Young Minds vs. Old Questions in Linguistics

Proceedings of the Fourth Central European Conference in Linguistics for Postgraduate Students

Edited by
Anna Bondaruk
Anna Bloch-Rozmej
Wojciech Malec
Ewelina Mokrosz
Sławomir Zdziebko

Lublin 2015
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in Linguistics
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Institute of East-Central Europe
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The volume *Young Minds vs. Old Questions in Linguistics* is a collection of ten papers selected from the presentations delivered at the Fourth Central European Conference in Linguistics for Postgraduate Students (CECIL’S 4). The conference was held on 21-22 August 2014 at the Institute of East-Central Europe in Lublin and the Institute of English of the John Paul II Catholic University of Lublin, Poland. CECIL’S 4 covered the main areas of modern theoretical linguistics, both in its synchronic and diachronic flavors, as well as the significant aspects of applied linguistics, including ELT methodology. The special focus of the conference was on languages spoken in the Central European region, and the similarities and differences they show with respect to other languages. The conference participants presented 34 papers altogether, including 15 talks and 19 posters. There were two plenary talks delivered by Ángel L. Jiménez-Fernández (University of Seville, Spain) and Markus Alexander Pöchtrager (Boğaziçi University, Turkey).

CECIL’S 4 was organized by the Institute of East-Central Europe and the Institute of English of the John Paul II Catholic University of Lublin (KUL), together with three partner institutions: the Faculty of Humanities and Social Sciences of Pázmány Péter Catholic University in Piliscsaba, Palacký University in Olomouc and Constantine the Philosopher University in Nitra. We would like to express our special gratitude to Prof. Balázs Surányi of Pázmány Péter Catholic University, the founder of CECIL’S, for having chosen Lublin as the place to hold CECIL’S 4, and for providing invaluable guidance at various stages of the conference organization. We are also indebted to Prof. Ludmila Veselovská of Palacký University in Olomouc for the various forms of assistance she provided. We would like to thank the authorities of the Institute of East-Central Europe, in particular Prof. Mirosław Filipowicz, the Director of the Institute, and Andrzej Deryło, MA, the Deputy Director of the Institute, for their help with the organization of the conference, as well as for their enthusiasm and energy invested in this project. Thanks are also due to Prof. Hubert Łaszkiewicz, the Dean of the Faculty of Humanities of the John Paul II Catholic University of Lublin, for his whole-hearted support for this undertaking.

We are also very grateful to all the anonymous reviewers of the conference abstracts for helping us choose the best papers to be presented at the conference. We would like to extend special thanks to the anonymous reviewers of the submitted manuscripts, whose expertise and critical remarks contributed to improving the quality of the papers.
We would like to acknowledge the financial help of our sponsor, the International Visegrad Fund. The small grant no. 11410063 awarded by the Fund made it possible to organize CECIL’S 4 and to produce the present volume.

Last but not least, we would like to thank Nigel Byford and Elżbieta Sielanko-Byford for having proofread this volume.

Anna Bondaruk
Abstract

Bare singular nouns and null impersonals are two phenomena that exist alongside each other in a number of partial pro-drop languages. Prominent analyses of the co-existence of these properties argue for a null NP anaphora operation in this type of language. In this paper, I intend to show that this approach is problematic when applied to Brazilian Portuguese (BP) and instead I offer an alternative analysis by claiming that a specific feature, which is in the process of disappearing from BP grammar, is responsible for these two properties. The absence of this feature results in nouns with cumulative reference and the disappearance of the clitic se, which is precisely the lexicalization of this feature. Thus, bare singular nouns and null impersonals are analyzed as a byproduct of this change and not as a reflection of a particular mechanism of anaphora present in some languages.

Keywords: Brazilian Portuguese, partial pro-drop languages, number feature

1. Introduction

It is well known that languages can be classified as either pro-drop or non-pro-drop. In general, the first group of languages presents a system of verbal morphology rich enough to make distinctions concerning person and number. For this reason, the use of pronouns can generally be dispensed with.1

Consider, for instance, the Italian paradigm illustrated below. Table 1 demonstrates that there is a distinct form for each pronominal person in the verbal morphology, which thus renders pronouns unnecessary.2

---

1 I would like to thank Ana Paula Scher, Artemis Alexiadou, the audience of the 4th Central European Conference in Linguistics for Postgraduate Students (CECIL’S 4) and – especially - Balázs Surányi for discussions of several aspects of this analysis. I also appreciate the comments and suggestions of two anonymous reviewers, which led to a substantial improvement of this paper. All errors and shortcomings are my own. CNPq scholarships, 229746/2013-6 and 142048/2012-7, are hereby acknowledged.

2 The use of full pronouns in pro-drop languages is restricted to emphasis, a shift of reference and stress. In neutral assertions, therefore, pronouns are not necessary.

The following abbreviations are used in this paper: 3SG=third singular agreement; 3PL=third plural agreement; ACC= accusative; FEM=feminine; GEN=genitive; MASC=masculine; PAST=past; PERF=perfective; PL=plural; SG=singular; TOP=topic.
Table 1. Italian verb paradigm

<table>
<thead>
<tr>
<th>Italian conjugation of dicer in the present tense</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dico</td>
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<tr>
<td>Dici</td>
</tr>
<tr>
<td>Dice</td>
</tr>
<tr>
<td>Diciamo</td>
</tr>
<tr>
<td>Dite</td>
</tr>
<tr>
<td>Dicono</td>
</tr>
</tbody>
</table>

In contrast, in non-pro-drop languages, the verb morphology does not present distinctions for every person and number combination. Therefore, it is impossible to establish person reference without pronouns. English is a member of this group of languages. Table 1 shows that, unlike Italian, English has only one form with distinctive morphology in the present tense, the 3rd person singular. Hence, the use of pronouns is mandatory.

However, various research on the pro-drop parameter has attested that the classification in respect to this parameter can increase in complexity. Several languages do not easily fit into the aforementioned groups. For instance, there exists a group of languages in which pro-drop is licensed even in the absence of morphology that can distinguish person and number. Chinese is one example. The paradigm for the verb say in this language is represented below.

Table 2. Chinese verbal paradigm

<table>
<thead>
<tr>
<th>Chinese conjugation of shuo in the present tense</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shuo</td>
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<td>Shuo</td>
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<td>Shuo</td>
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<td>Shuo</td>
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<tr>
<td>Shuo</td>
</tr>
<tr>
<td>Shuo</td>
</tr>
</tbody>
</table>

In addition, other languages, exemplified here by Brazilian Portuguese (BP), display pro-drop properties to a lesser degree, as well as properties of their own. Table 3 shows that verbal morphology in BP is more elaborate than in English but less elaborate than in Italian. The 2nd and the 3rd person plural, for instance, show the same verbal morphology.

3 Adapted from Wratil and Gallmann (2011: 6).
4 I am aware of the fact that there are other possibilities relating to BP verb morphology besides the one represented in Table 3. Also, the 2nd person singular (Tu/você) and the 1st person plural (Nós/a gente) can surface in two forms, and this is reflected in the morphology of the verb. Você was originally a treatment pronoun, then it started to be used as the 3rd person singular and now as the 2nd person singular. A gente literally means the people, but it has also been generalized as a 1st person plural pronoun in almost all contexts nowadays.

Crucially, however, in all the possible paradigms, there is a syncretism between at least two verb forms. The most extreme possibility is a syncretism among all the morphological endings, excluding the first person singular. In this case, 5 out of 6 forms would be morphologically identical to the 3rd person singular inflection. See the example below for the verb dizer 'to say':

(i) Eu digo Nós/A gente diz
    Tu/Você diz Vocês diz
    Ele diz Eles diz
Table 3. BP verbal paradigm

<table>
<thead>
<tr>
<th>Brazilian Portuguese conjugation of <em>dizer</em> in the present tense</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eu digo</td>
</tr>
<tr>
<td>Tu diz(es)</td>
</tr>
<tr>
<td>Ele diz</td>
</tr>
<tr>
<td>Nós dizemos</td>
</tr>
<tr>
<td>Vocês dizem</td>
</tr>
<tr>
<td>Eles dizem</td>
</tr>
</tbody>
</table>

More particularly, partial *pro*-drop languages license null subjects, similarly to *pro*-drop languages, but only in restricted environments. A comparison between BP and European Portuguese (EP), a consistent *pro*-drop language, illustrates this, as shown below.

(i) In partial *pro*-drop languages, null subjects are optional in contexts in which they are unacceptable in a consistent *pro*-drop language.

1. *O João disse que ele, comprou um computador.*
   the John said that he bought a computer

   "John said he bought a computer."
   (Barbosa 2011: 2)

(ii) In partial *pro*-drop languages, null subjects are excluded in many contexts in which they are possible in a consistent *pro*-drop language.

3. *O João disse que os moleques acham que Ø, é esperto.*
   the John said that the boys think that (he) is clever

   "John said the boys think he is clever."
   (Barbosa 2011: 2)

From the brief exploration of verbal morphology carried out in this section, it can be seen that the *pro*-drop parameter encompasses many different – but, apparently, gradient – types of language. These gradient types have to be studied by virtue of their special properties. Additionally, the description and explanation of these types can shed light on the broad distinction between *pro*-drop and non-*pro*-drop languages.

In this paper, I will be concerned with one language from the partial *pro*-drop language group, namely BP. In this language, as (possibly) in all partial *pro*-drop languages, bare singular nouns and null impersonals are abundant. I investigate the source of these properties and evaluate previous approaches to the striking co-existence of these properties in several languages. This paper is structured as follows. In section 2, I present the phenomena to be examined here, their properties, the previous approaches to them, and the problems these approaches face when BP data is analyzed. In section 3, I put forward my proposal. In section 4, I offer a brief discussion about why a number feature could be responsible for this change. Finally, in section 5, I summarize the discussion and the findings of this paper.
2. The question

With regard to the study of partial pro-drop languages, more specifically, one should ask: why does this group of languages have null impersonals and bare singular nouns? These two properties are exemplified below with BP data.

(4) *Aqui faz doce.*
    here make-3SG sweeties
    ‘Sweeties are made here.’

(5) *Criança gosta de gente.*
    child-SG like-3SG of people
    ‘Children like people.’

Let us clarify what is special about these sentences. Sentences such as (4) are called null impersonals in the literature since no dedicated morphology is present in spite of the fact that the arbitrary human reading, characteristic of impersonal sentences, arises. In BP, as in the majority of Romance languages, this morphology would be the clitic *se*. In the absence of this clitic, the presence of a locative (either overt or implied) is mandatory in order for the arbitrary human reading to be generated. The subject of (5) is *criança* ‘child.SG’, a bare singular noun, a nominal expression with neither overt D nor number.\(^5\) Again, this differs from the way Romance languages build nominal expressions. In general, a D-layer is overtly present in generic sentences in Romance languages.

The co-existence of these two properties is present in a number of genetically unrelated partial pro-drop languages. We can observe this below:\(^6\)

Table 4. Co-existence of bare singular and null impersonals in some languages

<table>
<thead>
<tr>
<th>Language</th>
<th>Bare singular</th>
<th>Null impersonal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finnish</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Brazilian Portuguese</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Russian</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Marathi</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Hebrew</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

More striking is the fact that these phenomena also coexist in radical pro-drop languages such as Chinese. These facts have led researchers to pursue a unified explanation for the co-existence of these phenomena in partial pro-drop languages and to look for similarities between partial pro-drop and discourse-oriented languages. In the next subsection, I present and evaluate two such approaches.

\(^5\) Note that this nomenclature can be misleading. Bare singular nouns are not specified either for singular or plural readings.

\(^6\) The reader is directed to Barbosa (2011) if he/she wishes to see examples of these two phenomena in the languages listed in Table 4.
2.1. Previous approaches

Tomioka (2003) was the first to notice that in some languages the two properties we are interested in co-exist: null pronouns and bare NP arguments. By comparing the anaphora strategies in English with Japanese, the author reached the conclusion that, in languages where DPs are projected, there will always be a leftover D in anaphoric environments. In languages where D is not projected, in other words D-less languages, the whole NP is elided when used anaphorically.

Sentences (6) and (7) exemplify the different ways English and Japanese encode anaphors. In (6), there is a referential use of pro in Japanese, whereas the translation points to the requirement of an overt pronoun in English. In (7), pro stands for a bound variable, which has an overt counterpart in English. Japanese represents languages with bare NP arguments that will employ null anaphora and English represents languages where DPs are projected and a remnant D will consequently be present in anaphoric environments.

(6) Ken-wa Erika-o saso-tta. Dan-mo pro saso-tta.
    Ken-TOP Erika-ACC invite-PERF Dan-also invite-PERF
    ‘Ken invited Erika. Dan invited (her = Erika), too.’

(7) Dono gakusei-mo [(CP Dan-ga pro buzokyoshi-ta) to] it-ta.
    which student-even Dan-NOM insulted-PERF comp say-PERF
    ‘Every student, said that Dan insulted him.’
(Tomioka 2003: 322)

Tomioka’s study is mainly based on Japanese, but the author extends the generalization to other languages in which anaphora can be null. Languages with this property are allegedly constrained by a Discourse pro-drop generalization.7

(8) Discourse pro-drop generalization
    All languages which allow discourse pro-drop also allow (robust) bare NP arguments.

BP has been described as a discourse pro-drop language (see, for instance, Negrão 1999). Hence, the generalization in (8) holds in this language given the fact that the language allows bare NPs (usually in generic sentences) and null non-referential pronouns. The examples in (4) and (5) demonstrate this.

Given the fact that Tomioka’s generalization holds for (at least, some) partial pro-drop languages, Barbosa (2011) extends this explanation to this group of languages. In the latter author’s account, what would characterize partial pro-drop languages and would put them on a par with discourse-oriented languages is a null-anaphora mechanism that would give rise to different interpretations depending on the antecedent.

The examples in (9) and (10) illustrate this mechanism in Japanese and those in (11) and (12) in BP. In (9), paper, a bare singular noun, is interpreted according to what was said in the previous discourse; in (10), the topic in bed in the embedded clause is the element responsible

7 Radical pro-drop languages are also called discourse pro-drop languages in some approaches. These two labels are employed here somewhat interchangeably.
for giving pro the interpretation of a generic pronoun. Thus, the reference of both pro in (10) and of the bare noun paper in (9) will be specified on the basis of the anaphoric relation they bear with an antecedent. Importantly, this mechanism is necessary in languages without a D since D is the locus of definiteness. In languages in which this element is absent, the definiteness status will have to be retrieved in a special way.

(9) Ken-wa rounbun-o yun-da*
    Ken-TOP paper-ACC read-PAST
    ‘Ken read a paper/papers/the paper/the papers.’

(10) John-wa kono beddo-de-wa yoku pro nemu-reru-to iu
    John-TOP this bed-in-TOP well sleep-can-COMP say
    ‘John said one sleeps very well in this bed.’

(Barbosa 2011: 6)

(9) and (10) have very similar translations to BP, as shown below.

(11) João leu artigo à tarde inteira.
    John read paper to.the afternoon whole
    ‘John read a paper/papers/the paper/the papers the whole afternoon.’

(12) João disse que naquele restaurante vende comida caseira.
    John said that in.that restaurant sells food homemade
    ‘John said that one sells homemade food in that restaurant.’

The similarity between (9) and (10) in Japanese and (11) and (12) in BP suggests that we are probably observing the same phenomena. More precisely, the possible translations of the nominal expressions in (9) and (11) indicate that bare singular nouns in BP and Japanese correspond to a series of different interpretations in English, as in (9). The sentence in (12) receives an arbitrary human reading in spite of the fact that a dedicated morphology is absent just as in (10).

In sum, Tomioka and Barbosa argue that the zero morphology found in certain groups of languages is the result of null NP anaphora. This special mechanism of anaphora is found in languages in which the projection of D is not mandatory. If BP is a D-less language, the interpretation of (11) and (12) would be similar to the interpretation of pro in (9) and (10). Either the bare singular noun in (11) is in a relation with a previous constituent or has its denotation contextually retrieved. In sentence (12), there would be a pro entering in a relation with the locative.

In contrast, in languages where D is projected, impersonals will have an overt morphology, since pronouns are considered D expressions. Moreover, the reference of nominal expressions will be established on the basis of a mandatory overt D in these expressions. No mechanism of null anaphora is expected to take place in D languages, since D establishes the reference by itself. This difference between D and D-less languages is sketched below.

* The NP representation provided by Tomioka and Barbosa never has pro in it, although it is the defended mechanism for null anaphora.
2.2. Problems with these approaches

In this section, we will point to problems with the aforementioned analysis, namely that BP is a D-less language. It will be shown that BP nominal expressions do not lack D in spite of the fact that this element is sometimes non-overt. Moreover, null impersonals will be shown to be licensed in specific environments and locatives (not a pro) have a crucial role in the generation of these sentences, which again indicates that the null anaphora approach is not an appropriate one for this language.

2.2.1. BP bare singular nouns

As mentioned above, in order for BP to fit in the null anaphora account, this language must be a D-less language. Both Tomioka and Barbosa assume this. However, BP nominal expressions, even bare singular nouns, do have a D layer. There are syntactic and semantic ways of demonstrating this. As for syntactic evidence, BP passes the tests that characterize a D-language in Bošković’s (2008) terms. For example, adjectives in BP are not subject to left-branch extraction (13). Furthermore, adjunct extraction is also generally banned (15).

No left-branch extraction:

(13) *Caros, ele viu [carros t.]
    expensive, he saw [t, cars]

Adjunct extraction:

(14) Pedro conheceu [garotas de qual cidade].

(15) *De qual cidade Pedro conheceu garotas? (in the relevant reading)

of which city Pedro knew girls

---

* This sentence is grammatical if the reading is compatible with ‘Where did Pedro know the girls’, but it is not grammatical in a reading that involves extraction.
Bošković states that these facts can be interpreted straightforwardly if D is a phase. This being the case, languages with a D layer will not permit movements that cross this element. That is why the extraction of adjuncts is impossible in these languages, whereas in D-less languages there is no intervening node prohibiting this movement. In D-less languages, since D is absent, NP is a phase and adjectives, possessors and adjuncts that are first merged to the left of this phase are free to move. Therefore, the examples in (16) and (17) would correspond to the structure of a nominal expression in languages with and without a D-layer respectively. More precisely, (16) corresponds to a BP structure, and (17) to languages that are claimed to be D-less, such as Serbo-Croatian.

\[(16)\] \[DP[D' D [\alpha ADJUNCTS [\alpha n ...]]]] \rightarrow \text{BP structure}\]

\[(17)\] \[\[\alpha ADJUNCTS [\alpha n ...]]] \rightarrow \text{Serbo-Croatian structure}\]

In addition, if there were no D in BP bare singular nouns, reference in the subsequent discourse with the pronoun *elas*, a D category, would not be possible, given the fact that an anaphor must employ projections subsumed in the structure of its antecedent. In other words, as anaphors refer to a previous constituent, they will never have more projections than the expression to which they are referring.

\[(18)\] Criança \[\le \] revistinha.
child-SG-FEM read comic-book

_Elas_ gostam dos desenhos._
they-FEM like of.the-PL-MASC drawings

‘Children read comic books. They like its drawings.’

(Cyrino and Espinal, *to appear*)

Another factor to take into account is that D must be present in episodic sentences, (compare (19) and (20)). More importantly, with the loss of morphology in BP, the distinction between singular and plural is overtly expressed by D. The D-layer is covert in generic sentences, probably due to the fact that overt morphology in nominal expressions is not referential in this type of sentence. BP clearly realizes a D layer when nominal expressions refer to a specific entity, as (19) indicates.

\[(19)\] Os _menino(s)_ bebeu/ beberam _conhaque._
the boy-PL drink-3SG/ drink-3PL brandy

\[(20)\] *Menino(s) bebeu/ beberam _conhaque._
boy(s) drink-PAST-3SG/ drink-PAST-3PL brandy

‘The boys drank brandy.’

In short, (13) and (15) show that BP is a D-language, therefore there are reasons for one to think that D is covert in bare singular nouns. In addition, (18) shows that a bare singular noun can be recovered by a full pronoun. Moreover, (19) and (20) indicate that D is obligatorily overt when a distinction is made between the singular and the plural. From this, I conclude that BP bare singular nouns have a D layer (additional evidence can be found in Munn and Schmitt (2002, 2005) and Cyrino and Espinal (*to appear*)).
The null anaphora mechanism for nominal expressions is based on the assumption that, in languages with this operation, the nominal expressions are D-less. As shown above, BP is a D-language and this posits problems for the assumption that there is an operative mechanism of null anaphora in this language to retrieve the content of nominal expressions.

2.2.2. The structure of null impersonals

Having discussed bare singular nouns, we should now move on to examine impersonals in BP as the assumption of null anaphora is principally based on bare singular nouns and null impersonals. Remember that the arbitrary human readings in (4) and (12) are argued to be the result of a pro entering in an anaphoric relation with a locative expression. I have shown that the hypothesis of null anaphora is problematic for nominal expressions, yet nothing prohibits the hypothesis that the null anaphora is operative in null impersonals.

Upon closer scrutiny, however, the stipulation of a pro entering in an anaphoric relation does not seem fitting. First, in some contexts, other elements besides locatives can give rise to an impersonal reading, as (21) and (22) show. In (21), this reading arises in the presence of a quantifier phrase; in (22), in the presence of a temporal adjunct.

(21) *Qualquer coisa invade a reitoria.*
    any reason invade the administrative building
    ‘For any reason, people invade the administrative building.’

(22) *Hoje em dia não usa mais as saias de antigamente.*
    today in day not wear more the skirt of formerly
    ‘One does not wear the same kind of skirts formerly worn.’

Unless some common element is found in quantifier phrases, locatives, and temporal adjuncts, it seems odd that these diverse elements give rise to the same reading when they antecedes pro.

Yet, locatives cannot give rise to an impersonal reading with any verb and this fact seems to have gone unnoticed in the literature. Carvalho (*in prep.*) shows that only stage-level verbs that select for an agent as an external argument allow for locative impersonals.\(^{10}\) In (23),

\(^{10}\) A reviewer points out that the distinction between stage-level verbs and individual-level verbs in impersonals does not seem to hold universally. The reviewer claims that, in Polish, for example, individual-level verbs are licensed in impersonal sentences.

Similarly, in BP, when *se* is used as impersonal morphology, individual-level verbs can also be used in impersonals. As the literature on impersonals with the clitic se makes clear (Cinque 1988; Chierchia 1995; D’Alessandro 2007), if some verb selection takes place in impersonals with *se*, the distinction is not in terms of stage and individual-level verbs. However, the point I wish to make is that, in those constructions dubbed null impersonals, there is indeed a restriction in terms of stage and individual-level verbs. I do not expect this distinction to hold in languages where a dedicated impersonal morphology exists (*se* in Romance Languages; *sie* in Polish), therefore I agree with the reviewer.
adorar ‘to adore’ is an individual-level verb and, consequently, the external argument is not an agent (data from Avelar and Cyrino 2008: 65).\(^{11}\)

\[(23)\]  
*Na casa da Maria adora os livros do Harry Potter.* (individual-level verb)  
in house of the Maria adores the books of the Harry Potter  
Intended: ‘One adores the Harry Potter books in Maria’s house.’

\[(24)\]  
*Naquela escola ensina matemática muito bem.* (stage-level verb)  
in the school teach math very well  
Intended: ‘One teaches math very well at that school.’

Paying close attention to the restriction of this construction, it would be difficult to explain why the *pro* element would enter in an anaphoric relation with some verbs, but not with others.

The group of verbs that are licensed in this construction is not idiosyncratic, though. Stage-level verbs are argued to have a Davidsonian argument (Kratzer 1995), which accounts for the fact that they are licit with manner and locative adjuncts whereas individual-level verbs are not.\(^{12}\) Null impersonals, where locatives play an important role, are only licit with the former class of verbs – this cannot be a random fact.\(^{13}\) The selection of a specific kind of verb and the obtaining of the same reading with temporal adjuncts and quantifiers in some contexts pose problems for a *pro* account. This empty element should be present whenever it is necessary to establish reference and the constraints to generate a null impersonal reading indicate that there is clearly a structural factor (a specific type of verb having its event variable bound by a restricted class of elements) generating the reading of an arbitrary human. The stipulation of a *pro* obscures the interesting constraints for this reading to arise.

In sum, considering that nominal expressions in BP do have D and that a *pro* in null impersonals are problematic assumptions, I present a new account in the next section.

\(^{11}\) Avelar and Cyrino (2008) treat sentences like (23) as instances of locative inversion. Note, however, that (21) would be left without an explanation if the grammatical phenomenon responsible for the arbitrary human reading in these sentences were locative inversion. Any other order of the constituents in (21) is ungrammatical. Moreover, the arbitrary human reading is absent if an external argument is not projected out of the verb, as with unaccusative verbs of the type *arrive*. This fact is overlooked in Avelar and Cyrino’s account.

\(^{12}\) The reviewer also points out that it would be better to talk about stage-level and individual-level predication rather than stage-level and individual-level verbs. In fact, some works make use of the former nomenclature, because the differentiation between the two types of verbs is difficult to distinguish depending on the construction one is dealing with. However, in this approach I follow Kratzer (1995), who argues that verbs have a basic behavior as either stage-level verbs or individual-level verbs.

\(^{13}\) Carvalho (*in prep.*) defends the claim that locatives bind the event variable (the Davidsonian argument) of stage-level predicates and that is why the arbitrary human reading arises. Due to limitations of space, I cannot show in detail the arguments in favor of this approach. The interested reader is referred to Carvalho (*in prep.*) and to other works where locatives are claimed to bind the event variable and apply existential closure in the absence of a better candidate for this task (Borer 2005; Zimmermann 2007).
3. Proposal

3.1. What is really missing?

If the proposal that there is something missing in partial-pro-drop languages truly holds, we now know that this feature, at least in the case of BP, is not D.

Furthermore, there is now a consensus that the DP has a very articulated structure (see the initial discussions in Ritter 1991, 1993). Hence, if something is missing in bare singular nouns, it should be possible to locate the missing feature inside one of the projections of the DP. While there is much debate about whether there is a gender projection inside the DP (Kramer 2014, for a recent discussion), it seems indisputable that there is a projection for number.

Number has been shown to be a multifaceted entity, serving different purposes. One of the functions of what has been called number is individuation. In several languages, plural morphology acts as “a semantic counter over realizations of a kind” (Deprez 2005). More specifically, this affix is taken to act as a divisor revealing the internal atoms of nouns. This makes the noun eligible for operations such as counting.

An interesting aspect that supports this well established notion is that, in languages where the plural morphology is absent, any noun can be treated as a mass noun. In order for something to be counted, a classifier must be employed. Classifiers would therefore be another way to make the internal structure of nouns visible. Indeed, languages that employ classifiers usually do not display plural morphology, for example, Chinese. Therefore, a hypothesis worth exploring is that bare nouns lack the individuation number. As expected, data such as (11) show that these nouns can correspond to a series of different denotations. This strongly suggests that these nouns are not individuated – they behave as mass nouns.

As for the impersonal morphology, the task is a little bit more complicated, since the idea that a clitic is a number feature does not seem natural at first. Recall that impersonal morphology is realized by the clitic se in BP.

Traditionally, clitics are taken to be D entities but with less material inside DPs than full pronouns (see Abney 1987). However, this view has been challenged in more recent publications. Cardinalletti and Starke (1999), for example, show that clitics, weak and full pronouns cannot all be Ds, since these three categories exhibit different syntactic behaviors. Decháine and Wiltschko (2002) also claim that DPs and clitics have distinct distributions, therefore an account in which they are taken to be DP constituents is unappealing. Instead, these authors show in detail that clitics in general, including the clitic se in Romance, are projections of phi-features, corresponding to a functional layer inside the DP domain. This issue will be addressed in section 3.3.

Using these assumptions from the literature, it becomes clear that what is missing in BP grammar is a specific kind of phi-feature. The absence of this feature is responsible both for nouns with cumulative reference (nouns that have an ambiguous denotation, corresponding to both singular and plural) and the absence of the clitic se, which is built on the basis of this sole

14 Apparent exceptions exist, though. Massam (2009) argues that Niuean is a mixed system.
feature. In the next two subsections, this will be discussed. Section 3.2 is devoted to demonstrating that bare singular nouns in BP do not have a NumP layer and section 3.3 argues for a decomposition of pronouns, which points to the conclusion that se is a number feature.

3.2. DP domain

Discarding the D-less analyses that were proved to be problematic, there are two main syntactic analyses for bare singular nouns in BP, both discussing the role of number in these expressions. More importantly, the number projection in the nominal domain is taken as the locus of the morphology that distinguishes between singular/plural and the locus of distinction between massive and count nouns (cf. Ritter 1991; Chierchia 1998, among many others). As mass nouns do not pluralize, the expectation is that, if a given language does not have this projection, the difference between count and mass nouns is blurry or lost altogether.

(i) there is no number projection (NumP) – Munn and Schmitt (2002, 2005)
(ii) there is a number projection, but number just appears on D in BP – Cyrino and Espinal (to appear)

It will be shown that the second view cannot provide an account for the evidence that bare singular nouns behave like a particular class of mass nouns. For example, Pires de Oliveira and Rothstein (2011) demonstrate that bare singular nouns in BP accept mass noun “classifiers”, quantity elements used to classify mass nouns, as in (25). Crucially, this illustrates that the system does not make any differentiation between mass and count nouns.

(25) João trouxe um pouco de cadeira para a festa.
    John brought a bit of chair to the party
    ‘John brought some chairs to the party.’

In addition, sentences with bare singular nouns and bare plurals do not hold the same truth-values. In (26), the number of magazines is left completely underspecified. The sentence in (27), however, is false if Jorge reads only one magazine per night.

(26) Jorge sempre lê revista depois do jantar.
    Jorge always reads magazine-SG after of.the dinner
    ‘Jorge always reads magazines after dinner.’

(27) Jorge sempre lê revistas depois do jantar.
    Jorge always reads magazine-PL after of.the dinner
    ‘Jorge always reads magazines after dinner.’

(Müller and Oliveira 2004: 23)

These facts prove that bare singular nouns are DPs without the NumP layer. Therefore, what is lacking in bare singular nouns is the projection that differentiates mass from count nouns. As a result, it is neither surprising that a bare noun accepts a mass quantifier, as in (25), nor that it is unspecified for number, just as mass nouns are.
3.3. vP domain

As for null impersonals, the morphology that is lacking in sentences such as (4), (21), (22) and (24) is the clitic *se*, which is in the process of disappearing from BP grammar in a variety of contexts. The loss of this clitic is correlated to the loss of morphology in several other domains. A way to tackle the question of what the loss of *se* really means is to use approaches that decompose the features of pronouns (Harley and Ritter 2002; Déchaine and Wülschko 2002).

Based on Harley and Ritter's account, I start from the fact that *se* is an invariable 3rd person pronoun in impersonals, therefore the features that compose this clitic must be compatible with the features in the 3rd person. In Harley and Ritter's approach, the 3rd person has neither a [speaker] nor a [hearer] feature. The 3rd person belongs to the individuation branch, as is graphically shown below.

(28) Referring Expression (=Pronoun)

```
Participant

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Addressee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>Minimal Class</td>
</tr>
<tr>
<td></td>
<td>Augmented Animate Inanimate</td>
</tr>
<tr>
<td></td>
<td>Feminine Masculine</td>
</tr>
</tbody>
</table>
```

Several pieces of evidence can be provided for the claim that *se* does not have a participant feature. First, the specification of this feature must be so thin that this element serves the purpose of reflexive, middle and anticausative marks in most parts of the Romance languages. If it had a feature from the participant branch, it would not appear in anticausatives and middles, for example, where only one DP is interpreted as referential. In these contexts, *se* has no reference.

Another piece of evidence comes from Bonet (1991), who shows that reflexive elements not specified for person and number are used as default forms and they spread to the other pronominal persons paradigm if the contrast is lost. This is represented in Table 5.

Russian uses the original form of the 3rd person for all pronominal persons. Walpbiri also exhibits a broad use of the original 3rd person morphology. Note that if the 3rd person had a feature corresponding to a person specification, these derivations would be forbidden.

---

15 Harley and Ritter actually offer an account for full pronouns. However, every account of pro-drop assumes a relation between pronouns and the verb morphology, usually this relation is one of identity. For example, in Holmberg and Roberts (2013), the verb morphology enters into an agree relation with the full pronoun. From this agree relation, the verb morphology ends up being pronounced because this copy has more features (verbal morphology encodes aspectual/temporal notions, for example). Hence, if full pronouns and verbal morphology have the same feature make-up, Harley and Ritter's account is also suitable for an exploration of clitics and verbal morphology.
Table 5. Reflexive forms invariant (IN) vs. specific across languages (SP)\textsuperscript{16}

<table>
<thead>
<tr>
<th>Language</th>
<th>Russian</th>
<th>Papago</th>
<th>Walpbiri</th>
<th>Standard Catalan</th>
<th>Piedmontese</th>
<th>?</th>
<th>Valencian</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.p.sg</td>
<td>IN</td>
<td>SP</td>
<td>SP</td>
<td>SP</td>
<td>SP</td>
<td>SP</td>
<td>SP</td>
</tr>
<tr>
<td>1.p.pl</td>
<td>IN</td>
<td>SP</td>
<td>IN</td>
<td>SP</td>
<td>SP</td>
<td>SP</td>
<td>IN</td>
</tr>
<tr>
<td>2.p.sg</td>
<td>IN</td>
<td>IN</td>
<td>IN</td>
<td>SP</td>
<td>SP</td>
<td>SP</td>
<td>SP</td>
</tr>
<tr>
<td>2.p.pl</td>
<td>IN</td>
<td>IN</td>
<td>IN</td>
<td>SP</td>
<td>SP</td>
<td>IN</td>
<td>IN</td>
</tr>
<tr>
<td>3.p.sg</td>
<td>IN</td>
<td>IN</td>
<td>IN</td>
<td>IN</td>
<td>IN</td>
<td>IN</td>
<td>IN</td>
</tr>
<tr>
<td>3.p.pl</td>
<td>IN</td>
<td>IN</td>
<td>IN</td>
<td>IN</td>
<td>IN</td>
<td>IN</td>
<td>IN</td>
</tr>
</tbody>
</table>

Even after discarding the features [speaker] and [addressee], one has to note that the 3\textsuperscript{rd} person can be composed of a great number of features in Harley and Ritter’s system.

Se is probably best represented with the most underspecified feature in the individuation branch. This is deducible from the fact that se is not specified for gender, consequently it does not have a gender feature specified for feminine or masculine. Moreover, se only applies to animate entities; therefore it should have this feature in principle. However, in order to have this specification, BP would have to have a set of clitics just for inanimate entities and this class does not exist.\textsuperscript{17} Thus, this differentiation between [animate] and [inanimate] features is not part of the grammar. What is left are the individuation features [minimal] or [group].

If se bore the feature [group], it could not enter in a co-reference relation with a singular entity, which is obviously not true (see the data in table 5). It is then reasonable to assume that this clitic bears the feature [minimal]. Being an underspecified clitic, se can enter in a relation with either singular or plural entities without causing a clash due to the incompatibility of features. Therefore, in representation (28) se corresponds to a minimal individuation feature. This line of reasoning is graphically summarized below.

\begin{enumerate}
\item Participant branch is out, because the features of this branch are related to the 1\textsuperscript{st} and 2\textsuperscript{nd} person.
\item Se is not specified for gender. Besides, it cannot bear the feature [class] since the language does not make a distinction between animate and inanimate entities in the clitic system.
\end{enumerate}

\textsuperscript{16} This table is from Bonet (1991: 28).

\textsuperscript{17} It should be noted is that, in Harley and Ritter’s proposal, a feature lower in the tree is dependent on upper features. More specifically, if a language does not have pronouns that express an animate/inanimate contrast, it will not have pronouns that distinguish the class of entities in terms of feminine/masculine. Considering this, in the case at hand, se must be related to the upper part of the individuation branch, as the exploration endorsed.

The reviewer points out that SE forms in Russian and Polish do not only relate to animate entities, but all kinds of entities. Based on this, I would say that SE forms in these languages are the result of different features arrangements.
• Se cannot have a group feature, either. If it had, there would be a mismatch between se and singular entities, which is not the case.
• Last but not least, se does not show any sign of being designated to a certain quantity of people, i.e. it is not related to an augmentation of any kind.

One can present objections to this analysis by claiming that Harley and Ritter’s proposal itself can be put in doubt. However, other ways of decomposing pronouns can add further support to the idea that se is the type of phi-feature I have been arguing for.

Déchaine and Wiltschko (2002) decompose the features of reflexives in the languages of the world. The authors show that there are at least three types of pronouns, namely pro-DP, pro-φ and pro-NP. Briefly, pro-DPs behave like true DPs and function like R-expressions. Pro-φs correspond to a functional phi-layer between N and D, encode only phi-features, and occur as either predicates or arguments. Pro-NPs behave as lexical nouns and occur in the predicate position. The properties of each type of pronoun are summarized below.

Table 6. Typology of reflexives (Déchaine and Wiltschko 2002: 410)

<table>
<thead>
<tr>
<th></th>
<th>Pro-DP</th>
<th>Pro-φP</th>
<th>Pro-NP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal syntax</td>
<td>D syntax; morphologically complex</td>
<td>Neither D syntax nor N syntax</td>
<td>N syntax</td>
</tr>
<tr>
<td>Distribution</td>
<td>Argument</td>
<td>Argument or predicate</td>
<td>Predicate</td>
</tr>
<tr>
<td>Semantics</td>
<td>Definite</td>
<td>-----</td>
<td>Constant</td>
</tr>
<tr>
<td>Binding-theoretic status</td>
<td>R-expression</td>
<td>Variable</td>
<td>-----</td>
</tr>
</tbody>
</table>

Following this terminology, the clitic se would correspond to a pro-φ. This can be proven by the following contrasts. In contrast to pro-DPs, like I, you, etc., the semantics of se is not definite. In other words, se is a variable and has different readings depending on the construction in which it appears. The examples below are inspired by a discussion on arbitrary 3rd morphology in Romance Languages presented in Hofherr (2003).

(30) specific existential reading (temporally anchored):
    *Bate se à porta.*
    knock-se to.the door
    ‘(They) knock at the door. (=someone is knocking...)’

(31) vague existential reading (not temporally anchored):
    *Encontrou-se uma motocicleta no pátio*
    found-se one motorbike in.the courtyard.
    ‘(They) have found a motorbike in the courtyard.’

(32) inferred existential reading (inferred from a result):
    *Comeu-se mariscos*
    eat-se seafood
    ‘Here, (they) have eaten seafood. (=someone)’

(33) corporate reading (predicates with a designated subject):
    *Aumentou-se de novo o imposto.*
    raised-se again the tax
    ‘(They) raised the tax again.’
The well-known fact that *se* has a variety of interpretations would be hard to explain if clitics had a D-layer as personal pronouns. If this were the case, they should have fixed semantics as personal pronouns. As Déchaine and Wiltschko show, pro-ψs (including *se*) have a restricted distribution. All of their uses are confined to argumental positions. Pro-DPs, on the other hand, are licensed in A’ positions as full DPs.

On the other hand, *se* does not behave like pro-NPs either. The latter category has the syntax of real nouns, and therefore can be preceded by adjectives, possessives or demonstrative pronouns, such as *kare* in Japanese. *Se* obviously differs from this type of pro-NP.

In order to compare the similarity between the function of *se* and -s, one has to abstract away from the fact that -s always surfaces in a full-fledged DP environment, with a noun and sometimes a determiner (e.g. *as maçãs* ‘the apples’). *Se*, on the other hand, does not surface in the presence of either a determiner or a noun. In addition, *se* expresses a participant of a verbal event, whereas -s just performs an operation on nouns. Although all these factors obscure their similarity, using formal and semantic criteria, it is possible to see that -s and *se* do the same job.

From the exposition above, the first similarity that can be seen is a formal one. Pro-ψ does not pattern either with D or N syntax. *Se* is not definite as D categories and it does not pattern with an N either, which refers to a constant element in the world. Déchaine and Wiltschko claim that this type of pronoun corresponds to a phi-feature layer that would be located between D and N in a fully-fledged DP. The possible phi-features that D and N could share are, at least, number and gender. As *se* is not specified for gender, a good candidate would then be number.

The second similarity is semantic. As stated in the previous section, the number in NumP does not play the role of showing the exact amount of quantities. As Sauerland, Anderssen and Yatsushiro (2005) demonstrate, the plural takes place whenever the presupposition of the
singular is not satisfied, therefore uttering ‘You are welcome to bring your children’ is fine in a context where the speaker does not know the number of children that will come. Numerals and the number on D distinguish quantities, the number in NumP just performs an operation.

The same can be said for se. This clitic is a 3rd person pronoun that indicates a random participant or several participants, see the data in (25) to (29). This is in line with the decomposition models for pronouns presented above and with other intuitions about the constituency of se. Chierchia (1995) explicitly states that this clitic is a variable with a sortal nature, i.e. it allows reference to atoms, but the number of atoms is specified by the context.

The formal and semantic similarity allows us to claim that, when a noun is present, the number feature in NumP makes the atoms of a count noun visible. For instance, in papers are difficult to read, the speaker is not referring to a specific number of papers, but to papers in general. It is achieved through the operation that the feature number in NumP performs over a count noun. If a noun is not present, this feature is spelled out as se. Therefore, the existence of bare singular nouns and null impersonals is a byproduct of the absence of a single feature.

4. Why a number feature?

A very pertinent question would then be: what makes a grammar erase a number feature? Seen in isolation, this seems to be a very idiosyncratic change, but if we remember what being a pro-drop language is about, the absence of this phi-feature in this environment makes perfect sense.

In line with works about the structure of pronouns and clitics, I argued that se is not a D category. The projection of this clitic corresponds to an element inside the DP, a phi-layer. Speaking specifically about impersonal morphology, the fact that BP has been losing se proves that the categorical status of this language in respect to the pro-drop parameter is changing. As the comparison between Italian and English in Table 1 shows, pro-drop is usually related to the amount of information a language can encode in verbal morphology and clitics. With the loss of this information in verbal morphology, the verb by itself cannot provide reference anymore. A verbal form such as break, in Modern English, cannot be understood unless a full pronoun is placed to its left. BP seems to be following the same path as Old English. Van Gelderen (2011) shows that the development of full pronouns in English came hand-in-hand with a simplification in the verbal paradigm. Table 7 shows that verbs inflected for the 1st and 2nd person singular had different inflections in Old English, but, later, these two forms were leveled.

<table>
<thead>
<tr>
<th>Table 7. Changes in Old English verbal Morphology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old English – stage 1</td>
</tr>
<tr>
<td>1st singular person</td>
</tr>
<tr>
<td>2nd singular person</td>
</tr>
</tbody>
</table>

18 One can argue that there may be a feature related to person, as this clitic has a reading of person. This can be followed by inclusiveness, since it is the external argument of verbs or the object of reflexive verbs. Note, however, that in contexts sometimes referred to as “aspectual se” in Spanish, with consumption verbs, as in El niño se le comió toda la leche. (‘The little boy drank up all the milk’), there is no person interpretation.

19 Adapted from Tables 2 and 4 in van Gelderen (2011: 8-10).
The fact that clitics are also affected by this change comes as no surprise, given the fact that clitics and verbal morphology are not full pronouns and encode reference. It is then expected that BP will also develop full pronouns (D forms) to generate an arbitrary reading in further stages of its development, like the English one or the French ils.

A final observation that supports the idea pursued in this work is the fact that Middle French had bare singular nouns (cf. Mathieu 2009), as BP, and the clitic se became unavailable as a source of deriving the arbitrary human reading in impersonal sentences (cf. Wolfsgruber 2014). Therefore, BP, on its way to becoming a non-pro-drop grammar, seems to be following in the footsteps of other Romance Languages affected by the same parametrical change.

5. Conclusion

This paper defended the assumption that the mechanism of null anaphora cannot account for bare singular nouns and null impersonals in Brazilian Portuguese.

It was shown that BP has a D layer and bare singular nouns are the result of a lack of the NumP projection and consequently the feature Num that differentiates mass from count nouns. As a result, nominal expressions in BP without an overt D are unspecified for number as are mass nouns. As for impersonals, it was shown that pro cannot account for the constraints on this construction. Only transitive stage-level verbs appear in such a construction. Thus, it is hard to accommodate this fact within the view that pro is projected out of these verbs and not others. In both verbal and nominal domains, the mechanism of null anaphora was shown to be problematic in relation to BP data.

In order to account for this surprising parallelism, I follow approaches to bare singular nouns in BP that demonstrate the absence of number in these nominal expressions. For null impersonals, I began with the fact that pronouns are not a primitive category and researched the internal structure of the clitic se on the basis of recent approaches to clitics and pronouns. The results point to the conclusion that se corresponds syntactically to a phi-feature placed between N and D, again a Number feature.

Lastly, this phenomenon correlates to the loss of the capacity to express referential information by using entities smaller than DP. While pro-drop languages specify information in this way, non-pro-drop languages employ DPs to make reference. The loss of a number feature in BP exemplifies a change in respect to this parameter.

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Word-Initial Clusters in Welsh: A Typological Analysis

Tomasz Czerniak

Abstract

This paper applies the typological division between ‘TR-only’ and ‘anything-goes’ languages developed by Scheer (1999b, 2004, 2007) to the data from the Bangor dialect of Welsh collected from Fynes-Clinton (1913) pertaining to the well-formedness of word-initial clusters. It appears that the most commonly found clusters are those of rising sonority (TR) and those preceded by [s] (ST, STR). However, there are a number of initial clusters that may surface due to vowel deletion and whose sonority profile fails to satisfy Sonority Sequencing (that is, the second member is equally or less sonorous than the first one). This places Welsh in the ‘anything-goes’ category, which has theoretical implications: the article proposes that the beginning of the word is not translated into structural information in Welsh. In other words, phonological domains do not begin with an empty CV unit.

Keywords: Welsh, initial clusters, syncope, Government Phonology, typology

1. Introduction

The aim of this paper is to investigate the left edge of the word in Welsh from the typological perspective offered by Government Phonology (GP) in general and the Lateral Theory of Phonology (CVCV) in particular. A typological demarcation line will be drawn between languages whose consonants must contract a relation within initial clusters and those languages where it is optional. In order to place Welsh on one side of the fence, the phonotactic constraints on the left periphery of the word have to be analysed. Anderson’s (2011) melody-based analysis of initial clusters in Irish reached the conclusion that Irish and English belong to two opposite typological groups. The present analysis of Welsh will shed more light on the affiliation of the Celtic languages in general.

Section 2 investigates the well-formedness restrictions on word-initial sequences with a particular focus on attested clusters in 2.1., on clusters resulting from initial vowel deletion in 2.2. and on the strength of the initial consonant in 2.3. Section 3 introduces the theoretical assumptions developed in CVCV concerning the typology in question. Sections 3.1. and 3.2. deal with the structural configuration of clusters breaking the Sonority Sequencing Principle, namely falling sonority and s-initial clusters respectively. Section 4 examines the application of the mechanisms described in 3 to the data from Welsh. Section 5 summarises the discussion and suggests the direction for further research.
2. The phonotactics of the left edge of the word in Welsh

The ensuing sections aim at providing an accurate account of what types of clusters are allowed at the left periphery of the word in Welsh. Data are specific to the Bangor variety, which is a representative of the northern dialect group, and are taken from Fynes-Clinton (1913 [1995]).

2.1. Admissible clusters

One of the facts about the phonology of Welsh is that in the initial position clusters of rising sonority prevail. Additionally, a single stop or a stop-liquid cluster may be preceded by the sibilant [s] (cf. Awbery 1984: 86-87 and 2010: 369-370). For convenience, we will refer to those types of clusters as TR and STR respectively, where T stands for an obstruent, R for a sonorant and S for the alveolar sibilant. Let us consider the following examples:

(1) a. [pjodon] pioden ‘magpie’
   [plant] plant ‘children’
   [pnaun] prynhaun ‘afternoon’
   ['prydlon] prydlawn ‘punctual’
   [tlaud] tlawd ‘poor’
   [tre:] trêf ‘town’
   [klo:] clo ‘lock’
   [knoi] cnau ‘hazel-nuts’
   [kro:] crog ‘cross’
   [kwair] cyweir ‘a thrashing’
   [blais] blas ‘taste’
   ['bnaid] bynafyd ‘to hurt’
   [broud] brawd ‘brother’
   [bwic] bwi / buo ‘dolphin’
   [djoul] diawl ‘devil’
   [dleid] dlêd ‘debt’
   [drug] drwg ‘bad’
   ['gjolam] gwialen ‘rod’
   [glin] glin ‘knee’
   [gnaid] gwneud ‘to make’
   [gri:] grisiau ‘stairs’
   [gweld] gweld ‘to see’

   b. [spotr] sbâr ‘spare’
   [spjuni] chwibanu ‘to whistle’
   [sployt] sblot ‘exploit’
   [spruni] ysbranu ‘to refuse (of food)’
   [skovol] scafell ‘eye-brow’
   [sklotor] sglater ‘slater’
   [skroval] ysgrafell ‘curry-comb’
   [skwair] ysgwâr ‘square’

---

1 The cluster [dj] is often turned into an affricate [dz] (Awbery 2010: 369).
2 This is the only lexical item that begins with [sp] and is an alternative pronunciation for [χwibjon]. Similarly, sblot and sbladdrio [sploðrjo] ‘blather’ are the only examples of [spl].
We can see that initial clusters may incorporate stops, which are followed by glides, liquids or nasals. However, not all combinations are attested. For instance, [pj] is an attested cluster, whereas [bj] is not. Conversely, [gj] can be found in the initial position in the absence of its voiceless counterpart [kj]. In sum, [w] does not combine with [p, t, d], [j] with [t, k, b], [n] with [t] and [d], while [l] and [r] combine with all stops. It is noteworthy that [kn] and [gn] are by far the most frequent stop-nasal clusters in the initial position, while [tn] and [dn] are unattested. Clearly, the place of articulation plays a role in the well-formedness of clusters and the coronal stop-nasal sequence gap may be viewed as systematic rather than accidental.

As for the STR clusters, they are much more restricted: ST+w clusters are limited to a few lexemes starting with [skw]; [spj] can hardly be said to be well-formed since its existence is unattested save one notable exception of an alternative pronunciation of chwibanu; the liquid [l] is found only after [sk] and two lexemes with [sp], while [n] cannot follow ST clusters. The only sonorant capable of following all ST clusters is [r].

Interestingly, ST and STR were not perceived as well-formed initial clusters at all times. Initial ST clusters developed a prosthetic [ə], which is spelt y in Modern Welsh. However, it is pronounced only when stressed (schwa is regularly stressed in Welsh in the penultimate syllable) and was never counted as a syllable in the poetry of Old and Middle Welsh if the preceding word ended in a vowel. Finally, the definite article in Middle Welsh was pronounced [ə] before consonants and [ər] before vowels and [s] (see Morris-Jones 1913: 26-27 and Willis 2010: 123). Thus, it might be concluded that STR clusters suffered a slight misadventure on their way through history. They were fine in Old Welsh, then Middle Welsh saw them as ill-formed and tried to introduce a prosthetic vowel which did not catch on but whose remnants survived into Modern Welsh in spelling and [ə]-zero alternations.

STR clusters aside, Welsh only allows clusters of rising-sonority in the initial position, which is in accord with the Sonority Sequencing Principle (cf. Harris 1994: 56 and the reference therein), which says that an optimal syllable should consist of a sonority peak and that the further away a segment is from the peak, the less sonorous it should be. Therefore a TRVRT syllable is optimal since V (a vowel) constitutes the sonority peak, it is surrounded by two sonorants and the whole sequence is flanked by two obstruents (e.g. prank, trend, friend, quilt). An initial cluster conforming to the Sonority Sequencing Principle will be temporarily referred to as a ‘well-formed branching onset’, while one whose sonority profile deviates in any way (RR, TT, RT) will be considered ill-formed.

It behoves us to mention other extremely infrequent, yet existent three- and four-member initial consonant clusters in Welsh. They are listed in (2) below:

(2) a. [gwIæd]    gwlæd    ‘country’
    [gwræig]  gwraig    ‘woman’
    [gwIInIæg]  cwningen    ‘rabbit’

b. [kljæræg]  clIæræg    ‘a term of reproach’
    [krIætrag]  creader    ‘creature’

c. [gwInIædrag]  gwNIædwaIæg    ‘sempstress’
The clusters in (2a) are often simplified through the deletion of [w] in northern dialects (e.g. [glaːd]), while in cwningen it is the whole cluster that often ends up deleted (i.e. [nɪnɬɲ]) (cf. Awbery 2010: 370). Interestingly, Hannahs (2013: 35-36) notes that the [gw, kw, χw] sequences could be viewed as velar consonants with secondary labial articulation [gʷ, kʷ, χʷ]. However, this possibility will not be investigated here due to space limitations. The combination liquid-glide, as in (2b), is quite common in the word-medial position due to the high frequency of suffix-initial [j]. Finally, four-consonant clusters as in (2c) are highly infrequent in Welsh. There are a handful of such instances usually at morpheme boundaries but hardly ever in the initial position.

The Sonority Sequencing Principle is adhered to only by the examples in (1a) and (2b), while those in (1b), (2a) and (2c) seem to violate it. Firstly, [s] is more sonorous (or at least no less sonorous) than any stop while being farther away from the peak in STR clusters, therefore it cannot be regarded as a well-formed branching onset. Secondly, liquids and nasals are less sonorous than glides, yet they are closer to the peak in (2a) and (2c). (2b) conforms to Sonority Sequencing in that segments decrease in sonority with the distance from the peak of the syllable. However, branching onsets in the following sections will be restricted to two positions, which makes the clusters from (2b) ill-formed.

Although the clusters from (1b) are cross-linguistically frequent and merit a typological category of their own (see Kaye 1996), those from (2) will be viewed as problematic yet important for the typological distinction made in this approach.

2.2. Syncope and resulting clusters

Literature on the phonotactic constraints in Welsh is limited to a handful of publications (Awbery 1984, 1986, 2010; Iosad 2012; Hannahs 2013) whose treatment of syncopated forms is rather negligible. For instance, although both Iosad (2012: 104) and Hannahs (2013: 115-119) discuss a prosody-related phenomenon they call ‘antepenultimate deletion’, their analyses are restricted to the vowel that stands in the absolute initial position, that is #_. No attention is paid to #C_C vowel deletion, which is present in the language and whose results create clusters that are otherwise unattested.

Prior to the analysis of the syncopated clusters a word of comment on the Welsh prosodic system is in order. Firstly, regular stress is fixed on the penultimate syllable (e.g. [pjɔðən]). It may be shifted to the final syllable in morphologically complex expressions (e.g. [parʰɔi] parhau ‘to continue’, [penɡlɪn] pen-ɡlin ‘knee’) or to any other position in borrowings (e.g. [pəɾəɡraɹ] parəɡraɹ ‘paragraph’) (Hannahs 2013: 45ff). Secondly, long vowels are encountered exclusively in stressed syllables and, importantly for North Welsh, the syllable must be final (Awbery 1994: 75). Thirdly, Griffen (1979) observes that secondary stress is assigned to the initial syllable of a four-syllable word (e.g. [ɭɛfɛˈbɔɹɪɾə] llyffetʰetʰiriau

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3 The problem of [gʷ, kʷ, χʷ] deserves a separate analysis. It will be omitted here since it contributes little to the present typological analysis: if they are single consonants with double articulation, the analysis ought to focus on sub-segmental structures. If, on the other hand, they are clusters of rising sonority, they should be considered together with other TR clusters (see section 3.1.).
'shackles'). However, the antepenultimate syllable receives not tertiary but quaternary stress regardless of whether there are four or just three syllables in the word. Thus, the antepenultimate syllable falls prey to deletion on account of its weak stress level. Interestingly, this takes place only if the antepenultimate syllable is initial at the same time ([lefeθir|a] > *[lefeθir|a]). The phenomenon of antepenultimate deletion or syncope is illustrated with the examples below:

(3) a. [yskal] / [skoln] ysgall / ysgallen 'pl. / thistle'
[yskau] / [skowan] ysgaw / ysgawe 'pl. / elder-tree'
[yskui̯] / [sku̯ōd] ysgwydd / ysgwyddau 'shoulder / pl.'
[avol] / [vola] afol / afolau 'apple / pl.'
[edro̱x] / [drepresenteḏox̱a] edrych / edrycha 'to look / fut.'

b. [kalon] / [klondid] calon / calondid 'heart / cheering'
[karjod] / [krijuda] cariad / cariaua 'love / pl.'
[fenest] / [fenestri] ffenestr / ffenesti 'window / pl.'
[lefeθir|a] / [lefeθar] llwythethraiau / llwythethair 'pl. / shackles'
[suppor] / [sporo] swper / swperau 'supper / pl.'

c. [d̤e̱v|e̱θa] ~ [d̤e̱ve̱θa] difetha 'to waste'
[karbinj|on] ~ [karbinj|on] cibinion 'rankings'
[ko̱ne̱vin] ~ [ko̱ne̱vin] cynnefin 'accustomed'
[p̤e̱nelin] ~ [p̤e̱nelin] penelin 'elbow'
[lef|anta] ~ [le̱f|anta] llyffanta 'to wander about'

d. [amg̤an̤] / [mg̤en̤ox̱] amgen / amgenach 'alternative / different'
[m̤|m̤i̱di̱] / [mi̱j|o̱di̱] ym + cudd / ymguddio 'oneself + concealed' '/ to hide oneself'
[dol|g̤] ~ [mol|g̤] Nadolig 'Christmas'
[m̤e̱g̤ermj|al] ~ [m̤e̱g̤ermj|al] ymgeriol 'to quarrel'
[m̤e̱d̤re̱x̱gor] ~ [m̤e̱d̤re̱x̱gor] ymdrechgar 'energetic'
[m̤e̱d̤re̱x̱fo̱] ~ [m̤e̱d̤re̱x̱fo̱] ymdrechfa 'struggle'
[m̤e̱d̤re̱x̱|i̱] ~ [m̤e̱d̤re̱x̱|i̱] ymdrechu 'to make great effort'

The examples in (3a) are instances of alternations. Whenever the phonological situation changes (i.e. a suffix is added, which reassigns stress to the newly formed penultimate syllable), the vowel that finds itself in the unfavourable antepenultimate position ends up being deleted. The resulting clusters are now word-initial (#VCC > #CC) and can be said to follow Sonority Sequencing as they have an ST or TR sonority profile. For the time being we will assume that ST clusters are a special instance of Sonority Sequencing observance and that initial [l] belongs to this category. In other words, the clusters that surface due to syncope follow the same phonotactic restrictions as those described in 2.1.

Analogical alternations are listed in (3b), where the vowel is deleted when the prosodic configuration changes and the syllable receives quaternary stress. Importantly, the vowel does not follow the word boundary in this case. It separates two consonants which then form a word-initial cluster (#CVC > #CC). Again, Sonority Sequencing is preserved and the resulting clusters have a TR and ST sonority profile, which agrees with the word-initial phonotactics.

(3c) includes alternations of a different type. The vowel is already in the antepenultimate syllable but its pronunciation is optional. The list includes alternative phonetic realisations of the same lexical items, which might indicate that the systemic rejection of antepenultimate
vowels is not well-established in the system and it is possible that we are facing an ongoing diachronic change: vowel deletion is known to have existed before ST clusters and is frequent in the language across dialects. It is introduced by analogy to other vowels even inside clusters if there is an alternation caused by the stress shift. Lexical items that possess a vowel with quaternary stress but do not show signs of stress shift may or may not delete the vowel. Be that as it may, this type of syncope can create clusters whose sonority profile is more ambiguous. First, [dv] can be interpreted as a TT cluster, since both members are obstruents, or a TR cluster, since the second member is more sonorous than the first one. Second, the [lf] cluster can be assumed to be an ST cluster (we have already allowed the lateral-fricative to occupy this special place), since it is a sibilant followed by an obstruent, or a TT cluster since both members are fricatives. The remaining sequences fall into the category of TR clusters.

Perhaps the most revealing clusters are listed in (3d). The list includes both alternations resulting from stress shift as well as alternative pronunciations with and without initial clusters. As for the sonority profile of the resulting clusters, not only do they violate Sonority Sequencing (nasals are more sonorous than stops) but in addition they are composed of three members, which will exclude them as candidates for branching onsets. Interestingly, the only nasal allowed to occupy the initial position in such a cluster is [m]. More interestingly, it never shares the place of articulation with the following stop, which is atypical of nasal-stop clusters in general (Harris 1994: 69) and Welsh clusters in particular (Awbery 1984: 86).

If the spelling is to be taken seriously as linguistic evidence of diachronic change, it could be assumed that the ongoing processes have not yet found new orthographic conventions. For example, the spelling of English *night* indicates the presence of a fricative-stop cluster, while Polish *góra* ['gura] 'mountain' suggests that the first vowel has a mid round quality. Neither of these spelling conventions reflects the phonetic shape of words without historical bias. Thus, the alternations in (3d) and the modern spelling tradition combined provide evidence that the representations of [m'genɔx], [m'dɔliɡ] or [m'dreɔkɔr] should incorporate an alternating vowel which is marked ’ø’ [ɔ'm'genɔx], [ɔ'mdɔliɡ] or [ɔ'mdreɔkɔr].

To sum up, Welsh allows ST and TR clusters in the initial position in citation forms, that is words unaffected by concatenative morphology and subsequent phonological processing. Marginally, clusters of the TRR type are also found in the word-initial position. Consonant sequences which arise through the syncope of the initial-syllable vowel conform to the phonotactic restrictions in most cases, that is they are ST and TR clusters, but some dubious sequences like [dv] or [lf] may also surface. The clusters that introduce the most information on the well-formedness of the initial sequences are [mg], [md] and [mdr] since they clearly violate the Sonority Sequencing Principle.

### 2.3. Relative strength of the initial consonant

The last aspect of the phonotactic setting in Welsh which needs investigation is the relative strength of consonants in the word-initial position. In order to say anything about the strength of the initial position, or lack thereof, we must compare the distributional freedom of single consonants in different positions within the word, which will be done in section 2.3.2.
However, no analysis of initial consonants with respect to their strength or weakness would be complete without at least a mention of a consonant-related phenomenon common to all Celtic languages, namely the Initial Consonant Mutation (ICM).

2.3.1. Initial Consonant Mutation

This section will include only the most rudimentary information on ICM in Welsh. A fuller description can be found in Ball and Müller (1992), while for purely phonological accounts of ICM the reader is referred to Cyran (2010: 45-71) and Hannahs (2013: 120-149). There are three mutation types in Welsh that affect the quality of the initial consonant, namely Soft Mutation (SM), Nasal Mutation (NM) and Aspirate/Spirant Mutation (AM). They are triggered by morpho-syntactic conditions rather than by any phonological factors. The oft-quoted explanation is that the masculine, feminine and plural possessive pronouns have the same phonetic shape but influence the following consonant differently. This is illustrated below:

\[\begin{align*}
&4-a. \; [i \, ko\theta] \quad [i \, ga\theta] \quad [i \, trol] \quad [i \, kwest] \\
&\text{eu cath} \quad \text{eu gardd} \quad \text{eu troll} \quad \text{eu cwest} \\
&'\text{their cat'} \quad '\text{their garden'} \quad '\text{their car'} \quad '\text{their inquest'} \\

&4-b. \; [i \, go\theta] \quad [i \, ar\theta] \quad [i \, drol] \quad [i \, gwest] \\
&\text{ei gath} \quad \text{ei ardd} \quad \text{ei droll} \quad \text{ei gwest} \\
&'\text{his cat'} \quad '\text{his garden'} \quad '\text{his car'} \quad '\text{his inquest'} \\

&4-c. \; [i \, \chi\alpha\theta] \quad [i \, ga\theta] \quad [i \, \thetarol] \quad [i \, \chiwest] \\
&\text{ei gath} \quad \text{ei ardd} \quad \text{ei droll} \quad \text{ei gwest} \\
&'\text{her cat'} \quad '\text{her garden'} \quad '\text{her car'} \quad '\text{her inquest'}
\end{align*}\]

The initial consonant in (4a) remains unaffected (that is it retains its shape from the citation form), while those in (4b) are (4c) are mutated. The masculine possessive pronoun triggers SM, which voices the voiceless stops and causes \([g]\) to be deleted. The nouns following the feminine possessive pronoun undergo AM, which turns voiceless stops into voiceless fricatives with the corresponding place of articulation. It fails to target voiced stops, hence \(garrd\) remains unchanged. To conclude, it is the changing semantic value of the pronoun, not its phonological properties, that affects the following consonant. The precise changes that are triggered by mutations are listed below:

\[\begin{align*}
&5-a. \; \text{Soft Mutation} \quad \text{target:} \quad p \; t \; k \; b \; d \; g \; m \; l \; r^h \; \theta^h \; \chi^h \\
&\text{result:} \quad b \; d \; g \; v \; 0 \; -- \; v \; l \; r \; d_3 \\

&5-b. \; \text{Nasal Mutation} \quad \text{target:} \quad p \; t \; k \; b \; d \; g \\
&\text{result:} \quad m^h \; n^h \; \theta^h \; m \; n \; \eta \\

&5-c. \; \text{Aspirate Mutation} \quad \text{target:} \quad p \; t \; k \\
&\text{result:} \quad f \; \theta \; \chi
\end{align*}\]

Soft Mutation has the largest number of both target consonants and triggering contexts. Nasal Mutation affects only stops and contributes nasal resonance to their pronunciations
without affecting their voicing. Finally, Aspirate Mutation targets only voiceless stops. Traditionally, all of these changes (except [m] > [v] perhaps) can be viewed as lenition processes, thus mutations affect the strength of the initial consonants by depleting it. Voiceless stops become voiced, spirantised or nasalised, which moves them closer to vowels on the sonority scale; voiced consonants spirantise, nasalise or delete, which also increases their sonority. The voiceless liquids lose their voicelessness, which turns them into fully-fledged sonorants. Consequently, mutations will be treated as processes of weakening rather than strengthening capacity.

2.3.2. Strong vs. weak positions

Harris (1994: 194-225) analyses different weakening phenomena that affect the pronunciation of English [t] in various dialects and comes to the conclusion that it is mostly lenited word-finally (e.g. [pot] > [poʔ]), before a consonant (e.g. [hoʔki:] > [hoʔki:]), and foot-initially between two vowels (e.g. [prti:] > [prti]). It is true of many consonants in many systems that they experience weakening processes in similar (_#, _C, V_V) contexts. A theory which will be used to justify the typological categorisation of Welsh is described in detail by Scheer (2004: 117-147) and it capitalises on the correlation between positional strength and weakness, and lateral relations between segments. Although the principles behind consonantal interactions will be largely simplified on the following pages due to space limitations, it should suffice to demonstrate that the theory offers a non-arbitrary representation of ill- and well-formed initial clusters along with implications for the representation of a domain.

The Lateral Theory of Phonology represents the syllabic structure using strictly alternating onsets and nuclei represented as C’s and V’s, hence its shorthand name CVCV. The constituents may or may not be filled with melodic content, thus a certain amount of tolerance for empty constituents must be accounted for. Since only nuclei can be active sources of phonological enforcement, while silence (or lack of any sonority) is an inherent property of a consonant, the emptiness of a C position will not be discussed any further. As far as the emptiness of a nucleus is concerned, it can be and must be justified in one of the following ways: a nucleus may remain empty if it is governed by the following melodically realised nucleus (6a). A nucleus may remain empty if it is domain-final and the parametric setting of the system in question allows Final Empty Nuclei (FEN) (6b). A nucleus may remain empty if it is circumscribed by a governing relation between two consonants in a branching onset (6c) (Scheer 2004: 67):

---

4 CVCV uses two opposing lateral forces which marshal inter-constituent relations: (a) Government is a force spoiling the melody. If an onset is governed, it is likely to undergo lenition (lose some melodic material. If a nucleus is governed, it remains uninterpreted phonetically. (b) Licensing is a lateral force granting melodic ‘health’ to a position. If a constituent is licensed it is likely to support more melodic material. Infrasegmental Government is also a lateral force in this sense since it is a relation between two consonants which silences the empty nucleus straddled by the two members (Scheer 2004: 161).
The nucleus $v_1$ in (6a) is empty because it is governed by the nucleus immediately to its right. The direction of government is marked with the arrow above the constituents whereas empty nuclei are shown with a lowercase ‘$v$’. Governed nuclei are encountered inside clusters which cannot be regarded as branching onsets. For instance, the structure of the English word bandit [bændədɪt] includes an empty nucleus between [n] and [d], which is governed by the following [l]. Importantly, empty nuclei which never surface in vowel-zero alternations can be governed by FEN’s, hence the well-formedness of band [bændəd]. Such empty nuclei are found in coda-onset clusters (R$\theta$T) or ‘bogus’ clusters (T$\theta$R) but not in branching onsets (TR).

The graph (6b) represents a domain-final nucleus that is empty, which cannot be taken for granted. Languages like Italian or Japanese do not have consonant-final words, which, according to this theory, means that the Final Empty Nucleus parameter is switched off and only (6a) and (6c) could potentially silence a nucleus. English, on the other hand, is a FEN language, thus it allows consonant-final words like ban [bænə], bad [bæd], band [bændəd] or bandit [bændədɪt].

Finally, what will be of greatest interest to us is that nuclei remain empty inside an Infrasegmental Government (IG) domain (6c). Sonorants, which are deemed more complex than obstruents in melodic terms (see Scheer 1999a), are the only consonants capable of governing their neighbours. In order to do that, they have to be licensed by the following nucleus which is not itself governed. Such empty nuclei are invisible to phonological processes – they neither require government nor block its application across a TR cluster. An example from English illustrates the application of Government across a TR cluster:

\[
\begin{array}{cccccc}
C_1 & V_1 & C_2 & C_3 & V_3 & C_4 & V_4 \\
| & | & | & | & | & | \\
\text{pæn} & t & \Rightarrow & \text{ri} & \text{pantry} & \\
\end{array}
\]

The nucleus $V_4$, which is filled with melody, has two duties to perform. First, it licenses the preceding T $\Rightarrow$ R governing relation (the arrow underneath), which silences the nucleus $v_3$. Second, it governs the preceding nucleus $v_2$, which cannot be silenced by an ill-formed branching onset [nt].

We have thus introduced the two lateral forces which are discharged by a nucleus, namely government (silencing nuclei) and licensing (allowing inter-consonant relations). CVCV assigns two antipodal effects to the two antagonistic lateral mechanisms. If a position is licensed, its segmental complexity (melodic expression) is secured. If, on the other hand, a position is governed, its segmental complexity is depleted (Scheer 2004: 148-180).
The consonant $C_2$ in (8a) is licensed by the following nucleus $V_2$ but is not governed, since government is absorbed by the empty nucleus $v_1$. Thus, $C_2$ is licensed but ungoverned, which is recognised as the strong (post-coda) position. The domain-final empty nucleus $V_2$ in (8b) is devoid of licensing potential, hence the consonant $C_2$ is found in a weak (word-final) position. Similarly, the consonant $C_1$ in (8c) is unlicensed since the following nucleus is governed and therefore not a lateral actor. This configuration is considered a weak (coda) position. Finally, the representation in (8d) contains two melodically filled (laterally active) nuclei. Since $V_2$ has no nuclear target to hit, it concentrates its governing capacity on the preceding onset. Therefore, certain languages display weakening phenomena in the intervocalic position. For the sake of convenience (and since it is not immediately relevant to the present discussion) cases where a position is both licensed and governed, or neither licensed nor governed at the same time, will be ignored.

Thus, CVCV acknowledges two weak positions for consonants, namely intervocalic ($VCV –$ governed) and Coda ($Cø –$ unlicensed) and one strong position dubbed the Coda Mirror ($øC –$ licensed, ungoverned). Be that as it may, the positional factors are not the only aspects which translate into the strength or weakness of a consonant. Nevertheless, in order not to exceed the scope of the present investigation, we will rely on relative strength, as put forward by the Coda Mirror theory. Let us now compare the distribution of Welsh consonants with respect to their freedom to occupy the word-initial, word-final, intervocalic and pre-consonantal positions within a word.

(9) a. [pədər] pader ‘the Lord’s prayer’
[təfəd] tafod ‘tongue’
[kɛnədəl] cenedl ‘nation’
[bɔxɔ] bach ‘small’
[dikɔɾ] diger ‘anger’
[gɛnɪ] gelyn ‘enemy’
[tfɛrɛk] siarc ‘shark’
[dʒɔb] job ‘job’
[fədɔlɔn] ffyddlon ‘faithful’
[θɔli] erthylu ‘to miscarry’
[ɛəf] saff ‘safe’
[fɛr] sir ‘shire’
[lɪfəʊ] llifio ‘to saw’
[θudi] chwydu ‘to vomit’
[ɛɡʊl] hegł ‘foot’
[ɛf] fel ‘like’
[mɪɛsk] mysi ‘midst’
[nɪvɛr] nifer ‘number’
[lɔrdʒo] lardio ‘to break down’
[ɹæs] ras ‘race’

...
[rhwɔd]  rhwɔd  ‘rust’
[wimloð]  gwimled  ‘gimlet’
[jɛ̞ð]  iechyd  ‘health’

b.  
[kɔːpten]  capten  ‘captain’
[dɔktɔr]  doctor  ‘doctor’
[kɪbdɔl]  cibddall  ‘dull of comprehension’
[kɔmbidva]  cynleidfa  ‘congregation’
[kɪgvɔn]  cigfran  ‘raven’
[krɛftur]  crefftwr  ‘craftsman’
[krɔvʌr]  cryder  ‘strength’
[nɔiðtɛr]  noethder  ‘nakedness’
[gɔstɔg]  gosteg  ‘silence’
[ɡwɔltɔg]  gwalltɔg  ‘hairy’
[nɔxɔdɔd]  nychdɔd  ‘asthenia’
[oðvɔd]  addfed  ‘ripe’
[lɔmbɔd]  Llanbedr  ‘place name’
[ɔnduiol]  andwɔ yol  ‘harmful’
[kɔŋkɔr]  cancr  ‘cancer’
[ɛlvɔn]  elfen  ‘element’
[dɔrnɔd]  diwrnowd  ‘day’

c.  
[tɔp]  tap  ‘tap’
[rɔt]  reit  ‘right’
[sliŋ]  slic  ‘slick’
[mæb]  mæb  ‘son’
[dle:d]  dlɛd  ‘debt’
[dɛŋ]  dɛŋ  ‘ten’
[wɔŋf]  wats  ‘watch’
[sɔsidɔs]  sosøj  ‘sausage’
[hɔf]  hwɛf  ‘rough push’
[kɔθ]  cath  ‘cat’
[druʃ]  drɛs  ‘door’
[ɛɾ̩χɪ]  erchyll  ‘abominable’
[mɔɾɛ]  mɔch  ‘pig’
[lɔð]  llæd  ‘to kill’
[rɪˈɡɪm]  rhigwm  ‘rhyme’
[mɛliŋ]  melin  ‘mill’
[dɾɛŋ]  dreng  ‘rude’
[ɔskɔl]  ysgol  ‘school’
[lɔðɛr]  llathr  ‘bright’

d.  
[fɔpa]  siopao  ‘shops’
[lɛtɪ]  llety  ‘inn’
[kuku]  cwcw  ‘cuckoo’
[dɪbɛn]  diben  ‘purpose’
[koɗɔχ]  cadach  ‘cloth’
[eɡɔr]  eger  ‘a bore’
[krɔtʃʊn]  cratsian  ‘to creak’
[pɾɔdɔkɔt]  project  ‘project’
[hɔfɪ]  hɔffi  ‘to like’
[leθɔʁ]  llethr  ‘slope’
[loʊsæn]  llysan  ‘bilberry’
This rather lengthy list is an exhaustive index of which consonants may and may not occupy a particular position in a Welsh word. (9a) contains examples of consonants in the word-initial position. The only consonants exempted from the initial position are [d] and [n]. Nonetheless, all the examples in (9) are citation forms, which means that mutated reflexes were not taken into consideration. Thereupon, all [d]-initial and [g]-initial nouns will supply relevant examples when Soft Mutated and Nasal Mutated respectively.

The pre-consonantal coda position illustrated by (9b) bans a slightly higher number of consonants. First, the dental stop [t] appears before other stops or fricatives exclusively in foreign words and morphologically complex expressions where it is separated from the following consonant by a morpheme boundary. Second, the affricates, which are fairly new structures in Welsh, are not found before other consonants. Third, the fricatives [ʃ] and [ʒ] are not found pre-consonantally. Fourth, glides [w] and [j] as well as the voiceless nasals [m̥ n̥ j̥] will be omitted. The occurrence of the former depends on whether we interpret the off-glides in diphthongs as vocalic or consonantal (see Awbery 1984, 1986), while the latter are confined to the initial position by Nasal Mutation.

The word-final coda (9c) allows a somewhat broader spectrum of consonants. The only segments banned from this position are fricatives [ʃ], [ʒ] and [v], the last one being a characteristic feature of North Welsh phonology.

Finally, the intervocalic position allows all consonants (except for the aforementioned glides and voiceless nasals) to appear.

To conclude, the word-initial position patterns with the intervocalic one as far as the distributional properties of consonants are concerned by allowing most (if not all) consonants. The pre-consonantal and the word-final codas share the property of being more restrictive in general, and excluding the same fricatives in particular. Thus, distributionally speaking, the word-initial and intervocalic positions can be regarded as one type, while the pre-consonantal and word-final positions are another. Let us attempt a theoretical justification:
A governed consonant is represented in (10a) and (10b) and we can see that government has no particular effect upon the melodic expression of the consonant. It is true that if there are consonant weakening phenomena in a language, they are likely to concern a governed consonant but no such requirement is imposed. In other words, it is possible for a governed consonant to remain unchanged and this is exactly what happens in Welsh. However, when a consonant is devoid of licensing as in (10c) and (10d), its melodic expression may be suppressed. That is why unlicensed positions can host a more restricted range of consonants in Welsh than the licensed ones.

3. Typological Divisions in the Lateral Theory of Phonology

3.1. Anything-goes vs. TR-only

The Lateral Theory of Phonology (known as LTP or CVCV) offers a non-arbitrary typological division based on the presence vs. absence of an inter-consonantal relation between the two members of a cluster. According to CVCV, all languages of the world belong to either of the following categories: ‘anything-goes’ languages, which allow clusters of rising sonority (TR), even sonority (TT, RR) and falling sonority (RT) in the initial position, or ‘TR-only’ languages, which allow only the first type. Scheer (1999a, 2004: 95-116 and 2007) assumes that this is not an observational fact about languages but it provides a theoretical device which expects languages to belong to either type. It is assumed that the left-edge of the word in a language might be marked for phonology with a phonological object that is an empty CV unit (cf. Lowenstamm 1999). The empty nucleus of this unit is visible to phonological processing and therefore requires government so as to remain silent. Since, as shown in (7), TR clusters are the only ones that do not block the application of government, it is these clusters that can follow the initial empty CV. The graphs in (11) compare the representations of the English (TR-only) word trench and Polish (anything-goes) rtęć ‘mercury’.
In (11a), the nucleus $v_1$ is circumscribed by the IG relation contracted by the initial clusters, so the laterally active nucleus $V_2$ has a green light to target the initial CV with government. Contrarily, there is no IG relation in the RT cluster in (11b). The nucleus $v_1$ is governed, which makes it laterally inactive, therefore the initial CV cannot be silenced. The typological difference is thus between languages that allow a phonologically visible empty nucleus $v_1$ and those where it is either filled with melody or taken care of by IG.

The presence of the initial empty CV manifests itself in the following way: firstly, the only type of clusters allowed initially are branching onsets (IG) for reasons explained above. Secondly, the vowel in the first syllable never alternates with zero – it must remain laterally active in order to silence the initial CV. Thirdly, the first consonant finds itself in a strong position – it follows an empty nucleus, thus it is in a licensed but ungoverned position.

What appears to be problematic for this typology is that TR-only languages can also allow STR clusters which should block the application of government. These will be briefly discussed in the next section.

### 3.2. Magic Licensing

The special status of $s+C$ clusters has to be taken into account in Standard Government Phonology (e.g. Kaye 1990, 1996 and Harris 1994) as well as its daughter theories (Scheer 2004; Cyran 2010). Kaye (1996) observed that $s+C$ clusters behave in languages in a special way. For example, they are the only fricative-stop clusters for many languages (e.g. Japanese). What is more, they are the only fricative-stop clusters in the initial position for many languages (e.g. English, German, Italian). English long vowels are allowed to precede $s+C$ clusters (e.g. *task* [tæsk], *paste* [pæst]).

In Standard Government Phonology, they were rejected as possible candidates for branching onsets for melodic reasons. Obstruents are said to be more complex than sonorants (they contain more elements) and this asymmetry allows them to contract a constituent governing relation, which is head-initial. That is T governs R (cf. Harris 1994: 170-177). Since $s$ is more sonorous (less complex) than stops, it cannot be regarded as a possible governor in $s+C$ branching onsets. For this reason, Kaye (1996) proposed that $s+C$ be viewed as coda-onset clusters. Although it remedied the ill-formedness of STR clusters, it introduced further complications – why does $s$ belong to a syllable which does not exist? The syllable in which $s$ is a coda was assumed to be headed by an empty nucleus. Nevertheless, the emptiness or silence of that nuclear position remained unaccounted for. Kaye (1996) realised the shortcomings of that analysis, resorting to the acknowledgement of such structures with no apparent justification. Therefore, $s+C$ clusters came to be known as ‘magic clusters’ in the

---

5 This is also true of nasal-stop alveolar clusters (e.g. *branch* [braŋt], *paint* [peint]).
Government Phonology tradition, for the mechanism responsible for silencing the empty nucleus was ‘magic licensing’.

The Lateral Theory of Phonology offers no consolation in this matter. The major difference is that s+C clusters are represented as søC ones with an empty nucleus demanding government to remain inaudible. Still, the emptiness of the initial CV before STR or ST clusters begs to be resolved.

To sum up, languages can be divided into four categories according to the typologies explained in section 3: Those that mark the beginning of the word with an empty CV versus those that do not do so, and those languages where the ‘magic licensing’ parameter is set to ‘on’ versus those where it is set to ‘off’. The ensuing section views Welsh from these vantage points.

4. Welsh as an anything-goes language

The examples in (1) above include TR, ST and STR clusters, which seems to suggest that the ‘magic licensing’ parameter is set to ‘on’ and takes care of the initial CV:

(12) a. \[ C_0 V_0 C_1 v_1 C_2 V_2 C_3 v_3 C_4 V_4 \] government across an IG domain

b. \[ C_0 V_0 C_1 v_1 C_2 V_2 C_3 v_3 C_4 v_4 \] ‘magic licensing’ of \( C_0 V_0 \)

c. \[ C_0 V_0 C_1 v_1 C_2 v_2 C_3 v_3 C_4 v_4 C_5 v_5 \] government across an IG domain

As illustrated above, the existence of the initial CV can be justified if we assume that TR clusters indeed form branching onsets and that ST clusters do magically take care of the preceding empty nucleus. However, the shaky status of s+C clusters and the history of the prosthetic vowel testify otherwise. It seems that ‘magic licensing’ was ungrammatical around Old/Middle Welsh, when the prosthetic vowel was introduced, and its remnants can still be detected in vowel-zero alternations before ST and in orthographic conventions. If we assume then that ST clusters do not trigger ‘magic licensing’, there are two important implications: first, the initial CV is not there in Welsh. Second, RT and CTR clusters should be well-formed initially as well.

Let us entertain this possibility for a moment. If there is no initial CV, we should find evidence for an even and falling sonority slope in initial clusters, vowel instability at the left edge and a lack of strength of the initial consonant.

There are at least two pieces of evidence suggesting that Welsh allows RT clusters initially. First, there are examples of falling-sonority clusters in Welsh which result from vowel syncope...
(3d). Interestingly, they all start with [m]. Additionally, the handful of TRR clusters in (2) can hardly be assumed to render a branching onset. Second, stops in TR clusters are turned into nasals by Nasal Mutation, which means that (at least in mutation contexts) NR clusters are well-formed. Thus, there is no proof that Welsh is a TR-only language.

As far as the stability of the initial vowel is concerned, Welsh deletes the vowel in the antepenultimate syllable provided that it is the first syllable of a word. The vowel is thus silenced by government and could not possibly guarantee the existence of an initial CV.

Moreover, the word-initial position offers no particular strength to the consonant. At least, there is no greater strength initially than can be found intervocally. Interestingly, though, morpho-phonological processes may deplete the segmental expression of the word-initial consonant but they do not seem to enhance it.

Taking all that into consideration, we may propose the structure of the left edge of a word in Welsh as follows:

\[(13)\]

\[\begin{align*}
(13)\ a. & & \text{C}_1 \ v_1 & \text{C}_2 \ v_2 & \text{C}_3 \ v_3 & \text{C}_4 \ v_4 \\
& & | & | & | & | \\
& & b & \Rightarrow & r & \alpha & u & d \\
\end{align*}\]

\[\begin{align*}
(13)\ b. & & \text{C}_1 \ v_1 & \text{C}_2 & \text{C}_3 & \text{C}_4 & \text{C}_5 & \text{C}_6 & \text{C}_7 \\
& & | & | & | & | & | & | \\
& & s & \rho & \Rightarrow & r & \alpha & n & i \\
\end{align*}\]

\[\begin{align*}
(13)\ c. & & \text{C}_1 & \text{C}_2 & \text{C}_3 & \text{C}_4 & \text{C}_5 \\
& & | & | & | & | & | \\
& & k & \Rightarrow & l & o & n & d & i & d \\
\end{align*}\]

\[\begin{align*}
(13)\ d. & & \text{C}_1 & \text{C}_2 & \text{C}_3 & \text{C}_4 & \text{C}_5 \\
& & | & | & | & | & | \\
& & m & d & \Rightarrow & r & \epsilon & \chi & i \\
\end{align*}\]

\[\begin{align*}
(13)\ e. & & \text{C}_1 & \text{C}_2 & \text{C}_3 & \text{C}_4 & \text{C}_5 & \text{C}_6 & \text{C}_7 \\
& & | & | & | & | & | & | \\
& & b & r & \alpha & u & d \\
\end{align*}\]

\[\begin{align*}
(13)\ f. & & \text{C}_1 & \text{C}_2 & \text{C}_3 & \text{C}_4 & \text{C}_5 & \text{C}_6 & \text{C}_7 \\
& & | & | & | & | & | & | \\
& & s & \rho & r & \alpha & n & i \\
\end{align*}\]

\[\begin{align*}
(13)\ g. & & \text{C}_1 & \text{C}_2 & \text{C}_3 & \text{C}_4 & \text{C}_5 & \text{C}_6 & \text{C}_7 \\
& & | & | & | & | & | & | \\
& & k & l & o & n & d & i & d \\
\end{align*}\]

\[\begin{align*}
(13)\ h. & & \text{C}_1 & \text{C}_2 & \text{C}_3 & \text{C}_4 & \text{C}_5 & \text{C}_6 & \text{C}_7 \\
& & | & | & | & | & | & | \\
& & m & d & r & \epsilon & \chi & i \\
\end{align*}\]

The graphs in (13a-d) represent an assumption where TR clusters may form branching onsets in Welsh, while those in (13e-h) illustrate a situation without any branching onsets whatsoever. The former option requires little justification, whereas the latter one is slightly more controversial. The example in (13c) should be approached with caution since it is clearly a syncopated form. This paper does not make a serious commitment to the assumption that there are no branching onsets in Welsh but merely acknowledges such a possibility.

The branching consonants in (13f) and (13h) represent trapped consonants (Scheer 2004: 283-364). It should be emphasised that only sonorants may extend their melody to a neighbouring nuclear position. [s] must be assumed to be a special obstruent that behaves like a sonorant with respect to occupying neighbouring constituents. The nucleus which accommodates the sonorant melody is no longer empty and requires no government from the following vowel. Moreover, [m] fails to behave like a coda consonant refusing to adopt the place of articulation of the following onset. That is because it is not a coda in (13h) – it is
followed by a melodically filled nucleus, which makes it an intervocalic nasal (in terms of lateral relations).

The possibility that branching onsets do not exist in Welsh can be reinforced by two additional facts. Firstly, the first member (T) of a branching onset undergoes various weakening phenomena in morpho-syntactic contexts including nasalisation, spirantisation or even deletion. It is hard to accept that [ŋn], [ŋl], [ŋr] and [ŋw] are branching onsets in the light of their realisation as [n], [l], [r] and [w] respectively in Soft Mutation. Secondly, vowels in South Welsh cannot be long before clusters of whatever sonority slope. If more than two consonants follow a vowel, it must remain short (Awbery 1984: 66). In that respect TR clusters and RT clusters behave alike, therefore it is feasible to assume that they should have the same structure, that is CøC.

5. Conclusion

The aim of this paper was to investigate word-initial clusters in Welsh from a typological point of view. A vantage point was offered by the Lateral Theory of Phonology, which classifies languages as either TR-only (CV-initial) or anything-goes (non-CV-initial). All in all, there is enough evidence in Welsh to seriously question the existence of an initial CV: The descriptive accounts that state that the only clusters found in the initial position in Welsh are TR and STR have been proven inaccurate – we should also include TRR, TT, RT and RR (the last one at least as a result of Nasal Mutation). Furthermore, a number of initial ST and TT clusters are the result of vowel syncope. In many cases it is the word-initial vowel that ends up being deleted stranding the clusters without initial support, although there are instances where it is a #CVC sequence that surfaces as #CC due to syncope. Finally, it cannot be asserted that the initial consonant in a word in Welsh is of a particular strength. This is crucial from the theoretical perspective since it sheds light on the structural configuration, that is the initial consonant behaves like other governed consonants, ergo its position in a Coda Mirror is possible but not evident. Finally, the lack of an initial CV (and the employment of trapped consonants) allows us to assume that branching onsets in Welsh are completely ill-formed. Nevertheless, this assumption requires more extensive research concerning the behaviour of consonant clusters in the medial and final positions as well as internal and external sandhi phenomena.

References


An Alternative Representation of Schwa in English

Natalia Dudek

Abstract

The main objective of this paper is to investigate the behaviour and the element structure of the English reduced vowel schwa from the perspective of Element Theory. It will be postulated that although [ʌ] and [ə] have two dissimilar phonetic identities, phonologically they share one representation, i.e. [ʌ] is a stronger version of [ə] and the former surfaces phonetically only when the latter is too weak to appear before or after some clusters, or in words with secondary stress. Therefore, the element structure of [ʌ] should be considered as identical to that of [ə].

Keywords: English schwa, Element Theory, Government Phonology, English wedge

1. Introduction

The aim of this article is to demonstrate that two English vowels, namely [ʌ] and [ə] behave phonologically in a similar manner and one can be easily replaced in certain environments by the other, with no ambiguity whatsoever, especially when unstressed and in affixes. Therefore, when it comes to their melodic representation, it will be claimed that they both share one element representation and the way to differentiate between them is to specify either the stressed or unstressed positions they may or may not appear in. The paper is organised in the following way: in section 2 I introduce some basic assumptions of Element Theory, which is part of Government Phonology (GP henceforth). Sections 3 and 4 consist of two well-established element analyses of the English vocalic system, one proposed by Harris (1994) and the other described by Backley (2009, 2011). In section 5 I introduce a new element analysis of the two vowels in question and I provide some arguments for my proposal.

2. Element Theory – its tools and application

Element Theory (henceforth ET) has its roots in Government Phonology (Kaye, Lowenstamm and Vergnaud 1985, 1990). ET aims at demonstrating that phonological expressions are comprised of elements which are the smallest and privative units of subsegmental representation and which can be pronounced in isolation. The table in (1) below (reproduced after Cyran 2010) enlists eight elements (employed in both vowel and consonant description) along with their acoustic patterns and articulatory execution:
In Standard GP assumptions it is commonly believed that the interpretations of elements should be universal for all languages. In the next subsection we are going to focus on the types of expressions employed by ET.

2.1. Simplex vs. complex expressions

Segments within the GP framework can be twofold: either they are simplex expressions, which means that they have only one element ascribed, or they are complex, which is synonymous to two or more elements being fused to create a representation of a particular segment. In simplex or complex expressions one of the elements (or the sole element when it comes to simplex phonological expressions) can be the head, while the other one plays the role of an operator (there may be more than one operator within an expression), or the whole expression may be headless, which refers to having two equal operators within this phonological entity. There cannot be, however, a situation in which there are two or more heads within one expression – this is the fundamental assumption of the standard version of ET (cf. Kaye 2001 for details).

Element Theory distinguishes three elements, these being {A U I}, which may be employed in both vowel and consonant description. There are also some additional elements which ET employs, but since only these three are used in vowel representation (in consonants they describe the place of articulation), we are not going to go into further detail. These primes may be mixed together in order to build other segments save for three corner vowels, which are described exactly as the three elements {A U I}. Thus, if we aim at describing a typical [e], all we need to do is compose two elements {I} and {A} which fuse into {I A}. Exactly the same pattern may be applied to a characteristic [o], which consists of {U} and {A} fusing into {U A}. These are possible segmental representations of vowels. However, there is also a very specific tool – the so-called headedness, which makes segments even more contrastive (this, of course, depends on their acoustic features). Its application is explained in the next subsection.
2.2. Headedness and its application

A tool which deserves special attention is headedness. This is a mechanism which refers to a situation in which one element within an expression is more prominent or, in other words, it contributes more to the perception of an expression. If, for instance, a system shares two front mid sounds, namely [e] and [e], they have to be told apart elementally. It should be borne in mind that since these are two different sounds, it is impossible to employ exactly the same element description for both of them, e.g. simply {A I}, because then we would never be able to differentiate one from the other. Therefore, by heading e.g. {I} in {A I}, a tense [e] is received, while by applying headedness to {A} in {A I}, a lax [e] sound is described (a whole expression can also be headless, i.e. {A I} – as a matter of fact, this fully depends on a given sound system). Thus, in this respect headedness means distinguishing between three sounds (represented as either {A I}, {I A}, or {A I}) which share some similar qualities but are phonetically and phonologically distinctive, i.e. the distinction between tense/lax vowels. This is, of course, language-specific.

2.3. Permutations of elements and constraining system

As stated by Kaye (2001), twenty divergent permutations of elements are available to be used, both headed and headless, which allow us to characterise the most complex system in any language. These are depicted in (2):

<table>
<thead>
<tr>
<th>Headed</th>
<th>Headless</th>
</tr>
</thead>
<tbody>
<tr>
<td>{I}</td>
<td>{A}</td>
</tr>
<tr>
<td>{U}</td>
<td>{A I}</td>
</tr>
<tr>
<td>{A}</td>
<td>{I A}</td>
</tr>
<tr>
<td></td>
<td>{I U}</td>
</tr>
<tr>
<td></td>
<td>{A I U}</td>
</tr>
<tr>
<td></td>
<td>{A U}</td>
</tr>
<tr>
<td></td>
<td>{I A}</td>
</tr>
<tr>
<td></td>
<td>{U A}</td>
</tr>
<tr>
<td></td>
<td>{I U}</td>
</tr>
</tbody>
</table>

However, there is also a universal tool which restricts such combinatorial possibilities of the elements – this is called Licensing Constraints (LC). Due to the fact that it is almost impossible to use all twenty potential descriptions of vowels in any language, licensing constraints are there to exclude unnecessary expressions which do not fit a particular language. One sound can be described in a few diverse ways by means of the elements, although the choice and argumentation for the chosen representation lie in the quality of a particular sound. That is to say, if a given sound system consists of tense vowels (e.g. English), then headedness should be used to portray this feature and, thus, all headless representations can account for lax vowels.
3. Harris’ proposal (1994)

Harris’ analysis of the whole system of English vowels dates back to 1994 and is, most probably, the first piece of profound research of such a type carried out in the framework of Element Theory. Since the aim of this paper is to focus only on two vowels, i.e. [ə] and [ʌ], we are going to omit element descriptions of the remaining English vowels. The element representations of [ə] and [ʌ] (Harris 1994: 114-117) are provided in (3):

\[
\begin{align*}
\text{(3)} & \quad [\text{ə}]@ \\
& \quad [\text{ʌ}]@ \\
\end{align*}
\]

According to Harris, @ stands for a neutral position of the vocal tract (Harris 1994: 108). He also points out that “most researchers within the A-I-U tradition accord this neutral quality some special status, either by treating it as a segment devoid of any active elementary content or by taking it to be the independent manifestation of a fourth element” (Harris 1994: 109).

We can infer from the above descriptions in (3) that [ə] and [ʌ] are elementally the same, i.e. @ and, in Harris’ approach, the only way we can differentiate between them is by the accented or unaccented position they occur in within words. However, even before analysing the stressed and unstressed environments, let us first examine the nature of the element @ and headedness.

As far as the neutral element used by Harris is concerned, the first thing that should be mentioned is that in theoretical/phonological frameworks such as Government Phonology or Dependency Phonology (Anderson and Ewen 2009) this @ element is treated as an expression deficient in any active content and remaining headless, it is a recessive realisation of some other melody-filled expressions (e.g. when full vowels are reduced to [ə], [ɪ], and [ʊ]). In reduction processes full vowels are decomposed into schwa-like vowels causing at the same time a loss of phonological information. Harris (1994: 109) metaphorically calls @ a blank canvas to which different colours {A I U} are added, creating at the same time a broader spectrum of tints providing some acoustic signal and making the expression fully audible and phonologically relevant. He assumes that @ is a kind of a baseline on which other elements can be superimposed. All schwa-like vowels have the neutral element, even [ʌ], which appears in strong positions. Harris (1994: 110) claims that “other centralized categories that are potentially distinct from this baseline can then be thought of as displaced versions of a neutral quality, expressed as the fusion of {@} with some other element.”

When it comes to headedness, Harris (1994: 111) assumes that @ may be a fully autonomous and phonetically significant element when it plays the role of the head of an expression. In other cases, i.e. when it is a dependent, it is phonetically inaudible, thus carrying no phonological or phonetic information. Therefore, if the element structure is an unheaded {@}, then we hear nothing and this is exactly the case in Harris’ proposal of [ɔ], which is beyond the scope of this article. However it needs to be mentioned in order to show the discrepancies between the complexity of these two sounds. Harris’ long schwa is simply @ linked to two nuclear slots (Harris 1994: 297). The problem is, however, that the long schwa is perfectly audible. Additionally, unlike [ə], it may occur in accented positions. So, a headed version of @ is a very strange entity, because it gives the impression that a reduced
vowel (schwa) is structurally richer than a full vowel (long schwa) and it should be the other way round, because [ə], unlike [ɔ], can occur in both stressed and unstressed environments, i.e. *expert*, *universe* (Cruttenden 2008: 147).

Harris also makes one prediction which is thought provoking. If [@] is treated as the fourth element (collaterally with {A I U}), then it may be the head as well as a dependent within an expression. Logically, this makes sense to some extent because all the three remaining elements also have such competence: they can be either a head or a complement of this head. Phonetically, this is irrelevant because [@], standing alone in Harris’ approach, i.e. headless, is either silent (as in final empty nuclei) or it makes a small contribution to the making of other sounds. What Harris says is that only when headed is it significant and meaningful. Such a claim, as already mentioned, poses a problem if we consider his element representation of the long schwa, which is simply [@]. Besides, he proposes that the headed [@] is a reduced vowel and this holds true for [ə] but not necessarily for its short stressed equivalent [ʌ], since this vowel may appear in both stressed and non-stressed contexts. And here a real obstacle appears, because in words such as *subjectivity*, there is an unstressed [ʌ] in the first syllable and it cannot be replaced by [ə] – so here the structural description causes nothing but ambiguity. Phonologically, it is applicable only when [@] is a head (its headless version implies silence), because then it carries some information and makes the expression audible. Another important question which is open to discussion is the understanding of the application of headedness in an element which is phonologically inactive. Consequently, whether [@] is headed or not, it does not contribute to the making of a sound to a large extent¹, except for centralising or neutralising corner articulations.

Additionally, a basic view of ET assumes (Kaye, Lowenstamm and Vergnaud 1985) that every element {A I U} has a separate tier (of course they can fuse together in order to create more complex sounds), and only [@] does not have one but, instead, it is tied to the {A I U} segmental lines. Maybe, if it can be either headed or non-headed as with the other three elements, and if it is treated as the fourth element, it should also be represented independently on a segmental line. This is a theoretical question which requires more in-depth studies.


Backley’s description of the English vocalic system differs considerably from the one proposed by Harris. As in the earlier section, we are going to consider only the two vowels in question. Let us then see Backley’s element descriptions,² which are presented in (4) below:

\[
\begin{align*}
(4) \quad [\text{a}] &| (\text{A}) \\
[\text{ʌ}] &| (\Delta)
\end{align*}
\]

What can be inferred from the above representations is that Backley makes a clear-cut distinction between the always unstressed schwa and its stressed equivalent. What he proposes

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¹ The extent is of course always debatable.
² In Backley’s analysis the vowel [æ] contains the elements {Δ I}.
is heading the element \{A\} in [\alpha], which in his description is \{A\}, and leaving [\omega] headless, i.e. \{A\}, in order to account for its reduction ability. Therefore, in reduction processes full vowels, which in his analysis are all headed (except for the long schwa), are deprived of headedness. Backley proposes that the schwa vowel and two short full vowels [i] and [u] are headless when reduced. Reduction in Backley’s (2009: 62) approach means “the loss of structural material from a segment representation”. In the case of unstressed vowels it is simply depriving them of headlessness.

Backley’s proposal seems to be very logical, especially if we want to neatly account for the reduction ability of certain sounds. On the other hand, if it is either the stressed or unstressed environment which makes [\omega] and [\alpha] different and they are claimed to be phonologically identical, why should they have distinct element descriptions? It may not be necessary if [\alpha] really is a stronger version of [\omega] and it appears whenever [\omega] is too weak.

5. An alternative proposal

In this section I would like to propose a different element representation of English [\alpha] and [\omega]. Let us first consider the element descriptions of these two vowels, which may be found in (5):

\begin{verbatim}
(5)  \[\omega]\$_
\[\alpha]\$_
\end{verbatim}

In (5) we can see that [\alpha] and [\omega] are expressed in the same manner, i.e. they are both headless, with no active vocalic elements ascribed. This looks as if there is neither a segmental nor a prosodic difference between them. However, such an assumption would be fallacious. They both, as already mentioned, share different stress assignments, i.e. schwa is never stressed, but wedge, on the other hand, freely appears in stressed, unstressed or secondarily stressed syllables as in sulphuric or subglacial.4

If a wedge is the stressed opposite of a schwa, these two should not appear within the same context. However, there are a few words which suggest that this is not always true. Relevant examples (based on Cruttenden 2001: 147) are provided in (6):

\begin{verbatim}
(6)  sulphuric  [safufrik]
subjectivity [sabdʒaktɪvɪtɪ]5
product  [prɒdʌkt]
aqueduct  [ækwɪdʌkt]
\end{verbatim}

In these examples, both a wedge and schwa appear in unaccented positions and such a state of affairs dramatically worsens the issue of their element representation, which is the same, and

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3 The difference between the descriptions in (3) and (5) is that in (5) there is already no \{@\} element, which in Harris’ analysis was additionally headed or unheaded.

4 Schwa and wedge are similar phonetically and differences between them are not always easy to perceive. I thank the reviewer for this observation.

5 Subjectivity could potentially be interpreted as a compound. This issue is, however, debatable.
their phonetic interpretation, which becomes ambiguous. Nonetheless, in some words presented in (6), i.e. [ækwɪdʒtɪk], [prədʒəkt], [sɒlˈfjuərɪk]⁶, schwa appears interchangeably with wedge, so such words have double pronunciations, which indicates free variation. But there are also words such as [səbdʒækˈtɪvəti] where it is impossible to swap [ʌ] with [ə] and, therefore, the assumption that these two vowels are structurally the same may be disputable. However, there are two possibilities when [ə] cannot surface interchangeably with [ʌ] in words such as subjectivity. For one thing, there is a consonant cluster following the vowel, which, most probably, needs a stronger licenser (as proposed in Cyran 2003). Thus, the double licensing of the leftward interonset relation (LIO) may be at work in certain words. Double licensing of LIO means that a vowel preceding a consonant cluster licenses to the right a vowel following this cluster, so that this rightmost nucleus responsible for a governing relation could successfully license a cluster at hand. An example is presented below in (7):

(7)

In the case of subjectivity, the reduced vowel [ə] in N₃ following [bdʒ] may be too weak to license this consonant cluster by itself, so it needs support from the leftmost nucleus N₁, which is a full vowel [ʌ]. Thus, the weakly stressed N₁ licenses N₃ (dashed line). This nuclear position government-licenses (another dashed line) the preceding O₃ to govern O₂ via LIO (solid line). Consonant clusters may be responsible for the type of vocalic sound, since some clusters prefer the presence of stronger licensers.⁸ As mentioned in Cyran (2003: 280), [ə] cannot appear before some RT clusters such as [mʊ], [ŋk], [l̩], [l̩k] (especially at the right edges of words). Another environment precluding the appearance of [ə] in certain situations is secondary stress, which is obligatory in longer words like subjectivity.

Let us now make the following prediction: if schwa is claimed to be an unstressed equivalent of wedge, then an unstressed wedge should have the potential to be easily replaced by schwa in an unaccented position (in some favourable environments). To find out whether this prediction holds true, let us also consider the prefix sub, which may be realised as either [səb] or [səb] in the examples below (based on the Oxford English Reference Dictionary 2003 and the Cambridge English Pronouncing Dictionary 2003):

⁷ Both the schwa and the empty nuclei will share the same element description, i.e. [_.]. However, the difference between them will be expressed in the arboreal structure, that is to say, schwa is always linked to the skeleton, while empty nuclei never have any association lines.
⁸ As the reviewer suggests, ‘the definition of “stronger licensers” cannot rely on sound interpretation only’. Strong licensers and the definition may require further investigation.
⁹ The prefix sub may create a domain on its own, which is of importance to some extent. However, we are not going to focus on it in this article, because the behaviour of this prefix needs further investigation.
What can be seen in the table in (8) is the following: both [ə] and [ʌ] can appear before the majority of consonant clusters of different sonority, e.g. TT such as [bt], [bd] (sonority plateau), TR such as [bm], [bs] (shallow sonority slope) and [br] (steep sonority slope). However, the difference in all these words lies in the secondary stress: all words where both schwa and wedge are possible have secondary stress before [ʌ] and this may be the reason why there cannot be [ə] in such words. In the above examples, there are also clusters which demand either schwa or wedge. There are no words in which [ʌ] cannot appear before a cluster. [ə], on the other hand, cannot be found before the cluster of a bilabial stop + a velar stop, i.e. [bk], [bg], or a bilabial stop + a nasal, i.e. [bn]. Furthermore, in (8) there are clusters such as a bilabial stop + an alveolar stop [bt], an alveolar fricative [bs], a bilabial nasal [bm] and a labio-dental fricative [bv], respectively, where [ʌ] and [ə] appear interchangeably. Even though there are some restrictions on the occurrence of these two vowels, like secondary stress, no minimal pairs occur and we are most probably dealing with free variation here.

6. Conclusion

This article presents the two English central vowels [ʌ] and [ə] with their divergent element analyses. Three different approaches were shown and explained in detail. In the third proposal [ʌ] and [ə] are described by means of the same structure { underscore }. The distinction between the two, as already mentioned, is being realised in either stressed or unstressed syllables. Thus, it can be be stated that [ʌ] and [ə] are two phonetic objects (and this is stress-dependent), but phonologically they behave as one object, i.e. [ʌ] is a slightly stronger version of [ə] and sometimes has to replace it (in words bearing secondary stress). This exchange may also be, at least to some extent, speaker-dependent, i.e. if speakers know that the vowel is truly unstressed, then they immediately utilise schwa. However, if secondary stress appears, schwa is impossible and a phonetically stronger version, that is [ʌ], appears in this position.

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10 These are not purely linguistic categories but rather pragmatic.
References


Revisiting the Licensing Condition of the Aboutness Relation

Dawei Jin

Abstract

This paper proposes a novel formulation of the aboutness relation that is operative in gapless structures. The notion of aboutness has consistently resisted precise characterization, due to the empirical complexities it exhibits. In this paper, I draw attention to the resemblance between gapless structures and regular predicate-complement sentences. Crucially, Generative Lexicon Theory (Pustejovsky 1995) has shown that predicate-complement constructions, among others, can only be properly interpreted by positing sublexical semantic modules. I show that the same set of modules enables us to predict the licensing conditions of aboutness in gapless structures, and the reason why such a resemblance between two different constructions exists can be found in the semantic nature of topicalization (Heim 1982).

Keywords: aboutness, coercion, gapless structure, qualia, the semantics of nominals

1. Introduction

It is a well-known fact that, in East Asian languages, the licensing of a topic-comment structure is subject to a licensing condition broader than operator-variable binding (Xu and Langendoen 1984; Xu 2006). One critical piece of evidence is that topic structure allows gapless extraction, i.e., an element may occur in a dislocated position while lacking syntactic integration into the rest of the sentence (Jacobs 2001). This behavior is also shared by another construction, the relative clause. (1a) illustrates a gapless topic-comment construction, and (1b) a gapless relative construction:1,2

* I would like to thank Jun Chen, Lihua Xu and Sanghee Park for their valuable comments on various versions of this paper. Special thanks to the anonymous reviewer, whose feedback proved extremely helpful. All the remaining errors are my own.

1 Abbreviations in this paper are based on the Leipzig Glossing Rules. Specifically, the following abbreviations are used in the examples in this paper: CLF= classifier; DEM=demonstrative; IND=indicative; LOC= locative; PFV=perfective; POSS=possessive; REL= relativizer; SBJ=Subject.

2 In gapless topic structures, the topic bears a clear relation with one element within the comment. Such an element may also occur in what is called a secondary topic position (Li and Thompson, 1981):

(i) Nei-ge shadian, liutong chu, gongzuo zui lei.
   DEM-CLF bookstore, circulation desk work most tiring
   'That bookstore, (it is) the circulation desk (that) work is most exhausting.'

The condition that licenses such a secondary topic construction is the same as that for a regular gapless topic construction with only one left-dislocated topic (primary topic). This paper does not seek to distinguish
Revisiting the Licensing Condition of the Aboutness Relation

(1)  
\[\text{a. Nei-ge shudian, ta zai liutong chu gongzuo. (Chinese)}\]  
DEM-CLF bookstore, he LOC circulation desk work  
'That bookstore, he works at the circulation desk.'

\[\text{b. [Ta zai liutong chu gongzuo] de nei-ge shudian}\]  
he LOC circulation desk work REL DEM-CLF bookstore  
The bookstore that he works at the circulation desk.'

In (1a), the topic does not link to (i.e., coindex with) an argument slot within the comment. Similarly, in (1b), the relative head does not link to an argument slot within the relative clause.3

Chao (1968) was the first to suggest that gapless extraction in a topic structure is licensed by an aboutness relation. This means that for an element to be topicalized, it does not need to be subcategorized for by a predicate, but only requires that the predicate be about it. Kuno (1976) adopts this approach and further proposes that the relative structure is also licensed by an aboutness relation. Specifically, Kuno formulates the following constraint:

(2)  
THEMATIVE CONSTRAINT ON RELATIVE CLAUSES (Kuno 1976)  
A relative clause must be a statement about its head noun.

While the notion of aboutness is rather intuitive, we still need a precise formulation of what it means to say A is a statement about B, for the licensing condition to be predictable. However, to date there has not been much work done on this problem. Gundel (1988) suggests that any entity that serves as a topic needs to have a certain high degree of salience at the given point of utterance in the discourse. This most often means that such an entity is being subcategorized for by a predicate, but even when this is not the case, salience might still be achieved. The problem is that Gundel does not specify exactly when those non-subcategorizing cases arise. To work out such details, we crucially need to explain explicitly how a proposition (with a predicate) is related to the topic entity during the interpretation. Lambrecht (1994: 54) seeks to characterize this relation as: "a proposition is interpreted as

between a regular gapless topic sentence and a secondary topic sentence. Indeed, the theory developed here is compatible with a second element taking a dislocated position.

3 I will illustrate the licensing of the aboutness relation using Chinese throughout this paper. However, see Xu (2006: 157-158) for an account of how the aboutness relation applies in other East Asian languages. Some examples similar to the ones given in Chinese are provided below:

(i)  
\[\text{a. Ho-o naqho yi vey o. (Lahu)}\]  
elephant-TOP nose long IND  
'Elephants, noses are long.'

\[\text{b. Sakana-wa tai-ga oisii. (Japanese)}\]  
fish-TOP red.snapper-SBJ tasty.  
'Fish, red snapper is tasty.'

\[\text{c. Pihengki-nin 747-ka khi-ta. (Korean)}\]  
airplane-TOP 747-SBJ big-IND  
'Airplanes, the 747 is big.'

(ii)  
\[\text{Suyeng-nin Waikiki-ka coh-ta. (Korean)}\]  
swimming-TOP Waikiki-SBJ good-IND  
'(As for) swimming, Waikiki is good.'
constituting relevant information (about the referent)...”. Nevertheless, this essentially restates the question rather than providing an implementable working definition.

Apart from the definitional issue, an aboutness approach to gapless structures also faces an empirical problem. As Huang et al. (2009) point out, there are cases where the topic in a gapless topic sentence cannot be the head of a corresponding gapless relative clause. Also, there are cases where the head of a gapless relative cannot be the topic for a corresponding gapless comment. The former case is illustrated in (3), and the latter case is exemplified in (4) (Huang et al. 2009: 43):

(3) a. Shuiguo, wo zuì xihuan xiāngjiāo.
  fruit, I most enjoy banana
  ‘(Speaking of/As for) fruit, I enjoy (eating) banana most.’

  b. *[Wo zuì xihuan xiāngjiāo] de shuiguo
     I most enjoy banana REL fruit
     ‘The fruit that I enjoy (eating) banana most’

(4) a. *Nei-ge shudian, ta mai shu.
    DEM-CLF bookstore, he bought books
    ‘That bookstore, he bought books.’

  b. *[Ta mai shu] de nei-ge shudian
     he buy books REL DEM-CLF bookstore
     ‘The bookstore that he buys books’

Given the assumption that a uniform aboutness relation licenses both the topic and the relative structure, it is problematic for the aboutness approach to address such discrepancies.

This paper proposes a solution to the above-mentioned conceptual and empirical issues regarding the aboutness relation. In a nutshell, I propose that a uniform aboutness relation must be constrained by two construction-specific semantic requirements imposed on the topic structure and the relative structure, respectively. By giving a formal characterization of a semantic interpretive condition specific to the topic structure and another one for the relative structure, I show that both the similarities and dissimilarities between the two structures in gapless extraction follow naturally from the interaction between construction-specific semantic conditions and the aboutness relation.

The rest of this paper is structured as follows: in section 2, several more recent approaches to the aboutness relation are reviewed. Section 3 characterizes the aboutness relation in terms of association. I then show that the feature geometry theory of sublexical representations within nominals developed in Pustejovsky (1995) can be applied to topicalization. Furthermore, I argue that a restrictiveness condition is independently needed in relativization. The aboutness relation, when applied to particular constructions, interacts with construction-specific semantic constraints. Section 4 discusses the implications and concludes the paper.
2. Previous theories

This paper first reviews several more recent approaches that bear directly upon the issue of the aboutness relation. I show that given the way these theories are formulated, they are unable to sufficiently predict the similarities and dissimilarities between the topic and relative structures as discussed above.

2.1. Huang et al. (2009)

For Huang et al. (2009), the topic-relative discrepancies as observed in (3-4) can be explained because the gapless topic and the relative involve different mechanisms and should be treated separately. Specifically, they propose that, on the one hand, the gapless topic structure is licensed by the aboutness relation. In Huang et al. (2009), this relation is simply assumed to exist, without any commitment as to its exact formulation. Crucially, the central claim is that the aboutness relation only applies to a topic structure.

On the other hand, they argue that gapless relatives are not licensed by the aboutness relation. Indeed, a strong claim is put forward, in that gapless relatives are not real relatives, but rather a type of nominal expression. This is motivated by gapless relative examples such as the following (Huang et al. 2009: 234):

(5)  

a. [Ta zuoe] de houguo  
   he do.evil REL consequence  
   ‘The consequence of his doing evil.’

b. [ta kaoshi] de jieguo  
   he take.test REL result  
   ‘The result of his taking a test.’

c. [Ta changge] de shengyin  
   he sing.song REL voice  
   ‘The voice of his singing a song.’

In all these examples, Huang et al. argue, the English translations are nominal expressions that take PP complements. Similarly, they argue that the head nouns in these Chinese relatives, e.g. houguo ‘consequence’, jieguo ‘result’ or shengyin ‘sound’, are used in their relational senses, where their denotations do not exist independently. In this respect, they resemble inalienable possession nouns, such as father or sister. Based on these observations, Huang et al. believe that, just like inalienable possession nouns take PP complements, the structure in (5) for Chinese is actually a complement-taking NP, as opposed to real relatives that contain gaps.

However, reducing all gapless relatives to the PP complements of relational nouns is not empirically accurate. Such an analysis crucially hinges upon the head noun having a relational sense. As such, nevertheless, it fails to extend to cases where gapless relatives occur with a non-relational head noun, such as in (1) (repeated below).
(6) a. [Ta zai liutong chu gongzuo] de nei-ge shudian
   he LOC circulation desk work REL DEM-CLF bookstore
   'The bookstore that he works at the circulation desk'

   b. [Ta mai shu] de nei-ge shudian
   he buy books REL DEM-CLF bookstore
   'The bookstore that he buys books'

   While it makes sense to claim that nouns such as consequence generally take a complement (either overtly or implicitly), it is much harder to contend that a bookstore cannot stand on its own. It is worth noting that gapless examples similar to (6) abound in Chinese. One can easily utter the following:

(7) a. [Dajia zuihou dou jiehun-le] de nei-bu dianshi ju
   guys in.the.end all get.married-PFV REL DEM-CLF TV serial
   'That TV serial that all the guys finally got married'

   b. [Gongzhu aishang-le yi-ge jiangjun] de nei-ben xiaoshuo
   princess fall.in love-PFV one-CLF general REL DEM-CLF novel
   'That novel that the princess fell in love with a general'

   c. [Fanduipai shitu touyun huoyao zhizao baozhaan] de nei-ge yihui dalou
   opposition try smuggle.in inflammables make explosion REL DEM-CLF parliament building
   'That parliament building that the opposition tried to smuggle in explosives to create a blow-up'

   d. [Zhengfu xuanbu zheng-ge guojia jinru jieyan] de nei-ci kongbu xiji
   government announce whole country enter curfew REL DEM-CLF terrorist attack
   'The terrorist attack that the government announced a curfew for the entire country'

   In (7a), for instance, a better translation in English would be that TV serial where all the guys finally got married, in which the head noun corresponds to an adjunct slot within the relative clause through the use of the adverbial relativizer where. On the contrary, in Chinese, it is fine to use the generic relativizer DE, thereby creating a genuine gapless structure. In the same vein, (7b-d) need to be analyzed as gapless relatives. This fact again poses a severe challenge to Huang et al.’s (2009) analysis, since it would be rather unconvincing to suggest that head nouns such as a novel or a terrorist attack inherently take a PP complement and are construed as relational nouns, without straining the meaning of “relational” to its extreme.

   Moreover, although not all gapless relatives can find corresponding gapless topic structures, by reducing gapless relatives to PP complements we still miss a possible explanation for why an intuitively strong link exists between the topic and relative structures.

   Based on the above evidence, it seems tempting to maintain that a gapless relative is a real relative structure. If they are indeed bona fide relatives, we still need to look for licensing

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4 One diagnostic for relational nouns is that they force a bound reading in quantificational contexts (Asudeh 2005: 376). In (i), the indefinite consequence cannot scope above the universal quantifier every in the subject position to induce a reading where a certain consequence is common to all evil-doings. Instead, the only natural reading is that every evil-doing leads to its own consequence (i.e. the quantifier binds the relational noun). By contrast, (ii) readily allows a non-bound reading, where a library outscopes every.

(i) Every evil-doing has its consequence.
(ii) Every reader has been to a library.
conditions for gapless relatives, and search for reasons that account for their similarities and dissimilarities with gapless topic structures.

2.2. Pan and Hu (2008)

Pan and Hu (2008) provide a fleshed-out formulation of the aboutness relation for topic structures. They characterize the relation between the topic and the comment in terms of set intersection. Specifically, a comment is about a topic when there exists an element in the comment that denotes a set whose intersection with the set denoted by the topic is non-empty (Pan and Hu 2008: 1970). This definition renders an explanation for gapless topic examples such as in (3a) (repeated below):

(8) Shuiguo, wo zuixihuanxiangjiao.
fruit, I most enjoy banana
‘(Speaking of/As for) fruit, I enjoy (eating) banana most.’

Here the NP element banana within the comment can be construed as denoting the set of all bananas. The topic, fruit, denotes all those entities that instantiate the property of being a fruit, namely all kinds of fruit. As such, Pan and Hu argue that fruit can be construed as a set of sets that includes the set of apples, the set of pears, and the set of bananas, etc. In this way, the set denoted by banana is simply one element within the superset denoted by fruit, such that the intersection of fruit and banana yields the set of bananas. Hence the nonempty requirement is fulfilled and the structure in (8) is successfully licensed.

Despite its ability to account for a number of examples within topic structures, this formulation, as it stands, fails to predict the discrepancies between gapless topic and relative structures. This is because by explaining the well-formedness of (8) (= (3a)), the set intersection condition will not be able to explain why (3b) is bad. Therefore, the consequence will be that this formulation of aboutness cannot extend itself to cases with gapless relatives, hence the intuitive generalization about the topic-relative similarities is again missing.

Furthermore, even within the topic structures, Pan and Hu’s formulation is still too restrictive. While it accounts for examples such as (3a), it is unable to explain the fact that (1a) (repeated below) is also good:

(9) Neige shudian, ta zai liutong chu gongzuo.
DEM-CLF bookstore, he LOC circulation desk work
‘That bookstore, he works at the circulation desk.’

Because in (9) the aboutness relation is licensed, Pan and Hu would have to argue that there exists a nonempty set intersective relationship between the set denoted by the topic, bookstore, and the set denoted by the element within the comment, circulation desk. However, if we follow the logic in the case with fruit, then bookstore denotes a set of all the sets of entities that instantiate the property of being a bookstore, this gives us sets of all kinds of bookstores, not any sets of subcomponent parts of a bookstore. As such, there should not be
any shared set elements between the set content of bookstore and that of circulation desk, because the latter would denote a set of circulation desks.

A possible objection could be raised here: it might be suggested that (9) is not a real gapless extraction, because, in Chinese, bookstore may occur together with circulation desk in a single possessor phrase (PossP), where the bookstore occupies the possessor position and the circulation desk the possessee position, just like the English [[bookstore]‘s circulation desk]. As such, one might reanalyze (9) as involving an overt extraction of the topic from the possessor position of a PossP within the comment. However, not all meronymic (part-whole) relations between a topic and an element within the comment can be treated as an extraction from PossP. For example, (10a) is an acceptable gapless topicalization sentence. Meanwhile, as (10b) shows, the NP within the comment, Jude Law, cannot be seen as the remnant of a PossP, because in Chinese it is not possible to encode the relation between a member of the cast and the movie in terms of possession.

(10) a. Zhe¬-bu dianying, qiudeluobiaoyan¬-de youdian rangrenshiwang.
   DEM¬-CLF film Jude.Law perform¬-ADV a.little.bit disappointing
   ‘This movie, Jude Law performed in a disappointing manner.’

   b. ‘Zhe¬-bu dianying de qiudelu’
   DEM¬-CLF movie POSS Jude.Law
   ‘Jude Law of this movie’

This suggests that a reanalysis approach is inadequate. We need to allow the aboutness relation to encompass the entirety of part-whole relations that systematically obtain between two NPs in a gapless topic, and it is not clear how Pan and Hu (2008) would handle this.

More seriously, the topic in a gapless topic structure is not restricted to a supercategory in a hypernymy or meronymy relation. In (11), the topic is a deverbal noun:

(11) Hejiu, ta zuixihan danxiaomaipi.
   drinking he most enjoy pale ale
   ‘(Talking about) drinking, he really enjoys pale ale most.’

In fact, one may felicitously utter both (11) and (12), where a hypernymy relation is involved:

(12) Pijiu, ta zuixihan danxiaomaipi.
   beer he most enjoy pale ale
   ‘(Speaking of) beers, he really enjoys pale ale most.’

(12) is similar to (8) in that a hypernym occupies the topic position and relates to a hyponym in the comment. Unlike in (12), the topic in (11) does not denote any entities, but denotes events or actions. While the hypernymy relation existing between beer and pale ale in (12) can be captured in Pan and Hu (2008), it would be very implausible to believe that some set intersective relation exists between the action of drinking and the entity of pale ale.5 It still seems

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5 In Hu and Pan (2009), a further condition is added, in which it is stipulated that the topic and the element within the comment that is related to the topic must bear a predicate-subject relation. For example, in saying Fruit, I enjoy banana most, Fruit serves as a nominal predicate over banana, leading to a paraphrase as:
intuitively clear that the event of drinking can be related to certain kinds of drinks, such as pale ale, and a proper characterization of aboutness should capture this intuition. For this reason we need to look beyond set intersection to search for a proper way to characterize aboutness.6


Kehler (2002) has another proposal for the aboutness relation. Borrowing from Lakoff (1986), Kehler points out that extraction that does not leave a gap behind can be seen as just a subcase of the broader extraction phenomena that involve a partial identity relation between two entities. This means that a dislocated element only needs to be identical to an in situ element with regard to one property. For other properties, it may be underspecified. To illustrate this, Kehler presents examples in English such as the following (Kehler 2002: 124):

(13) Speaking of reading materials, John bought the books and Bill bought the magazines.

Here the preposed element reading materials is not totally identical with either of the two NPs in the two conjuncts, the books and the magazines. Crucially, it is specified with a sortal type that is shared by both the books and the magazines, while being underspecified with regard to other properties, hence it subsumes both entities (Lakoff 1986).

The notion of underspecification in Kehler’s formulation of aboutness avoids Pan and Hu’s problem of over-restrictiveness, but it is too permissive. For one thing, the topic-relative discrepancies such as those in (3a) and (3b) are left unexplained. Moreover, even if we focus on topic structures alone, this theory still overgenerates. To see this, we can go back to (8) and allow fruit and banana to share the sortal type (i.e. banana is a subtype of the sort fruit), while leaving fruit underspecified with the other properties of banana (i.e. fruit does not bear those properties specific to bananas but not to other subtypes of fruit). Similarly, we are tempted to say that a circulation desk and a bookstore share a certain property, and the same for the event of drinking and a pale ale. The problem, then, is that for lack of a more constrained definition of what kind of properties can be shared and what cannot, we are unable to explain why (4a) (repeated below) is bad:

(14) *Nei-ge shudian, ta mai shu.
DEM-CLF bookstore, he bought books
‘That bookstore, he bought books.’

“Banana is fruit.” While this proposal is apparently an attempt to add some motivation to the set intersection condition, it is still not clear why a predication relation in particular needs to be established between the topic and its correlating element. Moreover, making the topic a nominal predicate only works in the sortal typing case. In Bookstore, the circulation desk has the heaviest workload, we cannot say “the circulation desk is a bookstore”. Also, in Drinking, I enjoy pale ale most, we cannot say “Pale ale is drinking.” Therefore, this new interpretive condition still falls short in predictive power.

6 In addition, there is one conceptual issue with the set intersection approach: it is not clear why it has to be a set intersective relation that licenses all cases of the topic-comment structure. A set intersective relation is only one of the many ways two things can be said to be about each other. Therefore this constraint, thus formulated, seems more stipulatory than explanatory.
In other words, Kehler’s theory fails to provide an explanation of what prevents a bookstore and books from sharing a certain property. From this perspective, it is too powerful and it is not stated in a predictive manner.

To sum up, in this section, I have discussed the problems with previous approaches to developing a predictive explanation for the variety of environments where the aboutness relation can be licensed. In what follows, I show that these environments can be categorized into several natural classes if we look into what elements are relevant in the interpretation of a predicative relation.

Before proceeding, it is worth noting that this paper shares the assumption expressed in the above-mentioned approaches that the aboutness relation does exist as a semantic licensing condition for gapless structures, and the point on which I disagree with these approaches is what is the best way to characterize this relation. However, there exists an opposing view to such an assumption (Shi 2000; Huang and Ting 2006), in which it is proposed that the preposed element in a Chinese gapless topic-comment structure should be reanalyzed as some syntactic constituent tangential to gapless topichood.

For example, Shi (2000: 393-395) proposes that in the following sentences, the sentence-initial NPs are not really dangling topics (i.e. gapless topics), but actually adverbial PPs with empty P heads.

(15) Zhe-­jian shiqing, ni bu neng guang mafan yi-­ge ren.
    this-CLF matter you not can only bother one-CLF person
    ‘(As for) this matter, you can’t just bother one person.’

(16) Shengwu-­lunlixue, wo shi men-­wai-­han.
    biology-ethics I be door-­out-­man
    ‘(With regard to) bioethics, I am a layman.’

In both cases, Shi claims that the preposed PP is a sentential adverbial that does not enter into an aboutness relation with any subparts of the clause that follows the PP, so that (15-16) are essentially no different from a sentence such as Yesterday/That way, he went home late. Shi’s proposal is later modified by Huang and Ting (2006), who maintain a reduced PP analysis for (16), but treat (15) as involving a regular “gapped” topic-comment structure. This is because the predicate bother allows double objects, and the NP matter can be an object for the predicate, as the following illustrates (Huang and Ting 2006:125-126):

(17) Wo xiang mafan ni yi-­jian shi.
    I want bother you one-CLF matter
    ‘I want to bother you with something.’

Huang and Ting also bring up another example, which is slightly modified from Shi’s original example, illustrated as follows:

(18) Nei-­chang Wenbudun wang-­qiu sai, xingkui da-­yu ting-­le.
    that-CLF Wimbledon net-ball match fortunately big-rain stop-PFV
    ‘(As for) that Wimbledon match, fortunately the heavy rain stopped.’]
Drawing upon works such as Bresnan and Grimshaw (1978), they treat the sentence-initial NP in (18) as an NP adverbial, which, similarly to the PP adverbials in (16), is not related to the following clause via an aboutness relation.

This paper acknowledges that the examples in (15), (16) and (18) most probably do not involve gapless topic structures. However, this does not mean that ALL preposed NPs can be reanalyzed in similar ways. As a matter of fact, I think that the examples mentioned in Shi and in Huang and Ting are different from the gapless examples given in this section, and only the latter involve a genuine aboutness relation.

As for (15), I agree with Huang and Ting’s analysis that this involves a fronted regular NP argument. As for (16), I agree that this structure is not a gapless topic-comment structure, but I think it is better analyzed as a case of relational nouns, rather than a case of reduced PPs. That is, in (16), the complement NP in the clause, menwai han ‘layman’, has a relational sense. Following the standard diagnostics for relational nouns given in Asudeh (2005), we can see that the NP layman must receive a bound reading when interpreted in a sentence with a universal quantifier subject (see also footnote 4):

(19) Every field in this university is presided over by a layman.

‘Every field has its own layman that presides over this field.’

‘There exists a layman, such that he/she presides over every field.’

If layman is a relational noun, then we can adopt the standard analysis that a relational noun subcategorizes for a second, optionally implicit argument (Barker 1995), in which case the preposed NP in (15) is exactly the second argument of layman (i.e. the NP layman takes both an argument referring to an individual, and a second argument referring to a field such as bioethics, of which that individual is a layman). If this analysis is correct, then it is true that (16) should be excluded from the discussion about gapless topics. Therefore, (15-16) actually fall within the domain of a canonical “gapped” topic-comment structure. However, it is clear that most of the gapless examples given in this section do not allow for a relational noun reading, nor can they be a second object of the comment predicate. Thus, I believe that they still need to be analyzed as having a gapless topic-comment structure. The only viable option for Shi and for Huang and Ting would be to say that these examples all involve reduced PPs or NP adverbials. I think one reason why retaining gapless topics is a more desirable result is that it enables us to unify the gapless topic-comment structure and the corresponding gapless relative structure. An analysis that relies on reduced PP forms or NP adverbials would have difficulties extending to gapless relative cases, given that in Chinese, PPs and NP adverbials do not normally serve as the heads of restrictive relative clauses. To rescue such an analysis, one would have to treat gapless relatives as following a different set of mechanisms, as an important generalization is missing.
3. Theory

3.1. Sublexical representation

First, I start by revisiting Lambrecht’s informal characterization of the aboutness relation, which I discussed in the first section. Lambrecht (1994) notes that in all the sentences with an aboutness topic, the predicate constitutes relevant information about the topic. It follows from this formulation that the aboutness topic needs to be predicated over by the sentential predicate. It is not obvious how this is possible, since overtly a transitive predicate in a gapless topic sentence already takes a complement as its semantic argument. In what follows, nevertheless, I will argue that Lambrecht’s proposal is valid, and I will expand on this proposal by showing how an element not located in the syntactic complement position of a predicate can be predicated over semantically. Yet before we go there, it is worth pointing out that this formulation is too strong to capture the notion of aboutness. In the intuitive sense, to say that a predicate (and the proposition that contains this predicate) is about a certain entity only requires that entity to be related to the predicate during the interpretation. Therefore, I propose that the licensing condition for the aboutness relation is a general one: a proposition is a statement about an entity if that entity is present in the semantic representation of the proposition’s predicate at the logical level. Here I am taking a theory-neutral position and assume a logical level to be a representational component in the grammar that is relevant for interpretation. It corresponds to the Logical Form in generative grammar and other interpretive levels in nontransformational frameworks. I remain agnostic as to how the logical level is linked to syntax or other components in the grammar as well as to its modularity, with the sole assumption that we retrieve our semantic interpretation of any given sentences through reading off the representations at this level.

Interpretation-wise, the semantic representation of a predicate includes its arguments as well as its nonargumental elements. My formulation predicts that nonargumental elements also play a role in aboutness. However, I follow Lambrecht’s notion and assume that in topic structures, only entities that can be directly predicated over by the predicate license the aboutness relation. I argue that this constrained nature in topic sentences arises from the interaction between the general aboutness condition and an independently motivated semantic requirement specific to topicalization. Nonetheless, before I specify how the interaction works, I will first answer the question of what elements can be predicated over. My central tenet is that in interpreting predication, a richer representation of the argument in terms of sublexical modules is warranted within a semantic schema for the predicate.

There is independent evidence that sublexical information of a nominal complement (instead of the nominal as an encapsulated whole) must be present within the semantic representation for the predication relation to be performed. One of the most convincing arguments is provided by Beard (1991), who argues that in adjectival modification, the readings we get can only be explained if the adjectival modifiers have access to the information of the modified nouns that is below the lexical level. Beard illustrates this with the examples below:
(20) Old friend, good athlete, former diplomat, genuine poet

For example, old friend is ambiguous between a reading which means the friend is old in age, and a reading in which the person referred to has been a friend of someone for a long period of time. In the latter case, importantly, old modifies the friendship, not the friend per se. In other words, modification pertains to the sublexical information that denotes the making of friends (i.e., the status of being friends is initiated with the establishment of a friendship). This interpretation cannot be specified in structural terms, since the head noun friend is not morphologically complex.7

Similarly, modification needs to reach below the word level for the other NPs given in (20). The expression a good athlete says nothing about the athlete as being a good person, instead the adjective pertains to the function of the athlete, his/her property of practicing athletic activities. In the same vein, a former diplomat cannot mean that the diplomat as a person is former, but rather that the person practised diplomacy in the past, not at present. Finally, a genuine poet refers to the poet’s poetry-writing being genuine, not the person being genuine.

Pustejovsky (1991: 89) propounds that other sublexical features also play a role in interpretation. He discusses the following examples:

(21) A fast typist, a long record

In a fast typist, the modifier not only cannot pertain to the typist as a person, it is not even interpreted as an adjective, but as an adverb. Following standard assumptions in compositional semantics, where event modifiers take a verbal predicate as input and output a derived predicate, Pustejovsky argues that the modifier fast here takes as an argument an eventive predicate feature that lies within the NP typist. In a parallel way, in John put on a long record during the dinner, the modifier long is an eventive modifier, and one sublexical feature within the nominal record denotes the event of a record being played.

Aside from modification, Pustejovsky further shows that predicating into the sublexical level is witnessed in other environments. In (22), sublexical access is needed to explain the two readings associated with the following sentence:

(22) a. Dana began a novel.
b. Reading A: Dana began a new novel (to read).
Reading B: Dana began a new novel (to write).

According to Pustejovsky, the ambiguities here receive a natural explanation if we assume that the predicate begin takes different semantic sublexical elements as arguments. Reading A arises when the argument specifies the information of the function/purpose of a novel (that is, the function/purpose of a novel is to be read). On the other hand, reading B is available when

7 Similar observations have been proposed elsewhere. For example, Morzycki (2009, 2012) argues that in the expression enormous idiot, the adjective modifies idiocy, which denotes the coming into being of an idiot (that is, a person is called an idiot if the property of idiocy can be assigned to him/her). Again the expression cannot mean that the idiot himself is enormous (has a large build). Therefore, the adjective must modify the idiocy part within the semantics of the nominal, since the nominal is not structurally decomposable.
the sublexical argument specifies information about the origin or the bringing about of the novel (that is, a novel comes about when it’s written).

Furthermore, in the following example (Pustejovsky 1991: 88):

(23) Most commercial pilots prefer Heathrow to Kennedy.

The main verb prefer is vague, and needs to be enriched by some ellipsed predicate such as landing or taking off for the entire sentence to receive a complete interpretation. Crucially, the filling out of some ellipsed predicates is enabled only when the complements Heathrow and Kennedy are understood in terms of their sortal type, as airports.

Generalizing over the above evidence, Pustejovsky argues that in addition to structural modules, we also need modules of interpretation to be specified within the lexicon. Following a tradition that goes as far back as Aristotle, Pustejovsky (1991: 76) labels the following four modules of interpretation as four qualia (singular form: quale):

(24) QUALIA:

- CONSTITUTIVE: the relation between an object and its constituent parts;
- FORMAL: the sortal information which distinguishes it within a larger domain;
- TELIC: its purpose and function;
- AGENTIVE: factors involved in its origin or “bringing it about”.

According to Pustejovsky, although not all lexical items carry a value for each quale, the four-way distinction captures an important generalization, in that they encode the sublexical information relevant for interpretation in natural languages and they are formulated in a way that is richer than a purely decompositional approach of positing polysemous senses or some invisible word-level syntax.

By positing qualia, Pustejovsky shows that we can readily account for the sublexical readings in the above modification and predication examples. The only extra step is to adopt several widely used type-shifting operations to make these qualia modules accessible to external modification/predication.8

First, in adjectival modification, the standard view is that a modifying adjective expresses a function that composes with the nominal being modified. We will modify the functional composition rule, such that the function expressed by the adjective applies to a particular quale within the nominal it composes with. This can be done by specifying that the adjective looks for a certain type, and if a quale in the nominal has the specified type information, the function will bind that quale. More generally, Pustejovsky proposes the following selective binding operation (Pustejovsky 1990:129):

(25) If α is of type <a, a>, β is of type b, and the qualia structure of β has a quale, qβ, which is of type a, then αβ is of type b, where ||αβ|| = β ∩ α(qβ).

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8 In the following I will use a simplified representation that is adapted to our discussion about topicalization and update semantics, while preserving the key procedures involved in arriving at the desired semantic interpretation. Namely, a nominal projects a certain quale via several mechanisms.
When applied to modification, (25) allows the adjective to functionally apply to a quale, the resulting property is then conjoined to the property that the nominal itself denotes. For instance, in *fast typist*, *fast* is a functor taking an eventive argument, so it ranges over the telic quale of *typist*. This property is then conjoined to the nominal’s own property of *being a typist*, thereby obtaining the reading *a typist who is fast at typing*. Similarly, in *a long record*, *long* predicates over the telic quale of *play* in the nominal *record*, so that we get the reading *a record whose playing time lasts long*. Similarly, *old* is a stative predicate that also takes an eventive argument, this time over the agentive quale of *friendship* in the nominal *friend*. In sum, by applying selective binding, the modification parts in the denotations of phrases *fast typist*, *long record*, and *old friend* are represented as in (26):

(26) \[
\begin{aligned}
\|\text{fast typist}\| & : \lambda x[[\text{Telic} = \lambda e[\text{type'}(e,x) \land \text{fast}(e)]]]

\|\text{long record}\| & : \lambda x[[\text{Telic} = \lambda e[\text{play'}(x) \land \text{long}(e)]]]

\|\text{old friend}\| & : \lambda x \exists y[[\text{Agentive} = \lambda e_3[\text{friend-state'}(e_3,x,y) \land \text{long}(e_3)]]]
\end{aligned}
\]}

Second, Pustejovsky proposes that we can incorporate type coercion into the operation of functional application: A functor requires its argument to be of a particular type, and if the argument does not match that type, it shifts its existing type to the specified type, and then embeds the existing type into the resulting type. This idea is very similar in spirit to the selective binding process. Below I take up the idea of Pustejovsky-style coercion and propose a slightly modified functional application rule that applies specifically to the predicate-complement relation, as it bears directly upon the formulation of the aboutness relation (to be explained later). This rule is formulated as in (27):

(27) If \(\alpha\) is of type \(<a,b>\), and \(\beta\) is of type \(c\), and if there is a \(q_\alpha\) such that \(q_\alpha(\alpha)\) results in type \(a\), then \(\beta(q_\alpha(\alpha))\) is of type \(b\).

(27) specifies that a verb takes a particular type of complement. When a nominal has one quale that bears the right type, the nominal projects the quale-denoting expression as the argument that composes with the predicate, and embeds the nominal type within this expression. I argue that (27) enables us to obtain the right reading for examples such as (28a). The functional application with type coercion leads to the structure schematized as in (28b):

(28) a. *John enjoys a pale ale (to drink).*

b. ![Structural diagram]

In this case, the verb *enjoy* selects an eventive argument, which the nominal *pale ale* satisfies by projecting its telic quale. Aside from complement coercion, Pustejovsky proposes another coercion operation dedicated to the typing relation. This is motivated by the need for
nominals to project their sortal typing information when composing with predicates. The following are the relevant examples that I discussed above:

(29)  
\begin{itemize}  
  \item a. John enjoys drinking pale ale (beer).  
  \item b. He enjoys eating banana (fruit) most.  
  \item c. Most commercial pilots prefer landing at Kennedy (airport) to Heathrow (airport).  
\end{itemize}

Unlike the case with the telic quale (where the actual arguments of the predicates are events), in (29) the NP complements are actual arguments of their respective predicates. However, they need to be of the proper type to satisfy the predicates’ selectional requirements. In each of these cases, a predicate selects a given sortal type, and the complement NP bears the subtype of that sortal type. Thus, for these complements to function as a legitimate argument, the subtyping relation has to be subject to a coercion operation, so that a shift in type occurs. The projection of this subtyping relation is crucial in that it acts to formally relate the type of the actual object to the lexically specified type. The subtyping coercion is schematized as follows:

\begin{align*}  
\alpha: & \sigma_1, \Theta[\sigma_1 \leq \sigma_2]: \sigma_1 \rightarrow \sigma_2 \quad (30)  
\end{align*}

In accordance with (30), in (29a), the verb drinking does not directly select for the type of pale ale, instead it selects for the type drinks. In this way, pale ale participates in the drinking event by shifting its type to its immediate supertype, beer, and afterwards beer further undergoes a type shifting to drinks:

\begin{align*}  
\Theta & [\text{pale ale} \leq \text{beer}]: \text{pale ale} \rightarrow \text{beer} \quad (31)  
\Theta & [\text{beer} \leq \text{drinks}]: \text{beer} \rightarrow \text{drinks}  
\end{align*}

3.2. Explaining topicalization

It becomes clear from the discussions in the previous subsection that a correlation exists between Pustejovsky’s predicate-complement sentences involving qualia structure, and the well-formedness condition on Chinese gapless topic sentences. Below I argue that this correlation is not coincidental. Rather, the predication relation over qualia structure, as discussed above, finds a natural fit with the semantics of topicalization.

I start by revisiting Lambrecht’s informal formulation of aboutness topics: a topic needs to be the discourse-salient referent that a predicate constitutes information about. In the first section, we leave it unresolved why this should be the case. As a matter of fact, this notion concerning the aboutness topic has sound motivations. A consensual position within the previous literature (Reinhart 1981; Heim 1982; Kamp and Reyle 1993) is that the process of topicalization can be seen as a dynamic updating process. Very briefly, the ontological objects within our universe of discourse are kept in our mental representation as files. Files are related by properties. At any given point, there will be a certain \( n \)-place predicative relation taking \( n \) objects as arguments that fall within our attentional focus. The objects thus related by the
predicate become salient, and the property of this relation updates to the files corresponding
to these objects (Recanati 1996, 2012).

If we think of the comment in a topic sentence as a predicate within attentional focus
updating properties, the aboutness relation specific to topicalization can be reformulated as
follows:

(32) LICENSING CONDITION OF THE ABOUTNESS RELATION (TOPIC-SPECIFIC)
A comment is about a topic if the topic is a semantic argument of the predicate in the comment.

Given what we have shown in the previous subsection, the argument a predicate takes
need not be restricted to the actual object argument represented by a nominal. In a functional
composition process between a predicate and its complement NP, a certain quale of the
nominal can be directly predicated over, depending on the type compatibility with the
predicate. Crucially, given that predication targets quale, a quale predicated over by a relation
in attentional focus will become salient and receive the update. What this means is that the
quale-denoting expressions will be able to satisfy the aboutness condition specified in (32).
Here I will allow ontological objects to range over not just entities, but also events, abstract
sortal types, and other abstract objects. This is apparently needed given that these are what
quale-denoting expressions refer to.

Now if we go back to the sentence in (33):

(33) Shuiguo, wo zuì xihuan xiangjiao.
fruit, I most enjoy banana
‘(Speaking of) fruit, I enjoy (eating) banana most.’

The comment part of this construction is identical with the regular predicate-
complement sentence I discussed in (29). Here, a formal quale becomes salient, because the
subtyping relation types the complement NP and triggers a coercion operation in order to
satisfy the selectional requirement of the verb enjoy eating. As a result, the formal quale-
denoting expression, fruit, is selected as one of the arguments of the verb. In (34), the telic
quale-denoting expression may serve as the topic:

(34) Hejiu, ta zuì xihuan danxiaomaipi.
drinking, he most enjoy pale.ale
‘(Talking about) drinking, he really enjoys pale ale most.’

Again, exactly similar to the regular predicate-complement sentence, he enjoys pale ale (to
drink), the drinking event becomes salient because it is selected by the main verb as they are
compatible in types.

Furthermore, in both of these cases, (32) also correctly predicts that the complement NP
that the predicate (syntactically) subcategorizes for always qualifies as a potential topic. In
other words, given a gapless topic-comment structure where the gapless topic is one of the
nominal qualia for the complement NP in the comment, a corresponding “gapped” topic-
comment structure, where the complement NP undergoes topicalization, is always available.

For example, in relation to (33), we still have the option of uttering Banana, I enjoy eating
the most _. Also, in relation to (34), we also have Pale ale, he enjoys the most _. In the cases
where a formal quale is salient, the subtyping information serves to link the actual object argument with its sortal supertype, so that the predicate is simultaneously composing with the nominal-denoted object and selecting for the coerced type. The consequence is that one may alternate between a gapped and a gapless topic construction in such cases. Furthermore, an eventive argument projected from the telic quale of a nominal is itself a predicate over the nominal-denoted object. As this eventive argument is selected by the main predicate in the comment through a chain of predicates, the nominal is transitively linked back to the main predicate.

3.3. Restrictive relative clauses

The licensing condition for a topic-specific aboutness relation correctly rules out examples such as (4a) (repeated in the following):

(35) *Nei-ge shudian, ta mai shu.
    DEM-CLF bookstore, he bought books
    ‘That bookstore, he bought books.’

The bookstore is semantically a locative adjunct of the main predicate, rather than one of the arguments belonging to the predicative relation. As a result, it fails to satisfy the licensing condition in (32). Importantly, though, we must bear in mind that nonarguments are excluded by the semantic requirement of updates that apply to topic structure and not by the general condition of the aboutness relation. The latter is not confined to arguments. Importantly, adjuncts such as those encoding the temporal or locative parameters of an event are also interpretationally relevant to the predicative relation and need to be included within the semantic representation of a predicate (Dowty 1979; Enç 1987; Verkuyl 1993; Kamp and Reyle 1993; Ernst 1994).

The fact that adjuncts also satisfy the general aboutness relation, I argue, lies at the core of the disparities between gapless topic and relative structures. Because relativization imposes upon its own semantic requirements, what gets excluded by the topic-specific update requirements may not be ruled out by relative-specific requirements. In what follows, I derive the full range of distributional possibilities of gapless relatives from a basic interpretive principle governing restrictive relative clauses.

By definition, a restrictive relative clause narrows down the reference of its head noun (McCawley 1981; Prince 1990; Comrie and Kuteva 2005). In other words, its semantic function is to delimit a domain from which the referents of the head are to be found. For this function to be fulfilled, a necessary condition is that by restricting the domain we can reduce the number of referents, i.e., it must be the case that some referents of the head fall within the domain, while other alternative referents fall out of the domain.

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9 This function differs from that in nonrestrictive relative clauses, which serve the informing or reminding function for a pre-established discourse-salient entity (McCawley 1981; Potts 2002).
This can be illustrated with a regular restrictive relative clause that leaves behind a gap, such as (36):

(36)  [Wo qu-guo] de shudian
I go-PFV REL bookstore
‘Those bookstores that I have been to’

The meaning of this relative clause has to be that, out of a set of bookstores that is relevant for the context, there are some bookstores that I have been to, and there are also some other bookstores that I haven’t been to. Accordingly, the domain containing places that I have been to provides a meaningful delimitation of bookstores, picking out a subset of them as the referents for the head noun.

This restrictiveness function in principle would allow any element that is represented in a proposition to be relativized, insofar as the proposition constitutes a delimiting domain for that element. Just as each proposition has a unique set of arguments, it also bears a unique location, temporal setting, etc.. As a result, the restrictiveness function readily predicts that the relativization of a semantic adjunct, such as (37), is possible:

(37)  [Ta mai shu] de nei-ge shudian
he buy books REL DEM-CLF bookstore
‘The bookstores that he buys books’

The head noun in (37) corresponds to the location of the proposition expressed by the relative clause. As such, the proposition provides a delimiting domain for the head noun, because it anchors the referents to only those bookstores that are the location of the propositional event of his buying books.

Furthermore, the restrictiveness function explains why the formal quale of a nominal resists relativization:

(38)  *[Wo zui xihuan xiangjiao] de shuiguo
I most enjoy banana REL fruit
‘the fruit that I enjoy (eating) banana most’

The predication within the relative clause requires the typing relation to be projected. Crucially, typing information relates to two sorts, so that the predication is over sortal entities, or kind-denoting entities. A crucial feature in reference to kinds is that they are abstracted away from individual reference to objects. A kind object generalizes over individual instantiations or situations under which any event featuring individual objects may occur (Krifka et al. 1995). This is inherently in opposition to the requirement for a relative clause to be restrictive: if the property cannot be sensitive to situations or individual objects, there is no way that it can pick out some objects against other alternative objects. In the case of (38), the relative proposition represents a predication of kind-denoting banana, so that it involves kind-denoting fruit. In this generic sense, the statement will not be able to distinguish one type of fruit from another.

One piece of supporting evidence is that the infelicity associated with kind-denoting entities is not limited to relativization. Indeed, in a gapless topic-comment structure, if the
comment expresses predication over kinds, then the topic must be kind-denoting, and cannot be specific (individualized) entities. This is evident from the contrast between (39a) and (39b):

(39)  a. Shuiguo, wo zuì xihuan xiăngjiao.
       fruit, I most enjoy banana
       ‘(Speaking of) fruit, I enjoy banana most.’

   b. *Nei-ge shuiguo, wo zuì xihuan xiăngjiao.
      DEM-CLF fruit, I most enjoy banana
      ‘(Speaking of) that fruit, I enjoy banana most.’

In topicalization we do not have the inherent anti-kind property associated with relativization. Because updates may be applied to both kinds and individual objects, sentences such as (39a) are interpretable, since a comment that predicates over kinds corresponds to a kind-denoting topic. In spite of this, because predication over kinds always abstracts away from individual objects or situations, no such predication would constitute an update to any individualized entities. Hence the contrast in (39a-b) is exactly what my theory expects.

In comparison, non-generic readings are available when predicating over other qualia. For example, the constitutive quale of a nominal (which forms a part-whole relation with the nominal) may serve as a relative head, as (40) illustrates:

(40) [Ta zai liutongchu gongzuo] de nei-ge shudian
      he LOC circulation.desk work REL DEM-CLF bookstore
      ‘The bookstore that he works at the circulation desk’

Crucially, the entities that are in a part-whole relation may differ from individual to individual, and from situation to situation. Therefore, one may predicate over individual circulation desks, and this property in turn can be associated with individual bookstores. In this way, it makes sense to use a particular property of some individual circulation desks to pick out a subset of bookstores, as against other bookstores.

Similarly, a telic quale is also relativizable:

(41) [Ta dian-le henduo baipi] de nei-ci hejiu
      he order-ASP many pale.ale REL DEM-CLF drinking
      ‘That drinking (event) that/where he ordered quite a few pale ales’

This is because entities in a telic quale are also individualizable. As pale ale may correspond to particular drinking events, so that in principle drinking events can be distinguished along this dimension.

Having derived the range of gapless relative clauses from the aboutness licensing condition specific to relativization, we now already have the explanation for the question of why gapless topic and gapless relative structures partially overlap. In sum, because predication updates a property of individual objects, one is also able to use the same predication to evoke the property that distinguishes these objects from others. Consequently, predication over an argumental nominal’s qualia, modulo the formal quale, satisfies both the topic-specific and the relative-specific aboutness condition. The formal quale, meanwhile, is ruled out in relativization as it necessarily denotes kind entities. Finally, nonargumental components in a
predicative relation cannot topicalize, because they are not the domains for updates to occur. As such, the dissimilarities between gapless topic and relative structures, as first noticed in Huang et al. (2009), are now characterized in terms of a set of natural classes. The exact overlapping pattern is schematized as in Figure 1:

![Diagram](image-url)

**Figure 1. Overlapping quala in the aboutness relation**

### 4. Implications

This paper argues that the aboutness relation is a general semantic condition. Specifically, a proposition is *about* any semantic object that is represented in the logical structure of that proposition’s predicate. However, constructions impose their own semantic requirements. It is these requirements that perform the task of constraining the notion of aboutness. In a nutshell, the semantics of topicalization includes the update process carried out by a predicate. Only entities contained within the arguments of a predicate can be updated. The non-argumental interpretive components of a proposition, e.g. a temporal or locative adjunct, do not take part in the update and cannot license a topic structure. The semantics of relativization requires the head nouns of the relative to be individual entities. If a relative expresses generic information that ranges over kind-denoting entities, the requirement of relativization is necessarily violated.

Importantly, this theory draws attention to the fact that the predicate-complement data covered in Pustejovsky’s generative lexicon theory exhibit a strikingly similar pattern to the data in gapless topicalization and relativization. By examining this similarity, I propose that the licensing conditions for the aboutness relation are related to the sublexical semantics of nominals. This treatment grounds the aboutness relation in well-established and independently motivated interpretational principles. In doing so, it not only avoids positing rather *ad hoc* constraints and achieves conceptual parsimony, but also obtains better empirical coverage by capturing both the similarities and the discrepancies between topicalization and relativization in a predictive manner.

Finally, this theory contributes to a rethinking of the notion of syntactic compositionality. Independently, there has been growing evidence that conventional compositionality needs to
be revised, allowing for what is called by Szabolcsi subcompositionality (Szabolcsi 2012, 2013), which involves semantic operations such as quantification or modification over sublexical parts. One consequence of my theory is that we also need to allow functional application to range over nonstructural sublexical materials, in which sense functional application ceases to be a simplex operation, but needs to involve the interaction of multiple relations (predicating, selecting, coercion, etc.) at the interface of the lexicon and syntax.

References


Finnish Contrastive Topics Get Passports to the Left Periphery

Dara Jokilehto

Abstract

In this paper two recent accounts are examined which (among other things) attempt to explain the distribution of Contrastive Topics (henceforth, CT’s): Bianchi and Frascarelli (2010) and Haegeman (2010). These approaches differ significantly, in that the former settles on a semantic basis while the latter employs a movement-based explanation. Both accounts, however, converge in predicting the ungrammaticality of Contrastive Topics in Central Adverbial Clauses. While this is true in English and Italian, this common prediction is shown to be mistaken as it is not borne out in Finnish. Furthermore, it is demonstrated that Haegeman’s (2010) approach, which utilises an irrealis operator (Bhatt and Pancheva 2002, 2006), may account for the data if we take into account Starke’s (2001) feature tree, whereby the assumption of two classes of features allows us to capture the contrast between the Finnish case on the one hand and the English/Italian data on the other. This paper proposes that it is the featurally more complex morphology which adds features to Finnish CT’s, allowing them to avoid intervention effects.

Keywords: adverbial clauses, contrastive topics, Finnish, information structure, Italian

1. Introduction

This paper aims to disprove Bianchi and Frascarelli’s (2010) account of Contrastive Topics (CT’s) and provides evidence from Finnish to this end. Furthermore, it finds support for Haegeman’s (2010) syntactic account of CT’s using a more refined version of Relativised Minimality (RM), in the vein of Starke’s (2001) feature tree, which builds on previous work by Rizzi (1997, 2004).

The paper is organised in the following fashion. After a brief introduction to the Finnish Left Periphery (LP) in Section 2, Bianchi and Frascarelli’s (2010) semantic approach is outlined in Section 3 and Haegeman’s (2010) syntactic approach is outlined in Section 4. The paper then shows in Section 5 how Finnish data contradicts Bianchi and Frascarelli’s (2010) account and how Haegeman’s (2010) account can be refined to account for the difference between Finnish on the one hand and English and Italian on the other. Section 6 concludes the paper.

2. Information structure in Finnish

Unlike languages such as English, which exhibit a relatively rigid word order, Finnish shows more flexibility in the ordering of the constituents of a sentence. This, however, affects the
interpretation of the sentence, particularly in terms of Information Structure. (1) \(^1\) gives examples of these differences in interpretation. In (1a-b), the sentences may be uttered with no special emphasis, but (1c-d) require stress on the first constituent in order to sound natural\(^2\).

(1)  
\begin{align*}
\text{a. Matti} & \text{ osti } \text{ auton.} \quad \rightarrow \quad \text{Matti bought a/the car.} \\
\text{Matti} & \text{ bought car-ACC} \\
\text{S} & \text{ V} \quad \text{O} \\
\text{b. Auton} & \text{ osti } \text{ Matti.} \quad \rightarrow \quad \text{The car was bought by Matti.} \\
\text{car-ACC} & \text{ bought Matti} \\
\text{O} & \text{ V} \quad \text{S} \\
\text{c. Auton} & \text{ osti.} \quad \rightarrow \quad \text{i. It’s a car that Matti bought. (And not something else)} \\
\text{car-ACC} & \text{ Matti bought} \\
\text{O} & \text{ S} \quad \text{V} \\
\text{d. Matti} & \text{ auton osti.} \quad \rightarrow \quad \text{i. It’s Matti who bought the car. (Not someone else)} \\
\text{Matti} & \text{ car-ACC bought} \\
\text{S} & \text{ O} \quad \text{V} \\
\end{align*}

Vilkuna (1995) shows that Finnish has (at least) two distinct positions in the left periphery, one hosting contrastive constituents, the other hosting topics (as well as other non-topic constituents, more on which later): the K-position and the T-position. Rightward of these two positions is what she calls the V-Field\(^3\). The different permutations in Finnish are realised using these three areas.

(2)  
\begin{align*}
\text{K} & \quad \text{T} & \quad \text{V-field} \\
\text{SVO} & \quad \text{Anna} & \quad \text{sai kukkia} \\
\text{SOV} & \quad \text{Anna} & \quad \text{got flowers-PAR} \\
\text{OSV} & \quad \text{Anna} & \quad \text{saikukkia} \\
\text{OVS} & \quad \text{Kukkia} & \quad \text{sai Anna} \\
\text{VSO} & \quad \text{Sai} & \quad \text{kukkia} \\
\text{VOS} & \quad \text{Sai} & \quad \text{Anna} \\
\end{align*}

(Vilkuna 1995: 245)

Though preverbal elements may be contrastive or non-contrastive, fronted contrastive elements must precede the topic\(^4\). This is also the case with an expletive topic or a null pronoun. The first constituents of sentences (3a-b) must be contrastive. A sentence such as (3c), where a fronted contrastive element is preceded by a fronted topic, is ungrammatical.

---

\(^1\) Abbreviations used in examples: ABL – ablative; ACC – accusative; ADE – adessive; ALL – allative; AUX – auxiliary; CL – clitic; DO – direct object; ELA – elative; EXP – expletive; F – focus; GEN – genitive; GER – gerund; INE – inessive; INF – infinitive; IO – indirect object; NEG – negation; O – object; PAR – partitive; PART – past participle; PL – plural; S – subject; SG – singular; V – verb.

\(^2\) Nominative case is generally unmarked in Finnish, so the glosses will not indicate this case.

\(^3\) It should be noted that even though these terms derive from the concepts of Contrast, Topic and Verb, Vilkuna makes it explicit that they should not be equated with these.

\(^4\) In-situ contrastive elements are permitted.
This is accounted for by Vilkuna’s (1995) proposed structure of the Finnish Left Periphery (henceforth, LP) if 1st and 2nd null pronouns occupy the T-position. This is not possible with 3rd person pronouns, since (Standard) Finnish is a partial null-subject language. The table in (4) below compares the Finnish paradigm with that of Italian, a fully null-subject language.

(4) | FINNISH | ITALIAN |
--- | --- | --- |
| SINGULAR | PLURAL | SINGULAR | PLURAL |
| 1 | Ø juoksen | Ø juoksemme | Ø corro | Ø corriamo |
  | (I) run | (we) run | (I) run | (we) run |
| 2 | Ø juokset | Ø juoksette | Ø corri | Ø correte |
  | (you.sg) run | (you.pl) run | (you.sg) run | (you.pl) run |
| 3 | hän/*Ø juoksee | he/*Ø juoksevat | Ø corre | Ø corrono |
  | he/she runs | they run | (he/she) runs | (they) run |

The Finnish K-position also hosts morphology which may appear on constituents only when in that position: question particle -kO; “tone” particles -hAn, -pA and -s; conjunction particle -kA⁵.

(5) | PARTICLE | EXAMPLE |
--- | --- | --- |
| -kO | Jo-ko ruoka loppu-i? | already-kO food finish-PAST-3SG |
  | ‘Has the food run out so soon?’ |
| -hAn | Yritä-hän rauhoittu-a. | try-HAN calm.down-INF |
  | ‘Try to calm down.’ |

⁵ There is an exception with the question particle -kO, which may appear, albeit marginally, at the end of a sentence in so-called “confirmation questions” (tarkistuskysymykset). Hakulinen et al. (2008: §133) give the following examples from Colloquial Finnish:

(i) Mitä se sano sitte et [ei me haluta luopua saavutetuista edustajko
  What did he say then, that [we don’t want to give up the advantages we’ve earned]-kO?
(ii) [Eikä muuta kauppaa kyläs olluk]-kO!
  So there was nothing else at the shop in town?

⁶ The capitalised A’s and O’s stand for phonemes which are realised as [a]/[ä] and [o]/[ö] depending on the stem, following the rules of Finnish Vowel Harmony.
Finnish Contrastive Topics Get Passports to the Left Periphery

-\text{-pA} \quad \text{Kulkee-pa se kova-a.} \\
\text{go-pA it hard-PAR} \\
’It sure is going fast.’

-\text{s} \quad \text{Missä-s ruoka viipy-y?} \\
\text{where-s food remain-3SG} \\
’Where’s the food gotten to?’

-\text{-kA} \quad \text{E-t-kä tule!} \\
\text{NEG-2SG-kA come} \\
’(And) you’re not coming!’

(Adapted from Hakulinen et al. 2008: §126)

These particles never appear with constituents when interpreted as CT’s. The conjunction particle -\text{-kA}, in particular, appears to attach only to negative auxiliaries (e.g. \text{etkä}, ‘and you won’t/don’t’, \text{äläkä} ‘and don’t (you)’), which cannot be CT’s. The elements attached to the question particle -\text{-kO} also cannot be CT’s, as they mark the questioned constituent. The particles -\text{-pA} and -\text{-hAn} attach to a greater variety of constituents, but are ungrammatical as CT’s\textsuperscript{7}. Lastly, the -\text{s} particle attaches only to imperatives, \textit{wh}-elements and the particles -\text{-pA} and -\text{-kO}.

(6) \text{*Matti-pa/han oli sairaalassa kaksi viikkoa. Marja oli siellä vain päivän.} \\
\text{Matti-pA/-HAN was hospital-INE two week-PAR Marja was there only day-GEN} \\
’Matti was in hospital for two weeks. Marja stayed there for just a day.’

In (6) above, -\text{-pA/-hAn} make a CT interpretation of Matti impossible.

The second position mentioned, Vilkuna’s (1995) T-position, is not as strict a Topic position as that found in Hungarian\textsuperscript{8}. While referential (7a) and quasi-referential (7b) subjects may be null in Finnish, non-referential null-subjects are not possible (7c), (Holmberg and Nikanne 2002).

(7) 
\begin{enumerate}
\item a. \text{Olen väsynyt.} \\
\text{be-1SG tired} \\
’I’m tired.’
\item b. \text{Sataa (vettä).} \\
\text{rains (water)}
\item c. \text{*Leikkii lapsia kadulla.} \\
\text{play children in-street}
\end{enumerate}

(Holmberg and Nikanne 2002: 1)

\textsuperscript{7} Palomäki (2013) points out that a constituent marked by -\text{hAn} does not always attract stress, which can apply to the verb in SVO orders, where the -\text{hAn} marked constituent is actually old information, a kind of topic. The non-\text{hAn}-marked, stressed verb is then new information. The difference between a S-\text{hAn} V O and a V-\text{hAn} S O order is that, in the latter case, the contrast is polar, unlike in the former scenario. In the non-polar case, for example, it might be unknown or uncertain whether \text{p} took place, while in the polar case, it may have been asserted that \text{p} did not take place. Palomäki claims this is evidence that -\text{hAn} may appear in positions other than the K-position proposed by Vilkuna (1995).

\textsuperscript{8} It should be pointed out that Hungarian topics can never follow contrastive focus (É. Kiss 2002).
Holmberg and Nikanne give the following repairs for (7c): an expletive pronoun (8a) or moving one of the other constituents to the front (8b-c).

(8)  

(a)  Sitä leikkii lapsia kadulla.
    EXP play children in-street

(b)  Kadulla leikkii lapsia.
    in-street play children

(c)  Lapsia leikkii kadulla.
    children play in-street

(Holmberg and Nikanne 2002: 1-2)

With the caveat that the expletive pronoun in (8a) is used exclusively in Colloquial Finnish, which is not a null-subject variety of Finnish, it is due to this possibility of having these topic (and not subject) external arguments, that Holmberg and Nikanne (2002) claim that Finnish is a topic prominent language. In É. Kiss’s (1995, 1997) view, topic prominent languages reflect the topic-comment structure in their syntax and, thus, only externalise arguments if they are sentence topics.9

After having examined some of the properties of Contrastive Topics in Finnish, we will now look at how CT’s have been treated in two approaches with very different starting points: that in Bianchi and Frascarelli (2010) and that in Haegeman (2010).

3. Contrastive Topics restricted semantically

Bianchi and Frascarelli’s (2010) approach builds on the topic typology established in Frascarelli and Hinterhölzl (2007, henceforth F&H), of which a brief sketch follows before discussing Bianchi and Frascarelli’s (2010) account. Based on Italian and German data, F&H link various intonational patterns with different types of topics: Aboutness(-Shift) Topics (A-Topics); Contrastive Topics (C-Topics); Familiar/Given Topics (G-Topics). These are all realised in Italian with Clitic Left-Dislocated structures (CLLDs), where one or more arguments are dislocated to the Left Periphery and a clitic is realised (when available). For example, in (9), all three arguments of the verb dare (‘to give’), i.e., Gianni, il libro and a Maria, are realised in the left periphery, with two clitics relating to the indirect and the direct objects. Note that although Standard Italian subjects have no clitics, they can still be dislocated, but when arguments do have corresponding clitics, they must be realised10.

(9)  Gianni, il libro, a Maria, gliel’ ha dato.
    Gianni the book to Maria IO.CL-DO.CL has given
    ‘Gianni gave the book to Mary.’

9 É. Kiss (1995, 1997) further states that, in these languages, it is semantics which triggers the externalisation of arguments, not Case or formal EPP. Holmberg and Nikanne (2002) use the Finnish expletive pronoun sitä to argue that the situation is more complicated, as the prediction that no obligatory expletive pronouns should be found in topic-prominent languages is not borne out in Finnish.

10 Another type of left dislocation does not make use of clitics, but these arguments are then interpreted as focused and the entire utterance has a different intonation.
F&H identify their A-Topics with Reinhart’s (1981) Sentence Topics, standing for the discourse entities that the rest of the sentence is about. Reinhart’s Sentence Topic can be illustrated with the contrast between (10b) and (10c). While both statements are about (10a), only (10b) is retraceable to a linguistic expression in (10a): thus, it is a Sentence Topic. (10c), on the other hand, albeit true, refers to a more abstract referent which may be active in the discourse but is not represented in the sentence in question. This approach is akin to the distinction made by van Dyke (1977), where the former type of Topic was dubbed a Sentence Topic and the latter a Discourse Topic (cf. Lambrecht 1994 for a more in-depth comparison of these two concepts of Topic).

(10)  

a. Mr Morgan is a careful researcher and a knowledgeable semiticist, but his originality leaves something to be desired.

b. (a) is about Mr Morgan.

c. (a) is about Mr Morgan’s scholarly ability.

(Reinhart 1981: 54)

A key difference between Reinhart’s Sentence Topics and F&H’s A-Topics is that while the former are described in terms of pragmatic “aboutness”, F&H’s A-Topics always involve a “shift” in aboutness, a change in topic. Hence, crucially, A-Topics would be licensed when referring to a new topic or returning to the one used earlier in the discourse: they may therefore be either new or old with respect to the discourse. Below is an example of an A-Topic in context, from F&H’s corpus, where the DP l’ultima unit ‘the last unit’ is analysed as being discourse new and bearing an L*+H accent, which they associate with A-Topics.

(11)  

Il materiale era tantissimo quindi all’inizio l’ho fatto tutto di corsa cercando di impiegarc il tempo che dicevate voi magari facendolo un po’ superficialmente pur di prendere tutto – l’ultima unit la sto facendo l’ho lasciata un po’ da parte perché ho ricominciato il ripasso...

‘The material was quite a lot, so at the beginning I did it in a rush, trying to do it all in the time that you had fixed, maybe a little superficially, so as to do everything – I’m doing the last unit now. I put it aside before because I had started to go through the program again...’

L’ultima unit, la, sto facendo.
the last unit it-CL be-1SG do-GER
‘I’m working on the last unit.’

(Frascarelli and Hinterhölzl 2007: 4)

Bianchi and Frascarelli (henceforth, B&F) adopt an update semantics approach (Stalnaker 1978; Heim 1982; Roberts 1996, 2004), where a hypothetical conversational space, the Common Ground, hosts presuppositions and other information shared by the participants of a given conversation. In this framework, topics give instructions to participants on how to update the Common Ground. The ban on multiple A-Topics per sentence is attributed to their function of indicating what a sentence is about. In particular, they instruct participants to “file” a given proposition under a certain “file card”, representing the discourse entity denoted by the topic expression. Providing multiple instructions is taken to be ungrammatical.

G-Topics, on the other hand, must be given (B&F use Schwarzschild’s 1999 definition of givenness). Only this type of topic may recur in a sentence. B&F locate these below the
position for focus fronting. Clitic Right Dislocated (CLRD) “topics” are also G-Topics, according to B&F, but with an “afterthought” function, which they did not clearly define. Unlike A-Topics, G-Topics provide no instructions on which discourse entity should be updated, thereby avoiding the ban on co-occurrence. In (12) below, *inglese* ‘English’ is analysed by F&H as being a G-Topic, given its repeated mention in the preceding context, and bearing an L* tone, which they associate with G-Topics.

(12) *Era tutto molto nuovo nel senso che comunque la lingua inglese attraverso i programmi sul computer diciamo [...] comunque l’inglese risultava anche facendolo da solo più interessante [...] io, inglese non- premetto non l’avevo mai fatto.*

‘Everything was very new to me in the sense that I had never studied English through computer programs [...] and through self-learning English appeared more interesting to me [...] I must say that I had never studied English before.’

*Io l’inglese, [...] non l’, avevo mai fatto.*

I English not it-CL have-PAST-1SG never done

‘I must say that I had never studied English before.’

(Frascarelli and Hinterhölzl 2007: 7)

C-Topics, finally, follow Büring (2003). In (14) below, *francese* ‘French’ and *con l’inglese* ‘in English’ are analysed as having an H* tone contour, which F&H associate with discourse new elements.

(13) A: *come mai hai fatto due lingue, cioè, inglese e francese?*

B:  *francese l’ho fatto alle medie per tre anni con una professoressa con cui mi sono trovata benissimo [...] – con l’inglese mi sono trovata sempre a disagio.*

A: ‘Why did you study two languages, namely English and French?’

B: ‘French, I have studied at school for three years with a professor that I liked a lot [...] (while) with English, I never felt at ease.’

*francese, l’è ho fatto alle medie per tre anni*

French it-CL have-1SG done at-the school for three years

*con l’ inglese, mi sono trovata sempre a disagio*

with the English me-CL be-1SG found-F always uneasy

‘French I have studied at school for three years [...] with English I never felt at ease.’

(Bianchi and Frascarelli 2010: 57)

These topics have a contrastive interpretation. In Büring’s (2003) analysis, they inform conversation participants that the asserted proposition fits in a certain way within a strategy of inquiry, building on Roberts (1996), where a given strategy of inquiry may be represented by a superquestion. Essentially, in order to obtain the superquestion that a sentence with a CT-marked element communicates, given a sentence such as (14), the focused constituent is replaced with a wh-element to form a question; the CT-marked element is raised to a higher “type” to indicate the point of variation for a given set of questions, all of which are entailed by the superquestion. The strategy of inquiry need not be discourse given and can be accommodated for if it is new.
While, in Italian, all three types of topics are realised by CLLD, English uses Left Dislocation (LD) and Topicalisation (TOP) for A-Topics and C-Topics, respectively (cf. Rodman 1974 for aboutness shift with LD and Prince 1998 on Topicalisation), and appears to lack a fronting mechanism for the realisation of G-Topics (which are destressed in situ, cf. Neeleman and Reinhart 1998, Schwarzschild 1999). Examples of A-Topics and C-Topics in English are given in (15).

(15) 

a. This book, Mary loves it. A-Topic realised by LD  
b. This book, Mary loves. C-Topic realised by TOP

What is the syntactic realisation of these different topics? F&H identified them with positions previously described in cartographic approaches, as in (16). Evidence for these positions is given by their instances of co-occurrence in Italian and English.

(16) \[ \text{[ShiftP A-Topic [ContrP C-Topic [FocP [FamP* G-Topic [FinP [IP \]} \]

(Bianchi and Frascarelli 2010: 59)

There are restrictions on the distribution of these topics, however. LD and TOP must occur in root clauses and subordinate clauses with root-like properties (Emonds 1970, 1976, 2004; Haegeman 2002; Heycock 2006; Maki et al. 1999). Italian G-Topics, however, are not subject to this root restriction.

(17) L' unica persona che, a Gianni, non gli ha mai fatto un favore...  
the only person that to Gianni not to-him-CL have-3SG ever done a favour  
'The only person who never helped Gianni.'

(Cinque 1990: 58)

The type of subordinate clause has an effect on the realisation of A-Topics and C-Topics. C-Topics are licensed in some types of adverbial clauses, which Haegeman (2004) categorised as peripheral adverbial clauses, as in (18).

(18) If these problems we cannot solve, there are many others that we can tackle immediately.  
(Haegeman 2004: 160)

Some adverbial clauses, however, pattern differently, cf. (19). These were dubbed central adverbial clauses (CAC's) by Haegeman (2004), contrasting with peripheral adverbial clauses (PAC's).

(19) *If these exams you don't pass, you won't get the degree.  
(Haegeman 2004: 159)
The difference between CAC’s and PAC’s can be described in terms of the way in which they bear on the main clause. CAC’s describe the conditions under which the proposition in the main clause holds. PAC’s, instead, are more loosely connected: they provide privileged discourse backgrounds used to enhance the relevance of the matrix clause associated with it. One way of distinguishing if CAC’s from if PAC’s is to use a simple entailment test which allows us to verify whether a sentence entails its matrix clause minus the subordinate clause. While peripheral if-clauses entail their matrix clause (18’), central if-clauses do not (19’).

(18’)  If we cannot solve these problems, there are many others that we can tackle immediately.
entails: There are many others that we can tackle immediately.

(19’)  If you don’t pass these exams, you won’t get the degree.
does not entail: You won’t get the degree.

Some temporal PAC’s and CAC’s may look similar due to their use of while (in fact, other expressions such as at the same time may also be used), but it is only in CAC’s that they refer to time: in PAC’s they have a concessive use and have no temporal link. In fact, time-related expressions which make explicit this temporal non-identity can only be used with PAC’s, as shown in (20) and (21).

(20)  While he had trouble with division, John later became a proficient mathematician.

(21)  While he was running the race, John [*later] felt dizzy.

B&F cite a prediction by Portner and Yabushita (1998) and Büring (2003) that topics should only be interpretable with wide scope, namely, with root scope. B&F argue that this does not apply to C-Topics, as universal quantifiers attached to embedded C-Topics fail to scope over existential quantifiers in the matrix clause.

According to B&F, C-Topics appear below the assertion operator, as they are licensed in “non-assertive” clauses. This is because English topicalisation is permitted in clauses which have no illocutive force (identified by Meinunger 2004), as shown in (22)11.

(22)  FACTIVE CLAUSES:
   a. I am glad that this unrewarding job, she has finally decided to give up.
   (12/15)

   COMPLEMENTS OF NEGATIVE PREDICATES:
   b. He tried to conceal from his parents that the maths exam he had not passed,
      and the biology exam he had not even taken.
      (13/15)

   BRIDGE COMPLEMENTS UNDER MATRIX NEGATION:
   c. Mary didn’t tell us that Bill she had fired, and John she had decided to promote.
      (8/15)

   ANTI-FACTIVE VOLITIONAL COMPLEMENTS:
   d. I hope that the past he will forget, and the future he will face bravely.
      (13/15)

   (Bianchi and Frascarelli 2010: 69)

11 The numbers in parentheses indicate how many informants found the sentences grammatical compared to the total number of informants asked for their judgment.
Furthermore, the judgments that B&F provide suggest that contrastive topics do not survive extraction out of their host clause, which would mean that they are interpreted within the embedded clause.

(23)  a. He held back when I told him that the staff, I myself would choose _ (and the office, he would choose).

b. He held back when the staff, I told him that I myself would choose _ (# and the office, he would choose).

c. The staff, he held back when I told him that I myself would choose _ (# and the office, he would choose).

(Bianchi and Frascarelli 2010: 70)

If C-Topics can be realised in non-assertive contexts, which have no illocutive force or root-like properties, they are not restricted to root contexts (contra Büring 2003), unlike A-Topics. In order to capture the distribution of C-Topics, B&F propose that it is not dependent on illocutive force, but something slightly lower down: propositions. In this way, they hope to retain an explanation for C-Topics’ wider distribution with respect to G-Topics. The reason why C-Topics cannot appear in CAC’s would therefore be because these clauses are not propositional, but rather event modifiers.

B&F propose, on the other hand, that C-Topics do not make use of higher-type CT-values as described by Büring (2003). The clause containing the marked element remains at the propositional level. The marking of the C-Topic tells the hearer that its denotation is a member of a contextually salient set and that the proposition expressed is entailed by a larger superproposition. Crucially, C-Topics should be unacceptable in any clause denoting anything smaller than a proposition.

Yet C-Topics appear to affect Common Ground management. B&F propose that the semantic contribution of this type of topic and the illocutive force of the higher clause interact to produce this. They fall back on Roberts’ (1996) claim, that any assertion (other than “out of the blue” assertions) may be interpreted as an answer to an implicit or explicit Question Under Discussion. Thus, C-Topics affect conversational dynamics, as hearers will attempt to retrace any assertion to a strategy of inquiry, accommodating for one if required.

In B&F’s view, A-Topics are a separate speech act (following Krifka 2001) which is in a conjunction relation with its associated clause by way of an apposite operator, as shown in (24).

This should account for the fact that these kinds of topics are only possible in root-like clauses. This “extra-sentential” analysis is motivated by their apparent independence from illocutive force, as shown in (25), as opposed to C-Topics (26), and their violation of the complex NP constraint (Chomsky 1977), which is illustrated in (27).
b. *Those petunias, did John plant them? (interrogative)  
c. *Those petunias, when did John plant them? 

(Bianchi and Frascarelli 2010: 77)

b. *Those petunias, did John plant? (interrogative)  
c. *Those petunias, when did John plant? 

(Bianchi and Frascarelli 2010: 77)

(27) a. This book, I accept the argument that John should read *(it).  
b. This book, I wonder who read *(it). 

(Bianchi and Frascarelli 2010: 77)

The table below shows a summary of the properties of the three types of topics discussed.

(28) | A-Topics | C-Topics | G-Topics |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Separate Speech Act</td>
<td>✓</td>
<td>×</td>
</tr>
<tr>
<td>OK in non-assertive clauses</td>
<td>×</td>
<td>✓</td>
</tr>
<tr>
<td>OK in non-propositional clauses</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Uniqueness</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>“Aboutness” property</td>
<td>✓</td>
<td>✓?</td>
</tr>
<tr>
<td>Must be Given</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Realisable by CLLD</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Realisable by English LD</td>
<td>✓</td>
<td>×</td>
</tr>
<tr>
<td>Realisable by Topicalisation</td>
<td>×</td>
<td>✓</td>
</tr>
</tbody>
</table>

Note that A-Topics and G-Topics have nothing in common except for their realisability by CLLD in Italian. C-Topics are still problematic, because they seem to pattern like A-Topics in some ways but behave like G-Topics elsewhere. Like A-Topics, they have a uniqueness restriction, need not be given and they denote what a clause is about. B&F also provide sentences which show that they are infelicitous in non-propositional clauses. On the other hand, however, they are similar to G-Topics in that they are felicitous in non-assertive contexts and cannot constitute a separate speech act.

The theory for the syntactic operation of CLLDs now appears to be problematic, as no account is proposed to explain what elements they can target, given that there is no one property shared by all three types of “topics”.

4. The movement approach

An alternative, movement-based account is proposed by Haegeman (2010), building on the work of Bhatt and Pancheva (2002, 2006) and Arsenijević (2009). Haegeman’s account predicts that high modals (cf. Cinque 1999) and low construals (e.g. those found in some temporal clauses) are impossible in CAC’s.
Movement accounts of temporal adverbial clauses have been around for a long time (Geis 1970, 1975; Enç 1987: 655; Larson 1987, 1990; Dubinsky and Williams 1995; Declerck 1997; Demirdache and Uribe-Etxebarria 2004: 165-170; Lecarme 2008), involving the wh-movement of temporal operator to the LP.

The main argument for a movement approach is that when clauses such as the one in (29) are ambiguous between a high and a low construal: the temporal clause either describes the time when the claim was made or the time of departure.

(29)  
I saw Mary in New York when [IF she claimed [CP that [IF she would leave]]].  
(i) high construal: at the time that she made that claim;  
(ii) low construal: at the time of her presumed departure.  

In (30), a possible account, from Larson (1987, 1990) is shown. The low construal is possible if the operator is extracted from the clause concerning departure, as seen in (30b), i.e., the complements clause of claimed, (Geis 1970, 1975; Larson 1990: 170). This can be blocked, however, by embedding the clause (31) concerning the departure in a noun phrase, since the extraction of the operator would violate the Complex Noun Phrase Constraint, making the sentence ungrammatical under that interpretation (cf. Johnson 1988; Demirdache and Uribe-Etxebarria 2004: 165-176).

(30)  
a.  
I saw Mary in New York [CP when, [IF she claimed [CP that [IF she would leave]]]].  
b.  
I saw Mary in New York [CP when, [IF she claimed [CP that, [IF she would leave]]]].  
(Larson 1990: 170-171)

Haegeman (2007, 2009) provides evidence supporting the movement analysis of temporal adverbial clauses giving rise to the prediction that Main Clause Phenomena would be ungrammatical in these clauses assuming a theory of locality on movement. A clause without Main Clause Phenomena would not allow, for example, argument fronting (see Hooper and Thompson 1973). Basically, the fronted argument blocks operator movement. In (32a) and (32b), the arguments this column and this song are barriers to movement for the temporal operator. Fronting adjuncts, however, is acceptable, as can be seen in (32c).

(32)  
a.  
* When this column she started to write last year, I thought she would be fine.  
b.  
* When this song I heard, I remembered my first love.  
c.  
When last year she started to write this column, I thought she would be fine.

The asymmetrical behaviour of argument and adjunct fronting has previously been independently argued in relation to operator movement (Rizzi 1990, 1997; Browning 1996).

Bhatt and Pancheva (2006) propose that A’-movement takes place in both temporal and conditional clauses. This parallelism is also supported by the observed isomorphism in the conjunctions introducing them, e.g. wenn in German, oa in West Flemish.

(33)  
a.  
Wenn Steffi gewinnt, wird gefeiert.  
if Steffi win-3SG AUX-PASSIVE-3SG celebrate-PART  
‘If Steffi wins, there is a celebration.’
b. Wenn Steffi kommt, fangen wir an zu spielen.
   when Steffi arrive-3SG begin-1PL we to play
   ‘When Steffi arrives, we begin to play.’
   (Haegeman 2010: 10, based on Bhatt and Pancheva 2006: 642)

Furthermore, conditional clauses and yes/no questions make use of similar mechanisms for their realisation: I-to-C movement is employed both for root yes/no questions, and for conditional clauses (cf. Bhatt and Pancheva 2006).

(34)  a. I asked him if he had said that he would leave.
   b. If he had said that he would leave,...
   c. Had he said that he would leave?
   d. Had he said that he would leave,...

It could be the case that I-to-C movement shows a checking relation between the I head-feature and an operator in LP, both in yes/no questions and conditional clauses. If this were to be the case and one assumed there to be a non-overt interrogative operator in yes/no questions in German, we could scrap the V2 exception for yes/no questions. In the Dutch examples in (35), an operator could be located in the LP of both root yes/no questions (a) and conditional clauses (c).

(35)  a. Had hij gezegd dat hij zou vertrekken?
       have-PAST-3SG he said that he will-PAST-3SG leave
       ‘Had he said that he would leave?’
   b. [CP Op [Vfin had] [TP Subject ... top]]
   c. Had hij gezegd dat hij zou vertrekken, ik zou...
       have-PAST-3SG he said that he will-PAST-3SG leave, I will-PAST-1SG
       ‘Had he told me he was leaving, I would...’

One could assume the same to be the case in an English embedded yes/no question (no argument fronting) and a parallel case could be found with English conditional clauses introduced by if, as in (36).

(36)  a. I wonder if he said he would leave.
   b. [CP Op if [he said he would leave top]]

Based on the parallelisms between yes/no questions and conditional clauses, Arsenijević (2009) proposes that conditional clauses are a relative variant of yes/no questions.

The lack of low construals in conditionals, on Haegeman’s account, is due to the fact that the irrealsis operator originates in the specifier of Moodirrealis. This is the lowest high modal position, situated at the bottom edge of the high modal field. Yes/no questions would be derived by a leftward movement of this operator, predicting an incompatibility with high modal markers due to an intervention effect (McDowell 1987; Barbiers 2006).

(37)  a. * Must he have a lot of money?
   b. * Will he probably win the race?
Cinque (1999) proposes that adverbials are merged in the specifier position of functional projections. The heads of the modal projections host modal auxiliaries.

\[(38)\quad \text{Mood}P_{\text{speech act}} > \text{Mood}P_{\text{evaluative}} > \text{Mood}P_{\text{recipient}} > \text{Mod}P_{\text{epistemic}} > \text{TP}(\text{Past}) > \text{TP}(\text{Future}) > \text{Mood}P_{\text{irrealis}} > \text{Mod}P_{\text{deontic}} > \text{Asp}P_{\text{habitual}} > \text{Asp}P_{\text{repetitive}} > \text{Asp}P_{\text{frequentative}} > \text{Mod}P_{\text{volitional}} > \text{Asp}P_{\text{celerative}} > \text{TP}(\text{Anterior}) > \text{Asp}P_{\text{terminative}} > \text{Asp}P_{\text{contingent}} > \text{Asp}P_{\text{retrospective}} > \text{Asp}P_{\text{proximate}} > \text{Asp}P_{\text{generic/progressive}} > \text{Asp}P_{\text{prospective}} > \text{Mod}P_{\text{obligation}} > \text{Mod}P_{\text{permission/ability}} > \text{Asp}P_{\text{completive}} > \text{Voice}P > \text{Asp}P_{\text{celerative}} > \text{Asp}P_{\text{repetitive}} > \text{Asp}P_{\text{frequentative}} \quad (\text{Cinque 2004: 133})\]

The intervention effects occur when the operator in Spec-\text{Mood}P_{\text{irrealis}} attempts to cross the higher adverbs. Circumstantial adverbs cause no intervention effects because they belong to a different class (cf. Rizzi 2004) and are featurally distinct.

\[(39)\quad Y \text{ is in a Minimal Configuration with } X \text{ iff there is no } Z \text{ such that} \]
\[(\text{i) } Z \text{ is of the same structural type as } X, \text{ and} \]
\[(\text{ii) } Z \text{ intervenes between } X \text{ and } Y. \quad (\text{Rizzi 2004: 310})\]

5. Back to Finnish

Both B&F’s and Haegeman’s approaches predict that Contrastive Topics should be banned from Central Conditional Clauses in the sense of Haegeman (2004). In Finnish, however, this prediction fails.

\[(40)\quad \text{a.} \quad * \text{If these exams you don’t pass, you won’t get the degree.} \]
\[(\text{b.} \quad \# \text{Se gli esami finali non li superi, non otterrai il diploma.} \]
\[\text{if the exams final not them-CL pass-2SG not obtain-FUT-2SG the degree} \]
\[\text{‘If you don’t pass the final exams, you won’t get the degree.’} \]
\[(\text{c.} \quad \text{Jos näitä tenttejä et läpäise, (niin) saat vain suoritusmerkinnän.} \]
\[\text{if these-PART exams-PART neg-2SG pass then get-2SG only passing-grade-ACC} \]
\[\text{(Jos noita et läpäise, et saat } \text{merkintää } \text{ollenkaan.}) \]
\[\text{if those-PART neg-2SG pass neg-2SG get-1INF grade-PART at-all} \]
\[\text{‘If you don’t pass these exams, (then) you will still get a passing grade. If you don’t pass those, you won’t get a grade at all.’} \]

The English example in (40a) is ungrammatical and the Italian one in (40b) is incompatible with a contrastive reading, but the Finnish sentence in (40c) shows the object of the verb \text{läpäise} ‘pass’ being fronted within a conditional clause, resulting in a Contrastive Topic. In fact, a neutral reading is impossible due to the obligatory contrastiveness of constituents preceding a null-subject second or first-person finite verb, as can be seen in (41). An interpretation of the dative object \text{Marjalle} as a “vanilla” topic (where English would express it as the subject of a passive verb) fails.

\[(41)\quad \text{Marjalle kerroin totuuden.} \quad \text{Marja-} \text{ADE tell-PAST-1SG truth-ACC} \]
\[\text{‘To Marja, I told the truth.’/‘Marja was told the truth (by me).’} \]
In B&F’s approach, a CT in a CAC is unexpected because of their purported non-propositionality. In Haegeman’s approach, an intervention effect caused by the presence of the irrealis operator should have caused the sentence to be ungrammatical. Crucially, I assume CAC’s to be semantically equivalent from language to language (where these are expressed with a tensed clause, at least).

It is noteworthy that Finnish conditional clauses also allow the fronting of an element interpreted as contrastive focus (40d), which bears a different intonation: a sharp falling tone. The rest of the sentence is then de-stressed.

(40) d. Jos näitä tenttejä et läpäise, (niin) et saa tutkintoa.
   if these-NOM exams-NOM NEG-3SG pass-3SG then NEG-3SG get-1INF degree-NOM
   (Noilla toisilla ei ole väliä.)

   ‘If you don’t pass these exams, (then) you won’t get the degree. (Those others don’t matter.)’

Furthermore, Finnish also allows contrastive arguments to be fronted in temporal clauses, as in (42), where tuon kirjan is a CT:

(42) Kun tuon kirjan Matti osti niin halvalla,
    when that-ACC book-ACC Matti buy-PAST-3SG so cheap-ACC
    huomasin että minäkin halusin sen.
    realise-PAST-1SG that I-too want-PAST-1SG it-ACC

    ‘When that book Matthew bought so cheaply, I realised that I wanted it too.’

Haegeman (2010) cites previous work (Ernst 2007; Nilsen 2004; Declerck and Depraetere 1995; Palmer 1990) showing that high modal adverbs, such as evaluative, evidential or speech act adverbials are ungrammatical or at least very unnatural in temporal or conditional adverbial clauses (thus, in Central Adverbial Clauses).

(43) a. ??* If frankly he’s unable to cope, we’ll have to replace him.
    b. * If they luckily/unfortunately arrived on time, we will be saved.
       (Ernst 2007: 1027; Nilsen 2004)
    c. * If the students apparently can’t follow the discussion in the third chapter, we’ll do the second chapter.
    d. * If George probably comes, the party will be a disaster.
    e. * John will do it if he may/must have time.
       (Declerck and Depraetere 1995: 278; Palmer 1990: 121, 182)

    (Haegeman 2010: 15)

She links this to a Relativised Minimality (henceforth, RM) intervention effect owing to a shared feature set. There is a more fine-grained version of Relativised Minimality, however, developed by Starke (2001), which refines RM in order to account for extraction from Weak Islands. In Starke’s new approach, the standard approach, where an element Q (which may be a quantificational adverb, a wh-word, a negation or a focus) blocks movement across it on the part of similar elements, as shown in (44), is modified in such a way that a distinction may be drawn between members of a given class C and members of a subclass of that class, SC.

(44) * Q₁ ... Qₙ ... <Qₙ>
Starke shows that members belonging to SC as well as C will not be blocked by elements which are only members of C. In contrast, elements which are only members of C cannot successfully cross a member which is a member of C and SC (or even simply C). This is illustrated in (45), where α is a member of C only and αβ is a member of both C and SC.

(45)  
\begin{align*}
  & a. \quad \ast \alpha \ldots \alpha \beta \ldots \alpha \\
  & b. \quad \alpha \beta \ldots \alpha \ldots \alpha \beta 
\end{align*}

(Starke 2001: 8)

Following Starke’s (2001) elaboration of RM, this means that the irrealis operator must not contain any features in addition to those shared with the high modal adverbs, or else the structure would be unproblematic. Contrastive Topics, on the other hand, are felicitous with the same high modal adverbs, which are most naturally produced between the CT and the rest of the sentence.

(46)  
\begin{align*}
  & a. \quad \text{John, he probably likes.} \\
  & b. \quad \text{This discussion, the students apparently can’t follow.}
\end{align*}

There are reasons for not dismissing these adverbs as being a “parenthetical” realisation. Firstly, the adverb appears to be part of the same phonological phrase, without any breaks or the necessity for a change in pitch. Secondly, when adverbs are realised parenthetically, their scope gets upgraded to a higher level, e.g. to the level of the utterance or, at least, to the propositional level. Crucially, a change in their interpretation occurs. With high modal adverbs, however, there is no scope for an upgrade or a change in interpretation.

If the same operator causes intervention effects with CT’s, we might expect high modals to clash with contrastive topicalisation as well. This is not the case, however, in English, Italian or Finnish, as we can see in the examples in (47). The position of the moved constituent in front of the modal adverb suggests that it has indeed moved past the high modal adverb field proposed by Cinque (1999).

(47)  
\begin{align*}
  & a. \quad \text{You, John probably likes.} \\
  & b. \quad \text{Tu, probabilmente, a Gianni piaci.} \\
  & \quad \text{you probably to Gianni like-3SG} \\
  & \quad \text{‘You, Gianni probably likes.’} \\
  & c. \quad \text{Sinusta Juhana todennäköisesti tykkää.} \\
  & \quad \text{you-ELA Juhana probably like-3SG} \\
  & \quad \text{‘You, Juhana probably likes.’}
\end{align*}

If the CT can move past these adverbs with no interference but, as Haegeman shows with English, cannot move up within If-Clauses, it follows that there must be more features in CT’s than in the high modal adverb. This is the case in all of the languages discussed so far. The locus for variation with respect to the presence of interference or the lack thereof may be due to a difference in the feature content of one of these elements.

Given that high modal adverbials block the irrealis operator, we can assume the latter to have a set of features that is equal to or fewer in number than high modal adverbials. CT’s, co-occur and move past high modal adverbials, which suggests that they have more features than
high modal adverbs. This would give us the following hierarchy, in terms of richness of features.

\[(48) \text{CT} > \text{Adv}_{\text{high modal}} \geq \text{Op}_{\text{irrealis}}\]

This hierarchy seems unproblematic for Finnish, but fails to capture the English or the Italian facts. In these languages, CT’s should have an equal or lower number of features than the irrealis operator, because they are blocked by it, but a greater number of features than the high modal adverbs because these do not obstruct its movement, but this gives rise to a contradiction, as illustrated in (49).

\[(49) \text{CT} > \text{Adv}_{\text{high modal}} \geq \text{Op}_{\text{irrealis}} \geq \text{CT}\]

Let us consider the following possibility: Contrastive Topics and high modal adverbs do not interact, so perhaps they do not share any features. Adopting Starke’s (2001) feature tree, we can hypothesise that the features in CT’s and high modal adverbs belong to different classes. Suppose that high modal adverbs have a feature \([a]\) and CT’s do not. The irrealis operator also has the feature \([a]\) and does not have a richer feature set than high modal adverbs, thus is continually blocked by it. In order to describe the variation in interaction between CT’s and the irrealis operator, we could assume that a feature belonging to a different class than \([a]\), say \([\alpha]\), is involved. In English, CT’s are blocked by the \([a]\) feature in the irrealis operator. In Finnish, CT’s may have an additional feature that is active, say \([\beta]\), which allows it to avoid intervention effects. Another option along these lines is for CT’s to have only the feature \([a]\) with the lexical items realising the irrealis operator possessing or lacking the same feature.

\[(50) \begin{array}{ccc}
\text{Adv}_{\text{high modal}} & \text{Op}_{\text{irrealis}} & \text{CT} \\
a. \ [a] & [a, [\alpha]] & [a, (\beta)] \\
b. \ [a] & [a, ([\alpha])] & [\alpha] \\
\end{array}\]

The feature shared by high modal adverbs and the irrealis operator is, of course, quantifying over words. The question is, what feature could be shared by the Contrastive Topic and the irrealis operator. One possibility is that the contrastiveness feature may somehow be present in the irrealis operator. Etymologically speaking, jos ‘if’ and kun ‘when’ are thought to be lative cases of the relative head joka and the interrogative pronoun kuka ‘who’. Thus, morphologically, it is difficult to find a link. It would be difficult to show that the English if, given its similar function, could be featurally more complex than the Finnish jos, so one would rather scrap the hypothesis of different sized irrealis operators. Instead, it may be that the Finnish CT’s are feurally more complex than English and Italian CT’s. The most obvious difference is that Finnish has a complex morphological case. We would, therefore, expect languages with a complex morphological case to behave like Finnish, rather than English or Italian, and allow CT’s to appear in CAC’s.
6. Conclusion

Finnish supports a movement-based account of the distribution of Contrastive Topics, building on the syntactic approach developed by Haegeman (2010). In contrast, it is difficult to reconcile Bianchi and Frascarelli’s (2010) account, where CT’s depend on full propositions, with the data. Adopting Starke’s (2001) feature tree, it is claimed that CT’s share no features with high modal adverbs, but share some with the irrealis operator, which, on the other hand, does share features with high modal adverbs. If Finnish CT’s can move past the irrealis operator in CAC’s by virtue of their more complex morphology, it is predicted that languages with similarly complex morphological case should behave in a similar way.

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‘The Simplest and Most Proper’ English of the 14th-Century Richard Rolle’s Psalter Rendition*

Kinga Lis

Abstract

The paper investigates the claim pertaining to the 14th-century Richard Rolle’s Psalter rendition which asserts that the translator of the text in question adhered to vocabulary of native origin unless an item necessary in the context was not available in the English language. In particular, the study focuses on the nominal equivalent selection strategy in instances where a single Latin lemma corresponds to more than one English noun and the competing items differ with respect to their etymologies. The issue is of considerable interest in the context of Rolle’s predominant consistency in this respect reflected in his general observance of a one-to-one correspondence between Latin nouns and their English equivalents.

Keywords: Biblical translation, equivalent selection strategy, etymology, Psalter, Richard Rolle

1. Introduction

The objective of the paper is to examine the nominal choices in the first fifty Psalms of Richard Rolle’s Psalter rendition from the perspective of equivalent selection. Since, as shall become apparent in the course of the study, Rolle was predominantly consistent in this respect and opted for a one-to-one correspondence between Latin and English nouns, special attention will be devoted to the cases which contravene this tendency in order to establish whether there is a guiding principle behind variant translator’s decisions in particular contexts and whether there is evidence that etymological considerations influenced these choices. For this purpose I will analyse Rolle’s Psalter while juxtaposing it with the Latin source text which constituted the basis for the translation, focusing on those Latin nouns which are rendered into English by means of more than one equivalent, differing in their languages of origin.

The issue is of particular interest in the light of the assertion formulated by Partridge (1973: 21) in the following manner:

Rolle adhered with fidelity to the Latin original, using the simplest and most proper English wherever possible, except when his native language failed him, and he was compelled to latinize.

As postulated in Lis (in prep.), the claim cited above makes a number of assumptions which all prompt the modern reader to believe that Richard Rolle was a proponent of a form of linguistic purism, which manifested itself in adherence to vocabulary of native origin. Having

* I would like to thank Professor Magdalena Charzyńska-Wójcik for all her comments on this paper.
investigated the issue, I established that the etymological make-up of Rolle’s rendition does not differ substantially from the other contemporary prose Psalter translations in this respect. However, it is Rolle’s Psalter that employs the greatest number of borrowings in the contexts where the other texts use their native equivalents (Lis in prep.), i.e. in the context where Rolle was not ‘compelled to latinize’ (Partridge 1973: 21).

The present paper is, therefore, a continuation of an investigation into the correctness of Partridge’s (1973: 21) claim, endeavouring to establish whether the appropriateness of Rolle’s English could possibly manifest itself in a disciplined manner of equivalent selection, in which etymological preferences would be visible. For this reason I have decided to concentrate primarily on those Latin items whose competing English renderings are pairs of items with different etymologies: native as opposed to foreign, i.e. Romance or Old Norse (ON) (cf. Section 4). Adopting such a perspective will allow me to determine whether the variation is context-governed and whether it accommodates, at least to some extent, Rolle’s etymological ‘(dis)likes’.

In the course of the study I will refer to the context-governed equivalent selection strategy by using the term dynamic equivalent selection strategy, as understood in Charzyńska-Wójcik and Wójcik (2013) and Charzyńska-Wójcik and Charzyński (2014), for whom the term refers to exactly those situations where ‘the item receives different equivalents depending on the context’ (Charzyńska-Wójcik and Charzyński 2014).

In order to present the data from the Psalter in the relevant context, I commence by providing some information concerning the original Latin text, its English rendition and the contemporary attitude to biblical translation (Section 2). Then, a sketch of the linguistic circumstances obtaining in medieval England is given in Section 3, where I also endeavour to expound upon the influence one may predict these circumstances exerted upon the shape of the rendition. Section 4 describes the methodological procedures which led to the creation of the database used in this study and provides working definitions of certain concepts I employ in the course of the research, all of which are indispensable for the proper understanding of the data presented in Section 5. Section 6 aims at formulating some conclusions as regards the principles guiding the equivalent selection in Richard Rolle’s Psalter and tries to situate the findings in relation to Partridge’s (1973: 21) claim and the results obtained in Lis (in prep.).

2. The text and its place in the context of the contemporary attitude to biblical translation

Richard Rolle’s Psalter (henceforth RRP) is an early 14th-century prose translation from Latin into Middle English. As there is no doubt as to Richard Rolle’s authorship of the rendition, researchers are able to establish an approximate date for the translation, which is the first half of the 14th century, most probably the 1330’s or 1340’s (St-Jacques 1989: 136). The fact that the authorship is certain, significantly facilitates the comprehension of the text as, with the ample information available concerning Richard Rolle of Hampole, one is able to understand

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1 For biographical information on Richard Rolle, consult for instance Bramley (1884), Horstman (1896) and Heaton (1913).
the motives and ideology which inspired the translation and determined its shape. Although
the rendition had its addressee in the person of a Dame Margaret Kirby (Bramley 1884: ix), it
becomes evident on reading Richard Rolle’s prologue to the rendition, that he was well aware
of the fact that she would not be the only reader of his translation:

In expounynge. i. fologh haly doctours. for it may come in some enuyous man hand that knawes noght
what he sould say, that will say that. i. wist noght what. i. sayd. and swa doe harme til hym. and til othere. if
he dispise the werke that is profytabile for hym and othere.

(Bramley 1884: 5)

As is readily noticeable, Rolle was anxious that both his work and its purpose should not be
either misunderstood or used for purposes that did not concur with his religious convictions.
He undoubtedly did everything that was within his means to ensure that the translation did
not stray from the original and that the prospective reader understood the intended meaning
each verse. His preoccupation with these issues is distinctly reflected in the very structure of
Rolle’s Psalter, which first provides the Latin verse, then its literal English translation and
finally a commentary on the meaning of the passage. This is illustrated below:

Confitemini domino in cythara: in psalterio decem cordarum psallite illi. ¶

Shrifis til lord in the harpe:
in psautery of ten cordis syngis til hym. ¶ In the harpe thai shrif that louys god whether wele or wa fall on thaim: and syngis til him in psautery of ten cordis, that is, stire ȝou to serue til charite, in the whilke ten commaundmentis is fulfild.

(Psalm 32, verse 2 from Bramley 1884: 114)

The English rendition provided in Bramley (1884) is based on Manuscript 64 from the Library
of University College, Oxford. Where this manuscript lacks leaves, twelve in total, the text of
other manuscripts was followed, namely that of Manuscript 56 from the same library and the
manuscript from the Bodleian Library, which was also the source of the Metrical Preface

2 Dame Margaret Kirby was one of the recluses, ‘persons in need of ghostly comfort, and those who suffered in
mind and body from the attacks of evil spirits’, who sought Rolle’s assistance.

3 The Latin text of the Psalter presented in Bramley (1884) was transliterated from Sidney Sussex College
Manuscript 89 and represents almost exclusively the text of the Gallicanum, the second of Jerome’s revisions
of the Latin Psalter. In fact, as stated in Charzyńska-Wójcik (2013: 41) ‘[t]he only admixtures which are
recorded in the Gallican Psalter contained in Richard Rolle’s Psalter [...] are from the Roman Psalter, i.e.
Jerome’s first revision of the Old Latin Psalter, Vetus Latina’.

4 The commentary provided by Richard Rolle, is ‘a close prose translation of Petrus Lombardus’ Commentarium in Psalmos’ (Wells 1916: 401-402). Wells (1916: 401-402) suggests that it is possible that
Richard Rolle does not acknowledge Peter Lombardus’s original and ‘gives the impression that his writing was
made up from passages from the Fathers’ due to the fact that ‘Peter [Lombard]’s work was frowned on’. This,
however, cannot be the explanation since, as asserted in Charzyńska-Wójcik (2013: 74-75), the controversy
surrounding Peter Lombard had already been quenched at the beginning of the 13th century, with the Lateran
Council of 1215 officially declaring Lombard to have been faithful to the Credo.

5 The special marker presented here, separating the English translation from the Latin text and the
commentary, is an early form of pilcrow, i.e. paragraph mark, as used in the manuscripts containing Rolle’s
Psalter. As explained in Charzyńska-Wójcik (2013: 672) ‘[t]he marker is a development of the capital letter C
for capitulum, ‘chapter’, which came to be equipped with a vertical bar by the rubricators (as were other litterae notabiliores). With time, the resultant bowl was filled in and with some further visual adjustments
naturally following from frequent use, ¶ or ¶ became the familiar pilcrow ¶.’
preceding Richard Rolle’s Prologue. The text of the Psalms was then collated with the Sidney Sussex Manuscript (Bramley 1884: v-xvii).

The Oxford Manuscript of the Psalter was hardly an accidental choice since, as Everett (1922: 222) contends, out of all 35 manuscripts of RRP this manuscript along with two other ones, best preserves the Northern dialect of the original rendition. Furthermore, the decision to mainly focus on this manuscript might also have been facilitated by the fact that the text of the commentary which follows each verse in this manuscript is Richard Rolle’s original one, whereas the majority of the extant manuscripts contain Wycliffite insertions in the commentary and these differ from manuscript to manuscript in their extent.

When it comes to the shape of Rolle’s rendition, it is representative of the general contemporary approach towards the Bible and its translations and can be fully comprehended and appreciated only in this context. The vital feature of this approach is an extremely cautious attitude to any attempts at rendering the Scriptures into the vernacular. Any such translations would be considered, almost by definition, futile and of absolutely no merit when juxtaposed with the Latin text, even though the Bible in Latin itself was also a rendition, from Hebrew and Greek. The efforts to translate the Scriptures defied in a way the contemporary conviction that only Latin could be an adequate means of transmitting God’s sacred words.

The dominant theory of Biblical translation, based on Jerome’s discussion of this specialized task rather than on his consideration of translation in general, accepted the principle that every word of the text was sacred: even the order of the words is a mystery, and this mystery must be preserved in translation.

(Hargreaves 1965: 123)

The situation was even more complex in the case of the English language due to the Norman Conquest and the profound changes in the linguistic landscape of England it brought in its wake:

[for many centuries, a medieval counterpart of a modern educated person would have counted English as one of the highly unsatisfactory mediums. The vernacular appeared simply and totally inadequate. Its use, it would seem, could end only in a complete enfeeblement of meaning and a general abasement of values.]


6 Black and St-Jacques (2012) after Kuczynski (1999) state that there are as many as 39 manuscripts of RRP. This need not indicate that one of the estimates is incorrect since it might simply be the case that in the course of approximately eight decades separating the works of Everett (1922) and Kuczynski (1999) another four extant manuscripts were discovered.

7 Daniell (2003: 63) supposes that ‘at this time in Britain almost no one is likely to have known that the Latin was a late and imperfect version of the original Greek and Hebrew’. A similar supposition about the unfamiliarity ‘with the translation process involved in producing the Vulgate’ is also made by Pahta and Nurmi (2011: 230).

8 This view was challenged only in the 16th century mostly thanks to William Tyndale’s translation of the Bible, which brought a ‘revolution’ in the perception of the English language. Delisle and Woodsworth (1995: 33) state that ‘Tyndale translated into the language people spoke, not the way the scholars wrote’. In this way, as noted by Howard (1994: 16), quoted by Delisle and Woodsworth (1995), ‘[h]e introduced the revolutionary notion that the common English spoken by the man in the street is as good as Latin or French or any other ‘learned’ language for expressing profound or poetic thought’.
Despite all these circumstances, which were certainly unfavourable for the process of translating, the rendition was needed for those ‘that knawes noght latyn’ (Bramley 1884: 4). This must have been evident for Rolle, which is why he attempted to provide a translation that, being as faithful to the original as possible, would at the same time ensure that the intended message was carefully transmitted:

In this werke .i. seke na straunge ynglis, bot lyghtest and comonest. and swilk that is mast lyke til the latyn. swa that thai that knawes noght latyn. by the ynglis may com til mony latyn wordis. In the translacioun .i. folow the lettere als mykyll as .i. may. And thare. i. fynd na propire ynglis. i. folow the wit of the worde, swa that thai that sall red it thaim thare noght dred erryne.

(Bramley 1884: 4-5)

In other words, Richard Rolle did not even make an attempt at a translation in the present sense of the word and his work should be regarded, as Norton (2000: 5) perceives it to be, as ‘a guide, first to the meaning of the Latin, second, through a commentary, to the meaning of the Psalms’. Hargreaves (1965: 126) also notes that Rolle’s ‘Psalter translation was designed not to stand alone but to follow the Latin verse by verse and to be accompanied by a commentary elucidating its spiritual meaning’.

A slightly different reflection on the place of Rolle’s rendition in medieval England is offered by Alford (1995: 48), who sees it ‘as an example of the continuing vitality of lectio divina’ in the later Middle Ages and considers the shape of the translation and the commentary on the Psalms to be an aid for those willing to embark upon this sort of religious practice:

Clearly Rolle’s English version of the Psalter cannot be read, and probably was not intended to be read, as a stand-alone translation. Repeatedly one is forced back to the original text. Reading of this sort is not a linear process but a constant up-and-down movement, a stitching together of Latin and English. This oscillation between text and gloss is characteristic of lectio divina.

(Alford 1995: 54)

The text of the Psalms analysed in this study is that presented in Charzyńska-Wójcik (2013) after Bramley (1884).

3. Linguistic background

The linguistic background is the other factor, alongside the contemporary attitude to biblical translation, that inevitably shaped Rolle’s translation to a considerable extent. Since it differs drastically from the 21st-century linguistic situation obtaining in Western Europe, it is important to outline some of its major features with respect to the etymological make-up of the lexicon as it is relevant for the purposes of the present study.

The Middle English period was exceptional in the history of English from the point of view of the number of borrowings it absorbed over its course, and, as shall become apparent,
the attitude to them. The major sources of these loanwords were Old Norse, Latin and (Anglo-)French. As regards the loanwords of Scandinavian origin, their number cannot be given exactly, one of the many reasons for this being the time lag between the date of their first recorded usage and the period of the most intense contact between the speakers of ON and OE (Björkman 1900; Burnley 1992; Kastovsky 1992). The pattern of their geographical distribution shows that the greatest number of items with this etymology appear in texts originating in the north (Freeborn 1998: 156; Burnley 1992: 421-422; Ringe and Eska 2013: 74), i.e. in the part of England where RRP was compiled.

In contrast, borrowings from Latin and French are for the most part recorded in southern writings (Burnley 1992: 431; Freeborn 1998: 156), and it is estimated that ca. 10,000 lexical items of Romance provenance enriched the English lexicon in the pertinent period (Baugh and Cable 1978: 176; Katamba 1994: 208 and van Gelderen 2006: 99). The loanwords from Latin and French are usually treated disjointly in the literature but in fact, when one takes into account the interlinguistic relations between these languages viewed both diachronically and synchronically, the possible obstacles to distinguishing between them become apparent. The difficulty arises primarily from the close relatedness of French to Latin. Due to this affinity items borrowed from French are in the majority of cases inevitably of Latin origin. Thus, one cannot refute with certainty the claim that a particular item was borrowed from Latin and not from French or discard the possibility of indirect borrowing, i.e. borrowing from Latin via the mediation of the French language, since, as postulated by Burnley (1992: 433), it would not be ‘especially surprising when for generations Latin had been taught in England through the medium of French’. Moreover, the processes of phonological and morphological adaptation which operate on borrowings rendered the differences between Latin and French loanwords in English even less perceptible. Additionally, as if to complicate the situation even more, once Latin, (Anglo-)French and (Middle) English started to co-exist on English soil, the boundaries between them, at least with respect to the vocabulary, started to blur to such an extent that determining the language of origin of a particular lexical item frequently borders on the impossible (Rothwell 2000: 51). For these reasons, I have decided not to differentiate between words of Latin and French origin but to assign them to a broad category of Romance loanwords, even if the very term loanword or borrowing is, as postulated by Rothwell (2000: 51), inappropriate ‘for this very large-scale process of immersion and absorption that must have extended nation-wide over many decades’.

It would be unrealistic to expect that the linguistic circumstances of medieval England outlined above did not leave an indelible imprint upon the works created in the period. On the contrary, we would expect them to have found an expression in a medieval English text, such as RRP, in the following respects. Firstly, RRP, as a work of northern origin, should contain

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10 For comprehensive studies of loanwords from Old Norse and Anglo-Norse language contact, see also Townerd (2002) and Dance (2003).

11 I use the term French here to refer collectively to borrowings from all varieties of French distinguished in the dictionaries employed for the purposes of the study, the Middle English Dictionary and the Oxford English Dictionary (cf. Section 4), i.e. Old French, Central French, Old Northern French (known also as Old Norman) and Anglo-French, since based on the information provided in them one cannot assign a given vocabulary item to a particular form of French.
a high proportion of words with Scandinavian etymologies. Secondly, the number of loanwords from broadly understood Romance languages should be quite substantial in RRP since their percentage participation in all ME texts is considerable. Thirdly, vocabulary of native and foreign origin may be predicted to be employed indiscriminately if the three languages in use in medieval England were in fact ‘so imbricated as to be distinguishable only at the cost of some artificiality’ (Rothwell 2000: 51). The first two tendencies entirely concur with the findings in Lis (in prep.). The last prediction is investigated in detail in the present study. It is, however, irreconcilable with Partridge’s (1973: 21) claim concerning Rolle’s lexical preferences.

4. Methodology

As explained in the Introduction, the study is based on the first fifty Psalms of RRP and examines the text of the English translation in juxtaposition with the Latin original. To ensure that only the corresponding items were compared, it was necessary to treat the Latin source text as a starting point and commence by extracting all the nouns (2865 items), annotating each with the Psalm and verse number. The items were sorted alphabetically and occurrences of the same Latin lemma, i.e. the citation form as presented in Whitaker’s Words: Latin-to-English and English-to-Latin Dictionary, were grouped together. Then English equivalents for each Latin nominal item were supplied, together with etymological information and the date of the first recorded attestation with the relevant meaning as provided in the Middle English Dictionary and the Oxford English Dictionary (hereafter the MED and the OED respectively). The next step was to exclude from the data all the occurrences of Latin nouns whose corresponding lexical items were not classified as nouns in the relevant dictionaries, e.g. ME ŏutcasting(e (ger.) rendering Latin abjectio, abjectionis ‘dejection; a casting down/out; outcast’, ME dërne (adj.) employed to translate Latin absconditum, absconditi ‘hidden/secret/concealed place/thing; secret’, or were whole phrases rather than nouns, e.g. ME right hōnd(e for Latin dextera, dexterae ‘right hand; right-hand side’ or ME heigh thing used to render Latin excelsum, excelsi ‘height, high place/ground/altitude; eminence; high position/rank/station; altar, temple (pl.); citadel’, which narrowed down the number of occurrences to 2627 and the number of headwords to 458.

Subsequently, the data were divided into two groups depending on whether the English renderings of particular Latin lemmata exhibited variation. The nouns which displayed diversity in this respect were then further subcategorised with respect to the etymology of their English equivalents in order to investigate whether the cases of etymological oppositions between native items13 and loanwords employed to render the same Latin lemma were context-sensitive, i.e. whether they were congruent with the dynamic equivalent selection strategy. Additionally, those

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12 The total number of the nominal items would in fact surge to 2907 if proper nouns were taken into consideration.
13 The term native adopted in the study has been broadened to encompass not only items of purely OE origin but also those with mixed OE-ON and OE-Romance etymology on the premise that the early loans (which already functioned in the English lexicon in the OE period alongside the truly native items and underwent the same morpho-phonological processes) may indeed be regarded as native in the language.
Latin lemmata whose number of occurrences did not exceed two had to be excluded as one cannot draw any conclusions or speak of distribution patterns in such cases.

5. The data

The primary aim of the present section is to provide and analyse the data gathered from RRP and to determine whether the appropriateness of Rolle’s English, postulated by Partridge (1973: 21), could possibly manifest itself in a disciplined, context-governed, manner of equivalent selection in the instances of those Latin lemmata whose English renderings exhibit variation. In other words, it will be investigated whether in such cases one can speak of dynamic equivalent selection or whether, based on the available data, it is difficult to speak of any distribution patterns.

As mentioned in Section 4, the database employed for the purposes of this study consists of 2627 occurrences of Latin nouns, grouped under 458 distinct lemmata, and the corresponding lexical items from the English rendition. However, only 32 lemmata (with a total of 732 occurrences) exhibit variation in the English translations. They are introduced and commented upon in Section 5.1. Section 5.2, on the other hand, focuses exclusively on those cases in which the competing English equivalents exhibit etymological oppositions of the native versus foreign type.

5.1. All the cases of divergent equivalent choices

The fact that the number of Latin lemmata whose English renderings differ between particular occurrences is so small appears to indicate that Rolle’s equivalent selection is predominantly stable, i.e. Rolle adheres to his choices as regards English equivalents of particular Latin nouns. In fact, the 32 lemmata in question constitute only 6.99% of all the Latin headwords. The perception of the extent of variation could be skewed by the fact that the percentage participation of the relevant occurrences (732) equals 27.86% of all the analysed occurrences, when in fact it is markedly misleading, as shall become evident in the light of the data presented in Table 1 below.

The structure of the table is the following. The second column from the left provides Latin lemmata, with the number of their occurrences in the data analysed in this study given in parentheses. The tripartite column with the ‘Middle English equivalents’ heading presents all of the ME nominal equivalents of the Latin lemmata from the first fifty Psalms of RRP scrutinised in the course of the research, together with concise information concerning their etymology and number of occurrences. Finally, the rightmost column, supplies information about the status of the lemma with respect to further analysis, explaining why particular items had to be excluded from the study (cf. Section 4).

14 As explained in Section 4, I exclude from further analysis all the Latin lemmata whose number of occurrences is smaller than three and those whose English renderings do not exhibit etymological oppositions of the native item vs. loanword type.
23. Although, admittedly, in this case one deals with more than three occurrences of a Latin noun, it was decided that the analysis of this lemma would be groundless as the two instances of the ME *kin* are attested in a single verse where they render the phrase in which the Latin lemma is repeated for emphasis:

> Tabernacula eorum *in progenie & progenie*: voca|uerunt nomina sua in terris suis.

> Tabernakls of thatim *in kyn and kyn*. [S in kynereden & kynredyne.; tha cald thaire names in thaire erthis*. [S. londes, londe.].

(Psalm 48, verse 11 after Charzyńska-Wójcik 2013: 638)

### Table 1. Latin lemmata and their English equivalents which exhibit variation

<table>
<thead>
<tr>
<th>N°</th>
<th>Latin</th>
<th>Middle English equivalents</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>absconditum, absconditi (3)</td>
<td>1. hidel(s - OE (1))</td>
<td>too few occurrences</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. hid(e - OE (2))</td>
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<td></td>
<td></td>
<td>3.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>aequitas, aequitatis (4)</td>
<td>1. evenhède - OE (2)</td>
<td>both of OE origin</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. evennesse - OE (2)</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>afflictio, afflictions (2)</td>
<td>1. torment - Romance</td>
<td>too few occurrences</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. affliccióun -</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>alienus, alieni (2)</td>
<td>1. òther - OE (1)</td>
<td>too few occurrences</td>
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<tr>
<td></td>
<td></td>
<td>2. ãlién - Romance (1)</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>armum, armi (2)</td>
<td>1. wèpen - OE (1)</td>
<td>too few occurrences</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. armes - Romance (1)</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>confusio, confusionis (3)</td>
<td>1. shâme - OE (2)</td>
<td>fulfils all criteria</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. confusióun -</td>
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<td></td>
<td></td>
<td>3.</td>
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<tr>
<td>7.</td>
<td>consilium, consili(i) (12)</td>
<td>1. cōnseil - Romance (11)</td>
<td>fulfils all criteria</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. réd - OE (1)</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>delictum, delicti (6)</td>
<td>1. trespass - Romance (5)</td>
<td>fulfils all criteria</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. sinne - OE (1)</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Deus, Dei (147)</td>
<td>1. God, god - OE (146)</td>
<td>both of OE origin</td>
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<tr>
<td></td>
<td></td>
<td>2. lord - OE (1)</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>dolor, doloris (12)</td>
<td>1. sorwe - OE (11)</td>
<td>both of OE origin</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. wâne - OE (1)</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>dominus, domini (315)</td>
<td>1. lôrd - OE (308)</td>
<td>both of OE origin</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. God, god - OE (7)</td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>inimicus, inimici (45)</td>
<td>1. enemi - Romance (36)</td>
<td>fulfils all criteria</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. fô - OE (9)</td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>innocentia, innocentiae (5)</td>
<td>1. unnoiandnes -</td>
<td>both of Romance origin</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. innoiandnes -</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.</td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>insipientia, insipientiae (2)</td>
<td>1. unwïsdöm - OE (1)</td>
<td>too few occurrences</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. unwit - OE (1)</td>
<td></td>
</tr>
<tr>
<td>15.</td>
<td>ira, irae (14)</td>
<td>1. writhe - OE (7)</td>
<td>fulfils all criteria</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. ire - Romance (7)</td>
<td></td>
</tr>
<tr>
<td>16.</td>
<td>iter, itineris (2)</td>
<td>1. gàte - ON (1)</td>
<td>too few occurrences</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. wei - OE (1)</td>
<td></td>
</tr>
<tr>
<td>17.</td>
<td>laetitia, laetitiae (8)</td>
<td>1. joï(e - Romance (4)</td>
<td>fulfils all criteria</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. fainnesse - OE (3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. gladnes(se - OE (1)</td>
<td>both of OE origin</td>
</tr>
<tr>
<td>18.</td>
<td>locus(um), loci</td>
<td>1. stêde - OE (7)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. rõum, stêde - OE (1)</td>
<td></td>
</tr>
<tr>
<td>19.</td>
<td>multitudo, multitudinis (9)</td>
<td>1. muchelines(se - OE (15)</td>
<td>fulfils all criteria</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. multîtûde -</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.</td>
<td></td>
</tr>
<tr>
<td>20.</td>
<td>murus, muri (2)</td>
<td>1. wal - OE (1)</td>
<td>both of OE origin</td>
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<tr>
<td></td>
<td></td>
<td>2. wough - OE (1)</td>
<td></td>
</tr>
<tr>
<td>21.</td>
<td>oratio, orationis (8)</td>
<td>1. preiêr(e - Romance (7)</td>
<td>fulfils all criteria</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. bêdé(e - OE (1)</td>
<td></td>
</tr>
<tr>
<td>22.</td>
<td>progenies, progeniei (115)</td>
<td>1. kin - OE (2)**</td>
<td>too few occurrences</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. kinde - OE (1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. proûgeni(e - Romance (1)</td>
<td></td>
</tr>
<tr>
<td>23.</td>
<td>sacrificium, sacrifici(i) (10)</td>
<td>1. sacrifice - Romance (9)</td>
<td>both of Romance origin</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. offren(e - Romance (1)</td>
<td></td>
</tr>
</tbody>
</table>

15 Despite the fact that the MED considers the item to be of mixed OE-ON origin, it is regarded as a native noun in accordance with the methodology adopted in the study concerning the treatment of the early loans (cf. Section 4).

16 Although, admittedly, in this case one deals with more than three occurrences of a Latin noun, it was decided that the analysis of this lemma would be groundless as the two instances of the ME *kin* are attested in a single verse where they render the phrase in which the Latin lemma is repeated for emphasis:
It is immediately apparent from the data given above, that the number of occurrences affected by the divergences in the selection of English equivalents for Latin lemmata is not in fact indicative of the degree of the variation. Latin Deus, Dei, with its 147 occurrences, and dominus, domini, appearing 315 times, considerably distort the picture, whereas the extent of the variation within their occurrences is itself extremely limited. The relevant figures for headwords and occurrences after the exclusion of Deus, Dei and dominus, domini from the group of items displaying the variation are 30 (6.55% of all headwords) and 270 (10.28% of the occurrences) respectively. Undeniably, the data exhibit immense stability as regards equivalent choices in the shape of the general observance of a one-to-one correspondence between Latin and English nouns. What this predominant adherence to a selected item of vocabulary indicates is that Rolle’s vocabulary choice is disciplined and would prompt one to expect that the attested divergences as regards equivalent selection should be governed by some principles, i.e. they should incorporate themselves into the deliberately dynamic equivalent selection strategy.

It is also evident from the information given in Table 1 that there are only 10 Latin lemmata, with a total of 121 occurrences, whose English equivalents can undergo further analysis. It is on the basis of these lexical items that I will attempt to determine whether the variation in noun selection in the rendition with respect to the same Latin lemma is motivated by the context in which the word is employed, i.e. whether it is a case of dynamic equivalence, and stems from the semantic contents of each competing lexical item, or whether the choice does not seem to have been conditioned by such considerations.

### 5.2. The cases of divergent equivalent choices displaying etymological oppositions

Taking into account the fact there are only 10 lemmata which fulfil all the criteria established for the purposes of the present research, I will attempt to consider each of them separately to the extent possible within the space available.

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17 Despite the fact that the MED considers the item to be of mixed OE-Romance origin, it is treated as a native noun in accordance with the methodology adopted in the study concerning the treatment of the early loans (cf. Section 4).
Table 2 below presents all the relevant nouns together with information concerning the Psalms and verses in which they appear.

Table 2. *Latin lemmata whose English equivalents display etymological oppositions*

<table>
<thead>
<tr>
<th>No.</th>
<th>Latin</th>
<th>Verses</th>
<th>Middle English equivalents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>confusio, confusionis</td>
<td>34.30, 39.21, 43.17</td>
<td>shâme - OE (2)</td>
</tr>
<tr>
<td></td>
<td>(3)</td>
<td></td>
<td>confûsiŏun - Romance (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.1, 1.6, 9.23, 12.2, 13.10, 19.4, 21.16, 25.4, 32.10 (x2), 32.11</td>
<td>cônsul - Romance (11)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>rêd - OE (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>trespâs - Romance (5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>sinne - OE (1)</td>
</tr>
<tr>
<td></td>
<td>(12)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>delictum, delicti</td>
<td>5.9, 6.7, 6.10, 7.4, 7.5, 7.6, 8.3 (x2), 9.3, 9.6, 9.13, 9.27, 12.3, 12.4, 16.11, 16.14, 17.4, 17.41, 17.44, 17.51, 20.8, 26.4, 26.17, 29.1, 30.10, 36.21, 40.2, 40.5, 40.8, 40.12, 41.13, 42.2, 43.7, 43.12, 43.18, 44.7</td>
<td>fô - OE (9)</td>
</tr>
<tr>
<td></td>
<td>(6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>inimicus, inimici</td>
<td>15.11, 44.9, 44.17, 50.13</td>
<td>wratthe - OE (7)</td>
</tr>
<tr>
<td></td>
<td>(45)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>ira, irae</td>
<td>10.7, 30.6, 31.2, 32.6, 33.18, 47.6, 50.11, 50.12, 50.13, 50.18</td>
<td>spirit - Romance (1)</td>
</tr>
<tr>
<td></td>
<td>(14)</td>
<td></td>
<td>testament - Romance (4)</td>
</tr>
<tr>
<td>6.</td>
<td>laetitia, laetitiae</td>
<td>1.5, 1.10, 17.15, 20.9, 26.14, 29.5, 36.8, 37.3</td>
<td></td>
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<tr>
<td></td>
<td>(8)</td>
<td></td>
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<tr>
<td>7.</td>
<td>multitudo, multitudinis</td>
<td>4.2, 6.10, 29.6, 34.16, 41.12, 48.6</td>
<td>spirit - Romance (1)</td>
</tr>
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<td></td>
<td>(9)</td>
<td></td>
<td>testament - Romance (4)</td>
</tr>
<tr>
<td>8.</td>
<td>oratio, orationis</td>
<td>10.7, 30.6, 31.2, 32.6, 33.18, 47.6, 50.11, 50.12, 50.13, 50.18</td>
<td>wit-word - OE (1)</td>
</tr>
<tr>
<td></td>
<td>(8)</td>
<td></td>
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<tr>
<td>9.</td>
<td>spiritus, spiritus</td>
<td>17.18</td>
<td></td>
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<td></td>
<td>(11)</td>
<td></td>
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<tr>
<td>10.</td>
<td>testamentum, testamenti</td>
<td>24.15, 43.19, 49.6, 49.17</td>
<td></td>
</tr>
</tbody>
</table>

5.2.1. **Equivalent selection strategy for confusio, confusionis**

The first of the Latin nouns listed in Table 2, *confusio, confusionis* ‘mingling/mixture/union; confusion/confounding/disorder; trouble; blushing/shame’, is rendered into English twice by means of the native shâme and once by confûsiŏun, which is a Romance borrowing. Analysing the contexts in which the word is employed, I established that the ME equivalents chosen by Rolle are used with the following senses, as defined by the MED:18

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18 All the meanings supplied for the nouns under analysis in the paper are presented in the shape provided by the MED, with the numbers in parentheses being the ones employed to refer to the relevant meanings in the dictionary itself.
shâme: ‘[t]he state of being in disgrace; ignominy, humiliation; the disgrace of physical harm or injury; the disgrace of sin or punishment in hell; destruction, ruin; also, physical damage’ [3a],

confisiōun: ‘[h]umiliation, disgrace, shame, or an instance of it’ [2a].

Clearly, the denotations of the two items overlap to such an extent that one cannot speak of a semantic motivation behind the different choices Rolle made. Moreover, on examining the actual passages in which the Latin noun is attested (3–4 below) it becomes apparent that the variation in the equivalent selection is not context-dependent:

\[34.30\]

Cled be thai in shame and drede: that grete spekis on me. 20

[34.26 cont.] ‘May they be dressed in confusion and awe who speak great against me.’

\[43.17\]
Tota die verecundia mea contra me est: et confusio faciei mee cooperuit me.

All day my shame agayns me is: and confusion of my face hild me. 21

[43.16] ‘All day my shame is against me. My face’s confusion overwhelms me’.

It seems, however, that Rolle’s decision to employ confisiōun in verse 43.17 (cf. 4 above) could have been conditioned, at least to some extent, by the fact that the noun shâme appears in the relevant verse as a rendering of a different Latin lemma–vereundia, verecundiae ‘shame; respect; modest’. Thus, in the case of this item, it appears that Rolle’s variant equivalent selection might have been prompted by stylistic considerations related to the Latin original, which avoids repetition by resorting to a synonym instead. It is, however, impossible to claim on the basis of only three occurrences of the Latin confusio, confusionis that the translator’s preference lay with shâme or to try to draw any conclusions as regards his etymological ‘(dis)likes’. The choice, furthermore, cannot be claimed to have been governed by the dynamic equivalent selection strategy. The strategy, as explained, assumes consistent lexical choices in analogous syntactic and semantic contexts, whereas variation is predicted to be observed exclusively in cases where change is observed in either of the above components. In effect, different semantic or syntactic properties are required of the lexical items which are to be employed to render the same source language, in this case Latin, item. The latter is not, however, the case with the renderings of confusio, confusionis. It means that the variation observed here might be style- but definitely not context-sensitive.

19 The marker * as used in Bramley’s (1884) edition and preserved in Charzyńska-Wójcik (2013) serves as a means of indicating those lexical items or whole phrases whose readings differ between the extant manuscripts of RRP, with the variant readings provided in curly brackets.

20 The translations provided for this and all the following verses quoted in the paper come from Cunyus’s (2009) rendition of the Psalter (from the Latin Vulgate) as presented in Charzyńska-Wójcik (2013). Since the verse numbering system offered in Cunyus (2009) at times diverges from the one adopted in RRP, wherever necessary I provide the information about the former in square brackets preceding the translation. For information about this translation and its textual basis, see Charzyńska-Wójcik (2013).

21 These and all the remaining quotations are provided here after Charzyńska-Wójcik (2013).
5.2.2. Equivalent selection strategy for consilium, consili(i)

Latin *consilium, consili(i)*, whose twelve attestations in the first fifty Psalms are analysed in this study, is translated predominantly as *counseil*, a borrowing from Romance languages. If Rolle, as claimed by Partridge (1973: 21), adhered to native vocabulary unless a proper term could not be found in English, then the semantic contents of this item should differ considerably from its native counterpart, *rēd*, which is only employed once to render the same Latin lemma.

The meanings with which the relevant ME nouns appear in RRP are the following:

1. **counseil**: ‘[a] meeting, conference, council’ [1a], ‘[c]ounsel, advice, instruction’ [5a], ‘[a] decision; a plan, scheme’ [6a] and ‘[a] secret, private matter(s, a secret plan’ [8a],

2. **rēd**: ‘[p]lot, conspiracy; [...] private thoughts’ [3b.a and b].

As was the case with the English equivalents of *confusio, confusionis*, here the semantic components of the English renderings also seem to overlap, which becomes even more evident when one compares the following verses from RRP:

(7) 9.23

*Dum superbit impius incenditur pauper: comprehenduntur in consilijs quibus cogitant.*

I whils the wickid prides kyndeld is the pore; takyn thai ere in *counsailes* in whilk thai thynke.

‘As long as the lawless are proud, the poor one will be burned. Yet they will be captured in the counsels which they follow.’

(8) 20.11

*Quoniam declinauerunt in te mala: cogitauerunt consilia que non potuerunt stabilire.*

ffor thai heldid illes in the; thai thoght *redis* the whilke thai myght noght stabile.

[20.12] ‘[B]ecause they turned away from You. They plotted harmful counsel, which they weren’t able to bring about’.

The conclusion that can be drawn on the basis of all the data pertaining to the renditions of Latin *consilium, consili(i)* is that the divergent equivalent selection does not represent a strategy that guided the decision behind the employment of *rēd* to render the item otherwise consistently translated as the Romance-derived *counseil*.

What is also interesting in this context is the fact that, despite the synonymity of the items in question—except for the meaning [1a] of *counseil* given in (4) above, all the other senses of *rēd* are recorded throughout the ME period – it is the borrowing that is the preferred rendering, which should not be the case in the light of Partridge’s (1973: 21) assertion. It seems that at least these occurrences of *consilium, consili(i)* which are employed in the contexts necessitating the use of *counseil* with the meanings [6a] and [8a] should have been rendered by *rēd* if etymological factors had had any bearing on noun selection.

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22 It is a highly polysemous noun, with the following meanings listed in its entry in Whitaker’s dictionary: ‘debate/discussion/deliberation/consultation; advice/counsel/suggestion; adviser decision/resolution; intention/purpose/policy/plan/action; diplomacy/strategy; deliberative/advisory body; state council, senate; jury; board of assessors; intelligence, sense, capacity for judgment/invention; mental ability; choice’. 
5.2.3. Equivalent selection strategy for delictum, delicti

The case of Latin delictum, delicti ‘fault/offense/misdeed/crime/transgression; sin; act short of standard; defect’ is analogical to that of consilium, consili(i) in that the dominant ME translation of the noun is of Romance provenance, trespâs (five occurrences), whereas the native noun sinne is employed only once to render the Latin lemma. The semantic contents of both English lexical items also overlap almost perfectly for this Latin lemma:

(9) trespâs: ‘transgression of or opposition to divine law, religious precepts, Christian moral teaching, etc., sinful behavior, wickedness, iniquity, perversity; immoral living, the practice of vice’ [2a],

(10) sinne: ‘opposition to God’s will, moral obliquity; moral evil, understood as offensive to God’ [1a].

Both nouns can refer to the concepts listed above (9–10) either generically or to denote individual instances of these, which precludes any semantic deliberations influencing the change in the noun equivalent selection pattern. Interestingly, one other 14th-century English Psalter (12) uses trespâs to render the Latin delictum, delicti in the very verse RRP abstains from employing it (cf. 11), which is further proof of the lack of semantic motivation behind the divergent choices.

(11) 21.1
DEUS, deus meus, respice in me, quare me dereliquisti: longe a salute mea verba delictorum meorum.
God my god loke in me; whi has thou me forsakyn; fere fra myn hele the wordis of my synnys.
[21.2] 'God, my God, look at me! Why have You abandoned me? My offenses’ words are far away from health’.

(12) 21.2
God*. [Lord R.], my God, biholde thou on me, whi hast thou forsake me? the wordis of my trespassis ben fer fro myn helthe.

5.2.4. Equivalent selection strategy for inimicus, inimici

Latin inimicus, inimici ‘enemy (personal), foe’ is a noun used with significant frequency in the Psalter. In this study, 45 of its occurrences are recorded and analysed. In 80% (36 occurrences) of these instances it is rendered by means of a Romance loanword – enemî; in the remaining 20% (9 occurrences) it is its synonym of OE origin, fô, which translates the Latin lemma. Such figures may prompt one to expect that the equivalent selection was not random in this case as there are nine instances in which an alternative to the default choice is employed.

The meanings with which the relevant nouns are used in the text are as follows:

(13) enemî: ‘one who, as an individual, hates or seeks to injure (someone)’ [1a], ‘an adversary of God, an unbeliever or heathen; one who is opposed to (or fails to observe) a Christian doctrine or virtue’ [1b] and ‘[a] member of a hostile armed body in war, civil strife, or private feud’ [2],

23 The Psalter in question is contained in the Late Version of the Wycliffite Bible, whose text is also provided in Charzyńska-Wójcik (2013).
24 The verse numbering system is different in the text of the Wycliffite Bible.
(14) *fō*: ‘[o]ne who, as an individual, hates or seeks to injure someone; enemy’ [1a] and ‘[a] member of a hostile armed body in war, civil strife, or tournament’ [2].

It is easily noticeable that, two of the senses (1a and 2 in both cases) in which the ME nouns are employed to translate the relevant Latin lemma overlap to an extent which renders futile any efforts to uncover the principles guiding the selection. The use of *fō* with a meaning corresponding to sense [1b] listed for *enemī* is, however, not attested in the analysed data. This may lead one to suspect that it is a reflection of a conscious decision to abstain from employing native *fō* in such contexts, which would classify this case as an instance of dynamic equivalent selection strategy. What is particularly important to note at this point is the fact that the meaning corresponding to sense [1b] listed for *enemī* was readily available for *fō*, despite being unattested in the analysed corpus.

Nevertheless, all the data provided thus far seem to indicate that semantic considerations were not a factor in the contexts where Rolle alternated between two or more equivalents for different occurrences of the same Latin lemma. Therefore, it might well be the case that the absence of *fō*, used in the sense of ‘an adversary of God’, does not represent a deliberate choice on the part of Rolle. In other words, it does not need to mean that the translator avoided employing *fō* in such contexts, which, it is worth mentioning, are quite rare in any event (only four out of 45 occurrences). In fact, it appears reasonable to suppose, in the light of the flexibility with which Rolle applied both *enemī* and *fō* interchangeably in the circumstances necessitating using them with the other meanings listed above, that the lack of such a usage among the occurrences analysed here is not context-driven. This context-independent interpretation might also be corroborated by the exclusive use of *enemī* to render all the instances of *inimicus*, *inimici* in the other 14th-century prose Psalter renditions.\(^{25}\) Such an absence does not need to imply that *fō* in sense [1b] is unattested in Psalms 51–150.

Two alternative interpretations of the fact that *fō* in the sense of ‘an adversary of God’ is not to be found in the first fifty Psalms are therefore available and it cannot be determined on the basis of the analysed data whether the choice was context-sensitive. Nevertheless, taking into consideration the etymologies of the competing items, it is clear that as far as the equivalent selection for the Latin *inimicus*, *inimici* is concerned, one cannot speak here of a preference for the vocabulary of native provenance.

### 5.2.5. Equivalent selection strategy for *ira*, *iraе*

In the case of Latin *ira*, *iraе* ‘anger; resentment; rage; wrath’, the competing English equivalents, i.e. native *wratthe* and Romance-derived *îre*, are used equally frequently to render the lemma, i.e. seven times each. It seems impossible to pinpoint any semantic factors that could possibly motivate the interchangeable use of both items as in this respect the two nouns seem to exhibit almost perfect synonymity:

\(^{25}\) The translations in question are: the *Middle English Glossed Prose Psalter*, the Psalter of the Early Version of the Wycliffite Bible and the already mentioned Psalter of its Late Version. All of the texts are available in Charzyńska-Wójcik (2013).
5.2.6. Equivalent selection strategy for *laetitia, laetitiae*

The case of *laetitia, laetitiae* ‘joy/happiness; source of joy/delight; fertility; fruitfulness; floridity’ is exceptional in that there are not two but three competing English equivalents employed to render the Latin noun in its different occurrences, with the Romance-derived *joie* being used most frequently (in four out of eight instances) and native *gladnes(se)* being the least frequently chosen noun (one occurrence). The remaining three occurrences of *laetitia, laetitiae* are rendered by another item of native origin – *fainnesse*.

As regards the meanings with which the items are employed in the translation, these are the following:

17. *joie*: ['a] feeling of happiness or pleasure; a state of happiness or well-being’ [1a],

18. *fainnesse*: ‘[g]ladness, joy’ [a],

19. *gladnes(se)*: ‘[j]oy, bliss; cheerfulness, gladness; mirth, merrymaking; rejoicing’ [1a].

The definitions from the MED provided above indicate that the three nouns are close synonyms. Additionally, they are employed predominantly, with the exception of verses 29.6, 44.9 and 44.17 (cf. 22, 24 and 25 below respectively) in very similar contexts, namely in structures of the type *sb gives/fulfils sb (with) joie/fainnesse/gladdness*:

20. 4.7
   *Signatum est super nos lumen vultus tui dominæ deus <*>:* *dedisti leticiam <læ[æ]titiæm*> in corde meo.*
   *Takynd is on vs the lyght of thi face lord; thou hast gifen faynys in my hert.*
   ‘Your face’s light is a sign over us. Lord, You have given joy in my heart’.

21. 15.11
   *Notas michi <*>:* *fecisti vias vitae <*>:* *adimplebis me leticiæ <læ[æ]titiæ>* cum vultu tuo,
   *delectaciones <delectationes> [delectatio] in dextera tua vsque <*>:* *in finem.*
   *Knawyn thou maked til me the wayes of life; thou sall fullfil me of ioy with thi face, deliteyngis in thi right hand in till the end.*
   [15.10 cont.] ‘You notice me. You made life’s ways. You will fill me with joy with Your appearance. Delight is in Your right hand, even to the end.’
Ad vesperum *dolorabit* *fletus* &: *ad matutinum* *leticia* *laetitia*.  
*At euenynge sall gretynge duell; and at the mornynge faynes.*  
[29.6 cont.] ’Weeping will linger at evening, yet joy breaks through toward morning.’

Conuertisti *planctum* *mich* *concidisti* *saccum meum* &: *c* *circumdedisti* *leticia*.*laetitia*.  
*Thou turnyd my sorowynge in ioy til me; thou share down my sek, and thou vmgaf me with gladnes.*  
[29.12] ’You converted my lament into joy for me. You tore my sackcloth to pieces, and surrounded me with happiness’.

Dilexisti *ius* *odisti* *iniquitatem*: *propterea unxit te deus, deus tuus, oleo leticia*.*laetitia*.  
*Thou lufid rightwisnes and thou hatid wickidnes: therfor enoynt the god thi god with the oile of ioy bifor thi felaghis.*  
[44.8] ’You delighted in fairness and hated treachery. Because of this, God, Your God anointed You with gladness’s oil, before Your consorts.’

Afferentur *in leticia*.*laetitia* &: *exultacione*: *adducentur* *in templum regis*  
*Thai sall be broght in ioy and gladnes: thai sall be led in til the tempile of the kynge.*  
[44.16] ’They will be brought in joy and exultation. They will be brought into the King’s temple.’

Auditui meo *dabis* *gaudium* &: *letician*.*laetitia* &: *exultabunt ossa humiliata.*  
*Til my herynge thou sall gif ioy and faynes; and glade sall banes mekid.*  
[50.10] ’You will give joy to what I hear. My humiliated bones will exult with joy.’

Redde michi *letician*.*laetitia* &: *spiritu principali conferma me.*  
*ȝelde me the ioy of thi hele; and with the*. [S thi.] *principall gast conferme me.*  
[50.14] ’Give me back Your security’s joy! By the principal Spirit encourage me!’

On the basis of these considerations, it also appears safe to conclude that in the case of the English renderings of *laetitia, laetitiae* one is forced to admit that no guiding principle as regards equivalent selection strategy motivated the divergent choices.

5.2.7. Equivalent selection strategy for *multitudo, multitudinis*

In the database gathered for the purposes of the present study Latin *multitudo, multitudinis ‘multitude, great number; crowd; rabble, mob’ is attested nine times. In six out of the nine instances it is translated by means of *muchelnes(se.* Despite the diverging etymologies provided in the MED and the OED, it is here considered to be a native noun for reasons concerning the treatment of the early loans, expounded upon in Section 4. Its competing
Romance-derived equivalent is *multitūde*, which renders the remaining three occurrences of *multitudo, multitūdinis*.

Not surprisingly, for these nouns, too, it is difficult to speak of any clear semantic motivation behind the different choices, although the information from the MED can in fact mislead the reader into making the deduction that the distribution of *multitūde* would be limited due to the fact that it does not seem to convey spiritual or religious overtones:

(28)  *muchelnes(se):* ‘spiritual magnitude; abundance, efficacy, or immensity of God’s compassion, greatness, mercy, power, etc.; depths or profundity of joy or of peace’ [1b] and ‘great size or strength; large amount, quantity, or number (of sth.)’ [2b],

(29)  *multitūde:* ‘a large amount, abundance, greatness; mass’ [b].

As a matter of fact, *multitūde* is used in almost exactly the same contexts as *muchelnes(se)* and it seems that it is only the dictionary entry that does not cover *multitūde* with the same degree of detail as is offered *muchelnes(se)*. Below I quote verse 30.23, in which *multitūde* is employed in the sense that would correspond exactly to that listed as [1b] for *muchelnes(se)*:

(30)  *How gret the multitude of thi swetnes lord; the whike thou has hid til the*. [S to the. U om.] dredand the.

   [30.20] ‘How great is Your sweetness’s multitude, Lord, which You have hidden for those fearing You’.

It is also worth noting that *multitūde* is a less frequently used equivalent, at least in the body of the first fifty Psalms, which prohibits an exhaustive analysis of its semantic layer. The conclusion that can be drawn on the basis of the limited data that were obtained from the texts used in the research concurs with the findings for the five lemmata analysed above (six if one opts for the context-independent interpretation in Section 5.2.4), which means that the variation observed in the noun selection between *muchelnes(se)* and *multitūde* is not context-governed.

5.2.8. Equivalent selection strategy for *oratio, orationis*

The English equivalents employed to render Latin *oratio, orationis* ‘speech, oration; eloquence; prayer’ are the native *bēd(e) and preiēr(e)*, a noun of Romance origin, with the former used in only one out of a total of eight instances. The meanings with which the two nouns are employed in the text, as one might predict for such lexical items in the context of the Psalter, are almost exactly the same:

(31)  *preiēr(e):* ‘[a] prayer, supplication; an intercession with God’ [2a.a],

(32)  *bēd(e):* ‘[a] prayer’ [2a.a].

The information from the MED provided above proves that semantics did not exert any influence on the noun selection pattern in this case either. One additional piece of evidence in favour of the context-independent interpretation of the variation in the equivalent choice as
regards *oratio*, *orationis* that can be mentioned is that both nouns are employed in identical syntactic structures:

(33) 4.2

*Miserere mei: & exaudi oracionem meam.*

_Haf mercy of me; and here my prayere._

[4.2 cont.] 'Have mercy on me, and hear my prayer!'

(34) 16.2

*Auribus percipe oracionem meam: non in labijs dolosis.*

_With ere my bede; noght in swikil lippes._

[16.1 cont.] 'Perceive my prayer with Your ears – not offered from deceitful lips!'

Undeniably, Rolle’s lexical choices that are presented here are not congruent with the principles of dynamic equivalent selection. Neither does Partridge’s (1973: 21) assertion find any corroboration in the data analysed in this section.

5.2.9. Equivalent selection strategy for *spiritus*, *spiritus*26

Latin *spiritus*, *spiritus* ‘breath, breathing, air, soul, life’ is attested eleven times in the first fifty Psalms. However, only once is the lemma rendered by means of the Romance-derived noun *spirit*, a descendant of the Latin item in question. The remaining ten occurrences are translated with a noun of OE origin – *gōst*.

The case of this Latin lemma is highly exceptional when set against the background of the nouns discussed thus far as the contexts in which its English equivalents are employed differ significantly, which is reflected in the meanings the nouns appear to be used with:

(35) _gōst:_ ‘the Holy Ghost’ [1b], ‘[t]he soul of man, spiritual nature; the soul as distinguished from mind, the emotional nature; the life principle in man’ [3a], ‘[a] spiritual force or insight, a gift of prophecy; […] the spirit of God, a spiritual gift from God’ [4] and ‘[a] breathing, blowing, wind’ [5],

(36) _spirit:_ ‘the essential nature (of wisdom, servitude, etc.); the essential quality (of confidence)’ [10b].

It is evident that there is no overlap between the senses with which the nouns *spirit* and *gōst* are recorded in RRP and the consistent use of *gōst* to render *spiritus, spiritus* in all the contexts where the Latin noun does not denote ‘the essential nature’ or ‘quality’ of something (cf. 37) seems to be indicative of a disciplined, context-motivated manner of equivalent selection in the case of this Latin lemma. It appears, therefore, to be safe to postulate that one is dealing with the dynamic equivalence strategy as far Rolle’s renderings of *spiritus, spiritus* are concerned.

26 I do not attempt an ideological, philosophical or theological discussion at this point, since these issues fall beyond the scope of this paper. I concentrate exclusively on the equivalent selection strategy in the Psalter in question, formulating conclusions based entirely on the data obtained in the course of the research.
English of the 14th-Century Richard Rolle’s Psalter Rendition

17.18
Ab increpacione tua domine: ab inspiracione spiritus ire tue.
Of thi blamynge lorde; of the inspiracioun*. [S inspiraunce.] of the spirit of thi*. [S. U the.] wretch.
[17.16 cont.] ’[A]t Your rebuke, O Lord – by the breathing in Your anger’s breath.’

Nevertheless, one must not overlook one important factor that could be responsible for such a distribution. According to the MED, spirit was a fresh borrowing at the time of RRP’s compilation and seems to have gained wider currency only in the latter half of the 14th century, which is not to say that it was unattested with the relevant meanings at the time. That a diachronic change in the status of this noun took place in the course of the 14th century appears to be reflected in the distribution pattern of the instances in which spiritus, spiritus is translated by means of spirit in the other 14th-century prose Psalter renditions. The translations in question are those enumerated in Section 5.2.4: the Middle English Glossed Prose Psalter and the Psalters of the Early and Late Versions of the Wycliffite Bible. The first of these Psalters is nearly contemporaneous with RRP, i.e. its compilation took place in the first half of the 14th century, and the latter two are dated to the second half of the 14th century. The Middle English Glossed Prose Psalter employs spirit twice to render spiritus, spiritus—once in the very context RRP does, verse 17.18 (cf. 38), with the other instance being verse 32.6, in which the noun is also employed in a distinct sense (cf. 39).27 Both Wycliffite Psalters, on the other hand, use this Romance-derived borrowing indiscriminately for all eleven occurrences of spiritus, spiritus.

17.18  (38)
For þy blamyng & for þe inspiracioun of þe spiriȝt of þyne ire*.
[17.16 cont.] ’[A]t Your rebuke, O Lord – by the breathing in Your anger’s breath.’

32.6
’By the Lord’s Word skies were founded, and all their strength by His mouth’s Spirit’.

In other words, what can be observed in the case of the opposition between göst and spirit is a change in progress. Although it clouds the picture emerging from the data to some extent, I would still venture to postulate that the distribution pattern of English equivalents of spiritus, spiritus does inscribe itself into the dynamic equivalent selection strategy. Whether one can claim that Partridge’s (1973: 21) assertion pertaining to Rolle’s adherence to native vocabulary would find a modicum of evidence in these findings could in fact be a contentious issue, as the choice seems to have been dictated by the fact that göst, being such a vital concept in the religious context, was closer to the heart of contemporary society, rather than by etymological considerations of any sort.

27 In one passage, i.e. in verse 47.6, neither of the relevant nouns appears in this Psalter. This is due to the presence of characteristic glosses in the body of both the Latin text and its English rendition, which frequently replace the original reading of the Psalms and that is exactly what one encounters in this verse.
5.2.10. Equivalent selection strategy for *testamentum*, *testamenti*

The last of the lemmata to be discussed in this section is *testamentum*, *testamenti* ‘will, testament; covenant’ rendered by means of a loanword from Romance languages, *testâment*, in four out of a total of five occurrences. Only once is the Latin noun translated as *wit-word*, i.e. an item of OE extraction. However, as was the case with eight (or seven, depending on the treatment of the nouns presented in Section 5.2.4) out of the nine Latin lemmata analysed thus far, semantic considerations do not seem to have had any bearing on the equivalent selection in the case of the renderings of *testamentum*, *testamenti*:

(40) *testâment*: ‘[a] covenant between God and humankind; a binding commitment between Christ and humankind’ [1a],

(41) *wit-word*: ‘chiefly Bibl. the divine covenant with the faithful’ [b].

Clearly, the semantic components with which each of the two nouns is used in the analysed contexts overlap completely. Moreover, since this is a noun of Romance provenance that is being used more frequently, Partridge’s (1973: 21) claim is once again refuted. Interestingly, according to the quotations provided in the MED, *testâment*, similarly to *spirit*, was also a new borrowing in the first half of the 14th century. It is, nevertheless, the only noun employed to render all of the occurrences of *testamentum*, *testamenti* in all of the other 14th-century prose Psalter renditions referred to in Sections 5.2.4 and 5.2.9, which points to a different status of the two nouns. *Wit-word*, in contrast to *göst*, seems not to have been a strong competitor and apparently did not enjoy the same currency as *göst* had.

6. Conclusion

At this point it is worth emphasising once again that the nouns analysed in this paper constitute only a small portion of all the data gathered in the course of the study and they should always be considered in relation to all of the data. To be precise, the ten Latin lemmata scrutinised here make up 2.19% of all the lemmata and their 121 occurrences constitute exactly 4.61% of the occurrences gathered in the database. With respect to those Latin nouns whose English renderings exhibit any kind of variation, i.e. those given in Table 1 in Section 5.1, the figures are 31.25% of headwords and 16.53% of occurrences respectively. What this means is that RRP as a whole appears to be consistent as regards nominal equivalent choices since only 32 lemmata (out of 458) show variation in this respect. Furthermore, only ten of the 32 lemmata provide a context for a simultaneous investigation into both the equivalent selection strategy and the influence of Rolle’s etymological ‘(dis)likes’. Thus, the conclusions that can be drawn from the present study are strikingly thought-provoking as, set against the background of what seems to be a predominantly careful observance of one-to-one correspondence between Latin and English nouns, one would expect any variation to be context-governed.

The picture that emerges from the ten separate cases analysed in Section 5.2 might not be completely consistent but it conclusively points in one direction. For ease of reference I present all the findings obtained for each of the Latin lemmata in a simplified manner in Table 3 below.
Table 3. Conclusions

<table>
<thead>
<tr>
<th>No.</th>
<th>Latin</th>
<th>Middle English equivalents</th>
<th>Evidence for dynamic equivalent selection strategy</th>
<th>Partridge’s (1973: 21) claim</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>confusio, confusionis</td>
<td>shāme vs confūsioun</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>2.</td>
<td>consilium, consili(i)</td>
<td>cōunseil vs rēd</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>3.</td>
<td>delictum, delicti</td>
<td>trespās vs sinne</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>4.</td>
<td>inimicus, inimici</td>
<td>enemi vs fō</td>
<td>not certain</td>
<td>no</td>
</tr>
<tr>
<td>5.</td>
<td>ira, iae</td>
<td>wraththe vs ire</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>6.</td>
<td>laetitia, laetitiae</td>
<td>joi(e) vs fainnesse vs gladnes(se)</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>7.</td>
<td>multitudo, multitudinis</td>
<td>muchelnes(se vs multītūde)</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>8.</td>
<td>oratio, orationis</td>
<td>preiér(e) vs bēd(e)</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>9.</td>
<td>spiritus, spiritus</td>
<td>gōst vs spirit</td>
<td>yes</td>
<td>not certain</td>
</tr>
<tr>
<td>10.</td>
<td>testamentum, testamenti</td>
<td>testāment vs wit-word</td>
<td>no</td>
<td>no</td>
</tr>
</tbody>
</table>

What transpires from the data analysed in the paper with respect to the equivalent selection strategy is that it could be claimed to be anything but dynamic in the sense of Charzyńska-Wójcik and Wójcik (2013) and Charzyńska-Wójcik and Charzyński (2014). The findings that spring from eight out of the ten analysed lemmata indicate in fact that there is no guiding principle whatsoever behind the divergent lexical choices. The only two Latin nouns whose English equivalents present distribution patterns that may seem to coincide with the dynamic equivalent selection strategy are *inimicus, inimici* and *spiritus, spiritus*. It appears that the exceptional status they enjoy among the remaining nouns analysed in Section 5.2 can be accounted for in the following manner. Both relevant items are long-established words of considerable frequency denoting concepts of great significance for medieval Christian society. This means that it would be much more difficult for a loanword to either undermine their position or replace them and such a process could only take place gradually and in the context of significant influence exerted by a source language and most probably by a more prestigious one. Therefore, what the 14th-century English Psalter renditions, RRP and the other three Psalters I referred to in these two instances (cf. Section 5.2.4 and 5.2.9), seem to reflect in their nominal equivalent choices is this very process of change in the *denotata* and frequency of use, or *popularity*, of the items in question.

As regards Partridge’s (1973: 21) assertion concerning Rolle’s adherence to native vocabulary, there remains no doubt that it is unfounded. Synonymous lexical items with native and foreign etymologies are used indiscriminately in the rendition and no etymological ‘(dis)likes’ can be identified. Neither should they be since loanwords were as much a part of the ME lexicon as items of OE provenance. The findings of this study alone, and in particular in conjunction with those presented in Lis (*in prep.*), are completely congruent with what one would expect to encounter vocabulary-wise in a medieval English text and perfectly illustrate

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It is a generally accepted view that certain items of vocabulary, the most basic ones in a language, exhibit considerable resistance to borrowing (Trask [2007] 1996: 27; Crowley 1992: 153-154; Hock and Joseph 2009: 245). While *fō* and *gōst* could be argued not to belong to the very core of the lexicon, they were undeniably indispensable at the time due to the concepts they conveyed.
the interlinguistic relations obtaining in contemporary England as outlined in Section 3, providing evidence to corroborate all the predictions enumerated there.

References


Lis, Kinga. in prep. Richard Rolle’s Psalter rendition—the work of a language purist?
A Statistical Model of Learning Descriptive Grammar

Richard Madsen

Abstract

The study presented here describes the development of a statistical model of the learning of descriptive grammar by students of English. The purposes of the model are: identifying the areas of descriptive grammar, such as recognising parts of speech, clause constituents, phrase constituents, etc., whose knowledge best predicts success in learning descriptive grammar, and determining whether there is an implicational relationship between areas of descriptive grammar such that the learning of one area depends on having learnt another area. The motivation for the second part of the study is to assess assumptions that textbooks and teachers seem to have concerning the best order in which to teach the various areas of descriptive grammar, implying that some of the fields of grammar are more basic than others and therefore need to be learnt before the other fields can be acquired.

Keywords: language acquisition, learning descriptive grammar, statistical model

1. Introduction

The purpose of the study presented here is to develop a statistical model that describes the learning of descriptive grammar by students of English whose mother tongue is not English. Descriptive grammar is understood as the knowledge of grammatical phenomena as defined and described by theories of grammar, that is the ability to recognise parts of speech, clause constituents, phrase constituents, etc.

The motivation for developing such a statistical model is twofold. One reason is to identify the areas of descriptive grammar the knowledge of which best predicts success in learning descriptive grammar. For students of English Business Communication at Aalborg University, Denmark, success in learning descriptive grammar is measured in terms of the results of the grammar exam. The goal of identifying such predictors is the ability to detect students early in the grammar course who are in danger of failing the exam, as inspired by the works of Elbro and Scarborough (2003) and Lyon and Moats (1997).

The other reason is to ascertain whether there is an implicational relation between certain areas of descriptive grammar. The term ‘implicational relation’ describes the situation where the knowledge of one area depends on the knowledge of another area, i.e. it is necessary to have learnt area A, say parts of speech, before area B, say clause constituents, can be learnt. The motivation for searching for implicational relations between areas of descriptive grammar

* My gratitude goes to my supervisor, Kim Ebensgaard Jensen, to those participants of CECIL’S 4 who viewed my poster presentation, and to the anonymous reviewer of my paper for their invaluable comments and suggestions.
is to test assumptions that textbooks and teachers seem to have concerning the best way of sequencing the various areas of descriptive grammar, implying that some of the fields of grammar are more basic than others and therefore need to be learnt before the other fields can be acquired. For example, Hjulmand and Schwarz (2009), whose textbook has been used for years in my department, seem to imply by the very order of the chapters that learning parts of speech is more elementary than learning clause constituents. One of the purposes of this study is thus to test whether there is any basis in acquisition patterns for such assumptions.

To sum up, here are the two research questions that the present study seeks to answer:

1) What are the best predictors of success in learning descriptive grammar?
2) Is there an implicational relationship between areas of descriptive grammar?

2. Theory

The present paper fits within the general framework of the study of second language acquisition. However, it does not have the same focus as other studies within SLA tend to have since it does not deal with the students’ command of the English language in communication, but with their mastery of the concepts of theoretical grammar.

Thus, this study does not concern itself with the students’ ability to use grammar in actual communication, i.e. the level of correctness they demonstrate in speaking or writing English. Nor does it discuss the usefulness of studying descriptive grammar for the sake of improving one’s linguistic correctness as has been debated since Krashen (1981) (see also Ellis 2009). Consequently, the terms learning and acquisition are used interchangeably in this study. For a discussion of the relationship between a knowledge of descriptive grammar and the level of grammatical correctness demonstrated in writing English, see Madsen (2014).

However, no matter what the relationship between knowing descriptive grammar and being able to communicate using grammatically correct language might be, it remains a fact that students studying a language at a university must study and learn the concepts of descriptive grammar. Imparting the nomenclature of descriptive grammar to students has been a standard part of the curriculum of university language studies for centuries. Therefore, it is not uninteresting or irrelevant to investigate how such theoretical concepts are acquired. I am not aware of any paper that has explored this aspect of SLA.

Having a different focus from conventional SLA studies notwithstanding, this paper does use concepts that are well-established in mainstream SLA research. Most notable among these concepts is the assumption that a language cannot be acquired in any order. No matter whether one subscribes to Krashen’s (1981) dismissal of teaching descriptive grammar with the purpose of facilitating language acquisition or not, there is a general agreement (Clahsen, Meisel and Pienemann 1983; Ellis 2012; Lund 1997; Pienemann 1998) that the acquisition of a language follows a certain order, although there is considerable disagreement as to the precise order. It effectively means that certain elements in a language must be internalised by the language learner before other elements can be acquired. This is the very same notion as the one underlying the hypothesis about an implicational relation between certain concepts of
describe grammar, which is one of the research objectives of this paper. Besides being anchored in SLA research, this paper draws heavily on inferential statistics in order to answer the research questions. The statistical calculations are shown in the section on methodology.

3. Methodology and data

In this section, the data that have been used for the analyses are first described, and then the statistical calculations that were used to answer the research questions outlined in the introduction are presented.

3.1. Description of the data

The model presented in this paper is constructed on the basis of an analysis of the performance in a grammar exam of altogether 323 freshmen from the academic years 2009-2013 in my department, which is the department of English Business Communication within the School of Culture and Global Studies at Aalborg University, Denmark. The grammar exam, to be passed at the end of the first semester, tests the students' knowledge of up to 14 different areas of descriptive grammar out of a set of altogether 17 areas. Henceforth, for the sake of brevity, the knowledge of a certain area or field of descriptive grammar will be referred to as a skill.

The exam has always consisted of 100 questions, the vast majority of which belong to the gap-filling or multiple-choice type. Every year the students have been given 120 minutes to complete the exam and have never been allowed to use any aid during the exam. However, as hinted at in the previous paragraph, there has been some variation in the exact form and scope of the exam through the years. Here are some illustrative examples of questions from the grammar exam:

(1) a. Determine which part of speech the underlined word belongs to.
   This exam features John Maynard Keynes, who is one of the most famous economists.

b. Determine the semantic relation between the expressions below.
   Linguistics vs. science

c. Divide the word below into root and affixes, and describe each morpheme.
   Invariably

d. Determine what clause constituent the underlined sequence of words is.
   This exam features John Maynard Keynes, who is one of the most famous economists.

e. Decide whether the underlined sequence of words is a phrase or clause.
   Having attended Eton College, Keynes studied at Cambridge University.

f. Determine which phrase type the sequence of words below belongs to.
   most famous

g. Determine what phrase constituent the underlined sequence of words is.
   someone special

h. Determine what kind of pronoun the underlined word is.
   I wonder who has developed the concept of money.
i. Determine the type of the underlined subclause.

*Keynes married a woman who had a low social background.*

j. Determine how many matrix clauses the period below consists of.

*However well you think you know someone, you might still be surprised.*

k. Relative clauses: Are commas necessary with the relative clause below?

*Statistics[,] which is the study of probability and distribution[,] is an important part of economics.*

The various skills have always had a varying and uneven representation with respect to the number of questions that test them. The nomenclature taught has also varied somewhat over the years, most notably in 2012 when Madsen (unpublished) was used as an experimental textbook instead of Hjulmand and Schwarz (2009). Madsen (unpublished) is a much more detailed description of English than Hjulmand and Schwarz (2009). Consequently the (number of) possible answers too have varied within the same areas of grammar. Tables 1a through 1h give an overview of the terminology used during the period studied. With these details, one can easily compare the years with each other, and this research with other studies within the field.

Table 1a. *Parts of speech nomenclature*

<table>
<thead>
<tr>
<th>Years</th>
<th>Parts of speech</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>adj adv art n prep pron v</td>
</tr>
<tr>
<td>2010-2011</td>
<td>adj adv art n prep pron v conj</td>
</tr>
<tr>
<td>2012</td>
<td>adj adv art n prep pron v conj subjunction(^1) infinitive marker</td>
</tr>
<tr>
<td>2013</td>
<td>adj adv art n prep pron v conj</td>
</tr>
</tbody>
</table>

Table 1b. *Clause constituents\(^2\)*

<table>
<thead>
<tr>
<th>Years</th>
<th>Clause constituents</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>V S DO IO SC OC A preliminary S (PS)</td>
</tr>
<tr>
<td>2010</td>
<td>V S DO IO SC OC A PS preliminary DO (PDO)</td>
</tr>
<tr>
<td>2011</td>
<td>V S DO IO SC OC A preliminary DO (PDO)</td>
</tr>
<tr>
<td>2012</td>
<td>V S DO IO SC OC A PS PDO conjunctural oblique oblique oblique oblique agentive const. (CC) DO IO SC OC const.</td>
</tr>
<tr>
<td>2013</td>
<td>V S DO IO SC OC A PS PDO CC</td>
</tr>
</tbody>
</table>

Table 1c. *Phrase types*

<table>
<thead>
<tr>
<th>Years</th>
<th>Phrase types</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009-2011</td>
<td>NP VP AdjP AdvP PP</td>
</tr>
<tr>
<td>2012</td>
<td>NP VP AdjP AdvP PP Conjunctional phrase Subjunctional phrase Prenominal phrase</td>
</tr>
<tr>
<td>2013</td>
<td>NP VP AdjP AdvP PP</td>
</tr>
</tbody>
</table>

Table 1d. *Subclause types*

<table>
<thead>
<tr>
<th>Years</th>
<th>Subclause types</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009-2013</td>
<td>nominal adverbial modifying(^3)</td>
</tr>
</tbody>
</table>

\(^1\) A portmanteau word combining *subordinating* and *conjunction*.

Moreover, up until 2011, the students were provided with a list of possible answers in each task; thus, for example, in the task on clause constituents, the names of all the possible clause constituents were listed for the students' convenience. These lists were scrapped in 2012 and onwards in order to make the exam a little more challenging. However, there is still an example question-answer pair provided for each skill, and, of course, some questions necessarily and unavoidably reveal the possible answers by their very nature, for instance the questions concerning finiteness, which is a binary category.

On the other hand, up until 2011, the exam was (fine) graded whereas in 2012 and 2013 it was marked as simply pass/nonpass (fine grading was reinstated for 2014). Nonetheless, in all the years the minimum requirement for passing (for a passing grade) has been 60 correct answers out of 100, with all the questions having equal weight. Because of all the above-mentioned differences between the exams over the years, all the calculations have been made for each year separately.

### 3.1.1. Overview of the results of the grammar exam

Table 2 shows a summary of all the years with the skills tested, displaying the average efficacy and the standard deviation thereof in each skill together with the number of questions within the exam testing the given skill and the number of possible answers to the questions. Efficacy is calculated as the number of correct answers divided by the number of questions testing a given skill, or all the questions when computing the overall efficacy. In this way, the individual skills and the overall knowledge of descriptive grammar can be compared despite the fact that they

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3 The students are in principle required to distinguish between relative and appositive clauses; however, all the modifying clauses in the exams have been relative clauses.
are tested by different numbers of questions. The averages of individual skills in green are higher than the overall average, and the averages in red are lower. This gives a rough estimate of which tasks are more (red) or less (green) challenging for the students (Corder 1987).

Table 2. Overview of the results of the grammar exam

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of students in database</td>
<td>56</td>
<td>63</td>
<td>54</td>
<td>58</td>
<td>92</td>
</tr>
<tr>
<td>Percentage of fails</td>
<td>5.36</td>
<td>15.87</td>
<td>12.96</td>
<td>29.31</td>
<td>26.09</td>
</tr>
<tr>
<td>Overall average efficacy (failure: efficacy&lt;0.60)</td>
<td>0.751</td>
<td>0.746</td>
<td>0.742</td>
<td>0.678</td>
<td>0.644</td>
</tr>
<tr>
<td>Standard deviation of overall efficacy</td>
<td>0.100</td>
<td>0.140</td>
<td>0.147</td>
<td>0.163</td>
<td>0.143</td>
</tr>
<tr>
<td>Parts of speech</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of questions:Possible answers/question</td>
<td>13:7</td>
<td>15:8</td>
<td>15:8</td>
<td>11:10</td>
<td>10:8</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>0.153</td>
<td>0.175</td>
<td>0.146</td>
<td>0.192</td>
<td>0.190</td>
</tr>
<tr>
<td>Average</td>
<td>0.76</td>
<td>0.71</td>
<td>0.81</td>
<td>0.73</td>
<td>0.74</td>
</tr>
<tr>
<td>Clause constituents</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard deviation</td>
<td>0.153</td>
<td>0.213</td>
<td>0.196</td>
<td>0.238</td>
<td>0.220</td>
</tr>
<tr>
<td>Average</td>
<td>0.72</td>
<td>0.73</td>
<td>0.66</td>
<td>0.62</td>
<td>0.58</td>
</tr>
<tr>
<td>Phrase vs. subclause</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Questions:Possibilities</td>
<td>12:2</td>
<td>10:2</td>
<td>10:2</td>
<td>10:2</td>
<td>10:2</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>0.174</td>
<td>0.196</td>
<td>0.197</td>
<td>0.186</td>
<td>0.182</td>
</tr>
<tr>
<td>Average</td>
<td>0.84</td>
<td>0.76</td>
<td>0.75</td>
<td>0.86</td>
<td>0.59</td>
</tr>
<tr>
<td>Phrase types</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Questions:Possibilities</td>
<td>15:5</td>
<td>10:5</td>
<td>10:5</td>
<td>10:5</td>
<td>10:5</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>0.185</td>
<td>0.172</td>
<td>0.180</td>
<td>0.167</td>
<td>0.220</td>
</tr>
<tr>
<td>Average</td>
<td>0.76</td>
<td>0.78</td>
<td>0.75</td>
<td>0.58</td>
<td>0.69</td>
</tr>
<tr>
<td>Subclause types</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Questions:Possibilities</td>
<td>12:3</td>
<td>7:3</td>
<td>7:3</td>
<td>7:3</td>
<td>7:3</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>0.169</td>
<td>0.249</td>
<td>0.222</td>
<td>0.266</td>
<td>0.232</td>
</tr>
<tr>
<td>Average</td>
<td>0.63</td>
<td>0.69</td>
<td>0.71</td>
<td>0.62</td>
<td>0.59</td>
</tr>
<tr>
<td>Subclause finiteness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Questions:Possibilities</td>
<td>5:2</td>
<td>7:2</td>
<td>7:2</td>
<td>7:2</td>
<td>7:2</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>0.178</td>
<td>0.177</td>
<td>0.230</td>
<td>0.159</td>
<td>0.199</td>
</tr>
<tr>
<td>Average</td>
<td>0.82</td>
<td>0.83</td>
<td>0.72</td>
<td>0.88</td>
<td>0.73</td>
</tr>
<tr>
<td>Number of matrix clauses in a paragraph</td>
<td>7:2</td>
<td>5:2</td>
<td>5:2</td>
<td>5:∞</td>
<td>5:∞</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>0.193</td>
<td>0.225</td>
<td>0.191</td>
<td>0.256</td>
<td>0.265</td>
</tr>
<tr>
<td>Average</td>
<td>0.75</td>
<td>0.81</td>
<td>0.78</td>
<td>0.58</td>
<td>0.58</td>
</tr>
<tr>
<td>Comma</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Questions:Possibilities</td>
<td>4:∞</td>
<td>4:2</td>
<td>4:2</td>
<td>4:2</td>
<td>4:2</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>0.222</td>
<td>0.239</td>
<td>0.250</td>
<td>0.187</td>
<td>0.208</td>
</tr>
<tr>
<td>Average</td>
<td>0.71</td>
<td>0.69</td>
<td>0.78</td>
<td>0.88</td>
<td>0.79</td>
</tr>
<tr>
<td>Inserting relative pronoun</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4 The reason for the substantial increase in the number of participants in 2013 is that I was granted access to the exam results of the students of a colleague of mine. For all the other years, only my own students were included in the database. They represented two-thirds of all the freshmen in the Department of English Business Communication in the years 2009 and 2010, and half of them in the years 2011 and 2012. In 2013, three quarters of the freshmen were included in the database.

5 Due to the fact that all the actual sentences ever used in the exams contained only physical objects as antecedents, be they animate or inanimate, only the forms who, whom, whose, which, that and zero pronoun could be considered viable options. Danish does not distinguish between animate and inanimate antecedents, for which reason choosing the right relative pronoun in English tends to be a challenge for Danes. Hence the number of possible answers is not further restricted by the animacy of the antecedent (Jarvis and Pavlenko 2008; Jarvis 2011).
The number of possible answers to questions testing a given skill is determined by the nomenclature taught in the given year, i.e. how many different terms are distinguished within a given area of descriptive grammar (see Tables 1a through 1h). The symbol ∞ as the number of possible answers indicates an open question. The number of possible answers is not truly infinite, but very large and in any case impossible to calculate generally because it depends on the actual word or clause to be analysed, which of course varies from year to year. In a manner of speaking, the number of possible answers is indicative of the chance for the students to score a point by choosing an answer randomly.

Although no exact measurement of the phenomenon has been made, it seems that the number of empty or nonsensical answers (e.g. giving a part of speech when asked about a clause constituent) has increased since 2012 compared to previous years possibly due to the fact that the students are no longer furnished with complete lists of the possible answers. The noticeable decrease in student efficacy in 2012 and 2013 as compared with the previous years is likely to be the result of both the above mentioned measures to increase the difficulty of the exam and the lack of fine-grading, which possibly provides a less powerful motivation for the students to maximise their efforts. The results of the exam in 2014 will probably make it possible to determine how extensive the effect of (the lack of) fine-grading is as the grammar exam in this year will be fine-graded again.

---

6 In this task, the students have to determine the finiteness of the five verb forms provided. For this reason, the total number of possible answer patterns is $2^5 = 32$. 

<table>
<thead>
<tr>
<th>Skill</th>
<th>Questions:Possibilities</th>
<th>Standard deviation</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finding the subclause</td>
<td>5:∞</td>
<td>0.120 0.405 0.487 0.326 0.483</td>
<td>0.93 0.79 0.39 0.88 0.63</td>
</tr>
<tr>
<td>Finding the correct sentence</td>
<td>2:4</td>
<td>0.144</td>
<td>0.75</td>
</tr>
<tr>
<td>NP constituents</td>
<td>10:4 10:4</td>
<td>0.197 0.207</td>
<td>0.76 0.85</td>
</tr>
<tr>
<td>Phrase constituents</td>
<td>10:7 10:5</td>
<td>0.230 0.163</td>
<td>0.61 0.69</td>
</tr>
<tr>
<td>Pronoun types</td>
<td>10:7 10:7 10:10 10:10</td>
<td>0.260 0.252 0.299 0.256</td>
<td>0.76 0.73 0.68 0.69</td>
</tr>
<tr>
<td>Verb form finiteness</td>
<td>1:32 1:32 1:32 1:32</td>
<td>0.498 0.494 0.485 0.465</td>
<td>0.46 0.57 0.38 0.32</td>
</tr>
<tr>
<td>Semantic relations</td>
<td>3:8 3:8</td>
<td>0.330 0.295</td>
<td>0.56 0.66</td>
</tr>
<tr>
<td>Morphological analysis</td>
<td>1:∞ 2:∞</td>
<td>0.469 0.369</td>
<td>0.33 0.30</td>
</tr>
</tbody>
</table>
For the sake of putting the results of the grammar exam into perspective, a test was administered to a group of freshmen in their very first class of grammar at the university in order to see what level of knowledge of descriptive grammar they have from high-school. Only the knowledge of clause constituents and parts of speech was tested because these are the only skills that every Danish high-school student can be expected to have been exposed to. The average efficacy of clause constituents was 0.41 and that of parts of speech 0.58. This result suggests that the students do improve their knowledge of descriptive grammar during their first term at the university. Yet the relation between the skills concerning clause constituents and parts of speech remains the same, namely the knowledge of clause constituents consistently lags behind that of parts of speech year after year (see Table 2 to compare the results of this test with the results of the grammar exams).

3.1.2. Normalised database

As can be seen in Table 2, the testing of clause constituents has always been the singularly most dominant task constituting 20% of the entire battery of test questions. In order to compensate for this bias, a normalised database has been made. In this database, the number of questions concerning clause constituents has been reduced by ten by randomly deleting answers to such questions from all students, and thereby reducing the total number of questions to 90.

Of course, this normalisation does not eliminate all the differences among the sets of questions. However, it does reduce the bias towards the testing of clause constituents by reducing its weight to the same level as that of all the other major subtests, e.g. parts of speech, which are tested by 10 questions each. All the statistical calculations have been made on both the original and the normalised databases. Table 3 shows the differences between the two databases with respect to the overall averages and other statistics.

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Original database</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall averages</td>
<td>0.751</td>
<td>0.746</td>
<td>0.742</td>
<td>0.678</td>
<td>0.644</td>
</tr>
<tr>
<td>Averages of questions about clause constituents</td>
<td>0.718</td>
<td>0.733</td>
<td>0.661</td>
<td>0.622</td>
<td>0.580</td>
</tr>
<tr>
<td>Average number of questions/skill</td>
<td>9.09</td>
<td>8.33</td>
<td>8.33</td>
<td>7.14</td>
<td>7.14</td>
</tr>
<tr>
<td>Standard deviation of the numbers of questions/skill</td>
<td>5.63</td>
<td>5.27</td>
<td>5.27</td>
<td>5.05</td>
<td>4.93</td>
</tr>
<tr>
<td><strong>p-value for the paired t-test of the difference between the databases overall</strong></td>
<td>0.102</td>
<td>0.313</td>
<td>0.001</td>
<td>0.014</td>
<td>0.000</td>
</tr>
<tr>
<td><strong>p-value for the paired t-test of the difference between the databases with respect to the questions about clause constituents</strong></td>
<td>0.649</td>
<td>0.630</td>
<td>0.477</td>
<td>0.341</td>
<td>0.237</td>
</tr>
<tr>
<td><strong>Normalised database</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall averages</td>
<td>0.755</td>
<td>0.748</td>
<td>0.749</td>
<td>0.683</td>
<td>0.653</td>
</tr>
<tr>
<td>Averages of questions about clause constituents</td>
<td>0.713</td>
<td>0.738</td>
<td>0.650</td>
<td>0.610</td>
<td>0.593</td>
</tr>
<tr>
<td>Average number of questions/skill</td>
<td>8.18</td>
<td>7.50</td>
<td>7.50</td>
<td>6.43</td>
<td>6.43</td>
</tr>
<tr>
<td>Standard deviation of the numbers of questions/skill</td>
<td>4.28</td>
<td>3.99</td>
<td>3.99</td>
<td>3.72</td>
<td>3.54</td>
</tr>
</tbody>
</table>
It can be seen from the standard deviations in Table 3, which are smaller for the normalised database than for the original database, that the distribution of skills in the normalised database is indeed more even than in the original database. The high p-values concerning the questions about clause constituents indicate that erasing 10 questions randomly from each such set has not altered the averages of these questions significantly, suggesting that the normalised database is a good simulation of what would have happened had the students been asked fewer questions about clause constituents. On the other hand, the difference between the two databases concerning the overall results is statistically significant for the years 2011-2013, corroborating the assumption that knowing clause constituents plays a major role in knowing descriptive grammar. The consistently higher overall averages in the normalised database fit in well with the expectation that the overall average increases when the dominance of clause constituents is reduced since the average efficacy in clause constituents is lower than the average overall efficacy in all the years investigated (see Table 2).

3.2. Identifying the best indicators of success

In order to find the skills that are the best indicators of overall success when learning descriptive grammar, multiple linear regression analysis has been used to search for those triplets of skills that best correlate with the exam result (Elbro and Scarborough 2003; Hatch and Farhady 1982; Urdan 2012). Triplets of skills have been chosen in order to be able to achieve a high coefficient of determination ($R^2$), preferably around 0.9, while maintaining generalizability by not taking too many variables into account, which would make the results of the regression analysis too specific, valid only for the dataset analysed. Using three variables out of 11 to 14, that is about 25% of all the variables/skills, seems a reasonable compromise in balancing the descriptive and the predictive power of regression analysis (Baayen 2008).

Furthermore, skills that are tested by fewer than five questions have been excluded from the regression analysis. The reason for the exclusion is that the measured efficacy in these skills is very likely to contain too much random variation, which would make the regression analysis unreliable (DeVellis 2011; Dörnyei 2014; McNamara 2000). As a side effect of the regression analysis and the considerations connected with it, I have modified the grammar exam in 2014 so that all the skills in question are tested by at least five questions each in order to improve the reliability of the testing of the overall acquisition of descriptive grammar. Further research is required to investigate whether these measures have indeed improved the reliability of the testing of the knowledge of descriptive grammar.

3.3. Implicational analysis

In order to answer research question 2, i.e. whether there is an implicational relation between the acquisition of skills, those pairs of skills have been searched for that conform to the implicational equation I have developed. This equation assumes the following: For the acquisition of skill B to be dependent upon the acquisition of skill A, the level of efficacy in skill B must generally be below that of skill A; only when a high level of efficacy in skill A has been
attained, can a high level of skill B be present; and when the level of skill A is below a certain threshold, the level of skill B must be close to zero. This relationship is illustrated in Figure 1.

Figure 1. Dependence of one skill on another one

The green area consists of the values of efficacy in the dependent skill which conform to the hypothesis of implicationality, i.e. the level of knowledge in the dependent skill is always lower than or equal to the level of knowledge in the controlling skill – within some margin of error. The red area contains the values of efficacy in the supposedly dependent skill which actually contradict the implicational hypothesis as they indicate too high a level of knowledge in this skill compared to the knowledge in the supposedly controlling skill.

The borderline between the red and the green roughly follows the S-curve of learning. Because of the low granularity of the data, it is impossible to draw the S-curve exactly. At the leftmost end of the curve, the dependent skill is allowed to take on higher values than the controlling skill in order to allow for the possibility that students by chance score higher on the dependent skill at the outset of their learning. Up to the threshold level of 0.5 in the controlling skill, the dependent skill must be very low to comply with the implicational hypothesis; only after this point is it supposed to show an increase, tailing the increase in the knowledge of the controlling skill. At the rightmost end of the curve, where knowledge of the controlling skill tops out, the knowledge of the dependent skill is allowed to be as high as that of the controlling skill, or even slightly higher to allow for a chance variation in the scores.

The blue area indicates values of efficacy in the dependent skill which are rather low compared to the level of knowledge in the controlling skill. These values do not falsify the implicational hypothesis. They rather indicate students with unusually biased knowledge or a skill unusually difficult to master.

The threshold for the efficacy in the controlling skill has been set at 0.5 for two reasons. First, the granularity of the data is too low since the average number of questions is only about
6-9 per skill (see Table 3), and because of this low resolution it would be difficult to distinguish between true dependency and random variation below 0.5. Second, the implicational hypothesis states that the learning of the dependent skill only commences measurably when the controlling skill has already been acquired to some degree.

Naturally, it would be best to measure implicationality during the process of learning descriptive grammar with the help of a longitudinal investigation. If such a study showed that the learning of skill B takes off later than the learning of skill A, that would corroborate the assumption of implicationality convincingly. Unfortunately, I have no such data at my disposal. True, the students have to deliver three home assignments during the grammar course, and the assignments resemble the final exam. In fact, they are all composed of questions from previous grammar exams. These home assignments could in principle be used as dynamic data for a longitudinal study of the learning of descriptive grammar.

However, the home assignments have been deemed unreliable data for the purpose of studying the supposed implicational nature of the acquisition of skills in descriptive grammar. The reason for this is that the students have a whole week to do the home assignments, and they have access to every possible aid for their work. Hence it is questionable whether the home assignments accurately reflect the students’ knowledge of descriptive grammar, knowledge defined as what one can do on one’s own without any outside help, i.e. expert knowledge in Vygotsky’s terminology (1978).

This belief is corroborated by the fact that students generally produce inferior results at the exam compared to their home assignments. Therefore, my analysis is based on the end results, the results of the grammar exam. These data may be static, yet they are a more accurate measure of the students’ knowledge. And since most students do not attain a high level of knowledge of descriptive grammar by the exam (very few have an overall efficacy above 0.9), it is safe to assume that the results of the exam are a true reflection of the implicational relations among skills if there are any such relations.

4. Analysis

The results of the regression analysis and the results of the implicational analysis are first presented separately in their own subsections and then compared in the last subsection of the analysis.

4.1. Regression analysis

Tables 4a and 4b show the results of the regression analysis based both on the original database and the normalised database, in which the relative dominance of knowing clause constituents has been reduced. Table 4a gives an overview of the analysis, and Table 4b the details. As can be seen in Table 4a, it is indeed sufficient to have triplets of skills to attain high values of the coefficient of determination ($R^2$), often over 0.9, although the normalised database provides consistently lower values than the unmodified database. The p-values are in each case below 0.001, for which reason they are not listed separately.
Table 4a. Regression analysis overall

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original database</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>standard error</td>
<td>0.0325</td>
<td>0.0405</td>
<td>0.0377</td>
<td>0.0445</td>
<td>0.0421</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.902</td>
<td>0.922</td>
<td>0.939</td>
<td>0.931</td>
<td>0.917</td>
</tr>
<tr>
<td>Normalised database</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>standard error</td>
<td>0.0341</td>
<td>0.0466</td>
<td>0.0420</td>
<td>0.0515</td>
<td>0.0504</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.883</td>
<td>0.889</td>
<td>0.924</td>
<td>0.900</td>
<td>0.872</td>
</tr>
</tbody>
</table>

Table 4b shows the equations that the regression analysis has provided for predicting the end result of learning descriptive grammar. It also tabulates the standardised coefficients, which show the individual variables’ weight within the triplets in explaining the variability of the end result (the anonymous reviewer; Urdan 2012). The skills are ordered according to their weight in Table 4b. The p-values for all the coefficients and intercepts are far below 0.001 except for the intercept in the normalised database in 2011, for which the p-value is 0.113.

Table 4b. Regression analysis in detail

<table>
<thead>
<tr>
<th>Year</th>
<th>Database</th>
<th>Intercept</th>
<th>Skill 1</th>
<th>Skill 2</th>
<th>Skill 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>phrase types</td>
<td>subclause types</td>
<td>clause constituents</td>
</tr>
<tr>
<td>2009</td>
<td>Orig.</td>
<td>0.262</td>
<td>0.320</td>
<td>0.179</td>
<td>0.194</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.593</td>
<td>0.302</td>
<td>0.298</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.431</td>
<td>0.544</td>
<td>0.527</td>
</tr>
<tr>
<td></td>
<td>Norm.</td>
<td>0.248</td>
<td>0.256</td>
<td>0.244</td>
<td>0.189</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.494</td>
<td>0.429</td>
<td>0.343</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.431</td>
<td>0.232</td>
<td>0.266</td>
</tr>
<tr>
<td>2010</td>
<td>Orig.</td>
<td>0.163</td>
<td>0.362</td>
<td>0.285</td>
<td>0.151</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.550</td>
<td>0.401</td>
<td>0.188</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.506</td>
<td>0.436</td>
<td>0.669</td>
</tr>
<tr>
<td></td>
<td>Norm.</td>
<td>0.162</td>
<td>0.416</td>
<td>0.196</td>
<td>0.187</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.797</td>
<td>0.285</td>
<td>0.242</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.357</td>
<td>0.436</td>
<td>0.478</td>
</tr>
<tr>
<td>2011</td>
<td>Orig.</td>
<td>0.200</td>
<td>0.436</td>
<td>0.190</td>
<td>0.160</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.659</td>
<td>0.326</td>
<td>0.214</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.486</td>
<td>0.609</td>
<td>0.409</td>
</tr>
<tr>
<td></td>
<td>Norm.</td>
<td>0.047</td>
<td>0.404</td>
<td>0.263</td>
<td>0.225</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.572</td>
<td>0.414</td>
<td>0.302</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.206</td>
<td>0.210</td>
<td>0.520</td>
</tr>
<tr>
<td>2012</td>
<td>Orig.</td>
<td>0.173</td>
<td>0.352</td>
<td>0.244</td>
<td>0.177</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.514</td>
<td>0.345</td>
<td>0.209</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.706</td>
<td>0.729</td>
<td>0.793</td>
</tr>
</tbody>
</table>

$p < 0.001$

7 $b$ stands for the coefficients (slopes) in the regression equations, and $\beta$ for the standardised coefficients; $r$ stands for the correlation coefficient between a skill and its neighbour to the right with wrap-around, that is, $r$ under skill 3 shows the correlation between skill 3 and skill 1.
The results vary from year to year; however, it is hardly a surprise in light of the changes that the grammar exam has undergone in the period investigated (outlined in Section 3). The occasionally high *r*-values indicate a high degree of multicollinearity, which suggests that in these cases, even merely two variables would have produced a reasonable regression. This means that these two variables would suffice to make a reasonable prediction as to the overall outcome of the final exam. It does not mean that it would be preferable to test only these two skills (or, for that matter, only the three skills that come out as the best predictors in the regression analysis) at the exam. For not having a great predictive power does not render a skill useless or unnecessary with respect to knowing descriptive grammar. Nor does weak predictive power mean that such a skill is learnt automatically through the learning of skills with greater predictive power or more easily than skills with greater predictive power. In fact, it is safe to assume that if the skills with less predictive power were not tested, the students would not bother with learning them. Nevertheless, there seem to be clear patterns. In order to make the interpretation easier, Table 4c summarises the ranking of the skills that appear in the regression analysis. Whenever a skill appears as skill 1, it is given three points; when it appears as skill 2, it is given two points, and when it appears as skill 3, it is given one point.

### Table 4c. Ranking of skills according to their predictive power

<table>
<thead>
<tr>
<th>Skill</th>
<th>Frequency</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clause constituents</td>
<td>7</td>
<td>15</td>
</tr>
<tr>
<td>Pronouns</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>NP constituents</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Subclause types</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Phrase types</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Phrase vs subclause</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Parts of speech</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Subclause finiteness</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Phrase constituents</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

The skill of knowing clause constituents clearly emerges as the most powerful predictor of success in descriptive grammar. Not only does it appear in every year in the analysis based on the unmodified database and even in the analysis based on the modified database for 2012 and 2013, but it also has the strongest weight overall. This demonstrates beyond reasonable doubt that it is absolutely essential to know clause constituents if one wishes to master descriptive grammar.
It is closely followed by the skill of knowing pronouns. Together with the third most frequent, yet not particularly weighty skill, namely that of knowing parts of speech in general, it underlines the assumption that being able to classify words is a fundamental part of knowing descriptive grammar. Pronouns and clause constituents are far ahead of the rest of the skills.

Although there is a tie between NP constituents and subclause types, the knowledge of NP constituents is considered to be the third most dominant skill because it is supported by the closely related skill of phrase constituents. Nonetheless, it appears to be important to have the ability to distinguish between types of higher order structures such as phrases and subclauses since these two skills have a similar prevalence, closely followed by the skill of being able to distinguish between phrases and clauses. It makes good sense because the distinction between phrases and clauses is one of the most fundamental ones, at least in the theory (Hjulmand and Schwarz 2009) that the students studied here are presented with.

4.2. Implicational analysis

For all possible pairs of skills that are tested with at least 5 questions in the grammar exam, calculations have been made for both the degree of conformity and the degree of nonconformity to the hypothesis of implicationality, as outlined in section 3.3. The degree of conformity is the ratio of students that fall in the green area of Figure 1; that is, the number of students falling in the green area divided by the total number of students in the year concerned. The degree of nonconformity is accordingly the ratio of students who fall in the red area of Figure 1. The three pairs of skills that score highest on conformity in either the original database or the normalised database are tabulated in Table 5.

Table 5. Implicational analysis; A: Controlling skill and degree of conformity; B: Dependent skill and degree of non-conformity

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>phrase vs subclause</td>
<td>phrase vs subclause</td>
<td>0.732</td>
<td>0.714</td>
<td>0.714</td>
<td>0.759</td>
<td>0.722</td>
<td>subclause finiteness</td>
<td>0.828</td>
</tr>
<tr>
<td></td>
<td>clause constituents</td>
<td>clause constituents</td>
<td>0.250</td>
<td>0.268</td>
<td>0.270</td>
<td>0.222</td>
<td>0.278</td>
<td>phrase vs subclause</td>
<td>0.138</td>
</tr>
<tr>
<td>2010</td>
<td>finding the subclause</td>
<td>subclause finiteness</td>
<td>0.696</td>
<td>0.698</td>
<td>0.722</td>
<td>0.722</td>
<td>0.722</td>
<td>subclause finiteness</td>
<td>0.776</td>
</tr>
<tr>
<td></td>
<td>parts of speech</td>
<td>pronouns</td>
<td>0.286</td>
<td>0.222</td>
<td>0.278</td>
<td>0.278</td>
<td>0.278</td>
<td>parts of speech</td>
<td>0.155</td>
</tr>
<tr>
<td>2011</td>
<td>finding the subclause</td>
<td>number of matrix clauses</td>
<td>0.696</td>
<td>0.698</td>
<td>0.722</td>
<td>0.722</td>
<td>0.704</td>
<td>phrase vs subclause</td>
<td>0.759</td>
</tr>
<tr>
<td></td>
<td>subclause types</td>
<td>phrase types</td>
<td>0.286</td>
<td>0.270</td>
<td>0.278</td>
<td>0.259</td>
<td>0.259</td>
<td>parts of speech</td>
<td>0.241</td>
</tr>
</tbody>
</table>
The reason why conformity and nonconformity do not always add up to 1.000 is that the remainder is the ratio of students who demonstrate a very low level of skill B, the blue area in Figure 1. These students do not weaken the hypothesis, thus they could have simply been added to the students who show conformity. Nonetheless, I wanted to see if there were any students who have an unusually low score in a given skill B as compared to a given skill A. As it turns out, such students are very few in number, their proportion never exceeding 0.069.

The results of the implicational analysis are rather varied. In some cases, the pairings of skills make good sense. For example, as shown by pair 1 from the year 2009, it seems logical that the ability to discern clause constituents would depend on the ability to recognise what is a clause. Also, as shown by pair 3 from 2009, it makes good sense that the ability to determine subclause types would rely on the ability to find subclauses.

However, in other cases, the pairings seem rather random. For example, with respect to pair 2 from 2010, it is not at all clear why the ability to recognise pronoun types should in any way depend on the ability to determine the finiteness of a subclause. There are even pairs that go against common sense. For example, with respect to pair 1 in 2011, it would seem more plausible that the recognition of the constituents of an NP would depend on the recognition of phrase types, which includes the recognition of what is an NP, rather than the other way around as shown by the said pair of skills. This pair of skills also contradicts pair 1 and pair 3 from 2009, which seem to corroborate the assumption that recognising a higher order element, such as a subclause, is a prerequisite for being able to discern its constituting elements or subtypes.

I have as yet no explanation as to why the year 2013 has yielded such radically different results compared to the other years, there being not a single pair of skills showing clear implicationality. There are of course also from 2013 pairs of skills whose degree of conformity is higher than their degree of nonconformity. However, the degree of conformity of all these pairs is below 0.500, which entails that their degree of nonconformity is almost as high as their degree of conformity. Therefore they cannot be considered to show implicationality. The proportion of students who demonstrate an unexpectedly low level of skill B (the blue area of Figure 1) is miniscule also in 2013, thus negligible.

It is certainly worth further investigation to see whether the unexpected and quite surprising results of the implicational analysis have any validity or are the product of false assumptions or flawed calculations. Unfortunately, as mentioned above, I have limited access to reliable data on the longitudinal development of the skills, especially of the skills which are discussed late in the grammar course, e.g. subclause types and a number of matrix clauses.

4.3. Comparison of the regression and implication analyses

The results of the regression and implication analyses only partially overlap as shown by Tables 4b, 4c and 5. The skill most frequently appearing in the results of the implicational analysis is the knowledge of parts of speech, which is also among the skills most frequently appearing in the regression analysis. The fact that it is the dependent skill in all cases in the implicational analysis goes hand in hand with the low predictive power of knowing parts of
speech despite its fairly high frequency (Table 4c). However, these results contradict the expectation that knowing parts of speech is a basic skill. This, of course, does not diminish the importance of knowing parts of speech as an important element in the knowledge of descriptive grammar.

The skill which is the most dominant one in the regression analysis, namely clause constituents, is not quite as prevalent in the implication analysis. Nevertheless, it is the dependent skill in all the pairs it appears in. Considering that this skill is so significant in predicting the students’ overall achievement in descriptive grammar, and that the students consistently score lower in this skill than the overall average (see Table 2), it is probably worth paying more attention to teaching the skills that this skill is presumably dependent on, most notably the ability to distinguish between phrases and clauses.

Interestingly, the skill that is the next most prevalent one in the implication analysis, namely the recognition of matrix clauses, does not emerge in the regression analysis at all. On the other hand, skills such as distinguishing between phrases and clauses, phrase types, and NP constituents, have a similar prevalence in both analyses. Their emergence from both analyses suggests that it is worth paying more attention to them in the teaching of descriptive grammar because they are likely to play an important role in grasping descriptive grammar.

5. Conclusion

Somewhat surprisingly, the results of the regression analysis vary from year to year. However, clause constituents, pronoun types, phrase constituents, the distinction between clause and phrase, and parts of speech surface as recurring elements. Knowing clause constituents is often significant even when their bias in the grammar exam has been reduced.

The analysis of implicational relationships has yielded an even more varied result. Many of the pairings of skills seem rather random without any logical relationship between the skills in the pairs. However, there does seem to be a weak pattern in the way that knowing (being able to recognise) higher level (i.e. more complex) constructions, such as clauses and phrases, is a prerequisite for mastering the ability to distinguish between lower level elements, such as the constituents and types of subclauses.

All in all, the analyses do seem to confirm the assumption that knowing clause constituents and the distinction between phrases and clauses are the most significant items in learning descriptive grammar whereas knowing parts of speech does not seem to play as large a role as expected. Besides these, the analyses revealed that it may be beneficial in the teaching of descriptive grammar to pay more attention to certain skills, such as distinguishing between phrase types, and phrase constituents. The possible importance of these skills was not part of the original hypothesis, but discovered as a result of this study.

References


Reciprocal Connection in French

Pascal Montchaud

Abstract

Discourse correlations show a reciprocal relation of projection and of presupposition between two segments that are otherwise independent. The connection is said to be marked with reciprocal connectives (RCs). These have three functions: (i) fulfilling the expectation, or carrying the presupposition, opened and required, respectively, by the other RC; (ii) categorizing and delineating a sequence as a member of a whole; (iii) conveying a relation between the members. 100+ authentic examples of correlations in French showing either d’une part ‘on the one hand’, or non seulement ‘not only’, and containing a second member with no connective are analyzed. The results indicate that different features can assume the functions attributed to the RCs. Furthermore, they show that these functions are intertwined. Finally, I conclude that the reciprocal connection can be marked through many processes, and that reciprocal connectives are, rather than a process of marking the structure, a process to emphasize its components.

Keywords: connectives, correlation, discourse, French, syntax

1. Introduction

Linguistic correlation is a phenomenon widespread in many Indo-European languages. Linguists studying French have focused mainly on sentences where an adverb or a conjunction is used twice. Savelli (1993) called them constructions siamoises (conjoined constructions), and Roig (2013) corrélatives isomorphes (isomorphic correlatives). Apart from the frequently quoted article by Turco and Coltier (1988), the works of Schnedecker (1998: 2006), Schnedecker and Bras (2011), and the dissertation of Svensson (2010), little work has been done in the field of correlation in discourse, or on reciprocal connectives (RCs). Although data shows that correlations where the second connective is not the one normatively co-occurring, or is simply lacking, are common, these works only tend to account for regular structures (i.e. where e.g. d’autre part ‘on the other hand’ follows d’une part ‘on the one hand’, or where mais aussi ‘but also’ follows non seulement ‘not only’). This is the case with

* This research is funded by the Swiss National Fund for Scientific Research (SNF) through the project «Marqueurs corrélatifs entre syntaxe et discours» (“Correlative Markers Between Syntax and Discourse”; no 100012_146773). It is supervised by Emeritus Professor M.-J. Béguelin.

1 Notice that, in French, two different markers can follow d’une part: d’autre part (with the zero article, lit. ‘from other part’) and de l’autre (with the definite article, lit. ‘from the other’).
Svensson (2010: 20),\textsuperscript{2} who states that “the presence of both elements is the main criterion for identifying correlative markers”, in line with Turco and Coltier (1988: 69), who consider that \textit{d’une part} not followed by \textit{d’autre part} is “uncooperative, [and] is of questionable acceptability”.

That is the reason why I will focus on discourse correlation, and more specifically on occurrences where the reciprocal connective in the projected member fails to appear. This paper intends to demonstrate that several processes work together to mark the structures, and that reciprocal connectives are just one way, among others, to achieve this goal. Thus, I will assume that reciprocal connectives are optional markers, and when present they act as a process to outline the correlation’s components.

\section{2. Framework}

This study adopts a framework developed by Berrendonner and Béguelin (1989, 1996, 1997), Berrendonner (1990, 1993, 2002, 2003), Béguelin (2000, 2002), and Groupe de Fribourg (2012), where it is assumed that speech is a multi-layered structure.

\subsection*{2.1. A theory of linguistic units}

It is believed that language is structured in separate but overlapping levels of unit combinations, which Martinet (1967: 13) called “articulations of language”. Following this author, Groupe de Fribourg (2012: 26-27) characterize these levels with four features:

\begin{itemize}
  \item[(i)] a particular \textit{function} involved in the general economy of language;
  \item[(ii)] a set of \textit{minimal units} (of form but not of substance);
  \item[(iii)] a group of specific \textit{assembly rules} that allow minimal units to combine to compose non-minimal units of the same function; and
  \item[(iv)] a range of \textit{maximal units} that play the role of an upper boundary in the relevant level of speech unit combination.
\end{itemize}

Given these features, it is possible to draft a theory of linguistic units composed of three speech levels, or articulations.

\textsuperscript{2} The quote is my translation from a work originally in French. In order to make the text clearer, only original quotes will be referenced; a quote without a reference is translated from French.
Table 1. Features of discourse articulations according to Groupe de Fribourg (2012)

<table>
<thead>
<tr>
<th>Articulation</th>
<th>Function</th>
<th>Ground Units</th>
<th>Assembly Rules</th>
<th>Upper Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>Distinctive</td>
<td>Phonemes</td>
<td>Phonemes combination rules specific to each language</td>
<td>Syllables</td>
</tr>
<tr>
<td>Second</td>
<td>Significant</td>
<td>Morphemes</td>
<td>Government, or rection(^3)</td>
<td>Clauses, utterances</td>
</tr>
<tr>
<td>Third</td>
<td>Communicative</td>
<td>Actions</td>
<td>Heterogeneous and praxeological syntax(^4) (&quot;pragma-syntax&quot;)</td>
<td>Intonational units, i.e. a program of actions ending with a final pitch contour</td>
</tr>
</tbody>
</table>

2.2. Integrative relations

According to Groupe de Fribourg (2012: 26-27), the relation between ground units and upper units within a single articulation is *compositional*, i.e. the whole is the sum of its parts (like a clause is the sum of the morphemes that it is composed of). But from the upper unit of a given articulation to the ground unit of the upper articulation, the relation is that of *incorporation*, because they have different functions. Thus, speech is to be conceptualized as a *multi-layered structure, separated by functional thresholds*, and not as a continuum of units that include each other (*cf. ibid.*: 37). A morpheme is certainly “made” of syllables; but a morpheme is something different from a syllable, because it has a meaning, while a syllable only has a distinctive property. Therefore, a morpheme cannot be analyzed within the same framework as a syllable. Each level of description demands its own tools of analysis, in accordance with its function and with its specific assembly rules.

2.3. Dependency grammar and discourse syntax

The second articulation will be called *syntax* (understood as dependency grammar), and the third articulation *discourse syntax*. The model, as presented in Table 1, is restricted to three articulations. But speech has more than three levels of unit combinations. That is why at least one articulation should be added. This fourth articulation, which would have an *interactive* function, is still to be characterized. I suggest the use of notions provided by *conversation analysis*, also called *interactional grammar* (Ochs, Schegloff and Thompson 1996). This approach insists on the emergent and adaptive nature (Hopper 1987, 2011) of the linguistic system. The question that needs to be asked is: how can this framework account for correlation?

\(^3\) As understood in the sense of Groupe de Fribourg (2012), in line with Hjelmslev (1968), according to whom the various dependency links existing within the upper unit of the second articulation may be reduced to a single basic relationship, called rection, i.e. the implication between occurrences. Formally, it is defined as follows: A governs B if the occurrence of B implies, on logical grounds, the occurrence of A.

\(^4\) The dichotomy between dependency grammar and discourse syntax is also known as the distinction between *micro-syntax* versus *macro-syntax*. 
3. Linguistic correlation

Broadly defined, linguistic correlation is an *interdependent relationship* between two members of varying size. A member can be a phrase, a clause, or an utterance, and may span over larger discourse sections. There are (at least) two types of linguistic correlations, according to the theory of units presented above: grammatical, and discourse correlations (respectively 2nd and 3rd articulations).

3.1. Grammatical correlation

In dependency grammar, correlation is a bilateral relation of implication between two “parts”, segment A and segment B, where A *cannot occur without* B, and where B *cannot occur without* A. Both members are thus required so that the utterance has a complete meaning and an achieved syntactic structure. Example (1) shows a typical reciprocal grammatical dependency of this kind in French.

(1)  *Plus il court vite, plus il va loin.*
    more he runs fast, more he goes far
    ‘The faster he runs, the further he goes.’

The phenomenon already existed in ancient languages, such as Latin and Greek. According to Latin experts, like Fruyt (2004, 2005), the correlative scheme in Latin gave birth to subordination in French. Nowadays, correlation is still present in many Indo-European languages, such as Russian (2), English (see (1) above), German (3), and Italian (4). In these languages, grammatical correlation always has to do with a couple of parts being implicated one with another.

(2)  *Позвонил тогда, когда я меньше всего этого ждала.* (Inkova 2013: ex. 3)
    phone-SG.M.PAST then, when I less all that-GEN expect-SG.F.PAST
    ‘He called me when I least expected it.’

(3)  *Haben Sie schon mal darüber nachgedacht, dass Enttäuschung immer etwas mit unseren Erwartungen zu tun hat?* (web)
    have-you already time about that thought, that disappointment always something
    mit our expectations to do has?
    ‘Have you ever thought that disappointment has always something to do with our expectations?’

(4)  *Ho un sogno così grande che non entra in un cassetto.* (web)
    have-1PS a dream so big that NEG enters in a drawer
    ‘I have a dream so big that it doesn’t fit in a drawer.’

But, what exactly are these correlated “parts”? The answer largely depends on whom you ask. Within the field of French linguistics, some linguists (like Allaire 1982; Savelli 1993; Roig 2013; or Mouret 2005, 2013) argue that the reciprocal relation applies to adverbs or conjunctions such as those highlighted in bold in examples (1)-(4), considering that these devices are “grammatical markers that come into contextual dependency relationship in order
to establish formal links of complementarity between words” (Allaire 1982: 23). On the other hand, some authors (Deulofeu 2007; Benzitoun and Sabio 2010; Gachet 2013; Corminboeuf 2013a, 2013b) support the view that grammatical dependencies are not necessarily marked within the morphological structure. Thus, they take the propositional content to be the correlated members. As stated by Benzitoun and Sabio (2010: 10), these are the “verbal constructions [that are] in a bilateral implication relationship”.

The latter claim turns to a radical semantic conception of correlation, moving the mutual relation from a morpho-syntactic to a purely semantic ground. According to this model, correlation exists as a semantic pattern, expressing “different types of logical relations, for example opposition, concurrence, co-variation or also implication” (Inkova and Hadermann 2013: 7). This pattern can be marked not only through morphology, but also by means of lexical or prosodic features. Corminboeuf (2013b) gives examples of correlative sentences where the standard correlation scheme is marked by means of an accentual prominence on the adjective (5), which occurs instead of the morphological outlined equivalent (6).

(5) on a fait deux cents litres de jus de pomme + mais alors il est SUCRÉ qu’on doit mettre de l’eau avec

‘we made two hundred liters of apple juice + but then it is SWEET that we must put water with’

(spoken, Corminboeuf 2013b: ex. 14)

(6) il est si sucré qu’on doit mettre de l’eau avec

‘it is so sweet that we must put water with’

This example supports the idea that prosodic features, such as an accentual prominence, may substitute for the morphological marking of grammatical relations.

3.2. Discourse correlation

At the discourse level, an interdependent relation is achieved through pragmatic means regarding projection and presupposition. It is commonly assumed (Svensson 2010; Corminboeuf 2013a; Turco and Coltier 1988) that “opening” connectives like on the one hand or at first sight project a “next step” to be performed afterwards. As Turco and Coltier (1988: 68) mention: “the mere presence of d’une part implies the existence of another correlated item”. The utterance of the projected sequence fulfills the expectation previously opened, while this one signals its relation to the first with a marking device presupposing the utterance of a previous part (see § 4 below). When they occur, “closing” or “relay” connectives such as on the other hand, at second sight or but looking more carefully are intended to play this role.

Thus, in discourse syntax, correlation is a reciprocal connection which stands between sequence A and sequence B, where A projects the utterance of B and where B presupposes the utterance of A. Both of these notions demand a brief explanation of how they are conceived within the adopted framework.

The concept of projection comes from conversation analysis and is defined as follows:

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5 Capital letters indicate a pitch or an intensity accent.
The fact that an individual action or part of it foreshadows another. In order to understand what is projected, interactants need some kind of knowledge about how actions (or action components) are typically (i.e., qua types) sequenced, i.e. how they follow each other in time.

(Auer 2002: 1, original quote)

In discourse syntax, “projection” is known as expectation, and the notion of expectation springs from that of prerequisite.

Considering two communicative actions, simple or complex, A₁ and A₂, as the latter can only be executed if the first was previously accomplished. […] We will assume, then, that A₁ is a prerequisite (or is necessary on a logical ground) to A₂.

(Groupe de Fribourg 2012: 132)

A typical case is illustrated by example (7).

(7)  ['The man with the red cap,'₁[his name's Alan Hollinghurst.'],₁ (invented example)

Sequence 1 is a noun phrase (NP), standing as an autonomous utterance. The goal of this communicative action is to increase shared knowledge with an under-specified “discourse object”. Sequence 2 is a predicate construction, which provides an attribute to this object. The latter sequence contains a possessive article (in bold), whose interpretation requires the previous action in order to be relevant. Namely, his name stands for the name of X, where the referent of X is to be found in the previous utterance. That is why sequence 1 is called a prerequisite of sequence 2. Indeed, the operation of introducing (or of reactivating) an object in mutual knowledge “is a logical prerequisite for the very possibility of attaching attributes” to this object (ibid.). Consequently,

if an action A₁ is achieved, and is (in general, per se) a prerequisite to the execution of another action A₂, then we can conclude that A₂ is likely to occur. […] Whenever such a reasoning is feasible, we will say that A₁ creates the expectation of A₂.

(op. cit.: 134)

The notion of expectation is thus nothing more than predictability of a logical nature, whose success depends on the reliability of abductive reasoning based on the notion of the prerequisite. In this sense, it differs from projection, as this notion is defined in relation to the knowledge of the way actions are generally sequenced. In short, the notion of projection is founded on habits, while the concept of expectation is based on logic.

Regarding presuppositions, I consider that they are “what is taken by the speaker to be the common ground of the participants in the conversation, what is treated as their common knowledge or mutual knowledge” (Stalnaker 1999: 83, original quote). This classic conception was reworded by Groupe de Fribourg (2012: 88) as follows: “a linguistic signifié S presupposes the discourse object O if the utterance of S implies the presence of O in the discourse memory”. This definition assumes a distinction between presuppositions and presupposing terms. The former is an element of discourse memory, and, as such, is already validated by the

*A discourse object is a “cognitive referent”, while discourse memory corresponds to mutual knowledge shared by the speakers. Discourse memory consists of discourse objects.*
interaction partners; the latter is a content unit, and is therefore of a linguistic nature (a sign). This view opposes the theory stating that presuppositions are part of the semantic content of language units (see e.g. Ducrot 1972).

But back on topic. We may define discourse correlation as a play of projection and of presupposition between two grammatically independent sequences. In example (8) below, when non seulement ‘not only’ appears, one expects the utterance of a second statement. This second statement is introduced by the connective mais ‘but’, which presupposes the execution of a previous utterance.

(8) il est certain que + + par exemple dans notre classe de de première y avait une fille qui était fiancée et bien + non seulement on l'enviait pas mais + on considérait qu'elle était vraiment + que c'était vraiment une catastrophe (CFPP, 07-05, 1178”-1226”)

‘it is certain that + + for example in our first grade class there was a girl who was engaged and well + not only we didn’t envy her but + we thought that she was really + that this was really a disaster’

The main features of discourse correlations are the theme, the introductory device, the members and the reciprocal connectives.

The theme – the term is borrowed from Adam and Revaz (1989) – is a whole (a paradigm) that gathers both members together under a property that they share with each other, and also with the theme. There is always a theme, though it is often implied. It must therefore be drawn out from the context. It is crucial to understand that the theme is not a segment of the text itself, but an “object”, of a cognitive nature, belonging to the common ground of the participants (see note 6). For our convenience, I will henceforth put them into words (between angle brackets), but the reader should keep in mind that these statements are only representations of cognitive objects. Therefore, they should not be taken for anything else than a verbal expression of a piece of mutual knowledge.

The introductory device, which is optional, is an explicit announcement of the two-item list to follow. It often appears as a predication of existence containing an NP determined with a numeral, and announcing the list to follow. Typical examples are there are two things, or I will make two / a double + N (e.g. comment(s), remark(s), etc.). As Svensson (2010: 109) states, “the introducer can also evoke a division or an opposition, e.g. division, difference, opposition”, or contradiction, distinction, etc., and their verbal equivalents: divide, differ, oppose, contradict, distinguish, etc. Because the introductory device generally does not convey much meaning, it projects the achievement of a development, which ensures its relevance within shared knowledge. Informing participants about the nature and the number of items to follow are the two main characteristics of such devices.

On theoretical grounds, the distinction made here between theme and introductory device is of some importance, given that it is most often overlooked in works dealing with correlation or enumeration. Turco and Coltier (1988: 68) use the term “announcements” (Fr. Phénomènes d’annonce) in connection with the fact that “components to be considered are explicitly announced” (ibid.). Also, Svensson (2010: 108) mixes up both of them in a single concept: “the correlated series […] is often preceded by an introducer which announces two or more phenomena, or a division”. For their part, Rebeyrolle and Péry-Woodley (2014: 3188) propose two types of introductory devices, called primers (Fr. Amorce). According to them, there are,
firstly, “predictive primers, which have realization features that engage the writer in a listing process, in triggering in the reader a strong expectation of an enumeration. Secondly, primers-announcements, where the predictive aspect is absent, but which express, or allow to infer, [...] the implied criterion gathering the items together”. All in all, these three ideas only account for the text segment foreshadowing the list to follow, while I suggest that the theme and the introductory device should be distinguished on the basis of their ontological status. Indeed, the introductory device is a linguistic sign, while the theme belongs to discourse memory. This difference is about the same as that, described above, between presupposing terms and presuppositions.

The members are discourse units (actions, turn units), which constitute the whole expressed in the theme. Semantically, each of them belongs to the same category – or paradigm. The two items can, or cannot, be ordered, as they can, or cannot, be hierarchized. Different relations can occur between them: accumulation (unmarked case), opposition, addition, concession, and so on. The relation between the members is distinct from the relation between the whole and its parts, though the former has something to do with the latter, and vice versa. Schiffrin (2006: 163, original quote) states that “although lists can present a set of taxonomic categories in which each entity is an example of the class through which it is known, they can also present more ad hoc collections (Barsalou 1983) or schematic knowledge in which each entity is known through its participation or place in a collection”. That is to say, in accordance with Rebeyrolle and Péry-Woodley (2014: 3194), “while categorization stands as the primary function of enumerative structures, it is far from expressing existing classifications only. The diversity of examples […] leads us to assert, on the contrary, that it is rather used to “construct” relevant categories for the scriptor’s speech”.

Finally, reciprocal connectives (RCs) are generally said to be the “morphological expression” of the reciprocal relation (Svensson 2010; Turco and Coltier 1988, inter alia). RCs connect one member with the other. According to Turco and Coltier (1988), they have a double function in the economy of speech. Namely, they act as “packing” and “guiding” devices. Turco and Coltier use the term packing with relation to the fact that an RC generally allows us to “mark the boundaries of the constituents that are to be integrated in a single motion” (op. cit.: 63), i.e. RCs pack utterances together to form a higher range unit.\footnote{Members can span large discourse sections. See example (12) below for a Turn Unit large member.} What they call guiding has to do with the fact that RCs “provide instructions – indications of anticipation or of feedback – that allow the processing of information of a non-sequential nature” (op. cit.: 71). In other words, RCs are used to guide, and therefore to facilitate, the interpretation.

Here is an example of a typical discourse correlation, illustrating the notions just described.

(9) Cela dit, la question du cancer se présente d’une double manière: d’une part [c’est une maladie du corps, dont il est bien probable que je mourrai prochainement, mais peut-être aussi puis-je la vaincre et survivre]; d’autre part, [c’est une maladie de l’âme, dont je ne puis dire qu’une chose : c’est une chance qu’elle se soit enfin déclarée.].

(E. Carrère, D’autres vies que la mienne, 2009: 139, frantext)
‘That being said, the matter of cancer shows a double sided face: on the one hand [it is a physical disease that I will probably soon die of, though I could just as well survive it]; on the other hand, [it is a spiritual disease, on which I can only say one thing: it is a chance that it eventually broke out].’

In example (9), the theme could be paraphrased in these words: <the double nature of cancer>. Introducing the correlation, the statement la question du cancer se présente d’une double manière ‘the matter of cancer shows a double sided face’ (lit. ‘the question of cancer itself presents from a double way’) is a predication of existence, which contains a stative verb, se presenter ‘show’ (lit. ‘present itself’), which governs a manner complement, the prepositional phrase (PreP) d’une double manière ‘a double sided face’ (lit. ‘from a double way’). This statement, and more accurately the NP une double manière ‘a double sided face’ (lit. ‘a double way’), acts as the introductory device. It announces two “things” about cancer that the writer is about to develop in the correlation. Each member states one aspect of the theme (maladie du corps versus maladie de l’âme – ‘physical disease’ versus ‘spiritual disease’). The RCs, namely d’une part and d’autre part ‘on the one hand’ and ‘on the other hand’, delineate each member by being placed before the first and second members respectively. The relation between the first member and the second member is one of accumulation (the whole consists of both members) and of opposition (they share one property but they differ in another).

3.3. Methodology

This paper presents corpus-based research, and more specifically a corpus-illustrated study, based on authentic data of spoken and written French. Three databases were investigated, and the data search was focused on two markers, namely d’une part ‘on the one hand’ and non seulement ‘not only’. Results were sorted so that only occurrences where the second member was not marked with a reciprocal connective were selected. I proceeded as follows.

Spoken data was taken from OFROM (Corpus Oral de Français parlé en Suisse Romande; Avanzi, Béguelin and Diémoz 2012-2014), which contains nearly 30 hours of spoken French (232,536 words), and from CFPP (Corpus de Français Parlé Parisien des années 2000; Branca-Rosoff, Fleury, Lefeuvre and Pires 2012), which has around 40 hours of speech (578,908 words). The former yielded four examples of non seulement, with one occurrence of an unmarked second member, and six of d’une part, with three unmarked examples, while the latter provided nine examples of non seulement (four occurrences of an unmarked second member) and nine of d’une part (four unmarked). The small number of collected items, compared to the total number of words, tends to indicate that the use of RCs in spoken language is rather infrequent.

Written data was collected from Frantext (ATILF – CNRS and Université de Lorraine), a database made up of digitalized texts (mostly literature, but also scientific writings and press articles) from the Middle Age to the 21st century. I selected all the texts between 1901 and 2000, which amounted to 1,798 texts or 115,897,588 words. In this sub-corpus, I searched for occurrences of d’une part ‘on the one hand’, not followed, within the next 300 words, by d’autre part ‘on the other hand’ or de l’autre (lit. ‘from the other’), which is an abbreviated
(and definite) form of d’autre part. It yielded 120 results, 87 of them showing an unmarked second item. Then I searched for occurrences of non seulement ‘not only’, not followed by mais ‘but’ within the next 300 words. This search led to 16 new results, among which five were occurrences showing an unmarked second member.

The total number of collected and selected items, both spoken and written, is as follows.

Table 2. Quantity of collected and selected examples, and percentage of selected items out of the total amount of collected data

<table>
<thead>
<tr>
<th>Items</th>
<th>Spoken</th>
<th>Written</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>d’une part</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collected</td>
<td>15</td>
<td>120</td>
<td>135</td>
</tr>
<tr>
<td>Selected</td>
<td>7 (46%)</td>
<td>87 (73%)</td>
<td>94 (70%)</td>
</tr>
<tr>
<td>Non seulement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collected</td>
<td>13</td>
<td>16</td>
<td>29</td>
</tr>
<tr>
<td>Selected</td>
<td>5 (38%)</td>
<td>5 (31%)</td>
<td>10 (34%)</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collected</td>
<td>28</td>
<td>136</td>
<td>164</td>
</tr>
<tr>
<td>Selected</td>
<td>12 (43%)</td>
<td>92 (68%)</td>
<td>104 (63%)</td>
</tr>
<tr>
<td>Words</td>
<td>811,444</td>
<td>115,897,588</td>
<td>116,709,032</td>
</tr>
</tbody>
</table>

In summary, the research is based on 104 occurrences of discourse correlations, whose first member contains a reciprocal connective, and whose second member does not.

4. Analysis

The analysis being based on examples of correlations whose second member contains no connective, I will address the following two issues.

1) What linguistic markers allow for a projecting connective to be relevant when no connective appears in the projected next item?
2) What linguistic resources allow us to categorize a sequence as the second item of a correlative structure and to identify the semantic and pragmatic relation between the members?

As we will see, the marking used to fulfill the expectation opened with the RC in the first member, and the marking used to categorize a sequence as a member of a correlation and to communicate the relation between the two members are closely related. Moreover, several marking processes are used together for this purpose. That is why I will comment on the examples’ both ways of marking at the same time.

I will focus on the role of semantic similarities, the repetition of syntactic patterns and on the role of the introductory device to delineate the second member and to identify the relation between the members. I will present the examples in the following order: to begin with, an example where the second item is unmarked, then examples where the second member is marked by means of a noun phrase, and lastly I will show examples marked with an introductory device.
4.1. Marking through syntactic patterns and lexical similarities

In the absence of an RC or another marking device like an NP (see below § 4.2), the second member of the correlation can be indicated as such with the repetition of a syntactic construction or the iteration of a discourse pattern already used in the first member. This marking process is often coupled with lexical similarities or semantic relations (like synonymy, antonymy, etc.) between lexical items. Reproducing the same syntactic pattern and establishing logical links between two sequences indicate a common identity that marks them as belonging to a paradigm (the theme).

In example (10) below, there is no introductory device, but the correlation is made visible with the occurrence of non seulement ‘not only’. This RC marks the first member, and therefore a second member that owns a common property with the first one is expected, this property being at a higher degree. However, this expectation is not fulfilled with the normatively co-occurring RC.

Foreign affairs weighed on French public opinion through the French Intelligence. If this opinion did not react before Sadowa, if, after Sadowa, they did not impose an energetic policy on the Emperor, it is to the Intelligence driven by money, because they were sensitive to money, that goes all the blame. Not only the Intelligence, did not do their job to inform and guide the masses; they, did the opposite of their job, they, deceived them.

Although the expectation of a second member created by the projecting RC non seulement ‘not only’ is not fulfilled with another RC, the repetition of the expression faire son métier ‘do their job’ makes the second member still identifiable and categorized as such. Furthermore, the expectation of a higher degree object is fulfilled with the semantic gradation between the negation ne fit pas (son métier) ‘did not do (their job)’, and the adversative NP fit le contraire de (son métier) ‘did the opposite of (their job)’. In addition, the opposition between éclairer et orienter les masses obscures ‘inform and guide the masses’ and tromper les masses ‘deceive the masses’ also contributes to a gradation between both members.

4.2. Marking with an NP

Another marking used to categorize the second member as an item in a list is uttering a noun phrase (NP), signaling a reciprocal connection to the first member. This nominal segment generally stands in front and has the syntactic status of a functionally independent unit. It introduces (or leads one to expect) an upcoming speech through a cataphoric expression (see the words chose ‘thing’ and objection ‘objection’ respectively in examples (11), (12)) and a non-final intonation contour. Within the economy of the structure, the NP plays the same role as a reciprocal connective like on the other hand. Indeed, it puts an end to the previous
member and signals the beginning of the second. Also, it has the same paradigmatizing properties, i.e. it presupposes the existence of other elements belonging to the same category. In some cases, the NP may also contribute to the marking of the semantic and pragmatic relationship between the two items in the list. The following example shows such features.

(11)  
Dans mes écrits, j’ai été d’une sincérité absolue. Non seulement je n’ai dit rien que ce que je pense ; chose bien plus rare et plus difficile, j’ai dit tout ce que je pense.  

(Renan, Souvenirs d’enfance et de jeunesse, 1883: 151, frantext)  
In my writings, I have been absolutely sincere. Not only I have said only what is on my mind; thing much more infrequent and more difficult, I have said everything that is on my mind.

The theme of this correlative structure can be drawn out from the sentence dans mes écrits, j’ai été d’une sincérité absolue ‘in my writings, I have been absolutely sincere’, because the following speech is an elaboration or the cause of this utterance, i.e. both members elaborate on what is meant under this statement. Nevertheless, there is no introductory device, because the theme does not infer a list. Here again, one of the means used to identify each sequence as an item in the list and to reveal the relation between them is the repetition of a syntactic pattern, with some slight changes, and a semantic relation of opposition between the lexical items. Namely, j’ai dit tout ce que je pense ‘I have said everything that is on my mind’ repeats je n’ai dit rien que ce que je pense ‘I have said only what is on my mind’ with an opposition between only what and everything that. This opposition leads us to view the second member as a higher level item in comparison to the first one. As in example (10), the first member is marked with non seulement.

What is new in this example is that the second member is indicated with the NP chose bien plus rare et plus difficile ‘thing much more infrequent and more difficult’. This NP provides a right boundary to the first member and a left boundary to the second. Furthermore, it contributes to making the sequence it introduces have a higher degree than the previous member, which is retrospectively identified as a thing of the same category but to a lower degree.

4.3. Marking with an introductory device

When it occurs, the explicit mention of the list to follow can help to delineate the members and to identify the relation that they have with each other.

The following example shows some of the features seen before. The first member is marked with the RC d’une part ‘on the one hand’, and the second with an NP, namely l’autre objection ‘the other objection’.

(12)  
Pour M. Arrhenius, le monde est infini et les astres y sont distribuées d’une façon sensiblement uniforme ; si nos télescopes semblent assigner des limites à l’univers, c’est parce qu’ils sont trop faibles, et que la lumière qui nous vient des soleils les plus éloignés est absorbée en route. On a fait à cette hypothèse une double objection. D’une part,[si la densité des étoiles est constante dans tout l’espace, leur lumière totalisée devrait donner au ciel entier l’éclat même du soleil. Cela serait vrai si le vide interstellaire laissait passer toute la lumière qui le traverse sans en rien garder, de sorte que l’éclat apparent d’un astre varierait en raison inverse du carré de la distance].[Il suffit, pour échapper à cette difficulté, de supposer que le milieu qui sépare les étoiles est absorbant ; il peut d’ailleurs l’être très peu]. L’autre objection, c’est que 4[l’attraction newtonienne
For Mr. Arrhenius, the world is infinite and the stars are distributed in a substantially uniform manner; if our telescopes seem to set limits to the universe, it is because they are too weak, and because the light that comes from the most distant suns is absorbed on the way. It has been done a double objection to this hypothesis. On the one hand, if the density of stars is constant throughout space, their light totalized should give the whole sky the same brightness as the sun. This would be true if the interstellar vacuum let through all the light that passes through it without keeping anything of it, so that the apparent brightness of a star would vary inversely as the square of the distance. To escape this difficulty, just let us assume that the environment between the stars is absorbing; it can be very little, besides. The other objection, it is that the Newtonian attraction would be infinite or indeterminate; to pull us through, we then must assume that Newton's law is not strictly accurate, and that gravitation undergoes a kind of absorption, resulting in an exponential factor. If we agree to make this assumption, the conclusions of Lord Kelvin are no longer needed, because we have them established starting from Newton's law [...].

Actually, the correlation would be perfectly correct without these devices, as the explicit mention of the theme, on a fait à cette hypothèse une double objection 'it has been done a double objection to this hypothesis', works as a projecting device. Indeed, the indefinite NP une double objection 'a double objection' leads us to expect the utterance of a statement – or two statements – about what these objections are, because the mere mention of the existence of a double objection has no relevance if it is not said what these objections are. The following discourse fulfills this expectation with the utterance of the two-item list. Moreover, both members show a very similar composition: the objection is first recalled (no. 1 sequences between square brackets) using conditional sentences (if and would), then there is a refutation (no. 2 sequences). The repetition of this discourse structure helps to identify each member and to delineate both of them. Even if it was reduced to the introductory device and the members, the correlation could be comprehended. The theme not only allows us to identify and to delineate each member, but it also allows us to infer the relation that they have, namely a relation of enumeration, the objections being neither hierarchized nor ordered.

In summary, example (12) shows, as marking features, an introductory device, which explicitly states the category enumerated afterwards, the first member marked with an RC placed in front, and the second member marked with a definite NP. But there is more. Notably, there is an interaction between the theme and the NP, resulting in a play of projections and presuppositions, which is of direct interest in both of the members' identification. As mentioned above, the introductory device adds a projection to the shared knowledge, i.e. the expectation that this double objection will be elaborated. The RC d'une part 'on the one hand' functions as the left-boundary to the first member. The NP l'autre objection 'the other objection' serves as the left boundary of the second member, in addition to playing the role of the right-boundary to the first one. This is a purely syntactic function, determined by the position within the discourse. On semantic and pragmatic grounds though, the same NP has a double function. First, it categorizes the upcoming speech as being an objection; second, the adjective autre 'other' presupposes the previous utterance of at least one object of
the same nature, i.e. it retrospectively categorizes the previous sequence as an objection as well. As the introductory device announces a double objection, the anaphoric repetition of the noun objection guarantees the cohesion of the structure. This “reciprocal NP” recalls the theme of the correlation, as it recalls the listing operation initiated by the utterer.

5. Conclusion

This paper aimed at demonstrating that discourse correlations can be marked through a wide range of processes, and not only with RCs. Contrary to what most of the works on the subject claim (see the quote of Turco and Coltier and that of Svensson in the introduction), RCs appear to be optional in making the structure recognizable. Different forms of marking allow a sequence to be part of a correlative structure. These marks play three noticeable roles: to make the projection created by the opening RC relevant, to categorize a sequence as an item of a correlation, and to convey the semantic and pragmatic relations between the members. The examples commented on in section 4 showed three major groups of markers, namely marking through syntactic patterns and lexical (dis)similarities, marking with an NP, and marking with an introductory device. These categories are applicable to the whole of the corpus investigated (104 examples).

It was also shown that these markers assume the same roles as reciprocal connectives. The fact that the identified markers have the same functions as the RCs suggests that the latter are just one way of marking the correlation. The four types of markers do not function independently, but are involved together in fulfilling the expectation opened by the first member, in helping to delineate each of the members, and to convey a relation between the members. These three functions are closely intertwined.

Looking at canonical examples such as (9) in section 3.2, or (13) below, it is noticeable that the utterance of an RC within the second member does not make the alternative marking irrelevant. In fact, markings with a noun phrase, with an introductory device or through syntactic patterns and lexical similarities also occur in addition to a reciprocal connective.

(13) plusieurs sentiments divers se sont | _ | manifestés lorsque Christoph Blocher | _ | puisque c’est de lui qu’il s’agit n’a pas été réélu au Conseil fédéral | _ | [il y a eu], d’une part | _ | je dirais [à gauche de l’échiquier politique] | _ | et parfois même au centre de ce même échiquier], | _ | euh [des manifestations de joie], | _ | presque un peu décalées | _ | je dirais discutables pour le moins | _ | [...] et puis d’autre part | _ | euh par exemple [sur les bancs radicaux], | _ | se [s’est manifesté], [une attitude de retenue], | _ | et enfin | _ | euh [pour ce qui est de l’UDC], puisque Christoph Blocher appartient à ce parti et était soutenu | _ | par lui | _ | eh bien [c’est], [la consternation], qui dans le fond euh | _ | euh était le sentiment prédominant

‘Several different feelings were – expressed when Christophe Blocher – since it is about him was not re-elected to the Federal Council – [there was], on the one hand – I would say [to the left of the political spectrum – and sometimes even to the center of the same spectrum], – uh [manifestations of joy], – almost a little staggered – I would say questionable at least – […] and then on the other hand – uh for example [on the benches of radicals], – [manifested], [an attitude of restraint], – and finally – uh [regarding UDC], since Christoph Blocher belongs to this party and has been supported – by him – well [it was], [consternation], that basically uh – uh was the predominant feeling’
In this example, the theme (<feelings expressed when C. B. was not re-elected>) is explicitly mentioned in the first sentence, which contains an introductory device announcing a listing of feelings related to a singular event. The three members are composed following the same pattern: a complement introducing a validity frame (marked ‘x’), then a statement of existence (there was, manifested, it was; marked ‘y’), where a name of feeling occurs each time, twice with the same structure (N+of+N: demonstrations of joy, and an attitude of restraint, marked ‘z’) and the third time with the single mention of a noun (consternation) embedded in a cleft-sentence. The fact that this correlation would be perfectly correct without any connectives leads us to think that these are optional.

In conclusion, different markers act together to mark the correlations at the discourse level. Deulofeu (2001: 117), comparing grammatical correlations to discourse correlations, had already mentioned the optionality of reciprocal connectives: “the use of on the one hand does not necessarily imply on the other hand in spontaneous speech. In order that such a speech be coherent, it is sufficient that the “other hand” occurs farther on, whatever its actualization”. In view of this, I would suggest that connectives are, rather than a process of marking the reciprocal connection, a process of emphasizing its components.

Further research is needed for a better understanding of the reasons why speakers choose, or not, to have recourse to connectives when performing a discourse operation such as listing. At this stage, my hypothesis is that the use of reciprocal connectives has something to do with the planning of speech, be it from the addressee’s point of view, in order to facilitate the interpretation, or be it from the addressee’s point of view, to facilitate the programming of his speech. In this way, I would compare reciprocal connectives to milestones in the progress of speech.

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Personality Traits and Second Language Pedagogy

Katarzyna Nosidlak

Abstract

This paper reports on recently undertaken studies on the importance of personality variables as psychological conditioning of language learners conducted in the educational discourse of applied linguistics on the basis of selected methodological treatises, instructional programs and handbooks aimed at language teachers. The research questions posed in this paper have been formulated as follows: (1) which personality traits are considered to be important from the point of view of a foreign language learner compared to those personality traits which are listed and described by psychologists, (2) what is the hierarchy of personality traits taken into account in foreign language pedagogy, and (3) which pedagogically useful conclusions concerning the personality of a language learner can be drawn from the collected investigative material.

Key words: individual learner difference, models of personality, personality traits

1. Introduction

The following paper deals with some postulated characteristics of a good language learner from the perspective of psychological theories devoted to personality traits which may be deduced from selected textbooks on the methodology of Foreign Language Teaching (FLT). In particular, it focuses on personality related factors which contribute to the differences among foreign language learners and which have been intensively studied by representatives of applied linguistics since the late 1970s, and into the 1980s and the 1990s. In conformity with the widely known conclusions of the works of respective representatives of FLT methodology, it holds the view, on the one hand, that personality traits may condition the linguistic performance of individuals, and that they, similarly to, for example, learning styles, usually affect the motivation of foreign language students and enhance their progress in language learning. On the other hand, this paper consequently expresses the conviction that it is difficult to discover the relationship between the particular personality traits of foreign language learners and their success in acquiring a language. As far as the methodological issues pertaining to the role of the personality of foreign language learners are concerned, practitioners working in the domain of language teaching should be aware, as will be argued, that particular personality factors cannot be treated as separate variables influencing the attitudes, knowledge and linguistic skills of those who acquire a foreign language. Since they interact with each other, and, in the case of each person, form a unique constellation of interdependent variables, this paper argues in favour of a comprehensive approach to the
personality of foreign language learners against the background of the specific differences among individuals in general.

2. The concept of personality in psychology

The desire to understand ourselves, as well as the nature of those around us, has always been natural and characteristic of human beings. The history of personality psychology dates back to the 4th century B.C. in ancient Greece and such prominent philosophers as Hippocrates (c.460–c.377 B.C.) and Plato (427–347 B.C.). What is more, as psychologists Liebert and Spiegler (1978: 7) underline, our daily lives are also filled with personality assessment. Human social interactions are characterized by an evaluative aspect aimed at making predictions about the interlocutor’s behaviour.

2.1. On defining personality

Personality belongs to one of the concepts which are extremely difficult to define as it refers to an abstract quality of human nature. Its complexity is clearly visible when analysing the denotations of the term over the course of history. Haslam (2007: 4-9), a psychologist from Melbourne (Australia), shows this intricacy by briefly summarizing the evaluation of its meaning starting from the original Latin “mask” and finishing with contemporary and purely psychological definitions. What is more, even now there is no agreement between psychologists about which definition of personality can be accepted as universal and full. Instead of looking for a perfect definition, as Liebert and Spiegler (1978: 9) underline, each personality psychologist selects or constructs his or her own definition depending on their chosen theoretical orientation. The process of defining personality should constitute a gradual procedure of choices in various areas of our interests and beliefs.

In spite of the multiplicity of approaches to the concept of personality, as Haslam (2007: 10-12) writes, there is a common denominator characteristic of the majority of the psychological definitions of the term. Namely, personality is generally defined as a distinctive and the most individual feature of a human being, as it refers to psychological differences among people which are not related to their intellectual potential, but to ways of thinking or behaving directed by emotions or motivation characteristic of the individual. The complicated nature of our personality makes us unique and exceptional, thus it is also defined in terms of individual differences. Such a perception of the term may be found in works written by both personality psychologists (for example, Allport 1937; Santrock 2004; Pervin and John 2001; Mischel, Shoda and Ayduk 2008; Haslam 2007) and by linguists (for example, Sapir 1949).

What is more, a great number of definitions perceive personality as a collection of stable and consistent features. However, as contemporary psychologists Roberts, Wood and Caspi (2001: 375-399) note, evidence from large-scale and long-term studies proves that personality emerges early and changes in various ways throughout the lifespan of an individual. After analysing research findings pertaining to the stability of personality traits, two other psychologists, Matthews and Deary (1998: 50-56) summarized the issue by stating that, as it is
difficult to detect patterns of systematic changes in this area over time, one may assume that major personality traits are stable during the course of typical life events, however, some radical life occurrences, for example, mental problems, may trigger changes to some traits. Finally, personality is generally perceived as a way of adapting to the world and others, and, at the same time, it also has an influence on the way in which an individual is perceived.

Among many definitions, the one proposed by a duo of psychologists, Randy Larsen and David Buss (2005), seems to include all the already listed aspects of personality, such as its unique and individual character, relative stability and adaptive function. Additionally, this definition portrays personality as a set of organized properties which determine an individual’s relations with the world. The definition of personality in question is quoted in its entirety for the purposes of this article:

> Personality is the set of psychological traits and mechanisms within the individual that are organized and relatively enduring and that influence his or her interactions with, and adaptations to, the intrapsychic, physical, and social environments.

(Larsen and Buss 2005: 4)

### 2.2. Trait models of personality

In psychology, trait theories or dispositional theories have been developed for the purpose of investigating the personality types of individuals. As the name suggests, these theories are predominantly oriented towards the description and measurement of personality traits, and may be equated with the type theories which detail the categorizations and taxonomies of people with regard to quantitative rather than qualitative differences between them (cf. Bernstein, Penner, Clarke-Stewart and Roy 2008).

The trait theories generally assume that personalities consist of traits which form a combination of perceivable qualities unique to each individual, similarly to genes, which hold information about the unique biological features of organisms. The number of possible traits is unlimited. When speaking about an individual’s personality, people use specific adjectives with surprisingly similar denotations across languages. These adjectives are called trait descriptive adjectives and they denote various attributes of people. As Larsen and Buss (2010: 4) note, in English there are more than 20,000 such words, for example, *pessimistic, reliable, hard-working* and *shy*. Interestingly enough, these words may refer to such diversified aspects of personality as the specific qualities of the human mind, e.g., *thoughtful;* effects on others, e.g., *charming;* or desires to reach one’s goals, e.g., *ambitious,* etc. (cf. Larsen and Buss 2010: especially 4).

Trait adjectives are often used in educational contexts to describe the qualities of students, and also in official terminology and documents. They help to specify a number of educational goals aimed at the development of independence, imagination and discipline among students. Psychology textbooks for both experienced and student teachers (for example, Child, 1991 or Gage and Berliner, 1975) often refer to the five-factor model. Its current form is the result of the detailed work of many researchers, but the ones who are responsible for the final breakthrough in this area are Goldberg, McCrae and Costa (Dörnyei
This model is the dominant taxonomy when it comes to contemporary personality research and has attracted more agreement than any other in the field of personality psychology, where it constitutes the most popular trait-based model. The traits in the model are called The Big Five and include: “openness”, “conscientiousness”, “extraversion”, “agreeableness”, and “neuroticism”. The model (the research on which has been summarized, inter alia, by Digman in 1990) has proved to be universal and the most complete one, which explains its constant popularity.

3. Personality in the educational context

It is clear to everyone who has ever taught or studied a foreign language that there is a considerable variation in the rate at which people learn foreign languages, as well as in the language level which they ultimately reach. In the 1970s, a flurry of so-called ‘good language learner’ studies tried to specify the distinctive features of a successful learner. Although these studies are now widely perceived as simplistic, they did manage to identify a number of factors affecting the rate and effectiveness of foreign language acquisition (cf. “Good language learner studies”, n.d.). Among these factors, students’ personality has attracted a considerable amount of attention.

Nowadays the importance of personality has been rediscovered and the issue has been addressed many times in various documents. For example, in The Common European Framework of Reference for Languages: Learning, teaching, assessment (CEFR; Council of Europe 2001), one may read:

> The communicative activity of users/learners is affected not only by their knowledge, understanding and skills, but also by selfhood factors connected with their individual personalities, characterised by the attitudes, motivations, values, beliefs, cognitive styles and personality types which contribute to their personal identity.

(Council of Europe 2001: 105)

3.1. The European Union on the issue of personality management in the language teaching process

The policy of the Council of Europe is to promote the idea of multilingual societies. The CEFR, which was designed to “provide a transparent, coherent and comprehensive basis for the elaboration of language syllabuses and curriculum guidelines, the design of teaching and learning materials, and the assessment of foreign language proficiency” (Council of Europe n.d.), strongly underlines the need for a teaching process which, on the one hand, accounts for various personality traits manifested by individuals, and, on the other hand, creates a classroom environment allowing personality development and growth. What is more, the CEFR tries to encompass all aspects of language learning by introducing a taxonomy of competences which interact with each other, influencing the development of each unique personality. This document promotes an intercultural approach to teaching languages as it
calls for the development of the learner’s whole personality together with the development of a sense of identity characteristic of the citizens of Europe and the world. The task is so elaborate and difficult that “it must be left to teachers and the learners themselves to reintegrate the many parts into a healthily developing whole” (Council of Europe 2001: 1). Still, some desired general competences which are enumerated and specified along with one existential competence encompass, among others, such personality traits and factors, as: (1) loquacity and/or taciturnity, (2) enterprise and/or timidity, (3) optimism and/or pessimism, (4) introversion and/or extroversion, (5) proactivity and/or reactivity, intropunitive and/or extrapunitive and/or impunitive personality (guilt), (6) (freedom from) fear or embarrassment, (7) rigidity and/or flexibility, (8) open-mindedness and/or closed-mindedness, (9) spontaneity and/or self-monitoring, (10) intelligence, (11) meticulousness and/or carelessness, (12) memorizing ability, (13) industry and/or laziness, (14) ambition and/or (lack of) ambition, (15) (lack of) self-awareness, (16) (lack of) self-reliance, (17) (lack of) self-confidence, (18) (lack of) self-esteem (Council of Europe 2001: 105-106).

The role of these factors is highlighted by stating that they not only influence students’ behaviour in communication acts, but they also affect general learning abilities. Thus, keeping in mind such a correlation, a language teacher should promote and allow the development of students’ personalities, and at the same time, not forget about the ethical and pedagogic issues involved. The issues which should be considered by language educators include:

- the extent to which personality development can be an explicit educational objective;
- how cultural relativism is to be reconciled with ethical and moral integrity;
- which personality factors a) facilitate b) impede foreign or second language learning and acquisition;
- how learners can be helped to exploit strengths and overcome weaknesses;
- how the diversity of personalities can be reconciled with the constraints imposed on and by educational systems.

(Council of Europe 2001: 106)

Generally speaking, in the CEFR, language learning is seen as one of the ways to develop an individual’s personality (e.g., stronger self-confidence). The document promotes a general sensitivity to and acceptance of the cultural and personality differences among students.

3.2. The role of personality in the process of second language acquisition

When taking into consideration the biological foundations of language learning, second language acquisition is seen as a process which relies on a number of conscious and subconscious mental processes which are affected by an array of individual-related factors. These factors may facilitate or hinder the process of learning. In the teaching context, personality traits are enumerated among these variables and belong to the category of individual learner differences. It is generally believed, as Trawiński (2005: 40), an applied linguist, writes, that personality, alongside such factors as age, general intelligence, language aptitude and cognitive style, belongs to unmodifiable learner differences, i.e., it is not affected by the teacher or the environment. What is more, Trawiński (2005: 40) also underlines that
personality does not determine individuals’ linguistic abilities. However, it may influence other individual learner differences, for example, motivation.

Some theories relate personality to attitude and motivation, which are inseparably interwoven into the process of second language acquisition. Such claims were postulated by Rivers (1964), who was an Australian professor writing extensively on the topic of language teaching, and by a professor of linguistics and educational researcher, Krashen (1981). Krashen’s Monitor Model, first published in 1977, constitutes a group of five hypotheses striving to explain the mechanisms governing the process of second language acquisition. One of these hypotheses, namely the affective filter hypothesis, introduces the notion of the affective filter, which refers to emotional factors blocking the learner from receiving linguistic input. What is more, in his works, Krashen underlines that traits reflecting self-confidence (e.g. high self-esteem, a low level of anxiety and an outgoing personality) seem to influence L2 acquisition (cf. Lalonde and Gardner 1984).

Another well-known model, which partially accounts for the role of personality-related variables, was proposed by a psychologist, Gardner (1985). This model highlights the influence of learners’ attitudes towards the learning process and the language being learnt, as well as the role of individual learner differences in the process of language acquisition. Unfortunately, the model only draws our attention to the existence of a relationship between different social factors and learning, but it does not explain how and why this relation occurs (cf. Trawiński, 2005: 81-82).

Finally, an applied linguist, Schumann (1978) proposed a model which tried to account for social and psychological factors in second language acquisition. Schumann (1978) centered his Acculturation Model around the process of language learning in a natural environment. He underlined the role of the process of acculturation i.e. adaptation to a new culture, which, as Brown (2000) highlights, involves a change in the way of feeling and thinking.

Numerous studies have proved the existence of the mutual correspondence between personal and situational characteristics (cf. Matthews and Deary 1998). Matthews and Deary (1998) point out that this relation determines both a person’s behaviour in a given situation and subsequent changes in personality traits. Therefore, in the classroom environment, one may only speak about an aspect of somebody’s personality which functions in these circumstances – a given student may manifest completely different personality traits at home, at work or even when being taught by a different teacher.

Apart from affecting the process of acquisition, personality factors very often influence students’ performance and thus they can determine the process of evaluation and its results. What is more, as Child (1991) highlights, a teacher who has acquired some basic psychological knowledge may easily recognize some personality-related disturbances among his/her students. Such knowledge enables educators to intervene in cases when special guidance and help is required.

Once the role of personality in the process of second language acquisition has been briefly discussed, the most important research on the role of personality factors in the process of language acquisition will be outlined.
3.3. Research on personality traits in second language learning

An American psychologist, Braden (1995: 621-622), enumerates three applications of personality research. First of all, normal personality variation among students and its influence on learning outcomes may be studied. In contrast, other researchers scrutinize different abnormalities, including both dysfunctional and unusually gifted individuals. Finally, some research aims at facilitating teachers’ management of personality differences among their students. This paper focuses mostly on the first and third area of interest.

When it comes to the research concerning personality variables in learning, as Dörnyei (2005: 21) underlines, the overall picture emerging from it is rather mixed and in some cases even contradictory. The majority of research has been based on the Big Five traits with extraversion-introversion as the most popular among those analysing this area of language studies. Still, even here the results have been inconclusive. Dörnyei (2005) explains the situation giving a few reasons. First of all, personality factors correlate with a large number of situational variables which influence the results. For example, Wankowski (1973) proved that extraversion and introversion affect learning achievement differently before and after puberty. Before puberty extraverts have an advantage over introverts, but later the situation is reversed. Such results clearly suggest that there are too many obscuring factors which have to be taken into account during the research and it makes the task extremely laborious. Another issue is related to the construction of the Big Five Model itself. It consists of 5 main supertraits and each of them encompasses 30 primary ones. As psychologists Chamorro-Premuzic and Furnham (2003) have shown, people with identical superfactor scores may have completely different primary trait factor scores. It refers us back to the definition of personality with the aspect of a combination of traits and the metaphor of a culinary recipe – often one ingredient can change the taste of a whole dish. What is more, there are also some methodological problems involved, such as using various criteria for academic success; the choice of a sample or the duration of the research. Additionally, in the area of language use, there is a clash between a global psychological approach and detailed linguistic methods.

A number of personality-related factors have been suggested as those likely to influence second language acquisition. Still, as has already been stated, it is not easy to demonstrate their effects in empirical studies. Now the most popular assumptions will be presented.

First of all, an online public domain providing access to various means of personality measurement called the International Personality Item Pool suggests that extroverted learners willingly start conversations with a number of different people. Arabski (1996) notices, from the viewpoint of applied linguistics, that due to their sociability, extroverts have more opportunities to communicate and as a result, they receive a bigger amount of language input. Obviously, such encounters with a foreign language positively influence students’ fluency.

Secondly, the trait of conscientiousness seems to be generally related to the process of learning, including language acquisition. People with high levels of conscientiousness are always prepared and well-organized. What is more, they pay attention to detail and this tendency may be extremely helpful when learning grammar, for example.

Risk-taking constitutes another feature related to the Big Five taxonomy by its direct correspondence to the trait of openness to experience, which can be characterised as the
willingness to face new, sometimes even hazardous, life events. In turn, risk-taking, as the name suggests, is defined as a readiness to take risks, to guess and, in language areas, as a readiness to communicate in spite of errors (cf. Trawiński 2005: 43). Research in the area has shown that this personality feature makes our language learning more efficient and quicker as risk-takers experiment with language and thus make more hypotheses which are immediately verified. They also get more language input. However, excessive risk-taking may lead to the production and internalization of a number of incorrect language samples resulting in error fossilization (cf. Trawiński 2005).

Apart from the Big Five taxonomy, there are also some other personality-related factors which are traditionally believed to indirectly influence language acquisition. Out of many features, anxiety has attracted considerable attention in second language acquisition research. *The Gale Encyclopaedia of Psychology* (Strickland 2000: 42) defines anxiety as “an unpleasant emotion triggered by anticipation of future events, memories of past events, or ruminations about the self.” Anxiety may be triggered by real and imaginary situations, or may be a permanent personality trait. Feelings of stress and uneasiness experienced in new and stressful situations affect all people, regardless of their age, gender, social background or race. Mentally healthy and balanced individuals react appropriately in such situations and eventually adapt (cf. Strickland 2000), still it seems logical to assume that anxiety levels correlate with academic success, including foreign language learning, according to the simple rule: the higher anxiety level, the lower the level of educational success. However, the relation is not as obvious as it seems because anxiety may influence the learning process in two completely different ways. So far two kinds of anxiety have been distinguished, the so-called *debilitating anxiety* and the *facilitating* one (cf. Ellis 1985). The second one gives a student motivation to work harder and to be more competitive and therefore enhances the learning process.

Anxiety is related to yet another personality feature influencing language acquisition, namely self-esteem, which refers to the concepts of self-confidence and self-acceptance. In the learning context, self-esteem may be seen as “a sense of competence and mastery in performing tasks and solving problems independently” (Strickland 2000: 570-571). As Trawiński (2005: 41-43) notices, self-esteem might influence the rate of language acquisition by affecting the levels of both anxiety and inhibition. Inhibition constitutes yet another feature related to the shape of our personality. It may be defined as a mental state in which a person’s behaviour becomes restricted in order to defend one’s ego (ibid). Trawiński (2005) underlines that second language acquisition may be seen as a process of new ego creation and that is why inhibition may slow it down. Inhibition increases with age – adults with a well-established ego are afraid of losing face and that is why they avoid using language which is new to them. This negative influence of inhibition has been proved, for example, in research conducted by the psychologist, linguist and psychiatrist Guiora (1972, in Lightbown and Spada 1993), who analysed the influence of small doses of alcohol on adult learners’ pronunciation. Still, these procedures for lowering the levels of inhibition are not recommended for classroom language learners for obvious reasons.

The last feature to discuss is the tolerance of ambiguity, which is the ability to deal with unclear incoming information. A tolerance of ambiguity facilitates learning as it allows learners to make use of a greater amount of incoming linguistic information. Students who
are intolerant in this respect simply reject new language as they do not understand everything, for example, some vocabulary items in a new text (cf. Trawiński 2005: 44). As Wieder, a contributor to *The Gale Encyclopaedia of Psychology* (in Strickland 2000: 160) highlights, a tolerance of ambiguity is a trait that is necessary for success in creative endeavours, such as foreign language learning.

3.4. Personality of a good language learner

The majority of early studies concerning the features of good language learners have focused on the learning strategies used by such students. However, in the mid to late 70s, in the 80s and the 90s, interest shifted more in the direction of socio/cultural influences and individual differences (cf. "Good language learner studies", n.d.). Since then, the role of personality has been noticed and acknowledged among researchers dealing with the model of a perfect language student, for example, an experienced teacher and scholar from the field of language learning strategies, Griffiths (2008), devotes an entire chapter of her book to the issue. She describes research aimed at discovering the qualities of personality of highly successful language learners.

In Griffiths’ study introverted intuition is over-represented among proficient language users. As she explains, it is probably related to pattern recognition and analysis, receptivity to direct and indirect input, interferences, tolerance of ambiguity, orientation toward meaning, and sensitivity to universal aspects to language (Griffiths 2008: 69). Students whose thinking processes are linked with intuition seem to be gifted language learners. Intuitive thinking seems to contribute to the precision of language use. In this research, the most frequent personality type among the top language learners may be described as introversion-intuition-thinking-judging. As Griffiths concludes, the study suggests that the best language learners tend to have introverted personalities and these findings are contrary not only to much of the literature, also mentioned in this paper, but also to pedagogic intuition. The study perfectly underlines the fact that there are high-level language learners in a wide variety of personality categories and it is extremely difficult, if not impossible, to discover any patterns due to the number of possible variables.

Another important point was raised by two linguists, Politzer and MacGroarty (1985) in relation to their research which showed that learning and teaching processes are also culturally determined. When analysing the results of their study, one may assume that the strategies, styles and traits which facilitate the process of acquisition in Western societies may be completely different from those favoured by other cultures.

4. Concluding remarks on the classroom management of personality variation

Scholars who aim at developing models of a good language learner urge further investigation in this respect upon future researchers. Still, they draw general conclusions which must be taken into account and accepted by language educators.
Thus, personality traits, such as extroversion and introversion, are regarded as highly influential when it comes to the classroom environment. Brown (1973, in Kezwer 1978) has pointed out that extraversion was generally perceived as a positive feature in Western culture. He firmly maintained that teachers should be very careful in order not to favour the outgoing personalities in their classrooms. Littlewood (1983), for example, whose pedagogical reflections have been discussed by Kezwer (1978), has warned that one should avoid a too aggressive and forced animation of a shy pupil, as there are some limits to the extent to which introverts may be encouraged or prompted to verbalize their needs, thoughts or expectations (cf. Kezwer 1978: especially 55). Unquestionably, when planning foreign language lessons, it is extremely important to take into consideration the internal motivations of students and their different personalities. Namely, some foreign language learners are particularly oriented toward interacting with their classmates and they clearly demonstrate enthusiasm for any communicative activities performed during the lesson, while others, who are quiet and reserved, but, at the same time balanced and self-reliant, may prefer working separately. Undoubtedly, extroverts as such are usually expected to work in groups and engage in oral activities more willingly than introverts who favour individual work, including, for example, written assignments. What is of particular importance for teachers is that introverts, believed to be more accurate, usually enjoy grammar exercises. It should be added here that Brown (1973, in Kezwer 1978), discussing personality differences between students, highlighted the need to implement various testing methods not only with regard to oral production but also for other language skills, such as reading, listening and writing.

Anxiety is yet another personality variable taken into consideration by theoreticians and practitioners of foreign language teaching. As one could assume, almost all users of foreign languages would be certainly willing to admit that they feel anxious or nervous when speaking in front of others. Some suggestions of how to deal with these feelings have been proposed by Hashemi and Abbasi (2013), researchers from Iran, who based their advice about anxiety among students on earlier investigations conducted by Hauck and Hurd (2005). In the opinion of Hashemi and Abbasi (2013: 643), teachers should have at least a basic knowledge of psychology, which will allow them to recognise the existence of anxiety among students and, if necessary, to implement useful strategies. They believe that the choice of an appropriate strategy repertoire is only possible when the cause of anxiety or its sources, different in the case of each student at a particular moment, are specified (e.g., a lack of self-confidence, insufficient language level, cultural issues). According to Hashemi and Abbasi, whose article is of great practical value for teachers in general, it stands to reason that preventing students from feeling stressed and anxious oftentimes requires an understanding of the biological aspects of human sensation and emotions. In stressful situations, it may be advisable to help students realize that the feeling of anxiety is biologically conditioned and natural, for example, by stimulating a discussion about the problem, encouraging students to scrutinize how their bodies react in difficult circumstances and to explain how they can cope with unwanted, negative feelings. Teachers should also know intuitively when to implement some relaxation techniques, for example, taking a deep breath. Hashemi and Abbasi express the conviction that the teaching process should take place in a friendly atmosphere of cooperation among students regardless of their personalities. Error correction methods are
also important; teachers, whenever it is possible, should underline the achievements of students and help them to realize that making mistakes is a natural part of any type of learning and the development of an individual. Additionally, the teaching process should be focused more on rewarding instead of penalizing. Finally, when preparing exercises, one should avoid ones which cause early frustration and choose those which take students step by step to success, because, as educational psychologists, Nathaniel Gage and Berliner (1975: 412-413) underline, in unstructured learning environments, the results of anxious students are generally poor.

As far as openness as a personality trait is concerned, the positive correlation between high levels of ambiguity tolerance and language learning has been proved. According to Brown (2000: 119-120), it might be stated that, when working with those who tend to be intolerant with respect to acquiring new knowledge (which very often occurs in the case of adults), it is advisable to explain why they have to be able to deal with language input that is not completely clear.

The previous discussion pertaining to personality factors in the process of foreign language teaching covered just a small fraction of a very large repertoire. Moreover, an awareness of mutual correlations and influences between personality variables seems to obscure the picture of a foreign language learner. As Kezwer (1978: 56) noted, due to numerous factors, e.g., language level, class size, which have to be taken into consideration, it is almost impossible, when forming language classes or groups, to stream students according to, for example, their extravert or introvert nature. Still, a number of psychologists, including Gage and Berliner (1975: 397-398), argue that it is the environment that shapes and is responsible for developing and maintaining many personality traits. The personality traits of an individual predominantly reflect the environment in which he or she functions. Teachers may only learn how to modify the personalities of their students or help them to make full use of the psychological conditioning which they already possess. The modification of personality variables is possible by manipulating the classroom environment in such a way that it supports a given trait manifestation in a given environment.

5. Summary

Modern approaches to language teaching, such as intercultural communicative language teaching (advocated by i.a. Candlin and Widdowson in Richards and Rogers 2002) recognize the need for the holistic development of the learner in order to promote empathy and an understanding of other cultures. In recent publications in the field of foreign language didactics (cf. Dörnyei 2005; Moyer 2004; Rubio 2007), the personality trait of self-confidence is promoted as it facilitates the appreciation of both one’s own and other cultures. This new vision of communicative processes contributes to promoting human diversity and individuality.

In view of the achievements of personality psychologists and applied linguists dealing with the personality traits of foreign language learners, the efforts of teachers should be shifted towards the deployment of teaching practices which do not discriminate against language learners of any personality type. Practically speaking, individual personality traits may
influence the preference for some procedures, for example, in the case of testing, the types of exercises, the ways of presenting new information, homework choice etc. When the teacher understands the behaviour of students with different personalities, he or she can adjust the structure and flow of the lesson, thus helping them to achieve success.

As has already been stated in this paper, the language teaching policy postulated by the European Union promotes an acceptance and an appreciation of cultural diversity and individual learner differences. Therefore, future research conducted by applied linguists interested in the area of personality variables in the language classroom should be focused on efforts to create and implement effective teaching methods and techniques which would promote such differences among students and at the same time would positively influence the process of second language acquisition.

References


International Personality Item Pool: A scientific collaboratory for the development of advanced measures of personality traits and other individual differences. http://ipip.org/.


Is Unlike Coordination against the Law (of the Coordination of Likes)?

Anna Prażmowska

Abstract

The aim of the paper is to explore the possibility of a reconciliation between the existence of a wide range of grammatical instances of unlike coordination and the Law of the Coordination of Likes (henceforth, LCL), which states, in general, that only conjuncts of the same type can be coordinated. The notion of the 'sameness' or 'likeness' of conjuncts has been variously interpreted in the literature, resulting in a number of proposals put forward in an attempt to account for grammatical instances of unlike coordination while retaining at least a modified version of the LCL. The paper examines some of these proposals with reference to English and Polish data (grammatical and ungrammatical coordination of unlike and 'like' coordination), points to their shortcomings, and attempts to establish whether there exists any way to account for unlike coordination that would allow for the retention of the Law of the Coordination of Likes.

Keywords: unlike coordination, syntactic categories, syntax, Polish

1. Introduction

Coordination and subordination are two linguistic concepts that denote two of the most prominent types of syntactic and semantic relations which hold between clauses or smaller syntactic units. The relation denoted by subordination is asymmetrical in nature, i.e., there exists a structural hierarchy between the related elements, one of which is invariably subordinate to the other (e.g., Quirk et al. 1985: 988-991). Coordination, on the other hand, denotes a symmetrical relation between two (or more) elements which are hierarchically equal in that neither of the elements is more salient than the other (e.g., Quirk et al. 1985: 918-920; Huddleston, Payne and Peterson 2002: 1275-1277). While in subordination the order of the related elements is fixed with respect to the subordinator, and the superordinate element cannot be freely removed from the structure, in standard coordination, the order of conjuncts can be reversed, and it is possible for one of them to be removed from the structure without affecting its grammaticality. This symmetrical nature of coordination has been reflected in the traditional approach to the syntactic structure of coordination (e.g., Chomsky 1965; Dik 1968, among others), which has been regarded as symmetrical and flat (n-ary):
In compliance with the symmetrical nature of coordination indicating the equal status of conjuncts and with the traditional, symmetrical approach to the structure of coordination, it has been assumed that, in order for the conjuncts to be grammatically coordinated, they have to be equal not only in the structure but in other respects as well. In other words, they have to be the so-called ‘like’ conjuncts. This assumption has taken the form of the Law of the Coordination of Likes (LCL; Williams 1981: 646). The basic requirement for the conjuncts to be ‘like’ has been assumed to consist in them having the same syntactic category (Chomsky 1957). However, this requirement not only does not guarantee grammatical coordination (cf. (2a)) but it also cannot account for grammatical instances of unlike coordination1 (cf. (2b)).

(2)

a. *John ate [PP with his mother] and [PP with good appetite].

b. Mary remembered [NP John] and [CP that his mother was rude].

In this paper, we aim to determine whether it is possible to account for the existence and the grammaticality of unlike coordination while retaining the LCL. The research is based on Polish and English data. In section 2, the LCL and its variations will be discussed. It will be examined to what extent the conjuncts have to be alike in order to satisfy the LCL. Section 3 investigates the phenomenon of unlike coordination and reviews several methods proposed in the literature to eliminate the ‘unlikeness’ of conjuncts. Section 4 questions the feasibility of the LCL. Section 5 offers conclusions.

2. What is the Law of the Coordination of Likes and how much alike do the conjuncts have to be?

The term ‘The Law of the Coordination of Likes’ was coined by Williams (1981: 646) but the exact origin of the notion is impossible to trace since its premise, as mentioned above, is based on the traditional approach to the structure of coordination seen as symmetrical and n-ary (see (1)). In general, the LCL states that only conjuncts of the same type can be grammatically coordinated. However, the ‘sameness’ of conjuncts has been variously interpreted in the literature. For example, what it meant for Chomsky (1957) was the ‘sameness’ of the syntactic categories of the conjuncts. He proposes the following rule for conjoining constituents:

If S1 and S2 are grammatical sentences, and S1 differs from S2 only in that X appears in S1 where Y appears in S2 (i.e., S1 = ..X.. and S2 = ..Y..), and X and Y are constituents of the same type in S1 and S2, respectively, then S3 is a sentence, where S3 is the result of replacing X by X + and + Y in S1 (i.e., S3 = .. X + and + Y..).

(Chomsky 1957: 36)

To illustrate the rule, Chomsky (1957) offers the following example:

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1 In this paper, the discussion of unlike coordination is confined to unlike constituent coordination and does not include ‘unlikeness’ in terms of φ-features and case, nor does it include the coordination of question words of distinct categories. Accounts of unlike coordination proposed within non-transformational grammars are also not included in the paper. For discussion of unlike coordination within the HPSG framework, see, e.g., Daniels (2002); Levy and Pollard (2002); Sag (2003); Yatabe (2004); Chaves (2006). For analyses within the LFG framework, see Peterson (2004) and Przepiórkowski and Patejuk (2012), among others.
Is Unlike Coordination against the Law (of the Coordination of Likes)?

(3)  a. the scene – of the movie – was in Chicago

      b. the scene – that I wrote – was in Chicago

(4)  * The scene [PP of the movie] and [CP that I wrote] was in Chicago.

      (Chomsky 1957: 36)

The two coordinated constituents in (4) have different syntactic categories, i.e., of the movie is a PP, while that I wrote is a CP. According to Chomsky (1957), the fact that the conjuncts have different categories is the reason why they cannot be grammatically coordinated.

Schachter (1977) also assumes that the ‘sameness’ of the syntactic categories of the conjuncts is essential for the grammaticality of coordination. However, he proposes to extend the rule since the ‘sameness’ of the syntactic categories alone cannot account for certain ungrammatical examples of coordination, like the ones in (5):

(5)  a. * John ate [PP with his mother] and [PP with good appetite].


      (Schachter 1977: 89)

Although the conjuncts in each sentence in (5) have the same syntactic category (in (5a) they are both PPs, and in (5b) they are both adverbs), both sentences are ungrammatical. Schachter (1977) observes that the ungrammaticality of the sentences in (5) results from coordinating conjuncts with different semantic functions. In (5a), the first conjunct, with his mother, expresses accompaniment, while the second conjunct, with good appetite, expresses manner. Similarly, in (5b), the first conjunct, probably, is a modal adverb (referring to the degree of the likelihood of a proposition being true, cf. Ernst 2002: 75), while the second conjunct, unwillingly, is a mental-attitude adverb (a subject-oriented adverb describing “a state of mind experienced by the referent of the subject of the verb” (Ernst 2002: 63)). On the basis of this observation, Schachter (1977) formulates the Coordinate Constituent Constraint (henceforth, CCC), which states that “the constituents of a coordinate construction must belong to the same syntactic category and have the same semantic function” (Schachter 1977: 90).

Schachter (1977) motivates the inclusion of both the syntactic and semantic ‘sameness’ of conjuncts in the CCC by emphasizing that neither syntactic ‘sameness’ alone (as illustrated in (5)) nor semantic ‘sameness’ alone is sufficient to cover the data. In (6), the conjuncts differ syntactically (a gerundive construction and an infinitival construction) but have a virtually identical semantic interpretation, as illustrated by the paraphrases in (7).

(6)  * Running and to overeat may be unhealthy.

(7)  a. Running and overeating may be unhealthy.

      b. To run and to overeat may be unhealthy.

      (Schachter 1977: 87, 90)

Although appealingly straightforward, the CCC faces serious difficulties, i.e., in many cases it is either too permissive, generating ungrammatical sentences, or not permissive enough, failing to account for grammatical sentences that violate the CCC.
In (8), both conjuncts have the same syntactic category (CP) and both have, in a way, similar semantic functions (each is a declarative clause produced to communicate a certain fact), yet the sentence resulting from conjoining them is clearly unacceptable.

\[
\text{I read a great book yesterday and elephants are huge animals. (8)}
\]

Schachter (1977) notes that the unacceptability of sentences like the one in (8) has little to do with the CCC but, rather, it is a result of pragmatic ill-formedness. It is suggested that “if two constituents are coordinately conjoined, there must be some pragmatic motivation for the conjunction - some situation to which the conjunction is appropriate” (Schachter 1977: 91). More precisely, Zamparelli (2011) identifies the source of the unacceptability of sentences like the one in (8) as a violation of Grice’s Maxim of Relation. The maxim, being part of the Cooperative Principle, requires the information conveyed by an utterance to be relevant with respect to the information provided in the discourse that this utterance is a part of (Grice 1989: 26-27). The information conveyed in the and-phrase in (8) is not relevant to the information conveyed in the first conjunct, thus the utterance is ill-formed with respect to the Maxim of Relation. In terms of more recent Relevance Theory, the sentence fails to satisfy the hearer’s expectations of relevance, which thwarts (or at least considerably hinders) the comprehension procedure.

Another problem for the CCC is posed by sentences like the one in (9) below:

\[
\text{Mary makes very little money and all her own clothes. (9)}
\]

\[
\begin{align*}
\text{(9) a. Mary makes very little money.} \\
\text{b. Mary makes all her own clothes. (Schachter 1977: 92)}
\end{align*}
\]

Similarly to the sentence in (6), both conjuncts have the same syntactic category (nominals) and the same semantic function (they are semantically and pragmatically appropriate objects of make, as illustrated in (10)) but the sentence in (9) is still ungrammatical, although it does not violate the CCC. Schachter (1977: 92) attempts to account for the ungrammaticality of the sentence in (9) by pointing to the necessity of taking into account the dual meaning of make. In (10a), make means ‘earn’, while in (10b), it means ‘produce’. He notes that “such a dual assignment of meaning is evidently impermissible, perhaps on the grounds of violation of

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2 The Cooperative Principle, a composite of rules that participants of a discourse, or their contributions to the discourse, should conform to, is formulated by Grice (1989) as follows: “Make your contribution such as it is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged” Grice (1989: 26).

3 According to Wilson and Sperber’s Relevance Theory, the hearer’s comprehension procedure is deemed successful when the hearer’s expectations of relevance are satisfied, i.e., when the hearer arrives at the interpretation that satisfies these expectations. In general, the procedure consists in the hearer processing the message conveyed by an utterance in order to recognize the informative intention of the speaker. Since the informative intention underlying the potential speaker’s use of the coordinated clauses in the sentence in (8) is far from clear, the hearer’s effort expended in processing the utterance is considerable, and, following Wilson and Sperber (2004: 610), “the greater the processing effort expended, the lower the relevance of the input to the individual at that time.”
some type of perceptual conflict principle” (Schachter 1977: 92). Zamparelli (2011) observes that the make in (10a) and the make in (10b) are, in fact, two lexically different verbs, hence the ungrammaticality of (9) is a result of what we will here refer to as a violation of the lexical uniformity condition. Similarly, Zamparelli (2011) notes that the ungrammaticality of (11b), a sentence with a different constituent configuration than (5a) (ungrammatical due to the different semantic functions of the conjuncts; repeated here as (11a)), might also be a result of the violation of the lexical uniformity condition.

(11) a. *John ate [PP with his mother] and [PP with good appetite].
    b. *John ate with [DP his mother] and [DP good appetite].

(12) a. John ate with his mother.
    b. John ate with good appetite.

In (11b), the two DP conjuncts form a coordinate complex which is a complement to the preposition with. Although the two conjuncts can function individually as complements of with (as shown in (12)), they cannot do so when coordinated. Zamparelli (2011) suggests that the sentences in (12) contain two lexically different prepositions, i.e., the with in (12a) is comitative, having the meaning of ‘accompanied by,’ and the with in (12b) denotes manner (Zamparelli 2011), hence the DPs his mother and good appetite cannot both be complements to only one of these prepositions.

To sum up, in order for the conjuncts to be grammatically coordinated, they need to satisfy the following conditions:

(13) (i) the conjuncts have to be of the same category and/or
    (ii) the conjuncts have to have the same semantic function,
    (iii) the conjuncts must not violate Grice’s Maxim of Relation, and
    (iv) the conjuncts must not violate the lexical uniformity condition.

As shown above, conditions (13i) and (13ii) can neither individually nor in sum account for the grammaticality of unlike coordination (cf. (5), (8), (9)). These two conditions refer to the potential of the conjuncts to coordinate with each other, that is, they point to the syntactic or semantic similarities that make two conjuncts available for coordination. Let us identify them as coordination-internal conditions. On the other hand, condition (13iii) states that the conjuncts cannot violate Grice’s Maxim of Relation, i.e., not only must there exist some pragmatic correlation or parallelism between the conjuncts themselves but also there must exist some pragmatic motivation for the coordination to appear in a given sentence. Similarly, condition (13iv) relates the conjuncts to other elements in a sentence. For instance, the sentences in (9) and (11b) are said to be ungrammatical because the individual conjuncts are complements of verbs (as in (9)) or prepositions (as in (11b)) that are lexically different and the coordinate complex as a whole cannot be a complement to only one of them. Hence, let us identify the conditions (13iii) and (13iv) as coordination-external conditions.

Note that, although the condition in (13iii) must be satisfied by every instance of grammatical coordination, this condition alone does not automatically guarantee the grammaticality of coordination, as illustrated, for example, by the sentences in (6) and (9).
3. What is unlike coordination and how unlike are the conjuncts?

Despite the existence of many interpretations of the LCL, the term ‘unlike coordination’ is used in the literature to refer to the coordination of conjuncts with different syntactic categories:

(14) a. Johnny reads [AdvP slowly] and [PP with difficulty].
   b. Alice is [VP a teacher] and [AdjP proud of it].
   c. His great-grandfather is [AdjP healthy] and [PP of sound mind].
   d. That was [VP a stupid question] and [VP in very bad taste].

(15) a. Ewa była [AdjP bezrobotna] i [PP w sytuacji bez wyjścia].
   Ewa was unemployed and in a hopeless situation.

b. Lubił [NP alkohol] i [TP podrywać różne panie].
   He liked alcohol and pick-up-INF different ladies.

c. Pracowała [AdvP szybko] i [PP bez zbędnego gadania].
   She worked fast and without unnecessary talking.

d. Udawał [AdjP naiwnego] i [CP że nie nie rozumie].
   He pretended to be gullible and not to understand anything.

The Polish i is similar to the English and in that they are both general coordinators (as opposed to category-specific ones) that can coordinate the conjuncts of any category. It is expected, however, that the conjuncts coordinated with i (or with any general coordinator in languages with such coordinators) will be of the same category, which is not always the case, as illustrated in (15).

In order to account for unlike coordination by means compliant with the underlying requirement of the LCL, i.e., that the conjuncts must be of the same category, several proposals have emerged which either treat unlike coordination as ‘like’ coordination in disguise or try to force ‘likeness’ onto unlike conjuncts by unifying their categories.

Perhaps the most intuitive method to approach the analysis of unlike coordination is by employing the mechanism of ellipsis, which makes it possible to view unlike conjuncts as derived from larger units of the same category, as illustrated in (16) and (17):

(16) a. Johnny reads [AdvP slowly] and [PP with difficulty].
   b. Johnny [VP reads slowly] and [VP reads with difficulty].

5 Interestingly, in (14b) the second conjunct refers back to the first one, as noted by the reviewer. This results from the fact that the second conjunct contains the pronoun it anaphoric with the DP a teacher and is evidence of a more complex structure within this coordinate complex, an issue excepted from the present paper.

6 Following Witkoś (1998) and Bondaruk (2004), we assume that bare infinitival complements in Polish are TPs.

7 The following abbreviations have been used in the paper: INF – infinitive, GER – gerund.
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worked fast and without unnecessary talking

b. [CP Pracowała szybko] i [CP pracowała bez zbędnego gadania].
She worked fast and worked without unnecessary talking.

'She worked fast and without unnecessary talking.'

Since ellipsis is not an uncommon language mechanism, compliant with the premise of the economy principle, it is rather difficult to argue that the sentences in (16a) and (17a) are not derived from the ones in (16b) and (17b), respectively. In fact, one might perhaps safely assume that most instances of unlike coordination are indeed derived via ellipsis. However, this is not always the case.

It has been observed (e.g., Peterson 2004) that a derivation of unlike coordination via ellipsis is sometimes unavailable since the constituent configuration of the base sentence is different from the one of the derived sentence. For example, the sentence in (18a) cannot possibly be derived from any of the two sentences in (18b) and (18c) since they are ungrammatical.

(18)  a. You can depend on my assistant and that he will be on time.

b. * You can depend on my assistant and you can depend on that he will be on time.
c. * You can depend on my assistant and you can depend that he will be on time.

Additionally, the sentence before the application of ellipsis might have a different interpretation than the derived one, as illustrated in (19).

Ewa wrote two essays correctly and without help dictionary

Ewa wrote two essays without mistakes and without the help of a dictionary.'

b. Ewa napisała dwa wypracowania bezbłędnie i napisała dwa wypracowania bez pomocy słownika.
Ewa wrote two essays correctly and wrote two essays without help dictionary

'Ewa wrote two essays without mistakes and she wrote two essays without the help of a dictionary.'

In the sentence in (19a), it is clear that Ewa wrote two essays, both without mistakes and without the use of a dictionary. However, the most natural interpretation of the sentence in (19b) is that Ewa wrote four essays in total, two without mistakes and two without using a dictionary. It is neither viable nor necessary to claim that no grammatical instances of unlike coordination are derived via ellipsis (cf. (16) and (17)). Nevertheless, the derivation of unlike coordination via ellipsis cannot be the sole explanation for the grammaticality of unlike coordination since ellipsis is not always available (cf. (18)), nor does it seem to be always necessary. The coordinate complex alkohol i podrywać różne panie (‘alcohol and picking up different ladies’) in the sentence in (20a) does not have to be treated as a constituent since the

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8 The example in (18a), repeated in (25a) and (26a), is taken from Munn (1993: 80).
9 The reviewer notes that the fact that ellipsis is not possible in (19) seems to be related to the presence of the numeral, which might indicate that LF has a role to play in licensing ellipsis. We do not intend to analyse the factors that constrain ellipsis in Polish, so we leave this problem aside here.
sentence might be derived via ellipsis from the sentence in (20b). However, the same coordinate complex in the sentence in (21) forms a constituent and this sentence could not possibly be derived via ellipsis. If it is possible to coordinate unlike categories without the use of ellipsis, as in (21), the ellipsis analysis is not a satisfactory answer to the unlike coordination puzzle.

(20)  a. Lubił [NP alkohol] i [TP podrywać różne panie].
   liked alcohol and pick-up-INF different ladies
b. [CP Lubił alkohol] i [CP lubił podrywać różne panie].
   ‘He liked alcohol and picking up different ladies.’

(21) Alkohol i podrywać różne panie to dwie rzeczy, które lubił najbardziej.
   alcohol and pick-up-INF different ladies it two things which liked most
   ‘Alcohol and picking up different ladies are two things he liked most.’

Another method of turning unlike coordination into 'like' coordination stems from the observation that the most frequent instances of unlike coordination involve predicate complements (Sag et al. 1985), as in (14b-d). For example, Jacobson (1987) proposes that copular verbs, instead of subcategorizing for NPs, AdjPs or PPs, subcategorize for a single category PRED. In other words, it is proposed to rewrite NPs, AdjPs and PPs as PREDPs. The result is that conjuncts with different categories, as in (22a), become conjuncts with the same category PRED, as in (22b).

(22)  a. Ewa była [AdjP bezrobotna] i [PP w sytuacji bez wyjścia].
   Ewa was unemployed and in situation without exit
b. Ewa była [PREDP bezrobotna] i [PREDP w sytuacji bez wyjścia].
   Ewa was unemployed and in situation without exit
   ‘Ewa was unemployed and in a hopeless situation.’

Although this solution seems to work for the verb be, this is not always the case with other copular verbs (Bayer 1996; Peterson 2004). For example, the copular verb stawać się ‘become’ subcategorizes for NPs and AdjPs but not for PPs, as illustrated in (23).

(23)  a. Ewa stała się [AdjP bezrobotna]/ [NP ofiarą].
   Ewa became unemployed/ victim
b. *Ewa stała się [NP w sytuacji bez wyjścia].
   Ewa became in situation without exit
c. *Ewa stała się bezrobotna/ ofiarą i w sytuacji bez wyjścia.
   Ewa became unemployed/ victim and in situation without exit

If the category of both conjuncts in (23c) is the same, i.e., PRED, then the sentence is expected to be grammatical, which is not the case. Consequently, if one were to unify several categories under one label in order to account for unlike coordination, it would be necessary to establish which items can c-select for this particular category. For example, the verbs be, seem, appear, etc., can subcategrize for the category PRED, but the verb become would have to
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subcategorize for another unifying category, for instance, PREDX, which would encompass only NPs and AdjPs. This solution might have the undesirable effect of creating a new set of syntactic categories with a very particular (coordination-specific) context for application.

The motivation behind the two approaches to the analysis of unlike coordination discussed above, i.e., deriving unlike coordination via ellipsis and unifying the different categories of the conjuncts by means of another category, is the search for the common denominator for unlike conjuncts. An alternative strategy would be to abandon this search.

One possibility of doing so has been made available by the advent of a series of studies (e.g., Munn 1993; Johannessen 1998; Zhang 2010, among others) rejecting the flat structure of coordination in favour of a binary branching one. The binary branching structure of coordination is analysed as having the characteristics of either the structure of adjunction or complementation.

In the adjunction analysis, the first conjunct serves as a host to which the and-phrase (the coordinator and the second conjunct) is adjoined, as illustrated in (24a) (Munn 1993). The derivation of this structure is analogous to the derivation of the structure of traditional adjuncts. When an adjunct merges with its host, the category of the host is not influenced in any way and remains the same. Similarly in coordination, it is assumed that when the and-phrase merges with the first conjunct (functioning as a host) the category of this conjunct/host does not change. As a result, in the adjunction structure of coordination, the category of the coordinate complex is the same as the category of the first conjunct.

In the complementation analysis, the first conjunct is not a host to an adjunct but a specifier of the coordination phrase (‘XP and YP’) in which the coordinator is the head taking the second conjunct as its complement (e.g., Johannessen 1998; Zhang 2010). In general, the proponents of the complementation structure of coordination offer two ways in which the coordinate complexes are labelled. Johannessen (1998) postulates the introduction of the category Co(njunction). It is assumed that the coordinator (Co) is the head of a coordinate complex which projects its own phrase (CoP), as illustrated in (24b). Zhang (2010), on the other hand, postulates that the category of the coordinate complex is the same as the category of the first conjunct, which is the result of categorial feature percolation from the first conjunct onto the coordinator (i.e., the head of the coordinate complex), and from there onto the whole phrase, as illustrated in (24c).

At first sight, it may seem that all three structures illustrated in (24) can account for both ‘like’ and ‘unlike’ coordination. In the structures in (24a) and (24c), the category of the coordinate complex is the same as the category of the first conjunct. Consequently, the category of the second conjunct (whether the same as or different from the category of the first conjunct) plays no role in labelling the whole coordinate complex. The only restriction on
the category of the coordinate complex appears to be the c-selection requirement of the element selecting the coordinate complex as its complement, as illustrated in (25):

(25)  a. You can depend on [DP [DP my assistant] and [CP that he will be on time]].
    b. * You can depend on [CP that he will be on time].
    c. * You can depend on [CP [CP that he will be on time] and [DP my assistant]].

According to Zhang’s (2010) observation, only the first conjunct is c-selected by the head merging with the coordinate complex. For instance, when prepositions take coordinate complexes as complements (as in (25a)), the category of the first conjunct may be nominal but it cannot be a tensed clause. This restriction does not hold for the second conjunct, which can be a clause. Therefore, Zhang (2010) suggests that first conjuncts “must satisfy the category requirements that are imposed on the whole coordinate complex” (Zhang 2010: 51). At the same time, it is argued that the second conjunct and its categorial features are syntactically invisible and cannot be ‘reached’ by the c-selection requirements of the head taking the coordinate complex as a complement. Therefore, it would seem that the conjuncts can have different syntactic categories, as long as the first conjunct fulfils the c-selection requirements of the element merging with the whole coordinate complex.

This, however, is not the case in the structure proposed by Johannessen (1998), illustrated in (24b), where the coordinate complex is a coordination-specific CoP. If Co is indeed the category of every coordinate complex, irrespective of the categories of the conjuncts, there is no way to account for the grammaticality of (25a) and the ungrammaticality of (25c), repeated in (26) below.

(26)  a. You can depend on [CoP [DP my assistant] and [CP that he will be on time]].
    b. * You can depend on [CoP [CP that he will be on time] and [DP my assistant]].

In both sentences in (26), the preposition on takes a CoP as its complement, but in (26b) this results in an ungrammatical sentence. Therefore, it seems that the structure proposed by Johannessen (1998) is too permissive to successfully account for ‘unlike’ coordination.

The structures in (24a) and (24c) are too permissive as well, since they cannot account for the ungrammaticality of unlike coordination in the sentence in (23c), repeated in (27) below:

(27)  * Ewa stała się [AdjP bezrobotną] / [NP ofiarą i PP w sytuacji bez wyjścia].
   Ewa became unemployed/victim and in situation without exit

As the reviewer rightly points out, the grammaticality of the sentence in (25a) might be due to the presence of an unpronounced nominal phrase, e.g., the assumption, in the that-clause, which surfaces only when the second conjunct is the first or the only element c-selected by the preposition. This solution would result in the coordination being composed of two DPs, as illustrated below:

(i)  You can depend on [DP [DP my assistant] and [DP the assumption that he will be on time]].

If we were to assume that every coordinate complex is a CoP, it would mean that predicates also need to c-select for CoPs, which would pose a problem similar to the one faced by the analysis employing a single category PRED. For instance, if stawać się ‘become’ was allowed to c-select for CoPs, then it should be allowed to c-select for any coordinate complex, regardless of the category of its conjuncts, which is not the case, as shown in (23c).
As noted above, the verb *stawać się* 'become' can c-select AdjPs and NPs as its complements (cf. (23a)) but not PPs (cf. (23b)). Assuming either the adjunction (Munn 1993) or the complementation (Zhang 2010) structure of coordination, the sentence in (27) should be grammatical. Since only the first conjunct of the coordinate complex is c-selected and it is the one responsible for the label of the whole coordinate complex, while the second conjunct is structurally invisible and plays no role in category assignment, it should be possible to coordinate the combination AdjP/NP & PP with the verb *stawać się* 'become,' which is not the case.

In order to account for the ungrammaticality of sentences like the one in (27), we assume that the invisibility of the second conjunct is overridden by Wasow’s Generalization, which states that “[i]f a coordinate structure occurs in some position in a syntactic representation, each of its conjuncts must have syntactic feature values that would allow it individually to occur in that position” (Pullum and Zwicky 1986: 752-753). Being a PP, the second conjunct in (27) cannot be a constituent of a coordinate complex that is c-selected by the verb *stawać się* 'become' because it is not allowed to occur individually in that position, i.e., as a complement of *stawać się* 'become.' Since the generalization does not refer to the parallelisms between the conjuncts but relates the coordinate complex and its constituents to the external environment in which they occur, we will include the generalization as yet another coordination-external condition on the grammaticality of coordination.

4. Unfeasibility of the Law of the Coordination of Likes

In section 2, it was shown that not only do coordination-internal conditions (syntactic and semantic similarity) have to be included in the LCL but coordination-external conditions (pragmatic motivation and lexical uniformity) have to be taken into consideration in the case of coordination as well (cf. (13)). Section 3 discussed three strategies for analyzing unlike coordination, i.e., derivation via ellipsis, unification of categories, and an attempt to eliminate the issue of mismatched categories altogether. None of them seems to be efficient enough to be deemed superior to the others. The question then is whether the syntactic ‘sameness’ of conjuncts influences in any way their potential to be coordinated with each other.

In order to answer this question, a survey has been conducted to establish which combinations of categories can be coordinated in Polish. A summary of the results of the survey is presented in Table 1 below, where the plus symbols correspond to the attested combinations.
Table 1. The attested combinations (+) of conjuncts with different categories (based on data extracted from the National Corpus of Polish (NKJP, cf. Przepiórkowski et al. 2012 and Kallas 1993)

<table>
<thead>
<tr>
<th>CATEGORY OF THE SECOND CONJUNCT</th>
<th>NP</th>
<th>INF</th>
<th>GER</th>
<th>CP</th>
<th>AdjP</th>
<th>AdvP</th>
<th>PP</th>
</tr>
</thead>
<tbody>
<tr>
<td>NP</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>INF</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>GER</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>CP</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>?</td>
<td>?</td>
<td>+</td>
</tr>
<tr>
<td>AdjP</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>AdvP</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>PP</td>
<td>+</td>
<td>?</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
</tbody>
</table>

As shown in Table 1, in Polish almost every category can be coordinated with any other category, NPs, CPs and PPs having the highest potential for coordination with each other and the rest of the categories. The empty cells indicate that a given combination is not attested. This may be due to the unavailability of any possible context where the two categories could be coordinated, for instance, there is no context where the coordination of, for example, an adjective and an adverb, would result in a grammatical or at least an acceptable sentence. The question marks in three cells (PP & infinitive, CP & AdjP, CP & AdvP) correspond to unattested combinations whose reverse order (infinitive & PP, AdjP & CP, AdvP & CP) is found in the data. Reversing the order of the three attested combinations renders the sentences ungrammatical, as illustrated in (28)-(30):

(28) a. Udawał [AdjP naiwnego] i [CP że nic nie rozumie].
pretended gullible and that nothing not understands
‘He pretended to be gullible and not to understand anything.’

12 The reason why, at least in Polish, a CP cannot be the first conjunct when an adjective is the second conjunct might be due to the fact that CPs block case assignment (cf. Munn 1993), and adjectives in Polish need to be assigned case. However, this should also make the combination CP & NP ungrammatical, which is not the case, as illustrated below:

(i) Nauczył go, [CP żeby nie przeszkadzał] i [NP szacunku do starszych od siebie].
taught him to not interrupt and respect for older than himself
‘He taught him not to interrupt and to respect people older than himself.’

An alternative reason why CPs as first conjuncts are not attested in combinations with adjectives and adverbs might be weight effects. CPs tend to be longer (heavier) than adjectives and adverbs and, hence, they tend to be placed on the right side of the coordinator. For a discussion of weight effects in coordination, see Lohmann (2014).
b. * Udawał [CP że nic nie rozumie] i [AdjP naiwnego].
   pretended that nothing not understand and gullible

   stole sporadically and to feed family
   'He stole sporadically and to feed the family.'

b. * Kradł [CP żeby wykarmić rodzinę] i [AdjP sporadycznie].
   stole to feed family and sporadically

(30) a. Starał się [TP wyjechać] i [VP o pracę].
   tried leave and about job
   'He tried to leave and to get a job.'

b. * Starał się [VP o pracę] i [TP wyjechać].
   tried about job and leave

Although the frequency of ‘like’ coordination is indisputably greater than that of unlike coordination,13 the number of possible combinations of categories (at least in Polish) is high enough to start doubting the validity of the Law of the Coordination of Likes. If it is possible to coordinate NPs, CPs and PPs with virtually any other category and with each other, stating that in order for the conjuncts to form a grammatical coordinate complex they have to be of the same category is spurious.

Moreover, the grammaticality judgements of unlike coordination appear to be context-dependent. When in isolation, the two coordinated constituents in (31a) are not syntactically similar, nor do they seem to be semantically related to each other. Additionally, any pragmatic parallelism between the conjuncts can be made available and retrieved only from the context in which the coordination is used. In other words, there is no apparent indication of any parallelisms either within or between the conjuncts themselves that could be employed to produce a grammaticality judgement of the coordination in isolation. Consequently, according to the LCL, they are not supposed to form a grammatical coordinate complex, which is not the case, as seen in (31b).

(31) a. [TP spać] i [NP zapach płynu do płukania tkanin]
   to-sleep and smell liquid for rinsing fabric

13 We would like to tentatively hypothesize that the reason why it is still the case that the majority of coordinate structures contain ‘like’ conjuncts stems from the logic underlying human linguistic expression. The reason why a speaker “decides” to use a coordination relation to relate two entities, situations, etc., is because, at least for him or her, there exists some logical common ground (symmetry) between them that is best captured by this symmetrical relation. Automatically, this common ground corresponds to these entities/situations being similar in many respects, one of them often being their category (for instance, if we want to say that we have two things, we use two nouns to name these things; if we want to say that something has two features, we use two adjectives that best describe these features, etc.). This might be exactly the reason why some categories are never coordinated (e.g., adjectives and adverbs) – there is no context in which it would be logically possible to coordinate them. Expressing these symmetrical entities/situations by means of different categories often seems rather coincidental and optional (e.g., the phrase [Adj bez błędnie] i [PP bez pomocy słownika] expresses the same concept as the phrase [VP bez błędów] i [PP bez pomocy słownika] ‘without mistakes and without the help of a dictionary’). See Progovac (2010) for a discussion of the place of coordination in the evolution of syntax.
b. Wydaje mi się, że lubisz spać i zapach płynu do płukania tkanin.
I-think that like-2SG. to-sleep and smell liquid for rinsing fabric
'I think that you like to sleep and the smell of a fabric conditioner.' 

The examples in (31) undermine the validity of the LCL, which in its original form(s) is based only on coordination-internal conditions (i.e., the conjuncts must be syntactically and/or semantically and/or pragmatically similar). These conditions are insufficient to assess the potential for the conjuncts in (31a) to coordinate. What appears essential is the context, not only pragmatic but also syntactic (in the case of the coordination of complements), which roughly corresponds to the coordination-external conditions.

Therefore, in view of the present discussion, which deems the existing Law of the Coordination of Likes impossible to uphold when confronted with the data, we propose to revise the LCL as follows.

(32) The Revised Law of the Coordination of Likes
In order for the conjuncts to be grammatically coordinated, they need to satisfy the following conditions:
(i) they have to be of the same category and/or
(ii) they have to have the same semantic function,
(iii) they must not violate Grice’s Maxim of Relation,
(iv) they must not violate the lexical uniformity condition, and
(v) they must not violate Wasow’s Generalization.

Although the coordination-internal conditions (cf. (32(i)) and (32(ii))) are not sufficient to guarantee grammatical coordination, most instances of grammatical coordination do involve conjuncts with the same category (and the same semantic functions). However, the conjuncts do not have to be of the same category in order to be grammatically coordinated, as long as the coordination is pragmatically motivated and syntactically licensed by the structure in which it occurs. In fact, as shown in (31), there does not have to be any apparent connection between the conjuncts themselves. What seems to be necessary, though, is the connection, syntactic, pragmatic and lexical, between the coordinate complex and the structure in which it occurs.

5. Conclusions
In this paper, we argued that the phenomenon of unlike coordination is not a linguistic outlaw, but rather it is the Law of the Coordination of Likes that is flawed in presupposing that the existence of parallelisms between the conjuncts is sufficient to ensure the grammaticality of coordination.

It was shown that the attempts mentioned in the literature to circumvent the ‘unlikeness’ of conjuncts cannot successfully account for the data. The ellipsis analysis, despite being capable of covering a substantial amount of data, is not a universal solution as many instances of unlike coordination cannot be derived via ellipsis. Similarly, unifying the mismatched categories of conjuncts by means of introducing additional categories is not an efficient solution. Neither can the existence of grammatical instances of unlike coordination be
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justified solely by the binary structure of coordination (in which the second conjunct is structurally invisible), because it lacks a mechanism to block ungrammatical cases of unlike coordination.

We concluded that neither syntactic nor semantic (or even pragmatic) similarities between the conjuncts can invariably guarantee the grammaticality of coordination since the potential of two conjuncts to be grammatically coordinated cannot always be assessed solely on the basis of coordination-internal factors or in isolation. We argued that the key factor might be the syntactic, pragmatic and lexical relation between the whole coordinate complex and the structure in which the coordination occurs, which we attempted to capture by means of the Revised Law of the Coordination of Likes (cf. (32)).

References


