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Abstract

This paper describes and explains the make-up and realization of tone on the nouns of Njyem, a narrow Bantu language of the Makaa-Njyem sub group. It is classified as A.84 (Guthrie 1971: 33; Maho 2003: 642) and spoken from the forest region of South Eastern Cameroon over to the north of the Republic of the Congo. The article uses the nuts and bolts of Register Tier Theory (RTT) (Inkelas 1987; Inkelas et al. 1987; Snider 1988, 1990, 1999) to insightfully explain tonal phenomena found on Njyem nouns. The analysis reveals that the nouns have four underlying tonal melodies, namely, H, L, HL, and LH and that tonal and/or phonological processes trigger the other surface realizations. In order to account for these surface forms, the contrastive underlying tonal melodies of noun roots are given and the realization on the surface of each melody discussed within the framework of RTT.

1. Introduction

This article discusses the tonology of Njyem nouns. Njyem is a narrow Bantu language of the Makaa-Njyem sub group. It is classified as A.84 (Guthrie 1971: 33; Maho 2003: 642) and spoken from the forest region of South Eastern Cameroon over to the north of the Republic of the Congo. The article begins by an overview of Register Tier Theory (RTT), followed by a presentation of the morpheme structure of noun roots. Considering that the surface tone is not always identical to the underlying tone in languages, this paper goes ahead to use the nuts and bolts of RTT to explain observed tonal phenomena in Njyem. The associative constructions are presented synoptically at the end of the paper in order to further explore and account for the behaviour of tones in larger nominal constructions.
2. Register Tier Theory

Register Tier Theory (RTT) (Inkelas 1987; Inkelas et al. 1987; Snider 1988, 1990, 1999) recognizes the following autosegmental features and tiers: the register features h and l on a REGISTER TIER, the tonal features H and L on a TONAL TIER, a TONAL ROOT NODE TIER (TRN), and a TONE-BEARING UNIT TIER (TBU). These tiers are geometrically arranged according to the configuration in figure 1 taken from Snider (1999: 23).

![Figure 1. Geometry of tone](image)

Features on the Register tier and the Tonal tier are linked to structural nodes on the TRN. Geometrically, these tiers form a separate plane with respect to the TRN. Nodes on the TRN are, in turn, linked to moras (\(\mu\)) on the TBU tier. (Snider 1999: 23.)

The register features h and l are defined following Snider (1999: 25) as “effect a register shift \(h = \) higher, and \(l = \) lower relative to the preceding register setting”, and the tonal features H and L are defined as realize the “TBU at \(H = \) high pitch, and \(L = \) low pitch relative to the current register”. This is shown in figure 2 (the dotted lines represent registers and the solid lines represent tones).

![Figure 2. Register features and tonal features](image)
The geometry in figure 1 and the features in figure 2 make it possible to specify up to four logically possible tonal distinctions, namely, a high tone on a high register, a high tone on a low register, a low tone on a high register, and a low tone on a low register. Notice firstly that the register feature of any given TBU is specified in relation to that of the preceding register. The register of the initial TBU for its part is construed to be higher than or lower than the reference point that native speakers usually have in mind when beginning an utterance. Secondly, the tonal feature associated to any given TBU specifies whether the tone is low or high in relation to the current register. RTT is used in this paper to insightfully explain the tonal processes that occur in Njyem, given that within this theoretical model features on each tier can behave independently of one another.

3. Morpheme structure of noun roots

The most common morpheme structures that occur on Njyem noun roots are CV and CVC. The less common CVV morpheme type also occurs. This morpheme structure is shown in table 1.

### Table 1. Morpheme structure of noun roots

<table>
<thead>
<tr>
<th>CV</th>
<th>CVC</th>
<th>CVV</th>
</tr>
</thead>
<tbody>
<tr>
<td>lè-dzè</td>
<td>nùn</td>
<td>bì:</td>
</tr>
<tr>
<td>‘tooth’</td>
<td>‘bird’</td>
<td>‘quarter’</td>
</tr>
<tr>
<td>bì</td>
<td>lè-bíl</td>
<td>dzó:</td>
</tr>
<tr>
<td>‘residence’</td>
<td>‘breast’</td>
<td>‘bed’</td>
</tr>
<tr>
<td>lè-bò</td>
<td>sèb</td>
<td>dú:</td>
</tr>
<tr>
<td>‘foot’</td>
<td>‘insect’</td>
<td>‘noise’</td>
</tr>
<tr>
<td>sò</td>
<td>dúr</td>
<td>dú:</td>
</tr>
<tr>
<td>‘friend’</td>
<td>‘robe’</td>
<td>‘extra part’</td>
</tr>
</tbody>
</table>

4. Contrastive underlying tonal melodies for noun roots

Njyem has two underlying tones – High and Low (Akumbu 2006). The nouns have mostly monosyllabic and disyllabic roots. The noun roots have a four-way contrastive underlying tonal melody, namely, H, L, HL, and LH as shown in the examples below. The singular nouns presented in the following table are taken from Noun Class 7, which takes neither a segmental nor a floating tone noun class prefix.
Table 2. Contrastive underlying tonal melodies for noun roots

<table>
<thead>
<tr>
<th>Underlying Form</th>
<th>CVCV</th>
<th>CVC</th>
<th>CV</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>tʃihó ‘island’</td>
<td>bím ‘quantity’</td>
<td>lì ‘tree’</td>
</tr>
<tr>
<td></td>
<td>sámá ‘group’</td>
<td>bán ‘pledge’</td>
<td>lá ‘glass’</td>
</tr>
<tr>
<td>L</td>
<td>sèhè ‘tale’</td>
<td>nùn ‘bird’</td>
<td>dzò ‘laugh’</td>
</tr>
<tr>
<td></td>
<td>dzàŋà ‘fiance’</td>
<td>tòm ‘fight’</td>
<td>mò ‘stomach’</td>
</tr>
<tr>
<td>HL</td>
<td>lìmà ‘dream’</td>
<td>läm ‘trap’</td>
<td>jà ‘nail’</td>
</tr>
<tr>
<td></td>
<td>kúrà ‘blow’</td>
<td>nòr ‘vagina’</td>
<td>bì ‘residence’</td>
</tr>
<tr>
<td>LH</td>
<td>tʃilà ‘taboo’</td>
<td>kòb ‘fault’</td>
<td>gù ‘madman’</td>
</tr>
<tr>
<td></td>
<td>pàŋà ‘elegance’</td>
<td>bäm ‘material’</td>
<td>ntù ‘quarrel’</td>
</tr>
</tbody>
</table>

In table 2, it can be observed that some of the surface tones are different from the underlying melodies. An example is the underlying LH melody that surfaces as L. Evidence for assuming these underlying melodies will be discussed later. In § 4.3, it will be shown that l-spread and h-delink, Merger, and HL Simplification account for the HL melody. Similarly, l-spread and h-delink, the Obligatory Contour Principle (OCP), and Low Tone Spread are exploited in § 4.4 to justify the underlying LH melody. Notes on each melody follow.

4.1 H melody

As indicated in table 2, the underlying high melody surfaces as High on all syllables in words in isolation. In combination, this melody still surfaces as High, spread over the entire domain of the melody. This implies that the
The phoneme of tone is the complete melody associated with a particular morpheme. In other words, “tones are simply a property of the morpheme and not of any particular segment or syllable in that morpheme” (Yip 2002: 72).

The nouns in (1) do not cause nor undergo any changes. The high tone is realized around 280 Hz. Pitch traces of the data in (1) are shown in Appendix A.

4.2 L melody

The underlying low melody surfaces as Low on all syllables. However, when this melody occurs at the end of an utterance, the tone is realized as a low fall (i.e., a low tone whose pitch falls even further). Consider the
following data (notice that the down arrow, \( \downarrow \), that occurs after the final low tone indicates the fall):

\[
\begin{align*}
\text{L} & \quad \text{L} & \quad \text{H} \\
\rightarrow & \quad \text{[bama je]} \\
\text{L} & \quad \text{L} & \quad \text{H} & \quad \text{L} & \quad \text{H} & \quad \text{L} & \quad \text{H} & \quad \text{L} & \quad \text{H} \\
\end{align*}
\]

(2) a. \textit{bama je} \quad \text{prostitution his} \quad \text{‘his prostitution’}

b. \textit{wunu je} \quad \text{peanut his} \quad \text{‘his peanut’}

c. \textit{n\text{"o} wunu} \quad \text{with peanut} \quad \text{‘with peanut’}

d. \textit{ja: dur} \quad \text{which robe} \quad \text{‘which robe’}

In some African languages, the low tone falls or downglides utterance finally. It is pronounced at the lowest pitch level. Appendix B shows pitch traces of the data in (2). The final low tone falls from about 110 Hz to around 60 Hz. The downgliding of the final low tone is accounted for, in Njyem, by assuming that it is the effect of \textit{intonation} that causes any utterance-final associated low tone to be realized as a low-falling tone. The following representation in figure 3 shows this realization.
Notice that this fall is attributed in the phonetic component to low tones that are utterance-final. The slanted nature of the final tone shows that the pitch falls even lower than that of a normal low tone.

### 4.3 HL melody

On disyllabic nouns, the HL melody is realized as a high tone on the first syllable and a low tone on the second. On monosyllabic nouns, it is realized as a HL tone glide. However, when a high-toned morpheme follows the HL melody, the following high tone is automatically downstepped, as shown in the data below. Notice that downdrift and downstep of high tones is triggered by a specific phonological tone, typically a low tone in many African languages. In this paper, I follow Stewart (1965) and refer to the lowering that is triggered by an associated low tone as automatic downstep (downdrift) and that which is triggered by a floating low tone as non-automatic downstep (downstep). Some linguists still think, however, that the floating tone analysis of downstep has the disadvantage that there is no segmental precedent for a floating, phonetically unrealized feature exerting ongoing phonological effects. Amongst them, Clark (1990) and Yip (2002) prefer to talk about *covert low tones* that fail to surface. Even though this issue remains unsettled, it is agreed that there is a low tone, either floating or covert, that is present in a downstep environment. Observe the data in (3):

![Figure 3. Downgliding of final low tone](image-url)
The account I suggest for these data is that the Low of the HL spreads its register to and delinks the following high register, following the rule of l-spread and h-delink formulated in figure 4. The high tone that follows the HL is therefore realized on the preceding low register, leading to automatic downstep. The first high tone is realized around 280 Hz but the second is realized at about 240 Hz. Pitch traces of the data in (3) are given in Appendix C.

![Figure 4](image-url)  
**Figure 4.** l-spread and h-delink

According to this rule, a low register feature spreads onto the following TRN, and, in a subsequent process, delinks the high register feature from that node.
As said above, automatic downstep describes a situation where a high tone lowers after an overt low tone. It has been observed, for example, in Chumburung (a Kwa language spoken in Ghana) that whenever a high tone follows a low tone within a phonological phrase, there is automatic downstep; i.e., the High is realized on the same (lower) register as the Low (Snider 1999: 74).

This assumption is also true for Njyem, as shown in the data above. The spreading affects all of the TBUs that are linked to the TRN since the target of the spread is the TRN. The following derivation accounts for the above data:

![Derivation of automatic downstep](image)

**Figure 5.** Downstep of high tone in HLH sequence

To handle this type of situation, it has also been observed that in a HLH sequence the low
has a lower phonetic pitch than the first H, so that phonetically we get something like [H L M]. (Yip 2002: 11.)

The monosyllabic nouns with the same HL melody behave differently when a high-toned morpheme is appended to them. Observe the examples below.

\[(4) \]

\[\begin{array}{ll}
\text{HL} & \text{H} \\
\text{\rightarrow} & \text{H} \\
\end{array}\]

\[\begin{array}{ll}
\text{race} & \text{his} \\
\text{‘his race’} & \rightarrow \text{[kul je]}
\end{array}\]

\[\begin{array}{ll}
\text{HL} & \text{H} \\
\text{\rightarrow} & \text{H} \\
\end{array}\]

\[\begin{array}{ll}
\text{lam} & \text{je} \\
\text{‘his trap’} & \rightarrow \text{[lam je]}
\end{array}\]

\[\begin{array}{ll}
\text{HL} & \text{H} \\
\text{\rightarrow} & \text{H} \\
\end{array}\]

\[\begin{array}{ll}
\text{a. kul} & \text{je} \\
\text{‘his race’} & \rightarrow \text{[kul je]}
\end{array}\]

\[\begin{array}{ll}
\text{b. lam} & \text{je} \\
\text{‘his trap’} & \rightarrow \text{[lam je]}
\end{array}\]

\[\begin{array}{ll}
\text{c. } & \text{ja} \\
\text{‘her claw’} & \rightarrow \text{[ja je]}
\end{array}\]

In these data, the HL melody is realized as High, yet its register is identical to that of the following high tone suffix that is attached after it. Both morphemes are realized at about 280 Hz. Pitch traces of the data in (4) are shown in Appendix D. To account for the fact that both morphemes are realized on a high tone, it is assumed that the HL contour tone is simplified to a high tone when it occurs before another high tone, as shown in the rule in figure 6. This is followed by the merging of the two high tones (motivated by the OCP\(^1\)), allowing both to be realized on the same register.

\(^1\) The OCP is a cover term for a set of principles that conspire in many languages to prohibit the occurrence of adjacent identical features on nonskeletal tiers (cf. McCarthy 1986; Odden 1986, 1988; Myers 1997; Snider 1999). In Njyem this principle prohibits adjacent identical tones within a single morpheme, across morpheme boundaries, as well as across word boundaries.
This rule says that a HL contour tone is simplified to a high tone when it is followed by a high tone. To understand how these processes work, follow the derivation below.

**Figure 6. HL Simplification**

**Figure 7. HL Simplifies to H**

*Merger* is a repair strategy that languages use to satisfy OCP constraints.
4.4 LH melody

For its part, the LH melody surfaces as a non-falling Low on all syllable types, as reflected in the following words.

\[
\begin{array}{c}
\text{LH} \\
\_ \\
\_ \\
\end{array}
\quad \rightarrow \quad \begin{array}{c}
\text{L} \\
\_ \\
\_ \\
\end{array}
\]

(5) a. \(g\_u\)  \\
\(\text{madman}\)  \\
\(\text{‘madman’}\)  \\
\(\rightarrow [g\_u]\)

\[
\begin{array}{c}
\text{LH} \\
\_ \\
\_ \\
\end{array}
\quad \rightarrow \quad \begin{array}{c}
\text{L} \\
\_ \\
\_ \\
\end{array}
\]

b. \(k\_o\_b\)  \\
\(\text{fault}\)  \\
\(\text{‘fault’}\)  \\
\(\rightarrow [k\_o\_b]\)

\[
\begin{array}{c}
\text{L} \quad \text{H} \\
\_ \\
\_ \\
\_ \\
\end{array}
\quad \rightarrow \quad \begin{array}{c}
\text{L} \quad \text{L} \\
\_ \\
\_ \\
\_ \\
\end{array}
\]

c. \(s\_o\_g\_o\)  \\
\(\text{duck}\)  \\
\(\text{‘duck’}\)  \\
\(\rightarrow [s\_o\_g\_o]\)

These data show that the underlying LH melody surfaces as a non-falling Low, realized around 120 Hz. Appendix E shows the pitch traces of the data in (5). The data in (5) can be analysed as follows: the low tone of the LH melody spreads its TRN to the high tone and delinks it completely. Notice that this happens within a given domain of tone, in this case a phonological word. This is captured by the following rule:
This rule says that a low tone spreads from its TRN onto the following high TBU, and in a separate process, delinks that high tone.

It could be argued that the high tone is floating in this melody and remains as such in environments where this melody surfaces as Low and in environments where it surfaces as LH it docks leftwards. This assumption is discarded by the fact that the docking or failure to dock of this floating high tone will not be constant. Consider, for example, what happens with the following sets of data.

(a) \( \text{kab} \rightarrow [\text{kab}] \)
\( \text{fault} \) ‘fault’

(b) \( \text{t\text{\textipa{ila}}} \rightarrow [\text{t\textipa{ila}}] \)
\( \text{taboo} \) ‘taboo’

(c) \( \text{kab } \text{jin} \rightarrow [\text{kab } \text{jin}] \)
\( \text{fault } \text{your fault} \)

\[ \text{L} \quad \text{H} \]
\[ \mu \quad \mu \]

**Figure 8.** Low Tone Spread (LTS)
In (6a–b) nouns are given in isolation. High-toned morphemes are appended to the LH melody in (6c–d), and low-toned morphemes follow those in (6e–f). In (6a–b) and (6c–d), docking fails to occur but in (6e–f), it does. If a claim is made that docking fails to apply because the floating tone is followed by a high-toned morpheme, it will still be required to say why it does not apply to the forms in (6a–b). Again an explanation will still have to be given for the absence of the low tone on the second syllable of two-syllable nouns like \[s\ddot{o}\ddot{g}\ddot{o}\] that would be expected to surface as *\[s\ddot{o}\ddot{g}\ddot{d}\] if there were a floating high tone that docked. This renders the picture more complicated. Even if it were possible to simplify the formulations and conclude that there is an underlying floating high tone, it still does not allow one to collapse the L and LH melodies into one because of the failure of low tones to downglide utterance-finally in the LH melody.

Notice that this nondowngliding Low, which in such environments does not fall, contrasts with the gliding low tone shown in section 4.2. Since utterance-final low tones are phonetically realized as falling in many African languages (Snider 1999: 119), the fact that the Low of this LH melody is not utterance-final (due to the final floating High, that results from Low Tone Spread) provides a reasonable explanation for its failure to downglide. Consider the derivation that follows.
Similarly, as mentioned above, when a high-toned morpheme follows the LH melody, spreading and delinking still occur within this melody as the examples in (7) demonstrate.

\[
\begin{align*}
\text{Input & Low Tone Spread} \\
\begin{array}{c}
\text{Input} \\
\text{L} & \text{H} \\
\text{L} & \text{H} \\
\text{Output} \\
\text{so} & \text{go} \\
\text{so} & \text{go} \\
\end{array}
\end{align*}
\]

\[
\begin{align*}
\text{Phonetic representation} \\
\text{soko}
\end{align*}
\]

Figure 9. Application of Low tone spread

Similarly, as mentioned above, when a high-toned morpheme follows the LH melody, spreading and delinking still occur within this melody as the examples in (7) demonstrate.

\[
\begin{align*}
\text{LH} & \quad \text{H} \\
\Rightarrow & \quad = \\
\text{L} & \quad \text{L} & \quad \text{H} \\
\quad = & \quad = & \quad = \\
\end{align*}
\]

\[a. \quad \text{sula} \quad \text{jin} \quad \rightarrow \quad [\text{sula} \quad \text{jin}]\]
 sermon your
‘your sermon’

\[b. \quad \text{di} \quad \text{gwɔr} \quad \rightarrow \quad [\text{di} \quad \text{gwɔr}]\]
 residence one
‘one residence’
These data show that the underlying LH melody is realised as Low (around 120 Hz) when found before a high-toned morpheme. Pitch traces of the data in (7) are shown in Appendix F. The data in (7) can therefore be derived as follows.

**Figure 10.** LH realized as L before H
However, as said briefly above, when a low-toned suffix is added after the LH melody, this LH melody surfaces as the underlying LH. Examples are presented in (8).

\[
\begin{array}{c|c|c}
\text{LH} & \text{L} & \text{LH} \\
\hline
\perp & = & \perp \\
\end{array}
\rightarrow \quad \begin{array}{c|c|c}
\text{LH} & \text{L} & \text{LH} \\
\hline
\perp & = & \perp \\
\end{array}
\]

(8) a. \( \text{ntu ni} \) → \( \text{[ntu ni]} \)
    
    quarrel this
    ‘this quarrel’

b. \( \text{di ja:} \) → \( \text{[di ja:]} \)
    
    residence that
    ‘that residence’

c. \( \text{ùlá nì} \) → \( \text{[ùla nì]} \)
    
    sermon this
    ‘this sermon’

The fact that this LH melody occurs as such on the surface suggests that the low tone morpheme appended to these roots blocks Low Tone Spread from occurring, allowing the surface forms to remain the same as the underlying LH melody. This could also be viewed as an OCP constraint, involving low tones. The representation that follows shows that if Low Tone Spread occurs, the OCP will be violated.
5. **Tonal effect of noun class prefixes**

Njyem nouns may consist of a prefix followed by a stem. Most class 1 nouns and all classes 2, 4, 5, 6, 7, 8, and 11 nouns have prefixes. A few nouns in class 1 occur without a prefix. All nouns in classes 3, 7, and 9 occur without prefixes. Generally, when prefixes occur in citation form, they bear low tones. However, when a high-toned morpheme precedes a noun the nominal prefix surfaces with a high tone. Consider the following data:

\[(9)\]

a. \lè-píhò
   C5-behind
   ‘behind’

b. \mì-nùm
   C4-mouth
   ‘mouths’

---

\[2\] In a Njyem noun phrase, the head noun can occupy the initial position and be followed by modifying elements where they occur. However, in question formation, the interrogative adjective obligatorily occupies the initial position. The possessive pronoun ‘his/her’, on its part behaves in a flexible manner, occurring either before or after the head noun in a noun phrase. Whether this freedom is determined by functions in discourse structure remains an open question.
These data suggest that the prefix is toneless and receives its tone by default as in (9a–b) or through spreading from the preceding TBU. This explains why the prefixes in (9c–d), which are preceded by a low-toned morpheme, bear low tones whereas those that are preceded by high-toned morphemes in (9e–f) bear high tones. The following rule captures how tone spread occurs.

This rule says that a tone spreads from its TRN onto the following toneless TBU. The data in (9) can therefore be derived as follows:

**Figure 12.** Rightward Tone Spread (RTS)
When a morpheme that ends in a vowel is added before a noun whose prefix is a vowel, the prefix vowel is deleted, as can be seen in the following data.

(10) a.  
\[
\text{wé } \text{símsá} \quad \text{cf. } \text{i-símsá}
\]

his  thought

‘his thought’

b.  
\[
\text{wé } \text{kúrgá} \quad \text{cf. } \text{i-kúrgá}
\]

his  ill-luck

‘his ill-luck’
c. nà kùmá    cf. i-kùmá
with wealth
‘with wealth’

In these data, it is assumed that the vowel of the class prefix is deleted because it occurs after another vowel, giving that a sequence of such vowels is not accepted in Njyem (Akumbu 2006). The derivation in figure 14 shows how the data in (10) are derived.

![Diagram](image)

**Figure 14.** Prefix vowel deletion
6. Associative constructions

The associative constructions in Njyem can be grouped into three sets depending on the type of associative marker that they take. The marker can either be null, an overt high-toned morpheme or a floating high tone. In the following table, the various noun classes are grouped following the associative marker that occurs with them.

Table 3. Associative markers

<table>
<thead>
<tr>
<th>Class</th>
<th>Association Marker</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1 and 9</td>
<td>zero morpheme (ø)</td>
</tr>
<tr>
<td>C2, 4, 5, 6, 8, and 11</td>
<td>overt high-toned morpheme (bé, mí, lé, mé, and bí)</td>
</tr>
<tr>
<td>C3 and 7</td>
<td>floating high tone (´)</td>
</tr>
</tbody>
</table>

The first set of examples that follows contains classes 1 and 9 nouns in initial position (N1 position). In this set, there is neither an overt morpheme nor a tone that marks association. The data that follow are illustrative.

(11) a. m-ùr    ø-ŋkànà
c1-person C9-town
‘city dweller’

b. m-ùmá    ø-sòŋò
C1-woman C1-father
‘father of woman’

c. ø-ŋkùl    m-ùrùm
C9-force C1-man
‘strength of man’

In these data, the classes 1 and 9 nouns neither undergo nor cause any tonal changes in the associative construction when they occur as the initial nouns. Similarly, the fact that non-automatic downstep does not occur with the H # H examples shows that there is no intervening low tone which typically marks agreement in C1 and C9 in Bantu (Meeussen 1967). This therefore confirms that there is no intervening tone that represents the associative marker in these cases. The following derivation represents such forms.
This derivation shows that the two low tones are coalesced by *merger*.

The next set of associative constructions contains classes 2, 4, 5, 6, 8, and 11 nouns. The associative marker in this set is an overt morpheme. It takes a high tone. If this morpheme occurs before an identical noun prefix, that prefix is deleted. Observe the following cases:

\( \text{Figure 15. } \text{Realization of low tone in classes 1 and 9 nouns in Associative constructions} \)

\( \text{This derivation shows that the two low tones are coalesced by } \textit{merger}. \)

The next set of associative constructions contains classes 2, 4, 5, 6, 8, and 11 nouns. The associative marker in this set is an overt morpheme. It takes a high tone. If this morpheme occurs before an identical noun prefix, that prefix is deleted. Observe the following cases:

(12) a. \( mì-mò \) \( mì \) \( bè-\text{mò} \)
    C4-stomach AM C2-mother
    ‘mothers’ stomachs’

b. \( mì-kán \) \( mì \) \( bè-bà'ò \)
    C4-cloth AM C2-guard
    ‘guards’ clothes’

c. \( lè-mù'ú \) \( lè-bù'ú \)
    C5-jaw C5-anger
    ‘jaw of anger’

\( \text{Figure 15. } \text{Realization of low tone in classes 1 and 9 nouns in Associative constructions} \)
In the examples in (12a–b), the associative marker \([\text{mî}]\) occurs before the noun prefix \([\text{bè}]\) but deletion does not occur because they are not identical. The associative marker simply spreads its high tone to the prefix that follows it, as shown in this derivation.

**Figure 16.** Rightward Tone Spread in Associative constructions
However, in (12c–d) where the associative marker and the following noun class marker are identical, only one of them occurs. It is assumed that the prefix is deleted in order to avoid redundancy. The fact that non-automatic downstep does not apply in this environment actually confirms the assumption that the prefix is toneless. See the derivation in figure 17.

![Diagram](image)

**Figure 17.** Rightward Tone Spread and Vowel Deletion in Associative constructions

The last set of associative constructions involves classes 3 and 7 nouns. Here, the associative marker is a floating high tone that occurs between the nouns. In many African languages, the associative construction is conveyed by means of a tonal morpheme (Williamson 1986; Chumbow & Nguendjio 1991). The floating high tone docks onto the noun on the right to form a
falling contour tone if it meets a low tone. The data that follow show such constructions (notice that /d/ is realized as [r] in word-final position).

(13) a. ø-kwún  mî-kán /kùún´ mì-kán/
C3-tail  C4.AM-cloth
‘cloth of tail’

b. ø-kàlò  lé-tàŋlò /kàlò´ le-tàŋlò/
C3-root  C5.AM-story
‘story of root’

c. ø-sámá  ø-tʃím /sámá´ tʃím/
C7-group C7-AM.cry
‘cry of group’

d. ø-dàlà  m-ûr /dàlà´ mùd/
C7-pot  C1-AM.person
‘someone’s pot’

These examples show that the floating high tone that marks association docks onto the first TBU of the following noun. The rule that follows shows how this occurs.

![Diagram](image)

Condition: It must be the high tone of the associative marker.

**Figure 18.** Rightwards High Docking

According to Rightwards High Docking the floating high tone of the associative marker docks onto the TBU to its right. Consider the derivation that follows.
In this article, the morpheme structure of noun roots has been shown. In order to account for the surface melodies found on noun roots, their contrastive underlying tonal melodies have been given and the realization on the surface of each melody discussed within the framework of Register Tier Theory. Where the analysis is not transparent, supporting examples have been given to elucidate the arguments. This article has ended up by presenting the associative constructions in order to show how tones behave when nouns are collocated in larger nominal constructions. Some tone rules have been used to account for the data in this paper: l-spread and h-delink have been used to account for automatic downstep of high tones. HL Simplification shows that a HL contour tone is simplified to a high tone when followed by another high tone. Low Tone Spread prevents some utterance-final low tones from downgliding. Rightward tone spread has

**Figure 19.** Application of Rightwards High Docking

7. **Conclusion**
been used to attribute a tone to toneless prefixes. Rightwards High Docking accounts for the associative constructions that take a floating high tone. Derivations have been given to illustrate how the rules apply. Finally, it has been demonstrated in this paper that Register Tier Theory is useful in accounting for tonal processes that Njyem nouns undergo.

References

Appendices

Appendix A. H melody is realized as H.

his group

his camp
his glass

Appendix B. Final low tone downglides.

his prostitution

his peanut
Appendix C. Downstep of second H in a H L H sequence.
his reception

his blow

Appendix D. HL H surfaces as H.

his race
Appendix E. LH Melody surfaces as L.
Appendix F. LH Melody is realized as L before H.
one residence

your duck

 Appendix G. LH melody surfaces as LH before L.

this quarrel
that residence

this sermon

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Toward a Practical Dependency Grammar Theory of Discontinuities

Abstract

The paper presents the major principles and concepts of a dependency grammar theory of discontinuities for English and German (and presumably for many other languages as well). Discontinuities are identified in terms of traditional projectivity violations. These violations are then reanalyzed according to the Rising Principle. This principle sees the relevant constituent attaching to a word that is not its governor, but that dominates its governor. Perhaps the most innovative aspect of the account is the chain. By acknowledging the chain as the fundamental unit of syntax, the door opens to an efficient surface account of discontinuities and many other phenomena of syntax.

1. Discontinuities

Most theories of syntax acknowledge discontinuities (= long distance dependencies) in some manner or another. English and German sentences like the following are unacceptable because they contain illicit discontinuities:

(1) a. *Whose do you like answer?
(2) a. *That she will never reveal secret.
(3) a. *weil er sich das Geheimnis geweigert hat zu erwähnen because he himself the secret refused has to mention
    ‘Because he refused to mention the secret.’
(4) a. *That one claimed was mentioned that it would rain.
(5) a. *Desire I have no(ne).

Sentences (1a) and (2a) are disallowed because the pre-noun modifiers whose and that are separated from their governors answer and secret, respectively. Example (3a) is disallowed because das Geheimnis is separated from its governor zu erwähnen. Example (4a) is disallowed because the relative clause that it would rain is separated from its governor
claimed. And example (5a) is disallowed because the quantifier no(ne) is separated from its noun desire. In other words, each of (1a–5a) is disallowed because an illicit discontinuity obtains.

While the discontinuities in (1a–5a) result in ungrammaticality, other, quite similar discontinuities are perfectly acceptable.

(1) b. Whose answer do you like?
(2) b. That secret she will never reveal.
(3) b. weil er das Geheimnis versucht hat zu erfahren
   because he the secret tried has to learn
   Because he tried to find out the secret.
(4) b. The claim was mentioned that it would rain.
(5) b. Lust habe ich keine.
   desire have I none
   ‘I have no desire (to do something).’

Sentence (1b) contains a wh-fronting discontinuity, example (2b) a topicalization discontinuity, example (3b) a scrambling discontinuity, example (4b) an extraposition discontinuity, and example (5b) a splitting discontinuity. The question that arises here concerns the contrast between the a- and b-sentences. Why are the discontinuities in the b-sentences possible but the quite similar discontinuities in the a-sentences blocked?

Examples (1a–b) and (2a–b) are often addressed in terms of Ross’ (1967) Left Branch Condition and pied-piping, examples (3a–b) in terms of Infinitivverschränkung (Kvam 1983; Richter 2002) or in terms of the so-called “third construction” (Besten & Rutten 1989; Kiss 1995: 109ff.; Hinrichs & Nakazawa 1998; G. Müller 1998: 189ff.; Reis & Sternefeld 2004: 488ff.), examples (4a–b) in terms of Ross’ (1967) Right Roof Constraint, and examples (5a–b) in terms of split topicalization (= splitting) in German (Riemsdijk 1987; Holmberg 1997: 14f.). To understand the phenomena that these terms denote, one must assume a grammar framework. The accounts of these discontinuity types then vary based upon

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1 Grammaticality judgments vary with sentences like (3a–b), whereby a number of factors seem to influence acceptability. An anonymous reviewer points out that the appearance of two accusative objects (sich and das Geheimnis) may be responsible for blocking (3a). Note in this regard that (3b) contains just a single accusative object (das Geheimnis). Furthermore, examples with an accusative and a dative object are possible, e.g. weil er sich das Rätsel vorgenommen hat zu lösen ‘because he took it upon himself to solve the riddle’.
the relevant aspects of the framework chosen. Constituency-based
derivational theories such as Government and Binding (GB) and the
Minimalist Program (MP) usually address discontinuities in terms of
movement and traces. Constituency-based non-derivalational theories
employ some sort of information passing mechanism in order to address
discontinuities, e.g. the slash mechanism of Generalized Phrase Structure
Grammar (GPSG) and Head Driven Phrase Structure Grammar (HP SG)
(Gazdar et al. 1985: Ch. 7; Pollard & Sag 1994: Ch. 4) and the functional
uncertainty of Lexical Functional Grammar (LFG) (Bresnan 2001: 64ff.).

Dependency-based theories of syntax also have their means of
addressing discontinuities. These theories identify and formalize
discontinuities in terms of projectivity (see for instance Hays 1964;
or more projectivity violations. Many such accounts explore projectivity in
great detail, whereby various types of projectivity violations are described
and defined in a formal manner (Lombardo & Lesmo 2000; Bröker 2000,
2003; Groß 1992, 1999, 2003; Eroms and Heringer 2003). These accounts
have provided a strong theoretical underpinning for the dependency
grammar understanding of discontinuities. However, we see a shortcoming
in the extent to which the various formalisms can be practically employed
to efficiently explore the discontinuities that a given language does and
does not allow. Our account below has this shortcoming in mind.

This paper endeavors to present and develop the basic principles of a
more practical dependency grammar theory of discontinuities. The goal is
to establish empirically the central limitations on discontinuities in English
and German. When all is said and done, a dependency grammar theory of
discontinuities will have been established that can lead to insightful
accounts of the various discontinuity types (e.g. *wh*-fronting, topicalization,
scrambling, extraposition, splitting). Three highlights of our theory are
given here for orientation:

**Chain**
A word or a combination of words that is top-down (or bottom-up) continuous.

**Rising Principle**
The head of a given chain must either be that chains governor or dominate that
chain’s governor.
Rising chain
The minimal chain containing the root of the risen chain and the risen chain’s governor.²

The chain concept developed in this paper is foreshadowed by Bech’s (1955) seminal exploration of coherent and incoherent constructions. The verb combinations that Bech investigated are chains in our dependency grammar system. Our understanding of the chain, however, follows O’Grady (1998) insofar as the chain is a unit of syntax unique to dependency grammar. By acknowledging chains and the role that they play in discontinuities, the major limitation on discontinuities is identified, namely the Rising Principle, and based on this principle, rising chains are discerned in view of which one can characterize specific types of discontinuities.

This paper is organized as follows: Section 2 presents some central aspects of our dependency grammar. Section 3 establishes the concept of rising. Section 4 defines and illustrates inversion and shifting, two mechanisms that result in non-standard orderings, but that do not involve rising. Section 5 presents our assumptions underlying wh-discontinuities. Section 6 examines rising chains. Section 7 summarizes and concludes the paper. While the data we examine is limited to English and German, we assume that our approach is applicable to many other languages as well.

2. Dependency grammar

The following two sections present some traits of dependency grammar. Many aspects of this approach are consistent in relevant respects with a long-standing tradition of dependency grammar since Tesnière (1959).³ The particular dependency grammar we pursue follows Groß (1999, 2003) and Osborne (2005a, 2005b, 2006, 2007, 2008).

² The root of a given chain is the one word in that chain that is NOT dominated by any other word in that chain. The root of a sentence is usually the finite verb.

2.1 Preliminaries

Dependency-based theories of syntax view sentence structure in terms of the mother-daughter relation. Words are organized hierarchically in terms of directed dependencies.

Dependency trees such as this one convey much information. The words are organized with respect to precedence and dominance. The mother-daughter relation is indicated via the dependency edges, i.e. the solid lines connecting the words into a tree. A given word has none, one, or more daughters. The word *words*, for instance, has the daughters *the* and *of*, and the word *organized* has the daughter *hierarchically*. Excepting the root word, a given word in a sentence also has exactly one mother word. The mother of *sentences*, for instance, is *of*, and the mother of *the* is *words*.

The mother-daughter dependency relation is a one-to-one relation. That is, for every word in the string, there is exactly one node in the structure. This one-to-one relation is clearly visible in (6), where the sentence *The words of sentences are organized hierarchically* contains seven words, and correspondingly, there are seven nodes in the hierarchy above the sentence. This one-to-one relation allows one to plug the words directly into the tree, as done in (6). The result is a minimal and transparent representation of sentence structure.

The one-to-one dependency relation should be contrasted with the one-to-more-than-one constituency relation.

(7)
This tree shows the part-whole constituency relation, which is a one-to-more-than-one relation. There are still seven words in the sentence, but now the structure contains 13 nodes. Thus each word in the sentence corresponds to more than one node in the structure. The one-to-more-than-one constituency relation results in much larger more involved structures than the one-to-one dependency relation. The constituency tree (7) shows 13 nodes and 12 edges, whereas the dependency tree (6) shows 7 nodes and 6 edges.

Dependency trees like (6) are not arbitrary. The words are organized hierarchically in a manner that matches best the results of standard constituency tests (e.g. topicalization, clefting, pseudoclefting, pronominalization, answer fragments). Key units of syntax are complete subtrees (= constituents). In (6) for instance, the subject phrase the words of sentences, the prepositional phrase of sentences, and the verb phrase organized hierarchically are complete subtrees. In this regard, notice that the number of complete subtrees (= constituents) in dependency hierarchies is far less than the number of complete subtrees (= constituents) in constituency trees. Many individual words in dependency trees fail to qualify as constituents (e.g. words, of, are, and organized in (6)).

Certain aspects of the dependency hierarchies we assume are controversial. For example, the determiner the in (6) is shown as a daughter of the noun words. This is contrary to the DPs assumed in many constituency-based grammars (since Vennemann 1977 and especially Abney 1987) and in some dependency-based grammars as well (e.g. Hudson 1984, 1990; Lobin 1993; Lombardo & Lesmo 2000). We believe that a number of considerations support NP over DP, e.g. Ross’ Left Branch Condition, idiom formation, aspects of N-ellipsis, aspects of splitting (see below), etc. Unfortunately, there is no room in this paper to go over these points. We can state, however, that our NPs (as opposed to DPs) are consistent with the majority, that is, most dependency grammars assume NP, not DP (e.g. Schubert 1988; Engel 1994; Van Langendonck 1994; Heringer 1996; Weber 1997; Tarvainen 2000; Groβ 1999, 2003; Hellwig 2003; Hyvärinen 2003; Kahane 2003; Uzonyi 2003; Starosta 1988, 2003; Mel'čuk 1988, 2003).

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4 Consider for instance the Left Branch Condition. Determiners cannot be separated from their nouns in English, e.g. (…) and the pizza he ate vs. *(…) and the he ate pizza. In this regard, determiners behave just like all other pre-noun modifiers. This situation suggests strongly that all pre-noun modifiers should occupy the same hierarchical position (i.e. they should all be dependents of their noun).
Our dependency grammar is non-derivational and monostratal and is therefore completely representational. In this regard, the lexicon plays a major role in our system. For instance, the active-passive dichotomy resides in the lexicon, not in the syntax. A participle such as seen has (at least) two entries, one for the active form (e.g. *He has seen you*) and one for the passive form (e.g. *You have been seen*). Furthermore, the subject is not raised out of the VP in our system, but rather it is “base generated” as a dependent of the finite verb. In these respects, the types of discontinuities/movements that GB/MP tends to view as A-movement are in no way viewed as discontinuities in our system. Our system does, however, acknowledge many of the discontinuities associated with A-bar movement, although we do not acknowledge movement.

Finally, it is worth noting that the dependency grammar we assume is unlike two prominent dependency-based frameworks. Richard Hudson’s (1984, 1990, 2007) dependency-based Word Grammar is unlike our system insofar as Word Grammar assumes networks (as opposed to the trees that we assume). The problem with networks, in our view, is that they render the chain – the key unit of syntax in our system, as established in the next section – ineffectual. Given networks, the number of chains in a given structure increases to the point where the chain concept becomes vacuous, since most every word combination qualifies as a chain. Igor Mel’čuk’s Meaning-Text Theory (1988, 2003) is also unlike our system. Meaning-Text Theory views dominance as more basic than precedence. In so doing, it acknowledges deep strata of syntax where only dominance obtains. Our system, in contrast, grants precedence and dominance “equal rights”. In so doing, our system acknowledges surface syntax only.

### 2.2 Chains

O’Grady (1998) presents a dependency grammar theory of idioms in terms of *chains*. Osborne (2005b) builds on O’Grady’s work, demonstrating that the chain is the key unit for a syntactic account of predicate-argument structures and ellipsis. The chain is can be defined as follows:

**Chain**

A word or a combination of words that is top-down (or bottom-up) continuous.

---

5 Word Grammar overcomes this problem by distinguishing between surface and non-surface dependencies (Hudson 2000). Word Grammar hierarchies that show only surface dependencies are trees. Our chain concept is applicable to these trees.
With this definition in mind, consider the following structure.

![Diagram](image)

With this definition in mind, consider the following structure.

\[(8)\]

The capital letters serve to abbreviate the words. According to the definition, any single word or any combination of words that is continuous with respect to dominance qualifies as a chain. Thus each single word is a chain, i.e. A, B, C, D, E, F, G.

A two word combination qualifies as a chain if the two words are connected by a dependency. There are 6 two-word combinations in (8) that qualify as chains: AB, BC, CE, DE, EF, and FG. There are also 6 three-word combinations that qualify as chains: ABC, BCE, CDE, CEF, DEF, and EFG. There are 6 four-word combinations that qualify as chains: ABCDE, ABCEF, BCDEF, BCEFG, and CDEFG. There are 2 six-word combinations that qualify as chains: ABCDEF and ABCEFG. And of course the entirety counts as a chain: ABCDEF.

All told, there are 33 distinct word combinations in (8) that qualify as chains. The chain is in this respect a quite flexible unit of syntax, many word combinations of a given structure qualifying as chains. However, one should note that there are usually more word combinations that fail to qualify as chains than that qualify as chains. In (8) for instance, there are 94 combinations that fail to qualify as chains. Nine of these 94 are listed here for illustration: AC, AG, CD, ADE, CEF, ABDE, BCEG, BCDFG, ABDFG, etc.

We view the chain as the basic unit of syntax, not the constituent. Noteworthy in this respect is the fact that all constituents are chains, but there are very many chains that are not constituents. This fact holds for

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6 Identifying and listing all the chains in a given structure can be tedious. To ensure that the chains are all identified, one needs a specific convention to simplify the job. We therefore move left-to-right when listing the word combinations, starting with one-word combinations, proceeding to two-word combinations, etc.
both dependency- and constituency-based theories of syntax. There are, for instance, 6 constituents (= complete subtrees) in (8), but as stated, 33 chains. The corresponding constituency-structure of (8) would contain approximately 13 constituents, whereby all would qualify as chains, which means there would be 20 word combinations that qualify as chains but that fail to qualify as constituents.

By acknowledging chains, the current system establishes the foundation for a theory of discontinuities that remains entirely in surface syntax.

3. Rising

The relatively flat structures of dependency grammars see fewer discontinuities than the more layered structures of most constituency grammars (Hellwig 2003: 621). Despite this fact, discontinuities are a common phenomenon and dependency grammar must therefore have a means of addressing them. The following subsections present and defend the basic means by which the current dependency grammar addresses discontinuities. *Rising* is assumed. “Rising” denotes a constellation in which a chain has attached to a word that is not its governor. The account we pursue here has many precedents in the dependency grammar literature (Duchier & Debusmann 2001; Gerdes & Kahane 2001; Hudson 2000; Bröker 2003; Eroms & Heringer 2003; Starosta 2003; Osborne 2005a, 2007).

3.1 The Rising Principle

A discontinuity is perceived when a given chain is separated from its governor by words that dominate its governor. Traditional dependency-based accounts of such cases (e.g. Hays 1964; Gaifman 1965; Robinson

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7 The majority of constituency grammars (e.g. GB/MP, HPSG, CG, LFG, etc.) posit syntactic structures that are a good bit more layered than most any dependency grammar. This difference does not, however, necessarily obtain. The constituency relation allows flat structures as well. The question that proponents of flatter constituency structures must address in this area, though, concerns the choice of constituency over dependency. If one chooses flatter structures from the start, then the motivation to assume constituency over dependency disappears. Dependency will get the job done with less apparatus.

(9)  
\begin{align*}
\text{a. avoid} & \quad \text{old arguments} \\
\text{b. *old avoid arguments}
\end{align*}

Example (9a) has no crossing lines, which means the structure is projective. Example (9b), in contrast, has crossing lines, which means that the structure is non-projective. The adjective \textit{old} is separated from its governor \textit{arguments} by \textit{avoid}, which dominates \textit{arguments}. Most non-projective structures in English and German are ungrammatical like (9b).

Some non-projective structures are, though, quite grammatical. Furthermore, the amount and type of non-projective structures that a given language allows varies greatly, inflectionally poor languages allowing many fewer projectivity violations than inflectionally rich languages. The following a-examples illustrate grammatical non-projective structures in English. The b-examples illustrate how the current theory addresses these cases.

(10)  
\begin{align*}
\text{a. What don’t you understand?} & \quad \text{b. What don’t you understand?}
\end{align*}

(11)  
\begin{align*}
\text{a. That pizza I will not eat.} & \quad \text{b. That pizza I will not eat.}
\end{align*}

\footnote{Most dependency grammars assume that a topicalized expression is a dependent of the finite verb, as shown here in (11b). An alternative analysis might view the root of the topicalized expression as the root of the clause and thus have the clause as a dependent}
Sentence (10) illustrates a *wh*-fronting discontinuity, sentence (11) a topicalization discontinuity, and sentence (12) an extrapolation discontinuity. The crossing lines in the a-sentences identify the discontinuities (= projectivity violations). The manner in which these discontinuities are addressed in the current theory follows Osborne (2005a: 236ff., 2007: 34ff.) and is shown in the b-sentences. The b-sentences, namely, show *rising*. The dashed dependency edges indicate the risen chain (often a constituent) and the “" subscript marks the governor of the risen chain.

The head of a given chain is **THE ONE WORD THAT IMMEDIATELY DOMINATES THAT CHAIN.** The governor of a given chain, in contrast, is **THE ONE WORD THAT LICENSES THE APPEARANCE OF THAT CHAIN.** Most of the time, the head and the governor of a given chain are one and the same word. When a discontinuity is perceived, however, the two are separate words. In (11b) for instance, *will* is the head of *that pizza* but *eat* is its governor, and in (12b), *arrived* is the head of the extrapolated *with red hair*, whereas *someone* is its governor.

In (10b, 11b, 12b), the risen chain attaches to a word that dominates its governor: *what* in (10b) attaches to *don’t*, which dominates *understand*, the governor of *what; that pizza* in (11b) attaches to *will*, which dominates *eat*, the governor of *that pizza; and *with red hair* attaches to *arrived*, which dominates *someone*, the governor of *with red hair*. The principle that underlies this account of discontinuities is called the **Rising Principle.** This principle is expressed as follows:

**Rising Principle**

The head of a given chain must either be that chain’s governor or dominate that chain’s governor.

---

of the topicalized expression. While we believe that this alternative analysis is plausible and worth pursuing, we do not address the matter in this paper.
Given the Rising Principle, one distinguishes between those chains the head and the governor of which are the same word and those chains the head and the governor of which are separate words. When a chain attaches to a word that is not its governor, it has *risen*. A *risen chain* is defined as follows:

**Risen Chain**

A chain the head and the governor of which are distinct words.

Risen chains are marked by the dashed dependency edge, as illustrated in (10b, 11b, 12b): *What* in (10b), *that pizazz* in (11b), and *with read hair* in (12b) are risen chains.

A word of caution about the terminology is warranted. Our dependency-based grammar is decidedly non-derivational. We do not assume that the risen chain ever appears as a dependent of its governor at some stage of a putative derivation below or beyond the surface. But rather the notion of rising is understood figuratively. The terms *rising* and *risen* are convenient metaphors for denoting a constellation in which a given chain has attached to a word that is not its governor.

The Rising Principle is illustrated with the following abstract example:

(13)

The letters represent words. Focusing on D, whereby C is assumed the governor of D, the Rising Principle prohibits D from ever attaching to A, B, F, or G because A, B, F, and G do not dominate the governor of D, which is C. The Rising Principle would, however, allow D to attach to E because E *DOES* dominate C.

Examples (10–12) illustrate various types of rising in English. Rising of course also occurs in German. German actually has types of rising that English does not.
Two dashed dependency edges appear in this example. The higher one indicates that the relative clause has risen from its governor Person, and the lower one indicates that the relative pronoun die has risen from its governor kennen. Section 5.2 presents our account of relative clauses.
The rising in (14–18) obeys the Rising Principle. In each case, the risen chain has attached to a word that dominates its governor. Scrambling and splitting are two types of discontinuities that German allows but that English appears not to allow. The five discontinuity types illustrated – i.e. wh-fronting, topicalization, scrambling, extraposition, and splitting – certainly do not exhaust the inventory of discontinuity types, but they do represent the clearest and perhaps least disputed types of discontinuities.

The concept of rising just introduced has many precedents in the dependency grammar literature, although the terminology varies: Duchier and Debusmann (2001) choose the term “climbing”, Gerdes and Kahane (2001) opt for “emancipation”, Hudson (2000: 32) employs the term “raising”, Bröker (2003: 294) sees the relevant constituent “lifting”, and Eroms and Heringer (2003: 26) suggest movement and then “adjunction”. While there are certainly differences between the accounts of these linguists, the underlying idea is the same. This idea is that a flattening of structure occurs in order to overcome the discontinuity.

3.2 Evidence for rising

Evidence for the notion of rising introduced in the previous section comes in various forms. The following subsections briefly examine four phenomena that provide empirical support for our concept of rising:

1. Aspects of the long passive,
2. Aspects of N-ellipsis and splitting,
3. Certain ambiguities associated with negation, and
4. The non-derivational argument.

Each of these points is discussed in turn in the following subsections.

3.2.1 The long passive

The long passive (Stechow 1990: 189ff.; S. Müller 2002: 94; Haider 2003; Wurmbbrand 2007: 256f.) obtains in German when the object of an embedded infinitival predicate takes the nominative case (as opposed to the accusative). The matrix predicate in such cases is passivized.
The long passive does not exist in English, as the translations indicate. Furthermore, our native informants most always hesitate with such sentences. Instances of the long passive are therefore viewed as marginal here.\(^\text{10}\) Overlooking this marginality, these sentences demonstrate that the object noun phrase can take the nominative or the accusative case. When the noun phrase takes the accusative, rising has not occurred, as seen in (19a). When the nominative obtains, however, rising \textsc{has} occurred, as seen in (19b). Thus the flexibility in case is explained in terms of rising.

The key data from the long passive that support the rising account occurs when the constellation is such that rising must have occurred. In such cases, the account predicts that the nominative should be obligatory. This prediction is born out.

---

\(^{10}\) An anonymous reviewer points out that the long passive is definitely possible. (S)he provides the following example produced by Engelen (1996: 19): \textit{Das ist eigentlich auch nicht verwunderlich, da mit allen drei Methoden derselbe Gegenstand zu analysieren versucht wird} 'that is actually not surprising since the attempt has been made to analyze the same object with all three methods'.
Sentences (19c) and (19e) are possible because the risen noun phrase *der Wagen* shows the nominative case. Sentences (19d) and (19f), in contrast, are bad because the risen noun phrase shows the accusative case instead of the nominative.

The data (19a–f) is explainable based on the assumption that when the object noun phrase rises, it must take the nominative case. If the object phrase does not rise, it maintains the accusative case. This account is possible based on the rising concept. Without rising, these data would be difficult to explain.

### 3.2.2 N-ellipsis and splitting

Aspects of N-ellipsis and splitting deliver further support for the concept of rising. N-ellipsis occurs when the noun of a noun phrase is absent; the content of such nouns is retrieved from context.

(20) *He took the first train and she took the second.*

(21) *Er fuhr mit dem ersten Zug und sie mit dem zweiten.*

he drove with the first train and she with the second

The noun *train/Zug* has been omitted from the second noun phrase in each case. These omitted nouns are available in the immediately preceding
context. N-ellipsis of this sort is a restricted phenomenon in English; it occurs only with a limited set of adjectives, e.g. possessive adjectives (mine, yours, his, hers, etc.) and ordinal adjectives (first, third, etc.). In German, in contrast, the phenomenon occurs much more freely; all pre-noun modifiers can introduce an N-ellipsis.

Our dependency grammar analysis of N-ellipsis does not see such cases involving ellipsis in the literal sense, i.e. the noun has not been elided, but rather the pre-noun modifier slides into the position of the omitted noun and in so doing, functions as a pronoun.

The pre-noun modifier of the object phrase in the second clause takes on the role of the noun. The contrast in forms, i.e. possessive adjective vs. possessive pronoun, supports the account. When the pre-noun modifier is indeed a modifier, the possessive adjective must appear, when the noun is omitted, the pre-noun modifier becomes a pronoun, which means the possessive pronoun must appear.

This same sort of data occurs in German. The contrast shows up with the alternating strong vs. weak endings on pre-noun adjectives:

When the pre-noun modifier is a dependent of its noun, the adjective takes a weak ending (which in this case is no ending at all), but when the noun is missing, the pre-noun modifier becomes a dependent of the verb and takes the strong ending -es.
Now the particular evidence in favor of rising occurs with instances of splitting in German (Riemslgijk 1987; Holmberg 1997: 14f.).\footnote{A special long-term project (Potsdam Split Noun Phrase Project) that explores split NPs in numerous languages is being conducted at the University of Potsdam: http://www.ling.uni-potsdam.de/cgi-split/index.py?site=a\_Home} Splitting occurs when (what is normally) a pre-noun modifier rises to follow its governor:

(24)  
\[
\begin{array}{c}
\text{Mehl}_g \\
\hline
\text{Fleiß}_g
\end{array}
\]
\[
\text{haben} \\
\text{wir} \\
*\text{kein/keines}
\]

flour have we no/none
‘We have no flour.’

(25)  
\[
\begin{array}{c}
\text{Mehl}_g \\
\hline
\text{Fleiß}_g
\end{array}
\]
\[
\text{kommen} \\
*\text{kein/keiner} \\
\text{auf}
\]

‘No effort is exerted.’

Modifiers like the quantifier \text{kein/keiner} ‘no/none’ normally precede the nouns that they modify. But in these cases, the root verb splits the modifier from its noun. The key aspect of such data is that the risen modifier takes the strong ending, i.e. -\text{es} in (24) and -\text{er} in (25). The appearance of the strong endings is consistent with the strong ending that appears in (23). Such endings must appear when the modifier becomes the dependent of the verb (as opposed to of the noun). This account provides an explanation for the obligatory appearance of the strong endings in splitting.

3.2.3 The ambiguity of negation

Aspects of the ambiguity of negation in German (and English) are explainable in terms of rising. Consider first the ambiguity of the following sentence:
The ambiguity is explainable in terms of the attachment point of the negation. When the negation attaches to _darf_, just _darf_ is negated. Similarly, when the negation attaches to _essen_, just _essen_ is negated. The latter structure receives special intonation: a pause after _darf_ and emphasis on _nicht_.

Alternative orderings of the words in (26) demonstrate that this analysis of negation is accurate. When the negation must attach to _darf_, only the first reading is possible:

(26)

Since the position of _nicht_ prevents it from attaching to _essen_, only the reading is available where _darf_ is negated. If the position of the negation requires it to attach to _essen_, however, then only that reading is available:

(26)

Examples (26a–d) thus demonstrate that the position of negation determines the predicate that can be negated. If the negation appears in a position where it can attach to both predicates, then ambiguity is the result.
If the position of the negation requires that it attach to one of the predicates rather than to the other, then only that predicate is negated.

Now the particular evidence in favor of rising occurs when an object appears in the sentence.

(27)  

\[ \text{Sie} \quad \text{d} \quad \text{a} \quad \text{r} \quad \text{f} \quad \text{f} \quad \text{n} \quad \text{i} \quad \text{c} \quad \text{h} \quad \text{t} \quad \text{e} \quad \text{s} \quad \text{e} \quad \text{n} \quad \text{en} \]

a. \[ \text{Sie} \quad \text{d} \quad \text{a} \quad \text{r} \quad \text{f} \quad \text{d} \quad \text{a} \quad \text{s} \quad \text{n} \quad \text{i} \quad \text{c} \quad \text{h} \quad \text{t} \quad \text{e} \quad \text{s} \quad \text{e} \quad \text{n} \quad \text{en} \]

‘She is not allowed to eat that.’

b. \[ \text{Sie} \quad \text{d} \quad \text{a} \quad \text{r} \quad \text{f} \quad \text{d} \quad \text{a} \quad \text{s} \quad \text{N} \quad \text{I} \quad \text{C} \quad \text{H} \quad \text{T} \quad \text{e} \quad \text{s} \quad \text{e} \quad \text{n} \quad \text{en} \]

‘She is allowed to not eat that.’

The sentence is again ambiguous. The crucial aspect of these structures is that the governor of \text{das} is \text{essen}. The structure in (27a) is blocked because of the projectivity violation, i.e. the crossing lines. The non-availability of the structure in (27a) suggests that the rising shown in (27a’) has indeed occurred. Only if the object \text{das} has risen and attached to the matrix predicate \text{darf} can the negation also attach to \text{darf}. Without the potential of rising, the availability of the first reading would be difficult to explain. Finally, the structure in (27b) obtains when just the lower predicate is negated.
3.2.4 The non-derivational argument

Non-derivational frameworks (e.g. HPSG and LFG) produce a strong argument against derivational theories of syntax. The following data are adapted slightly from Bresnan (2001: 17).

(28) a. ‘‘We talked for days about [that he was sick].

   b. [That he was sick] we talked about it for days.

Sentence (28a) is strongly marginal because the preposition about has the full clause that he was sick as its dependent. Prepositions readily take NPs and adverbs as their dependents, but they dislike full clauses. Sentence (28b), where the clause has been topicalized, is much better than (28a). Derivational theories are challenged by such data, since they incorrectly predict (28b) to be just as bad as (28a), the full clause having appeared in the position of the trace at an early point of the derivation.

These data also support the current approach in terms of rising. The following data illustrate the non-rising and rising analyses of (28b):

\[\text{The non-rising analysis shown in (28b') cannot be correct, since it shows the full clause that he was sick as a dependent of the preposition about.}\]

\[\text{An alternative analysis of (28b'') would view the matrix clause as a dependent of the topicalized object clause. See footnote 23.}\]
Sentence (28a) demonstrates, namely, that prepositions do not take full clauses as their dependents. This insight thus supports the rising analysis shown in (28b’).

There is a second aspect of example (28) that suggests that rising has occurred. Compare (28b) with (28c).

(28) c. ??That he was sick we talked for days about.

This sentence is bad due to weight; the constituent about is lighter than for days and should therefore precede for days. This situation is contrary to what one would expect if That he was sick were a surface dependent of about. The fact that about should precede for days indicates that about is lighter than for days. This ‘lightness’ is explainable only if about has no surface dependent.

4. Inversion and shifting

The following two sections examine two ordering mechanisms that must not be confused with rising, namely inversion and shifting. Inversion and shifting generate serializations that are (in some sense) non-standard or “marked”, but that do not involve rising.

4.1 Inversion

Typical instances of inversion in English have the subject and the finite verb in some sense switching positions (Steele 1981; Fillmore 1999; Goldberg & Del Giudice 2005). Inversion occurs, for instance, with interrogatives, negation, and locatives (to name just three examples):

(29) a. He has left.
    b. Has he left?  – Interrogative inversion

(30) a. …and he did not help.
    b. …nor did he help. – Negative inversion

(31) a. Sue stood behind us.
    b. Behind us stood Sue. – Locative inversion

The key aspect about the b-serializations is that they do not contain discontinuities. The subject in each case has merely switched to the other side of its head.
The subjects *he* in (29b'), *she* in (30b'), and *Sue* in (31b') have become post-dependents of their heads; they have inverted.\(^{13}\)

Given this analysis, inversion is defined as follows:

**Inversion**

Inversion occurs when a dependent appears on the non-canonical side of its head.\(^{14}\)

This definition of inversion results in a broader understanding of inversion than one normally encounters. Many instances of topicalization and scrambling will involve inversion rather than rising.

German illustrates well cases of inversion that would in other frameworks be analyzed in terms of movement and raising. Frequently occurring cases of topicalization involve inversion on two counts.

The canonical position of the subject is as a pre-dependent of the finite verb in both English and German. These sentences have the subject appearing as a post-dependent of the finite verb, however, which means the subject has inverted. Similarly, the canonical position of an object like *ihn* in (32)

---

\(^{13}\) A post-dependent is a dependent that follows its head and a pre-dependent is a dependent that precedes its head.

\(^{14}\) We are relying on intuitive notions of canonical word order: SVO in matrix clauses in German and in all clause in English, and SOV in subordinate clauses in German. Deviations from these orders necessarily involve rising, inversion, and/or shifting.
would be as a post-dependent of the finite verb, yet in this case, \textit{ihn} appears as a pre-dependent, which means it has inverted. Whether this analysis can also apply to \textit{nach der Arbeit} in (33) is unclear.\footnote{The adjunct \textit{nach der Arbeit} is a clause adjunct. As such, it is a predication over the entire clause. Such clause adjuncts are optional and their position varies greatly. For these reasons, it is difficult to acknowledge a canonical position for such adjuncts.} Since a canonical position for many adjuncts is often not evident, it is debatable whether or not they should be viewed as having inverted in cases like (33).

Evidence for this non-rising understanding of inversion is seen in the constituents that can be topicalized. Most dependents of the finite verb in declarative sentences can be topicalized. The same cannot be said about most constituents lower down in the hierarchy.\footnote{Unlike German, English likes to strand prepositions. In this regard, the complements of prepositions are often topicalized in English even though they are not technically the dependent of the finite verb, e.g. (…) \textit{that house he stood in front of}.}

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\begin{enumerate}
\item[(34)]
\begin{itemize}
\item[a.] He stood at two o’clock in front of the house.
\item[b.]\textit{Vor dem Haus stand er um zwei Uhr.}
\item[c.]\textit{Um zwei Uhr stand er vor dem Haus.}
\item[d.] \textit{*Dem Haus stand er um zwei Uhr vor.}
\item[e.] \textit{*Dem stand er um zwei Uhr vor Haus.}
\item[f.] \textit{*Zwei Uhr stand er um vor dem Haus.}
\item[g.] \textit{*Zwei stand er um Uhr vor dem Haus.}
\end{itemize}
\end{enumerate}

Sentences (34b–c) are possible in part because no rising has occurred, but rather just inversion. Sentences (34d–g), in contrast, fail in part because rising out of the PPs is necessary. Prepositions in German are strict barriers to rising.

### 4.2 Shifting

Rising has occurred when a chain is separated from its governor by one or more words that dominate its governor. In this regard, one should not
confuse rising with *shifting*. Shifting has occurred when sister constituents have in a sense “swapped positions”.

These examples do not involve rising. The sister constituents *with us* and *a very interesting secret* have, rather, simply shifted. Shifting occurs between *co-sister constituents*, whereby co-sister constituents are sister constituents that appear on the same side of their head. In (35), *with us* and *a very interesting secret* are co-sisters because they appear on the same side of their head *shared*.

Shifting is motivated by the relative weight of the constituents involved, a fact that is empirically verifiable (e.g. Hawkins 1994; Stallings et al. 1998; Staub et al. 2006). Heavier constituents tend to follow lighter constituents. The relative ‘heaviness’ of a given constituent is determined by a number of factors, e.g. grammatical function, grammatical category, focus, definiteness, amount of linguistic material, etc. When the discrepancy in the relative weights of the co-sister constituents involved is small, two (or more) orderings are possible, as illustrated in (35a–b). But when the discrepancy is great, the necessity that shifting occur becomes compelling.

(36)  

a. *He said that to us.*  

b. *He said to us that.*

(37)  

a. *He said that he really wanted to help out to us.*  

b. *He said to us that he really wanted to help out.*
Notice that the demonstrative pronoun *that* in (36) corresponds to the embedded clause *that he really wanted to help out* in (37). Shifting cannot occur in (36) because the demonstrative pronoun is much lighter than the prepositional phrase. Shifting is obligatory in (37), in contrast, because the embedded clause is much heavier than the prepositional phrase.

In English, shifting appears to be limited to the post-verb domain, i.e. it occurs only after the verb (chain). In German, however, shifting is a more common occurrence; it takes place quite often in the midfield as well as in the post-verb domain. The following examples illustrate shifting in the midfield in German:

With a normal intonation curve, sentence (38a) is preferred over (38b). Sentence (38b) is, however, also acceptable, especially if *meiner Schwester* receives contrastive stress. The crucial point here is that rising has not occurred, which means there is no discontinuity.

Shifting in German is not limited to just objects (and adjuncts), but rather the subject can also take part. The following examples show shifting involving the subject constituent:
Subjects are lighter than objects, and definite pronouns are lighter than full NPs. These competing aspects of weight result in flexible word order.

Examples (35–39) are cases that involve just shifting (and inversion in the case of (39)), meaning that rising has in no way occurred. It is not unusual, however, for rising to occur in concord with shifting. Such cases are usually addressed in terms of scrambling. The following examples illustrate the possibilities:

(39)  
\[
\text{besuchten} \\
\text{Gestern} \ 	ext{Kinder} \ 	ext{mich} \\
\text{die} \\
\]

a. \text{Gestern} \text{besuchten} \text{die Kinder} \text{mich.}

\text{Yesterday the children visited me.}'

b. \text{Gestern} \text{besuchten} \text{mich} \text{die Kinder.}

\text{Yesterday the children visited me.}'

(40)  
\[
\text{weil} \\
\text{haben} \\
\text{Kinder} \ 	ext{uns} \ 	ext{das} \ 	ext{geschenkt} \\
\text{die} \\
\]

a. \text{weil} \text{die Kinder} \text{uns} \text{das} \text{geschenkt} \text{haben}

\text{because the children us that given have}

\text{‘Because the children gave us that.’}

\[
\text{weil} \\
\text{haben} \\
\text{Kinder} \ 	ext{uns} \ 	ext{das} \ 	ext{geschenkt} \text{haben} \\
\text{die} \\
\]

a'. \text{weil} \text{die Kinder} \text{uns} \text{das} \text{geschenkt haben}

\text{because the children us that given have}

\text{‘Because the children gave us that.’}
Example (40a) illustrates a structure that does NOT show rising. Example (40a’), in contrast, illustrates rising. Finally, example (40b) illustrates both rising and shifting. Since the subject is (most) always a dependent of the finite verb, the object pronouns in (40b) must rise in order to precede the subject. The (40a) and (40a’) structures represent competing analyses. Because we assume non-rising structures whenever possible, we prefer the analysis in (40a) over the one in (40a’).

Our account of shifting is motivated by a far reaching difference across English and German: English does not know scrambling, whereas German of course does. The fact that shifting occurs in English, as illustrated in Section 4.1, but that the type of discontinuities associated with scrambling do not occur in English suggests that shifting is an ordering mechanism that is distinct from scrambling. The current system distinguishes between various types of rising, whereby the rising illustrated in (40b) shall be called simply scrambling. English, unlike German, does not allow scrambling.

One must consider this account with the alternative in mind. Derivational constituency-based theories of syntax that assume strictly binary right-branching structure – such as those associated with Kayne’s Antisymmetry Theory (1994) – cannot acknowledge the distinction drawn here between shifting and scrambling. Instances of shifting like in (35–40) must be addressed in terms of movement, which means that in some sense a discontinuity is perceived. In contrast, the flatter dependency-based account presented here acknowledges no discontinuities in (35–40). The fact that scrambling does not occur in English but that shifting does,

\[17\] A shifting analysis is, however, possible. If one views the order nominative-accusative-dative as canonical, then these structures contain shifting, the dative \textit{uns} having shifted in front of the accusative \textit{das}. 
receives a straightforward explanation. Scrambling is rising, whereas shifting is not.\footnote{This point should be considered in view of the lengthy accounts of various movement/shifting phenomena. So-called “object shift” in the Scandinavian languages, for instance, has received much attention in recent years (e.g. Neeleman 1994; Vikner 2006). Vikner (2006) argues convincingly that object shift and scrambling are indeed distinct mechanisms. This fact is not surprising given the distinction drawn here. The examples of object shift Vikner produces can all be analyzed as shifting, whereas his examples of scrambling are better addressed in terms of leftward rising.}

5. \textit{Wh}-discontinuities

The following two sections examine \textit{wh}-elements and relative pronouns. The special syntax of these elements demands a certain analysis. Relative pronouns and \textit{wh}-elements in indirect questions are the roots of their clauses.

5.1 Direct \textit{wh}-questions

Depending on the \textit{wh}-element, direct questions may or may not involve rising. When the subject of the matrix clause is questioned, neither in English nor in German does rising occur.

\begin{flushleft}
\begin{tabular}{ll}
(41) & (42) \\
\begin{dependency}
  \node{} [w] {will};
  \node[below] {survive?} [n]
  \node[below] {Who} [d, edge={->}]
  \node[below] {will} [v]
  \node[below] {survive} [n]
\end{dependency} & \begin{dependency}
  \node{} [w] {wird};
  \node[below] {überleben?} [n]
  \node[below] {Wer} [d, edge={->}]
  \node[below] {wird} [v]
  \node[below] {überleben} [n]
\end{dependency}
\end{tabular}
\end{flushleft}

Since the subject is always a dependent of the finite verb, there is no reason to assume a discontinuity in such cases. The subject appears as a dependent of the finite verb just as it would in a statement.

The obligatory appearance of an auxiliary verb (e.g. \textit{do}-support) in English when something other than the subject is questioned is, however, an indication that rising has occurred. The questioned element rises to attach to the finite auxiliary. German, in contrast, can question non-subject constituents without the appearance of an auxiliary, meaning that rising may not occur (although inversion has):
The obligatory appearance of the auxiliary *does* in (43) necessitates rising; the *wh*-element rises to attach to *does*. The Rising Principle is obeyed since *does* dominates *do*, the governor of *what*.

Direct *wh*-questions in German also obligatorily involve rising if a non-subject is questioned and an auxiliary verb is present.

Since the governor of *wem* is *geholfen*, *wem* has risen to attach to *hast*. The Rising Principle is again obeyed, *hast* dominating *geholfen*.

When an element is questioned that alone cannot rise (for whatever reason), it pied-pipes the constituent that contains it. This pied-piping may or may not result in rising.

These sentences both contain rising. In each case, the *wh*-element alone cannot rise, which means that it pied-pipes the entire noun phrase that contains it. Nothing about pied-piping of this sort challenges the current theory of discontinuities in terms of rising.
5.2 Indirect questions and relative clauses

The analysis of indirect questions and relative clauses is less obvious. Among proponents of dependency grammar, there is a lack of agreement in these areas. Some dependency grammars see the finite verb as the root of the relative clause (e.g. Kunze 1975: 160; Hajičová & Sgall 2003: 583). Many others, however, assume an interdependence between the relative pronoun and the finite verb (e.g. Tesnière 1969: 561; Engel 1994: 218; Eroms 2000: 289ff.; Hudson 2000: 32; Van Langendonck 2003: 185). This interdependence is sometimes expressed in terms of a split relative pronoun, the one part of the pronoun being the root of the relative clause and the other part being a standard dependent of the verb:

\[(48)\]

\[
\text{the} \quad \text{man} \\
\text{the man} \quad \text{d-} \quad \text{met} \\
\text{who} \quad \text{we} \\
\text{who} \quad \text{we met}
\]

The relative pronoun in such cases is partitioned, the one part being an empty demonstrative element (= d-) and the other part being a normal dependent of the finite verb. This analysis is rejected here for a couple of reasons. The one reason is that the existence of empty elements is hard to verify empirically. The second reason is that such an account is faced with difficulties when the relative pronoun pied-pipes other material with it. Instead of a split node, we view the relative pronoun as the root of the relative clause.

\[(49)\]

\begin{align*}
\text{the} & \\
\text{people} & \\
\text{the people} & \quad \text{who} \\
\text{who} & \\
\text{we} & \\
\text{we know} & \\
\text{know}_g
\end{align*}

\[(50)\]

\begin{align*}
\text{die} & \\
\text{Antwort} & \\
\text{die Antwort} & \\
\text{die} & \quad \text{antwort}, \\
\text{antwort} & \\
\text{die} & \quad \text{that} \\
\text{that} & \quad \text{she} \\
\text{gibt} & \\
\text{gibt}
\end{align*}

The dashed dependency edge still marks a constituent the head of which is not its governor: who is not the governor of we know in (49) and die is not
the governor of *sie gibt* in (50). Note also that the Rising Principle is still obeyed: the risen chain *who* in (49) has attached to *people*, which dominates *know*, the governor of *who*. Similarly, the risen chain *die* in (50) has attached to *Antwort*, which dominates *gibt*, the governor of *die*.

The curious thing about relative pronouns like the ones in (49–50), then, is that they appear to have two governors, the one being the noun that immediately dominates them and the other being the verb that they dominate. However, this appearance is deceptive. The verb that they dominate is their true governor, whereas the noun that immediately dominates them is the governor of the entire relative clause, not just of the relative pronoun.

The account of indirect questions is similar. The *wh*-question word is the root of the indirect question clause.

The account is consistent. The dashed-dotted dependency edge again marks a constituent the head of which is not its governor. The Rising Principle is also again obeyed: the risen *wh*-element in each case attaches to a word that dominates its governor.

### 5.3 Evidence for *wh*-roots

The following three subsections present three empirical arguments supporting the stance just outlined, i.e. that the *wh*-element is (usually) the root of indirect questions and relative clauses.

#### 5.3.1 SV order in English

Indirect *wh*-questions in English differ significantly from direct *wh*-questions with respect to subject-verb inversion. The frequent subject-auxiliary inversion of direct questions does not occur in indirect questions.
The direct question in (53a) shows VS order, whereas the indirect question in (53b) shows SV order. This contrast can be explained by acknowledging the varying status of the wh-element. The head of the wh-element in direct questions is the finite verb, whereas the relation is reversed in indirect questions, as presented in Sections 5.1–5.2.

By viewing the wh-element as the root of the indirect question, as shown in (54b), we have a principled means of addressing the VS vs. SV distinction. Apparently, a non-subject wh-element may not be a pre-dependent of a lexical verb in English; this explains the obligatory do-support in (54a) and the resulting subject-auxiliary inversion. In contrast, the do-support and resulting subject-verb inversion do not occur in (54b) because the wh-element is not a pre-dependent of the finite verb, but rather it dominates the finite verb. If this account were not to view the wh-element as the root of the indirect question in (54b), the distinction between VS and SV order would be difficult to explain.

### 5.3.2 VF order in German

A similar observation from German provides a second source of empirical support for our account of wh-elements. Subordinate clauses in German typically show VF (= verb final) order instead of the V2 order of declarative matrix clauses. That is, the finite verb follows the nominal arguments in non-matrix clauses.

---

19 The “V” in “SV” and “VS” represents the finite verb, which is quite often an auxiliary.
The V2 order in (55a) contrasts with the VF order in (55b). The appearance of the subordinator *dass* ‘that’ in (55b) is crucial. The appearance of such a subordinator forces VF order, as the ungrammaticality of the V2 order in (55c) illustrates.

Examine next the V2 order in the embedded clause in the following sentence:

\[(56)\]

\[\text{Wir sagen, er half uns sofort.}\]

\[\text{We say he immediately helped us.}\]

\[\text{Wir sagen, er uns sofort half.}\]

\[\text{*Wir sagen, er uns sofort half.}\]

The V2 order in this subordinate clause contrasts with the obligatory VF order in (55b). How can this contrast be explained? The answer to this question is obvious. Unlike (55b), (56a) does not involve a subordinator. Thus it is the appearance of the subordinator that forces the VF order in embedded clauses. When no subordinator is present, V2 order must obtain, as illustrated in (56a–b).

Examine the hierarchical position of the subordinator in (55b). To our knowledge, all dependency grammars view subordinators like *dass* ‘that’ as the root of the clause that they introduce. It is this fact that leads directly to our stance that the *wh*-element is the root of the indirect question and relative clause in German; these clauses always have VF order. The following examples illustrate the parallelism:
The parallelism between the subordinator wenn ‘when’ in (57a) and the wh-element wann ‘when’ in (57b) is apparent. In both cases, the subordinator/wh-element is the root of the clause that it introduces. When such an element is present, VF order is forced.

Consider next the parallelism across the following subordinate clauses:

\[(58)\]

Tatsache

\[
\begin{array}{l}
\text{die Tatsache, dass} \quad \text{er daserwähnte} \\
\text{the fact that he mentioned} \\
\end{array}
\]

Problem

\[
\begin{array}{l}
\text{das Problem, das er erwähnte} \\
\text{the problem that he mentioned} \\
\end{array}
\]

The similarity is again apparent. The subordinator dass introduces a content clause and forces VF order. Likewise, the relative pronoun das ‘that’ introduces an embedded clause and forces VF order. If we were not to take the relative pronoun as the root of the embedded clause in (58b), this parallelism would be mysterious.

### 5.3.3 Free relative clauses

Free relative clauses provide a third source of support for our account of wh-elements. Two empirical facts about free relatives support our view, namely that the relative pronoun is the root of its clause. The first concerns subcategorization requirements and the second concerns case limitations in German.

The fact that free relative clauses can have the distribution of noun phrases means that the relative pronoun must be the root of its clause.
Sentence (59d) illustrates that a demonstrative pronoun can appear as the subject of the predicate *lasted*. Sentences (59b) and (59c) suggest strongly, in contrast, that a canonical clause cannot appear as the subject of *lasted*. The fact that sentence (59a) is fine like sentence (59d), therefore, indicates that the relative pronoun *what* must be the root of the relative clause. The relative pronoun in (59a) and the demonstrative pronoun in (59d) satisfy in a like manner the subcategorization requirements of *lasted*. If the relative pronoun were not the root of free relative clause, these data would be difficult to explain.

The second aspect of free relatives that supports our account of *what*-elements is seen in case limitations on the relative pronoun in German.

The predicate chain *wird…bleiben* demands a nominative subject. The relative pronoun *wer* in (60), since it shows nominative, is therefore fine.
When this relative pronoun shows dative, as in (61), or accusative, as in (62), ungrammaticality is the result. If the relative pronoun were not to appear as the root of the relative clause, these data would be opaque. As the root of the relative clause, however, the relative pronoun can receive case from the matrix predicate, which means these data are as expected.\(^{20}\)

### 5.4 Pied-piping

One final aspect of \textit{wh}-elements must be addressed, namely pied-piping. When a relative pronoun pied-pipes the phrase that contains it, the root of the pied-piped phrase is the root of the relative clause. Thus nouns, prepositions, and adverbs can be the roots of relative clauses.

\begin{itemize}
\item[(63)]
\begin{tikzpicture}
\node (Kinder) at (0,0) {Kinder};
\node (die) at (-1,0) {die};
\node (Eltern) at (1,0) {Eltern};
\node (d) at (-0.5,0) {deren};
\node (n) at (0.5,0) {nicht};
\node (anw) at (1.5,0) {anwesend};
\node (waren) at (2.5,0) {waren};
\node (d1) at (-1,-1) {die Kinder};
\node (deren1) at (-0.5,-1) {deren};
\node (nicht1) at (0,-1) {nicht};
\node (anwesend1) at (1,-1) {anwesend};
\node (waren1) at (2,-1) {waren}
\draw (Kinder.south) -- (die.north);
\draw (Kinder.south) -- (Eltern.north);
\draw (Eltern.south) -- (n.north);
\draw (n.south) -- (anw.north);
\draw (anw.north) -- (waren1.south);
\draw (Kinder.south) -- (d1.south);
\draw (Eltern.south) -- (nicht1.north);
\draw (nicht1.south) -- (anwesend1.north);
\draw (anwesend1.south) -- (waren1.north);
\node (the) at (-0.5,-2) {the};
\node (children) at (0,-2) {Kinder};
\node (children1) at (0,-2.5) {children whose parents not present were}.
\node (parents) at (1,-2) {Eltern};
\node (parents1) at (1,-2.5) {parents not present were}.
\node (weren) at (2,-2) {waren};
\node (waren1) at (2,-2.5) {were}.
\end{tikzpicture}

The risen chain in this case is \textit{deren Eltern}, which means the root of the relative clause is the noun \textit{Eltern}. Notice that the constituent \textit{nicht anwesend waren} cannot attach to the relative pronoun \textit{deren} because if it did, a projectivity violation would occur.

The following example involves a risen prepositional phrase:

\begin{itemize}
\item[(i)] Wem du geholfen hast ist zufrieden. (Compare: Wer-NOM hilft ist zufrieden.)
\textit{whom-DAT you helped have is satisfied}
\textit{Intended: ‘The person who you helped is satisfied.’}
\item[(ii)] Wem du geholfen hast ist mir egal.
\textit{whom-DAT you helped have is me even}
\textit{‘I don’t care who you helped.’}
\end{itemize}

\^{20} Certain aspects of free relatives are still less than fully understood. Observe the following contrast:

\begin{itemize}
\item[(i)] *Wem du geholfen hast ist zufrieden. (Compare: Wer-NOM hilft ist zufrieden.)
\textit{whom-DAT you helped have is satisfied}
\textit{Intended: ‘The person who you helped is satisfied.’}
\item[(ii)] Wem du geholfen hast ist mir egal.
\textit{whom-DAT you helped have is me even}
\textit{‘I don’t care who you helped.’}
\end{itemize}

The contrast between (i) and (ii) is explainable by acknowledging what the matrix predicate subcategorizes for. Sentence (i) is bad because \textit{ist zufrieden} demands a nominal subject in the nominative case, not a clausal subject. Sentence (ii), in contrast, is fine because the predicate \textit{ist…egal} can take a clausal subject.
The situation in this case is *mit* *der*, which means the root of the relative clause is the preposition *mit*. The constituent *er nicht fertig wird* has attached to the preposition.

6. Rising chains

The current theory investigates discontinuities in terms of chains. The syntactic unit that is most relevant for our theory of discontinuities is the chain, more exactly the *rising chain*. The rising chain is defined as follows:

**Rising chain**

The minimal chain containing the root of the risen chain and the risen chain’s governor.

The following example illustrates an extended rising chain:

The risen chain is *what* and the governor of this risen chain is *said*. The rising chain, which is underlined, is therefore *what do...think...said...believes that...said*; the words *you, Tom, Bill, and Fred* are excluded from this chain.
A second example, this time from German, containing two rising chains further illustrates the concept:

(66) weil

\[ weil \] weil
\[ er \] er
\[ etwas \] etwas
\[ behauptet \] behauptet
\[ hat \] hat
\[ das \] das
\[ ich \] ich
\[ gar \] gar
\[ nicht \] nicht
\[ verstehe \] verstehe

\[ weil \] weil
\[ er \] er
\[ etwas \] etwas
\[ behauptet \] behauptet
\[ hat \] hat
\[ das \] das
\[ ich \] ich
\[ gar \] gar
\[ nicht \] nicht
\[ verstehe \] verstehe

Because he maintained something that I do not at all understand.'

The relative clause has been extraposed. Since the root of the relative clause is *das* and its governor is *etwas*, the relevant rising chain is *etwas behauptet hat das*. Within the relative clause itself, the risen chain is *das* and its governor is *verstehe*, therefore the rising chain there is *das…verstehe*.

Given these rising chains, a theory of discontinuities is within reach. The particular aspects of various types of discontinuities can be identified and described in terms of the rising chains involved. A particular instance of a particular type of rising is allowed or disallowed based upon the traits of its rising chain. Various aspects of the rising chain can be relevant, e.g. the position of the risen chain with respect to its governor, the syntactic category of the governor, the syntactic category of the root of the risen chain, the syntactic category of the intermediate links in the rising chain, the syntactic functions of the dependencies in the rising chain, etc.

The following subsections illustrate the role of rising chains for describing discontinuities. Ross’ (1967) Left Branch Condition and Right Roof Constraint are briefly discussed.

### 6.1 The Left Branch Condition

Ross’ Left Branch Condition (1967) observes that pre-noun modifiers cannot be separated from their nouns.
The rising chains are again underlined. The examples show that pre-noun modifiers such as *whose in (67) and *freundliche in (68) may not be extracted out of the noun phrases that contain them. These discontinuities fail due to the determiner (= DET) and attribute (= ATTR) functions that appear in the discontinuity chains. To overcome the violations, the entire NP that contains the pre-noun modifier must be pied-piped with the modifier, i.e. *Whose bicycle did you borrow and *Freundliche Menschen habe ich kennengelernt.

Dependency grammars assume an inventory of syntactic functions as a primitive (e.g. Schubert 1988: 52ff.; Bröker 2003: 297ff.; Menzel 2003: 691; Mel'čuk 2003: 209ff.). Each and every dependency carries a syntactic function. The standard means of representing these functions is to show them as labels on the dependency edges. The following examples are similar to those Mel'čuk (2003: 53ff.) assumes:

\[
\begin{align*}
(67) & \quad \text{DET} \quad \text{WHOSE} \quad \text{did} \quad \text{you} \quad \text{borrow} \quad \text{bicycle} \\
(68) & \quad \text{ATTR} \quad \text{freundliche} \quad \text{habe} \quad \text{ich} \quad \text{Menschen} \quad \text{kennengelernt} \\
& \quad \text{friendly} \quad \text{have} \quad \text{I} \quad \text{people} \quad \text{got.to.know} \\
& \quad \text{I got to know friendly people.}
\end{align*}
\]

\[
\begin{align*}
(69) & \quad \text{DET} \quad \text{feature} \quad \text{ATTR} \quad \text{activity} \quad \text{SUBJ} \quad \text{am} \\
\quad a. & \quad \text{a} \quad \text{feature} \quad \text{b.} \quad \text{laboratory activity} \quad \text{c.} \quad \text{I} \quad \text{am} \ldots \\
\quad d. & \quad \text{see} \quad \text{OBJ} \quad \text{me} \quad \text{e.} \quad \text{have} \quad \text{PERF-ANAL} \quad \text{written} \quad \text{f.} \quad \text{the} \quad \text{fact} \quad \text{that} \ldots
\end{align*}
\]
The dependencies shown are those of DETERMINER, ATTRIBUTE, SUBJECT, OBJECT, PERFECT-ANALYTICAL, and CONTENT. The discussion here does not attempt an inventory of these functions, but it does assume that the functions exist and that they play a central role in determining the discontinuities that a given language does and does not allow.

Acknowledging these syntactic functions, Ross’ Left Branch Condition receives the following formulation in the current theory:

**Left Branch Condition**
A rising chain that has the risen chain preceding its governor may **not** contain a determiner or attribute function.

According to this formulation, then, (67) is ungrammatical because the determiner function appears in the rising chain and (68) is ungrammatical because the attribute function appears in the rising chain.

The formulation of the Left Branch Condition is valid for both English and German. In this regard, English actually acknowledges a more general version of the condition, i.e. a rising chain may **not** contain a determiner or attribute function. German, in contrast, allows these functions to appear on occasion in a rising chain if the risen chain follows its governor, e.g. *Zeit habe ich keine* ‘Time have I none’ (= I have no time). As discussed in Section 3.2.2, we call such instances of rising splitting.

**6.2 The Right Roof Constraint**

Ross’ Right Roof Constraint (1967) observes that extraposition may not occur out of a finite clause.

(70)
Sentence (70b) illustrates that extraposition cannot occur out of a subject clause. The following cases illustrate that extraposition, in contrast, can occur out of a subject NP:

What is the relevant difference between (70b) and (71b) that can explain this contrast? The answer is that extraposition in (71b) occurs out of an NP, whereas in (70b), it occurs out of a clause. The verb in the subject clause in (70b) is a barrier to extraposition.

Given this insight, Ross’ Right Roof Constraint can be expressed as a limitation on backward rising (i.e. on rising where the risen chain follows its governor):

**Right Roof Constraint**

A rising chain may not have the risen chain following its governor and containing a non-root finite verb.

In other words, a finite verb is a barrier to extraposition (and scrambling). This constraint correctly predicts (70b) to be unacceptable, since the finite
verb *claimed* is a non-root link in the rising chain. At the same time, sentence (71b) is predicted to be fine because the finite verb there *is* the root of the rising chain.

The Right Roof Constraint is valid for German as well.

7. **Summary and conclusion**

This paper has presented the foundational assumptions and principles for a dependency grammar theory of discontinuities. The major innovation that enables the entire account is the chain, a unit of syntax unique to dependency grammar. The chain was defined as follows:

**Chain**
A word or a combination of words that is top-down (or bottom-up) continuous.

This definition identifies a large number of word combinations of a given structure as chains. A constituent is always a chain, but very many chains are not constituents. While the chain is a flexible unit of syntax – much more flexible than the constituent – it is also limited. Most structures contain many more non-chain than chain word combinations.

Dependency grammar has traditionally identified discontinuities in terms of projectivity violations. When a discontinuity in a grammatical sentence is perceived, however, the projectivity violation has been reanalyzed in accordance with the Rising Principle.

**Rising Principle**
The head of a given chain must either be that chain’s governor or dominate that chain’s governor.

This principle is the basis of our dependency grammar account of discontinuities. It helps our theory distinguish between those projectivity violations that result in grammatical sentences, as opposed to those that result in ungrammatical ones. In grammatical sentences with projectivity violations, these violations are recovered by the Rising Principle. In ungrammatical sentences with projectivity violations, no such recovery is possible.

Further central aspects of the account concern the analysis of inversion, shifting, *wh*-fronting, and rising chains. Inversion and shifting are two mechanisms that result in non-standard word orders, but that do not involve rising. Inversion occurs when a dependent appears on the non-
canonical side of its head, and shifting occurs when co-sisters “swap” their positions, the heavier of the two appearing to the right. The analysis of wh-fronting assumes that the wh-element in matrix clauses is a dependent of the finite verb, whereas the wh-elements of embedded clauses are always the clause root.

Finally, the type of chain that the account acknowledges in order to address discontinuities is the rising chain.

**Rising chain**

The minimal chain containing the root of the risen chain and the risen chain’s governor.

By acknowledging rising chains, the characteristics of the various types of discontinuities – those of wh-fronting, topicalization, scrambling, extraposition, and splitting – can be identified. This point was exemplified by the brief analyses of Ross’ Left Branch Condition and Right Roof Constraint.

We see that the concepts and principles presented above serving as the basis for a practical and comprehensive dependency grammar theory of discontinuities. Particular and detailed dependency grammar accounts of wh-fronting, topicalization, scrambling, extraposition, and splitting (and whatever other types of rising are ultimately identified) are now possible.

**References**


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On the Composite Nature of Subject Islands: A Phase-Based Approach

Abstract

This paper focuses on the complex factors which render subject domains opaque to sub-extraction. Subjects have been held to be islands for extractability possibilities. Gallego & Uriagereka (2006) suggest that sub-extraction is banned from subjects when they occupy the specifier position of TP because TP is a phase in Romance. By contrast, I show that this is not the right constraint in languages such as Spanish or Italian, in which sub-extraction is licit from both post-verbal and pre-verbal subjects. In addition, English and other non-Romance languages also instantiate cases of sub-extraction from subjects, irrespective of their pre-verbal or post-verbal position. Building on Chomsky’s (2008) notion of phase, I propose that DPs may be strong or weak phases depending on two major discourse-related factors; namely, Definiteness and Discourse-Linking. Thus, sub-extraction from a weak DP phase is possible if the DP is marked as indefinite and discourse-linked.

1. Introduction

In this work I am concerned with the nature of subject islands. There has been a long-standing line of research within Generative Grammar since Ross’s (1967) and Chomsky’s (1973) first efforts to identify the different conditions which delimit the power of transformations. These constraints have been ever since comprised under the notion of island, which may be defined as a syntactic domain which bars extraction of a constituent out of it (Huang’s [1982] extraction domains).

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In line with Boeckx (2008), I take the view that not all islands are identical, claiming that varied factors influence the island effects that a given type of constituent arises. Concentrating on subject islands in opposition to objects (leaving aside the question of adjuncts), I explore the complex nature of extraction out of an island. Furthermore, not all types of island show an identical behaviour in respect of the extraction of their members. This has led linguists to draw a distinction between strong and weak islands (Cinquè 1990; Postal 1998; Szabolcsi & den Dikken 2002). DPs have been claimed to be strong islands, especially if they are definite/specific (Fiengo & Higginbotham 1981; Manzini 1992, 1998) and if they are placed in subject position. In this work I implement the idea that the notion of island should be relativised as cross-linguistic data show that in some languages sub-extraction from a subject may be possible. This selective nature depicts DPs as weak islands. Examples such as (1) from Spanish illustrate the selective islandhood of subjects:

\[\text{Siempre vienen mujeres.}\]
always come women
‘Women always come.’

If \textit{creer} or \textit{ser} were unaccusatives, then they should allow for the occurrence of bare NP subjects:

\[\text{Mujeres creen que libros de Juan son interesantes.}\]
women believe that books of John are interesting
‘Women believe that John’s books are interesting.’

Additionally, by definition, unaccusative verbs have only one argument which is assigned the semantic role of Theme. As far as \textit{creer} ‘believe’ is concerned, it requires two arguments with their corresponding semantic roles.

In the light of these remarks, I do not find examples such as (1) irrelevant in order to show that sub-extraction out of subjects in pre-verbal position is plausible in Spanish.
(1) ¿De qué autor crees que varios libros t, son interesantísimos?
   ‘Of which author do you believe that several books are very interesting?’

To put subject islands in perspective, the asymmetric behaviour of subjects and objects can be traced back to Huang’s (1982) Condition on Extraction Domains (CED), according to which objects are transparent extraction domains, whereas subjects are opaque to extractability (on a par with adjuncts). This may well explain the difference in (2) (Chomsky 2008: 146):

(2) a. of which car, did they find the (driver, picture) t,?
b. *of which car, did the (driver, picture) t, cause a scandal?

Throughout the history of Generative Grammar, two ways to explore the properties of islands may be clearly identified. Boeckx (2008) establishes this distinction, which I briefly outline. First, islands have been described as being an issue of the narrow syntax (Chomsky 2004, 2008). From this viewpoint they are part of the computational system and their impact on grammaticality is seen as derivational. For Chomsky (2008) subject DPs are phases, hence nothing can be extracted out of them in conformity with the Phase Impenetrability Principle (PIC).³ In a similar vein, a very insightful approach to subject islands as a derivational phenomenon is Gallego & Uriagereka (2006), who claim that sub-extraction is blocked from a derived subject DP in Spec-TP, since TP is a phase in certain languages. I review this proposal below.

A second view takes islands to be conditions on the output of the narrow syntax, hence being applied on the product of derivations at the interfaces (Kayne 1984).⁴ In accordance, islands are described as

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³I will come back to the notion of phase and the PIC in section 2.
⁴Hornstein et al. (2007) make a distinction between LF-driven and PF-driven islands depending on whether the repairing phenomenon that circumvents the island is related to Logical Form or Phonological Form. Sluicing and resumption are two such repairing operations. Merchant (2001) has also claimed that, at least, some islands are PF-driven, while others are conditions at LF. An alternative view is found in Lasnik (2001) and Fox & Lasnik (2003), who suggest that there is no real reason to make such a
representational limitations. These two extreme poles can be reconciled depending on whether we take a uniform or heterogeneous approach to the nature of islands. Boeckx (2008) claims that the interface or narrow-syntax origin of the repairing mechanisms employed to mitigate the island character of a constituent proves an extremely useful tool to understand the very core of the existence of islands. To put it in other words, the extraction possibilities and the repairing strategies employed tell us whether islands emerge in the narrow syntax or at the interfaces.

In this connection, the interaction of islandhood and phenomena such as ellipsis or resumption has been vastly investigated (Boeckx 2003; Boeckx & Lasnik 2006; Hornstein et al. 2007; Merchant 2001). To illustrate the mitigating power of resumption, consider (3) (Boeckx 2008: 155):

(3) a. *Which woman did John laugh [after Bill kissed _]  
b. Which woman did John laugh [after Bill kissed her]

Adjuncts are felt to be islands, and as such nothing can be extracted out of them. However, if a resumptive pronoun is inserted in the gap that the extraction site leaves, the overall construction seems to be grammatically licensed. The problem arises when it comes to analyse ellipsis and resumption as applying in the syntax or at the interfaces. As my works proceeds, it will become clear that linguistic theory should characterise islands as involving both derivational and representational conditions.

In this work I explore the nature of islands and propose that the mitigating effects are a composite set of properties that may obviate the degradation of constructions when extraction out of them comes to play. I propose that subject islands are phases and that the phasehood of DP subjects arises from a set of intermingling discourse-related semantic properties, such as Definiteness and Discourse-Linking, independently from the derived position of the DP. Similar to vP, I take DPs to be weak phases but the combination of the factors just mentioned entitles a DP as a strong phase.

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distinction. Finally, Hornstein & Uriagereka (2002a, 2002b) have detected LF properties on islands.
I suggest that the island-circumventing factors are discourse features. Hence, in line with Chomsky (2008), the distinction between weak and strong DP phases is reduced to feature visibility and PIC. Consequently, subject islands as strong phases show both representational and derivational properties in that they exhibit interpretive traits which are relevant at the interfaces, but also drive the whole process of the derivation in the narrow syntax.

The organisation of the paper is as follows: i) section 2 focuses on the notion of phase and the phasal status of DPs; ii) section 3 reveals an intriguing challenge to subject islands, namely subject-islands are heterogeneous as regards sub-extraction; iii) in 4 I present Gallego & Uriagereka’s (2006, 2007) phase-based approach to subject islands; iv) I identify some shortcomings in this approach in section 5, mainly concerning the distinction between derived and base-generated subjects; v) in section 6 I deal with the island-repairing factors of Definiteness and Discourse-linking; vi) section 7 offers a new phase-based approach to subject islands based on their composite nature and discourse-related features; and vii) the last section summarises my findings.

2. On phases and the phasal status of DPs

As advanced in the introduction, my analysis of subject islands relies on the phasal character of subject DPs. In order to make this proposal easier to follow, in this section I briefly present Chomsky’s phase model and its technicalities. In addition, I deal with data and arguments that have recently been given to support the idea that DPs may be phases.

Chomsky (2001: 11–12) claims that in order to reduce computational load, derivations of syntactic structures proceed by phases. Phases are roughly cycles of syntactic computation that are sent to the semantic and phonological interfaces, where they receive a Logical Form (LF) interpretation and a Phonological Form (PF) interpretation, respectively.

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5A similar intuition underlies the analysis of islands offered by Truswell (2005: 6), except that he assumes a definition of strong islands based on the notion of multiple spell-out proposed by Uriagereka (1999) and Sabel (2002); namely, “A strong island is the non-projecting phrasal sister of a phrasal constituent.” Accordingly, all subjects should be strong islands contrary to facts.
Once phases are transferred to these components, they are not accessible for further computation.

One of the main properties of phases is that they are impenetrable. Chomsky (2001: 5) makes this concrete under the Phase Impenetrability Principle (PIC): The head and complement of a phase cannot be accessed by an external probe; only the edge of a phase can be reached from outside the phase. In this connection, syntactic computations are guided by the operation of AGREE between a probe and a goal in order to ensure that all grammatical features are assigned a value and uninterpretable features are deleted before transfer to the interfaces.

The nature and number of phases is still a dark question. As Frascarelli (2006) herself admits, the notion and properties of phases are still an open issue for further research. Chomsky (2008) holds that CP and transitive v*P (in opposition to unaccusative/passive vP) are phases and leaves the door open to the inclusion of DPs in the list.

To illustrate how the phase system works, consider (4a) and its partial derivation in (4b):

(4) a. The band has won a new prize.

\[\text{[CP[\underline{C} \underline{Ø}}][\text{TP[D}\underline{P}\text{The band][}_T\text{[}_T\text{has]}}[\text{v*P}\text{the band won [VP won [DP a new prize]]]}}\]

\[\begin{array}{ll}
3-\text{PERS} & \text{PAST-}\text{TNS} \\
\text{SG-NUM} & \text{3-\text{PERS}} \\
\text{NOM-CASE} & \text{SG-NUM} \\
\text{EPP} & \\
\end{array}\]

Due to its uninterpretable features, T is an active probe which searches for a suitable goal. There are two candidates: the DP subject and the DP object. As is clear from the morpho-phonological form assigned to the auxiliary under T, this category agrees with the DP subject. The DP object is not accessed because, in compliance with PIC, it is in the complement domain of the v*P phase. This phasal chunk has been transferred to the interfaces so that the DP object is not in the workspace of T. The EPP feature under T ensures that the category agreed with moves to Spec-TP.

As regards the properties of phases, there is no general consensus as to the uniform nature of all types of phases. To advance the strength of my proposal that subject islands are DP phases, I outline some of the arguments in favour of assigning phasal traits to DPs.
Hicks (2009) holds that a phase is any syntactic structure corresponding to a proposition: CP is a phase as long as it includes tense and force; vP is a phase when it has a complete argument structure (transitive v*Ps). By analogy, DPs can be phases in as much as they may have a complete argument structure:

(5)  \textit{Chomsky's publication of a new book}

It is evident that DPs such as (5) contain an Agent subject and a Theme object. This is obviously reminiscent of the argumental structure of v*Ps and the propositional character of CPs. As stated by Hicks (2009: 150), “the general tendency after Abney (1987) towards unifying the nominal and clausal architecture (DP and CP) would also be consistent with such an approach.”

Many attempts have been made to unify phases and account for the phasal properties of DPs (see Hiraiwa 2005, Legate 2003, Matushansky 2005, Svenonius 2004, to mention just a few). The main trend has been to uncover LF-properties and PF-properties.

One crucial property of phases is the presence of a subject. For Chomsky, only those vPs which project a subject are phases. For Hicks (2009), DPs are phases when they have a subject. This definition is employed to explain binding relations within DPs.

(6)  \textit{John} likes \textit{[Bill's pictures of himself, \_j]}.

The anaphor can only be interpreted as bound by \textit{Bill}, the DP internal subject. Binding is based on the local domain and Hicks claims that DPs with a subject on their own are the local domain where binding applies. If the DP lacks a subject the binding domain extends to the next higher local domain, namely v*P:

(7)  \textit{John} likes \textit{[pictures of himself, \_j]}.

In other words, DPs may also be divided in two: strong phases and weak phases, depending on whether they contain an explicit subject or not. Hicks (2009) simply assumes that phrases are phases or non-phases, but this distinction basically corresponds to the difference between strong and weak
phases. If binding configurations are interpreted at LF, this is a good piece of evidence in favour of the LF-phase status of DPs.

As Frascarelli (2006) observes, Chomsky (2000) assumes that CP and v*P are phases because they are semantically complete and “isolable” at the interfaces. It is self-evident that CPs are phonetically independent. Evidence for v*P isolability is given by Chomsky (2000): pseudoclefting, fronting and response fragments:

\[(8) \ \text{a. What John did was [insult the dean].}\]
\[\ \text{b. John said that he would insult the dean and [insult the dean] he did.}\]
\[\ \text{c. [Me insult the dean]!}\]

Evidence for the phase status of DPs comes from extending Chomsky’s (2000) tests to the DP (see also Matushansky 2005):

\[(9) \ \text{a. What John bought is [the last book by Chomsky].}\]
\[\ \text{b. [The last book by Chomsky] I haven’t read yet.}\]
\[\ \text{c. Q: What did you buy?}\]
\[\ \text{A: [The last book by Chomsky].}\]

Pseudo-clefting, fronting and response fragments show that DPs may be phonetically isolated, which is one of the properties of phases at PF. It is thus natural to conclude that DP may be a phase. However, Matushansky (2005) demonstrates that the phasal status of DPs is not uniform at PF and LF. Giusti (2006) also entertains that DPs are not fully independent LF-phases.

When dealing with diagnostic tests for phasehood, Matushansky (2005) classifies them into different types depending on whether they are related to phonology, semantics or syntax. As shown above, DPs show PF- and LF-isolability. Now, I concentrate on the phasal status of DPs in the syntax. Matushansky (2005) argues that what is transferred to the interfaces is the complement of phases. From this it follows that TP and VP cannot move while their corresponding phases, CP and v*P, can. As regards DPs, the prediction is that if a DP is a phase, its complement (NP or N, in Abney’s [1987] system) does not move in the syntax; conversely, the whole phasal DP may undergo movement as a whole, which is reflected at
PF. If quantifier fronting is treated with in terms of movement (Barbosa 2009), we can build an argument in favour of the phasal status of DPs, see (10a). Nevertheless, in languages such as Spanish the NP complement of a DP may be moved to the left periphery, which suggests that Matushansky’s claim that the complements of DPs cannot move is not maintained in all languages, as illustrated in (10b):

(10) a. \[ \text{DP} \text{muchos pasteles}, \text{comeré} \quad t_i \quad \text{en la fiesta.} \]
    \[ \text{many cakes eat-FUT.1SG at the party} \]
    ‘I will eat many cakes at the party.’

b. \[ \text{NP} \text{pasteles}, \text{comeré} \quad \text{muchos} \quad t_i \quad \text{en la fiesta.} \]
    \[ \text{cakes eat-FUT.1SG many at the party} \]
    ‘I will eat many cakes at the party.’

At a first sight, NP-preposing seems to contradict the phasal status of DPs. Recall that, according to PIC, the complement of a phasal head is not accessible from outside. In other words, C cannot attract any material in the phase domain. However, the edge of the phase is a position which may be used for further computation. This edge can be used as an escape hatch. Accordingly, the NP pasteles ‘cakes’ moves first to the specifier of DP and subsequently raises to spec-CP. If this analysis is correct, it sheds some light upon the phasal nature of DPs in that their behaviour in relation to internal movement is identical to that of CP and \( v^*P \).

Now I turn to some morphological basis for the phasal status of DPs. Giusti (2006) proposes the existence of a more fine-grained structure in DPs, which includes discourse features, such as topic/contrast, and even EPP. In Albanian, adjectives occur in post-nominal position in the unmarked order. However, they can take a pre-nominal position if they are emphasised (Guisti 2006: 170):

(11) a. \[ \text{një grua} \quad \text{tjetër} \quad \text{e bukur} \]
    \[ \text{a woman other nice} \]
    ‘another nice woman’

b. \[ \text{një e bukur} \quad \text{grua} \quad \text{tjetër} \]
    \[ \text{a nice woman other} \]
    ‘another nice woman’
The derived order is obtained via movement to a KontrastPhrase in order to value the feature [+ Kontrast]. If movement is morphology-driven and if movement inside a specific phrase is symptomatic of its phasehood (see discussion in Matushansky 2005), the conclusion is that DPs may be phases.

All the above remarks point to the fact that DPs may be phases. Both from an interpretive (LF) and phonological (PF) point of view, DPs qualify as phases. One should be careful with this conclusion since the number and nature of phases is still a debatable point, as pointed out above. My contribution to this current debate is to propose that certain LF-related properties are crucial to turn a DP into a phase.

3. Presenting a challenging discovery

It is a standard assumption that sub-extraction is blocked out of subjects. This is commonly acknowledged as the object/subject asymmetry, which treats subjects as islands in respect of extractability possibilities. Accordingly, there have appeared many proposals to explain the paradigm in (12), from Lasnik & Saito (1992):

(12) a. Who$_i$ did you hear [a story about t$_i$]?
    b. *Who$_i$ did [a story about t$_i$] amuse you?

The distinction between the behaviour of objects and subjects has been taken as the basis to claim that subjects ban sub-extraction, whereas objects do not. As stated in the introduction section, recent research has tried to explain the object/subject asymmetry from multiple perspectives. Some linguists have claimed that moved constituents do block sub-extraction, thereby accounting for the impossible sub-extraction for subjects as opposed to objects, when they are attracted to Spec-TP. Although using different explanatory and descriptive tools, this is the line pursued by Takahashi (1994), Gallego (2007) Gallego & Uriagereka (2006, 2007), Hong & An (2007), Stepanov (2007), among many others.\(^6\)

\(^6\)On the basis of the derived or underlying subject status, Chomsky (2008) holds that whereas sub-extraction from an internal argument (including objects and
At the centre of all the afore-mentioned proposals is the prediction that if a subject does not undergo movement, it is still transparent to sub-extraction, similar to objects. In the light of the English and Spanish examples in (13), this prediction is borne out:

(13) a. *Who, is there {a picture of t₁} on the wall?*  
   (Stepanov 2007)

b. ¿De qué equipo, dices que han bailado [DP cuatro participantes t₁]?  
   ‘Which team do you say that four members of have danced?’  
   (Gallego & Uriagereka 2006)⁷

unaccusative/passive subjects) is licit, sub-extraction from external arguments is barred. See also Gallego (2007), where all these factors are discussed.

⁷The verb *decir* ‘say’ in Spanish shows at least two different argument structures: i) it may select one single object; or ii) it may require one object and a prepositional object (PO):

(i) Juan dijo que cuatro miembros del equipo habían bailado toda la noche.  
   ‘John said that four members of the team had danced all night long.’

(ii) Juan dijo del equipo que cuatro miembros habían bailado toda la noche.  
   ‘John said about the team that four of their members had danced all night long.’

If the PO is interpreted as directly selected by the verb, as in (ii), no sub-extraction proper is at stake since in case the PO undergoes *wh*-movement, its source position is not within the subject DP of the subordinate clause. In fact, this PO already belongs within the matrix clause and its movement is not affected by any property of the *that*-clause.

Following this reasoning, sentence (13b) is ambiguous as it shows two different readings: i) the PP *de qué equipo* ‘of what team’ generates as complement of the noun *participantes* in the subordinate subject position, hence sub-extraction is involved; and ii) the PP originates as a complement of the matrix verb, in which case no sub-extraction is applied. The examples that Gallego & Uriagereka (2006) use involving the verb *decir* can always be felicitous in this second reading because there is no island
The conclusion drawn from these examples is that sub-extraction from subjects is permitted due to the fact that the relevant DPs remain in situ, within vP. In languages such as English, where the [EPP] feature is satisfied by moving the DP subject to Spec-TP, this conclusion always holds, except when some other mechanism such as expletive there is used to eliminate the [EPP]. Conversely, in languages such as Spanish, which may optionally leave subjects in situ, the permissive behaviour of post-verbal subjects inhibits the islandhood of the relevant DP, thereby licensing sub-extraction. This is the difference that Gallego & Uriagereka (2006, 2007) detect in (14), taken from Uriagereka (1988).\(^8\)

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\(^8\)An anonymous reviewer points out to me that Torrego (1985: 31) has already discussed data concerning extraction from subjects in Spanish:

(i)  \(De \ qué \ autora_{1,3} no \ sabe\)  \(\{[\ qué \ traducciones \ t_{ij}, C \ t_{ij} \ \text{han ganado premios internacionales}]\}\)

won awards international

‘Which author don’t you know what translated books by have won international awards?’

Also Rizzi (2006: 114) discusses similar issues on extraction possibilities in relation to sentences such as (ii):

(ii) \(?[\text{Di quale autore}]\ C \ t_{ij} \ \text{domandi} \ \{[\text{quant} \ t_{ij}, C \ \text{han siano stati censurate}]\}\)

Of which author have books won international been censored

‘Which author do you wonder how many books by have been censored?’

However, the constructions in these two studies are different to the ones I am investigating in several respects. In both structures the subject contains two \(wh\)-operators. One of them raises to the subordinate CP; the second operator undergoes \(wh\)-movement to matrix CP. The two movements at issue are triggered by a Q-feature in each C. In my analysis, only the matrix C contains a Q-feature.

A second property which distinguishes Rizzi’s structures from mine is that he applies extraction to passive subjects, hence derived subjects. As already noted in the main text there is no bar on extraction from derived subjects (Stepanov 2007).
The discovery I wish to reveal is the fact that preverbal subjects may also allow for sub-extraction in languages such as Spanish, provided that certain grammatical conditions are obeyed. Contra Gallego & Uriagereka (2006, 2007), I present data in (15) and (16) which demonstrate that sub-extraction from subjects is licit in Spanish regardless of the syntactic position they occupy:

(14) a. ¿De qué conferenciantes te parece que me van a impresionar, [\{\_[DP las propuestas t₁] \}_₂ t₂]?  
Of what speakers CL-2SG seem-PRES.3SG that CL-1SG go-PRES.3PL to-impress the proposals

b. ¿De qué conferenciantes te parece que [\{\_[DP las propuestas t₁] \}_₂]?  
Of what speakers CL-2SG seem-PRES.3SG that the proposals

me van a impresionar, [\{\_[v P t₁ t₂] \}_₂]?  
CL-1SG go-PRES3PL to-to-impress

‘Which speakers does it seem to you that the proposals by will impress me?’

(15) a. ¿De qué cantante crees que son muy provocativas varias fotos?  
of which singer believe-PRES.2SG that are very provocative several photos

b. ¿De qué cantante crees que son muy provocativas?  
of which singer believe-PRES.2SG that several photos are very provocative

‘Of which singer do you believe that several photos are very provocative?’

(16) a. ¿De qué cantante parece que les han escandalizado algunas fotos?  
of which singer seem-PRES.3SG that CL-3PL have-PRES.3PL shocked some photos

b. ¿De qué cantante parece que algunas fotos les han escandalizado?  
of which singer seem-PRES.3SG that some photos CL-3PL have-PRES.3PL shocked

‘Of which singer does it seems that some photos have shocked them?’

At least in Southern Peninsular Spanish these sentences are felicitous, which challenge Gallego & Uriagereka’s claim that pre-verbally moved subjects are not candidates to permit sub-extraction. Note that in the
subordinate clauses in (15b) and (16b) their respective subjects *varías fotos de qué cantante* ‘several photos of which singer’ and *algunas fotos de qué cantante* ‘some photos of which singer’ have undergone movement to Spec-TP. Yet this does not yield an incorrect outcome.

Similarly, in English sub-extraction is also allowed (though marginally) even when the subject undergoes movement to Spec-TP, contrary to Chomsky’s (2008) claim:

(17) a. ??Which singer did some pictures of shock the audience?
   b. ??Which writer did a poem of shock the audience?

The EPP feature in (17) is satisfied by moving the DP subjects to Spec-TP. As such, this movement renders the subjects opaque for sub-extraction, hence predicting the ungrammaticality of (17), contrary to facts. This also calls into question the validity of Gallego & Uriagereka’s proposal.

Lastly, it is also known that not only subjects are opaque to sub-extraction. Alongside subjects, objects are reluctant to allow *wh*-operators to trespass their DP boundaries under certain conditions. Stepanov (2007), building on Diesing (1992), offers examples in which sub-extraction from objects is blocked:

(18) *Who did John read every/all/most/the story/stories about it?*

Under the view that objects are transparent to sub-extraction, the ungrammaticality of (18) is unexpected. Thus, the claim that subjects and

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9Chomsky (2008) discusses cases of sub-extraction with preposition pied-piping. Ian Roberts (p.c.) points out that preposition stranding yields slightly better results. He suggests that this is because of the unnatural character of pied-piping in at least these cases. I will not go into the reasons for this difference. In this work I consider both the pied-piping and P-stranding versions of these constructions. As expected, there is no general consensus among syntacticians on the acceptability of sub-extraction, though there is a common preference for P-stranding constructions.

10Following a suggestion by Hornstein (p.c.), if indefinites involve a kind of restructuring that strong quantifiers cannot undergo, there may well be an expected difference here. In line with Diesing (1992), weak Q NPs are actually NPs whereas strong Q headed nominals are DPs. Thus, the results of sub-extraction are expected to be acceptable from NPs in clear contrast with DPs. As shown below, distinguishing between weak DP phases and strong DP phases also makes the correct predictions.
objects differ in terms of islandhood needs some revising. On the one hand, it is not the case that all subjects are opaque to sub-extraction, both cross-linguistically and language-particularly; on the other hand, it is untenable that all objects allow for internal movement.\footnote{Sabel (2002) holds that extraction out of a subject is barred due to the fact that DP subjects are barriers, as opposed to DP objects (cf. Chomsky 1986). It is again expected that sub-extraction should be licensed from DP objects, but banned from DP subjects. This prediction is not borne out in the light of the cross-linguistic data offered throughout my work.}

As suggested by Adger (p.c.), if we keep to the pied-piping construction and use picture-nouns, some examples may be correct:

(i) *Of what, did John buy ?every/*all/*most/*the picture/pictures it?*

Davies & Dubinsky (2003) note this difference and adduce it to the semantic nature of picture-nouns in contrast with other nouns such as story. What is important is not that all types of sub-extraction yield a felicitous outcome, contrary to the standard view.

As regards the ungrammaticality of (ii), it is not the case that all a-marked objects ban sub-extraction. This is clear in (iv), which suggests that Case assignment is not the reason why (ii) is degraded:

(i) ¿De qué artista se limpiaron ya los cuadros?
   of which artist CL clean-PAST.3PL already the paintings
   ‘Which artist were the paintings by already cleaned up?’

(ii) ¿De qué padres se limpió ya a los hijos?
    of which parents CL clean-PAST.3SG already to the children
    ‘Of which parents were the children already cleaned up?’

Surprisingly, if the extraction domains are introduced by a different kind of D, these sentences appreciably improve and the deviance vanishes:

(iii) ¿De qué artista se limpiaron ya algunos cuadros?
     of which artist CL clean-PAST.3PL already some paintings
     ‘Which artist were some paintings by already cleaned up?’
4. The syntactic position of subjects

In this section I deal with some derivational factors which influence the nature of subject islands. The crucial fact seems to be that subjects are islands when they occupy a derived position, and by extension, extraction out of subjects is allowed if they remain in situ. This line of research has been pursued by linguists such as Diesing (1992), Takahashi (1994), Lasnik & Saito (1992), Wexler & Culicover (1981), and more recently Stepanov (2007) and Gallego & Uriagereka (2007).

To start the discussion, passive subjects in English undergo movement to Spec-TP. Once the passive subject sits in Spec-TP, it is a derived subject in that it does not occupy the base-generated position. The prediction is that sub-extraction out of a passive subject should be banned. This is confirmed by (19), extracted from Stepanov (2007):

(19) *Who was [a friend of t₁], arrested t₀?

As is clear, extraction out of a passive subject is blocked in English. However, if the subject remains in its original position the degradation goes away, as instantiated in example (20), taken from Stepanov (2007):

(20) Who is there [a picture of t₁] on the wall?

The expletive there satisfies the EPP requirement of T, hence the logical subject does not undergo movement to Spec-TP and extraction is not blocked (Takahashi 1994; Stepanov 2007; Gallego & Uriagereka 2006, 2007). In Gallego & Uriagereka’s system, the licensing conditions on extractability are linked to the freezing effects that Spec-TP is subject to. They explain the freezing effect of Spec-TP in terms of the Edge Condition, which states that “Syntactic Objects in phase edges become

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(iv) *¿De qué padres has visitedo a muchos amigos?  
  ‘Of which parents have you visited many friends?’

12 Davies & Dubinsky (2003) also arrive at the conclusion that extraction from subjects is banned in English due to the satisfaction of the EPP under T.
This Edge Condition accounts for the difference between (19) and (20) in that the DP *a picture of who* moves to Spec-TP only in (19), predicting that it gets frozen in this position, thereby blocking sub-extraction. By contrast, in (20) the Spec-TP is filled with the expletive, hence the DP *a picture of who* remains in its base-generated position, which enables it to permit sub-extraction.

Gallego & Uriagereka (2006, 2007) go further and suggest that the phase edge involved in these cases is the specifier of a φ-complete T. Chomsky (2008) holds that phases are CP and vP. From this it follows that TP is not a phase, at least in principle. In order to solve this difficulty, Gallego & Uriagereka (2006), building on Gallego (2007), propose the phenomenon of Phase Sliding, which basically consists of turning TP into a phase as a consequence of v-to-T movement in Romance (see also den Dikken 2007 on a similar idea based on extending phases). From this it follows that phases are still uniform cross-linguistically, so that CP and vP are phases in all languages; yet under certain conditions TP may be a phase in a specific language if little v undergoes v-to-T movement. In other words, TP inherits its phasehood from vP.

If TP may become a phase under certain circumstances in Romance, this predicts that no sub-extraction is allowed from the subject when it is placed in Spec-TP. To illustrate this prediction, Gallego & Uriagereka use the Spanish examples in (21), repeated for convenience:

(21) a. ¿De qué conferenciantes te parece que mez van
   Of what speakers CL-2SG seem-PRES.3SG that CL-1SG go-PRES.3PL
   a impresionar_v [v*P [DP las propuestas t_i] t_2 t_v]?
   to-impress the proposals

b. *¿De qué conferenciantes te parece que [DP las propuestas t_i], mez
   Of what speakers CL-2SG seem-PRES.3SG that the proposals CL-1SG
   van a impresionar_v [v*P t_j t_2 t_v]?
   go-PRES.3PL to-to-impress
   ‘Which speakers does it seem to you that the proposals by will impress me?’

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13 The explanatory power of this condition is essentially identical to Rizzi’s (2006) Criterial Freezing. Also Hong & An (2007) employ the same strategy to distinguish between subjects and objects in respect of extractability.
The difference in terms of grammaticality is related to the fact that in (21b) the DP subject *las propuestas de qué conferenciantes* ‘the proposals of which speakers’ is an island because the whole DP has undergone movement to Spec-TP prior to sub-extraction to Spec-CP in the matrix clause. This previous movement entitles the whole TP as a phase edge via Phase Sliding (note that v moves to T). In accordance with the Edge Condition, the DP freezes at Spec-TP, thereby disallowing sub-extraction.

Conversely, in (21a) the DP subject *las propuestas de qué conferenciantes* ‘the proposals of which speakers’ stays in situ, which enables the higher probe C to see inside and attract the wh-operator.\(^{14}\) In other words, the DP subject is not placed in a phase edge, thus there is no ban on sub-extraction to Spec-CP in the main clause.

So far, it seems that Gallego & Uriagereka’s (2006) proposal is on the right track in that it employs the notion of phase as a primitive, hence deriving the notion of island. This proposal explains the subject/object asymmetries that my work is exploring in that sub-extraction is allowed out of objects, but disallowed out of subjects, except when these remain in situ. Note that contrary to other properties of islands, in Gallego & Uriagereka’s system it is purely syntactic mechanisms that rule the island effects, namely edge phases and the Edge Condition. From this it follows that the distribution of islands is a narrow-syntactic phenomenon. This sheds light on Boeckx’s (2008) claim that islands show both representational and derivational properties. In other words, the provisional conclusion is that a constituent is an island due to lack of interpretive content at the interfaces, or due to a specific syntactic position achieved in the narrow syntax.

Interestingly, Gallego & Uriagereka (2006, 2007) reduce the notion of island to the freezing effects of the specifier of a φ-complete T. This raises the question as to the sub-extraction possibilities of a subject which is moved to the specifier of a defective T, for instance in ECM constructions. Chomsky (2008) makes a distinction between φ-complete T and defective T in terms of sub-extraction. The relevant examples occur in (22):

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\(^{14}\)The fact that post-verbal subjects show specific properties different from pre-verbal subjects has been vastly explored in the literature: Uribe-Etxevarria (1994); Ordóñez (1998, 2005); Cardinaletti (2004); Ortega-Santos (2008), among many others.
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(22) a. \textit{Of which car did \{the (driver, picture)\} cause a scandal?}

b. \textit{Of which car did they believe \{the (driver, picture)\} to have caused a scandal?}

T in ECM constructions is not \(\varphi\)-complete, hence its specifier does not qualify as a phase edge in (22b). Provided that in this case the Edge Condition is not operative, sub-extraction out of an ECM subject is allowed.\(^{15}\) In strong contrast, in (22a) the subject occupies the specifier position of a \(\varphi\)-complete T so that it becomes a phase edge. Thus, the DP subject in (22a) freezes in Spec-TP and sub-extraction is banned.

5. **Shortcomings of the phase-based approach**

In this section I present theoretical and empirical arguments against Gallego \& Uriagereka’s (2007) phase-based approach to subject islands. Although I do agree that sub-extraction is connected to the notion of phases, it might be the case that it is not the phase nature of T in Romance that bans sub-extraction from subject DPs when they are in Spec-TP. Assuming a non-absolute definition of phasehood, a category may qualify as a phase depending on certain conditions. The idea is not new. In this respect, Sevdali (2009) shows that in Greek a CP may be a strong or weak phase due to the discourse properties of the head C. Also, Chomsky (2008) holds that \(\nu P\) is a selective phase in that only transitive \(\nu Ps\) stand for strong phases. In this line, I hint at the possibility that it is a combination of interpretive properties that make a DP a strong phase.

As mentioned earlier, DP subjects are not islands cross-linguistically. Actually, Stepanov (2007) gives examples of languages such as Hungarian and Palauan, among other languages, which do not block sub-extraction from a subject:

\[\text{(i) \quad \star[Which book\,\,|\,\,\text{do you believe}\,|\,\text{the first chapter of}\,|\,\text{to be full of lies?}\,]}\]

Generally there is no consensus among speakers regarding the grammatical status of sub-extraction from ECM subjects. Because in my analysis I do not focus on the position occupied by ECM subjects, I leave this question aside.

\(^{15}\)As Bianchi \& Chesi (2008) note, for Kayne (1983), ECM subjects constitute left branch islands, thereby not allowing any kind of sub-extraction:
Palauan (Georgopoulos 1991)

(23) Mary [a klukl [el kmo ng-o1tort er a John __]]
    Mary R-clear COMP R-3SG-IMP-love John
    ‘Mary, [that __ loves John] is clear.’

Hungarian (É. Kiss 1987)

(24) Melyik színésznőnek gondolja János, hogy ti a fényképe meglett?
    which actress’s thinks Janos that the picture-her turned up
    ‘Which actress does John think that a picture of _ turned up?’

Furthermore, languages such as English also allow sub-extraction given that the subject is not in Spec-TP. This was the conclusion arrived at by Gallego & Uriagereka (2006), which is illustrated by the following example from Lasnik & Park (2003):

(25) a. [CP [Which candidate] were [TP there [vP [posters of ti] all over the town]]]?
    b. *[CP [Which candidate] were [TP [posters of ti] all over the town]]?

Gallego & Uriagereka (2006) claim that sub-extraction from Spanish subjects is barred when they move to Spec-TP due to the phasal extension from v to T. Accordingly, in a language which consistently leaves v in situ, it is predicted that T is not a phasal head. Thus, sub-extraction from Spec-TP in English should be permitted, contrary to facts. If this line of reasoning is correct, the data in (25b) remains unexplained.

Gallego & Uriagereka (2007) try to build a solution by relating extractability possibilities to agreement, in line with Boeckx (2003) and Chomsky (2001, 2008). They explain that a subject gets frozen when full agreement holds between T and the relevant DP. This also poses questions as to the reason why in languages such as Spanish sub-extraction is allowed from Spec-TP.

Moreover, I have compiled examples from English which involve sub-extraction from a subject in Spec-TP and the outcome is not unacceptable:¹⁶

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¹⁶Actually, as Ian Roberts (p.c.) indicates, (26a) is only slightly degraded and (26b) is perfect with P-stranding. David Adger (p.c.) finds (27a) odd and shows no amelioration with respect to a DP introduced with the definite D the, whereas (27b) is fine and contrasts in terms of acceptability with definite DPs.
The conclusion drawn from this data is that in English Spec-TP is a position where sub-extraction may optionally apply (sometimes marginally). This is untenable in the light of the minimalist maxim that options are not allowed. Alternatively, rather than the specific position of subjects, it seems that internal properties of DPs are in charge of rendering them opaque to sub-extraction. I explore this alternative below.

A second problem for Gallego & Uriagereka’s proposal is posed by the Spanish data they use to confirm that sub-extraction from post-verbal subjects is allowed, as opposed to pre-verbal subjects. Again, this is rightly predicted if Spec-TP is a phase edge as a consequence of the phasal properties inherited by T. The data is repeated in (28):

\[ (28) \]

\[ a. \quad \text{¿De qué conferenciantes te parece que me} \, \text{van impresionar,} \, [v.P \{DP\text{las propuestas } t_i \} \, t_z \, t_v] ? \]

Of what speakers CL-2SG seem-PRES.3SG that CL-1SG go-PRES.3PL

\[ \quad \text{a impresionar} \, [v.P \text{las propuestas } t_i] \, t_z \, t_v \, ? \]

\[ \quad \text{to-impress} \quad \text{the proposals} \]

\[ b. \quad *\text{¿De qué conferenciantes te parece que [DP las propuestas } t_i \} \, t_z \, t_v] ? \]

\[ \, \text{Of what speakers CL-2SG seem-PRES.3SG that the proposals CL-1SG} \]

\[ \, \text{go-PRES.3PL to to-impress} \]

\[ \, \text{‘Which speakers does it seem to you that the proposals by will impress me?’} \]

There appears not to be a general consensus among Spanish speakers as to the grammaticality judgement of sentences such as (28). For instance, (28a) is degraded unless the determiner in the extraction site is replaced by a possessive D such as su ‘their’. In addition, if the same substitution applies in (29b), the sub-extraction is strongly ameliorated. Note that the same strategy is used by Hungarian, as illustrated in (24).\footnote{Lasnik & Stowell (1991), Rizzi (2001), Falco (2007) deal with this data in terms of weak cross-over effects and observe that binding of the possessive pronouns in}
Given that Spec-TP is a phase edge by Phase Sliding, sub-extraction is predicted to be blocked in (29b), contrary to facts. Moreover, sentences in (30) and (31) involve sub-extraction and no ban is put on it regardless of the base-generated or derived position of the subject.\textsuperscript{18}

(29) a. ¿De qué conferenciantes, te parece que me\textsubscript{2} van \\
Of what speakers CL-2SG seem-PRES.3SG that CL-1SG go-PRES.3PL \\
a impresionar, \{\textsubscript{DP sus \ propuestas }t_{i} \} t_{x} t_{x} \} ? \\
to-impress their proposals 

b. ¿De qué conferenciantes, te parece que \{DP sus \ propuestas }t_{i} \} me\textsubscript{2} \\
Of what speakers CL-2SG seem-PRES.3SG that their proposals CL-1SG \\
van a impresionar, \{\textsubscript{DP t_{i} } t_{x} t_{x} \} ? \\
go-PRES.3PL to to-impress

‘Which speakers does it seem to you that the proposals by will impress me?’

Constructions similar to (29) is due to the specific nature of the \textit{wh}-operator. If the \textit{wh}-expression is non-specific, the binding relation does not obtain:

(i) a. [Who the hell], do (you say that) his\textsubscript{?i}\textsubscript{j} students admire t\textsubscript{i}? Non-specific

b. [Which famous professor], do (you say that) his\textsubscript{?i}\textsubscript{j} students admire t\textsubscript{i}? Specific

The core point seems to be that specificity (understood as Discourse-Linking) ameliorates \textit{wh}-movement and provides with suitable workspace for binding the possessive pronoun. I return to the influence of D-linking on sub-extraction shortly.

\textsuperscript{18}An anonymous reviewer points out to me that sentences such as (30b) and (31b) are degraded. In these examples, sub-extraction has been applied after moving the subject to Spec-TP. As mentioned in the main text, in at least certain varieties of Spanish all the examples are well-formed in as much as pragmatic factors such as length allow for such complex constructions.

Among syntacticians there is no general agreement on the well/ill-formedness of sentences such as (30) and (31). Ángela Di Tulio (p.c.) finds all four sentences grammatical, whereas Violeta Demonte (p.c.) and Amaya Mendikoetxea (p.c.), at a first sight, consider them incorrect. However, after close inspection, Demonte detects differences between examples in (a) and (b) and suggests that the (b)-examples improve if the premodifier \textit{tanta} ‘such’ is replaced by a quantifier such as \textit{mucha} ‘much’:

(i) ¿De qué actriz varias fotos han causado mucha polémica? \\
‘Of which actress have several photos caused much scandal?’

Interestingly, the sentences that Gallego & Uriagereka (2007) take as well-formed (examples in (a), with sub-extraction from post-verbal subject) do not show any
(30) a. ¿De qué actriz han causado varias fotos tanta polémica?
   of which actress have-PERF.3PL caused several photos such a scandal

b. ¿De qué actriz varias fotos han causado tanta polémica?
   of which actress several photos have-PERF.3PL caused such a scandal
   ‘Of which actress have several photos caused such a scandal?’

(31) a. ¿De qué actriz parece que han causado varias fotos
tanta polémica?
   of which actress seem-PRES.3SG that have-PERF.3PL caused several photos
   such a scandal

b. ¿De qué actriz parece que varias fotos han causado
   tanta polémica?
   of which actress seem-PRES.3SG that several photos have-PERF.3PL caused
   such a scandal
   ‘Of which actress does it seem that several photos have caused such a scandal?’

If Spec-TP is a phase edge which does block sub-extraction in Spanish, sentences (30b) and (31b) should be incorrect. This prediction is not borne out.

Consider now the possible sub-extraction from objects in Spanish. One of the most prevalent characteristics of the subject/object asymmetry is that objects allow sub-extraction. This is also the view that Gallego & Uriagereka (2006, 2007) adopt on the basis of examples such as (32):

(32) ¿De qué lingüista [váz a leer muchos artículos ti]?
    of what linguist go-2PL to to-read many papers
    ‘Which linguist are you going to read many papers by?’

Again, extraction out of objects posits some problems, since not all sub-extraction cases yield a grammatical output, as shown in (33):

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amelioration. Instead, it is the (b)-examples that may get better under certain circumstances.

I am grateful to Violeta Demonte, Amaya Mendikoetxea, Ana Ojea and Ángela Di Tullio for their grammaticality judgements and further suggestions.
It is safe to conclude so far that sub-extraction from a DP is contingent on other factors which do not rely on the functional/positional status of the relevant DP. Therefore, provided that certain conditions are satisfied, sub-extraction from subjects and objects are ultimately felicitous regardless of the specific syntactic position that the DP occupies. In this respect, I concur with Ceplová (2001), Boeckx (2003) and Boeckx & Grohmann (2007) in assuming that a phase-based approach to subject domains is problematic in that if subject DPs are phases the conceptualization of phases is either too restricted or too permissive. Furthermore, Gallego & Uriagereka (2007) base their analysis of sub-extraction on the phashood of TP (not on the phase properties of the relevant DP). In my approach, I elaborate a proposal founded on the phasal character of DPs, not on the phasal nature of the position that DPs occupy.

6. Some constraints on internal sub-extraction

6.1 Definiteness effects and DP phases

Chomsky (2008) has identified DPs as phases. As Chomsky (2001, 2004) claims, the domain of a phase cannot be targeted by an outer probe in accordance with the Phase Impenetrability Principle. This is just a consequence of the Transfer process, by which a phase domain is sent to the phonological and semantic components to be assigned a phonological representation and a semantic representation, respectively. In this connection, once the domain of a definite DP has been transferred to the other components, nothing could be extracted out of it.

Radford (2009) explores the possibility that definite DPs are phases. To illustrate, consider sentences in (34), taken from Radford (2009):^{19}

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^{19}Davies & Dubinsky (2003) have proposed that objects in English are DPs, whereas subjects are only NPs. This explains why sub-extraction from objects is licensed as opposed to subjects. However, this proposal also poses some problems since, as illustrated in the main text, it is not the case that sub-extraction is allowed from all type of objects.
(34)  a. *Who, were you reading a book about ti?  
   b. Who, were you reading the/this/that/his book about ti?

The difference of grammaticality in (34) is adduced to the definite character of the DP object in (34b), which will thus be classified as a phase.\textsuperscript{20} One problem that this analysis poses is that it does not discriminate between the definite DP in (34b), barring \textit{wh}-extraction and the definite DP in (35), which seemingly allows extraction in spite of the definite nature of the DP at issue.

(35) Which of these books did you design the covers of?

Both examples (34b) and (35) instantiate the use of definite DPs in object position, but only in (35) will extraction result in a correct sentence, although both DPs are phases due to their definite character.

In relation to the Definiteness Effects that I am dealing with here, Ticío (2006) describes possible extractions out of a DP depending on a three-fold classification of the extracted category in terms of objects, possessors and agents.\textsuperscript{21} Dealing with Spanish, she suggests that only objects can be extracted out of a definite DP:

(36)  a. *¿[De qué \textit{autor}], has \textit{leído los libros} ti?  
   (agent)  

    of which author \textit{have-PERF.2SG read} the books  

   ‘Of which author have you read the books?’

   b. *¿[De \textit{quién}], has \textit{visto} [\textit{las fotos de ese monte} \textit{ti}]?  
   (possessor)  

    of whom \textit{have-PERF.2SG seen} the photos of that mountain  

   ‘Of whom have you seen the photos of that mountain?’

\textsuperscript{20}Definiteness effects on the extractability of DPs have been independently explored by Diesing (1992) and Davies & Dubinsky (2003), among others.

\textsuperscript{21}On previous approaches to the classification of Spanish DP constituents in terms of agents, possessors and objects and their different structural position within DP, see Torrego (1985), Ormazábal (1991) and Sánchez (1996). Giorgi & Longobardi (1991) also offer an analysis of extraction which is based on the type of argument that is included in the relevant DP.
c. ¿[De qué cantante] salieron publicadas las fotos ti? (object)
   of which singer were-PAST.3PL published the photos
   ‘Of which singer were the photos published?’

The grammaticality of (36c) argues against an explanation of the impossibility of extraction in (36a–b) as a consequence of the definite nature of the DP. Note that the three sentences in (36) involve a definite DP. Contra Fiengo & Higginbotham (1981) and Storto (2000), among others, wh-movement out of definite DPs is not entirely excluded in the light of examples such as (36c). Interestingly, if an indefinite D such as varios/as ‘several’ substitutes for the definite D in (37) the ill-formedness disappears, provided that there is only one single argument present in the DP:

(37) a. ¿[De qué autor] ha leído varios libros ti? (agent)
   of which author have-PERF:2SG read several books
   ‘Of which author have you read several books?’

b. ¿[De quién] ha visto varias fotos de ese monte ti? (possessor)
   of whom have-PERF:2SG seen several photos of that mountain
   ‘Of whom have you seen several photos of that mountain?’

c. ¿[De qué cantante] salieron publicadas varias fotos ti? (object)
   of which singer were-PAST.3PL published several photos
   ‘Of which singer were several photos published?’

From the data in (37) a conclusion may be drawn that, regardless of the semantic relation between the noun and its prepositional complement, nondefinite DPs permit sub-extraction.

Moreover, Ticío (2006: 138) goes further when she asserts that Spanish definite DPs and Spanish specific DPs differ with respect to sub-extraction possibilities.

(38) a. *¿[De qué autor] ha leído estos libros ti? (agent)
   of which author have-PERF:2SG read these books
   ‘Of which author have you read these books?’

22The verb salir ‘come out’ is unaccusative in Spanish, so that the subject las fotos de qué cantante ‘the photos of which singer’ originates as complement of VP, thereby behaving as an object.
b. *¿ [De quién] has [visto [estas fotos de ese monte] tij]? (possessor)
of whom have-PERF.2SG seen these photos of that mountain
‘Of whom have you seen these photos of that mountain?’

c. *¿ [De qué cantante] salieron [publicadas estas fotos] tij? (object)
of which singer were-PAST.3PL published these photos
‘Of which singer were these photos published?’

The ungrammaticality of the examples in (38) with demonstratives suggests that there is no difference among agents, possessors and objects when Specificity Effects are concerned in Spanish, as all types of extraction will be banned in specific DPs irrespectively of the agent, possessor or object status of the moved category.

What seems to be prevalent in Ticio’s (2006) approach to Spanish nominals is that all types of extraction involve movement out of a DP which occupies an (underlying) object position. One question arises at this point: What would happen if sub-extraction applied out of a DP in subject position? Sentences in (39) and (40) instantiate cases of extraction out of a DP subject:

(39) a. ¿De qué cantante has dicho que son muy provocativas varias/las fotos?
of which singer have-PERF.2SG said that are very provocative several/the photos
‘Of which singer have you said that several/the photos are very provocative?’

b. *¿De qué cantante has dicho que son muy provocativas estas fotos?
of which singer have-PERF.2SG said that are very provocative these photos
‘Of which singer have you said that these photos are very provocative?’

(40) a. ¿De qué película has dicho que interrumpieron la conferencia
of which film have-PERF.2SG said that interrupt-PAST.3PL the talk
varios/los directores?
several/the directors
‘Of which film have you said that several/the directors interrupted the talk?’

b. *¿De qué película has dicho que interrumpieron la conferencia
of which film have-PERF.2SG said that interrupt-PAST.3PL the talk
estos directores?
these directors
‘Of which film have you said that these directors interrupted the talk?’
The grammaticality judgement of (39) clearly shows that extraction out of specific DP subjects is banned in Spanish, whereas extraction out of definite and indefinite DP subjects may be allowed under certain circumstances. This is surprising in the light of Huang’s (1982) CED, according to which subjects are islands in that, as stated above with respect to English, they do not permit the extraction of any of their constituents.²³ This subject-island condition is illustrated in (40), according to which any extraction out of a DP subject is barred in Spanish, irrespective of the (non)definite/specific status. All the relevant examples in (39–40) improve appreciably when the extraction involves pied-piping of the whole DP subject, except with specifics, which is indicative of the islandhood of these DP subjects:

(41) a. ¿ Varias/las fotos de qué cantante has dicho que son muy provocativas?
    Several/the photos of which singer have-PERF.2SG said that are very provocative
    ‘Several photos of which singer have you said are very provocative?’

   b. * ¿ Estas fotos de quié cantante has dicho que son muy provocativas?
    These photos of which singer have-PERF.2SG said that are very provocative
    ‘These photos of which singer have you said are very provocative?’

(42) a. ¿ Varios/los directores de qué película has dicho que
    Several/the directors of which film have-PERF.2SG said that
    interrumpieron la conferencia?
    interrupt-PAST3.PL the talk
    ‘Several directors of which film have you said that interrupted the talk?’

²³The precise definition of Huang’s (1982) CED makes reference to proper government: only those subjects that are not properly governed by a lexical head are islands. As an anonymous reviewer comments, in languages such as Japanese, Spanish, Italian, etc., it was argued that subjects were governed. This leaves a door open to the possibility that in these languages, sub-extraction from subjects is plausible.
b. *¿Estos directores de qué película has dicho que interrumpieron la conferencia?
the talk
‘These directors of which film have you said that interrupted the talk?’

It is reasonable to conclude so far that Definiteness/Specificity effects arise in relation to extraction out of DPs irrespective of whether they are placed in object or subject position. Accordingly, Definite/Specific DPs are clearly islands and, as such, they may be dealt with in terms of phases. In this connection, Anti-definiteness may be seen as an island-circumventing factor. However, the phase-based approach analysis to DP islands is troublesome in that I have identified clear cases of extraction out of definite DPs in Spanish which yield a correct outcome, even if they are placed in subject position (see (39)–(42)). From this, two conclusions may be drawn:

(i) The notion of island should be parameterised in order to capture typical cases of subject extractability in languages such as Spanish, in line with Boeckx (2003), Sabel (2002), Gallego & Uriagereka (2007), among others; (ii) The interpretation of DPs as (non)definite/specific is an interface issue, in that it is relevant at LF where semantic properties are subject to processing. This throws some light into the nature of islands since the circumventing feature seems to be an LF phenomenon, and following Boeckx’s (2008) reasoning, subject islands are thus identified as representational conditions on syntactic objects. Other factors seem to be involved in repairing islands though, which I try to clarify in next section.

6.2 Discourse-linked operators

Linguists draw a distinction between two types of interrogatives: discourse-linked (D-linked) phrases such as which man, which implies the existence of a set of contextually determined entities (men) from which the speaker is asking for a choice, and non-D-linked interrogatives such as who, which carry no such implication (Pesetsky 1987; Cinque 1990; Enç 1991; Rizzi 2001; Frazier & Clifton 2002). Let’s see what happens if wh-movement is applied to a sentence such as (43), from Aarts (1992: 47):
Sentence (43) is correct, especially if the interrogative operator what is interpreted as being D-linked, i.e. if what refers to a subset of a previously identified set in the context. This accounts for the grammaticality of sentences such as (44), in which the extraction conveniently affects a D-linked phrase (Radford, p.c.):

(44) Which of these books did you design the covers of?

The operator what in (43) has two interpretations depending on whether it is considered as a D-linked or as a non-D-linked phrase. As stated above, only when it is interpreted as D-linked will sentence (43) be completely felicitous. Note that in the above examples the extraction site is a definite DP, hence a phase, yet if the wh-operator is properly identified in the discourse the islandhood of these definite DPs is repaired.

Assuming the subject/object asymmetry as regards the extraction of a wh-operator, let’s consider the extractability possibilities of D-/non-D-linked wh-constituents out of a DP in English:24

(45) a. [Of which car] did they find the (driver, picture) t_i?
   (No subject island + Definite DP + D-linked operator)

   b. *[Of which car] did the (driver, picture) t_i cause a scandal?
   (Subject island + Definite DP + D-linked operator)
   (From Chomsky [2008], repeated here for convenience)

(46) a. ?? [Of what] did they find the (driver, picture) t_i?
   (No subject island + Definite DP + non-D-linked operator)

   b. *[Of what] did the (driver, picture) t_i cause a scandal?
   (Subject island + Definite DP + non-D-linked operator)

In the (a) sentences the extraction site for wh-movement occupies the object. As such, it allows for the extraction of a wh-operator provided this

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24I thank Ian Roberts, Norbert Hornstein, David Adger, Jane Arnold and Mary O’Sullivan for their grammaticality judgements. It must be stated that no general consensus has been achieved among native speakers of English and syntacticians. Even the acceptable examples quoted from Chomsky (2008) do not sound very good.
is D-linked. Interestingly, the situation is different when the extraction site is the subject of the whole sentence, since no amelioration is felt irrespectively of the D-linkedness or non-D-linkedness of the *wh*-operator. However, if the sub-extraction involves movement out of an indefinite DP, the sentence strongly improves, especially if the *wh*-operator is D-linked, as sentences in (47) illustrate:25

(47)  a. *Of which car* did some pictures *t₁* cause a scandal?
    
    b. ?? *Of what did* some pictures *t₁* cause a scandal?
    
    c. (?) *[Which car]* did some pictures of *t₁* cause a scandal?
    
    d. *What did* some pictures of *t₁* cause a scandal?26

This paradigm exhibits the fact that sub-extraction from a DP subject is licit given that extracted material is D-linked and the DP is indefinite. In any case, it should be clear that D-linking and definiteness are interface properties, since their influence is felt at LF once the derivation is transferred to be semantically processed. This leads me to conclude that island-effects are interface conditions.

7. A new phase-based approach to subject DPs

In this section I explore another possibility to explain the difference in terms of sub-extraction and its relation to the concept of islands. Implementing Chomsky’s (2008) view, I suggest that all DPs are phases, on a par with CP and vP. However, some DPs are strong phases due to the combination of certain interface interpretive properties such as Definiteness and D-Linking. Accordingly, only some DPs are islands, hence islandhood

25The reason that Rizzi (2001) adduces to explain sub-extraction of D-linked *wh*-operators is that, as specific, they contain salient topic properties. Although I agree that information structure plays a role in licensing sub-extraction, I will not pursue this information-based approach here due to lack of space.

26The P-stranding versions and the grammaticality judgement have been kindly given by Ian Roberts (p.c.). Concerning the pied-piping structures in (47a–b), David Adger detects a contrast between the non-D-linked and D-linked examples. As mentioned above, the operator *what* may have a D-linked reading, which explains why (47d) is well-formed.
is a derived notion. In this vein, what renders DPs opaque to sub-extraction is a complex of interface properties, and not only the derived position of DPs (contra Gallego & Uriagereka 2007). Actually, Chomsky (2008: 152) notes that “what yields the subject-island effect, it appears, is search that goes too deeply into a phase already passed, not the difference between base and surface position.” Chomsky draws this conclusion from the grammatical status of sentences like (48):

(48)  [Of which car] did they believe the (driver, picture) t, to have caused a scandal?

The core point about extractability possibilities is that they are ruled by a heterogeneous series of conditions. The availability of extraction cannot be accounted for by just proposing one single condition. To recapitulate, two factors influencing the extraction possibilities that I have considered are Definiteness and D-linking.28 These two conditions identify the possibilities of extraction out of DPs. Mind that I am concerned here with weak islands. This means that the grammaticality of the extractions under investigation is rather selective. The relative weakness of these islands is strengthened when the two factors combine, thereby obtaining a stronger island. The examples in (49)-(54) illustrate the emergence of a strong island when different combinations are taken into account, regardless of the subject/object asymmetry:

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27 There is no general consensus as to the grammaticality of ECM constructions which involves sub-extraction from the subordinate subject. While Chomsky considers that sentences such as (48) are correct, Stepnov (2007) – quoting Chomsky (1973) and Kayne (1984) – holds that sub-extraction from an ECM is degraded on the basis of the example ??Who do you believe [a picture of t] to be on sale?.

28 For a different list of constituents which induce island effects, see Szabolcsi & den Dikken (2002). I am aware that there are additional factors influencing the islandhood of a given constituent. One such factor may be preposition stranding (Chomsky 1986; Kayne 1984; Kuno 1973). The reason provided by Kuno (1973) lies on the NP-Incompleteness that defines the nominal expression left behind. Although this proposal sounds right, in this work I do not deal with the connection between islands and preposition stranding. I simply concentrate on two discourse properties which are responsible for the emergence of a strong island.
(49) a. ¿De quién crees que son muy provocativas las fotos?
    of whom believe-PRES.2SG that are very provocative the photos
    (Subject island + Definite DP + non-D-linked operator)
    ‘Of whom do you believe that the photos are very provocative?’

   b. ¿De quién profesor crees que son muy provocativas las fotos?
    of whom teacher believe-PRES.2SG that are very provocative the photos
    (Subject island + Definite DP + D-linked operator)
    ‘Of which professor do you believe that the photos are very provocative?’

(50) a. ¿De quién crees que son muy provocativas algunas fotos?
    of whom believe-PRES.2SG that are very provocative some photos
    (Subject island + Indefinite DP + non-D-linked operator)
    ‘Of whom do you believe that some photos are very provocative?’

   b. ¿De quién profesor crees que son muy provocativas algunas fotos?
    of which teacher believe-PRES.2SG that are very provocative some photos
    (Subject island + Indefinite DP + D-linked operator)
    ‘Of which professor do you believe that some photos are very provocative?’

(51) a. ¿De qué crees que has conocido a los directores?
    of what believe-PRES.2SG that have2SG met to the directors
    (No subject island + Definite DP + non-D-linked operator)
    ‘Of what do you believe that you have met the directors?’

   b. ¿De qué película crees que has conocido a los directores?
    of what film believe-PRES.2SG that have-PERF.2SG met to the directors
    (No subject island + Definite DP + D-linked operator)
    ‘Of which film do you believe that you have met the directors?’

29 As noted by Gallego & Uriagereka (2007), sub-extraction is not licensed when the object is introduced by the dative preposition a:

   (i) *¿[De qué estudiante]i has criticado a los padres ti?
      of what student have-PERF.2SG criticized to the parents
      ‘Which student have you criticized the parents of?’

   Nevertheless, if the definite D los is replaced by the possessive D sus, the sub-extraction is repaired. In line with Falco (2007) it seems that possessive pronouns give rise to Weak Cross-Over effects, thereby accounting for the possibility of sub-extraction:

   (ii) ¿[De qué estudiante]i has criticado a sus padres ti?
        of what student have-PERF.2SG criticized to his parents
        ‘Which student have you criticized the parents of?’
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(52) a. ¿De qué crees que has conocido a unos directores?
   Of what believe-PRES.2SG that have-PERF.2SG met to some directors
   ‘Of what do you believe that you have met some directors?’

b. ¿De qué película crees que has conocido a unos directores?
   Of what film believe-PRES.2SG that have-PERF.2SG met to the directors
   ‘Of which film do you believe that you have met some directors?’

(53) a. ¿De qué coche crees que encontraron al conductor/la foto?
   Of what car believe-PRES.2SG that find-PAST.3PL to the driver/the picture
   ‘Of which car do you believe they found the driver/picture?’

b. *¿De qué coche crees que el conductor/la foto provocó un escándalo?
   Of what car believe-PRES.2SG that the driver/the picture cause-PAST.3PL
   ‘Of which car do you believe the driver/picture caused a scandal?’

(54) a. *¿De qué crees que encontraron al conductor/la foto?
   Of what believe-PRES.2SG that find-PAST.3PL to the driver/the picture
   ‘Of what do you believe they found the driver/picture?’

b. **¿De qué crees que el conductor/la foto provocó un escándalo?
   Of what believe-PRES.2SG that the driver/the picture cause-PAST.3PL
   ‘Of what do you believe that the driver/picture caused a scandal?’

Several describing generalisations derive from the data above:

1) The more D-linked a wh-operator, the more natural the resulting construction. This is one of the ameliorating strategies that Spanish employs to allow for the extraction of an operator from a definite DP, as examples in (51) illustrate. Similarly, English
may circumvent a subject island by using D-linking, as shown throughout my work.

2) The CED on its own cannot account for some cases of extraction out of an island in Spanish, as examples (52)–(54) confirm. This can be taken as evidence against the CED as part of UG. This possibility is vastly explored by Stepanov (2007) in the light of Nunes & Uriagereka’s (2000) nondiscrimination between complements and noncomplements. Also, Boeckx (2003) and Gallego & Uriagereka (2006, 2007) arrive at the same conclusion.

3) Regardless of their derived or base-generated position, subjects may allow for sub-extraction under certain circumstances. This is the crucial point in my work. It is not the case that subjects do not favour sub-extraction due to the fact that they occupy Spec-TP. It is rather their phasal nature that disallows sub-extraction.

All these generalisations may be accommodated in a principled way if some kind of phase-based analysis is adopted. As mentioned above, if DPs are phases as a consequence of a specific combination of properties such as D-linking and Definiteness, all the special traits of subject islands fall into place. This is the line I want to pursue here. Evidence in support of my analysis of DPs as selective phases comes from cross-linguistic and theoretical grounds.

In this connection, Sevdali (2009) discusses two types of non-finite clauses in Ancient Greek and two types of finite clauses in Modern Greek. Starting with Ancient Greek, she convincingly argues that the presence of discourse properties such as contrast renders a CP a strong phase. This explains why infinitival clauses with overt or null accusative subjects are strong phases, C*Ps, whereas control infinitives are CPs, weak phases that permit case-agreement operations driven from outside.

As far as Modern Greek is concerned, Sevdali (2009) indicates that there are two types of finite *na*-clauses. If the subordinate clause may have either a controlled PRO or an explicit subject, the CP will be a strong phase. By contrast, if the *na*-clause can only take a controlled PRO as its subject, this CP will be a weak phase. The two examples that follow illustrate this distinction:
The basic idea is that clauses allowing both PRO and a case-marked subject show discourse properties and they are analysed as strong C*Ps; conversely, if they can only contain a controlled PRO and show no discourse properties it is because they are simple weak CPs. This is reminiscent of Chomsky’s (2006, 2008) distinction between weak vP and strong v*Ps and can be extended to all phases in all languages.

Following this line of reasoning, it will be optimal if all phasal heads are classified as weak or strong, hence making more prominent the strict parallelism that Chomsky advocates for. In this vein, DPs are strong phases (hence D*Ps) when certain discourse-related properties intersect. If a DP is a strong phase it does block sub-extraction. What is crucial in this approach is that discourse features are relevant to decide whether a given category is a strong phase or not. Accordingly, it seems that discourse properties such as Definiteness and D-linking are in charge of turning DPs into D*Ps.

The relevance of LF-related features for the phaseness of DPs is given a full account in Heck, Müller & Trommer (2008). They show that DPs may be phases in Scandinavian (Swedish and Danish) due to the presence of a Definiteness feature. For these linguists the [+ Def] feature is
sheltered under N, not under D. They assume that all DPs are phases and in order for the [+ Def] feature to be visible for computation, they propose feature movement to the edge of the DP. What is important for my analysis is the increasingly interface-driven character of syntactic operations (Grohmann 2008), since Definiteness and D-linking, two LF properties play a crucial role in the syntactic computation of sub-extraction.

Let me now illustrate how the notion of D*P relates to extractability possibilities. In Chomsky’s (2008) system, weak phases do not count for the purpose of Spell-Out or the Phase Impenetrability Principle in that a probe/goal Agree relation may be established between an external probe and any material in the complement of the weak phase. If this is on the right track, we have enough theoretical apparatus to explain why all cases of sub-extraction from a definite/non-D-linked DP are barred: they are strong phases and as such the complement has already been transferred to the interfaces so that a wh-operator in the complement of a D*P cannot be targeted by C. On the other hand, weak phases are not Spell-Out domains. Therefore, non-definite/D-linked DPs are only weak DPs and sub-extraction of the wh-constituent is permitted, given that by the time this undergoes movement to Spec-CP it has not been transferred yet to the semantic and phonological components. If the distinction between DP/D*P is on track, the grammaticality of English and Spanish sentences in (52) can be easily accommodated.

(57) a. Of which singer do you think that some pictures have shocked the audience?

b. ¿De qué cantante te parece que algunas fotos han escandalizado a la audiencia?

‘Of which singer does it seem to you that some photos have shocked the audience?’

The extraction domains in these two sentences are the DP some pictures of which singer and algunas fotos de qué cantante respectively. These DPs contain two features which are at stake when C comes to probe the internal wh-operators, namely [- def] and [D-linked]. Consequently, the DPs are only weak phases so that the [wh]-feature in their complement domain is
visible. This allows the edge feature under C to attract the \textit{wh}-operator, yielding a grammatical result (Pesetsky & Torrego 2001).

To see more clearly how the derivation of cases of sub-extraction is drawn, let me make my proposal more explicit. The DP \textit{algunas fotos de \textit{qué cantante}} ‘some pictures of which singer’ has the featural structure informally drawn in (58), which is the starting point for the derivation of (57b):

\[
(58) \quad [\text{DP algunas fotos} [\text{de} [\text{QP \textit{qué cantante}}] ] ]
\]
\[
\quad [\text{[- def]}] \quad [\text{D-linked Wh}]
\]

First, the whole DP is moved into Spec-TP to satisfy the [EPP] feature. Once the matrix C is merged to TP, C probes and searches for a suitable goal in order to establish the AGREE relation. The [D-linked Wh] feature under the QP is visible at the CP cycle since the whole DP contains the feature [- def]. Recall that this DP is just a weak phase due to the [- def] feature. Accordingly, C may have access into this DP and agrees with the [D-linked] \textit{wh}-feature. The edge feature (EF) in C triggers movement of the PP \textit{de \textit{qué cantante}} ‘of which singer’ to its specifier.

\[
(59) \quad [\text{CP \textit{de \textit{qué cantante} C TP \ldots}}] \quad [\text{DP algunas fotos} [\text{de} [\text{QP \textit{qué cantante}}] ] ]
\]
\[
\quad [\text{D-linked Wh}] \quad [\text{[- def]}] \quad [\text{D-linked Wh}]
\quad [\text{EF}]
\]

When transferred to the semantic component, all the non-interpretable features have already been deleted and the derivation is assigned the right semantic interpretation.

By contrast, in (60a) the DP \textit{las fotos de \textit{qué cantante}} ‘the pictures of which singer’, although being marked as D-linked, contains a [+ def] feature which renders the whole DP impenetrable due to the fact that its phasehood has been strengthened. Yet, in case that the \textit{wh}-operator lacks the [D-linked] feature, the outcome is even more degraded. This is illustrated in (60b). The reason again is found in the stronger phasehood of the corresponding DP.
Concentrating on (60b), the DP subject las fotos de quién qualifies as a strong DP phase (hence D*P), since it contains a [+ def] feature. This precludes any DP-internal feature from being visible for an outside probe. Consequently, the uninterruptible [wh-feature] in the matrix C remains unvalued and the derivation crashes because not all features may be interpreted in the semantic component.

As regards the representational/derivational nature of subject islands, the intuition is that both narrow-syntactic and interface properties are crucial when treating a DP as a weak or strong phase. On the one hand, since the discourse-related features of Definiteness and Discourse-linking are conceived of as already present in the lexical array, they influence the computation of the relevant construction. From this it follows that a DP is opaque to sub-extraction if the features at issue make the DP a strong phase. In clear contrast, the DP is transparent to sub-extraction if the opposite discourse-related features interact and make the DP a weak phase. Recall that Definiteness and D-linking are interpretive features. From this perspective, a weak DP phase is licensed if interpreted correctly at LF.

As mentioned earlier, Chomsky (2008) notes that regardless of the base or surface position, subject-island effects arise when a probe searches for a goal within a phase that has already been transferred to the interfaces. My work lends further support to this claim in that sub-extraction is subject to the distinction between weak and strong DP phases and the degraded cases are explained by using a phase domain that has been already transferred to the other components of grammar, hence blocking any further computation. As a consequence, there remain uninterpretable
features under C which have not been valued, thereby driving the derivation to crash.

My analysis of subject islands as strong phases can be easily extended to other languages, which also gives further credit to it. I have already pointed out that Hungarian and Palauan are languages in which sub-extraction from subjects is licensed. In Italian, instances of sub-extraction are found that confirm the selective nature of DP subjects (Luca Grossi, p.c.):

(61) a. *Di che autore credi che molti libri sono stati* of which author believe-PRES.2SG that many books are-PERF.3PL have been

*un successo?*
a success

‘Of which author do you believe that many books have been a success?’

b. *Di che autore credi che molti libri hanno causato tanta* of which author believe-PRES.2SG that many books have-PERF.3PL have caused

*polemica?*
a scandal

‘Of which author do you believe that many books have caused such a scandal?’

In (61) the original subject DP *molti libri di che autore* ‘many books of which author’ is marked with the features [-def] and [D-linked]. Consequently, the whole DP is only a weak phase. Thus, the matrix C probes the wh-expression internal to DP and attracts if to Spec-CP, thereby satisfying the EF. Interestingly, the wh-operator may undergo movement to Spec-CP despite having previously moved to Spec-TP in the embedded clause. Again, this situation confirms that sub-extraction is not connected with the base-generated or derived nature of DP subjects.

Although dealing with topicalisation, another type of A’-movement, Broekhuis (2008: 63) points out that in Dutch sub-extraction from subject DPs is perfectly acceptable independently of the syntactic position that they occupy, as shown in the following examples (capitals are indicative of contrast):
(62) a. Van DEZE fabriek hebben de werknemers gisteren het werk onderbroken.
   Of this factory, the employees interrupted their work yesterday.

   b. Van DEZE school hebben alle leerlingen verleden jaar de marathon gelopen.
   Of this school, all the pupils last year the marathon run

   ‘Of this factory, the employees interrupted their work yesterday.’

   ‘Of this school, all the pupils run the marathon last year.’

Note that the displaced PP is marked as [D-linked], which renders the
whole subject DP a weak phase, thereby permitting sub-extraction.
Accordingly, Dutch also provides a further argument in favour of my
analysis of sub-extraction in terms of phases.

Finally, as brought out to me by Ignacio Bosque (p.c.), relative clauses
in Spanish also constitute a good type of construction to test sub-extraction
and demonstrate the phasehood of DPs. Chomsky (2008) already analysed
cases of relative clauses in cleft-constructions in which sub-extraction
seems to be banned (Chomsky’s grammaticality judgement):

(63) a. It was the CAR (not the TRUCK) of which [they found the (driver, picture)]

   b. *it was the CAR (not the TRUCK) of which [the (driver, picture) caused
      a scandal]

Chomsky assumes that the ill-formedness in (63) is due to some subject-
island effect. Notice that in (63a) sub-extraction has taken place out of a
DP object, whereas in (63b) the relative operator has been extracted from a
DP subject, thereby yielding an unacceptable outcome. As demonstrated
throughout my work, subject extraction is licensed in wh-constructions in
other languages. One sub-type of wh-construction is the relative clause. In
this respect, Stepanov (2007: 92) observes that in Turkish sub-extraction is
licit in relative clauses:

    Ahmet-GEN go-INF-AGR-GEN 1-ACC sadden-PAST-COMP-AGR house
    Lit. ‘The house [which [that Ahmet went to _] saddened me].’

duy-du-ğ-u/m] adam.
hear-PST-COMP-AGR man

Lit. ‘The man [whose I heard [that [ _ mother] talked to everyone]].’

In Spanish, sub-extraction out of a subject has been shown to yield acceptable structures in wh-interrogatives. As regards relative clauses, we should expect the same results. Sub-extraction of the relative operator out of the subject of the relative clause gives rise to sentences that are grammatically perfect (Bosque’s grammaticality judgement):

(65) a. La actriz de la que han causado varias fotos una gran polémica
the actress of whom have-PERF.3PL caused several pictures a huge scandal

b. La actriz de la que varias fotos han causado una gran polémica
the actress of whom several pictures have-PERF.3PL caused a huge scandal

‘the actress of whom several pictures have caused a huge scandal’

(66) a. La actriz de la que parece que han causado varias fotos
the actress of whom seem-PRES.3SG that have-PERF.3PL caused several pictures
una gran polémica
a huge scandal

b. La actriz de la que parece que varias fotos han causado
the actress of whom seem-PRES.3SG that several pictures have-PERF.3PL caused
una gran polémica
a huge scandal

‘the actress of whom it seems that several pictures have caused a huge scandal’

In both DPs the relative operator has been moved out of DP subject which is marked as [- def]. This subject may follow the verb, as in (65a) and (66a). In that case, the subject remains in situ. However, it can also precede the verb, in which case it undergoes movement to Spec-TP and it is at this stage that sub-extraction of the operator takes place. If the DP subject is marked as [+ def], sub-extraction is blocked. The reason is that in that case the DP is a phase and the [wh]-feature of the relative operator is too deeply inside the phase as to be the goal of an outside probe.
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As is evident, the syntax of relative clauses also supports my proposal that LF-related features determine the phasal status of DPs.

8. Conclusions

In this work I have focused on the interaction of discourse-related features such as Definiteness and Discourse-Linking as the basis to render a DP a strong phase and account for the subject-island effects which arise under certain circumstances. I have proved that sub-extraction is licit when a subject DP is a weak phase, regardless of the syntactic position it occupies. In such a situation, C may penetrate down to the phase domain to probe the $wh$-operator and agree with it. Then, the edge feature under C attracts the $wh$-operator to Spec-TP. Nevertheless, when the subject is marked as definite and non-D-linked, it turns into a strong D*P, thereby blocking sub-extraction since the [$wh$]-feature is not visible for C to establish an agreement relation. From this viewpoint, subject islands emerge in the narrow syntax. However, due to the specific interpretive properties a given DP is also processed as an island in the interfaces. Data from Spanish, English, Italian, Hungarian and Dutch favour my phase-based approach to subject islands.
In addition, my analysis also supports Chomsky’s (2008) view that there is a strict parallelism among all phases since on a par with CP and vP, DP may be a weak or strong phase.

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The grammar-interaction interface of negative questions in Estonian

Abstract

Grammatically negative questions have been considered tricky because out of context it is basically impossible to predict whether they are conducive of a positive or negative answer (e.g. Sadock and Zwicky 1985). Furthermore, some of them convey reverse polarity affirmations rather than ask for information (Koshik 2002). The current study looks systematically at all negative polar questions found in Estonian spoken language corpora and shows that in actual usage, they are predominantly conducive of a confirming answer. However, a confirming answer may in some cases be either in a positive or negative form. Conduciveness of a negative question as well as its linguistic format depend on the action the question implements in a conversational sequence. The paper shows that each of the five negative question formats in Estonian regularly implements a different kind of social action ranging from challenging and topic initiation to requests for information and confirmation.

1. Introduction

In theory, polar questions are used to inquire about the truth or falsity of the proposition they express (König & Siemund 2007: 291). In real life conversation, as can also be discovered in the corpus used for the current study, polar questions implement social actions such as asking for information or confirmation, challenging, proposing a conclusion, adding an additional spin on the topic, or eliciting a telling. This means that matters of truth value are intertwined with what the speaker aims to do in the particular context as well as how strong belief she displays that she knows what the answer will be. The grammatical devices of asking a question are adapted to both of these interactive needs.

Not all interrogatives are used as questions and not all questions are interrogatives. It has been argued that what an interrogative accomplishes
in interaction is strongly dependent on the sequential position and that they 
need not be functioning as questions at all (Metslang 1981: 102–112; 
Heinemann 2005). The current study is about utterances that function as 
polar questions and therefore takes into account interrogatives as well as 
declaratives. Polar questions are understood to be utterances that make 
relevant a (dis)confirming\(^1\) polar answer, a \textit{yes} or a \textit{no}. The study argues 
that even though the utterances dealt with are all functionally questions, the 
sequential position is crucial in terms of what they achieve in interaction 
and how they are treated by co-participants. They function doubly, as 
questions, and as vehicles or formats for other social actions (Schegloff 2007: 73–78). It depends on the prior context what kind of social action 
polar questions accomplish, what the level of epistemic certainty is, and 
what kind of answer they are conducive of.

Conduciveness has been understood as a questioner’s predisposition to 
a particular kind of response, either positive or negative (Bolinger 1957: 99, 
Quirk et al. 1985: 808). In the case of negative questions, one of the main 
puzzles in linguistic pragmatics has been when and how they elicit a 
positive answer. For example, the question \textit{Isn’t it raining?} can convey that 
the speaker believes it is raining and that a positive response is assumed 
(e.g. Sadock and Zwicky 1985). In the present study conduciveness is not 
understood as an abstract grammatical possibility in an invented context 
but is discovered from the actual answers that the questions receive. This 
kind of understanding of conduciveness is based on the participants’ 
analysis. When formatting their answers, the speakers regularly indicate 
whether they assume that they are giving an answer that was expected or 
whether it goes against these expectations. This analytic procedure 
originates in conversation analysis (e.g. Heritage 1984: 233–292, Goodwin 
attempts to look at conduciveness in context and as established by 
participants’ subsequent actions. An essential part of the context in 
conversation is the prior sequence. Working out the patterns of action is 
therefore crucial in understanding what the question is doing.

Much of research into interrogatives and questions in Germanic 
languages that is often cited in typological literature is very hard to apply to 
a Finno-Ugric language such as Estonian, particularly when it comes to

\(^1\) Utterances that made relevant agreement, such as first assessments, were thereby 
excluded.
negative questions. For example, there is no reverse polarity tag system in Estonian, which has been specifically targeted in studies on conduciveness (König & Siemund 2007: 296–297). Also, negative interrogatives are not regularly used for requests and offers (e.g. Heinemann 2005, 2006 on Danish). A polite request, for example, can only be expressed by the negative interrogative in the conditional form (Sang 1983: 135–139). Furthermore, there seem to be a number of grammatical possibilities of asking a negative question in Estonian, which makes it a typologically interesting subject of pragmatic research into negative questions. As it will be shown, the various grammatical formats cannot be used interchangeably just anywhere in conversation. Each of them is sensitive to the contextual pressures in its own way.

In order to outline the phenomenon under scrutiny, let us start by taking a look at some different question formats in actual conversations. In each of the first three examples a speaker asks in a grammatically negative form if a call has been made, but the formats of the questions vary. In example (1) initial question particle kas is used. In example (2) the speaker formats her first question with the particle ega, while the follow-up question involves the turn-final question particle vä. Finally, a declarative sentence is used to achieve the question in example (3).

Transcription and glossing conventions can be found at the end of the article. The English translations are the pragmatically closest options but they do not make justice to the original formats, so the reader is urged to rely on the glossing in the second line of the transcript.

(1) 1 E: ee tähendab on nagu] vaja publikut natuke.  
     means is like needed audience:PRT little
     ‘Um, I mean, (we) need some audience.’

2 M:  EI TAHASE:, 
     NEG want
     ‘I don’t want (to come).’

3 E:  ah nii.
     ‘Oh.’

4 M:  →   h äää, kas: eile mulle ei elistand Kadri näiteks. 
     QUES yesterday I:ALL NEG call:PPT NAME example:TRA
     ‘Um, didn’t Kadri call me yesterday, for instance?’
5 E:  
\textit{ei: keegi pole elistanud.} =
\textit{nobody NEG:be call:PPT}
\textit{‘No, nobody has called.’}

(2) 1 K:  
\textit{jaa.}
\textit{‘Yeah/Hello.’}

2 P:  
\textit{tšau:}
\textit{‘Hi,’}

3 K:  
\textit{tšau,}
\textit{‘Hi,’}

4 P:  \rightarrow  
\textit{kule ega mulle ei ole} <\textit{Q elistatud.} = \textit{Q}>
\textit{listen:IMP:2SG EGA ALL NEG be call:IMS:PPT}
\textit{‘Listen, nobody has called me, right?’}

5 K:  
\textit{=m:inu teada mitte,=}
\textit{I:GEN know:INF not}
\textit{‘No, as far as I know.’}

6 P:  \rightarrow  
\textit{=<Q eile ka mitte vā.} Q-
\textit{yesterday too not QUES}
\textit{‘Not even yesterday?’}

7 K:  
\textit{ää oota. (.) ega Pillele ei ole elistatud. ((to the side))}
\textit{wait:IMP:2SG EGA NAME:ALL NEG be call:IMS:PPT}
\textit{‘Wait! (.) Nobody has called Pille, right?’}

8  
(0.4)

9 K:  
\textit{ei ole. ((back to the phone))}
\textit{NEG be}
\textit{‘No.’}

(3) 1 V:  
\textit{oled sa oled sa m öõ temale helistand ka vā.}
\textit{have:2SG you have:2SG you s/he:ALL call:PPT too QUES}
\textit{‘Have you, have you called him/her too?’}

2  
(0.5)

3 M:  
\textit{nüüt iljuti käll mitte.}
\textit{now recently KÜLL not}
\textit{‘Not recently, no.’}
Even though the content of the questions is very similar and the polarity is always negative, the format is different in every case, as is their position in the sequence of conversational actions. This appears not to be a mere collocation but a crucial feature of Estonian grammar: the different question formats are usable in different sequential contexts. The kas-initiated question in example (1) is used as a new topic initiation after the daughter M has vigorously turned down her mother’s invitation to be among the audience in a TV show. The question constitutes a definite break from the conversation so far. The ega-initiated question provides the reason
for the call that occurs right after the greeting exchange and is thus also a topic initiation. In contrast, the vä-final question builds heavily on the prior turn and asks for an additional detail. Finally, the declaratively formulated question is implemented as a continuation of the already established topic. Based on what has happened in the conversational sequence thus far and the particular linguistic format, every question achieves a specific social action.

There are five ways of asking a negative polar question in Estonian, four of which have already been illustrated. A summary with tentative translations follows:

1) *kas*-initial utterances (Eng. inversion question)
2) *ega*-initial utterances (*ega* ‘indeed, right?’)
3) simple declaratives\(^2\)
4) *jah*-final utterances (*jah*, historically ‘yeah’)
5) *vä*-final utterances (Eng. inversion question; *vä*, historically ‘or’)

All the formats apart from (2) are also usable in positive questions. The particle *ega* can only be used in negative questions (Metslang 1981: 27). It was historically a combination of the negation word *ei* and the conjunction *ka* ‘too’ but is now regularly analyzed as a negative question particle in grammars (e.g. Erelt et al. 1995). At the same time, *ega*-questions always include other negative marking, *ega* is not sufficient on its own to achieve the negative polarity. None of the other particles display anything about polarity.

Crucially, the word order of statements and questions can be identical in Estonian. Note also that the term ‘declarative’ is strictly reserved for the grammatical format in the current study. Thus, a declarative is a clause that does not include any interrogative particles or imperatives.

The present overview systematically accounts for all the grammatically negative questions registered in two contemporary spoken language corpora. The first corpus consists of naturally occurring telemarketing calls as well as everyday calls between family members, relatives, friends, and colleagues. There are about 103,000 words in the corpus. The other corpus is the publicly available Tartu corpus: http://www.cl.ut.ee/suuline/Korpus.php. It is constantly growing, but the

\(^2\) The declaratives are occasionally terminated with particles *eksju* or *onju* that weakly elicit alignment and do not always make relevant a polar answer. The two particles are therefore not analyzed as question particles.
version used for the current study consisted of about 400,000 words. The data come from a variety of settings, including face-to-face conversations. In these two corpora 411 negatively formulated polar questions were found. All the negative utterances that made relevant a (dis)confirming polar answer have been included in the analyses, which means that all the instances with question particles kas, jah, and vä are included. As we will see below, a confirming response can under some circumstances be represented by either a positive or negative answer. It is therefore especially important to keep apart the function of the answers (confirming or disconfirming the content of the question) from their grammatical polarity (positive or negative). In Estonian, both positive and negative polar answers may be achieved with particles or by repeating the verb of the question, or the combination of the two.

The paper looks at negative polar questions in terms of their sequential placement, action import, and subsequent treatment by the recipients. It takes as a starting point the linguistic formats and arrives at an account of what types of social action they carry out and how this relates to the epistemic certainty expressed by the current speaker, which is a crucial component of conduciveness. The paper discusses the five grammatical formats, one after the other in the order of the above list, starting with the kas-question.

2. Kas-initiation as a challenge

The question particle kas has always been treated as building the prototypical form of polar interrogatives in Estonian (e.g. Erelt et al. 1995: 168, Metslang 1981: 13, 26). There were 36 cases in the current data where a negative question was formulated with kas, some of which involved an additional turn-final particle vä or jah. Kas is thus not the most frequent device for formulating negative questions in spoken discourse, but it displays a very coherent functional profile. In fact, the above example (1) demonstrates a rare socially neutral topic-initiating case in the data. In most instances, the negative kas-question constitutes a challenge built on prior discourse.

In example (4) P has called her friend to talk about some relationship crisis. It is 7.30 p.m. and in line 3 R questions whether the talk necessarily

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3 Only 7 of the negative questions found were wh-questions.
has to take place on the very same night, displaying some resistance to the idea. P’s answer in line 4 is strongly suggestive that she would indeed like to talk at once, as she is “burning”. The negative kas-question in line 5 is thus used after P’s urgent need to talk has been firmly established. It constitutes a challenge by hinting at the possibility that P could wait till tomorrow.

(4) 1 P: \textit{mul on vaja ãrakuulajat, hh}
\begin{tabular}{l}
I:ADS be need listener:PRT \\
'I need a listener.'
\end{tabular}

3 R: \textit{täna kindlasti vää.}
\begin{tabular}{l}
\text{today sure   QUES} \\
'(Does it have to be) today?'
\end{tabular}

4 P: \textit{mai tea, m:a põlen noh,}
\begin{tabular}{l}
I:NEG know I burn:1SG NOH \\
'I don’t know. I’m burning, you see.'
\end{tabular}

5 R: → \textit{kas homeasti ei anna oodata.}
\begin{tabular}{l}
QUES tomorrow:TER NEG let wait:INF \\
'Can’t it wait till tomorrow?'
\end{tabular}

6 P: \textit{<@ ma ei tea (0.4) saad aru see on kreisi, @>}
\begin{tabular}{l}
I NEG know you know this is crazy \\
'I don’t know, (0.4) you know, this is crazy.'
\end{tabular}

By suggesting that a positive answer is altogether possible, negative kas-questions regularly challenge something that has just been established. At the same time, they display the expectation that the grammatically negative answer (i.e. a confirming answer) is more likely, given the prior context. Hence the negative question format that on the record is conducive of a negative answer. Crucially, utterance-initial kas seems to mark a disalignment with whatever came before, either changing the topic as in example (1) or challenging what was said in the prior turn, as in (4). In the contexts where kas-questions occur they constitute insinuations or even downright critique toward what another participant has reported or stated. As such, a kas-question is rather a “reversed polarity question” (Koshik 2002), which conveys that the opposite polarity to that of the grammatical form of the question is or should be true.
In the following example (5), a newspaper subscriber has complained about the high fee for invoice payment. In line 3, the telemarketer asks whether nobody in his family has a bank account (leading up to a suggestion to pay via a bank transfer). The *kas*-question implies that they should have one. It is a reaction to the information that the client paid in cash and is hearable as a challenge to that choice.

(5) 1 M:  

\[ \text{aha. kas te maksite sularghas.} \]
\[ \text{oh QUES you:PL pay:IMF:2PL cash:INS} \]
\[ \text{‘Oh. Did you pay in cash?’} \]

2 K:  

\[ \text{jaa ikka.=} \]
\[ \text{‘Yeah, of course.’} \]

3 M: →  

\[ =\text{ahaa h kas teil peres pangaarvet} \]
\[ \text{oh QUES you:PL:ADS family:INS bank.account:PRT} \]
\[ \text{‘Oh. Don’t you have a bank account in your’} \]

4  

\[ \text{ei ole.} \]
\[ \text{NEG be} \]
\[ \text{‘family?’} \]

5  

\[ (0.9) \]

6 K:  

\[ \text{[noo] @@} \]
\[ \text{‘Well’} \]

The client declines to answer, possibly because of the insinuating nature of the question. Indeed, *kas*-interrogatives may not even be designed for a polar answer. It is the social activity, the challenge, that determines whether and what type of response is provided to the negative interrogative (Heritage 2002, Heinemann 2005). Although in many cases the incredulous or insinuating negative questions are treated as questions, in some cases they are not (Koshik 2002). Estonian grammar classifies this type of questions as rhetorical (Erelt et al. 1995: 174), where the negation contributes an emotional enhancement (Sang 1983: 139).

Challenges may indeed be unanswerable (Heinemann 2008). Example (6) is a case in point. The telemarketer is calling to a client at about 8 p.m. His request to talk to the subscriber is received with a challenge formulated as a negative interrogative. M’s apology and an explanation in the following turn demonstrate that he treats the *kas*-interrogative as an
accusation, a challenge to his behavior rather than a real polar question deserving a “yes” or a “no” answer.

(6) 1 M: mts e Mari Lepikus paluks. NAME NAME beg:COND
     ‘Mari Lepikus please’

2

3 K: → ⟨()⟩ kuulge kas te: -
     listen:IMP:2PL QUES you:PL
     ‘Listen, aren’t you’

4 (1.6)

5 K: → kas te natukene: iljaks pole jäänd
     QUES you:PL little late:TRA NEG:be be:PPT
     ‘Aren’t you a little late’

6 → tema otsimisega.
     she:GEN searching:KOM
     ‘looking for her?’

7 M: mmmm, no andke andeks palun, ma elistan Liivi
     NO forgive:IMP:2PL please I call:1SG NAME
     ‘Uhm, please forgive me, I’m calling from Liivi’

8 Linnalehest tema nimel oli siin tellitud
     NAME:ELT she:GEN name:ADS was here subscribe:IMS:PPT
     ‘Linnaleht. There is a subscription in her name’

9 e Linnalehe tutvumistellimus.
     NAME:GEN preliminary.subscription
     ‘to Linnaleht’s special offer.’

25 of the 36 kas-interrogatives in the current database are nevertheless treated as questions that require a confirming or disconfirming answer. The great majority of them (20 cases) receive a negative answer, which is what could be expected given their apposite nature. They are used as parts of arguments. The negative answers may therefore also be considerably reinforced, as exemplified in (7). P has tried to retrieve her tapes from T in several consecutive phone calls over a longer period of time. T has previously claimed that he has them at school. This time, however, he
builds up a ground for the argument that P has in fact received the tapes. The *kas*-question directly challenges P’s claim that she has not yet received them. P’s negative answer is emphatically lengthened and sounds annoyed, as if addressed to a disobedient child.

(7) 1 T:  

\[ m\text{hmh}, (0.2) \text{ ei koolist } \text{ mai } \text{ leidmudki üles, } \text{ uuhuh no school:ELT I:NEG find:PPT:KI } \]

‘Uuhuh. (0.2) No, I didn’t find (them) at school’

2  

\[ \text{aga s } \text{ mul tuli meelde } \text{ et ma vahepeal} \]

but then I:ADS remember:IMF:3SG that I in the meanwhile ‘but then I remembered that a while ago’

3  

\[ \text{iõin sulle mingi posu kassette et, } \text{ bring:IMF:1SG you:ALL some bunch tapes:PRT that } \]

‘I brought you a bunch of tapes.’

4 →  

\[ \text{kas nende ulgas ei ond. } \text{ QUES they:GEN among NEG be:PPT } \]

‘Weren’t (these ones) among them?’

5 P:  

\[ e::i::? \]

‘N::o::’

Although the negative *kas*-questions should in principle allow a positive answer, they rarely receive one, as in the confrontative sequences where they occur, the respondents generally re-instantiate their prior standpoint. An instance of positive answer is presented in (8). Mother E shows concern for the temperature in her daughter’s apartment. When the daughter reports that it is cold there E asks a negatively formulated *kas*-question, which suggests that the positive answer – heating up the place – should be an obvious option and consequently, that the daughter should have tried it. It is thus a mild challenge of the daughter’s report, implying that the daughter is herself to blame for the situation.

(8) 1 E:  

\[ \text{ilm on kihvt jah } (. .) \text{ kuidas sul on seal: weather is awsome yeah how you:ADS be there } \]

‘Yeah, the weather is awsome. (.) How is it’

2  

\[ \text{Kalakas. külm või soe. } \text{ NAME cold or warm } \]

‘at Kalakas, cold or warm?’
The daughter answers the polar question and then orients to the challenge by accounting for an additional matter why living in that place is impossible and the heating therefore irrelevant. The positive answer is thus merely pro forma. In general, the kas-question turns out to be one of the most likely negative question formats to receive a positive answer, as we will see in the coming comparisons. Their tilt towards a positive polarity answer makes them usable for challenging the prior speaker and expressing incredulity while officially being conducive of a confirming negative answer. In sum, a kas-interrogative constitutes a more or less severe disalignment with what has been going on so far, most often raising an issue that challenges something that has already been established in the discourse. This is why it cannot easily replace other question formats, such as exemplified in the next section. We will now look at what kinds of questions are formulated with the other utterance-initial particle ega.

3. **Ega-initiation as an epistemic enhancement**

The particle ega has been characterized as a negative question particle in Estonian grammars (Metslang 1981: 27, Sang 1983: 142, Erelt et al. 1995: 168, 112). In contrast with the scarce kas, it occurred 98 times in the database and one of its most typical uses was as a request for another speaker on the phone. There were 15 cases like the following:

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4 ega can in principle also occur turn-finally but there was not a single case in the conversational data.
Another typical usage is as part of an information request to an institution. Particularly the format *ega te ei tea/oska öelda* ‘EGA you can’t say’ is a formulaic means of asking questions from an institutional representative. It occurs 16 times in the database. The *ega*-initiated clause is formally a main clause that takes a positive *kas*-question as its complement (Erelt et al. 1995: 173). However, the profile of the complement clause interactionally overrides that of the main clause by being responded to (Thompson 2002) and thus the *ega*-initiated clause should rather be seen as a question preface. Still, it makes it possible for the recipient to answer confirmingly to the preface, if she is indeed unable to answer. An example from a call to an information line follows (10).

(10) 1 H: →  

[tere, (0.5) *ega te ei tea öelda kas*

hi EGA you:PL NEG know say:INF QUES

‘Hi, (0.5) I suppose you can’t tell whether’

2

*soloogia muuseum on lahti.*

zoology:GEN museum is open

‘the museum of zoology is open.’

3 V:  

*kohe vaatan, üks hetk,*

at once look:1SG one moment

‘I’ll take a look, one moment.’

*Ega*-initiated utterances like this are treated as information requests, especially in the institutional setting. In the above case, the client ends up with a phone number to the museum and the *ega*-clause does not receive a polar answer. As can be inferred from the first two examples, *ega*-questions regularly initiate action sequences. In contrast with *kas*-questions they do not necessarily orient to what has been going on, but similarly to *kas*-questions, they are never used as repeat questions for repair initiation, which we will see below with other formats.
Even though many ega-initiated utterances regularly make relevant a confirmation or disconfirmation, it is not clear that ega is in fact a question particle. Rather, it is an epistemic particle that has become routinely used in the above actions. It strengthens the negation of a declarative utterance, marks a high level of speaker certainly, and elicits a response from another participant. (Note that it has not been translated as a question particle in English but rather as ‘I suppose’, or ‘I assume’.) There are a number of reasons for considering ega-initiated units declaratives rather than interrogatives. First of all, ega occurs with other epistemic particles that cannot be used in questions, such as the certainty marker vist ‘probably, I assume’, ju that indicates shared knowledge, and ometi ‘still’. The first of those is illustrated in example (11), where the epistemically qualified utterance is treated as a polar question.

(11) 1 V: \(\rightarrow\) ega sul ei köetä vist.
EGA you:ADS NEG heat probably
‘I assume that your place is not heated.’

2 (0.5)

3 H: köetakse: paar päeva on köetud.
heat:IMS couple day:PRT is heat:IMS:PPT
‘It is. It has been heated for a couple of days.’

Second, ega can only be used with negative clauses (Metslang 1981: 27), suggesting that it is simply an enhancement of the negative form, reflecting its older meaning ‘not even/either’. In fact, ega-utterances are not always treated as questions, as is shown in example (12). The speakers have been discussing the necessity of going to the theater, K being sceptical. K’s turn in line 1 is a reaction to E’s conclusion that K is “a business and science person”.

(12) 1 K: ega ma lugeda ei viitsi küll eriti midagi.
EGA I read:INF NEG have.patience KÜLL ERITI nothing
‘Indeed, I don’t have the patience to read anything.’

2 E: aa, (.) mul on vastupidi just.
oh I:ADS is opposite exactly
‘Oh, I’m exactly the opposite.’
The question value of example (11) originates from the fact that it contains information that primarily belongs to the other speaker (cf. Labov and Fanshell 1977), it is the recipient’s place that the heating concerns. Therefore, a confirmation is due. In contrast, in the latter case (12) the speaker provides information about himself, which is why the recipient merely receives the turn with an information receipt *aa*. The *ega*-utterance here does not make relevant a confirmation. The relevance of a confirmation rises from the information territory of the speakers rather than *ega* being a question marker. All the above *ega*-questions can equally well be analyzed as statements about something that belongs to the recipient’s territory of knowledge. The utterances make relevant a confirmation or disconfirmation of the content by the concerned participant, and the sequence is therefore identical with other question-answer sequences. This regularity was first described by Labov and Fanshel (1977: 100) who talk about A’s statements about B-events that make relevant a (dis)confirmation, where A is the speaker and B her interlocutor. However, since there is no regular word order difference between interrogative and declarative clauses in Estonian, it is virtually impossible to distinguish the interrogative and declarative *ega*-clauses from each other. It can merely be stated that by answering them as questions, the speakers treat some *ega*-utterances (as well as other declaratives) as questions.

One of the general functions of *ega* is to enhance the certainty of the negative claim, be it treated as a question or not. Therefore, *ega*-questions should be strongly conducive of negative answers⁵. Often accomplishing requests (e.g. (9) and (10)), the enhanced negative format is in the service of diminishing the expectation of the request being granted and thus making it easier for the recipient to turn it down. Turning down a request is a highly sensitive social action that people work to avoid (Heritage 1984: 265–273, Schegloff 2007: 81–96). *Ega*-question can be considered a format of conventionalized pessimism (Brown & Levinson 1987: 173–176). *Ega* marks certainty that the state of affairs is valid, thereby underlining the pessimism about getting to talk to the requested person or obtaining the relevant information. This is in sharp contrast with the challenging nature of negative *kas*-questions.

Demonstrating its conduciveness to a negative answer, *ega*-initiation renders the question answerable with a simple negation word, as shown in

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⁵ Positive bias can be achieved in *ega*-questions by adding adverbs, such as *mitte, ometi* (Metslang 1981: 40).
(13), while the positive answer to it has to be a full verb repeat, which is furthermore often reinforced with the particle *küll* that counterbalances the all too pessimistic question (example (14), Keevallik 2009: 43–45). The positive answer cannot be a simple particle, which shows that the question was not conducive of a positive answer. Something more has to be done to disconfirm.

\begin{Verbatim}(13)\end{Verbatim}  
1 P: → ää kule \textit{ega} sa mulle neid \textit{kassette}  
\hspace{2cm} listen:IMP:2SG EGA you I:ALL these:PRT tapes:PRT  
\hspace{2cm} ‘Listen, you haven’t left me the tapes,’

\begin{Verbatim}2\end{Verbatim}  
ei ole jätanud.  
NEG be leave:PPT  
‘I suppose.’

\begin{Verbatim}3 T:\end{Verbatim}  
prrrr (.) ei, h  
‘No.’

\begin{Verbatim}4 P:\end{Verbatim}  
a[ ]hah.]  
‘Oh’

\begin{Verbatim}(14)\end{Verbatim}  
1 E: → \textit{.hh ega} sa ei tea \textit{Veiko ja Ermeli: (.)}  
\hspace{2cm} EGA you NEG know NAME:GEN and NAME:GEN  
\hspace{2cm} ‘I suppose you don’t know Veiko’s and’

\begin{Verbatim}2\end{Verbatim}  
detefoni või midagi. \hspace{2cm}  
phone:PRT or something:PRT  
‘Ermel’s phone number or something.’

\begin{Verbatim}3 V:\end{Verbatim}  
=tean \textit{küll} o\textit{o}ta üks \textit{moment. h}  
know:1SG KÜLL wait:IMP:2SG one moment  
‘Sure I do. Wait a moment.’

The *ega*-question is conducive of a negative answer because it is an epistemically strong negative statement that seeks confirmation (i.e. a negative response), and this is reflected in the simple negative response format. However, since the *ega*-format is frequently deployed merely for the purpose of easing a possible declining answer, as in (10) and (14), the answer can also occur in positive grammatical format. The latter indeed constitutes a disconfirming answer to the question but at the same time grants the request. Frequent application of the pessimistic pattern where the
expectations for a positive answer (examples (11, 13)) or granting the request (examples (10, 14)) are conventionally kept low may have resulted in the participants’ reanalysis of *ega* as a question marker. In contrast with *kas*-questions that were conducive of negative answers mainly because of prior context, the conduciveness in *ega*-questions is coded in the question itself. Sequentially, *ega*-questions regularly initiate new or first topics, not building on prior ones. This makes them different from other questions with declarative format, which we will look at next.

4. **Declaratives as continuations**

What is treated as a question in interaction depends on the format of the turn as well as the evolving sequence. Very many questions are asked in the declarative form (143 cases in the database). They are all hearable as questions based on their content and action import. As was discussed in the above section, statements about matters belonging to the interlocutor’s territory of knowledge elicit a confirmation or disconfirmation by the interlocutor, and thus function as questions. In Estonian, where neither word order nor a simple intonation feature such as terminal pitch rise regularly distinguish between statements and questions (c.f. English questions with declarative format, Heritage & Roth 2002), the content of the turn and its sequential placement are primary clues for the participants to hear a declarative as a question.

First of all, declaratives can function as repair initiations and conclusions, as shown in examples (15) and (16) respectively. The first one is heard as a question mainly because of its sequential position, as it is a repeat of part of the prior turn, and the second one because it is formulated as a conclusion about something that explicitly concerns the recipient and thus makes relevant an answer.

(15) 1 P:  
*Hei* üldse nii u, *eile* ole *eile* ole.

*It’s not at all awful, no no.*

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6 In American and British English, declarative questions as defined in the current study also constituted about half of the interview questions studied by Heritage and Roth (1995). The phenomenon seems to be quite general.
2 M: →  
\[ 'ei \ ole \ ull.' \]
\[ \text{NEG be awful} \]
\[ \text{‘It’s not awful?’} \]

3 P:  
\[ '(ei \ ole.)' \]
\[ \text{NEG be} \]
\[ \text{‘No’} \]

(16) 1 M:  
\[ .h \ no \ ma \ ei \ lähke \ kuhugi. \quad \text{sest \ ma \ e:}i \ jõua: (.) \]
\[ \text{NO I NEG go anywhere:ILL because I NEG manage} \]
\[ \text{‘I’m not going anywhere because I will not manage’} \]

2  
\[ \text{se}da \quad \text{kooli} \quad \text{asja} \quad \text{ära teha.} \quad \text{ja} \quad \text{ära viia.} \]
\[ \text{this:PRT school:GEN thing:PRT finish:INF and submit:INF} \]
\[ \text{‘to finish and submit this school thingy.’} \]

3 T: →  
\[ (ah)\text{haa. (0.4) sa ei käindki koolis.} \]
\[ \text{oh you NEG go:PPT:KI school:INS} \]
\[ \text{‘Oh (0.4) You didn’t go to school?’} \]

4 M:  
\[ ei, \ ma \ ei \ jõudnud \ sinna. \quad /--/--/ \]
\[ \text{no I NEG make.it:PPT there:ILL} \]
\[ \text{‘No, I didn’t make it there.’} \]

This type of turns are rarely contested as they build significantly on prior context and on information that is already conveyed. Therefore, repeat questions and conclusions are conducive of confirming answers and there are very few disconfirmations after them (4 cases). In clear contrast with kas- and ega-questions, a positive particle can also confirm what was expressed in the negative declarative, as shown in example (17).

(17) 1 K:  
\[ \text{eee o:}i \quad \text{nii palju lugeda on et ei jõua} \]
\[ \text{OI so much read:INF is that NEG have.time} \]
\[ \text{‘Uh, oh dear, there’s so much to read that (I) don’t’} \]

2  
\[ \text{lugeda.=} \]
\[ \text{read:INF} \]
\[ \text{‘have time to read it.’} \]

3 M: →  
\[ =ei \ jõua \ lugeda[gi]. \]
\[ \text{NEG have.time read:INF:GI} \]
\[ \text{‘(You) don’t have time to read it’} \]
This demonstrates that questions that repeat part of a prior turn and are epistemically firmly grounded in prior context make relevant only a minimal amount of confirmation. None of the other negative questions can receive a mere positive particle as a response, the grammatically positive answers have to be reinforced, if only to reverse the polarity of the question (Keevallik 2009: 41). The repeat questions, however, make relevant a confirmation, not an answer in a certain polarity. The action carried out is basically a request for confirmation that the repeated talk is correct. Responding to action, a positive answer is adequate.

Questions with declarative format are generally designed as continuations of what has been going on, even in cases when they do not repeat. Some of them are explicitly tied to a prior turn with conjunctions. An example with the turn-initial coordinating conjunction ja ‘and’ is shown in (18). Even though the question here concerns a third person, it is clear that O is the participant (a colleague to Kaire) who potentially has the relevant information. The negative declarative puts forward one of the possible conclusions drawn on the information that was presented in the prior turn.

(18) 1 O: välismajaspoliitika,     tere, ‘Foreign economy policy, hi’

2 P: ee, tere ma paluksin     Kairet. ‘Um, hi, can I talk to Kaire, please?’
   hi     I   ask:COND:1SG NAME:PRT

3 O: Kaire    täna  koolitab ennast     kahjuks. ‘Kaire is at a course today, unfortunately.’
   NAME  today educates   herself:PRT   unfortunately

4 P: →      aa, ja   ta üldse ei:     tule. ‘Oh, and she won’t be in at all?’
   oh and  she at.all  NEG  come

5 O: ei     tea:: kahjuks e   kas   ta tuleb, ‘Unfortunately I don’t know whether she will be in.’
   NEG  know  unfortunately QUES  she comes
Other less frequent options to formulate a question as a syntactic continuation include conditional clauses (example (19)). K promises to call E and retrospectively adds a conditional clause initiated by kui, prompted by the not entirely enthusiastic response by E. The negative conditional clause makes relevant a polar (dis)confirming response, which is why it is treated as a question in the current study. It elicits and receives a negative confirmation.

(19) 1 K:  
\[siis \text{ ma elistan sulle \text{ ku ma tööle jõuan.}}\]  
then I call:1SG you:ALL when I office:ALL get:1SG  
‘So I’ll call you when I get to the office.’

2 E:  
\[no \text{ kui sa viitsid.}\]  
NO if you bother:2SG  
‘If you can be bothered.’

3  
(1.5)

4 K:  
\[<@ n:oh, \text{ ku ma sind ei sega:. @>}\]  
NOH if I you:PRT NEG disturb  
‘Well, if I won’t be disturbing you.’

5 E:  
\[<@ \text{ ei ei. @}>\]  
‘No no’

Many questions with declarative format are explicitly formulated as conclusions by involving concluding particles which tie them to prior discourse. Conclusions are the predominant type of sequential action carried out with declaratives. They need not be merely based on discourse but may also rely on contextual evidence. This is shown in (20). Upon hearing the voice sample at the beginning of a phone call the caller draws the conclusion that he is not talking to the person he was expecting.

(20) 1 M:  
\[tere,\]  
‘Hi’

2 T:  
\[ee (.) ei \text{ ole Eevi see.}\]  
NEG be NAME it  
‘This isn’t Eevi?’
A less frequent action type of negative declarative questions is to implement a non-first question in a sequence (as was the case in example (3) in the introduction\(^7\)). Even in these cases the declarative questions build on the prior discourse, albeit sometimes only formally. In example (21), the mother is posing several questions to her daughter and the negative question is marked as not being the first one in a series by the word order as well as the adverb *ka* ‘too, also’. Questions formatted like this cannot be used outside the construction of a question series.

(21) 1 E: \textbf{no kuidas sa elad.}  
NO how you live:2G  
‘How are you?’

2 P: \textbf{ekee, norMAALselt. h}  
normally  
‘Okay.’

3 E: → \textbf{meid ei tule ka vaatama.}  
we:PRT NEG come too see:SUP  
‘And you’re not coming to see us?’

4 P: \textbf{e mːai tea. tähendab, h}  
I:NEG know means  
‘I don’t know, I mean,’

Negative declarative questions are closely tied to prior discourse by repeating, concluding, continuing a syntactic unit or a series of questions. They constitute continuations of what is already going on but do not challenge in the way *kas*-questions do. Considering that declaratives constitute about one third of all the negative questions in the database, it is surprising that the Estonian comprehensive grammar states that formulating questions in the declarative is not characteristic of the Estonian language.

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\(^7\) This would also be my analysis of the two very similar declarative questions in Hennoste et al. (2001: 102–103, 106).
but reflects a Russian influence and the questions should be reformulated into *kas*-questions or inversion questions (Erelt et al. 1995: 173). Maybe this does not hold for negative questions, or maybe the repair-initiating and concluding questions cannot be abstracted from their sequential context in which they appear to be inherently characteristic of the Estonian language. Furthermore, declaratives are regularly used to check whether the conclusion based on a prior turn is correct in Finnish (Hakulinen et al. 2004: 1152–1154). As we saw above, the declarative format allows specific social actions, building turns as continuations and conclusions. Declaratives constitute epistemically strong utterances that are conducive of confirmation. This remains to be true even when particle *jah* is added to the turn. In the next section, the patterns with *jah*-final negative questions will be scrutinized.

5. **Final *jah* as a request for a (re)confirmation**

The originally confirming particle *jah* ‘yeah’ can be used turn-finally in Estonian with both positive and negative utterances. Since it makes an answer relevant in this position, it could be considered an utterance-final question particle. The sequential context of negative *jah*-final questions is limited to two options. The *jah*-format may occur as a question that repeats part of the prior turn or as a conclusion proposal, precisely as was described with the declaratives above. A *jah*-question is even more closely tied to the prior discourse than the declarative and it cannot be used to draw conclusions from anything else than what has just been talked about. By being closely tied to what has already been said, the *jah*-question conveys a high degree of epistemic certainty and is conducive of a confirmation.

In the case of questions that repeat part of the prior turn, and even when a slight modification is made, the confirmation may appear either in the negative or the positive form. Examples (22) and (23) illustrate this claim. In the first one K has asked for free theater tickets and E claims not to have any, the second one comes from a telemarketing call. With the *jah*-final turns the speakers ask for a confirmation of what they just heard. The telemarketer adds an adverb that makes the turning down of his offer less definite. This kind of slight content modulations are common in *jah*-questions. In example (22) the *jah*-question receives a negative answer and in (23) a positive one. Both are confirming.
If merely *jah*-questions, and none of the other negative question formats, could receive a positive answer as a confirmation, it could be argued that *jah* is a reverse polarity tag that is conducive of a positive answer. But we have seen above (example (17)) that the option of positive confirmation is contingent on what kind of action is implemented, namely a repair initiation, and the fact that the question is a (modified) repeat of the prior turn. Positive confirmations also occurred with declaratives without final *jah*.

Furthermore, conclusions cannot receive a confirming answer in a positive form, neither with negative declaratives nor with *jah*-questions. This is additional proof that *jah* is not a conduciveness-reversing tag. The
usage of a \textit{jah}-final negative question as a conclusion is shown in example (24), where P has taken a pumpkin from E’s place and E now urges her to take more of them. P’s conclusion is that nobody else at E’s place wants to eat the pumpkins and she puts it forward for confirmation by E. The confirmation is carried out in the negative form.

(24) 1 E: \[võta \textit{nii} \textit{palju kui} tahad.=\] take:IMP:2SG so many as want:2SG ‘Take as many as you want.’

2 P: \[=ahah, \textit{te} \textit{ei} söö neid \textit{jah},=\] okay you:PL NEG eat them QUES ‘Okay, so you don’t eat them?’

3 E: \[ei,=\] ‘No’

The patterns of \textit{jah}-question usage are thus virtual copies of declarative question patterns but they are sequentially more restricted. They potentially convey an even higher degree of epistemic certainty as they explicitly suggest confirmation via the particle \textit{jah}, but this does not seem to have any sequential consequences. The participants do not treat this as a significant difference by answering differently. Declaratives, \textit{jah}-questions and \textit{vä}-questions (described below) are all treated the same way when they repeat part of the prior turn or are used as conclusions. However, positive confirming answers are more frequent with \textit{jah}-questions than the declaratives, which may be explained by the additional actions that declaratives implement. The sequential positioning of negative \textit{jah}-questions together with their treatment by recipients show that they are used for seeking confirmation on matters that the speaker can be confident about. A \textit{jah}-question is not usable as a new initiation in conversation, it builds heavily on prior talk, either by repeating it, slightly modifying it, or concluding from it.

The last pattern to be discussed is the \textit{vä}-final question.
6. Final vä as an all-round option

The turn-final question particle vä has developed from the disjunction või ‘or’ (L. Lindström 2001) and is not part of the standardized language. In colloquial usage, however, it is very frequent, occurring more than double as often as kas even in the current database (86 cases). Furthermore, its usage domain is considerably larger than what is described for any single format above. A negative vä-question can be used when part of the prior turn is repeated, as a conclusion based on any discursive or contextual matter, as a next question in a series, topic initiator, and even as a mild challenge. It is different from ega-questions, declaratives, and jah-questions mainly by not displaying the same amount of epistemic certainty. However, in the case of repeat questions and conclusions, the certainty may arise from the context, which renders the sequence development identical to the cases described above for declarative and jah-questions. A single example (25) can serve as an illustration.

(25) 1 P: [mi]llal sa mind näha tahad. mina Pärnusse ei lähe.  
when you me see:INF want:3SG I NAME:ILL NEG go  
‘When do you want to see me? I’m not going to Pärnu.’

2 T: →  ēi lähe vä.  
NEG go QUES  
‘You aren’t going?’

3 P:  ēi lähe.  
NEG go  
‘No.’

In contrast with confirmation-eliciting jah-questions, vä-questions are asked in cases when the conclusion is less well grounded. Vä-format leaves the option of a positive answer more open, which may reflect the original disjunctive meaning of või ‘or’, and it indeed receives disconfirming answers more often than both jah-questions and declarative questions. Example (26) shows a case in which a vä-question initiates the first topic of the call and contains a conclusion drawn on some circumstances that are beyond the current conversation. It receives a disconfirming answer.

8 Note that even though this is formally the same device as used for the Swedish ‘eller’-questions (A. Lindström 1999), their pragmatic function is not the same. For example, the ‘eller’-questions cannot be used in the functions discussed in this paper.
(26) 1 M: jaa.
   ‘Yeah/hello’

2 L: tere,
   ‘Hi’

3 M: tere Liina.
   ‘Hi Liina’

4 L: → noo m, kooli ei jõudnud vâ.
    NOO school:ILL NEG make.it:PPT QUES
    ‘You didn’t make it to school?’

5 M: kule jõudsin. aga ma ei saand sealt
    KULE make.it:IMF:1SG but I NEG get:PPT there:ABL
    ‘You know, I did but I didn’t get any’

6 mingit tulemust.
    any:PRT result:PRT
    ‘results from there.’

Vâ-questions are thus not necessarily dependent on prior talk as jah-questions and many kas-questions are (examples (4)–(6)). But they may equally well build on prior talk, as we saw in example (2) in the introduction (‘Not even yesterday?’). This follow-up vâ-question pursues the issue further rather than drawing a conclusion, thereby constituting an epistemically more independent and less certain contribution. Typically a negative vâ-question ventures into a somewhat new aspect of what is being talked about. In example (27) speaker P has been telling that the cigarettes she bought were fake and tasted awful. In line 1 she is evaluating the state of affairs as being good for her health. In line 4, in response to the story, T asks whether the cigarettes make you high instead, thereby introducing a new aspect altogether. P’s surprise at the question is also displayed in her repair initiation. Instead of answering, she asks for a confirmation that she has grasped the crucial word pilve ‘into clouds’, a metaphor for being high.

(27) 1 P: /---/ et noh väga: kasulik muidugi.v- väga hea onju.
    ET NOH very healthy of.course very good ONJU
    ‘it’s very healthy, of course, very good, you know,’

2 T: ((coughs))
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3 P: *hh aga: no iseenest on see täätsa jabur ä.*
    but NO in.fact is it totally absurd
    ‘but in fact it’s totally absurd.’

4 T: → *mts a pilve ei jää vää.*
    but cloud:ILL NEG become QUES
    ‘But don’t (you) become high?’

5 P: *pilve.*
    cloud:ILL
    ‘High?’

In addition, vää-questions can be quite challenging. In example (28) E explains to R that he will get an invoice. When R initiates a repair in line 3, E apparently hears it as adumbrating a disalignment, since she responds with an account. When R still does not acknowledge the information, E adds a challenging vää-question, which finally receives an answer. The vää-question opens up for a possibility that what E has said in line 4 is not true, thereby challenging the state of affairs that she has just reported, and by implication also the interlocutor’s earlier claim that he in fact wanted to make a bank transfer.

     invoice write:IMS:IMF you:ALL yeah
     ‘(They) wrote an invoice for you.’

2 R:  *[arve.]*
     ‘Invoice?’

3 R:  *arve.*
     ‘Invoice?’

4 E:  *no sa tahtsid ju et grant kannab üle panka.*
     NO you want:IMF:2SG JU that grant transfers bank:ILL
     ‘You wanted the grant to make a transfer to the bank?’

5     (1.0)

6 E: → *ei ole nii vää.*
     NEG be so QUES
     ‘Isn’t that (right)’
It is only in this challenging context that a negative vä-question is conducive of a positive answer, which it also receives. This is a case of reversed polarity question, which suggests that the reverse polarity assertion is true (Koshik 2002). Based on what E has said earlier, it is highly probable that the answer will be positive. The negative question merely hints at the opportunity that what E has just stated is not valid, which functions as an extortion of a response.

The findings suggest that final vä is the least sequentially restricted question format in spoken Estonian and can be used in diverse environments. Its conduciveness is dependent on the context, as it may be epistemically quite certain as a repeat question, while it can also venture into new areas in relation to prior talk. In these cases the speaker certainty is not grounded in the prior sequence. Since the vä-question does not itself make an epistemic claim (as an ega-question does), the answer can as well be disconfirming. Vä-question seems to be the least conducive negative question format.

7. Discussion

In the above we looked at the sequential and interactional regularities of the occurrence of five different negative question formats in spoken Estonian. It turned out that they were regularly used in different sequential positions in conversation and that they implemented different social actions. For example, kas-questions are generally challenging, declaratives and jah-questions constitute repeat questions and proposals for conclusions to be confirmed, while ega-questions initiate requests, also as reasons-for-the-call. Initial question particles kas and ega can break up from what went on before, while declaratives and questions with final particles tend to continue what is being talked about. Only the colloquial vä-question is usable in most sequential environments and actions. In addition to this, it displays a special pattern of bringing in a new aspect of the topic handled thus far. Also, the majority of utterances that were treated as questions were not formulated as interrogatives. Pure declaratives and ega-questions together constitute more than half of the instances in the database.
In terms of conduciveness, the sequential position and the action carried out are crucial. A repair-initiating repeat question is strongly conducive of a confirming answer (positive or negative), a challenge is conducive of a disconfirming, i.e. positive answer, and questions opening up new aspects are least conducive. Each and every instance of a question is unique in terms of prior context and action nuances. Nevertheless, a summary of the overall frequency of the answer types can disclose some general tendencies in the data. Table (1) presents the frequency of explicitly confirming or disconfirming answers in relation to different question formats. The (dis)confirmation could be carried out either with a particle, a verb repeat, or both. The rest of the answers did something else, such as telling a story, providing related information, or claiming no knowledge. Some questions, especially repeat questions, remained unanswered, implying confirmation.

Table 1. Confirming and disconfirming answers to negative questions.

<table>
<thead>
<tr>
<th>Question format</th>
<th>Main function</th>
<th>Confirming answer</th>
<th>Disconfirming answer</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>negative</td>
<td>positive</td>
<td>negative</td>
</tr>
<tr>
<td>kas-initial</td>
<td>challenge</td>
<td>20 (55%)</td>
<td>0</td>
<td>5 (20%)</td>
</tr>
<tr>
<td>ega-initial</td>
<td>(information) request</td>
<td>55 (56%)</td>
<td>0</td>
<td>16 (22%)</td>
</tr>
<tr>
<td>declarative</td>
<td>repair, conclusion</td>
<td>106 (74%)</td>
<td>17 (13%)</td>
<td>4 (3%)</td>
</tr>
<tr>
<td>jah-final</td>
<td>repair, conclusion</td>
<td>27 (56%)</td>
<td>15 (35%)</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>vä-final</td>
<td>Any</td>
<td>53 (61%)</td>
<td>3 (5%)</td>
<td>8 (13%)</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>296 (72%)</td>
<td>34 (8%)</td>
<td>411</td>
</tr>
</tbody>
</table>

One of the clearest results of the overview is that negative questions overwhelmingly receive confirming answers. Disconfirming ones are rare. There thus seems to be an inherent tilt in the negative questions, they are not neutral (see also Sang 1983: 136–137). At least in conversational interaction, the proposition and its negation are not equally possible in negative polar questions (c.f. Metslang 1981: 26–27). A disconfirming answer is more or less a theoretical option, with the exception of kas-questions and ega-questions, where the social action carried out is quite
special, challenging or requesting. By formulating a negative question, the speakers overwhelmingly assume that it will be conducive of a negative answer. Positive answers display extra effort in the form of more explicit or enhanced answers. By regularly choosing the negative answer, the speakers display their understanding of the question as “preferring” a negative answer. This is a social regularity already noticed by Sacks (1987 [1973]: 57): the answerers tend to pick the answer that the question exhibits a preference for.

Another clear tendency is that the confirming answer is overwhelmingly a negative one. Positive answers can be used for confirmation only in case of repeat or modified repeat questions (see examples (17) and (23)). Therefore, they are unthinkable with ega-questions that do not carry out repair initiations in the form of repeats. A positive answer as a confirmation in case of negatively formulated questions can always be replaced with a negative. This phenomenon is grounded in the degree of epistemic certainty and the type of action. In case the certainty is very high, responses with either polarity may achieve a confirmation. The action being a request for whether the repeated talk is indeed what the prior speaker said, a positive answer confirms it.

Disconfirming answers are most likely with kas and ega-questions because they constitute challenges designed as reverse polarity assertions and conventionally pessimistic requests. Disconfirmations are least likely with jah-questions and declaratives. This can be explained by the epistemic certainty that they convey in the specific contexts. Vä-questions that receive a fair amount of disconfirmations often introduce some new aspect to the discourse, for which the epistemic basis in the context is low. In contrast, jah-questions always build epistemically on the prior discourse and declaratives do that frequently.

In addition to the interactional and frequency patterns, it is important to establish that the regularities are not academically imposed constructs but also a concern for the participants in real life. The evidence for participant orientation is that they sometimes reformulate their questions half-way through in regard to the grammatical format. In example (29) the speaker first starts out by formulating a kas-question, which can be quite challenging. He then opts for an ega-initiation which expresses enhanced certainty that the state of affairs is valid but is less challenging. In the end, he adds võ (a variant of või), which implies that a positive answer is indeed possible.
Since the interlocutor is an elderly person, the blame that falls on Üllar in case he has failed to summon a doctor may be considerable. Apparently, the speaker therefore reformulates the question step-by-step to make it least challenging, less insinuating, and less conducive of a negative answer.

Participants in conversation orient to question formats as relevant and potentially consequential features of language. Sequential constraints and social aims shape the grammar of questions and answers, undoubtedly also in case of other types of questions besides the negative ones. In addition to studying positive, alternative, and *wh*-question formats along similar lines, intonation of the questions should be studied in its own right in a non-experimental setting in the future. The current study showed that the reason why conduciveness has been so hard to define for negative questions is that it cannot be dealt with outside the specific context. Conduciveness is accomplished interactionally and the sequentially based expectation of a confirming answer may furthermore cancel the relevance of what the polarity of the answer is. Grammatical devices that may look quite similar out of context, such as negative polar questions, may systematically serve markedly different interactional aims in a variety of sequential positions. Accounting for these helps us to disentangle the conduciveness issue as well as disclose the inherently social nature of grammar.

**Glossing conventions** (adapted from G. Jefferson and J. Du Bois)

<table>
<thead>
<tr>
<th>Underlining</th>
<th>– stress or emphasis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bold</strong></td>
<td>– the item in focus</td>
</tr>
</tbody>
</table>
LOUD – louder stretch
-
[ ] – truncation
= – latching
(0.5) – pause length in tenths of a second
(.) – micropause
coloːn – lengthening of a sound
@ – a laughter syllable
(h) – laughter within a word
<Q quality Q> – special quality of talk
<@ smiling @> – smiling voice
.hh – inbreath
hh – outbreath
mts – lip smack
. – pitch fall at the end of an intonation unit
? – pitch rise at the end of an intonation unit
, – level pitch at the end of an intonation unit
- – unfinished intonation unit
((snort)) – transcriber’s comments
/---/ – part of the turn is left out
(added) – this part added in idiomatic English
1,2,3 – person
ABL – ablative
ADS – adessive
ALL – allative
COND – conditional
ELT – elative
GEN – genitive
GI – emphatic suffix
ILL – illative
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IMF     – imperfect
IMP     – imperative
IMS     – impersonal
INF     – infinitive
INS     – inessive
KI      – emphatic suffix
KOM     – komitative
NEG     – negation particle
PRT     – partitive
PL      – plural
PPT     – past participle
QUES    – question particle
SG      – singular
SUP     – supinum
TER     – terminative
TRA     – translative

other capital letters – untranslatable particles

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Erelt, Mati; Kasik, Reet; Metslang, Helle; Rajandi, Henno; Ross, Kristiina; Saari, Henn; Tael, Kaja & Vare, Silvi (1995) *Eesti keele grammatika II*. Tallinn: Eesti Teaduste Akadeemia Eesti Keele Instituut.


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Abstract

In this article I will discuss variation in the endangered Viena Karelian language and whether ethnic loyalty or the lack of it is connected to the variation in spoken language. I will also study whether people’s loyalty to their own mother tongue and the use of it affect the degree to which they adopt contact-induced dialect variants into their speech. The results show that, even if a minority language speaker could speak a prestigious language well, he would not necessarily borrow elements from it very frequently, unless his ethnic loyalty was weak. In contrast, if a minority language speaker’s ethnic loyalty is clearly weak and he openly admires another language besides his mother tongue, it shows in his speech as the frequent use of contact-induced variants. The results confirm the view that different phonological variants carry connotations about the group a person would like to belong to.

1. Introduction

Variation in endangered languages has only been studied to a limited degree until the present, and, for example, Walt Wolfram (2002) has called upon researchers to perform systematic analyses of the phenomenon. In this paper, I am going to describe the linguistic variation that occurs in the spoken form of the endangered Viena Karelian language of the 2000s and the factors that affect the individual differences. I am focusing on the phonological structure of the language and my objective is to find out what social factors affect the variation that occurs in it. My paper draws on the sociolinguistic study of variation and language contact research. It is necessary to combine the language contact theory with variation theory, since Viena Karelian is caught between two dominating languages – Russian and Finnish. The contact between Karelian and Russian has been

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1 I wish to thank the anonymous referees for their comments on the manuscript. I would also like to thank Kristiina Karjalainen who has drawn the maps of this article. The research was supported by the Academy of Finland.
studied widely, whereas research into the contact between the two closely
cognate languages Finnish and Viena Karelian has been nearly non-existent
(however, see Kunnas 2007). This article discusses the intersection
between the two closely related languages and how their collision has
affected the Viena Karelian language.

According to previous research, variation in spoken language is above
all affected by social factors. It has been considered that not even the
innovations that are natural to the structure of a language will spread unless
its speakers are motivated to adopt them. (Chambers 2002; Schilling-Estes
2002b: 311.) A number of researchers have found that people choose to use
features in their speech that are characteristically used by the group they
want to belong to or within which they want to be accepted (Sturtevant
1947; McEntegart & Le Page 1982: 105; Kapanga 1998: 284; Bell 2001:
166; Labov 2001: 24). It has also been noticed that the speakers of a
language tend to favour variants that reflect their own identity best (Milroy
objective here is to find out whether it is also the case with the endangered
Viena Karelian language that the different phonological variants carry
connotations of the group the speakers wish to identify themselves with
(for further discussion on this, see, e.g., Le Page & Taboure-Keller 1985:
In my view, the Viena Karelians have a truly multicultural identity: on the
one hand, they are living in Russia in a Russian-speaking neighbourhood;
yet, on the other hand, they usually seem to regard themselves as Karelians
rather than Russians (see Kunnas, forthcoming). In addition to drawing
from Russian and Karelian cultures, Viena Karelians are clearly influenced
by Finnish culture; this can be seen in the Viena villages (for more detail,
see Kunnas 2007). Thus, I am suggesting that even the linguistic variation
that Viena Karelians display contains features indicating which group or
groups they wish to identify themselves with.

My paper seeks to answer the following two questions:

1) Is it true that the more loyal a person is to his/her mother
tongue and the use of it, the fewer contact-induced dialectal
variants s/he will use?

2) Is ethnic loyalty, or the lack of it, associated even with the
variations occurring in spoken language?

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2 In this paper, I am following a situative view of identity. According to it, identity is a
dynamic and changing process, which is never finalised (Iskanius 2006: 40–41).
I will begin by giving a brief overview of the current status of Viena Karelian. Then I will present my data and the methods I am using to find answers to the above research questions. After that, in the analysis, I will consider variation in the light of two vowel combinations and discuss the possible reasons for the individual differences in variation. Finally, I will compare my results with those of previous research.

2. On the current status of Viena Karelian and its contacts with Finnish

It is usually considered that the Karelian language is divided into two main groups: Olonets Karelian and Karelian Proper. Karelian Proper can be divided further into Viena Karelian (or the northern dialects of Karelian Proper) and South Karelian (or the southern dialects of Karelian Proper). The area where Karelian is spoken in the Republic of Karelia can be seen in appendix 1. Viena Karelian is spoken in North Western Russia, close to the Finnish border (see appendix 2). It is the closest cognate language of Finnish and most Finns can quite easily understand Viena Karelian dialects. Viena Karelian and the eastern Finnish dialects have developed from a common proto language, Proto-Finnic, through a more recent eastern dialectal group, Old Karelian.

Over the past few years, it has been discussed whether the different varieties of Karelian should be treated as dialects or independent languages. For example, Salminen (1998) considers that Karelian Proper and Olonets Karelian should be classified as two distinct languages. Jeskanen (2005: 215, 271), too, claims that we should be talking about three distinct Karelian languages. In my view, we could, in fact, currently consider that there are three distinct Karelian languages: 1) Viena Karelian, 2) Olonets and 3) Tver Karelian. My view is primarily based on the views expressed by Viena Karelian layman informants. At least it seems that many Viena Karelians consider Olonets and Viena Karelian two different languages and think it is very hard for Viena Karelians to understand Olonets Karelian (Pasanen 2003: 116; Kunnas 2006). However, it has been decided that a single joint standard language should be developed on the basis of the varieties of Karelian. It remains to be seen whether that will ever come true. If a joint standard language is developed and welcomed by the speakers, we will perhaps have to reconsider the division of Karelian into separate languages.
Viena Karelian is a highly endangered language. At the beginning of the 2000s, there were an estimated 35 000 speakers of Karelian in the Republic of Karelia, but the number of the speakers of Viena Karelian was estimated at no more than some 8 000. The majority of the speakers are over fifty and most of the younger Karelians use and have a better command of Russian. The situation in Karelia is diglossic: Russian is the language of society, education and business, and the use of Karelian focuses on matters belonging to the intimate zone: it is used at home and in the sphere of personal hobbies and interests. Karelian is spoken mainly in small countryside parishes and it is only heard very rarely in towns.

The reason why Viena Karelian is so severely endangered is the policy of Russification, which lasted for several decades. From the 1950s to the 1970s people were not allowed to speak Karelian in schools or daycare centres, and parents were told to speak only Russian to their children. Considering the intensity of the Russification, it is a miracle that the Viena Karelian language has survived as a living language at all. The revitalisation of Karelian started in the late 1980s. Today, it is possible to study Karelian in schools and universities. Literature and newspapers are being published in Karelian, and you can hear Karelian on the radio and television. Yet, Karelian is considered a severely endangered language since it is only very seldom that it is transferred from generation to generation. In the past few years, there have been attempts to revitalise Viena Karelian through language nests (see, e.g., Pasanen 2008). Despite repeated efforts, the language nest activities have not spread as expected. There are currently language nests in Kalevala (former Uhtua) and Petrozavodsk.

Finnish population started to move to Viena Karelia as early as the beginning of the 17th century, and the Finnish immigration to the Western Viena Karelian villages, where even the data for this paper were collected, has been especially extensive (Suorsa 1989: 89–90; Pöllä 1995: 100–105). Further, many Viena Karelians have gone to Finnish-speaking schools, read Finnish literature and Finnish newspapers and magazines, and listened to Finnish being spoken on the radio and TV. (Kunnas 2007.) Numerous Viena Karelians also have relatives and friends in Finland with whom they keep in touch by correspondence and by meeting each other. Further, after the Soviet Union fell apart at the beginning of the 1990s, Finnish tourists were given the chance to make trips to the Viena Karelian villages. The Karelians and the Finnish tourists have had intense contacts. Since most Viena Karelian villages lack hotels and an infrastructure for tourism in
general, village people often accommodate tourists in their homes. Finnish tourists are a significant source of extra income for the Karelian people and, in fact, people are competing over who can accommodate Finnish tourists. Thus, Viena Karelians are constantly under a versatile influence of Finnish, which is bound to leave its mark on their language.

3. Data and method

I am seeking to answer the research questions presented in the introduction by looking into two sets of data: dialect and theme interviews. The dialectal data on which I am basing my analysis of the variation were collected in two Viena Karelian villages in 2001: Jyskyjärvi and Kalevala. There were a total of thirty informants\(^3\) and the data cover around twenty-eight hours of interviews. In addition to collecting the dialectal data, I compiled another set of data covering the informants’ linguistic attitudes on the basis of theme interviews and questionnaires. The theme interview data cover some eight hours of interviews.

The informants in my study were between 62 and 89 years old. The majority were women; there were only three male informants. All of the informants were elderly for two reasons: first, the informants were the same that I had interviewed previously for my doctoral thesis (Kunnas 2007). In my thesis, I focused on the real-time changes in the Viena Karelian vowel sequences over a period of thirty years. As the comparative material had been collected at the turn of the 1970s when people seemed to think, even in Karelia, that dialectal studies could only be done with elderly speakers as informants, I had to tape people of the same age for reasons of comparability. Secondly, it was reasonable to analyze the speech of elderly informants because they represented the most typical speakers of Viena Karelian. Of course, there were also speakers of Viena Karelian under sixty in the villages; however, the younger the generation, the less its members would speak Viena Karelian. Further, many middle-aged and younger people spoke a variety of Karelian which had been subject to a rather high degree of attrition, and they probably would not have made it through an hour-long Karelian-speaking interview. (See Kunnas 2007: 28–29.)

There are several reasons why I only had three male informants in my study. Firstly, there are fewer men over sixty in Karelia than women over sixty. Men died in Stalin’s persecutions and in the wars, and their life

\(^3\) I am using invented names to refer to the informants in this paper.
expectancy remains lower than that of women (Susiluoto 1999: 53, 138, 177; Federal State Statistics Service 2003). Also, the Karelian village men are often hard to reach in the summer. They are off on their daily duties – fishing, forest work, and other tasks – early in the morning. The men who do spend their days at home and could be reached are often in such poor condition that they would not make it through an hour-long interview. This was also the case in Virtaranta’s study (1978: 189).

It was almost impossible to find informants who had lived in the same village their entire lives among the generation of Viena Karelians I studied. Most of my informants were evacuated to the Archangel Region or Komi in the period between the Finno-Soviet wars. Moreover, many of the informants were born or had spent their childhood in small Viena villages that were destroyed and cleared soon after the wars in the 1950s. The people of those small Viena villages were transferred to the regions of Kalevala or Jyväsjärvi in particular.

In the theme interviews, I explored the informants’ linguistic history, i.e., the degree to which they were using Karelian and other languages. I asked them what language they used, e.g., with their spouses and children. What language did they use at work? What language did they use whilst talking to, e.g., their neighbours and friends? I also took up the informants’ relationship with the revitalization of the Karelian language. Further, I asked the informants about whether they had, e.g., hobbies having to do with the Karelian language and culture, and whether they were following the Karelian-speaking media. I also asked the informants what kinds of contacts they had with Finns and the Finnish language and what they thought about the Finnish language and the different varieties of Karelian. The questions asked in the theme interview can be seen in appendix 3.

The data of language attitude studies are often associated with different problems of reliability (see Garrett et al. 2003: 8–9, 27–31). For example, analysing the use of a minority language just on the basis of how much the speakers of the minority language say they are using the language is rather unreliable, since the speakers of a minority language will typically claim they are using their mother tongue more than they actually are (e.g., Pfaff 1979: 294; Aikio 1988: 302; Sarhimaa 1999: 83; Pasanen 2003: 122).

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4 I want to emphasise the fact that, although Viena Karelian is not my mother tongue, I performed all my research interviews in Viena Karelian and code-switched into Russian intermittently, in the way that Karelians do as well. My point was that, by adapting to the language of my speech partners, I could make them speak genuinely in their own dialect.
When a theme interviewer adopts a factual perspective in the interview, the reliability of the responses can be evaluated by comparing them with other studies (Alasuutari 2001: 91). I will be comparing the results of the attitude analysis in my study with Erkkilä’s (2003) findings about the inhabitants of the village of Jyskyjärvi. I have also included questions that control each other in the theme interview.

I am using two indexes to analyse the informants’ language attitudes and ethnic loyalty. The *Karelian index* reveals how loyal the informants had been to the Karelian language during their lifetime. This index is based on questions related to the language choices the informants had made in their personal and working lives, as well as degree to which the informants were using Karelian in different contexts at the time of the recordings. The more the informants showed they were in contact with the Karelian language, the higher the Karelian index was. For example, subscribing to a Karelian-language newspaper or magazine or having a hobby having to do with the Karelian language or culture gave higher Karelian indexes. The questions on which the Karelian index is based can be seen in appendix 4. Appendix 4 also shows the criteria by which the Karelian indexes have been calculated for each informant.

The second index I am using is the *Finnish index*. It reveals the informant’s relation to the Finnish language. The questions on which the Finnish index is based were aimed at finding out to what degree the informant was in contact with Finns and the Finnish language, and whether the informant idealized the Finnish language in one way or another. There are many questions which I did not ask the informants directly, but figured out the answers myself on the basis of the whole interview or individual comments. It happened that the informants took up their relationship with the Finnish language during the interview, while we were talking about something else. I have considered these additional comments in my analysis as well. The questions on which the Finnish index is based are shown in appendix 5. Appendix 5 also shows the criteria by which the Finnish indexes have been calculated.

The examples I have picked from the data are presented in rough transliteration without diacritics and symbols. Two successive dashes indicate that part of the turn has been left out. A hyphen shows that the word is not complete. The periods and question marks have grammatical

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5 Erkkilä used to live in the village of Jyskyjärvi. He wrote about many of the people in the village in his work titled *Vienan kuu* (The Viena Moon).
functions in the examples, whereas commas refer to a pause within the sentence. Proper nouns are written with initial capital letters.

4. Variation in the non-initial vowel combinations in Viena Karelian dialects at the turn of the 2000s

I will consider the variation in Viena Karelian in the light of the vowel combinations ending in \textit{ia}, \textit{iä}, \textit{ea} and \textit{eä} in the non-initial syllables.\(^6\) In my doctoral thesis (Kunnas 2007), I analyzed not only the above mentioned vowel sequences but also the vowel sequences ending in \textit{oa}-, \textit{öä}-, \textit{ua}- and \textit{yä}, as well as the \textit{aa} and \textit{ää} sequences. However, in this paper, I will only cover the first four vowel sequences, since it is with them that the connection between linguistic variation and language attitudes is the most obvious. First, I am going to consider the combinations \textit{ia} and \textit{iä} (hereafter the \textit{iA} combination).

4.1 Representation of the \textit{iA} combination

According to previous research, the vowel combinations \textit{ia} and \textit{iä} have been assimilated into \textit{ie} diphthongs in the Viena Karelian dialects, e.g., \textit{luatiä} >> \textit{luatie} ‘to make’, \textit{eččiä} >> \textit{eččie} ‘to seek’ (Genetz 1880: 172; Ojansuu 1918: 108–110; Kettunen 1940: 294, 1960: 12; Zaikov 1987: 50, 99). Even instances of the \textit{ii} variant as a continuation of the \textit{iA} combination have been found in the region of the Viena Karelian dialects, e.g., \textit{hyppii} ‘to jump’ (Mustakallio 1883: 43). The shift \textit{iA} \textgreater \textit{ie} in the non-initial syllables can be considered fairly old, since the representation containing the diphthong \textit{ie} is also found in Tver Karelian, spoken in inner Russia, where the Tver Karelians started to move as early as the 16th century. It is evident that the shift was in progress during that period at the latest.

\(^6\) The use of the endings \textit{a} and \textit{ä} in the names of the vowel combinations reveals what the vowel combinations in the non-initial syllables used to be like historically when the spirants had disappeared (e.g. *\textit{korkeäa} \textgreater \textit{korkeäa} ‘high’). After this, the vowel sequences I am studying have gone through various changes and few of them are represented as ending in \textit{a} or \textit{ä} in today’s Viena Karelian dialects. Due to the rich variation we must, however, simplify the naming of the vowel combinations. This is why I have opted for what can be considered the historical name. This way of naming is also recognised and accepted by the researchers of the Karelian language (Professor Pekka Zaikov in a conversation 20 February 2007).
In the following, I will be looking at the representation of the *iA* combination in the dialects of Jyskyjärvi and Kalevala in the 2000s. I am using the infinitive of the verb *luatie* ('to make') to illustrate the variation.

**Diagram 1.** Variation in the *iA* combination in the dialect of Jyskyjärvi.

**Diagram 2.** Variation in the *iA* combination in the dialect of Kalevala.

Diagrams 1 and 2 show that the *iA* combination in the non-initial syllables in the dialects of the villages I studied was most typically represented as the diphthong *ie*, e.g.:
The diphthong ie was clearly the predominant variant in the dialects of both Jyskyjärvi and Kalevala; yet the iA variant, which follows the Finnish model, came second in both villages, e.g.:

(4) siiit alko-ma lehti-e riipiää
thereof begin-PST-PL-1 leaf-PL-PAR strip off-INF
‘We started stripping off leaves.’

There were also sporadic instances of the variants ii-, ija- and Ø-, e.g.:

(5) kaikki pit-i iče-n šuattu-a, luati-i
all have to-PST oneself-GEN be able to-INF make-INF
‘You had to be able to do everything by yourself.’

(6) ylen suuri-e moottori-ja
mighty big-PL-PAR motor-PL-PAR
‘mighty big motors’

(7) oma-h tapaha-h haluta-h tanssi
own-ILL. way-ILL want-PASS dance-INF
‘You want to dance in your own way.’

The fact that the vowel combinations of the Viena Karelian dialects have many different variants is by no means surprising, since it is typical of endangered languages that they show great internal variation (see, e.g., Dorian 1994). Of course, rich variation is an essential feature of spoken languages everywhere, but the variation is generally even more extensive in minority languages, just as my data indicate. This seems to result from the fact that, besides the standard-language variants, prestige variants, and the
variants that could be said to represent the “old dialect”, the competing variants include variants that have emerged as a result of the attrition of the minority language. The language skills of the minority language speakers vary and the speakers may create their own grammatical systems that are individual to a certain degree. The community-specific, homogeneous language starts to shatter gradually and the social control of the linguistic community does not function as a force, eliminating linguistic innovations. (Paunonen 2003: 239–242.) In fact, Dorian (1994: 634) claims that linguistic variation in minority communities is essentially personal; he uses the term *personal-pattern variation* to refer to the phenomenon.

In my data, some of the sporadic variants could be simply considered individual lapses. However, I have not counted the single occurrences as mere slips, as I believe that they are indicative of the variation as a whole. For example, the variants of the type VØ would seem to be growing fairly widely more common in the Viena Karelian vowel combinations, which is probably Russian influence (see Kunnas 2007).

I believe that the variants with the sequence *iA* are phonological loans influenced by the Finnish dialects or the standard language of Finnish. However, it is difficult to define the age of these phonological loans. As I mentioned in section 2, the contacts between Finns and Viena Karelians began very early and, with the exception of the Soviet period, many Viena Karelians have been in contact with the Finnish language either in its written or its spoken form. But what are the individuals that use the most Finnish-based variants like? What do they have in common and what could explain the fact that they favour the contact-induced variant? In the following subsection I will be considering individual variation.

### 4.2 Individuals favouring the contact-induced variant

In the data collected in Kalevala, the relative share of the *iA* variant was 15.2 percentage points of all the *iA* sequences. I consider this percentage as a point of comparison. The informants whose idiolects contained more *iA* variants than the point of comparison were Palaka (f = 32/99), Katti (f = 19/63), Pekka (f = 27/91), Jyrki (f = 20/97), Jouki (f = 12/68) and Venla (f = 12/78). What did these people have in common? First, I will be looking at how high the Finnish index and the Karelian index were for the above informants and whether the frequent use of the *iA* variant was possibly linked to a high Finnish index.
Figure 1 shows the relative share of the *iA* variant in all the *iA* sequences in the idiolects of Palaka, Katti, Pekka, Jyrki, Jouki and Venla. Figure 1 also displays the informants’ Finnish and Karelian index scores and the comparative indexes that show how high the Finnish or Karelian index is in the data from Kalevala on the average. The column showing the Finnish index is checkered, whereas the column showing the Karelian index is dotted.

The frequent use of the *iA* variant would seem to be associated with a Finnish index higher than the average. The only informant to display a Finnish index lower than the average is Palaka, who uses the *iA* variant the most frequently. In contrast, the Finnish indexes of Katti, Pekka, Jyrki, Jouki and Venla are all (considerably) higher than the average, and the Karelian indexes of Katti and Jouki are lower than the average, as could be expected.

How can we explain, then, that Palaka makes very frequent use of the *iA* variant? Palaka’s Finnish index is rather low, which has to do with the fact that he did not have contacts with his Finnish friends and tourists.

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7 Abbreviations explained: *iA*-%= the relative share of the *iA* variant of all the *iA* sequences in the informant’s idiolect; F-ind. = Finnish index score; K-ind. = Karelian index score; comp.%= Finnish or Karelian index score in the village data on the average.
during the interview period, although he said that he had previously had frequent contacts with them. Further, the quality of the Finnish contacts seems to be more important than their number: in the investigation of social networks, it has been noticed that instrumental friends in particular have a powerful effect on the informants’ language use (Boissevain 1978). An instrumental friend refers to a person with whom people maintain warm relationships because they expect the relationship to turn out materially useful. Unlike emotional friends, instrumental friends are scarcely associated with emotional value by the informants. Even some of the Viena Karelians may want to maintain good relations with Finns partly because they send presents for Christmas and birthdays and pay well for staying in the villages. The interview with Palaka, too, gave the impression that he had been maintaining relations with Finns just because he was expecting money and presents from them. He said, for example, the following during the interview:

(8)  
kiitoskie paljo niillä, kaikilla [suomalaisille] — paljoj kiitoskie nii- niistä heiäm markoistä.  
‘Thanks a lot to all the Finns, thanks for their marks.’

Palaka’s family members also show more solidarity towards Finnish than towards Viena Karelian. This is manifested by, e.g., the fact that Palaka’s grown up son has started to teach his own children Finnish instead of Karelian, which is in Palaka’s view a purely positive thing. The fact that even Katti favours the $\text{iA}$ variant, could be expected: she, too, has instrumental friends in Finland who send her presents. In addition, Katti says quite bluntly in the interview that she thinks Finnish is a better language than her own mother tongue Viena Karelian:

(9)  
‘I like the Karelian language, but I really like the Finnish language. Finnish is so soft, it’s such a soft one. I like, I really really do like Finnish. When people speak
Finnish, it pleases me. It’s so soft, feels so soft when you hear people speak it. I find it so pleasant, the language Finns speak. I like the Finnish language; although the Karelian language is good, I really like Finnish. It’s such a soft and warm one, it’s so likeable. The Karelians’ language isn’t as soft as the Finnish language. Karelian isn’t as pure as Finnish, so you cannot say things as purely in Karelian as you can in Finnish.’

It has been found in many language attitude studies that people often regard foreign varieties as weird, coarse and unintelligible (Dorian 1981: 87). Katti’s language attitudes are quite to the contrary: she considers Finnish purer and softer than her own mother tongue and uses, e.g., the adjective warm to describe the Finnish language. In my view, example 9 shows clearly that Katti’s ethnic loyalty is weak and the language for which she shows solidarity and which she regards as having the most prestige is Finnish. Thus, it is highly predictable that Katti’s speech contains variants that can be considered phonological loans from Finnish. I see Katti as a good example of how language attitudes are always connected to people’s linguistic self-esteem (see Miilikäinen & Palander 2002: 101). Katti, just as anybody else who considers his or her own variant as less valuable than another variety, suffers from linguistic insecurity according to Labov (1966: 474–480, 2001: 277–278) and Downes (1984: 167). Linguistic insecurity has been found to be especially typical of people living in the periphery, since it is often the varieties of large urban centres that are held in high value in peripheral regions, the high standard of living and the political and economic power concentrating on the centres. (Palander & Nupponen 2005: 48 and the reference literature mentioned.) As the use of Karelian focuses on the countryside and is rare in large cities, it is understandable that many Karelians regard Finland as the “centre of prestige”. The same phenomenon has been encountered in, e.g., Great Britain: it is not necessarily the urban linguistic forms that enjoy the greatest prestige, but varieties that are simply associated with the image of a more attractive lifestyle (Trudgill & Giles 1978: 181–186; Palander & Nupponen 2005). As far as I understand, the reason why certain Viena Karelians regard Finnish as an ideal may have to do with the fact that the Finnish lifestyle is considered more attractive than the Karelian one. The (phonological) loans from Finnish are a good example of what can be called the transfer of prestige (this will be discussed in more detail in section 5): although the attractive Finnish lifestyle is unattainable to many Karelians, people may easily accommodate their idiolects to resemble the Finnish language more. Example 9 also shows that languages only seem to
have instrumental value to Katti and that she does not think about, e.g., what a person’s mother tongue means to his or her identity. Katti even says she considers Viena Karelian a better language than Olonets Karelian just because Viena Karelian is an *instrument* by which communication with Finns is possible (Kunnas 2006: 239–240). In fact, Katti’s opinions are based on instrumental language ideology (for more detail, see Kunnas 2006), and it is precisely people like Katti who make the extinction of minority languages faster.

The question arises why Pekka and Jyrki use the *iA* variant frequently, although their Karelian indexes are higher than the average. Pekka has read a lot of Finnish literature, so it is by no means peculiar that he uses the Finnish-based variant *iA* widely even in his speech. The fact that Pekka does not only have a high Finnish index *but also* a high Karelian index is explained by his general interest in languages and literature. Pekka has also read a large number of books and newspapers written (partly) in Karelian, and prepared Karelian glossary collections. Thus, even though Pekka has had wide contacts with the Finnish language and knows Finnish well, he seems to feel solidarity with the Viena Karelian language. Rampton (1995) has suggested that linguistic identity consists of two parts: *expertise* and allegiance. These two parts do not go hand in hand in practice. You can be loyal to a language that you are less proficient in, and vice versa: the language you master best in practice is not necessarily the language you identify yourself with, or the language that matters most to you emotionally. Therefore, expertise in a language does not require an affective relationship with the language. (See Iskanius 2006: 80–81.) This is true with Pekka, too: he seems to have expertise in the Finnish language; yet it is Viena Karelian he is loyal to.

Another interesting case among the informants is Jyrki. He displays a Karelian index and a Finnish index that are both higher than the average. In the theme interview, he seems to show solidarity for both languages. On the one hand, Jyrki makes efforts to preserve the Karelian language by speaking Karelian with some of his grandchildren, which is beginning to be rare in the Karelian villages. On the other hand, he is ready to abandon the Viena Karelian language and adopt the Finnish standard language instead. He thinks the Finnish standard language could well be used, e.g., in tuition in the Karelian schools, which did not seem to be a very widely accepted attitude in Viena Karelia. In my view, Jyrki’s attitude reflects linguistic insecurity. Thus, as could be expected, the contact-induced prestige variant is very frequent in his idiolect.
All in all, it would seem that a frequent use of the \textit{iA} variant is associated with a high Finnish index among the Kalevala informants. I have tested the correlation between the frequent use of the \textit{iA} variant and a high Finnish index statistically, using the SPSS-program. Spearman’s rank correlation test shows that there is a moderate correlation between a high Finnish index and the frequent use of the \textit{iA} variant throughout the Kalevala data ($r = 0.52$), and the connection between these two is statistically significant ($p = 0.046$). The extensive use of the \textit{iA} variant is probably also affected especially by frequent contacts with Finnish instrumental friends and linguistic insecurity. This was the situation in one of the villages I studied. In the following, I will be looking at how the frequent use of the \textit{iA} variant in the data collected in Jyskyjärvi can be explained and whether the use of the variant is associated with a high Finnish index there, too.

In Jyskyjärvi, the relative share of the \textit{iA} variant of all the sequences was 11.9 percent. I will be considering this figure as a point of comparison. The informants to display more \textit{iA} variants than the average in their idiolects were Huoti ($f = 10/50$), Santra ($f = 13/70$), Oksenie ($f = 13/81$), Arina ($f = 10/64$), Manu ($f = 7/47$), Sylvi ($f = 7/48$), Marina ($f = 7/52$), and Lempi ($f = 9/73$). In the following, I will be looking into why they favoured the \textit{iA} variant in their speech.

Figure 2 shows the relative share of the \textit{iA} variant of all the \textit{iA} sequences in the idiolects of the above mentioned informants. Figure 2 also shows the how the informants scored in the Finnish and Karelian indexes and the comparative indexes that indicate how high the Finnish or Karelian index was in the Jyskyjärvi data on the average. The column showing the Finnish index is checkered and the column indicating the Karelian index is dotted.
Figure 2 shows that the frequent use of the $iA$ variant is clearly associated with a high Finnish index with certain informants: the Finnish indexes of Santra, Oksenie, Arina and Marina are clearly higher than the average, so I would deem their use of the $iA$ variant as predictable. It was especially predictable that Arina made frequent use of the $iA$ variant, since both I and Erkkilä (2003) have noticed in our studies that Arina is a real fan of Finland: Arina “likes things that are Finnish. She reads Finnish newspapers and magazines and likes to buy Finnish food in the village stores.” (Erkkilä 2003.) As Arina clearly regards Finland and everything Finnish as prestigious, her frequent use of the Finnish-based variants could be expected.

Marina’s frequent use of the $iA$ variant could also be expected, since not only is her Finnish index higher than the average, but her Karelian index is also lower than the average. In fact, Marina’s Karelian index was the lowest in the Jyskyjärvi data, and she did not appear to be very loyal to the Karelian language. Although Marina had been a member of a Karelian song and dance group for a while, it was not considered worthwhile in her family that Viena Karelian should be transferred to the following generations. I consider this as a sign of linguistic insecurity and deem it as

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8 Abbreviations explained: $iA$-% = the relative share of the $iA$ variant of all the $iA$ vowel sequences in the informant’s idiolect; F-ind. = the Finnish index score; K-ind. = the Karelian index score; comp.% = the Finnish or Karelian index score in the village data on the average.
predictable that Marina would easily adopt contact-induced variants in her idiolect.

Thus, the frequent use of the $iA$ variant among the Jyskyjärvi informants could be expected. But how can we explain the fact that, e.g., Manu, whose Finnish index was zero percent points, made frequent use of the $iA$ variant? What about Huoti, Sylvi, and Lempi, whose Finnish indexes also remained lower than the average, why did they use the $iA$ variant frequently, too?

First of all, the indexes are nothing but mechanical figures that may conceal many things. For example, Sylvi’s Finnish index was slightly lower than the average; yet she had contacts with Finns. Sylvi had been to Finland personally, which was not very common among my informants. Sylvi’s Finnish index was lower because she did not have instrumental Finnish friends. However, Sylvi’s case proves that even emotional friends may have an impact on the idiolects of people speaking another variety. As expected, Sylvi’s Karelian index was lower than the average.

How can we then explain the fact that Huoti made frequent use of the $iA$ variant and displayed a Finnish index that was lower than the average? Huoti’s Finnish index was lower because, among other things, he did not read any Finnish newspapers, magazines, or books. This was simply due to the fact that he could read neither Finnish nor Karelian. However, he did accommodate Finnish tourists in the summertime, which could lead to the occurrence of phonological loans even in his idiolect. It should also be noted that the Finnish index is based solely on the questions exploring overt language attitudes. It may well be the case that, e.g., Huoti’s covert language attitudes favor Finnish and his idiolect therefore includes phonological loans from Finnish. For example, Kristiansen (2007) has noticed that covert language attitudes are the only ones that correspond to the direction of language change.

Manu’s frequent use of the $iA$ variant may, in turn, be a consequence of his residential history: Manu was born in the westernmost Viena Karelia. Many of the informants said that the Finnish influence had been stronger in the western Viena Karelian villages than elsewhere in Viena Karelia for a long time past (see Kunnas 2007: 43). Thus, the $iA$ variant in Manu’s speech may date from the old times.

Lempi’s idiolect only displays a slightly more frequent use of the $iA$ variant than the average. Although Lempi’s Finnish index is lower than the average it does not mean that she has not been in contact with the Finnish language. Lempi went to a Finnish-speaking school with the exception of
the final grade, so she obviously knows Finnish well. During the Soviet regime, Lempi often used to read Finnish-language newspapers. One of Lempi’s comments also shows that she regards Finnish as prestigious:

(10) suomeen kieli om mukava kuulla, mie tykkään suomeen kieltä oikein kuunnella.
‘It’s nice to listen to the Finnish language. I like listening to Finnish.’

Although Lempi did not have many contacts with Finns or the Finnish language at the time when the interviews were made, her idiolect, too, contained phonological loans from Finnish, as could be expected.

All in all, the widespread use of the $iA$ variant would seem to be associated with a high Finnish index more clearly in the Kalevala data than in the data from Jyskyjärvi. In Jyskyjärvi, the $iA$ variant was also favoured by informants whose Finnish indexes were not higher than the average. No correlation was found between a high Finnish index and the frequent use of the variant in the Jyskyjärvi data in a statistical test, either. However, when the informants’ personal history and Finnish contacts were observed at a deeper level, potential explanations for the frequent use of the $iA$ variant could be found with most of the informants.

The above sections have dealt with the question of what kinds of individuals use the contact-induced $iA$ variant most frequently and whether the use of the variant is associated with a high Finnish index. In the following, I will be discussing whether the frequent use of the most typical variant of the Viena Karelian dialects is possibly associated with a high Karelian index and a favourable attitude towards the Karelian language. I will be considering this in the light of the vowel combinations ending in $ea$ and $eä$ (hereafter the $eA$ combination) in the non-initial syllables.

4.3 Representation of the $eA$ combination

First, I will take a look at the picture previous research has given about the development of the $eA$ combination in the non-initial syllables in the Viena Karelian dialects. Pekka Zaikov’s (1987: 99, 118) study indicated that the historical $eA$ combination is usually represented as the diphthong $ie$ (e.g. korkie ‘high’). However, prior research has shown that the diphthong $ie$ is by no means the only form in the Viena Karelian dialects but that it has been accompanied by forms with the sequences $iA$, $ee$, and $ii$ for a long time past, e.g. korkia, korkee, korkii ‘high’ (Mustakallio 1883: 43; Ojansuu 1905: 14, 1918: 109–110).
There have been diverging opinions about how the variant *ie* emerged in Karelian. According to Heikki Ojansuu (1905: 14, 1918: 118) the phonetic development progressed in the order *eA > iA > ie*. In Ojansuu’s (1923: 10–11) view, the intermediate phase with the sequence *iA* could be regarded as certain, since forms like *korkia* ‘high’ and *pimiä* ‘dark’ were found in the different dialects. Lauri Kettunen (1910: 128) adopted a different view and considered that the diphthong *ie* had been preceded by a long *e*, e.g., in *korkee* ‘high’ (see also Leskinen 1998: 379). Kettunen (1910: 128) justified his view by claiming that the development *korkee > korkie* would be parallel to the respective phonetic development of the first syllable in the Karelian language (e.g. *tee > tie* ‘road’). Similarly, Juho Kujola (1910: 24) suggested that the phonetic development would have progressed through an intermediate long-vowel phase.

Martti Rapola (1923: 18, 56) assumed that the eA combination had developed into the form with the diphthong *ie* through different lines of development in different syllabic positions: according to him, the development had followed the pattern *eA > ee > ie* in unstressed positions, whereas the pattern had been *eA > iA > ie* at the boundary of the syllables with a secondary stress. R. E. Nirvi (1932: 50–51) also adopted Rapola’s view and considered that the phonetic development had followed the pattern *eA > ee > ie* at the absolute end of the word and the pattern *eA > iA > ie* in other positions. Kettunen (1940: 294), too, suggested later that the phonetic development in the change *eA >> ie* might have been different in different syllabic positions and that the diphthong *ie* might have been preceded by both the vowel sequence *ee* and the sequence *iA*.

In the following, I will be considering the representation of the eA combination in the non-initial syllables in the dialects of Jyväskylä and Kalevala in the 2000s. I will be using the infinitive form of the verb *lähtie* (‘to leave’) as an example whilst describing the variation.
Diagram 3. Variation in the eA combination in the non-initial syllables in the dialect of Jyskyjärvi.

Diagram 4. Variation in the eA combination in the non-initial syllables in the dialect of Kalevala.

Diagrams 3 and 4 show that the eA combination in the non-initial syllables in dialects of the villages I studied was represented most often by the diphthong ie at the turn of the 2000s, e.g.:
The diphthong *ie* is clearly a predominant variant in the dialects of both Jyskyjärvi and Kalevala; its relative share of all the cases is over ninety percent. Neither the *eA* variant (e.g. *lähteää* ‘to leave’), which is used in many dialects of Finnish and is also a variant of standard Finnish, nor the *ee* variant (e.g. *lähtee* ‘to leave’), which is becoming more and more frequent in spoken Finnish in Finland, enjoy much popularity in the dialects of either village. The relative shares of variants other than the diphthong *ie* remain under five percent, e.g.:

(14) *ei -- ollu-m meillä varo-a -- lähtiää*
    no be-PPC us-ADE funds-PAR leave-INF
    ‘We couldn’t afford to leave.’

(16) *mie e-v voi n-ikunne lähte-e*
    I NEG-SG-1 can nowhere leave-INF
    ‘I can’t go anywhere.’

When we compare the representation of the *iA* and *eA* combinations in the speech of the people of Kalevala and Jyskyjärvi, we notice that the Finnish-based variant (*-iA*) is relatively more frequent in the *iA* combination, whereas in the *eA* combination the most typical variant of the Viena
Karelian dialects (-ie) has retained its popularity better. In the following, I am going to consider whether a high Karelian index is possibly associated with the frequent use of the most typical variant of the Viena Karelian dialects (-ie) in the eA combination, and what other factors are common to the individuals who are using the most typical variant of the Viena Karelian dialects most frequently.

4.4 Informants making frequent use of the most typical variant of the Viena Karelian dialects

In the Jyskyjärvi data, the share of the ie variant of all the eA vowel sequences is 97.1% or more in the idiolects of Maikki (f = 47/47), Sylvi (f = 19/19), Uljana (f = 18/18), Lempi (f = 39/40) and Matro (f = 33/34). Figure 3 shows the percentages of their use of the ie variant, and their Karelian and Finnish index scores. Further, figure 3 also shows the average indexes in the Jyskyjärvi data. The column showing the Karelian index is dotted and the column showing the Finnish index is checkered.

Figure 3 shows that Maikki’s idiolect contained the most frequent ie variants in the data of the turn of the 2000s. This was, in fact, predictable: Maikki’s Karelian index score was above the average, whereas her Finnish index remained at zero. In addition, Maikki seemed to be interested in her
mother tongue: she had, e.g., collected Viena Karelian proverbs and riddles, and she only had sporadic contacts with Finns. In fact, it could be expected that people like Maikki would not easily catch contact-induced innovations.

The *ie* variant was also very common in the idiolects of Sylvi and Uljana at the turn of the 2000s. This was predictable in Uljana’s case, since her Karelian index was slightly higher than the average, whereas her Finnish index was lower than the average. In contrast, the fact that Sylvi made frequent use of the *ie* variant was unexpected, considering that her Karelian index was lower than the average and that she, for example, used the Finnish-based *iA* variant more frequently than the average in the *iA* vowel sequence. To my knowledge, Sylvi showed solidarity for the Karelian language, although her Karelian index was lower than the average. The fact is that Sylvi had been subscribing to a Karelian newspaper previously and had participated in a Karelian singing and dancing group; the reason why she had given up these hobbies was that she had gone blind in one eye – not that she would have lost interest in the hobbies. If Sylvi’s Karelian index had been counted years earlier, it would have been considerably higher. One of Sylvi’s comments shows that she felt really annoyed that Karelian was no longer used as widely as previously:

(18) *Kačokkua vain takapuolehenne – – pakajatta vielä i karjalaksi!*  
‘Shove it up your arse – – you’re gonna speak Karelian one day!’

This is what Sylvi said she told the Karelians who spoke Russian to her. It seems that Sylvi’s favouring of the Finnish-based variant was limited to one specific vowel sequence – the *iA* sequence.

The fact that Lempi made frequent use of the *ie* variant could be expected, since her Karelian index was higher than the average and her Finnish index was lower than the average. Matro’s frequent use of the *ie* variant was also predictable in the sense that his Finnish index score was zero. However, Matro’s Karelian index was slightly lower than the average, but it probably only had to do with the fact that many of his neighbours and friends were Russian-speaking, which is why Matro, too, often had to speak Russian.

The majority of the informants in Jyskyjärvi making frequent use of the *ie* variant had Karelian indexes higher than the average. Further, the informants to favour the most typical variant of the Viena Karelian dialects
had lower Finnish index scores than the average, or their index scores remained at zero. Thus, the results would seem to support my hypothesis that ethnic loyalty can affect linguistic variation in the sense that people who are more loyal to their own language or dialect use the most typical variants of their own dialect in their speech. However, when the correlation between a high Karelian index and the frequent use of the \(ie\) variant was analyzed statistically over the entire Jyskyjärvi data, no statistically significant correlation was found. In the following, I will be looking into the situation in Kalevala.

The share of the \(ie\) variant of all the \(eA\) vowel sequences in the Kalevala data was 97.1\% or more in the idiolects of Hilma (\(f = 29/29\)), Venla (\(f = 44/44\)), Palaka (\(f = 34/34\)), and Mari (\(f = 39/40\)). Figure 4 shows their percentages of using the \(ie\) variant and their Karelian and Finnish index scores as compared with the comparative indexes that indicate the average Karelian and Finnish index scores in the Kalevala data.

![Figure 4](image)

**Figure 4.** Relationship between the use of the \(ie\) variant and the Karelian and Finnish indexes with certain informants in the Kalevala data.

Figure 4 shows that among the informants to favour the \(ie\) variant, the Karelian indexes of Hilma, Venla, and Mari were higher than the average, and that the Karelian indexes of all the informants who favoured the \(ie\) variant were higher than their Finnish indexes in each case. Contrary to what could have been expected, the \(ie\) variant was the only variant among

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9 Abbreviations explained: \(ie\-%\) = the relative share of the \(ie\) variant of all the \(eA\) sequences in the informant’s idiolect; K-ind. = Karelian index; F-ind. = Finnish index; comp.\% = Finnish or Karelian index in the data from the village on the average.
Palaka’s eA vowel sequences. As has been mentioned before, Palaka was loyal to the Finnish language and he made, e.g., frequent use of the Finnish-based iA variant in the eA vowel sequences. Yet, it must be noted that there were no Finnish-based variants in the eA vowel sequences at the turn of the 2000s that would have been growing clearly more frequent. Since there were no such clear prestige variants coming from the outside, it is understandable that Palaka’s representation of the eA vowel sequences did not show any variation, either.

It is also striking in the columns of figure 4 that Venla had a Finnish index above the average and that she made frequent use of the ie variant. Once again, we can conclude that the indexes hide many things that cannot be illustrated by sheer numbers. Venla’s high Finnish index and her Karelian index, which is lower than the average, do not necessarily mean that she did not feel solidarity with the Karelian language. Although Venla had numerous contacts with Finns and the Finnish language, the theme interview seemed to indicate that Venla had a good linguistic self-esteem and that her attitude to Viena Karelian was positive. For example, Venla was worried about the fact that her grandchildren did not know Karelian:


‘The grandchildren can’t speak Karelian. Since Olga [Venla’s daughter] is married to a Russian man and the children have gone to a Russian school, they cannot speak Karelian. No matter how often I tell them that they should learn to speak Karelian! If they were here with me, I’d teach them Karelian, but since they’re living in another place. At their home, with the Russian father – –.’

In other words, Venla has been trying to convince her grandchildren about how important it is to learn Karelian, but obviously without success. Today, Russian is not only spoken to children in mixed marriages, but it is used as the home language even in families with two Karelian parents.

All in all, the frequent use of the ie variant in the Kalevala data would also seem to be associated with a relatively high Karelian index and a lower Finnish index. Of course, there were exceptions, but it seemed that the informants’ language attitudes and personal history explained why they favoured the ie variant. A statistically significant correlation between an ie-
variant preference and a high Karelian index did not appear in the data for Kalevala.

5. **Consequences of the contact between Finnish and Viena Karelian at the phonological level**

This paper has shown that the frequent use of the \( iA \) variant, which occurs especially in the \( iA \) vowel combinations of the non-initial syllables, is associated with a high Finnish index, and we have good reason to assume that it is a phonological loan from Finnish. However, it is difficult to pinpoint which variety of the Finnish language has provided the strongest model for the adoption of the phonological loans. An interesting observation is that the long-vowel variants, such as \( ii \) (e.g. \( hyppii \) ‘to jump’) or \( ee \) (e.g. \( lähtee \) ‘to leave’) that are becoming general in the modern spoken Finnish have not started to grow more frequent in the Viena Karelian dialects – this is somewhat surprising.

The informants in the new Kalevala data to use the most Finnish-based variants were Pekka (21.9%, \( f = 59/270 \)), Palaka (19.8%, \( f = 62/313 \)), Vieno (12.6%, \( f = 27/214 \)), Valentina (11.8%, \( f = 28/238 \)), and Jyrki (11.3%, \( f = 32/283 \)). These figures were obtained by counting all the Finnish-based variants in the dialect recordings made with the informants, after which their relative shares of all the variants were calculated.\(^10\) The percentages in the brackets show the share of Finnish-based variants in the informants’ speech at the turn of the 2000s.

The informants to favour Finnish-based variants in the new Kalevala data had all gone to a Finnish-speaking school for some time, part of the primary school at the minimum. In addition, Vieno had gone to a Finnish-speaking high school. With the exception of Palaka, all the informants

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\(^10\) The Finnish-based variants in the \( iA \) sequence include the \( iA \) variant based on the Finnish standard language (\( hyppiä \) ‘to jump’) and the \( ii \) (\( hyppii \) ‘to jump’) which is growing more frequent in modern spoken Finnish. In the \( eA \) sequence, the Finnish-based variants include the \( eA \) variant (\( lähteä \) ‘to leave’) based on Finnish standard language and the \( ee \) variant (\( lähtee \) ‘to leave’), which is becoming more frequent in modern spoken Finnish. I have limited the variants in this way because, as far as I understand, the Viena Karelians had heard and seen these Finnish-based representations in the vowel sequences of the non-initial syllables the most frequently. Thus, I have not counted all the representations of the Finnish dialects because I cannot know how often the Viena Karelians had really heard these forms. In fact, I have only counted variants that are either common in modern spoken Finnish or that occur in written Finnish. (On the features generalized in modern spoken Finnish, see Mantila 1997: 16–19.)
could read Finnish; in fact, Pekka said he read Finnish better than Karelian. All the informants who said they could read Finnish had read newspapers, magazines or books written in Finnish. Further, Vieno was in correspondence with her Finnish acquaintances. Among the informants to make frequent use of the Finnish-based variants, only Valentina did not have contacts with Finns. At least in the light of the Kalevala data, it would seem that the Finnish standard language had been the most important model for Viena Karelians when they were adopting phonological loans. Although many of them had had face-to-face contacts with Finns, many of the variants that are becoming common in modern spoken Finnish had not started to become more frequent in Kalevala – at least not by the time of the study. We must, however, also take into account that when Finns meet their Viena Karelian friends, they may be speaking in a more standard-language manner than usual in order to make sure that they are understood. Thus, Viena Karelians may have adopted standard-language variants even during face-to-face contacts.

In the new Jyväskylä data, the informants to use Finnish-based variants the most frequently were Oksenie (13.8%, \( f = 54/390 \)), Arina (12.9%, \( f = 29/225 \)), Manu (10.8%, \( f = 19/176 \)), Aino (10.3%, \( f = 33/319 \)) and Santra (10.2%, \( f = 27/264 \)). The percentages in the brackets show the share of the Finnish-based variants in the informants’ idiolects at the turn of the 2000s. Among the informants to favour the Finnish-based variants in the new Jyväskylä data, everybody else but Manu had done at least part of their primary school education in Finnish. Further, Santra could read Finnish, and Arina and Oksenie could even write in Finnish. All the informants who could read Finnish read lots of Finnish newspapers, magazines or books. Oksenie had even used Finnish in her work. Among the informants who made frequent use of the Finnish-based variants in Jyväskylä at the turn of the 2000s, everybody else but Oksenie and Manu had contacts with Finns. Santra and Arina had gone to school in Finland. The Jyväskylä data seems to support my hypothesis that standard Finnish has been an important model for Viena Karelians when they have been adopting phonological loans.

The results of my study show that the vowel sequences ending in A in the non-initial syllables in the dialects of Jyväskylä and Kalevala include variants that can be considered phonological loans from Finnish. This phenomenon can probably be described by the term long-term accommodation (see Trudgill 1986: 11–38). Trudgill (1986) defines long-term accommodation as a situation where an individual’s language has
changed because he has been in contact with people speaking another variety (see also Kerswill 2002: 680). The accommodation is believed to be especially frequent when two very closely cognate languages are in contact with each other (van Coetsem 1988: 13; see also Bortoni-Ricardo 1985: 89–97).

I find the contact between Viena Karelian and Finnish to be a model example of long-term accommodation, since the contact between the languages has been very long-lasting. The Viena Karelian dialects were already influenced by Finnish when they were born, and the contact between the languages has continued ever since as a result of active trade relations, an open state border, and the temporary official status of the Finnish language. Although the contacts between the speakers of the Finnish and Viena Karelian languages were broken for almost 50 years after the Second World War, there have been efforts to rebuild the contacts since the 1990s; and at the beginning of the 2000s, the contacts were possibly more active than ever before.

I believe that the Speech Accommodation Theory (e.g. Giles & Powesland 1997 [1975]) explains why phonological loans have grown more frequent in Viena Karelia: the speakers accommodate their language towards the recipients’ speech in order to gain their approval. Even in this study, it became evident that Finland and Finns are associated with strong prestige in many places in Viena Karelia, so it is understandable that many Karelians want to gain Finns’ approval by accommodating their own language towards the language Finns speak. John Earl Joseph (1987: 31) also explained the influence of the prestige variety on another variety by what has been called prestige transfer. According to Joseph, people want to imitate individuals who they hold in high esteem because of their material (or physical) characteristics. It is often the case that people who enjoy better material conditions have gained prestige in the eyes of people living in less favourable material conditions. Because it is difficult for the people belonging to the latter group to attain the material level of the group they admire, it is usual that prestige is transferred to the other characteristics of the prestigious group – characteristics that are easy to imitate and adopt. Language is one such characteristic. (Joseph 1987: 31.) Although the attractive lifestyle of Finns is unattainable to many Viena Karelians, it is easy for them to accommodate their language to resemble Finnish more.

Many studies have shown that people who are the least loyal to their local community adopt linguistic innovations more easily than people who are more loyal to their community (e.g. Ito & Preston 1998; Edwards 1992;
see also Vaattovaara 2009). This study does not address the informants’ loyalty to their place of living but assesses rather how loyal they were to their own language and how that affected the variation in the language at the time of the study. The results would seem to indicate that the link between ethnic loyalty and the frequent use of contact-induced variants is not always significant; however, my data also contain examples of how these two go closely hand in hand. For example, Katti was clearly more loyal to Finnish than her own mother tongue Viena Karelian, and this was reflected in her frequent use of contact-induced variants. In fact, it does seem that even minority language speakers adopt new linguistic innovations in case the adopters believe that they will gain something through the adoption of the innovation (Milroy & Milroy 1997: 204). On the basis of the present study and previous research (e.g. Milroy 1992; Milroy & Milroy 1997), it would thus seem that whilst analyzing the motives for linguistic changes, an explanation based on the idea of group identity or solidarity is more satisfactory than a mere reference to the prestigious status of the upper social classes.

6. Conclusion

In this paper, I have discussed the variation which occurs in the endangered Viena Karelian language and whether ethnic loyalty or the lack of it is connected to the variation in spoken language. I have also studied whether people’s loyalty to their own mother tongue and the use of it have an effect on the degree to which they adopt contact-induced dialect variants into their speech. These research questions I have attempted to answer, on the one hand, by looking at the variation in the vowel combinations ending in $iA$ and $eA$ in the non-initial syllables in Viena Karelian dialects, and secondly, by investigating how the language attitudes and ethnic loyalty of the informants I studied affected their linguistic choices.

I have considered ethnic loyalty and its degree in the light of two indexes – the Karelian index and the Finnish index. Although the results would seem to indicate that the Karelian and Finnish indexes are fairly closely associated with linguistic variation, it must be noted that the indexes I calculated for my informants are quite mechanical as figures, and that they hide many things. With some informants, there was a clear connection with the indexes and the linguistic variation – however, this was not nearly the case with all of the informants. In fact, with many of the informants, the index did not even provide a truly correct picture of their
loyalty to the Karelian or Finnish language, since many of them had not been able to influence, e.g., which language they were using most in their everyday lives and whether they had hobbies related to the Karelian language. A good example of this is Sylvi. She had previously taken part in a Karelian-speaking song and dance group, but she had had to give up her hobbies against her own will after she had gone blind in one eye. Although Sylvi had a Karelian index lower than the average, she seemed to show solidarity for Karelian. Thus, it was predictable that Sylvi favoured the most typical variants of the Viena Karelian dialects. My study would seem to prove that an analysis based on sheer index scores would actually have given a partly misleading picture about how the informants’ language attitudes and linguistic variation were related to each other. Thus, one must always be cautious with the interpretation when using indexes as analytical tools, and consider carefully what is hidden behind the scores. It would also be desirable that new well-functioning parameters should be developed for the measuring of ethnic loyalty. Instead of calculating indexes, we could use multivariate methods to analyse the nature of the questions concerning identity and ethnic loyalty that have the highest correlation with the frequent use of certain variants. In my view, it would be worthwhile to study not only overt language attitudes but also covert attitudes in the future. For example, in Denmark, it has been noted that it is only the covert language attitudes that have an effect on the direction of language change (Kristiansen 2007). Perhaps ethnic loyalty could be revealed in more depth by studying both overt and covert attitudes. The listening tests that are currently very popular in folk linguistics could also prove useful in the study of minority languages: besides exploring overt attitudes, the informants would be made to listen to samples of different varieties, after which they would be told to evaluate the samples both in their own words and, e.g., according to the model of the semantic differential. Listening tests and their results might yield deeper knowledge about people’s ethnic loyalty than mere theme interviews.

Despite the discussion above, the results of my study would seem to confirm the view that different phonological variants carry connotations about the group a person would like to belong to, or the one which he would like to be approved by. Further, the results show that even if a minority language speaker could speak the prestigious language well, he would not necessarily borrow elements from it very frequently, unless his ethnic loyalty was weak. In contrast, if a minority language speaker’s ethnic loyalty is clearly weak and he openly admires another language than
his mother tongue, it shows in his speech as frequent use of contact-induced variants.

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Appendix 1

The speech area of Karelian in the Republic of Karelia

White Sea
Finland
Russia
Appendix 2

Map of Viena Karelia
Appendix 3

Questions of the theme interview

CHILDHOOD LANGUAGE
1. What is your mother tongue? What language was spoken at your home when you were a child?
2. What languages were spoken in your school?
3. Was Finnish or Karelian taught in your school? How many lessons a week?
4. For how many years did you go to school?
5. What village did you go to school in?
6. When did you learn Russian?

LANGUAGE OF EDUCATION, WORKING LIFE, AND FAMILY
7. Did you continue your studies after primary school? Where and for how long?
8. What language have you been using in working life?
9. What nationality is your spouse? What language do you speak with him/her?
10. Did you speak Karelian to your children when they were small? What language do you speak with them currently? What language do you speak with your grandchildren?

CURRENT LANGUAGE USE AND USE OF THE KARELIAN LANGUAGE IN DIFFERENT SITUATIONS
11. What is your best language? What language do you use most?
12. What language do you speak most with your neighbours and friends?
13. What language do you speak most with your relatives?
14. What language do you speak in a) the grocery store; b) the post office; c) the bank?
15. Are there topics you only talk about in Karelian or Russian?
16. How well do you think you a) speak; b) write; c) read in Karelian?
17. Do you subscribe to any Karelian or Finnish newspapers or magazines?
18. Do you read Finnish or Karelian literature?
19. Do you watch Karelian shows on TV?
20. Do you listen to Karelian programmes on the radio?
21. Do you have a hobby related to Karelian culture?
22. How do you feel about the fact that Viena Karelian and Olonets are separate standard languages?
23. Do the children of this village still speak Viena Karelian?
24. Do you think the Karelian language should be preserved? Do you believe in its revitalisation?
25. What should be done to prevent the Karelian language from dying?

CONTACTS WITH FINNS AND VIEWS OF HOW FINNISH AFFECTS KARELIAN
26. Do you have relatives, friends, or acquaintances in Finland? How many are they and where do they live?
27. Do your Finnish friends come and visit you? How often?
28. Do you keep in touch with Finns by phone?
29. Have you been in correspondence with Finns?
30. Have you been to Finland yourself? How many times and in which regions?
31. Do you accommodate Finnish tourists?
32. Do you think that Finnish has affected the Viena Karelian you speak? In what ways? How do Finnish and Viena Karelian differ from each other?
Appendix 4

The Karelian index and the criteria for calculating it

Abbreviations explained: Ka = Karelian, Ru= Russian. The figures in the columns show how many points each of the answers give.

<table>
<thead>
<tr>
<th>Question</th>
<th>Ka</th>
<th>Ka + Ru</th>
<th>Ru + Ka</th>
<th>Ru</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What language has the informant spoken in his/her working life?</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2. What language has the informant spoken with his/her spouse?</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>3. What language has the informant spoken with his/her children?</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>4. What language has the informant spoken with his/her grandchildren?</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>5. What language does the informant speak most in his/her everyday life?</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Question</td>
<td>Yes</td>
<td>No</td>
<td>Y</td>
<td>N</td>
</tr>
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<td>-------------------------------------------------------------------------</td>
<td>-----</td>
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<tr>
<td>6. What language does the informant speak with his/her neighbours and friends?</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
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<tr>
<td>7. What language does the informant speak most with his/her relatives?</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
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<tr>
<td>8. Does the informant read Karelian newspapers and magazines?</td>
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<tr>
<td></td>
<td>reads a lot</td>
<td>reads some</td>
<td>does not read</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
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<tr>
<td>9. Does the informant watch Karelian TV shows?</td>
<td></td>
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<tr>
<td></td>
<td>yes</td>
<td>no</td>
<td></td>
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<td></td>
<td>1</td>
<td>0</td>
<td></td>
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<tr>
<td>10. Does the informant listen to Karelian radio programmes?</td>
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<tr>
<td></td>
<td>yes</td>
<td>no</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>1</td>
<td>0</td>
<td></td>
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<tr>
<td>11. Does the informant have a hobby related to Karelian culture?</td>
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<tr>
<td></td>
<td>yes</td>
<td>no</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Question</td>
<td>Yes</td>
<td>Hesitates</td>
<td>No</td>
<td></td>
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<tr>
<td>-------------------------------------------------------------------------</td>
<td>-----</td>
<td>-----------</td>
<td>----</td>
<td></td>
</tr>
<tr>
<td>12. Does the informant believe in the revitalisation of the Karelian language?</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>13. Does the informant or one of his/her family members make efforts to promote the use or study of the Karelian language?</td>
<td></td>
<td>yes 1</td>
<td>no 0</td>
<td></td>
</tr>
</tbody>
</table>

The index was calculated as follows: a personal score was calculated for each informant. The maximum score for all the questions was 29, but since all the informants did not answer all the questions (e.g. the informants who did not have children did not answer questions 3 and 4), the maximum score was lower in some cases. The personal score was multiplied by one hundred and divided by the maximum score. Thus, each informant received a figure between one and one hundred, showing his/her loyalty to the Karelian language.
Appendix 5

The Finnish index and the criteria for calculating it

<p>| | | | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>1. Does the informant have Finnish friends?</td>
<td>yes 1</td>
<td>no 0</td>
<td></td>
</tr>
<tr>
<td>2. Does the informant have Finnish instrumental friends?</td>
<td>yes 1</td>
<td>no 0</td>
<td></td>
</tr>
<tr>
<td>3. Does the informant accommodate Finnish tourists?</td>
<td>often 2</td>
<td>occasionally 1</td>
<td>never 0</td>
</tr>
<tr>
<td>4. Can the informant write in Finnish?</td>
<td>yes 1</td>
<td>no 0</td>
<td></td>
</tr>
<tr>
<td>5. Does the informant read Finnish newspapers and magazines?</td>
<td>reads a lot 2</td>
<td>reads some 1</td>
<td>does not read 0</td>
</tr>
<tr>
<td>6. Does the informant read Finnish books?</td>
<td>reads a lot 2</td>
<td>reads some 1</td>
<td>does not read 0</td>
</tr>
<tr>
<td>7. Does the informant idealize the Finnish language and everything Finnish?</td>
<td>yes 1</td>
<td>no 0</td>
<td></td>
</tr>
</tbody>
</table>
8. Does the informant admit that Finnish has affected his/her spoken language? | yes | no |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

9. Has the informant used Finnish in his/her working life? | yes | no |
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

The index was calculated as follows: a personal score was calculated for each informant. The maximum score for all the questions was 12, but since all the informants did not answer all the questions (e.g. question 8), the maximum score was lower in some cases. The personal score was multiplied by one hundred and divided by the maximum score. Thus, each informant received a figure between one and one hundred, showing his/her loyalty to the Finnish language.
Helge Lødrup

External and Internal Possessors with Body Part Nouns: The Case of Norwegian

Abstract

Norwegian body part nouns can take PP possessors with the preposition på ‘on’ (as in De barberte hodet på ham ‘they shaved head.DEF on him’). Their grammatical properties are discussed, and it is shown that they are restricted in various ways, concerning both structure and distribution. Body part nouns with PP possessors are both different from and similar to the dative external possessors in languages such as French and German. An important difference is that the Norwegian PP possessors can be either external or internal to the body part noun phrase. The internal possessor represents an innovation, a new possessive in Norwegian.

1. Introduction

The topic of this article is a possessor that is used with body part nouns. In (1), the PP på ham ‘on him’ is the possessor of the body part noun hodet ‘head.DEF’.

(1) De barberte hodet på ham
    they shaved head.DEF on him
    ‘They shaved his head.’

This construction also exists in Swedish and Danish. Section 2 gives a short discussion of how this construction has been treated in the literature. It is then shown that the body part noun and the possessor PP can always have an analysis as one constituent, with an additional option for a two constituent analysis when it is governed by a verb (section 3). How the one

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1 For input and discussion, I would like to thank my colleagues Leiv Inge Aa, Kjartan Ottosson, Andreas Sveen, Ellen Hellebostad Toft, Kristian Kristoffersen, Hans-Olav Enger, Jan Terje Faarlund, and Marianne Hobæk Haff. Thanks also to the anonymous reviewers for their valuable comments.

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constituent and two constituent constructions are similar and different are discussed in sections 4 and 5. Section 6 gives a comparison to the dative external construction in French and German, and section 7 discusses the relation to the possessor raising construction. Modern Norwegian is compared to Old Norse and Icelandic in section 8, and it is suggested that the one constituent analysis represents an innovation. Section 9 discusses the internal structure of the one constituent construction, and proposes that the internal PP possessor has become a new possessive in Norwegian. In section 10, the distribution of the PP possessor constructions is compared to the distribution of the body part noun phrases more generally.

2. State of the art

The syntax of possessives in Norwegian (and Scandinavian) has been the subject of interesting research, see Julien (2005) and references there. The possessives of Norwegian are the so-called genitive (realized as -s, or as a separate word), as in (2), the possessive pronoun, as in (3), and the possessive PP with til ‘to’, as in (4). The possessive pronoun in (3) can be prenominal or postnominal; in the latter case it requires the definite form of the noun, just like the possessive PP with til ‘to’.

(2) De barberte Olas hode / Ola sitt hode
    they shaved Ola’s head / Ola POSS head
    ‘They shaved Ola’s head.’

(3) De barberte hans hode / hodet hans
    they shaved his head / head.DEF his
    ‘They shaved his head.’

(4) De barberte hodet til Ola
    they shaved head.DEF to Ola
    ‘They shaved Ola’s head.’

The possessives in (2)–(4) will be referred to as the regular possessives of Norwegian. The possessor PP with på ‘on’ is not considered a possessive in the literature. It differs from other Norwegian possessives in requiring that its head denotes a body part. With other noun heads, a PP with på gets a different interpretation, often locative as in example (5), or partitive, as in example (6) below.
(5) De fjernet insektene på ham
   they removed insects-DEF on him
   ‘They removed the insects on him.’

The Scandinavian literature does not have much to say about noun phrases such as hodet på ham ‘head.REF on him’. Faarlund et al. (1997: 440–42) classify the possessive PP as a partitive. They treat it together with partitive constructions such as (6)–(7), in which the head noun denotes a part of the whole denoted by the prepositional complement. The partitive analysis is also assumed, but not discussed, in Julien (2005:142).

(6) håndtaket på döra
    handle.REF on door.REF
    ‘the handle on the door’

(7) en av deltakerne
    one of participants.REF
    ‘one of the participants’

A very different perspective on the possessor PP can be found in König & Haspelmath (1998), and Haspelmath (1999). Their main concern is the dative external possessor construction in French and German and other European languages. The example (8) is French.

(8) Je lui ai coupé les cheveux (Guéron 1985: 59)
    I him.DAT have cut the hair
    ‘I cut his hair.’

In the dative external possessor construction, a possessor of a body part noun is realized as a dative that is not a part of the same phrase as the noun. Haspelmath (1999) says that there is a small Sprachbund in Northern Europe which differs from French and German "by employing a locative rather than a dative case for their E[xtternal] P[ossessor] construction". This Sprachbund consists of Icelandic, Norwegian, Swedish, Danish, Irish, Finnish, Estonian and Russian. Stolz et al. (2008: 231–38) also see the PP as a possessor in Norwegian, Swedish and Danish.

2 König & Haspelmath (1998) split the locative into a superessive and an adessive. It is not clear, however, that the PP is a locative in Norwegian, even if pā ‘on’ is basically a locative preposition. One argument is that pā ‘on’ is the only preposition that can be
The grammatical properties of the *hodet på ham* ‘head.DEF on him’ construction are discussed in sections 3 and 4. It is argued that it is very different from the partitive construction, while it is both similar to and different from the dative external possessor construction.

3. **Constituency**

   The question of constituency is important to a discussion of external versus internal possessors. Are the body part noun and the possessor PP one constituent? A one constituent analysis is implicit in Faarlund et al. (1997), because their partitive analysis presupposes that the PP is a part of the same noun phrase as the body part noun. On the other hand, the wording in Haspelmath (1999: 124) shows that he takes the PP to be a separate constituent, as in the dative external possessor in French and German.

   It will be shown that the body part noun and the possessor PP can always have an analysis as one constituent in Norwegian. The one constituent construction with a body part noun and a phrase internal possessor PP will be called a BIP (for **Body part noun with Internal Possessor**).

   Consider first the sequence *body part noun – PP* after a preposition, as in example (9). The topmost PP can be topicalized and clefted, as in (10)–(11).

   (9)  *Det flyt en fugl [over hodet på ham]*  
       there flew a bird over head.DEF on him
       ‘A bird flew over his head.’

   (10)  *[Over hodet på ham] flyt det en fugl*  
       over head.DEF on him flew there a bird
       ‘Over his head, a bird flew.’

   (11)  *Det var ikke bare [over hodet på ham] det flyt fugler*  
       it was not only over head.DEF on him there flew birds
       ‘It was not only over his head that birds flew.’

---

*used in this construction. It is used with nouns for all body parts, regardless of whether they are ‘on’ or ‘inside’ the human body (such as the liver). It is interesting to compare to the corresponding construction in Icelandic, which has a choice between *a* 'on' and *i* 'in' (Thráinsson 2007: 94–95; Stolz et al. 2008: 114–16)*.
Examples (10)–(11) show that the topmost PP is a constituent, which in its turn shows that the sequence body part noun – PP is a constituent, a BIP noun phrase.

Another argument for constituency is given by the fact that a BIP noun phrase can be an object of a PP modifier within a larger noun phrase. An example is (12) (which was found on the internet, like other example sentences with the tag auth). If there were no BIP noun phrase in (12), the possessor PP would have to be another modifier in the larger noun phrase, which would not give the right meaning.

(12) da løper du egentlig mellom [hårene] på [nederste delen av bena] på ham]]
legs.DEF on him
‘Then you actually run between the hairs on the lower parts of his legs.’

The constituency of a PP with a BIP object is also clear in example (13), where the larger PP is a modifier in the subject noun phrase. The constituency of this argument cannot be questioned, because it is followed by the finite verb, and Norwegian is a verb second language.

(13) [Sår i [underlivet på den drepte]] viste også at ... (auth)

‘Wounds in the lower abdomen of the murdered person also showed that ...’

The conclusion is that the sequence body part noun – PP is always one constituent (a BIP) when it is the object of a preposition. Splitting the sequence gives unacceptable sentences, or sentences with unrelated meanings, such as (14).

(14) *Over hodet flyd det en fugl på ham

‘A bird flew over his head [intended].’

The question is more difficult when there is a verbal head, as in example (15). The sequence body part noun – PP can be topicalized and clefted, as in (16)–(17).

\[^3\] It is to some extent possible to passivize the possessor, as in (i).
(15) De mätte fjerne leveren på ham
they must remove liver.DEF on him
‘They had to remove his liver.’

(16) Leveren på ham måtte de fjerne
liver.DEF on him must they remove
‘His liver, they had to remove.’

(17) Det var ikke bare leveren på ham de måtte fjerne
it was not only liver.DEF on him they must remove
‘It was not only his liver that they had to remove.’

Topicalization and clefting establish constituency; again there is a BIP.
It is also possible, however, to split the body part noun and the PP, as in sentences such as (18)–(19), in which the body part noun is topicalized and clefted without the PP.

(18) Leveren måtte de fjerne på ham
liver.DEF must they remove on him
‘They had to remove his liver.’

(19) Det var ikke bare leveren de måtte fjerne på ham
it was not only liver.DEF they must remove on him
‘It was not only his liver that they had to remove.’

Examples (18)–(19) do not show conclusively that there must be two constituents. A PP modifier and its selecting noun head can in some cases behave as if they were two constituents (see Telemen et al. 1999: 107, 448–50, on Swedish). This is shown in (20)–(22) (based upon sentences in Telemen et al. 1999: 448). The noun bit ‘bite’ selects a partitive PP with av ‘of’. In example (20), the noun and the PP are parts of the subject noun phrase (whose constituency is shown by the fact that the finite verb

(i) hva er verst, å bli knekt nakken på ... (auth)
what is worst, to be broken neck.DEF on ...

What is worst, to get your neck broken ...

This could be taken as an argument that the sequence body part noun - PP is one constituent, because a nominal’s promotion to subject in a passive is usually assumed to require some form of locality to the verb (see e.g. Bresnan 1982).
follows). In examples (21) and (22), on the other hand, this phrase is discontinuous.

(20) En liten bit av kaken er igjen  
    a small piece of cake.DEF is left  
    ‘A small piece of the cake is left.’

(21) En liten bit er igjen av kaken  
    a small piece is left of cake.DEF  
    ‘A small piece is left of the cake.’

(22) Av kaken er en liten bit igjen  
    of cake.DEF is a small bit left  
    ‘Of the cake, a small bit is left.’

A more decisive argument for the two constituent option is the following: There can be a constituent between the body part noun and the PP, for example a particle phrase, as in (23), or a secondary predicate, as in (24).

(23) (noe) dreide hodet trill rundt på ham  
    something turned head.DEF completely around on him  
    ‘Something turned his head around completely.’

(24) han ville slå nesen flat på NN  
    he would beat nose.DEF flat on NN  
    ‘He wanted to beat NN’s nose flat.’

This kind of interruption is not acceptable with the discontinuous partitive noun phrases mentioned above, as shown in (25)—(26).

(25) *Han tråkket [en bit] flat [av kaken]  
    he stepped a bit flat of cake.DEF

(26) *Han dreide [håndtaket] rundt [på døren]  
    he turned handle.DEF around on door.DEF

It is difficult to avoid the conclusion that the sequence body part noun – PP can be two constituents. It is important, however, that this is only an option
when the body part noun phrase is the object of a verb.\(^4\) (This generalization must be modified to cover sentences such as (39)–(40) below.) The term BEP will be used of the two constituent construction (for **Body part noun with External Possessor**).

It will be shown below that the BIP and BEP constructions are both similar (section 4) and different (section 5) concerning their grammatical properties.

### 4. Structure and distribution of the BIP and the BEP constructions

Some restrictions on the internal structure and distribution of the BIP and the BEP constructions are discussed in this section. The discussion also shows why the partitive analysis is not tenable.

#### 4.1 Modification

Modifiers other than the possessor PP are not common with the body part noun in the BIP/BEP constructions. Many body part nouns denote something that we have only one of (e.g. *hode* ‘head’), reducing the need for modification. However, some nouns allow restrictive modification, as in example (27).

\[(27) \quad \text{De vasket den skadede fingeren p\å ham} \]

they washed the hurt finger.DEF on him

‘They washed his hurt finger.’

One restriction on modification is that non-restrictive modifiers are not acceptable, as shown in (28). This is also the case in the dative external

\[^{4}\text{It is interesting that modern Icelandic has a comparable difference concerning the distribution of the (marginal) possessive dative. Thráinsson (2007:95-96) says that this dative is only possible with a noun that is governed by a preposition, contrasting examples such as (i) and (ii).}

\[(i) \quad i \text{ hjarta þér} \]

\quad in heart you.DAT

\quad ‘in your heart’

\[(ii)^{*} \text{Hjarta þér er stórt} \]

\quad heart you.DAT is big

\quad ‘Your heart is big.’\]

(28) *De vasket det skitne hodet på ham
   they washed the dirty head.DEF on him

The BIP/BEP constructions differ from partitives in this respect. Partitives with non-restrictive modifiers parallel to (28) are perfect, as shown in (29).

(29) De pusset det skitne håndtaket på dora
    they polished the dirty handle.DEF on door.DEF
    ‘They polished the dirty handle on the door.’

4.2 Distributivity

The body part noun is usually singular, with a distributive interpretation when the possessor is plural, as in example (30). This is, as a main rule, also the case in the dative external possessor construction (Vergnaud & Zubizarreta 1992: 603; König & Haspelmath 1998: 581–83).

(30) det tømmes kokende vann over hodet på dem (auth)
    there pour.PASS boiling water on head.DEF on them
    ‘Boiling water is poured on their heads.’

A plural body part noun can be used in some cases, however. In example (31), the body part possessors seem to be perceived not as a group of individuals with one head each, but rather as a ‘mass’ with many heads.5

(31) (de) har avfyrt varselskudd rett over hodene på demonstrantene (auth)
    they have fired warning shots right over heads.DEF on demonstrators.DEF
    ‘They have fired shots of warning above the heads of the demonstrators.’

---

5 There seems to be variation between speakers, possibly due to influence from English. Web searches give some sentences with the plural that are completely unacceptable to me and other linguists I have consulted. An example is (i).

(i) jenter som stikker tunga i munnen på andre sine typer (auth)
    girls who put tongue.DEF in mouths.DEF of other POSS boy.friends
    ‘girls who put their tongues in the mouths of other girls' boyfriends’
Partitives with a plural ‘whole’ can be used with the ‘part’ in the singular or the plural, as in (32). Even so, there is a difference between the BIP/BEP constructions and partitives, in that the singular is often the only option with the BIP/BEP constructions, as in example (33). This is not the case with partitives.

\[ (32) \text{Det kom røyk ut av pipen / pipene på husene} \]
\[
\quad \text{there came smoke out of chimney / chimneys on houses.DEF}
\]
\[
\quad \text{‘Smoke came out of the chimneys on the houses.’}
\]

\[ (33) \text{Det kom røyk ut av munnene / *munnene på barna} \]
\[
\quad \text{there came smoke out of mouth.DEF / mouths.DEF on kids.DEF}
\]
\[
\quad \text{‘Smoke came out of the mouths of the kids.’}
\]

### 4.3 Subject function

An important difference between partitives and the BIP/BEP constructions is that partitives have the same distribution as other noun phrases, while the BIP/BEP constructions do not. Especially striking is the fact that BIP noun phrases are not usually subjects, as shown in examples (34)—(35).

\[ (34) \text{*Hendene på henne gled over ryggen hans} \]
\[
\quad \text{hands.DEF on her slid over back.DEF his}
\]
\[
\quad \text{‘Her hands slid over his back [intended].’}
\]

\[ (35) \text{*Hodet på ham kom borti bordet (da han falt)} \]
\[
\quad \text{head.DEF on him came near table.DEF (when he fell)}
\]
\[
\quad \text{‘His head touched the table (when he fell) [intended].’}
\]

Examples (34)—(35) would be perfect with one of the regular possessives that were mentioned in section 2. The phrases that are subjects in (34)—(35) could be objects in well formed sentences. Corresponding sentences with uncontroversial partitives would also be perfect, as shown in (36).

\[ (36) \text{Håndtaket på døren kom borti bordet (da Ola sparket den inn)} \]
\[
\quad \text{handle.DEF on door.DEF came near table.DEF (when Ola kicked it in)}
\]
\[
\quad \text{‘The handle on the door touched the table (when Ola kicked it in).’}
\]

The BEP construction is like the BIP construction in that it does not usually involve the subject position. The unacceptable examples with BIP noun
phrases are still unacceptable when the PP is made a separate constituent, as shown in (37).

(37) *Hendene gled over ryggen hans pâ henne
def. hands. on back.DEF his on her
‘Her hands slid over his back [intended].’

Some verbs are more liberal concerning BIP/BEP subjects. A copula verb can in some cases take a BIP subject, as in example (38). This must be related to the fact that copula verbs do not take underlying subjects.

(38) Hodet pâ prinsessa mi var pâ vei ned (auth)
def. head. on princess.DEF my was on way down
‘The head of my princess [i.e. unborn baby girl] was on its way down.’

Some sentences with unaccusative and passive verbs allow—to varying degrees—the BEP construction with the body part noun as a subject; examples are (39)—(40). This must be related to the fact that the subject is an underlying object with these verbs.

(39) (etterpå) har kjeften knapt stâtt stille pâ ham (auth)
def. afterwards has jaw.DEF hardly stood still on him
‘After that, his jaw has hardly stood still.’

(40) Neglene må klippes pâ ham
def. nails.DEF must cut.PASS on him
‘His nails must be cut.’

4.4 Physical contexts

Another important restriction on the distribution of the BIP/BEP constructions is that they cannot be the object of any verb or preposition. The main rule is that the BIP/BEP constructions can only be used in a ‘physical context’. This concept was introduced in Lødrup (1999) to account for the distribution of simple reflexives. A physical context was understood as one in which the action is on or in relation to a person’s physical body, or something is located relative to a person’s physical body (modified from Bresnan 2001: 258). In practice, a physical context means the object position of a verb that denotes an action on or in relation to the
body, or of a locational preposition. It is important that ‘being in a physical context’ is not the same as ‘being affected by the verbal action’, the latter is discussed in section 5. (For example, the body part noun in example (13) above is in a physical context, but it is not affected by the verbal action.)

Occurring in a physical context is usually a requirement on the BIP construction and the body part noun of the BEP construction. This is the reason (41)—(43) are not acceptable.\(^6\) (Sentences such as (38)—(40) above again require appeal to ‘underlying’ structure.\(^7\)

\(\begin{align*}
\text{(41) *Legene} & \quad \text{diskuterte} \quad \text{magen} \quad \text{på} \quad \text{dem} \\
& \quad \text{doctors.DEF} \quad \text{discussed} \quad \text{stomach.DEF} \quad \text{on} \quad \text{them}
\end{align*}\)

\(\begin{align*}
\text{(42) *Legene} & \quad \text{tenkte} \quad \text{på} \quad \text{magen} \quad \text{på} \quad \text{dem} \\
& \quad \text{doctors.DEF} \quad \text{thought} \quad \text{of} \quad \text{stomach.DEF} \quad \text{on} \quad \text{them}
\end{align*}\)

\(^6\) In some cases, the look of a body part seems to be conceived as revealing a deeper property, indicative of the inner qualities of a person. A body part noun is then more acceptable in a non-physical context. An example is (i).

(i) \textit{Jeg kan ikke utstå øynene \textit{på} ham}

\begin{quote}
I can not stand eyes.DEF on him
\end{quote}

‘I cannot stand his eyes.’

An exception from the physical context requirement is the complement position of an identity sentence, as in (ii).

(ii) \textit{det er hodet \textit{på} valpen} (auth)

\begin{quote}
that is head.DEF on puppy.DEF
\end{quote}

‘That is the puppy's head.’

Sentences with the verb \textit{se} 'see' deserve a special mention. They allow the BIP/BEP constructions, contrary to expectation, as in (iii).

(iii) \textit{vi så \textit{rompa} \textit{på} han} (auth)

\begin{quote}
we saw ass.DEF on him
\end{quote}

‘We saw his ass.’

However, it is a general phenomenon that languages can treat seeing a part of a person as something that affects that person in the same way as a physical action (Wierzbicka 1979: 333-36; König & Haspelmath 1998: 568).

\(^7\) With unbounded dependencies, the requirement for a physical context must always be satisfied in 'underlying' structure. For example, it is possible to cleft a BIP noun phrase, as in (i). The object position of \textit{fjerne} 'remove' defines the physical context that allows the BIP noun phrase \textit{leveren \textit{på} ham} 'liver.DEF on him'.

(i) \textit{Det var ikke bare \textit{leveren} \textit{på} ham \textit{de} \textit{måtte} \textit{fjerne}}

\begin{quote}
it was not only liver.DEF on him they must remove
\end{quote}

‘It was not only his liver they had to remove.’
(43) *Legene ringte angående magen på dem
doctors.DEF called concerning stomach.DEF on them

Sentences (41)—(43) would be acceptable with regular possessives. Corresponding sentences with partitives are also acceptable. (For example, håndtaket på dora ‘handle.DEF on door.DEF’ can replace magen på dem ‘stomach.DEF on them’ in [41]—[43].)

4.5 Restrictions on the noun head

The head noun in the BIP/BEP construction must denote a part of a body.\(^8\) The body part cannot be cut off or separated from the body as a whole. There is no such restriction with the regular possessives. Consider the difference between example (44), with the BIP construction, and (45), with the possessive pronoun,

(44) Jeg sprutet insektmiddel i håret på ham
I sprayed insecticide in hair.DEF on him
‘I sprayed insecticide in his hair.’

(45) Jeg sprutet insektmiddel i håret hans
I sprayed insecticide in hair.DEF his
‘I sprayed insecticide in his hair.’

Example (44), with the BIP construction, only has the interpretation that the hair is ‘his’ hair on ‘his’ head. Example (45), with the possessive pronoun, also has this interpretation, but in addition, the hair could be ‘his’ toupee in a drawer, or it could be ‘his’ hair that has been cut off and is lying on the floor in the barbershop.

Body part nouns are often used with transferred or metaphorical meanings. In some cases, the BIP/BEP constructions can, or must, be used. Consider example (46), with a BIP construction.

---

\(^8\) Body part nouns are known to behave differently when they have generic reference, for example, they don't require a realized possessor. It is therefore interesting that (some) body part nouns can take a PP with a different preposition when they are used generically, as in tennene hos skolebarn 'teeth.DEF at school.children' (Faarlund et al. 1997: 441).
(46) *Det gikk over hodet på meg*  
   it went over head.DEF on me
   ‘It went over my head.’

Example (46) can have a literal interpretation, meaning e.g. that a shot went over ‘my’ head. However, it can also mean that something happened without ‘me’ understanding or being involved. This interpretation is not possible with a regular possessive.

Any noun that is used to refer to a part of a body can be used in the BIP/BEP constructions. There are many more or less conventionalized metaphors for body parts, e.g. *brodboks* ‘bread box’ for the mouth, or *gluggere* ‘portholes’ for the eyes. They can occur in the BIP/BEP constructions when used of a body part, as in example (47), even if they cannot in their literal use.

(47) *Kan noen få opp gluggene på Roger?* (auth)  
    can anybody get up portholes on Roger
    ‘Can anybody get Roger’s eyes open?’

On the other hand, a body part noun cannot take the BIP/BEP construction when it is used to refer to something that is not a part of a body, as in *hodet på skruen* ‘head.DEF on screw.DEF’. Even if there is a PP with *på* ‘on’, this PP seems to be a regular partitive, showing none of the restrictions in distribution that were shown for the BPP. For example, it can be a subject, and it can occur in non-physical contexts, as shown in examples (48)–(51).

(48) *Hodet på skruen sprakk*  
    head.DEF on screw.DEF cracked
    ‘The head of the screw cracked.’

(49) *De diskuterte hodet på skruen*  
    they discussed head.DEF on screw.DEF
    ‘They discussed the head of the screw.’

(50) *De tenkte på hodet på skruen*  
    they thought of head.DEF on screw.DEF
    ‘They thought of the head of the screw.’
Even the parts of a doll seem to be treated differently from the parts of a human. For example, the phrase *hodet på dukken* ‘head.DEF of doll.DEF’ can replace *hodet på skruen* ‘head.DEF of screw’ in (48)—(51).

Nouns denoting garments can also occur in the BIP/BEP construction when they denote garments that are worn by the possessor, as in (52).

(52) *noen stapp ting ned i buksa på ham* (auth)
    some put things down in pants.DEF on him
    ‘Somebody put things down his pants.’

This extension of the group of body part nouns is well known from the literature on body part nouns and possession (e.g. Haspelmath 1999: 113).

Nouns that do not refer to a part of a body or a garment cannot be used in the BIP/BEP construction, as seen in (53)—(54).\(^9\)

(53) *De vasket bilen på ham*
    they washed car.DEF on him
    ‘They washed his car [intended].’

(54) *Hun stakk hånden i vesken på den gamle mannen*
    she put hand.DEF in bag.DEF on the old man.DEF
    ‘She put her hand in the old man’s bag [intended].’

---

\(^9\) Nouns that denote senses, faculties, etc. do not usually occur in the BIP/BEP constructions, even if they could be seen as abstract body part nouns. An example is (i).

(i) *Sykdommen ødela retningssansen på Ola*
    illness.DEF hurt sense.of.direction.DEF on Ola
    ‘The illness hurt Ola’s sense of direction [intended].’

There is a possible connection to the fact that their abstractness would make it difficult for them to occur in physical contexts (other than with metaphorical use of the ‘physical’ verbs and prepositions). Faarlund et al. (1997:442) say that these nouns are used in partitives, noting that they usually take the prepositions *hos* ‘at’ or *til* ‘to’.
5. A difference between the BIP and the BEP constructions

The discussion in section 4 showed some similarities between the BIP and the BEP constructions. An important difference will now be considered. It was shown in section 3 that the BEP construction only occurs with transitive verbs, as in example (15), reproduced here as (55).

(55) De måtte fjærne leveren på ham
    they must remove liver.DEF on him
    ‘They had to remove his liver.’

Even if the verb fjærne ‘remove’ is a two-place verb, it occurs with three arguments in the BEP construction. The BEP construction adds an argument that is not a part of the basic valency of the verb. In this respect, the BEP construction is like the dative external possessor construction. The possessor PP will be assumed to be an indirect object, again paralleling the dative external possessor construction. How this valency extension should be accounted for in the dative external possessor construction has been discussed in the literature (e.g. König & Haspelmath 1998; Landau 1999; Guéron 2006). Even if the exact mechanism is not important for this article, it will be assumed that the BEP construction involves a lexical rule, as illustrated in (56) for the verb fjærne ‘remove’.

(56) fjærne <SUBJECT-agent OBJECT-theme>
    => (lexical rule)
    fjærne <SUBJECT-agent OBJECT-theme INDIRECT OBJECT-benefactive>

It was shown in section 3 that a sentence such as (55) above also has an analysis as a BIP construction. The option of analyzing the relevant sentences as BEP or BIP constructions has consequences for the assignment of semantic roles. With the BEP analysis, the verb has an extended valency, with one extra argument, which means that there is one extra role to assign. With the BIP analysis, on the other hand, the PP is a modifier of the noun, and the BIP noun phrase gets one role as a whole.

Again, the BEP is similar to the dative external possessor construction. In the literature on the dative external possessor construction, the dative possessor is usually assumed to have a semantic relation to the verb (see e.g. Bally 1926/1996; Guéron 1985; König & Haspelmath 1998; Landau 1999; König 2001; Lee-Schoenfeld 2006). In the words of König
(2001: 972), the dative external possessor construction implies "that the possessor is strongly affected by the action or event denoted by the rest of the sentence". The standard way to implement this intuition has been to assume that the dative has a semantic role, which has been called an affectee, or a benefactive/malefactive.

The BIP construction is predicted to be different in this respect. When the PP is a modifier of the body part noun, it cannot have any direct semantic relation to the verb. For example, in example (9) above, reproduced as (57), there is no implication that the presence of the bird affects ‘him’ in any way. There is not even any implication that ‘he’ is aware of it.

(57) *Det flyt en fugl [over hodet på ham]*
    there flew a bird over head.DEF on him
    ‘A bird flew over his head.’

An interesting contrast is given by the corresponding German sentence (58). This sentence has the dative external possessor construction, and implies that ‘he’ is in some way strongly affected by the presence of the bird.\(^\text{10}\)

(58) *Ihm flog schon wieder ein Vogel über den Kopf*
    him.DAT flew already again a bird over the head
    ‘Again, a bird flew over his head.’

Another sentence that shows clearly that the possessor in the BIP construction has no semantic relation to the verb is example (13) above, reproduced as (59). In this sentence, the BIP noun phrase is embedded in a subject noun phrase. The possessor denotes a dead person, which in itself excludes the kind of affectedness effect that is a part of the dative external possessor construction.

(59) *Sår i underlivet på den drepte viste også at ...* (auth)
    wounds in lower.abdomen.DEF on the killed showed also that ...
    ‘Wounds in the lower abdomen of the murdered person also showed that ...’

\(^\text{10}\) Sentence (58) was constructed by one of the reviewers, who suggested that it might sound plausible in a context like Daphne du Maurier's *The Birds* (about a bird attack).
6. Comparing Norwegian to French and German

From the discussion given above, it is clear that the PP possessor constructions in Norwegian are both similar to and different from the dative external possessor construction in languages such as French and German.

Norwegian is different from French and German in that Norwegian has the BIP construction in which the possessor and the body part noun are one constituent. There can be no doubt that the possessor and the body part noun are two constituents in the dative external possessor construction in French and German. This is also the case when French uses the ‘dative equivalent’ PP with à in sentences such as (60).

(60) J’ai coupé les cheveux à Pierre (Guéron 1985: 59)
    I have cut the hair on Pierre
    ‘I have cut Pierre’s hair.’

Kayne (1975: 143–44) argues that the PP is not a part of the phrase headed by the body part noun, using clefting and pronominalization as arguments. This view seems to be accepted in the literature (see e.g. Vergnaud & Zubizarreta 1992: 618).

Norwegian is similar to French and German in that Norwegian has the BEP construction with an external possessor. This construction can be seen as an equivalent of the dative external possessor construction, as originally proposed by König & Haspelmath (1998) and Haspelmath (1999). The constructions are not identical, however. An important difference is that the dative external possessor construction is more general than the BEP construction. The BEP construction is limited to transitive verbs, which realize the body part noun as an object (see section 3). The dative external possessor construction, on the other hand, is not restricted by the valency of the verb. For example, the verb can be intransitive, as in the French (61).

(61) Je lui ai marché sur les pieds
    I him.DATIVE have stepped on the feet
    ‘I stepped on his feet.’

A Norwegian translation of (61) can render the dative in as a PP, but this PP would be an internal possessor in a BIP noun phrase, as was shown to
be the general case when the body part noun is the object of a preposition. (A different way of rendering (61) is discussed in section 7.)

7. A comparison with possessor raising

Another construction with an external possessor is possessor raising,\(^\text{11}\) which realizes the possessor as a direct object, and the body part noun as the object of a locative preposition. An example is (62).

(62) *Hun slo ham i hodet*
    she hit him in head.DEF
    ‘She hit him in the head.’

A difference between Norwegian and other languages whose possessor raising construction has been described is that Norwegian allows possessor raising not only with transitive verbs. Unergative verbs can also be used in this construction, as shown in Lødrup (2009b), who argues that their object is a non-thematic direct object. An example is (63).

(63) *Jeg tråkket ham på fotene*
    I stepped him on feet.DEF
    ‘I stepped on his feet.’

Example (63) might look like an instance of the dative external possessor construction. However, Lødrup (2009b) argues that it is an instance of possessor raising. Norwegian does not have any direct equivalent of the dative external possessor construction. This fact is clear when examples (64) and (65) are compared. The French example (61) above, reproduced below as (64), has a body part noun object and a pronominal dative possessor. Its Norwegian equivalent, example (65), is completely unacceptable. (Example (65) is a word-by-word translation, in which the French pronoun is rendered by a Norwegian pronoun.)

(64) *Je lui ai coupé les cheveux* (Guéron 1985: 59)
    I him.DAT have cut the hair
    ‘I cut his hair.’

\(^{11}\) The term *possessor raising* is sometimes used of the dative external possessor construction; this is avoided here.
(65) *Jeg har klippet ham hår.
    I have cut him hair.DEF
    ‘I have cut his hair [intended].’

The Norwegian (65) is not well formed as a dative external possessor construction (which Norwegian does not have), and not as a possessor raising construction (which can only realize the possessor as a direct object).

In the absence of a dative external possessor construction, it is interesting that the two constructions involving external possessors in Norwegian in a sense supplement each other. The BEP construction is only possible when the object realizes the body part noun. This means that the BEP construction is grammatical only when possessor raising is not (in sentences such as (65)).

On the other hand, there is no guarantee that an external possessor is always an option in Norwegian. If neither the possessor nor the body part noun is the object, as in (66), an external possessor is not possible. However, the BIP construction is still an option (beside the regular possessives).

(66) Jeg sprutet insektmiddel i hår på ham.
    I sprayed insecticide in hair.DEF on him
    ‘I sprayed insecticide in his hair.’

8. Diachronic issues and a comparison to Icelandic

There seems to have been a development in Norwegian from an external to an internal possessor. König & Haspelmath (1998: 587) hint that this development might have taken place in Icelandic. Old Norse used a possessive dative with inalienable possession, see Faarlund (2004: 170–71). One of his examples is (67).

(67) ok fell fyrir foetr þorkatli
    and fell before feet.ACC Thorkel.DAT
    ‘And fell before Thorkel’s feet.’

12 The end result in Icelandic is not identical to the Norwegian construction, however. For example, the choice between ‘on’ and ‘in’ mentioned in footnote 2 (Thráinsson 2007: 94–95; Stolz et al. 2008: 114–16) makes it look more like a regular locative.
The possessive dative was not a part of the same phrase as the possessed noun (Faarlund 2004: 111). The dative could precede the possessed noun, or follow it (Skard 1951: 13).

A PP with the preposition á ‘on’ could be used as an alternative to the dative. This preposition corresponds to Modern Norwegian på ‘on’. Skard (1951) gives the Icelandic example (68) (Skard 1951: 3), and the Norwegian (69) (Skard 1951: 56), both from the 14. century.

(68) stóð þá spjóttit út um herðarnar á þóri
stood then spear.DEF out of shoulders.DEF on Thor
‘Then, the spear stood out of Thor’s shoulders.’

(69) þu skalt ei vita fyr en ek hifuir uppi iliannar a þer
you shall not know before I raise up heels on you
‘I will throw you upside down before you notice.’

The historical development of this kind of sentence has not been investigated. An investigation would be problematic in several ways, partly because of the nature of the written sources, and partly because it would be difficult to decide questions of syntactic structure on the basis of written texts. It seems to be reasonable, however, to assume that the possessor PP in sentences such as (68)—(69) was originally not a part of the body part noun phrase, but rather an external possessor (like the French PP in sentences such as (60) above). The Modern Norwegian BIP construction must be the result of a reanalysis of the constituency in sentences such as (68)—(69). The Modern Norwegian BEP construction can then be seen as a relict of the original construction.

The Icelandic body part noun construction gives an interesting parallel to the Norwegian one, in that Icelandic also gives evidence for both a one constituent and a two constituent analysis. It is clear that the body part noun and the possessor PP can be one constituent in Icelandic. They can occur together in front of the finite verb, as in (70), which gives conclusive evidence for constituency in a verb second language.

(70) Hálssinn á honum var gramur (Thráinnson 2007: 96)
neck.DEF on him was slim
‘His neck was slim.’
At the same time, the possessor PP can precede or follow a body part noun object, as shown in (71)–(72) (see Stolz 2008: 136–39). A PP with a light pronoun often precedes it (Kjartan Ottosson pc), making a one constituent analysis impossible.

(71) *Han muddaði á henni fæturna* (König & Haspelmath 1998: 559)
    he massaged on her feet.DEF
    ‘He massaged her feet.’

(72) *altarboy .. muddaði fæturna á Goddess Lillith* (auth)
    altarboy massaged feet.DEF on Goddess Lillith
    ‘Altarboy massaged Goddess Lillith’s feet.’

These facts indicate that Icelandic, like Norwegian, has both a one constituent and a two constituent analysis of the body part noun and the possessor PP.

9. The internal structure of the BIP construction

Section 8 proposed that the BIP construction is the result of a reanalysis of the sequence body part noun – PP as one constituent. This change must have brought with it a new syntactic relation between the possessor PP and the body part noun. However, it is not clear what syntactic relation this could be.

One possibility is that the possessor PP has entered the system of possessives. The regular possessives of Norwegian that were mentioned in section 2 are the genitive, the possessive pronoun, and the possessive PP with til ‘to’. These possessives cannot co-occur with each other, or with the possessor PP in the BIP construction, as shown in (73)–(74).

(73) *hodet hans til ham*
    head.DEF his to him

(74) *hodet hans pā ham*
    head.DEF his on him

One argument that the possessor PP in the BIP construction should be considered a possessive concerns the syntax of indefinite body part nouns. Indefinite body part nouns can occur with a possessor PP, as shown in (75).
(75) De måtte operere en finger på henne
they must operate a finger on her
‘They had to operate one of her fingers.’

However, a sequence of an indefinite body part noun and a possessor PP seems to resist an analysis as a BIP noun phrase. Topicalization and clefting, as in examples (76)–(77), do not sound good.

(76) ??En finger på henne måtte de operere
    a finger on her must they operate

(77) ??Det var ikke bare en finger på henne de måtte operere
    it was not only a finger on her they must operate

The sequence body part noun – PP is always a BIP noun phrase when governed by a preposition. In this position, an indefinite body part noun is unacceptable, as shown in examples (78)–(79).

(78) Det var infeksjon i fingrene på henne / ??en finger på henne
    there was infection in fingers.DEF on her / a finger on her
    ‘There was an infection in her fingers / one of her fingers.’

(79) Diamantene i ørene på henne / ??et øre på henne funklet
    diamonds.DEF in ears.DEF on her / an ear on her sparkled
    ‘The diamonds in her ears / one of her ears were sparkling.’

Examples (76)–(77) and (78)–(79) show that the BIP construction requires the definite form of the body part noun. Requiring the definite form of the noun head is a property of the two regular possessives that follow the noun in Norwegian: the postponed possessive pronoun and the possessive PP with til ‘to’ (see examples (3) and (4) above). The fact that this is also a requirement in the BIP construction gives an argument that the phrase internal possessor PP has entered the system of possessives.
10. More about the distribution of the body part noun phrases

Section 4 showed that there are heavy restrictions on the structure and distribution of the body part noun phrase in the BIP/BEP-constructions: it cannot usually be a subject, it only appears in physical contexts, it cannot take non-restrictive modification, and it is usually singular. There are no such restrictions when a body part noun takes a regular possessive. An important fact is that these restrictions are more general. This section shows that they also hold of other constructions in which the possessor of the body part noun is not realized as a regular possessive. They also hold of simple reflexives, to the extent that they are applicable.

10.1 Possessor raising

Possessor raising is another construction where body part noun phrases are used in physical contexts. In this construction, the body part noun is always realized as the object of a locative preposition, as in example (80).

(80) Hun slo ham i hodet
    she hit him in head.DEF
    ‘She hit him in the head.’

When body part noun denotes something that we have only one, it is singular, as shown in example (81). Furthermore, it does not usually take non-restrictive modification.\(^\text{13}\) The adjective in example (82) can hardly get a non-restrictive interpretation, and the sentence gives the impression that ‘he’ has more than one head.

(81) Hun slo dem i hodet / *hodene
    she hit them in head.DEF / heads.DEF
    ‘She hit them in the head / heads.’

\(^{13}\) Examples can be found in which body part noun take a non-restrictive modifier, as in (i). However, this sounds very non-colloquial.

(i) Jeg kysset ham ømt på den fyldige munnen (auth)
    I kissed him tenderly on the full mouth.DEF
    ‘I kissed him tenderly on his full mouth.’
10.2 Implicit possessives

Norwegian has another construction which could be taken to involve an external possessor with a body part noun. In examples (83)–(84), there is no realized possessive within the noun phrase.

(83) **Han tørket pannen**
    he dried forehead.DEF
    ‘He dried his forehead.’

(84) **Han smurte solkrem i pannen**
    he applied sun.lotion to forehead.DEF
    ‘He applied sun lotion to his forehead.’

The definite noun *pannen* ‘forehead.DEF’ in (83)–(84) could refer to a forehead that has been mentioned in the preceding discourse, say Anna’s forehead. This interpretation is irrelevant in this context. The interesting option is the ‘implicit possessive interpretation’, in which the forehead is understood as ‘his’ forehead. With this interpretation, (83) and (84) could be the first sentence of a text (if there was a subject known to the reader, e.g. the name of some celebrity). This means that Norwegian does not always have to realize a possessive in a noun phrase when the possessor is the closest subject (Lødrup 1999, 2007, 2009a). This option exists with body part nouns and nouns referring to objects in "the personal domain" (Bally 1926/1996), e.g. vehicles, furniture, tools, personal items, etc.

These noun phrases are restricted to the physical contexts.\(^{14}\) Outside physical contexts, a realized possessive must be used, for example in sentences such as (85)–(86). If the possessives in (85)–(86) were removed,

\(^{14}\) König & Haskemath (1997: 575–76) say that implicit possessives in Norwegian are possible with verbs of "direct bodily movements" and "routine actions" [my translations HL]. This generalization is too restrictive, as can be seen in (i), which does not require any previous mention of a bathtub.

(i) **Han fylte øl i badekaret**
    he filled beer in bathtub.DEF
    ‘He filled beer in his bathtub.’
they could not get the implicit possessive interpretation. (They would then show the regular use of definiteness, in which the forehead must have been mentioned in the preceding discourse.)

(85) Han beskrev pannen sin
    he described forehead.DEF REFL-POSS
    ‘He described his forehead.’

(86) Han tenkte på pannen sin
    he thought of forehead.DEF REFL-POSS
    ‘He thought of his forehead.’

The noun in the implicit possessive construction is always singular, as shown in example (87). Furthermore, it does not take non-restrictive modification; (88) cannot have the implicit possessive interpretation.

(87) De hadde tatoveringer på magen / *magene
    they had tattoos on stomach.DEF / stomachs.DEF
    ‘They had tattoos on their stomachs.’

(88) Han vasket den lubne fingeren
    he washed the fat finger.DEF
    ‘He washed his fat finger.’

10.3 Reflexive pronouns

A traditional idea is that there is a connection between body part nouns and reflexive pronouns (e.g. Faltz 1985: 31–34; Guéron 1985; Koenig 1999; Safir 2004: 195–98). Norwegian has the simple reflexive seg and the complex reflexive seg selv. The interesting form in the present context is the simple reflexive seg. When the simple reflexive is bound by the closest subject, it shows a distribution parallel to that of body part nouns (Lødrup 1999, 2007). Simple reflexives then occur in physical contexts, as in examples (89)–(90), while non-physical contexts require the complex reflexive, as in (91)–(92).

(89) Han tørket seg
    he dried REFL
    ‘He dried himself.’
(90)  Han smurte solkrem  på seg
    he    applied suntan.lotion on REFL
    ‘He applied suntan lotion on himself.’

(91)  Han beskrev seg selv / *seg
    he    described REFL SELF / REFL
    ‘He described himself.’

(92)  Han tenkte på seg selv / *seg
    he    thought of REFL SELF / REFL
    ‘He thought of himself.’

Reflexive pronouns do not distinguish number in Norwegian, and they cannot be modified, so these properties cannot be tested. Even so, the physical context requirement gives a striking parallel to the constructions with body part nouns. Lødrup (1999, 2007) proposes that the simple reflexive in Norwegian is a kind of body part noun. This gives a basis for their shared properties. (The complex reflexive is seen as an elsewhere form.)

The restrictions on the BIP/BEP-constructions were shown to be more general restrictions on body part noun constructions. The natural questions to be asked are then why these restrictions exist, and how they should be implemented in syntax. These questions will have to be left to future research.15

11. Conclusion

The Norwegian PP possessor is both similar and different from the dative external possessor in languages such as French and German. The PP possessor can be external to the body part noun phrase. It then shares important properties with the dative external possessor, even if the Norwegian construction is more limited in only occurring with transitive

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15 Lødrup (2009a) discusses the fact that nouns with implicit possessives share grammatical properties with nouns with simple reflexives. The account given is based upon the assumption that a possessor binds a body part noun in the same way as an antecedent binds a reflexive. It would be difficult to extend this account to the facts discussed here, because (at least) the internal possessor in the BIP construction does not seem to have a binding relation the body part noun.
verbs. However, the PP possessor can also be an internal possessor, a part of the body part noun phrase. It can then be analyzed as a possessive. This option seems to represent an innovation in Norwegian.

It was also shown that the constructions with a body part noun and a PP possessor are restricted in various ways, concerning both structure and distribution. These restrictions were shown to be more general restrictions on the structure and distribution of body part noun phrases.

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Abstract

The present study aims to investigate the relationship between phonetic forms and meaning components of onomatopoeic words in Thai. Data were elicited from two Thai monolingual dictionaries – representing formal documents – and 40 Japanese-to-Thai translated comic books – as representatives of informal documents. In addition, a sound-to-word transcription experiment with 100 Thai university students was done in order to test the findings from the written documents from the perspective of language users. It was found that there is – to some extent – the association between some particular class of initial consonants and some particular meaning components in Thai onomatopoeic words is predictable. In addition, from the perspective of language users, it was found that the saliency of sound components of some particular natural sounds – loudness, clearness, and the order of occurrence of sounds – is an important factor for the formation of onomatopoeic words.

1. Introduction

1.1 Symbols vs. Icons

Language is a symbolic system used for communicative purposes. Accordingly, it consists of two main components: forms and meanings (Ogden & Richards 1923; de Saussure 1959). In relation to the relationship between forms and meanings, it is known that majorities of linguistic forms in human language are convention of people in particular communities.

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Each particular form does not explicitly show its relationship to the meaning or referent. In other words, the word such as ‘tree’ or its phonetic form \( [\text{t\textsuperscript{h}ri}] \) has nothing in relation to the meaning \([\text{TREE}]\) or the referent \(\text{🌳}\) in particular. Otherwise, different languages should use the same form to refer to the meaning \([\text{TREE}]\) (but it is ‘ต้นไม้’ \([\text{t\textsuperscript{h}nm\text{áj}}]\) in Thai and \([\text{k\textsuperscript{h}i}]\) in Japanese).

However, there is some small group of words in languages which does not follow such arbitrary property of language. The relationship between forms and meanings of this group of words can be, to some extent, explained. They are known as ‘icon’. The term ‘icon’ is usually used in contrast with the term ‘symbol’ to describe linguistic forms which have explicit/transparent motivation to their meanings or referents (Chang 1993). An ‘icon’ is a non-arbitrary intentional sign – which means that the sign/form contains an intrinsic resemblance to its referent. Examples of icon which are phonetically motivated by natural sounds in English are birds’ names like ‘kookaburra’ and ‘cuckoo’.

1.2 Degree of motivation in icons

It should be noted that the studies of ‘icon’ in languages are less in number comparing to those of ‘symbol’. This is because ‘icon’ is thought as exception in which relationship between forms and meanings can be explicitly observed. However, comprehensive studies about this group of words suggested that the relationship between forms and meanings can be classified into four different types according to the degree of motivation (Hinton, Nichols & Ohala 1994): Corporeal, Imitative, Synesthetic, and Conventional as adapted by Rungrojsuwan (2007a) in Figure 1.
It should be noted that Hinton et al. (1994) refers to this particular phenomenon as ‘sound symbolism’. From Figure 1, it can be seen that on the one hand, types of sound symbolism on the left side of the figure illustrate higher degree of universality, unconventional, oral (used in spoken language) because they show direct relationship between forms and meanings/referents. Examples of Corporeal and Imitative Sound Symbolism are ‘cough’ ‘snore’, ‘hiccup’, and ‘meow’. On the other hand, Synesthetic and Conventional Sound Symbolism are more indirect in terms of transparency of relationship between forms and meanings/referents. Words in these groups are used in written language which means that they are highly conventional and can be varied from language to language. L. Thongkum (1979), from her study of ‘Synesthetic Sound Symbolism’, found that the use of back vowels in reduplications of Northeastern Thai Dialect usually indicates a large size or a higher degree of intensity while the use of non-back vowels, on the contrary, demonstrates a small size or a lower degree of intensity.
1.3 Universality of onomatopoeic words

Onomatopoeia is a group of words used to designate sounds in nature. This means that the meaning or referent of an onomatopoeic word is usually the sound of a particular thing or the sound of action of a particular thing in reality (Rungrojisuwan 2007b). Comparing to Figure 1, onomatopoeic words are distributed in both ‘Corporeal’ and ‘Imitative’ sound symbolism (Rungrojisuwan 2007a). Although they are less in number, from universal perspective, similarities of lexicon in various languages can be observed as shown in the examples of onomatopoeic words referring to [DOG’S BARK].

<table>
<thead>
<tr>
<th>Language</th>
<th>Phonetic Forms</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>/baw waw/</td>
</tr>
<tr>
<td>German</td>
<td>/wau wau/</td>
</tr>
<tr>
<td>Spanish</td>
<td>/gua gua/</td>
</tr>
<tr>
<td>Italian</td>
<td>/bau bau/</td>
</tr>
<tr>
<td>Thai</td>
<td>/ hô̄n hô̄n/</td>
</tr>
<tr>
<td>Japanese</td>
<td>/waŋ waŋ/</td>
</tr>
</tbody>
</table>

In relation to linguistic forms, it is reported from many studies that onomatopoeic words tend to be formed by reduplication process as shown in Table 1.
Table 1. Examples of reduplicative onomatopoeic words in different languages

<table>
<thead>
<tr>
<th>Languages</th>
<th>Phonetic Forms</th>
<th>Meanings</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thai</td>
<td>/kâap-kâap/</td>
<td>[DUCK’S QUACK]</td>
<td>Rungrrojisuwan (2007b)</td>
</tr>
</tbody>
</table>

Moreover, it was found in some languages that consonant sounds used in forming onomatopoeic words are rarely used in some particular languages in common (as shown in Table 2).
Table 2. Examples of some unusual segments used in the formation

<table>
<thead>
<tr>
<th>Languages</th>
<th>Unusual segments</th>
<th>Onomatopoeic words</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Huastec</td>
<td>The sounds /tx/, /tx’, and /j/ are rarely occurred in Huastec lexicon.</td>
<td>Many words with /tx/, /tx’, and /j/ in the initial position</td>
<td>Kaufnan (1994)</td>
</tr>
<tr>
<td>Nez Perce</td>
<td>There is no /ś/ in Nez Perce.</td>
<td>/śép/</td>
<td>Aoki (1994)</td>
</tr>
<tr>
<td>Modern Greek</td>
<td>The sounds /ts/ and /dz/ are rarely found in Modern Greek.</td>
<td>/tsitsirízo/, /tsiyarízo/, /tsuruflízo/</td>
<td>Joseph (1994)</td>
</tr>
<tr>
<td>Lahu</td>
<td>There are very less number of reduplicatives in Lahu.</td>
<td>/pòʔ-pòʔ/, /qáw-qáw/</td>
<td>Matisoff (1994)</td>
</tr>
</tbody>
</table>

From Table 2, it is claimed that these unusual sounds do not receive any effect from language change because onomatopoeic words are small in number (Hinton et al. 1994). Accordingly, the remained unusual sounds are good resources of information for the study of comparative linguistics.

In relation to meaning, as described earlier, the meanings of onomatopoeic words are various sounds in reality. From the examination of Thai onomatopoeic words, Rungrojsuwan (2007b) claimed that semantic domains of onomatopoeic words include [HUMAN], [ANIMAL], [THING], and [NATURE].

1.4 The relationship between forms and meanings of onomatopoeic words

According to the above literature, it can be said that onomatopoeia is a good example of linguistic phenomenon which shows direct relationship between phonetic forms and meanings – sounds in nature. However, it is
still questioned that in addition to the meanings or the referents which are sounds in nature, is it possible to find other kind of relationship such as the use of some particular linguistic forms in relation to some particular concepts? A rough observation by Hinton et al. (1994) suggested that ‘Imitative Sound Symbolism’ tends to have, to some extent, some association between consonants and some particular meaning components as shown.

<table>
<thead>
<tr>
<th>Phonetic classes</th>
<th>Semantic fields</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stops</td>
<td>[ABRupt sounds]</td>
</tr>
<tr>
<td>Fricatives</td>
<td>[QUICK AUDIBLE MOTION OF AN OBJECT THROUGH AIR]</td>
</tr>
<tr>
<td>Nasals</td>
<td>[RINGING AND REVERBERATING SOUNDS]</td>
</tr>
<tr>
<td>Continuants</td>
<td>[CONTINUING SOUNDS]</td>
</tr>
</tbody>
</table>

As a part of ‘Imitative Sound Symbolism’, the possession of this kind of association in onomatopoeic words is still unclear. In relation to Thai language, onomatopoeic words were examined as a part of reduplicative words (Sompong 1967; Liamprawat 1983; Udomanisuwat 1983; You 1983; Phuangpin 1991). Although some study tried to describe the characteristics of onomatopoeic words (Rungrjosuwan 2007b), the association between forms and meanings has not yet been focused. From universal perspective and as a continuation of study in this topic, the relationship between phonetic forms and some meaning components of Thai onomatopoeic words is focused in this study.

It should be noted that in Thai, in addition to spoken language, onomatopoeic words are lexicalized and added into Thai dictionary. This means that forms and meanings of these words are formally formed. However, it is the fact that not all onomatopoeic words used in spoken language are included in Thai dictionary. As a consequence, only the investigation of this type of words in the dictionary might not reflect the accurate picture about the characteristics of onomatopoeia. According to this, authentic usage of onomatopoeic words, which reflect the relationship
between forms and referents, elicited from other informal documents and from native speakers should be taken into account in order to confirm and to make the examination well-rounded. However, it should be noted that in terms of usage, including authentic use of non-dictionary forms of onomatopoeia, the term ‘referent’ is more appropriate because the meanings of some particular onomatopoeic words in the terms of concept might not yet been institutionalized (as being found in the dictionary).

2. Objectives

The objectives of this study are:

2.1 To investigate the relationship between forms, namely initial consonants, and meanings of onomatopoeic words in formal written documents (dictionaries) and the relationship between forms and referents of onomatopoeic words in informal written documents (comic books)

2.2 To test findings from 2.1 by examining the formation of onomatopoeic words by Thai natives

3. Methods

Data for this study are onomatopoeic words from three different sources representing formal written documents, informal written documents, and actual usage by native speakers of Thai.

3.1 Formal written documents

In relation to formal written documents, data were retrieved from two Thai dictionaries: Royal Institute Dictionary, 1999 edition and Thai dictionary, Matichon edition. Onomatopoeic words were selected from definitions of words which refer to the words as sounds (sound of …). It should be noted that definitions of onomatopoeic words in dictionaries can be taken as conventionalized ‘meanings’ which are formally accepted and defined by national institutions, the Royal Institute. Accordingly, the study in this part considers the relationship between forms and meanings.
3.2 Informal written documents

For informal written documents, 40 Japanese-to-Thai translated comic books with various themes – food, detective, love story, and fighting – were selected as representative. The reasons for using Japanese-to-Thai translated comic books are 1) in addition to spoken language and dictionaries, comic books are the only source in which onomatopoeic words can be significantly found, and 2) Japanese-to-Thai translated comic books have been distributed in Thailand for decades and are very popular among Thai youngsters. Moreover, they are richer in terms of number of onomatopoeic words comparing to Thai original comic books which have been published for about 10 years ago. It should be noted that in comic books meanings of onomatopoeic words are not given. Pictures of settings and cartoon characters are the only source of information which helps understand the meaning of the particular words. Accordingly, the study in this part considers the relationship between forms and referents.

The analysis for data from two types of written documents was focused on the relationship between initial consonants of onomatopoeic words and meaning components extracted from their meanings/referents. By doing this, initial consonants of words were classified into five groups, according to the manners of articulation and the number of consonants in prevocalic position: stops, fricatives, nasals, continuants, and clusters. Then, meanings and referents of each particular word containing each particular type of initial consonant were grouped and generalized as meaning components in order to provide the description in terms of relationship between forms and meanings/referents.

3.3 Usage of native speakers

Data representing the usage of onomatopoeic words by Thai natives were elicited from a set of experiment. The experiment was designed in order to test findings from the two types of written documents. The procedure of the experiment is as follows.

1) Findings about the relationship between forms – types of initial consonants – and meanings/referents of onomatopoeic words from written documents (sections 3.1 and 3.2) were used as basis for the experimental design. Five words for each type of
initial consonants with their corresponding meanings and referents were selected. It should be noted that for some class of initial consonants, those of fricatives and continuants, only two words were selected because the meanings/referents are sounds which are problematic (many words beginning with fricatives and continuants are almost imperceptible due to very low degree of loudness such as /wɛːp/ means [lightened sound] and /sùːp/ means [sound of protruding one’s hand into the pocket]).

2) Each meaning/referent was reproduced as a real sound and was recorded.

3) Preparing for data collection, total of 25 sounds were randomly mixed.

4) One hundred Mae Fah Luang University freshmen from four different geographical regions – north, northeast, south, and central – were recruited as participants.

5) The participants were asked to listen to the 25 sounds and write down the sounds they heard using Thai alphabets.

For analysis, according to the findings from the written documents, the written forms of those 25 sounds were already known prior to the experiment. This means that certain types of initial consonants are expected beforehand. After having collected data from the experiment, the collected data were compared to the expected ones. Twenty five sounds with their expected types of initial consonants are shown in Table 3
Table 3. List of sounds for experiment and their expected initial consonants

<table>
<thead>
<tr>
<th>NO.</th>
<th>Sounds</th>
<th>Expected initial consonants</th>
<th>NO.</th>
<th>Sounds</th>
<th>Expected initial consonants</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>[GLASS BING]</td>
<td>Stops</td>
<td>14</td>
<td>[FAN BLOW]</td>
<td>Continuants</td>
</tr>
<tr>
<td>2</td>
<td>[WIND BLOW]</td>
<td>Continuants</td>
<td>15</td>
<td>[SQUEEZING DRIED LEAVES]</td>
<td>Clusters</td>
</tr>
<tr>
<td>3</td>
<td>[RUBBING HANDS]</td>
<td>Fricatives</td>
<td>16</td>
<td>[DOORBELL JANGLE]</td>
<td>Nasals</td>
</tr>
<tr>
<td>4</td>
<td>[SNORING]</td>
<td>Clusters</td>
<td>17</td>
<td>[PAPER FLIP]</td>
<td>Clusters</td>
</tr>
<tr>
<td>5</td>
<td>[CLOSING DOOR]</td>
<td>Stops</td>
<td>18</td>
<td>[GASPING THROUGH ONE’ S MOUTH]</td>
<td>Fricatives</td>
</tr>
<tr>
<td>6</td>
<td>[DOORBELL JANGLE]</td>
<td>Nasals</td>
<td>19</td>
<td>[LIPS RAPPLE]</td>
<td>Clusters</td>
</tr>
<tr>
<td>7</td>
<td>[TAP WATER FLOW]</td>
<td>Fricatives</td>
<td>20</td>
<td>[BELL CHIME]</td>
<td>Nasals</td>
</tr>
<tr>
<td>8</td>
<td>[DROPPING BOOK]</td>
<td>Stops</td>
<td>21</td>
<td>[SNIFFING]</td>
<td>Fricatives</td>
</tr>
<tr>
<td>9</td>
<td>[GARGLING]</td>
<td>Clusters</td>
<td>22</td>
<td>[WIND BLOW]</td>
<td>Continuants</td>
</tr>
<tr>
<td>10</td>
<td>[FAN BLOW]</td>
<td>Continuants</td>
<td>23</td>
<td>[PUNCHING SOMEONE]</td>
<td>Stops</td>
</tr>
<tr>
<td>11</td>
<td>[FINGER SNAP]</td>
<td>Stops</td>
<td>24</td>
<td>[FAN BLOW]</td>
<td>Continuants</td>
</tr>
<tr>
<td>13</td>
<td>[BELL CHIME]</td>
<td>Nasals</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4. Results

4.1 Onomatopoeic words in the formal and informal written documents

From the qualitative examination of onomatopoeic words in the formal and the informal documents, some empirical evidence of words which shows relationship between initial consonants and some particular meaning components was found. Findings can be divided into five sub-sections (a)-e) according to phonetic characteristics of word-initial consonants: Stops, Fricatives, Nasals, Continuants, and Clusters as follows.

a) Stop consonants

Phonetically, in pronouncing a stop consonant, the air stream is blocked by two articulators and then is released abruptly through the oral cavity. Accordingly, the meaning components related to such phonetic characteristic should be [ATTACK], [TOUCH], [BLOCK], [EXPLODE], and [BREAK]. From the two sources of data, it was found that onomatopoeic words which employ stop consonants in the initial position contain the expected meaning components as shown in the following examples.

<table>
<thead>
<tr>
<th>Formal document</th>
<th>Meaning (Sounds of)</th>
<th>Informal document</th>
<th>Referent (Sounds of)</th>
</tr>
</thead>
<tbody>
<tr>
<td>/cak cak/</td>
<td>[RAINING HEAVILY]</td>
<td>/kôk/</td>
<td>[KNOCKING DOOR]</td>
</tr>
<tr>
<td>/tôm/</td>
<td>[SOMETHING FALLS INTO THE WATER]</td>
<td>/tûp/</td>
<td>[SOMETHING FALLS ONTO THE GROUND]</td>
</tr>
<tr>
<td>/pâp/</td>
<td>[PUNCHING]</td>
<td>/paŋ/</td>
<td>[SHOOTING GUN], [EXPLODING]</td>
</tr>
<tr>
<td>/ʔîk/</td>
<td>[PUNCHING ONE’S BACK]</td>
<td>/ʔɛt/</td>
<td>[OPENING DOOR]</td>
</tr>
</tbody>
</table>

b) Fricative consonants

When a fricative consonant is pronounced, the air stream is forced through a narrow space shaped by two articulators. Consequently, a fricative
consonant is produced with audible turbulence or friction. Accordingly, the meaning components related to such phonetic characteristic should be [INTERVENE], [HISS], [FRICTION], and [PASS THROUGH WITH SOME DEGREE OF ATTEMPT]. From the two sources of data, it was found that onomatopoeic words which employ fricative consonants in the initial position contain the expected meaning components as shown in the following examples.

<table>
<thead>
<tr>
<th>Formal document</th>
<th>Informal document</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Form</strong></td>
<td><strong>Meaning (Sounds of)</strong></td>
</tr>
<tr>
<td>/fɪt/</td>
<td>[SNEEZING]</td>
</tr>
<tr>
<td>/hiːj/</td>
<td>[BREATHING HEAVILY]</td>
</tr>
<tr>
<td>/sʊʊt/</td>
<td>[SIPPING HOT WATER]</td>
</tr>
<tr>
<td>/hɛːe/</td>
<td>[DOG ROAR]</td>
</tr>
</tbody>
</table>

### c) Nasal consonants

In pronouncing a nasal consonant, the soft palate is lowered. This allows the air to pass through the nasal cavity which has wider space than the oral cavity. Consequently, the sound produced through the nasal cavity sounds softer and weaker. Accordingly, the meaning components related to such phonetic characteristic should be [SOFT], [ECHOING], and [UNCLEAR]. From the written documents, it was found that onomatopoeic words with nasal consonants at the initial position contain the expected semantic components as shown in the following examples.
d) **Continuant consonants**

Phonetically, when pronouncing a continuant consonant, the air stream continuously passes through the oral cavity without being blocked by the two articulators. Moreover, the space between two articulators when the consonant is pronounced is wider than that of the fricative consonant. Accordingly, the meaning components related to such phonetic characteristic should be [CONTINUE], [LINK], and [FLOW]. From the data, it was found that onomatopoeic words with continuants at the initial position contain the expected meaning components as shown in the following examples.

<table>
<thead>
<tr>
<th>Formal document</th>
<th>Informal document</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Form</strong></td>
<td><strong>Meaning (Sounds of)</strong></td>
</tr>
<tr>
<td>/ŋim ɲ́am/</td>
<td>[MURMURING]</td>
</tr>
<tr>
<td>/ŋ̀áŋ/</td>
<td>[BELLY CHIME]</td>
</tr>
<tr>
<td>/mùŋ/</td>
<td>[HITING GONG]</td>
</tr>
<tr>
<td>/nìŋ nònŋ/</td>
<td>[DOORBELL JANGLE]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Formal document</th>
<th>Informal document</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Form</strong></td>
<td><strong>Meaning (Sounds of)</strong></td>
</tr>
<tr>
<td>/wître/</td>
<td>[WIND BLOW]</td>
</tr>
<tr>
<td>/wáak/</td>
<td>[CRYING LOUDLY LIKE CHILDREN]</td>
</tr>
<tr>
<td>/jëe jëe/</td>
<td>[CHILDREN CRY]</td>
</tr>
</tbody>
</table>

e) **Consonant clusters**

Thai consonant clusters are combinations of two consonants from two phonetic classes: stop and continuant. Accordingly, meaning components of onomatopoeic words with consonant clusters at the initial position should be the combination of meaning between the two phonetic classes, that is [REPETITION OF ACTION] – [STOP] and then [CONTINUE]. From the written documents, it was found that onomatopoeic words
beginning with consonant clusters contain the expected meaning component as shown in the following examples.

<table>
<thead>
<tr>
<th>Formal document</th>
<th>Meaning (Sounds of)</th>
<th>Informal document</th>
<th>Referent (Sounds of)</th>
</tr>
</thead>
<tbody>
<tr>
<td>/krùap/</td>
<td>[CHEWING HARD OR CRISPY FOOD]</td>
<td>/khrìin/</td>
<td>[THUNDERING]</td>
</tr>
<tr>
<td>/khliin/</td>
<td>[THUNDERING]</td>
<td>/phlèŋ/</td>
<td>[BREAKING GLASS]</td>
</tr>
<tr>
<td>/khlâk/</td>
<td>[BOILING RICE]</td>
<td>/prîa/</td>
<td>[BREAKING STONE]</td>
</tr>
<tr>
<td>khlâk/</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>/kròp/</td>
<td>[BREAKING FINGER]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.2 The formation of onomatopoeic words from perception of native Thais

It was found in section 4.1 that there are some relationship between phonetic characteristics of initial consonants and some particular meaning components. In this section, some onomatopoeic words – from section 4.1 – with five groups of initial consonants were selected and used to test language users in order to evaluate such relationship from users’ perspective which are more dynamic – the production of onomatopoeic words from language users can be varied individually according to the capability in perception – than the conventionalized formed in written documents. Sounds which are referred to by the selected words – sounds which are referents of the selected words – were reproduced and recorded. They were listened to and transcribed by 100 Thai participants who are freshmen of Mae Fah Luang University. The same groups of initial consonants as in the written documents were expected in the participants’ transcription in order to confirm the relationship between forms and referents. Results are described according to each expected group of initial consonant as follows.
a) Stop consonants

From the experiment, it was found that more than 65% of participants used stop consonants as the initial consonants to form words for sounds which contain the meaning components [ATTACK], [TOUCH], [BLOCK], [EXPLODE], and [BREAK] in which stop-initial consonants are expected – Sound 1, 5, 8, 11, and 23 – as shown in Table 4.

**Table 4.** Participants’ selection of initial consonants for sounds containing meaning components [ATTACK], [TOUCH], [BLOCK], [EXPLODE], and [BREAK] (Stop consonants were expected)

<table>
<thead>
<tr>
<th>Sounds tested</th>
<th>Initial consonants used by participants (N = 100 participants/100 %)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Stops</td>
</tr>
<tr>
<td></td>
<td>Unasp</td>
</tr>
<tr>
<td>1  [GLASS BING]</td>
<td>95</td>
</tr>
<tr>
<td>5  [CLOSING DOOR]</td>
<td>68</td>
</tr>
<tr>
<td>8  [DROPPING BOOK]</td>
<td>88</td>
</tr>
<tr>
<td>11 [FINGER SNAP]</td>
<td>73</td>
</tr>
<tr>
<td>23 [PUNCHING SOMEONE]</td>
<td>94</td>
</tr>
</tbody>
</table>

From Table 4, although some clusters are selected by some participants, it can be said that the results follow prior expectation because Thai consonant clusters contain stop consonants in the first position.

Considering in details, it was found that stop consonants used for sounds in this group are mostly unaspirated stop consonant as in the following examples.

<table>
<thead>
<tr>
<th>Sounds</th>
<th>Transcribed words</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>/pík/ /k̂èk/ /p̂àk/</td>
</tr>
<tr>
<td>8</td>
<td>/tìk/ /kĥìk/</td>
</tr>
<tr>
<td>23</td>
<td>/cìt/ /ĉìk/ /t̂ìk/</td>
</tr>
</tbody>
</table>
b) Fricative consonants

Table 5 demonstrates the initial consonants used by 100 participants in transcribing sounds which contain fricative-consonant-expected meaning components.

Table 5. Participants’ selection of initial consonants for sounds containing meaning components [INTERVENE], [HISS], [FRICTION], and [PASS THROUGH WITH SOME DEGREE OF ATTEMPT] (Fricative consonants were expected)

<table>
<thead>
<tr>
<th>Sounds tested</th>
<th>Initial consonants used by participants (N = 100 participants/100 %)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Stops</td>
</tr>
<tr>
<td></td>
<td>Unasp</td>
</tr>
<tr>
<td>3 [RUBBING HANDS]</td>
<td>5</td>
</tr>
<tr>
<td>7 [TAP WATER FLOW]</td>
<td>-</td>
</tr>
<tr>
<td>12 [RAIN]</td>
<td>8</td>
</tr>
<tr>
<td>18 [GASPING THROUGH ONE’S MOUTH]</td>
<td>4</td>
</tr>
<tr>
<td>21 [SNIFFING]</td>
<td>-</td>
</tr>
</tbody>
</table>

From Table 5, it can be seen that the range of number of participants who chose fricative consonants for Sound 3, 7, 12, 18, and 21 – which contain the meaning components [INTERVENE], [HISS], [FRICTION], and [PASS THROUGH WITH SOME DEGREE OF ATTEMPT] – is quite high (ranges from 32–90). This means that some selected sounds can be easily perceived as having fricative-related characteristics integrated, while some do not. However, considering in details, it was found that the stop consonants used for the transcription of Sound 3 and 18 are mostly aspirated stop consonants as shown in the following examples.
## Sounds

<table>
<thead>
<tr>
<th>Sound Type</th>
<th>Word</th>
<th>Transcribed</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>[RUBBIN{HANDS}</td>
<td>/chèk chièk/ /sii/ /sît sît/</td>
<td>Rubbing hands</td>
</tr>
<tr>
<td>7</td>
<td>[TAP WATER FLOW</td>
<td>/sii/ /sîık/ /sîit/</td>
<td>Tap water flow</td>
</tr>
<tr>
<td>12</td>
<td>[RAINI{NG</td>
<td>/saa/ /suuw/ /sîi/</td>
<td>Raining</td>
</tr>
<tr>
<td>18</td>
<td>[GASPING THROUGH ONE’S MOUTH</td>
<td>/chuû/ /chuûw/ /chiît/</td>
<td>Gasp through one’s mouth</td>
</tr>
</tbody>
</table>

Although fricative and aspirated stop consonants are distinctively different in terms of manner of articulation (two articulators move toward each other, leaving a very narrow space for the air to pass for the case of fricatives vs. two articulators touch each other, blocking the air in the oral cavity for the case of stops), from perception aspect, it can be said that fricative consonants and aspirated stop consonants share the same characteristic of possessing audible air – representing by the phonetic alphabet /h/ as in /ph/, /th/, /ch/, and /kh/. In other words, when these two types of consonants are produced, listeners could hear the air passing through the oral cavity clearer than other types of sounds – such as unaspirated stops and nasals. Accordingly, the selection of aspirated stop consonants for fricative-consonant-expected sounds can be possible.

### c) Nasal consonants

It was surprisingly found that in transcribing sounds which contain nasal-consonant-expected meaning components, less than five percent of participants used nasal consonants for word-initial position as shown in Table 6.
Table 6. Participants’ selection of initial consonants for sounds containing meaning components [SOFT], [ECHOING], and [UNCLEAR] (Nasal consonants were expected)

<table>
<thead>
<tr>
<th>Sounds tested</th>
<th>Initial consonants used by participants</th>
<th>(N = 100 participants/100 %)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Stops</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unasp</td>
</tr>
<tr>
<td>6  [DOORBELL JANGLE]</td>
<td>52</td>
<td>-</td>
</tr>
<tr>
<td>13  [BELL CHIME]</td>
<td>85</td>
<td>-</td>
</tr>
<tr>
<td>16  [DOORBELL JANGLE]</td>
<td>55</td>
<td>-</td>
</tr>
<tr>
<td>20  [BELL CHIME]</td>
<td>82</td>
<td>1</td>
</tr>
<tr>
<td>25  [BELL CHIME]</td>
<td>81</td>
<td>-</td>
</tr>
</tbody>
</table>

From Table 6 it can be seen that after perceiving Sound 6, 13, 16, 20, and 25, most participants chose stop consonants as word-initial consonant. Results from the experiment seem to be completely different from those of written documents which obviously showed the relationship between nasal consonants – as initial consonants – and the meaning components [SOFT], [ECHOING], and [UNCLEAR] (See section 4.1 c)).

It should be noted that sounds in this set include sounds of [DOORBELL JANGLE] and [BELL CHIME]. Results indicate that the participants heard some obstructed sounds – which are meaning components of stop consonants. In other words, the sound component which contains the semantic component [ATTACK] – which is the component for stop consonants – is also included within sounds in this set and, with some reasons, it can be perceived easier than another sound component which contains the semantic component [ECHOING] – which is the meaning component of nasal consonants. As a consequence, stop consonants are significantly used as the initial consonants.

In order to explain this, the actual event of [DOORBELL JANGLE] and [BELL CHIME] might firstly be considered. An example of the occurrence of the sound [BELL CHIME] is shown in Figure 2.
From Figure 2, it can be observed that [ATTACK] sound occurs before [ECHOING] sound. This means that [ATTACK] sound will be heard before [ECHOING] sound and might be recognized and recalled very well and so easily that the participants chose to transform this sound into word-initial consonant – using stop consonants. In other words, the [ATTACK] sound contains higher degree of saliency than the [ECHOING] sound.

Although nasal sounds were not used as the initial consonants, it does not mean that the participants could not hear the [ECHOING] sound. Considering in details, it was found that the [ECHOING] sound is reflected in the participants’ use of final consonants as shown in the following examples.

**Sounds**  
6 [DOORBELL JANGLE]  
13 [BELL CHIME]

<table>
<thead>
<tr>
<th>Transcribed words</th>
</tr>
</thead>
<tbody>
<tr>
<td>/kríɲ/ /kíɲ/ /tíɲ/</td>
</tr>
<tr>
<td>/tɨɲ/ /tɨɲ/ /kɛɲ/</td>
</tr>
</tbody>
</table>

**Figure 2.** The occurrence of the sound [BELL CHIME]
d) Continuant consonants

After perceiving Sound 2, 10, 14, 22, and 24 which are continuant-consonant-expected sounds, the participants transcribed these sounds using continuants as initial consonants less than 20% as shown in Table 7.

Table 7. Participants’ selection of initial consonants for sounds containing meaning components [CONTINUE], [LINK], and [FLOW] (Continuant consonants were expected)

<table>
<thead>
<tr>
<th>Sounds tested</th>
<th>Initial consonants used by participants (N = 100 participants/100 %)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Stops</td>
</tr>
<tr>
<td></td>
<td>Unasp</td>
</tr>
<tr>
<td>2  [WIND BLOW]</td>
<td>4</td>
</tr>
<tr>
<td>10 [FAN BLOW]</td>
<td>37</td>
</tr>
<tr>
<td>14 [FAN BLOW]</td>
<td>31</td>
</tr>
<tr>
<td>22 [WIND BLOW]</td>
<td>-</td>
</tr>
<tr>
<td>24 [FAN BLOW]</td>
<td>42</td>
</tr>
</tbody>
</table>

From Table 7, it can be seen that aspirated stop and fricative consonants are significantly used as initial consonant of the participants’ onomatopoeic words. Examples of transcriptions are as follows.

<table>
<thead>
<tr>
<th>Sounds</th>
<th>Transcribed words</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 [BLOWING]</td>
<td>/fuuw/ /huu/ /huuh/</td>
</tr>
<tr>
<td>10 [FAN BLOW]</td>
<td>/phiti/ /hti/ /fii/</td>
</tr>
</tbody>
</table>

Considering in details, it was found that the sounds used for this set of experiment not only contain the meaning components [CONTINUE] and [FLOW], but also consist of [HISS] and are all audible. In terms of perception, as explained in section 4.2 b), the audible air is more significant than continuation and flowing properties. Accordingly, the selection of aspirated stops and fricatives for the transcription of continuant-consonant-expected sounds is outnumbered.
e) Consonant clusters

From the examination of transcriptions of consonant-cluster-expected sounds, it was found that most of initial consonants used for sounds in this group are consonant clusters as expected as shown in Table 8.

Table 8. Participants’ selection of initial consonants for sounds containing meaning components [REPETITION OF ACTION] (Consonant clusters are expected)

<table>
<thead>
<tr>
<th>Sounds tested</th>
<th>Initial consonants used by participants (N = 100 participants/100 %)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Stops</td>
</tr>
<tr>
<td>4 [SNORING]</td>
<td>2</td>
</tr>
<tr>
<td>9 [GARGLING]</td>
<td>1</td>
</tr>
<tr>
<td>15 [SQUEEZING DRIED LEAVES]</td>
<td>8</td>
</tr>
<tr>
<td>17 [PAPER FLIP]</td>
<td>29</td>
</tr>
<tr>
<td>19 [LIPS RAPPE]</td>
<td>14</td>
</tr>
</tbody>
</table>

From Table 8, it can also be seen that some transcriptions contain stop consonants as initial consonants. This is possible because every Thai consonant cluster is composed of a stop consonant as the first element – such as [khr], [khl], and [pr] as shown in the following examples.

<table>
<thead>
<tr>
<th>Sounds</th>
<th>Transcribed words</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 [SNORING]</td>
<td>/khōok/ /khlōok/ /khrōok/</td>
</tr>
<tr>
<td>15 [SQUEEZING DRIED LEAVES]</td>
<td>/krēep/ /prēʔè/ /kōɔp/</td>
</tr>
<tr>
<td>17 [PAPER FLIP]</td>
<td>/prɔɔut/ /prɛɛkkkkk/ /púut/</td>
</tr>
</tbody>
</table>

However, it can be observed that the use of continuant consonants which are another component of Thai consonant clusters was rarely found in the participants’ transcriptions. This might be implied that stop consonants contain higher degree of saliency than continuant consonants. Accordingly,
the participants would perceive obstructed sounds clearer than continuing sounds and resulted in the selection of stop consonants as word-initial consonants.

5. Conclusion and Discussions

5.1 Conclusion

In addition to the direct relationship between phonetic forms and meanings of onomatopoeic words, another aspect of relationship between forms and meanings – that is the association between word-initial consonants and meaning components of onomatopoeic words – was investigated.

Data from formal and informal documents demonstrated some agreement on the association between initial consonants and meaning components (extracted from ‘meanings’ established in two Thai dictionaries and from ‘referents’ interpreted from pictures in 40 comic books) in five pairs as shown in Table 9.

### Table 9. Pairs of association between initial consonants and meaning components

<table>
<thead>
<tr>
<th>Initial Consonants</th>
<th>Meaning Components</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stops</strong></td>
<td>[ATTACK], [TOUCH], [BLOCK], [EXPLODE], and [BREAK]</td>
</tr>
<tr>
<td><strong>Fricatives</strong></td>
<td>[INTERVENE], [HISS], [FRICTION], and [PASS THROUGH WITH SOME DEGREE OF ATTEMPT]</td>
</tr>
<tr>
<td><strong>Nasals</strong></td>
<td>[SOFT], [ECHOING], and [UNCLEAR]</td>
</tr>
<tr>
<td><strong>Continuants</strong></td>
<td>[CONTINUE], [LINK], and [FLOW]</td>
</tr>
<tr>
<td><strong>Clusters</strong></td>
<td>[REPETITION OF ACTION]</td>
</tr>
</tbody>
</table>

In addition to the written data, an experiment was conducted in order to test the existence of the relationship from language users’ point of view. In the experiment, some natural sounds (from the findings of formal and informal documents) were selected, listened to, and transcribed by 100 Thai students. The sounds contain five groups of meaning components and the participants’ use of initial consonants was expected prior to the experiment (according to the prior findings in Table 9).
Results confirmed the findings from written documents in the groups of stop consonants, fricative consonants, and consonant clusters. Moreover, it was found that the similarity in perception – that is some audible sound can be heard – of some phonetic classes – i.e. aspirated stops and fricatives – is an important factor affecting the selection of word-initial consonants of the language users.

It was also found that the saliency of sound components within a particular natural sound plays an important role in the formation of onomatopoeic words by language users as described in section 4.2 c) and d) in the case of transcribing nasal-consonant-expected and continuant-consonant-expected sounds.

5.2 Discussions

a) Natural sound and its sound components

From this study, it was found that a particular sound in nature can be composed of more than one sound component. Each sound component has different degree of significance or saliency in perception. The sound component with high degree of saliency – e.g. louder, clear, occur before other sound components, etc. – would be easier to perceive, recognize, and memorize than that with low degree of saliency. As a result, the more significant sound usually tends to be symbolized using alphabets or characters which contain similar phonetic characteristics. The evidence was found in the case of [BELL CHIME] sound as shown.

<table>
<thead>
<tr>
<th>Source</th>
<th>Phonetic Form</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written document</td>
<td>/mɔŋ/</td>
<td></td>
</tr>
<tr>
<td>Transcribing from sound heard</td>
<td>/tîŋ/</td>
<td>convention</td>
</tr>
</tbody>
</table>

*1. /t/ sound at the moment when the bell was struck, sound/meaning component = [ATTACK]

2. /ŋ/ sound at the moment when the bell vibrates and the echo occurred, sound/meaning component = [ECHO]
In addition, it was claimed that aspirated stop and fricative consonants have similar phonetic characteristics in terms of perception – which are audible and continuous flowing of air from the oral cavity. Accordingly, this makes the formation of onomatopoeic words flexible among these three sound categories (see section 4.2 b) and d).

**b) The saliency sound class**

According to the fact that a particular natural sound composed of many sound components and the most significant sound component tends to be selected and symbolized by language users, it was found from the experiment that stops consonants are the group of consonants which was widely used for the formation, in the initial position, of Thai onomatopoeic words. This implies that sound/meaning components of stop consonants – i.e. [ATTACK], [TOUCH], [EXPLODE], etc. – have the highest degree of saliency among the sound/meaning components of Thai consonants. By saliency, it includes the order of occurrence, clearness, and loudness.

However, it does not mean that the less salient sound will be abandoned. Examples of word formation using stop and nasal consonants in section 4.2 c) indicate the possibility of using the more salient consonant for the word-initial position and the less salient one for the word-final position.

**References**


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Squibs

Winfred Mkochi

Bimoraic Word Minimality Condition in Chitonga:  
OT Analysis¹

1. Introduction

In many languages, there is a minimum placed on the size of a word (McCarthy & Prince 1986). For example, in Mohawk (Michelson 1988), every content word must contain at least two syllables. In Fijian (Hayes 1995), every word must contain at least two moras. Many Bantu languages are reported to have a general, if not absolute, prohibition on words with one syllable (Mtenje 1986; Kanerva 1990; Myers 1995; Harford 1999; Mkochi 2004). To avoid such forms, various languages employ different strategies in order to satisfy the general bisyllabic condition. With data from Chitonga (Southern Bantu), a Malawian language classified by Malcom Guthrie (1948) into Zone N Group 10 Number 15, we suggest in this paper that what counts prosodically for a verb (stem) to be well-formed in Chitonga is for it to be minimally bimoraic (two moras), and not necessarily the bisyllabic minimality condition. This claim is recast within Optimality Theory (OT), which shows that the minimal word condition in Chitonga straightforwardly stems from the ranking of relevant constraints in the language.

¹ I am grateful to Pascal Kishindo for reading this paper and making relevant corrections. Thanks to the anonymous reviewers for helpful comments on this paper.
2. The Problem

As cited in Hyman and Mtenje (1999), it has been agreed generally that the minimal word in Bantu is bisyllabic (cf. also Myers 1990; Kanerva 1990; Mutaka & Hyman 1990; Downing 1996). For instance, just like in other Bantu languages, Chitonga\(^\text{2}\) requires that a verb (or any surface word) consist of at least two syllables. The verbs in (1) are monosyllabic and are therefore not phonological words:

(1)  
- *swa* ‘break!’
- *lya* ‘eat!’
- *phwa* ‘get dry!’
- *fwa* ‘die!’
- *wa* ‘fall down!’

The basic and less controversial strategy to prevent monosyllabic morphemes from becoming monosyllabic words is epenthes. Epenthes involves prefixing of vowels to a monosyllabic morpheme. In Chitonga, monosyllabic verbs such as those in (1) will always attach an epenthetic /i/ in the imperative mood as shown in (2).

(2)  
- *i-swa* ‘break!’
- *i-lya* ‘eat!’
- *i-phwa* ‘get dry!’
- *i-fwa* ‘die!’
- *i-wa* ‘fall down!’

As Mtenje (2004) shows, we know that these verbs are indeed monosyllabic because they can occur without the prefix /i/ as imperatives with the honorific or second person plural pronoun suffix *-ni* as in *swa-ni* ‘break!’; *lya-ni* ‘eat!’; *phwa-ni* ‘get dry!’; *fwa-ni* ‘die!’; and *wa-ni* ‘fall down!’.

The data in (3), however, show that the mora, not the syllable, must be the relevant unit for defining prosodic minimality constraints in Chitonga.

\(^2\) The author is a native speaker of Chitonga and he is thus the source of all the data from the language. Unless indicated otherwise, all the verb forms from Chitonga in this paper are of low tone type.
(3)  

to: ‘take’
pe: ‘get subdued’
kə: ‘catch’
kha: ‘stay’
po: ‘get cold’
me: ‘grow’

The monosyllabic morphemes above are instances of phonological words in Chitonga. As the symbol (:) indicates, however, these verbs have a long vowel, hence bimoraic. They, therefore, need not undergo epenthesis because they satisfy the requirements in Chitonga where the level of analysis is the mora and not the syllable. As Prince and Smolensky (2004: 56) observe, “the PrWd [prosodic word] must contain at least one foot; a foot will contain at least two moras; hence, lexical words are minimally bimoraic”.

The Chitonga verbs with the epenthetic /i/ in (2), therefore, are acceptable not because they have two syllables, but rather because they satisfy a general property of structure defined by Foot Binarity (McCarthy & Prince 1986). This constraint obviates the need for such a thing as a “minimal word constraint”. Since syllables contain moras, Foot Binarity indeed entails that the smallest foot is bimoraic. Bimoraic word minimality condition has also been reported in other languages of the world (Cole 1990, Mester 1994, Downing 2006).

3. **Optimality Theory – General Principles**

The central idea of Optimality Theory (OT) is that, unlike in derivational theories of the type assumed and argued for in Generative Phonology, phonological outputs are not derived from underlying representations through the interaction of ordered rules. Instead, outputs are freely generated and the actual output for any input within a particular language is the one which is the most optimal given the ranking of relevant constraints in that language. In other words, surface forms of language reflect resolutions of conflicts between competing demands (constraints). A surface form is “optimal” in the sense that it incurs the least serious violations of a set of violable constraints, ranked in a language-specific hierarchy. Constraints are universal and languages differ in their ranking of constraints, giving priorities to some constraints over others. Such rankings are based on “strict” domination: if one constraint outranks another, the
higher-ranked constraint has priority, regardless of violations of the lower-ranked one. However, such violation must be minimal, which predicts the economy of grammatical processes.

As the foregoing shows, Optimality Theory is a development of Generative Grammar, a theory sharing its focus on formal description and quest for universal principles, on the basis of empirical research of linguistic typology (and first language acquisition). However, OT radically differs from earlier generative models in various ways.

OT is surface-based in the sense that well-formedness constraints evaluate surface forms only. Structural description and changes must always be evaluated among other possible resolutions of constraint violations. Therefore OT predicts that a markedness constraint (which seeks to change the input to conform to unmarked output forms) may trigger various types of structural changes, depending on its interaction with faithfulness constraints (which seek to maintain the input at all cost). Different languages should therefore pursue different ‘repair strategies’ in attaining identical output goals. In contrast, a rule-based theory fails to make this prediction of the functional unity of processes. Consider the set of rules in (4). All function to avoid the configuration *XAY, yet these rules cannot be formally related:

(4) A set of functionally coherent rules

<table>
<thead>
<tr>
<th>Rule</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. A  →  B/X __ Y</td>
<td>d. Y  →  Z/XA __</td>
</tr>
<tr>
<td>b. A  →  C/X __ Y</td>
<td>e.  ∅  →  B/XA __Y</td>
</tr>
<tr>
<td>c. A  →  ∅/ __ Y</td>
<td>f. X  →  ∅/ __AY</td>
</tr>
</tbody>
</table>

(Kager 1999: 56)

This reoccurrence of a common output factor which guides different rules, without being explicitly stated in the rules, is called a conspiracy.

Before OT, phonologists had already realized that output constraints are necessary ingredients of grammatical theory. As a response to rule conspiracies and the Duplication Problem (overlapping functions of rules and constraints), they introduced output constraints to block or trigger the application of rules. Among the first output constraints were the OCP in autosegmental theory (“no identical adjacent autosegments”, Goldsmith 1976), and the No-Clash constraint in metrical theory (Liberman 1975). Such additions resulted in mixed models, containing both rules and output constraints. Various proposals were made for interactions of rules and
output constraints, such as the Theory of Constraints and Repair Strategies (Paradis 1988), and Persistent Rule Theory (Myers 1991).

Problems of mixed models involve an extremely complicated interaction of rules and constraints. A rule may apply in violation of a constraint, of which violation is later repaired by some subsequent rule. Therefore a mixed model must not only stipulate structural descriptions of the rules and the linear ordering of the rules, but also interactions of rules and output constraints, defining the conditions under which output constraints can be temporarily violated. OT avoids such interactional complexity by limiting grammatical interactions to constraints. This unification of interaction makes OT, both conceptually and computationally, a much simpler theory than any mixed model.

The major strength of OT is captured when we consider the following problem in syntax where the constraints are assumed to be inviolable:

> The inviolable principles of syntax have proved themselves to be problematic in that inviolability has been purchased at the cost of a variety of types of hedges. (…) some principles are parameterized, holding in one way in one language and in another way in another language, (…) the prevailing belief about constraints - that they are inviolable - resulted in a continuing frustration with their role in grammar, for it is exceedingly difficult to find a constraint that is never violated. (Archangeli 1997: 26–27).

4. OT Analysis

In the light of the foregoing, an adequate characterization of Chitonga grammar should include the following facts:

- Monomoraic verbs such as those in (1) will always attach an epenthetic /i/ in the imperative mood.

- A syllable with a two-mora nucleus forms a phonological word (see [3]).

To begin with, epenthesis involves a violation of faithfulness: the output diverges from the input by the presence of an epenthetic segment, one that is not “sponsored” by lexical representation. The faithfulness constraint militating against epenthesis is DEPENDENCY-IO (or DEP-IO), after McCarthy and Prince (1995).

(5) DEP-IO: Output segments must have input correspondents. (No epenthesis)
This constraint accounts for the cases where epenthesis does not occur, such as *galu ‘dog’, which is never *igalu. As observed by Harford (1999) and several others, forms like those in (2) “avoid being rendered non-optimal by DEP-IO by virtue of satisfying a more highly ranked constraint requiring words to have more than one syllable”. Myers (1995) formulates the following constraint for Shona:

(6) MINPW: A prosodic word must consist of at least two syllables.

MINPW outranks DEP-IO, meaning that DEP-IO is obeyed except when the result would be a violation of MINPW. These results are displayed in the table (1). Following OT conventions, higher ranking constraints appear to the left of lower ranking constraints, separated by solid lines. (Dotted lines indicate that constraints are not ranked with respect to each other.) An asterisk indicates violation of a constraint by the form whose row it appears on; an asterisk followed by an exclamation mark indicates that the violation renders the form non-optimal. Optimal forms are indicated with a pointy finger or an arrow.

Table 1. MINPW outranks DEP-IO.

<table>
<thead>
<tr>
<th></th>
<th>MINPW</th>
<th>DEP-IO</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. lya, swa, phwa, fwa</td>
<td>*!</td>
<td></td>
</tr>
<tr>
<td>b. ⇒ i.lya, i.swa, i.phwa, ifwa</td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

In table 1, both candidates (a) and (b) violate a constraint, but ilya, iswa, iphwa and ifwa are more favoured, are more optimal, because the constraint they violate is less highly valued.

Completing this analysis requires an account of prosodic words in (3) which are one syllable, but bimoraic. This will be possible if we postulate that the level of analysis for Chitonga should be the mora rather than the syllable. The constraint MINPW lacks a generalization such as the one suggested by Prince and Smolensky (2004), which accounts for both epenthesis and monosyllabic words in this language. Following the formulation of McCarthy & Prince (1986), Prince & Smolensky (2004) make a deduction that rests on the principle of Foot Binarity stated in (7):
Foot Binarity (FTBIN)

Feet are binary at some level of analysis (mora, syllable)

Since the level of binarity in Chitonga is the mora, the forms in (2) are optimal because they satisfy FTBIN. The table 2 shows the ranking of the two relevant constraints.

Table 2. FTBIN outranks DEP-IO.

<table>
<thead>
<tr>
<th></th>
<th>FTBIN</th>
<th>DEP-IO</th>
</tr>
</thead>
<tbody>
<tr>
<td>-lya, -fwa, -swa</td>
<td>*!</td>
<td></td>
</tr>
<tr>
<td>a. lya, fwa, swa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. i.lya, i.fwa, i.swa</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Candidates (a) are disqualified since they violate the highest ranked FTBIN which does not allow monomoraic morphemes to form a foot. The second set of candidates, therefore, are optimal as they satisfy the high ranked constraint and violate the tolerable low ranked DEP-IO which prohibits epenthesis. The forms to:, ko:, po:, kha: and me:, therefore, are acceptable because they satisfy the demands of foot binarity at the mora level of analysis.

The Foot Binarity principle based on the level of the mora also accounts for acceptability of words of classes beside the verb, which are also bimoraic. They include nouns (m-wâ: [3-stone] ‘stone’, mbâ: [9/19] ‘fire marks’, gâ: [5 charcoal] ‘charcoal’, bê: [5 breast] ‘breast’, bô: [5 faeces] ‘faeces’). The negation for ‘not’ (chá:) also falls under this category.

5. Conclusion

The main claim we made in this paper is that the level of analysis for a minimal word in Chitonga, and perhaps in most Bantu languages, must be the mora and not the syllable as mostly believed in Bantu linguistics. The data have clearly shown that the word minimality condition for this language is for it to be bimoraic. This, we have seen, satisfies the requirement of Foot Binarity principle that feet must be binary at some
level of analysis (mora or syllable). Such an observation, we believe, may be extended to account for the presence of bimoraic words in Bantu languages claimed to have the inviolable bisyllabic minimality condition.

References


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Reviewed by Pekka Posio

Outi Duvallon’s book *Le pronom anaphorique et l’architecture de l’oral en finnois et en français*, based on her doctoral dissertation from 2002, offers a qualitative approach to the uses of third person pronouns in oral corpora of Finnish and French. The line of research adopted in the book differs from traditional analyses of pronominal anaphora in which attention is focused on the way pronouns are used to refer to textual antecedents or on the choice of referring expressions on the basis of the accessibility of the referents. Duvallon sees anaphoric pronouns as construction tools of oral discourse in their own right, not as mere substitutes for other elements or markers of high accessibility of their referents. Thus the use of the term “anaphoric pronoun” to refer to the uses of third person pronouns studied by Duvallon might not seem very felicitous. However, the term is used in a very broad sense, independently of the existence and position of a possible antecedent.

The book is divided into six chapters: 1. Introduction (pp. 9–50), 2. L’anaphore pronominale (pp. 51–110), 3. Réalisations orales : emergence de la construction verbale (pp. 111–186), 4. Les texts oraux en trois dimensions : syntagmes, paradigmes et insertions (pp. 187–262), 5. Le pronom anaphorique dans les espaces textuels (pp. 263–370), and 6. Conclusion (pp. 371–376). The theoretic background of the book is introduced in chapter 1, which also contains an overview of the relevant areas of Finnish grammar such as case system and word order, thus making the book more accessible for readers with little knowledge of Finnish. Duvallon combines not only corpora from the two languages but also syntactic theories and tools developed by both French and Finnish linguists. The framework of Duvallon’s syntactic analysis is a theory known as the pronominal approach (*l’approche pronominale*, cf. e.g. Blanche-Benveniste et al. 1987). In this approach, the verb (and not the clause) is considered the basic syntactic unit to be analyzed and pronouns (instead of noun phrases) are considered to be the basic forms of arguments. Instead of analyzing pronominal arguments as a result of pronominalization of NPs, the use of NPs is rather seen as the result of lexicalization of pronouns.
This privileged position given to verbs as nuclei of constructions and to pronouns as the basic forms of arguments has deep influence on Duvallon’s analysis. The pronominal approach is complemented by the analysis of constituent order in terms of syntactic positions (Vilkuna 1989, 1995).

The differences between French and Finnish third person pronouns are discussed in chapter 2. Duvallon’s analysis is centered on the Finnish third person subject pronoun *se* ‘s/he, it’ and the French third person subject pronouns *il* ‘he, it’ and *elle* ‘she, it’, but some examples of the Finnish pronoun *hän* ‘s/he’ and French *ce~ça* ‘it’ are also analyzed. The French pronominal system distinguishes between pronouns with uncategorized (*ce~ça*) and categorized referents (*il/elle*) and has a gender opposition for the latter category. Standard Finnish reserves the pronoun *hän* for human referents, but in colloquial spoken language there is usually no opposition between human and non-human referents. The pronoun *se* is used for both, while the pronoun *hän* is reserved to mark logophoricity (cf. Laitinen 2005). Despite these differences, Duvallon points out that third person pronouns are used in a remarkably similar way in both languages. She describes them as unmarked referential expressions that give only minimal, language-specific semantic information on their referents (such as gender in French and logophoricity or humanness in Finnish) but unlike other referential expressions such as NPs or demonstratives, third person pronouns carry no information on the lexical content of their referents or the perspective of the speaker.

Chapter 2 also contains an overview of former studies on pronominal anaphora. These studies can be divided roughly into three categories. The textual approach sees anaphoric pronouns basically as substitutes for preceding noun phrases (e.g. Milner 1982). Functional approaches (e.g. Givón 1983; Ariel 1988) focus on the effects that the cognitive accessibility of the referent has on the choice and use of different anaphoric expressions. The “structural” approach represented by Fox (1987) focuses on the way the structure of the text contributes to anaphora resolution. However, these approaches are not always able to account for the uses of anaphoric pronouns that have no clear antecedents, and these are the cases in which Duvallon is interested. The analysis of these uses of third person pronouns as something different from “traditional” anaphor is founded on two main arguments: the pronouns can be interpreted in their linguistic context without recurring to anaphoric or cataphoric elements and it is difficult to describe them as mere substitutes for NPs. They are rather used to “point”
at referents that have not been yet mentioned, to negotiate a proper term to be used with the addressee, or as hosts for lexical descriptions.

Chapter 3 is dedicated to the syntagmatic, paradigmatic, and parenthetic (cf. Duvallon & Routarinne 2001) dimensions of oral texts. The main tool used in the analysis (chapters 3, 4, and 5) is the syntactic grid *(analyse syntaxique en grille)* developed by the research group GARS (Groupe aixois de recherches en syntaxe) in the University of Aix-en-Provence (cf. e.g. Blanche-Benveniste 1990). This method is especially useful in the description of phenomena that are often discarded from the syntactic analysis, namely repetition and reformulation of parts of the utterances. The method consists quite simply of writing the transcription of the sequence of text to be analyzed in the form of a grid in which constituents having the same syntactic function are placed in the same column. As a result, the grid makes visible both paradigmatic and syntagmatic relations between the elements of the text, as illustrated by the example (1) in which the speaker hesitates on the choice of a preposition:

(1) *on allait à d- chez un dans un pharmacien*

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'we used to go to a pharmacy'

The linearity of the speech is broken in order to make visible the paradigmatic relations between the elements of the utterance by placing them in the same column of the grid. As Duvallon (2006: 120) notes, the choice of preposition is connected to the type of lexeme to be used, not to the valence of the verb, and indicates that the speaker is hesitating also between expressions like *à une pharmacie* ‘to a pharmacy’ ~ *chez un pharmacien*, literally ‘to a pharmacist’.

Example (2) from the Finnish corpus represents another use of the syntactic grid. In this example, the speaker returns to a verbal construction in order to modify a lexical choice through a construction analyzable as a concessive repair (cf. Couper-Kuhlen & Thompson 2005):

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(Duvallon 2006: 120.)
The example (2) illustrates the use of columns in the syntactic grid: the verbs are placed underneath each other in the center of the grid, and a sufficient number of empty spaces are left open at the lines in order to be filled in with the elements that are added to the construction at subsequent lines, such as the object pronoun \textit{se} ‘it’ at the last line of the example (2). These empty spaces are meant to represent the slots that belong to the valence of the verb and can be either filled by the speaker or left empty. The transcription system is slightly anachronic in the sense that slots are left empty only at places which are filled later on in the text, and one might naturally argue that the empty slots are mere byproducts of the form of annotation itself and have no real existence in the construction. Duvallon’s analysis, however, supports the view that the empty slots form a part of the syntactic moulds that speakers reuse and modify while they speak. The grid transcription method proves to be very useful in the analysis of the paradigmatic relations between lexical items in a relatively short stretch of text with few or no changes of turns; however, it seems technically less adaptable for analyzing longer sequences of conversational data.

At first glance, the name of the book might seem a bit misleading, as nearly half of the book (chapters 3 and 4) is dedicated to the analysis of repetitions and reformulations in syntactic constructions and only one chapter deals directly with third person pronouns. However, the chapters dedicated to the analysis of the “architecture” of speech form a background that is necessary in order to understand the analysis of pronouns in chapter 5, as the book is dedicated to the use of pronouns in constructing oral texts. In addition, they offer an interesting perspective to phenomena that are relatively seldom in the focus of analysis, such as repetition and
reformulation. An important point Duvallon makes after examining the modifications and repetitions found in her corpus is that they are not errors or indices of communication problems, but rather a normal way of constructing oral texts. This means that the addressee does not retain only the latest and “corrected” version of an utterance but rather reconstructs a maximal sequence as a synthesis of the fragments produced by the speaker. In addition, the repetition of syntactic constructions serves to increase the cohesion of an oral text and to reintroduce referents. The idea that speech is not constructed and understood linearly but rather as a sum of superimposed fragments is captured visually by the syntactic grids.

Although Duvallon’s analysis is not meant to be quantitative, it would have been interesting to get a general idea of the frequency of the uses of third person pronouns studied in the book – more specifically, to know whether they are actually the main use of third person pronouns or if they rather represent a more marginal use along with the uses traditionally labeled anaphoric. The author also makes clear that she is not interested in the segmentation of texts, and the examples analyzed can be whole turns, parts of turns, or longer stretches of conversation. This is slightly problematic, as the terms referential space (espace referentiel) and textual space (espace textuel) are used to refer to the domain inside which an anaphoric pronoun can be interpreted, but it is not completely clear how such a space should be defined. However, Duvallon’s book offers an interesting and relevant contribution to the study of the uses third person pronouns have in oral discourse. As the author remarks at the end of the conclusions (chapter 5), it would be interesting to widen the perspective offered in this book into two directions, namely by studying the use of anaphoric pronouns in the interaction between the speakers and the status of pronominal anaphora in the speakers’ grammatical knowledge.

References


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Reviewed by Jouni Rostila

This volume, comprising five articles, addresses an issue that has hitherto been largely neglected within studies on Construction Grammar(s) (henceforth CxG): language variation and its consequence, language change. Both processes can be conceived of as reorganization in the inventory of constructions that constitutes a language from a CxG point of view. However, it appears that the selection of articles available to the editor probably has not been quite satisfactory for the purpose of putting together a book on this topic. Key issues like the nature of grammaticalization – a process that involves both variation and change (Lehmann 1985) – from a CxG perspective are missing (cf. Rostila 2006, 2007; Diewald 2007; Traugott 2008 for some approaches), and as will be seen, some of the chapters do not bear very closely on constructional reorganization. Nevertheless, the book represents a valuable collection of attempts to come to terms with very varied phenomena using different sets of CxG concepts, whose selection by the individual authors is highly interesting in itself. In the following, I discuss the chapters of the book one by one, some in more detail than others, depending on the extent to which I consider myself competent to comment on them.

Ch. 1, the introduction by Jaakko Leino, provides a useful outline of research within CxG, along with an overview of the contents of the individual chapters and a section that places the papers of the volume in the broader context of research tendencies within CxG and studies on language change.

In Ch. 2, titled Resolving form-meaning discrepancies in Construction Grammar, Hans C. Boas argues that Goldberg’s (1995) caused motion (e.g. in *He sneezed the napkin off the table*) and resultative constructions (e.g. in *She drank him under the table*) cannot account for the meanings of sentences like (1), despite the fact that such cases display the same syntactic pattern [NP V NP PP] as the two argument structure constructions posited by Goldberg:
Boas argues for the need to assume less abstract constructions than Goldberg’s argument structure constructions. More specifically, Boas proposes that a construction he calls AHTY (“a hole through Y”, p. 14) is needed to account for cases like (1). As carefully as Boas states his case, his account is, as far as I can see, in many ways problematic. First of all, Boas states as an overall conclusion that “sameness in form does not always entail sameness in meaning” (p. 32); by form he here refers to the syntactic pattern [NP V NP PP] common to the caused motion and resultative constructions, as well as AHTY. However, it appears that he fails to see the significance of the fact that all instances of AHTY display the same noun hole in their second NP slot, which makes their form more specific, and hence different from that of the caused motion and the resultative constructions, which do not constrain their corresponding NP slot as strictly. Boas is probably right to argue for the need to assume a more specific construction like AHTY (albeit a pragmatic inference triggered by the noun hole might be a viable alternative). Yet it is hard to see why the existence of this separate, more specific construction should render problematic Goldberg’s argument structure constructions (cf. p. 14). In my view, all of them could exist side by side, with the noun hole triggering an idiosyncratic interpretation.

What is more, in my view it is not clear that the need to argue for less abstract constructions is actually as urgent as Boas makes it seem. Is it not, on the contrary, rather commonplace within CxG that constructions exist at many levels of generalization or abstraction (cf. Croft 2001: 17, 57; Tomasello 2006; cf. also Traugott 2008; Rostila 2007)?

Further still, the nature of the “mini-constructions” that Boas exploits in his analysis does not become quite clear. They are supposed to be “form-meaning pairing[s] representing an individual sense of a verb” (p. 21). How, then, do they differ from the lexical entries of individual verbs, which must also be assumed to contain information on the syntax and semantics of their arguments? Are they to be understood as individual verbs along with their valency patterns that can act as models for how to construe other verbs as well? That is, can they be conceived of as sources of analogy e.g. on a par with Goldberg’s frequently occurring individual verbs that help children form an argument structure construction (2006: 79–90)?
His study being based on electronic corpora and systematic web searches, Boas deserves credit for his data-driven approach, even though it does not become quite clear to what extent his web data has been checked by informants (cf. p. 13). One further open question is how Boas’ observations bear on constructional reorganization, the intended common denominator of the papers in the volume.

In Ch. 3, Language change, variability, and functional load: Finnish genericity from a constructional point of view, Pentti Leino and Jan-Ola Östman discuss various factors involved in the recent spread of the Finnish sä passive. The construction in question is essentially a cognate of impersonal English structures like You have to be alert on slippery roads, but the factors the authors envisage as crucial to the spread of such structures in Finnish go far beyond loan translation or language contact. This is both the strength and the weakness of the chapter: the wide range of factors considered by the authors makes the paper a valuable contribution as a source of working hypotheses for future studies of the topic, but the discussion of any one factor suffers from lack of depth and the need to introduce concepts that cannot be defined properly in the space available. In the maze of motivations discussed, the exact nature and role of the two factors that the authors consider as central to the development – constructions as units of language change and their relation to so-called discourse patterns (Östman 2005) – do not get the highlight they would deserve.

Leino and Östman consider e.g. the functional load of the various Finnish generic expressions, the role of a prominent individual, analogy, language contact, and a drift towards the subject-prominent language type as factors that play a role in the spread of the sä passive. Of these, I find the potential tendency of Finnish towards subject prominence particularly interesting. In my view, more thorough future investigations of this factor should try to pin down what exactly makes a certain syntactic type spread. Is it the model value of expressions of a certain syntactic type (e.g. head-final word order) already established in a language? If so, what makes a pattern the more effective model, its sheer frequency of occurrence or some sociolinguistic value carried by the pattern (cf. e.g. Croft 2000)? If the role of pure frequency-induced entrenchment is more important, this suggests that once speakers learn to process language by means of a certain type of constructions (displaying e.g. head-final word order) in a frequently used functional domain, they introduce this type to other domains as well, for the sake of ease of processing.
In Ch. 4, Precategoriality and argument structure in Late Archaic Chinese, Walter Bisang demonstrates the central role that argument structure constructions (henceforth a-constructions) in the sense of Goldberg (1995) played in Late Archaic Chinese. It appears that at this development stage of Chinese, lexical items were underspecified as to their syntactic category. Only insertion into a “slot” in an a-construction reserved for either N or V assigned them a syntactic category, at the same time coercing their meaning (Michaelis 2004, Override Principle) into the function associated with the slot. Such coercion operations could have drastic effects if the lexical item in question was stereotypically associated with a category other than that provided by the slot; such coercions flouting the norm were in fact often used for rhetorical effects (p. 77).

The fact that lexemes in Late Archaic Chinese lack syntactic category would obviously seem to provide evidence for Croft’s (2001) view that there are no universal syntactic categories like N and V, but Bisang in fact argues against this stance (pp. 61). As far as I can see, his arguments are motivated by the term ‘precategoriality’, which presupposes that categoriality can develop at a later stage and is therefore also found in many languages. Such a development is, however, quite compatible with Croft’s Radical Construction Grammar, since it does not require the existence of universal syntactic categories. The preferences of certain lexical items for either N- or V-slots mentioned by Bisang (p. 77) could become entrenched or conventionalized in the corresponding lexical entries as information on the syntactic slots that the item is frequently used in – and this information would, in effect, constitute a syntactic category, since syntactic categories are nothing but labels for syntactic distributions.\footnote{That is, if prototypical core meanings like N = ‘thing’, V = ‘activity’ are not taken into consideration.} However, such information would refer to individual constructions or, at most, generalizations over all the syntactic positions where a lexical item occurs in a language. The first option would amount to construction-specific syntactic categories, the second to language-specific ones. The crucial point is that no universal syntactic categories emerge from this process.

Bisang provides highly interesting data that show how lexical entries interacted with two a-constructions in Late Archaic Chinese, an intransitive and a transitive construction. He couches this data in well-informed discussions of stereotypical inferences, conceptual space, and the cultural
background from which the data emerge. Rather than trying to recapitulate these discussions, I will raise a couple of critical points, in the hope that they might bring to light questions that are also more generally left open within CxG or, in the worst case, reveal my misinterpretations of Bisang’s paper.

Bisang states that “Goldberg (1995) looks at argument structure constructions from a syntax-independent semantic perspective (...), while Croft equally integrates the semantic side with the form side including syntax” (p. 59). In my view, this is not quite true. Goldberg does largely neglect the question of what exactly the form of her a-constructions consists in (cf. Rostila 2007: 61–65). Nevertheless, these constructions have a syntactic form, e.g. the ditransitive construction has the syntactic form of Subj–V–Obj–Obj2, where the order of the terms is not specified, and the terms themselves must be regarded as shorthands like Subj = ‘the way(s) in which NP subjects are expressed in English’ (cf. ibid.). (A slightly more concrete form can be found in the conative construction: one of the arguments is symbolized by the P at (cf. Goldberg 1995: 63).)

One more issue regarding the form of a-constructions: Bisang posits an intransitive and a transitive construction for Late Archaic Chinese. As far as I can see, these fall together formally if the transitive construction is used with only an Undergoer argument occupying the preverbal position (cf. p. 65). How, then, can the two constructions be told apart, given that the verb slot can be taken by a wide range of items not necessarily stereotypically associated with a verb slot, and hence does not necessarily provide hints as to (in)transivity?

One final point is perhaps in order: Bisang’s contribution also lacks a clear connection to the overall topic of the book, constructional reorganization.

In Ch. 5, titled Variations in Japanese honorification – deviations or a change in the making?, Yoshiko Matsumoto puts reorganization center stage by presenting the on-going change of the non-subject honorific construction o–V–suru as a case of a cognitive shift by which its participants are reinterpreted as the speaker and the addressee, i.e. as belonging to the discourse level. The account explains the deviant, prescribed use of this honorific construction that seems to have been gaining ground lately and shows that it complies with the general tendency of referent honorifics developing into addressee honorifics. The paper not only deals with this change in detail and gives it an interpretation in terms of cognitive and interactional frames, but also offers a useful outline of the
properties of Japanese honorifics and the research hitherto conducted on them. However, keeping track of the different types of honorifics may pose a challenge for the uninitiated.

In Ch. 6, The connectives för att (causal), så att (consecutive) and men att (adversative) in Swedish conversations, Jan Lindström and Anne-Marie Londen examine the use of three complex Swedish sentence connectors, as opposed to their simple variants för (lit. ‘for’), så (lit. ‘so’), and men (lit. ‘but’). The study is based on conversational data and conducted with the methods of conversation analysis, but nevertheless aims at establishing generalizable categories in the form of constructions in the technical sense of CxG (cf. Fischer 2007 for some doubts in this respect). The authors show that despite their subordinated-clause syntax, clauses introduced by the connectors in question are not syntactically or semantically subordinated to a previous clause; rather, the subordination lies on discourse level. (Interestingly, this is reminiscent of the account that Lombardi Vallauri (2004) gives for free conditionals in Italian and some other languages.) The subordinating conjunction att ‘that’ contained within the complex connectors discussed is identified as the locus of this pragmatic subordinating function, contrary to previous accounts that have regarded it as a redundant element.\(^2\) The account is laudably careful in that it involves e.g. a discussion of the historical development of att. In connection with this, the authors also explicitly address the question of (cognitive) reorganization, but perhaps do not do so in the clearest possible way (cf. p. 116). This is, however, understandable in a paper that involves such multi-faceted innovative use of theoretical concepts combined with careful empirical analysis. One further especially interesting issue broached by the authors is the use of the attribute-value matrix of CxG in describing the discourse subordination phenomena covered by the paper that cannot be captured by means of traditional grammar.

On the whole, the volume is significant in that it represents one of the first steps of CxG studies away from a rigidly synchronic perspective towards modeling construction inventories existing side by side and/or in the process of change. Whatever weaknesses the individual papers may

\(^2\) To be more precise, att is identified as the means by which the pragmatic subordination of a clause can be made explicit, whereas the use of the simple variants för, så, and men leaves it implicit (cf. p. 148). This echoes the interesting research question of how much of a construction must be realized formally in order for it to function in interaction and, further still, what the conditions are under which parts of the form of constructions can be omitted.
display – lack of an explicit connection to the overall topic foremost among them – they are more than made up for by their theoretical innovativeness and the interesting empirical issues broached.

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Reviewed by Ulla Paatola

*Kolmas kotimainen: Lähikuvia englannin käytöstä Suomessa* (“The Third Domestic Language: Close-ups on the Use of English in Finland”) offers case studies on the highly topical issue of how English is used in Finnish society in the early 21st century. As the book reminds us, English is no longer just a foreign language Finns use with non-Finns, but has spread into Finnish media, the education system, Finnish working life, and thus into everyday life, so that nowadays Finns sometimes end up using English even among themselves (e.g., pp. 10–12, 15–16, 23, 25). By taking a neutral, or even positive and permissive stance on this phenomenon, this book describes English as an additional “resource” that Finns have in their speech repertoire in addition to their mother tongue. Thus, I take it that the “third domestic” in the book title refers to English being close to a third national language in Finland alongside Finnish and Swedish – even though the title is not explained in so many words. In Finland, the majority of Finns either speak Finnish or Swedish as their mother tongue, and all Finnish and Swedish speakers are obliged to study the other language at school. Theoretically speaking, then, everyone should know both languages and the language which is not a person’s mother tongue – in most cases Swedish – is traditionally referred to as her/his “second domestic language.” The title of the book thus seems to be a play on the traditional perception that Finland has two domestic languages and indicates that the authors of the book do indeed feel that English has a strong hold in Finnish society.

The book has been written by professors and post-graduate students, eleven altogether, from the Department of Languages at the University of Jyväskylä (except for one author). The volume is edited by three of its authors, Sirpa Leppänen, Tarja Nikula and Leila Kääntä. It contains a foreword by the editors, an introductory article and a conclusion by Leppänen and Nikula, and twelve articles altogether. As similar phenomena and conclusions come up over and over again, it would have been clearer from a reader’s viewpoint if there had been more dialogue between the articles and the authors had referred to each other more. Another thing that
could have been focused on more in some articles is the definition of the terminology employed for a reader outside the field of research.

The book is partly a reaction to the public concern about the future of Finnish, as it is argued that English is not replacing Finnish but co-existing with it (pp. 9–10, 426). Thus, the book is of interest to all who have an opinion on the spread of English and about the preservation and maintenance of Finnish. Further, as the back cover states, the book is aimed at language researchers, students and professionals. Having studied, taught and researched English, I feel the book indeed gives food for professional thought. Selective reading might be useful, however – different articles draw the interest of different audiences as the data and methods vary between authors.

Overall, Leppänen and Nikula present the aims and contents of the book very clearly in their introduction (pp. 9–40), making the work of a reviewer much easier. They point out that even though globalization and the spread of English is a widely recognized phenomenon, there is not enough research on the topic (p. 10). While I do, however, think there is already a lot of research on this phenomenon (e.g., Hakala 2007, Paatola 2006, Louhiala-Salminen & Charles 2006, Tamminen-Parre & Kristiansen 2006, Kankaanranta 2005, Mattfolk, Mickwitz & Östman 2004), I think the book corroborates the findings in previous studies as well as offering information that previous studies have not provided. The main contribution is that the book combines insights from many different domains.

To illustrate that Finns face and use English in various situations and ways, Leppänen and Nikula present a continuum describing (1) situations where English is the only or the main language, (2) bilingual situations where both English and Finnish are used and where code-switching and mixing is regular, and (3) situations where Finnish is the main language but so that English words and phrases occasionally mix with it (cf. Figure 2, p. 22; pp. 22–24). This continuum is useful in relating the articles of the book to one another, as the subsequent articles (excluding the conclusion) are divided into three sections (pp. 26–32). However, only some authors clearly explicate where they are on the continuum, which I think everyone should have done for the benefit of the reader.

The first section (pp. 41–202), representing situation (2) on the continuum (p. 26), consists of five articles and is the most extensive of the three sections. What the articles have in common is close analysis of spoken interaction and conversation analytical concepts and tools. It is
especially worthwhile reading Nikula’s, Kääntä’s and Pitkänen-Huhta’s articles one after the other as they focus on English and education and as Nikula and Kääntä describe Content and Language Integrated Learning (CLIL), whereas Pitkänen-Huhta describes traditional foreign language classrooms.

Nikula (pp. 42–72) has a positive view on English in Finnish classrooms as she demonstrates that students use English both when they discuss the subject being taught and informal issues (pp. 48–49, 54–55). Nikula suggests that this is possible because the students are not afraid of making ‘mistakes’ as the focus of the lessons is on content. She also comes to the valuable conclusion that teaching in the CLIL format should set an example for foreign language teaching in other types of classroom.

The emphasis of Kääntä’s multi-semiotic analysis (pp. 73–106) is the teacher. She too argues that CLIL lessons activate and motivate students through functional assignments in ways that foreign language classrooms do not (p. 80). Overall, Kääntä has adopted the positive view on English that lingua franca scholars usually have (e.g., Louhiala-Salminen & Charles 2006, Seidlhofer 2001): even though the teacher(s) she analysed did not speak English as their native language or were trained English teachers, she suggests that they used English competently without apparent problems (Kääntä, p. 100).

Similarly to Nikula, Pitkänen-Huhta (pp. 107–135) analyses students. On the one hand, it is apparent on the basis of her description that Finnish and English have separate functions and that the students’ use of English is restricted to a few situation types. English is not the language of action, as the students mostly recycle the English of their text book (pp. 116–117, 119). On the other hand, Pitkänen-Huhta highlights the students’ language-consciousness. For example, the mixing of Finnish and English functions as a conscious source of humour.

The last two articles in section 1 deal with the language of young people as well. Arja Piirainen-Marsh (pp. 136–168) analyses code-switching from Finnish/English into English/Finnish in the interaction between boys playing video-games. Even though the boys mostly use Finnish, the vocabulary of the English game enters their interaction phonologically, morphologically and syntactically (p. 144). In conclusion, Piirainen-Marsh states that code-switching signals transitions between actions and marks the beginnings of new actions (pp. 148, 161). Overall, the use of English in the midst of playing is a signal of expertise which can only be acquired by playing the game (p. 163).
Anu Muhonen (pp. 169–202) considers the mixing of English and Finnish in the on-the-air dialogues and monologues of Finnish radio anchors. Muhonen draws two conclusions which I find particularly interesting. First, the use of English signals intertextuality and textual coherence as the anchors often recycle adapted and non-adapted English loan words and phrases which have been uttered earlier in the show (pp. 177–182). Secondly, they create polyphonic discourse by the use of English in that an anchor typically uses English when s/he figuratively steps into another person’s shoes and speaks in that person’s voice (pp. 183–191).

In contrast to section 1, section 2 (pp. 203–329) deals with written language and situations in which Finnish is supposedly the primary language (Leppänen & Nikula, p. 28). The section opens with Leppänen’s topical description of language choices (pp. 204–235), mixing of and code-switching between Finnish and English on fan forum websites written by Finns. She characterises some language choices as a means of “stylization” (pp. 211, 213). For example, writing English-only texts makes it possible for the writers to acquire an international readership. Interestingly, a fan may “stylize” entirely in English when the subject matter is delicate or sensitive, like eroticism (p. 211) (Muhonen comes to this conclusion as well; pp. 185, 190–191). Yet another method of stylization is mixing languages and thus creating an insiders’ register in the fan fiction community (p. 217). Overall, code-switching has several discourse level functions in the data (p. 222). Finally, Leppänen consoles those who worry about the future of Finnish by pointing out that although fan fiction writers use English extensively, the Finnish language is still important for them (pp. 208, 230).

The most thought-provoking article for me in the section is the one by Samu Kytölä (pp. 236–274) who shows how Finns express ridicule and racism through the use of English in an online football discussion forum with Finnish as its main language. Several Finns who posted comments on the forum made fun of a presumably Turkish fan’s non-idiomatic English by recycling the Turk’s posts in their own posts and using non-idiomatic and ungrammatical English on purpose (e.g., pp. 260–265). What is remarkable about this, as Kytölä also points out, is that Finns now know English well enough to feel that they have the authority to judge those whose English is obviously not as good as theirs (p. 252). Thus, since so-called mistakes are not tolerated, English is not the amicable lingua franca in Kytölä’s data that it is generally assumed to be (pp. 252–253) (cf., e.g.,
The last two articles in the section are by Marianne Toriseva and Terhi Paakkinen. Toriseva (pp. 275–298) takes part in multilingualism discourse by presenting a coverage of a visit to Finland by American skateboarders from a skateboarders’ magazine. In contra-distinction to the others, she approaches her data from a systemic functional viewpoint, comparing the number of English features in the theme and rheme of sentences (p. 278), concluding that English elements are usually found in the rheme (pp. 287, 290) in the form of adapted and non-adapted loan words which the readership seems to be assumed to know (pp. 288–290). Toriseva stresses that the terminological choices may not have been the writer’s choice, since there are often no Finnish words for such a special field as skateboarding.

Instead of analysing youth language, Paakkinen studies the language of advertising in television and magazines (pp. 299–329). Perhaps not surprisingly, one of her observations is that there is more English in Finnish advertisements than in advertisements in some other countries (pp. 304–305, 325). Contrary to what one might expect – after having learnt this and read all the articles in the book so far – the overall quantity of English elements is not great (p. 305). However, I think it is worth mentioning that even though English does not predominate in quantity, it is positioned visibly so that it seems to predominate (pp. 307, 314–315). What is also striking is the functional difference that the two languages have, facts being presented in Finnish and persuasion carried out in English (p. 316).

Finally, section 3 (pp. 331–420) deals with discourse which is entirely in English (Leppänen & Nikula, p. 30), including description of both spoken and written language and of language attitudes. The section begins with Heidi Koskela’s analysis (pp. 332–354) of television sports interviews in which a Finnish reporter interviews athletes and ice hockey players in English (p. 332). Perhaps her most interesting claim is that sportsmen do not need to know the interview language that well, but to manage the interview well, they need to know the interview format (pp. 333, 352). I think this is something that foreign language teachers should be interested in knowing and conveying to their students. In my view, this also supports the lingua franca ideology: what defines good language skills is not idiomatic and grammatical target language performance but understanding others and making oneself understood (cf., e.g., Seidlhofer 2001).

Paakkinen’s second article (pp. 355–381) is the most critical one in the book towards the use of English. She analyses Finnish municipalities’
English homepages on the Internet, criticising them for being disorganized (p. 378). I find her data intriguing, and indeed, it would also have been interesting to learn what the Finnish web-pages of the municipalities are like – are they better organized and is their language more vivid?

Tiina Virkkula’s article (pp. 382–420) concentrates on Finns’ opinions on English in working life. I found her observation that people feel more spontaneous and active when using Finnish and passive when using English particularly noteworthy (p. 408). Perhaps in connection with this, many want to keep their Finnish identity and speak the often ridiculed Finnish English (cf. p. 409). Further, one of the most noteworthy points in the article for those who fear that English will take over altogether is Virkkula’s conclusion that English is not the only language of the business world, since Finns choose to show solidarity toward their foreign colleagues by choosing the colleagues’ native languages instead of English (pp. 396–397).

Perhaps the most common theme in the book is presenting English as an additional “resource” in the language repertoire of Finns. Because Finns allegedly know English so well, Nikula and Leppänen pose questions in their conclusion (pp. 221–428): Should we require more from school students in English lessons or should we concentrate on teaching other languages at schools (p. 426)? I think these are good questions. I partly agree with the tenets of this book and see English as an additional resource, but I still feel that it is important to remember that a large proportion of the population is not bilingual and for many English is still not an additional resource. I constantly face people in the English classes I teach who claim that their English skills are poor and who are therefore frustrated. For them, using English loan words or being able to communicate some simple sentences in English is not bilingualism. For them, English is not the third domestic language of Finland. Thus, we should not be overly positive, and indeed, I second Nikula and Leppänen, who acknowledge that knowing or not knowing English may enforce the creation or maintenance of inequality in the society in the future (p. 425). Recently, I learnt that some of the same researchers who contributed to this book are working on another book – one in which English is not seen as a resource but as a potential source of problems. I am eagerly waiting for this volume to see how it complements Kolmas kotimainen.
References


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1. **State-of-the-art work on (historical) sociolinguistics**

As the editors of *The Language of Daily Life in England* (1400–1800) write, this collection of articles stems from the experiences gained in the compilation and research on the Corpus of Early English Correspondence (CEEC) during the past fifteen years. The CEEC family of corpora amounts to over 5 million running words and consists of c. 12 000 letters from almost 200 writers. Currently, it covers four hundred years from 1400 to 1800. The CEEC project was at first aimed at testing present-day sociolinguistic theory, findings and methods in a historical context, and has since then produced a considerable number of findings on language variation and change in a macro-societal context. In this book, the research team goes beyond the correlational and variationist framework into qualitative and micro-level analysis. However, the research on, for example, identity work of the writers or life-span changes of individuals is firmly rooted in the findings of the previous work, which gives the reader an overall confidence in the results.

The perspective of *The Language of Daily Life* reflects the development witnessed in sociolinguistics in general. During the past decade, the focus of sociolinguistic studies has shifted from large-scale quantitative to micro-level qualitative work, or even more often to research that combines both (for Finnish studies see, for example, Lappalainen 2004 and Vaattovaara 2009). In this book, the focus is on the individual writer “who uses language to communicate for specific purposes, to create his or her role in the situation and to maintain and form relationships with others” (p. 2–3). Thus, one of the aims in this book is methodological, as it seeks to combine macro- and micro-level analyses in various ways. To orientate the reader into the methodological spectrum adopted in the individual studies, the introductory article classifies theoretical frameworks under three

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headings, correlational sociolinguistics, interactional sociolinguistics and sociopragmatics.

As stated above, the original theoretical framework of the CEEC project was predominantly correlational and variationist, the main object of study being the diffusion of morphosyntactic changes in the population. The methodological turn has shifted the focus to the individual language user. Interactional sociolinguistics perceives variation as an interactional phenomenon: unlike the correlational framework that regards large-scale categories such as social class and age as shaping patterns of variation, interactional sociolinguistics considers identities as labile and continually negotiated in interaction. From the perspective of historical sociolinguistics, if language is seen as “a communicative tool”, questions such as “what kinds of functions do particular linguistic items serve in interaction” and “what kind of social meanings these items have?” (p. 6) become important not only for understanding and explaining linguistic variation but also when addressing the question of language change.

Even though correlational sociolinguistics has received much critique about essentialism, the editors of *The Language of Daily Life* are careful not to overstate the gap between the frameworks but rather stress their interdependence. The correlational framework is in place, for example, when we aim to give a general overview of variation or predict the rapidness or direction of change. And as the editors stress, “new questions arise on the basis of what we already know”. It is clear that research questions such as those presented in this volume can only spring from experience with corpus work and general knowledge of sociolinguistic variation in the history of English. Throughout the work, micro-level analysis is reflected against the background of findings on the societal level. The study by Päivi Pahta and Arja Nurmi on code-switching serves as a good example: their article illustrates how research results from previous work (see e.g. Nurmi & Pahta 2004) can provide new research questions, and they again provide new insights on the original data, ultimately increasing our understanding in a hermeneutical way.

The third theoretical framework that also overlaps with sociolinguistics is historical (socio)pragmatics, the study of language change from a pragmatic perspective. Sociolinguistics and historical pragmatics are intertwined in the volume: the studies seek to find out how language use in written interaction is affected by social variables, and vice versa, how social relationships are constructed and maintained in written interaction. This double exposure is illustrated, for example, in Minna
Palander-Collin’s paper on self-mention (I) and addressee inclusion (you vs. nominal title) in the correspondence of a Norfolk gentleman Nathaniel Bacon. Palander-Collin’s study shows that variation is explained both by the existence of definable social variables that correlate with linguistic use and the identity-work of the individual writers who use language to achieve different goals. The study thus illustrates the inseparability of sociolinguistic and historical (socio)pragmatic framework in this type of research topic.

The introduction also contains a short passage on letters as research material. Letters were originally selected as data as they have been shown to be closer to spoken language than other texts, and thus serve to illustrate language change that typically arises in spoken language. Furthermore, as letters represent real interaction between correspondents, they can also be studied from the interactional perspective. They have thus proven valuable in both the correlationist framework and from the viewpoint of interactional sociolinguistics.

2. Stretching the boundaries of historical sociolinguistics

The volume is divided into three subsections labelled “Variation and social relations”, “Methodological considerations in the study of change” and “Sociohistorical context”. The first section focuses on the identity-work of the writers through their use of code-switching (Päivi Pahta and Arja Nurmi), self mention and addressee inclusion patterns (Minna Palander-Collin) and referential terms and expressions (Minna Nevala). Päivi Pahta and Arja Nurmi study the code-switching patterns in the correspondence of Charles Burney, a musician and music historian. The writers look at both the quantity and the quality of switching, and show that switching in this data seems to be an in-group phenomenon that is more frequent in letters between correspondents with a close relationship. An interesting hypothesis made on the basis of their findings is that code-switching seems to be linked to a more general stylistic shift in more intimate relationships. The qualitative micro analysis of the contexts of code-switching shows that there is a lot of variation in how much identity-work is actually done through different instances of switching. Some switches seem to be very conventionalized, while some instances more clearly manifest active construction of identity, for example the use of musical terms in building a
professional identity. Thus, code-switching itself can be seen as a style that indexes certain types of social relationships between the correspondents.

Minna Palander-Collin’s article looks at patterns of interaction in late sixteenth-century personal letters. She studies self mention (I) and addressee inclusion (you vs. nominal title) both quantitatively and qualitatively in the correspondence of a late sixteenth-century gentleman, Nathaniel Bacon. The results show that speech-act pronouns are favoured when Bacon wrote to his inferiors and equal family members. In his letters to social superiors, nominal address forms such as Your lordship were favoured. The letters written by noblemen to Bacon show similar types of patterns, whereas the use in the letters of Bacon’s inferiors was more mixed. Palander-Collin argues that this was probably due to differences in educational background. Writers from the lower ranks, e.g. servants, adopted the most overt markers of civil discourse style but failed to use all the stylistic nuances of “humiliative” discourse. This type of “stylistic rupture” has been proven to be a feature of lower-class writing in general (see e.g. Vandenbussche 2007: 284–285).

The last paper of the first section is Minna Nevala’s study on referential terms and expressions in eighteenth-century letters. Nevala’s article continues the theme of how interpersonal relations and social identities are negotiated in interaction. Her data consists of the correspondence of three members of the Lunar Society of Birmingham. Nevala investigates the social information encoded within nominal reference (e.g. Mr. Boulton, our friend Boulton, your worthy friend Boulton or another most agreeable man and your very warm friend Mr Boulton), and anchors her study in the concept of social deixis. By using referential terms, the writers are able to express interpersonal relations and social roles. The referential terms are shown to be used strategically to index the in-group and out-group affiliations of both the writer and the addressee as well as the third person referent. The paper includes an illuminative discussion on how the writer’s choice of referential term can either increase or decrease the distance between himself and the addressee, himself and the referent, or the addressee and the referent.

The second section of the volume discusses theoretical aspects of the study on variation and change. Anni Sairio’s paper investigates Elizabeth Montagu’s Bluestocking network and the effect of the strength of network ties on the diffusion of change. To calculate a network strength score (NSS) for each of her informants, Sairio has selected parameters that represent geographical proximity, type of relationship, network connectedness,
collaboration, social rank and the longevity of relationship. The scores were compared with the frequencies of pied piping and preposition stranding in the network correspondence. Sairio’s results show that linguistic variation was best explained by including the social variable of rank in the analysis: stigmatised forms were avoided when the recipients were Elizabeth Montagu’s social superiors. Sairio thus suggests that NSS analysis benefits from the inclusion of sociolinguistic variables.

Terttu Nevalainen discusses caregiver language in early modern English correspondence. She studies letters of Lady Katherine Paston and the linguistic models she provided to her teenage son. Nevalainen locates her study in recent sociolinguistic research on the acquisition of sociolinguistic competence, and considers to what extent it is possible to reconstruct child-directed discourse in historical data. Combining methods of politeness studies, keyword analysis and quantitative analysis of certain linguistic variables, Nevalainen shows that caregiver language can be characterized at various levels: in speech activity and politeness, e. g. in the frequent use of directives, delivering praise or showing appreciation, as well as in lexical content, the singular pronoun thou and the lexemes child and son emerging as key words. As to the linguistic models transmitted by Lady Katherine Paston to her son, the study shows that she proved to be rather average in her input, but she also used some more local features. This discovery goes against sociolinguistic findings on modern parents who are found to use more standard forms when talking to their children. This would suggest that local variants operate below the level of consciousness. Nevalainen’s study proves positively that child-directed language can be traced back to history and encourages further investigation in the field.

In the last paper in the methodological section, Helena Raumolin-Brunberg discusses lifespan changes in the language of three early modern gentlemen. Her study shows that there is significant divergence between the informants in respect of how they participated in the on-going changes. Raumolin Brunberg’s study questions the stability of linguistic behaviour in adulthood and stresses the fact that individuals vary in the ways they make use of linguistic variants to support their identity and social roles, and to what extent they aspire for social advancement. Raumolin-Brunberg seeks to find explanations for this divergence in the childhood language acquisition of her informants. She makes an important point, also discussed elsewhere, that adults are more likely to change their behaviour with regard to a feature that they learned as variable, while the features that have been learned as invariable typically remain unchanged. Other possible
explanations for the divergence are provided by migration and accommodation into a new domicile, as well as the result of a dialect contact situation and the only partial adoption of the patterns of usage in the new environment. Raumolin-Brunberg’s study, with support quoted from sociolinguistic studies elsewhere, makes a strong theoretical point that the validity of apparent-time analysis and the roles of generational and communal change should be re-evaluated in further studies.

The last section of the volume presents three case studies of language in a particular socio-historical context. Mikko Laitinen’s article looks at the singular you was / were variation in the eighteenth century correspondence. His letter material proves to be fruitful in looking at the impact of normative grammars and prescriptivism on linguistic change: the material illustrates both the rise and decline of the you was / were variation. The use of you was began to spread in the late seventeenth century. The change originated from below the level of consciousness and was led by men. With the newly emerging genre of normative grammars, the variable rose above the level of consciousness and its use started to decline. The change was again led by men. These results contradict the tendency shown in present-day studies that women typically adopt prestige forms more quickly than men. Thus, Laitinen’s study stresses the importance of contextual knowledge, for example an individual’s educational background and access to prescribed forms, in investigating the diffusion of linguistic changes.

In the last two papers of the volume, Samuli Kaislaniemi looks at foreign terminology in East India Company merchants’ correspondence, and Teo Juvonen looks at the linguistic and historical aspects of possession in the correspondence of John Paston II. While these two articles seem further away from the sociolinguistic core of the rest of the volume, they still nicely illustrate how the use of the CEEC corpus can be extended to areas probably not thought of in the first place.

Kaislaniemi’s paper looks at three different types of borrowings from Japanese in the letters of East India Company merchants in Japan in 1613–1622. The first case study considers the borrowing of a local word for a known referent, goshuin ‘license for trade; passport’. The second borrowing, the honorific term tono, represents a case of mismatch between the semantic values of Japanese and English words. The third case study discusses the Japanese word tatami ‘straw mat’ that came to be used as a length measure, and thus illustrates a case of semantic shift and appropriation. The article looks at borrowings in particular, and the writer knowingly leaves out the much controversial and debated distinction
between code-switching and borrowing. However, for a reader less familiar with these concepts, it would have been helpful if the paper had contained a short definition of these concepts with respect to this data, especially when the overall “foreignness” of the East India data is evaluated in terms of code-switching and against the findings of Nurmi and Pahta (2004) on the CEEC. Kaislaniemi’s pilot study shows that close reading of the processes of borrowing in their socio-historical context proves to be a fertile approach that can question traditional views, for example, on the speed of the establishment of a borrowing in a speech community.

The volume is concluded by Teo Juvonen’s paper that looks at possession and ownership both as a socio-historical and as a linguistic concept. Against the framework of cognitive grammar, Juvonen presents a categorization of possessive relations into prototypical (e. g. kinship my brother p. 262 or material possession his gown of russette p. 264) and less prototypical (e. g. social possession I schall haue a-nothyre mann [servant] p. 265 and abstract possession yowre receytys ‘receipts’ p. 268). He also looks at the possessive constructions from the viewpoint of what kind of possessive relations they refer to. Juvonen’s study indicates that two different possessive relations operate in the possessive constructions: possessive NPs are linked with relational categories, that is, categories such as kinship and social terms that do not stand alone but presuppose a possessor. The verb have on the other hand is linked with sortal categories, e. g. material possessions that can be discussed without reference to their owners. Juvonen demonstrates that in the life of the Pastons, ownership and family relations had a great impact on each other. His article thus gives further proof to the importance of obtaining enough knowledge of socio-historical context to assure empirical validity of the research, and as such functions as a fitting ending to the whole volume.

3. Conclusion

_The Language of Daily Life in England_ (1400–1800) is an inspiring book in many ways. Not only the section specifically labelled as methodological, but also the other sections provide meta-theoretical discussion that clearly reveals the writers’ aspirations to promote the field of historical sociolinguistics. Methodological considerations are also put into practice: the project that at first started from the correlational and variationist
framework now represents a whole spectrum of methods and theories that interconnect successfully.

As promised in the introductory section, the protagonist of this volume is the individual who uses language in specific situations. The volume emphasizes the importance of social and historical background. It is true that in some cases the background can inflict limitations on the writers, e. g. lack of education affecting the extent of stylistic repertoires. However, the foremost impression after reading the studies in this volume is the great potential that individual language users possess when they use language to achieve specific goals, to maintain and construct their identities and social roles.

References


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Rezentiert von Christopher Hall, Joensuu


Einleitender Teil

Der einleitende Teil (die „Umtexte“) des neuen Wörterbuchs umfasst nicht weniger als 154 Seiten (im Vergleich zu einem zweisprachigen Vorwort bei Hirvensalo). Dazu gehören neben dem Vorwort und den Benutzerhinweisen (beides auf Deutsch und Finnisch) ein Literaturverzeichnis sowie Informationen auf Finnisch zu verschiedenen Aspekten der deutschen Sprache: Verbreitung, regionale Variation, Geschichte, die neue Rechtschreibung, die deutsche Aussprache und eine Übersicht über die Grammatik. Das Wörterbuch ist in erster Linie für finnische Muttersprachler gedacht, was erklärt, warum nur die deutsche Sprache so ausführlich behandelt wird. Das deutsch-finnische Wörterverzeichnis kann natürlich auch von deutschen Muttersprachlern benutzt werden, aber zur finnischen Grammatik oder Aussprache wird weder im einleitenden Teil noch in den einzelnen Einträgen Information angeboten. Das ist einerseits schade, wenn man bedenkt, dass ein solch umfangreiches deutsch-finnisches Wörterbuch sicher niemals in Deutschland für deutsche Muttersprachler herausgebracht wird. Dies ist also auch für Deutschsprachige das einzige große deutsch-finnische Wörterbuch. Andererseits versteht man, dass der Aufwand und der zusätzliche Platzbedarf beträchtlich gewesen wären und dass der größere Umfang die Benutzung des Wörterbuchs erschwert hätte. Die ausführlichen Benutzerhinweise sowie die Erklärungen der Zeichen und Abkürzungen werden aber natürlich in beiden Sprachen angeboten.


**Aufbau der Einträge**

hier eigene Einträge (die sog. glattalphabetische Anordnung). Das erleichtert die Suche nach Wörtern, und dadurch kann der Fettdruck für die Beispiele benutzt werden, die jetzt kursiv und fett gedruckt sind, wodurch sie eher ins Auge fallen. Weitere Faktoren, die die Lesbarkeit erhöhen, sind der klare Schrifttyp und der etwas größere Zeilenabstand. Diese Struktur der Einträge und das Layout der Seiten gehen wohl auf Entscheidungen des Verlags zurück, denn sie ähneln denen der neueren schwedisch-finnischen und englisch-finnischen Wörterbücher von WSOY.

Die folgenden Abbildungen geben einen Eindruck vom unterschiedlichen Layout der Seiten in Hirvensalos und Korhonens Wörterbüchern. Damit die Texte nicht verkleinert werden mussten, sind nur Teile der zweispaltigen bzw. dreispaltigen Seiten abgebildet:

Abb. 1.: Hirvensalo Deutsch-finnisches Wörterbuch, S. 992 (Ausschnitt)

Wortschatz

Das Wörterbuch enthält ca. 200 000 Stichwörter und Wendungen (105 000 Stichwörter, 86 000 Beispiele sowie 9 000 Idiome und Sprichwörter). Diese Größenordnung haben heutzutage viele große einbändige Wörterbücher. Das zweisprachige Cambridge Klett Comprehensive German Dictionary (2003) zum Beispiel hat 350,000 Wörter und Wendungen, und wenn man davon ausgeht, dass jede Richtung ungefähr die Hälfte hat, wären das im deutsch-englischen Teil 175 000. Das einsprachige Duden Universalwörterbuch hat etwas mehr: rund 150 000 Stichwörter und Redewendungen und mehr als 500 000 Anwendungsbeispiele, aber in einem zweisprachigen Wörterbuch würde diese Menge erheblich mehr Platz einnehmen.

Der Vergleich mit Hirvensalos Wörterbuch ist in diesem Punkt schwierig, weil dort nur angegeben wird, dass es 190 000 Stichwörter enthält, ohne dass genau angegeben wird, ob nur die Stichwörter gezählt worden sind, oder ob diese Zahl auch Beispiele und Wendungen enthält. Wenn es wirklich 190 000 Stichwörter sind, ist das erheblich mehr als im neuen Wörterbuch, wenn Beispiele und Wendungen mitgezählt worden sind, sind die Größenordnungen vergleichbar. Auf jeden Fall sind im neuen Wörterbuch die meisten obsoleten Wörter weggelassen worden und dafür neue und gebräuchliche Wörter hinzugenommen worden, so dass die
Wahrscheinlichkeit, dass man ein gesuchtes Wort findet, im neuen Wörterbuch viel größer ist.


Dazu kommt noch die Frage der Genauigkeit bzw. der passenden Übersetzungen. Hier hat der Herausgeber und das ganze Team gute Arbeit geleistet. Nach meinen Erfahrungen sind die Übersetzungen durchweg treffend, hier findet man keine Fehler wie bei Hirvensalo, wo etwa homosexuell als 'harhaviettinen' übersetzt wurde oder die Team statt das Team angegeben wurde.

**Fazit**

In vielerlei Hinsicht ist dies ein sehr gut durchdachtes Wörterbuch: die leserfreundlich gestalteten Seiten, die informativen Umtexte, der umfangreiche, aktuelle Wortschatz und die genauen Übersetzungen sind alle große Vorteile gegenüber seinem Vorgänger. Es kann ohne Vorbehalte für alle empfohlen werden, die mit den deutschen und finnischen Sprachen arbeiten.

Zum Schluss möchte ich zwei Wünsche zum Ausdruck bringen: Erstens, dass der Verlag sehr bald eine elektronische Version des Wörterbuchs auf CD-ROM herausbringt. In der heutigen Zeit wird meist am Computer geschrieben, und es ist erheblich schneller, wenn man dabei ein elektronisches Wörterbuch benutzen kann, statt in einem Buch zu

Zweitens ist zu wünschen, dass dieses Wörterbuch in Zukunft regelmäßig aktualisiert wird, und dass wir nicht 45 Jahre warten müssen, bis eine überarbeitete Auflage erscheint.

Literatur


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Reviewed by Tsutomu Akamatsu

The book being reviewed here is the latest (as I write these lines) in Cambridge University Press’s *The Sounds of* series. The titles already published in the series include *The Sounds of French* (Tranel 1988), *The Sounds of Spanish* (Hualde 2005) and *The Sounds of Chinese* (Lin 2007). The author is an American who currently teaches in the Department of East Asian Studies at the University of Arizona. His previous book on a kindred subject, *An Introduction to Japanese Phonology* (Vance 1987) is well known to those who are interested in the phonetic aspects of contemporary Japanese. *The Sounds of Japanese* is aimed at English-speaking readers with “a fairly high level of Japanese language proficiency” (p. xvii). By ‘proficiency’ Vance means both spoken and written Japanese. Compatible with this assumption on his part, examples from Japanese are regularly given in *kanji* (Chinese characters) or *kana* (*hiragana*, *katakana*) rather than only in *rōmaji* (romanization) as is often done in most other books on the Japanese language on the market, though the phonetic or phonological notation additionally provided by Vance for each example will help the reader to easily identify the example concerned. *The Sounds of Japanese* is explicitly intended to be a “textbook”, unlike *An Introduction to Japanese Phonology*. The book is accompanied by an audio CD which is attached to the inside of the back cover.

This book is definitely not for teaching or learning how to pronounce the Japanese sounds, as the title might mislead prospective readers at first sight. The principal preoccupation of the author is with a phonology (or phonemics as he chooses to call it) of “Tokyo Japanese” as spoken today. Circumstantially explained and densely argued, the book requires concentration and patience on the readers’ part in following what the author has to say on the various aspects of “the sounds of Japanese”.

The book falls into two parts of unequal lengths, the first, the short part, being an introductory exposition of phonetics and phonology, and the second, the long part, a full presentation of the sounds (i.e. the segmentals) and sound attributes (i.e. the suprasegmentals) of Japanese. Following the Preface (pp. xvii–xx), there are what one may understand as eight chapters, though the author does not call them such. The eight chapters are: Phonetics (pp. 1–25), Phonemics (pp. 26–52), Vowels (pp. 53–73), Syllable-initial consonants (pp. 74–95), Syllable-final consonants
(pp. 96–114), Syllables and moras (pp. 115–141), Accent and intonation (pp. 142–205), and Other topics (pp. 206–236). These are followed by three Appendixes (A, B, and C), References, and finally Index. Exercises are provided at the end of each of the eight chapters. Some of the exercises will be fairly tough and prove quite a challenge to not a few of the readers.

Vance’s exposition of phonetics is largely in terms of articulatory phonetics rather than acoustic phonetics or auditory phonetics. This is appropriate for the majority of the readers who will find his explanation of the sounds (of English and Japanese) easy to understand. There is one point that puzzles me in Vance’s explanation of the organs of speech. He consistently talks about the velum being “open (lowered)” or “closed (raised)” (p. 4). It seems that the appropriate words should be “lowered” or “raised”, not “open” or “closed” as well. What is opened (open??) or closed is the entrance to the nasal cavity and the oral cavity from the pharynx.

The variety of Japanese pronunciation that Vance chooses to discuss in his book is “Tokyo Japanese” which happens to be the variety spoken by the present reviewer. The variety of English Vance chooses in explaining the English sounds is what he calls “United States newscaster English” (p. xviii et passim) which is close to the variety of English he himself speaks. Those readers who speak British English will encounter a few somewhat surprising statements. One such occurs in connection with the pronunciation of coated and coded. Vance writes: “(…) the pronunciations with [t] and [d] strike many native English speakers as unnaturally precise, that is, elaborated rather than careful” (p. 48). He makes this statement because he regards the pronunciations with [r] (an alveolar flap) as natural in the pronunciation of this pair of words. One could think, in this connection, of other relevant pairs of words such as writer vs. rider, atom vs. Adam, etc. This may well be the case with “United States newscaster English” but certainly not with British English in which [t] and [d] are normally retained. It goes without saying that such pronunciations with [r] relate to what Vance considers as the neutralization of the opposition /t/ vs. /d/.

It is from Chapter 3 onward that Vance fully embarks on his exposition on Japanese phonetics and phonology.

Vance explains the concept of the phoneme and, in conjunction with it, the criteria of ‘phonetic similarity’ and ‘complementary distribution’, and ‘free variation’. This is, to a certain extent, a standard practice we all know from Bloomfieldians and Jonesians. However, Vance regards the phoneme as an abstract entity, which is realized by its allophones. This is
not in accord with the Bloomfieldians’ or Jonesians’ view, according to which a phoneme is essentially a family of phonetically similar sounds in complementary distribution. Also, unlike Bloomfieldians or Jonesians, Vance brings in the concept of distinctive features as applicable to the phoneme.

In giving examples in broad phonetic notation, Vance nearly consistently indicates a vowel occurring before a nasal consonant in the same syllable as nasalized. He notates, for example, [tʰɛns] (or perhaps [tʰɛn(0)s]) rather than [tens] for tense (p. 28). Notice also, in this connection, his indicating aspiration ([tʰ…]). I do not question that the nasalization of the vowel and the aspiration occur in these cases. It is a matter of what degree of broadness (or narrowness) of phonetic notation a particular writer aims at in such a phonetic notation. It would seem to me that most writers choose a broader phonetic notation, say [tens] instead, unless they specifically wish to draw special attention to the fact that the vowel is nasalized and [t] is aspirated in the phonetic context in question, which is not Vance’s intention. He extends this practice to the phonetic notation of Japanese words as well, writing e.g. [hōn:] (p. 17) rather than [hoN] for hon ‘book’. However, we find him notating [kʰōn’viktɔd] (p. 69) rather than [kʰn’viktɔd], or [kʰanvikt] (p. 69) rather than [kʰn’vikt]. Consistency is thus not always observed. At any rate, one may wonder if a less than broad phonetic notation (as exemplified by [tʰɛns]) is specifically necessary for the purpose that Vance has in mind.

One specific point Vance discusses at great length in Phonemics (pp. 26–52) and Vowels (pp. 53–73) is how to phonologically analyze “(phonetically) long vowels”, i.e. [i:], [e:], [a:], [o:], and [u:] in Japanese. Vance is not to be flayed for conveniently using the phonetic symbol “u” (in [u] and [uː]). He is fully aware and explicitly notes that [u] not [u], and [uː] not [u], occur in Japanese. He takes the readers through a number of different phonological analyses that lead to different phonological notations of the long vowels but, at the end of the day, he is left with two options for himself, i.e. /ii/, /ee/, /aa/, /oo/, and /uu/ (“double-vowel analysis” as he calls it) and /iH/, /eH/, /aH/, /oH/, and /uH/ where /H/ is a “lengthening phoneme” which has multiple realizations, depending on different phonological contexts. Vance prefers the latter type of phonological notation, which he consistently employs in his book.

It is my personal experience that when foreigners wrongly choose short vowels instead of long vowels, or vice versa, in spoken Japanese there occurs a hiatus in my comprehension of their Japanese. This type of
mistake is probably the biggest factor that creates an obstacle to smooth comprehension. Vance, however, has other ideas and considers that “Anecdotes about length mistakes by hapless foreigners are part of Japanese language-teaching folklore…” (p. 56) and cites in support of his view two other authors (Seward 1968: 26–27; Asano 2007: 252). I would seriously disagree with Vance here. He is of the view that the functional load of the opposition between a short vowel and a long vowel in Japanese is low and that the alleged low functional load only leads to an insignificant degree of intercommunication problems. Vance seems to erroneously minimize the gravity of the problems in question. The number of minimal pairs that are distinguished from each other through the opposition short vowel vs. long vowel in Japanese is actually not negligible. This opposition in Japanese is just as essential in Japanese as it is in some other languages such as Finnish and Czech. One could perhaps argue that co-context helps to solve any difficulty caused by the mistakes concerned, but it is true that some precious few moments are lost in a natural flow of dialogue in Japanese till native speakers identify the Japanese word the foreigners mean but failed to deliver. Besides, it is well known that a phonological opposition (e.g. /ə/ vs. /ɔ/ in English) with a low functional load may be sustained if it is well anchored in a correlation (voiceless vs. voiced in this case). In other words, a low functional load does not necessarily lead to instability of the opposition. The opposition between short vowels and long vowels in Japanese is highly utilized, and even if, as Vance suggests, the functional load of the opposition were low, the very fact of the opposition being well anchored in the correlation short vs. long promotes and guarantees its stability.

Vance brings up for discussion the much-cited case of the difference in the vowels [oː] between *satooya* ‘foster parent’ and (*)*satôya* ‘sugar dealer’. In my view, first of all, *satôya* ‘sugar dealer’ is a pseudo-word; the word should be indicated with an asterisk, at best within parentheses as I have done. On the other hand, *satooya* ‘foster parent’ is an attested word. The two cited items do not constitute a minimal pair, and therefore the comparison between the two words loses its validity. I imagine that one could find another pair of words that is acceptable as a minimal pair. However, there is a general point I wish to make. In my view, the two words are different in respect of their composition, i.e. *satooya* (< *sato* ‘one’s native village’ + *oya* ‘parent’) and *satôya* (< *satô* ‘sugar’ + *ya* ‘shop’), with the internal boundary in different places, and consequently constitute a pseudo-minimal pair. One may be reminded of the well-known
case of *black tie* [-tʰ-] vs. *blacked eye* [-t-], which warns us not to establish /tʰ/ and /t/ in English. There is a boundary between *black* and *tie* in the former case and between *blacked* and *eye* in the latter. It is important to be aware that, of *[-oo-]* in *satooya* ‘foster parent’, the first [o] belongs to one constituent (*sato*) and the second [o] to another constituent (*oya*), whereas this is not the case with *[-oo-]* in *satōya* ‘sugar dealer’ as both [o]’s belong to one and the same constituent, namely *satō*. Vance expresses this difference in terms of “separate syllables” (p. 58) whereas I express it in terms of “separate constituents” of the compounds. It is well known that, in a number of languages, different phonetic phenomena are often to be observed to occur at the boundary between adjacent constituents of compound words of different composition. What occurs in the case of *satooya* is vowel rearticulation, which Vance rightly refers to and I agree with him. I am also in agreement with the spectrographical evidence that he presents (p. 59) in which the dip in amplitude is unmistakably shown. Vance uses the difference between [oo] (with vowel rearticulation) in *satooya* and [oo] (without it) in *satōya* as an argument against the double-vowel phonemic analysis for both [oo]’s and in favour of the phonemic analysis incorporating a lengthening phoneme /H/ for the latter [oo]. Phonologically, he notates [satooya] (*satooya*) as /satooya/ and [satooya] (*satōya*) as /satoHyal/. Vance’s is an example of a phonological analysis in which the synthematic information (i.e. composition, derivation, etc.) is not allowed to influence and decide the establishment of phonemes. I hold that, *phonologically*, [oo]’s in both *satooya* and *satōya* are /oo/, and we have /t/ in both *black tie* [-tʰ-] and *blacked eye* [-t-], not /tʰ/ and /t/. The point mentioned here is somewhat reminiscent of Bloomfieldians setting up the “juncture” phoneme by considering such cases as *night rate*, *nitrate* and *Nye trait*, or *I scream* and *ice cream*. It is recommended that, in establishing the phonemes of a language, we should work on cases that do not involve a boundary between constituents.

As we move on to syllable-initial consonants, we learn that Vance analyzes a pair of non-palatalized consonant (e.g. *[k]*) and palatalized consonant (e.g. *[kʲ]*) in Japanese as allophones of a single phoneme (i.e. *[k]*) (p. 76). This analysis by him applies *mutatis mutandis* to /p/, /b/, /g/, /r/, and /m/, and /t/ and /d/ in renditions of loanwords, as well. According to him, the palatalized consonants occur before /i/ or /y/ (i.e. /j/), while the non-palatalized ones occur elsewhere, notably before /e/, /e/, /o/, and /u/. Thus, for example, /ki/ is realized by [k[i]], and /kya/ by [k[a]]. Vance’s analysis contrasts with a well-known alternative functionalist analysis
whereby two different phonemes, i.e. /k/ and /kʲ/, are set up through the
commutation test and the archiphoneme /k-kʲ/ (or /K/ as others including
Vance prefer to note) occurs before /i/ or /e/, and is realized by [kʲ] or [k],
respectively, as a result of the neutralization of the opposition /k/ vs. /kʲ/.
Vance is perfectly aware of this other analysis (p. 232) where he actually
mentions “neutralization” if not “archiphoneme”. In this respect I go along
with Trubetzkoj’s view (1939: 208) on this aspect of Japanese. Vance
wonders, in connection with this functionalist analysis, “whether the
intuition of a Tokyo Japanese native speaker [this can be the present
reviewer’s] can be reconciled with any analysis that treats the initial
consonants of [kʲi] (...) and [ka] (...) as phonemically different” (p. 232),
to which I am bound to say that the native speaker of Japanese always
globally grasps the whole of what I call “moraic units” (e.g. [kʲi] , [ka])
and that the consonantal part ([kʲ], [k]) as such is below his perceptual and
analytical threshold.

This leads me to another point. Vance is given to referring here and
there throughout his book to the “intuition” of native speakers of Japanese
as one of the critical justifications in clinching phonological solutions. I
happen to be on my guard against using intuition as a crucial tool in
linguistic analyses, phonology included. If the “intuition” in question is to
be understood in terms of ‘linguistic feeling’ or ‘Sprachgefühl’, recourse to
intuition seems to be putting the horse before the cart and is better avoided.
It is worth recalling what Martinet said as follows.

(...) linguistic feeling is a result of the functioning of the system. It is an effect
and not a cause (...) (Martinet 1949: 6)

I disagree with Vance who thinks that the semivowel [j] occurs after [ç]
and cites hyō [çio:] ‘chart’ (p. 78). I believe that no [j] intervenes between
[ç] and [o:] and that the word is pronounced [ço:]. The non-intervention of
[j] here is reminiscent of the same in the pronunciation [çu:] (see
Jones 1964: 203) of the English word huge which is otherwise normally
pronounced [hjuːdʒ]. I further disagree with Vance who thinks that [ç] is
followed by [i] only (he cites hin ‘dignity’ (p. 78)). I believe that [ç] can be
followed by [a] (cf. hyaku [ça-] ‘hundred’), [o] (cf. hyō [ço-], see above),
and [u] (cf. hyutte [çu-] ‘cabin’). This affects part of his Table 4-4
(Distribution of phonetic voiceless fricatives) given on p. 78 where he
shows that [ç] and [h] are in complementary distribution before [i], [e], [a],
and [o].
Vance mentions [ʔ] (glottal stop) in Japanese when it occurs, in emphatic speech, between a vowel and either a semivowel (e.g. *hayai* [haʔjoi]) or a consonant (e.g. *samui* [saʔ:muui] – his phonetic notation) (pp. 222–225), or following a vowel in prepausal position (e.g. *A!* [ʔaʔ?]; *Dame!* [damɛʔ]) (pp. 110–112). His phonological analysis of the glottal stop occurring in these cases is that it is interpreted as an allophone of /Q/ (mora obstruent), so that [haʔjoi] represents /haQjai/; [saʔ:muui] /saQmuui/, [ʔaʔ?] /aQ/, and [damɛʔ] /dameQ/. In the same vein, he phonologically notates /harasaNQ/ (*Harasan!* when pronounced [harasan?]) (p. 225). I have a two-fold objection to this analysis. First, the presence or absence of the glottal stop in all such cases in Japanese is phonologically not distinctive, and should not be understood as a realization of a distinctive unit, be it a phoneme or an archiphoneme. What the glottal stop does in such cases is to fulfill the expressive function. Second, according to Vance, /Q/ occurs fundamentally before consonant phonemes and is accordingly realized by appropriate consonants (but not [ʔ]), and I agree with him. There is, however, no reasonable justification to provide some additional contexts where /Q/ allegedly occurs by bringing in such occurrences of the glottal stop as does not function distinctively and therefore is not an allophone of any distinctive unit including /Q/.

Misprints are rare, but read *adapted* for *adapte* (p. 4) and Akamatsu 2000: 132–4 for Akamatsu 2001: 132–4.

The References are excellent and up-to-date. Vance is very well read on a wide range of literature on Japanese phonetics and phonology.

This is a most challenging book on the subject and I recommend it without hesitation to all who are interested in Japanese phonology, irrespective of whether they agree or disagree on specific points of Vance’s analysis. The readers will surely find a number of theoretical points thought-provoking.

References


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