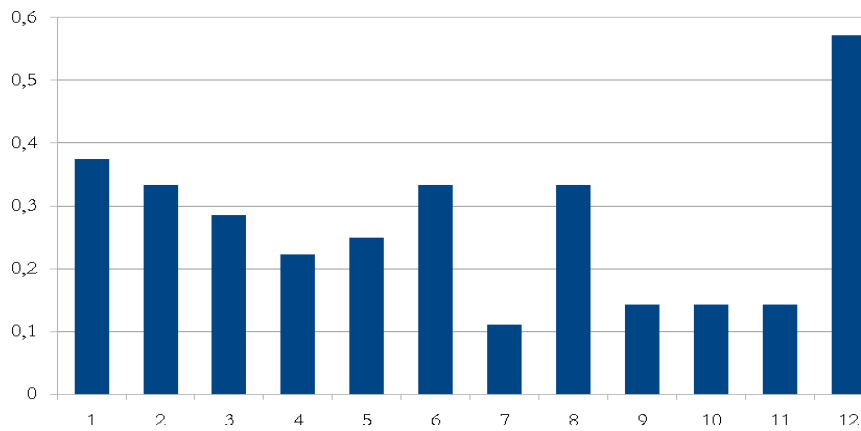


Diagram 1: Ratio of the use of Ingrian Finnish perfect in different contexts

4.2.3. Continuous perfect

The continuous use of the perfect is most common in the collected texts with verbs such as *syntyy* ‘to be born’ or *ellä* ‘to live’ due to the nature of the texts (life stories) where they typically occur at the beginning of the narrative sequence in a manner “launching” it. Examples of spontaneous usage of the perfect are presented in (7)-(8):

- (7) *Siin miä ole-n syntyy-nt.*
 here I be-PRS.1SG be.born-PTCP.PST
 ‘I was born here.’
- (8) *Tiäl ole-n kasvaa-nt ja tiäl ole-n elä-nt*
 here be-PRS.1SG grow.up-PTCP.PST and here be-PRS.1SG live-PTCP.PST
koko elo-n.
 whole life-GEN
 ‘I have grown up here and have lived here all my life.’

In (9), a translation of the first stimulus from the questionnaire is presented. The predicate is intransitive, which is consistent with the continuous context. The aspect used in a Russian stimulus was perfective. This context produced the second highest percentage of perfect forms.

- (9) a. *Hyö tul-i-ivat linnaa ja ovat jo kauva*
 they come-PST-3PL city.ILL and be.PRS.1PL already for.a.long.time
mon-ta vuot-ta elä-neet siel.
 many-PART years-PART live-PTCP.PST there
- b. *Hyö tull-ii-t linnaa ja elä-vät jo mon-ta*
 they come-PST-3PL city.ILL and live-PRS.3PL already many-PART
vuot-ta siel.
 years-PART there
 ‘They came to the city and have lived there for many years.’

4.2.4. Current relevance of recent past and experiential perfect

In this section, the use of the perfect in the general context of current relevance is analyzed. The first four sentences (10)–(13) all have the same characteristics with regard to the transitivity of the predicate, the volition of the subject and the aspect used in the Russian stimulus. An exception is the imperfect aspect in (10). It may have prompted some informants to allow the use of the perfect in this context only after changing the time reference from ‘today’ to ‘some time’, which has transformed the general CR of recent past into experiential.

- (10) a. ^{OK}*Miä tänäpäin jo ole-n halkoo-nt pu-i-ta.*
 I today already be-PRS.1SG split-PTCP.PST firewood-PL-PART
- b. *Miä tänäpäin jo halko-i-n pu-i-ta.*
 I today already split-PST-1SG firewood-PL-PART
 ‘I have already split firewood today.’
- (11) a. ^{OK}*Siä jo ole-t halkoo-nt puu-t?*
 you yet be-PRS.2SG split-PTCP.PST firewood-PL
- b. *Siä jo halo-i-t puu-t?*
 you yet split-PST-2SG firewood-PL
 ‘Have you split the firewood yet?’
- (12) a. *Puu-t mi-tä työ ole-tta halko-neet jo*
 firewood-PL what-PART you be.PRS.2PL split-PTCP.PST already
loppuu-t.
 run_short-PRS.3PL
- b. *Puu-t mi-tä työ halo-i-tta jo loppuu-t.*
 firewood-PL what-PART you split-PST-2PL already run_short-PRS.3PL
 ‘The firewood that you have split is running short already.’
- (13) a. ^{OK}*Kirja minkä työ ole-tto luke-net se on oikein*
 book what.GEN you be.PRS.2PL read-PTCP.PST this be.PRS.3SG very
hyvä kirja.
 good book
- b. *Kirja minkä työ luv-i-tto se on oikein*
 book what.GEN you read-PST-2PL this be.PRS.3SG very
hyvä kirja.
 good book
 ‘The book that you have read is a good one.’

The sentences in (14)–(16) present not only the context of general CR, but also a direct impact of a past situation on the current situation, which is explicitly expressed in the second part of the sentence (CR of recent past + state-result). Each of the sentences below has at least one negative value (see Table 1). The context 7 presented in (15) has two negative values: both the predicate is intransitive and the aspect in the Russian stimulus is

imperfective. The combined effect of these two negative values has probably driven the informants to prefer the use of general past forms in this context.

- (14) a. ^{OK} *Poika koko päivä-n on halkoo-nt pu-i-ta*
 boy whole day-GEN be.PRS.3SG split-PTCP.PST firewood-PL-PART
ja on väsy-nyyt
 and be.PRS.3SG tire-PTCP.PST
- b. *Poika koko päivä-n halko pu-i-ta ja väsy-i.*
 boy whole day-GEN split.PRS.3SG firewood-PL-PART and tire-PST.3SG
 ‘The boy has been splitting firewood all day and now he is tired.’
- (15) a. *Miä huonost ole-n nukku-nut nyt miu-l kivistää piä-tä.*
 I badly be.PRS.1SG sleep-PTCP.PST now I-AD ache.PRS.3SG head-PART
- b. *Miä huonost nuku-i-n nyt kivistää piä-tä.*
 I badly sleep-PST-1SG now ache.PRS.3SG head-PART
 ‘I have slept poorly and now I have a headache.’
- (16) a. ^{OK} *Siä ole-t loikoo-nt kylmä-l mua-l ja*
 you be.PRS.2SG lie-PTCP.PST cold-AD ground-AD and
nyt ryvi-t.
 now cough-PRS.2SG
- b. *Siä lojo-i-t kylmä-ssä maa-ssa ja nyt ryvi-t.*
 you lie-PST-2SG cold-IN ground-IN and now cough-PRS.2SG
 ‘You have lain on the cold ground and now you are coughing.’

4.2.5. State-result perfect

Diagram 1 shows that the most typical Ingrian Finnish context for perfect forms seems to be the state-result (context 12). On the contrary, contexts 9 to 11, presented below in (17)-(19), are less likely to provoke the use of the perfect even if they contain a combination of state-result and CR meanings where the state-result is more prominent. I assume that it happens due to the combination of two negative values on relevant characteristics (predicate transitivity of the predicate and volition of the subject, see Table 1). Therefore the situation here is similar to the one with stimulus 7 shown above in (16).

- (17) a. ^{2/*} *Häne-n talo on särke-nyyt ja nyt jä-i-t*
 he-GEN house be.PRS.3SG break-PTCP.PST and now remain-PST-3PL
yhet kive-t.
 only stone-PL
- b. *Häne-n talo särkehys ja nyt jä-i-t yhet kive-t.*
 he-GEN house break.PST.3SG and now remain-PST-3P only stone-PL
 ‘His house has collapsed, now there are only stones left.’

- (18) a. ^{OK}*Maito on happa-nut nyt voi-p tehhä*
 milk be.PRS.3SG sour-PTCP.PST now can-PRS.3SG do.INF
vorokuu.
 cottage_cheese.PART
- b. *Maito hapān' nyt voi-p tehhä rabkaa.*
 Milk sour.PST.3SG now can-PRS.3SG do.INF cottage_cheese.PART
 'Milk has got sour, now we can make cottage cheese.'
- (19) a. *Omena on märkä-nyt nyt mei-l ei ole*
 potatoe be.PRS.3SG rotten-PTCP.PST now we-AD NEG.3SG be
mi-tä syvvä.
 what-PART eat.INF
- b. *Peruna märkän-i nyt ei ole mi-tä syvvä.*
 potatoe rotten-PST.3SG now NEG.3SG be what-PART eat.INF
 'Potatoes have rotten, now we have nothing to eat.'

If we examine the last stimulus from the questionnaire, shown in (20), which is the highest-ranking in relation to the ratio of perfect forms used in translation, we will see that the values of its relevant characteristics are the same as the characteristics of (17)-(19), two minuses in relation to the transitivity of the predicate and the volition of the subject:

- (20) a. *Eilen myö te-i-mmö lumiuko-n nyt hän-tä ei ole.*
 yesterday we do-PST-1PL snowman-GEN now he-PART NEG.3SG be
Tänäpäin se on jo sula-nnut.
 today this be.PRS.3SG already melt-PTCP.PST
- b. *Naverno sul' pois.*
 probably melt-PST.3SG away
 'Yesterday we made a snowman, now it is gone, it must have melted away.'

Why are the ratios of the use of the perfect for these stimuli so different? Let us look at the event structure and the expression of the state-result meaning. The difference cannot be attributed to the actionality features of predicates, since they are the same for all examples in (17)-(20), the end-point of an involuntary terminative process. What is, however, different in the context in (20) from the others is the absence of a clear CR meaning. This fact allows to consider the form *on sulannut* as a resultative construction rather than a grammaticized perfect form. Examples (17)-(19) describe a situation that is relevant to the present and presupposes some further action on behalf of the speaker/observer. In (20), the whole situation is presented as a result of a previous event (melting) that was rather deduced than directly observed by the speaker. The speaker makes an assumption based on the state of events he observes. All relevant elements of the situation are based in the past and no further development of the situation is expected in the present and/or future, hence there is no CR.

4.2.6. Evidential perfect in adjacent languages and some remarks on evidentiality in Ingrian Finnish

In this section, I consider some commentaries made by informants who allowed the use of perfect forms only under the reportative meaning. In the previous section, we have already

established a link between using a resultative construction and denoting an event in the past that was not directly observed but deduced by the speaker in example (20). Let us consider a sentence in (21). Its Russian stimulus is a transformation of a stimulus 7 (cf. example (15)). The informant who produced (21) allowed to use the perfect only if the 1st person perspective were to change to the 3rd person. According to the informant, the use of the perfect is not allowed when talking about oneself, only about someone else:

- (21) *Hiä on maka-nnut buonost nyt kivistää*
 He be-PRS.1SG sleep-PTCP.PST badly now ache.PRS.3SG
häne-l' piä-tä
 he-AD head-PART
 'They say, he has slept poorly and now he has a headache'

The use of perfect-like forms and past participles to express the reportative meaning is well-known for the Balkan region. However, it is not uncommon in the circum-Baltic languages (see Dahl & Koptjevskaja-Tamm 2001 and, more recently, Wiemer 2010). Notably in Estonian, another Finnic language which also has been in contact with Ingrian Finnish, the past participle with or without an auxiliary is used in reportative function (see Kehayov 2002 and Alas and Treikelder 2010 for contrastive studies of Estonian evidentiality):

- (22) *Ta ela-nud.*
 He live-PTCP.PST.
 'He has lived, they say.'

In modern Ingrian Finnish, perfect forms are being widely replaced by the forms of the general past. It happens due to the Russian influence, where there is no perfect tense. However, considering further evolutionary ways for Ingrian Finnish perfects other than their complete loss, they are likely to develop a full-scale reportative function. This seems plausible both from the typological and the areal perspective.

5 Conclusions

This paper considered the inner workings of the influence of a typologically different language on an endangered language based on the data from contemporary Ingrian Finnish. I described the tense-aspect systems of Ingrian Finnish, Standard Finnish and Russian and showed how the Ingrian Finnish system is influenced by the Russian system.

The particular focus of the study was on the changes in the use of Ingrian Finnish perfect. The analysis of the elicitation data showed that the traditionally distinguished perfect contexts of strong current relevance have low influence on the choice of perfect forms over general past forms in the sentence. The relevant sentence characteristics influencing its temporal reference were identified. To get a high rate of perfect forms in perfect contexts the CR meaning should be combined with the positive transitivity of the predicate and the positive volition of the subject. The influence of the perfective or imperfective aspect of the corresponding structure in Russian is also attested. Otherwise, in the case of a strong

resultative-terminative meaning of the situation completed on the whole, the perfect construction should be considered devoid of its CR meaning and therefore, a resultative construction.

To summarize, the perfect forms seem to be widely replaced by the general past forms even in the contexts with the strongest attraction for perfect. The tense-aspect system of Ingrian Finnish is undergoing considerable changes due to the contact influence. If an endangered variety of Ingrian Finnish is to survive into the future, the most probable path of evolution seems to be a complete disappearance of perfect forms. An alternative way might be a transformation of perfect into evidential.

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