York Papers in Linguistics

PARLAY Proceedings Series 1

Issue 2:

Proceedings of the second Postgraduate and Academic Researchers in Linguistics at York (**PARLAY 2014**) conference
12th September 2014

September 2015
ISSN 1758-0315

Editors:
Verónica González Temer
Jelena Horvatic
David O'Reilly
Aiqing Wang

Editorial Note

The PARLAY (Postgraduate Academic Researchers in Linguistics at York) conference was created in 2013 to provide a forum in which early career researchers in linguistics meet, exchange ideas and receive input on their work. It was our privilege and pleasure to be plenary speakers at the second PARLAY conference in 2014.

A hallmark of linguistic research in the Department of Language and Linguistic Science at the University of York – embraced by PARLAY – is the desire to take an eclectic view of research, and with a blend of the theoretical and the empirical. The ten papers in this volume – a selection of the 40 papers presented at PARLAY 2014 – reflect this diversity of disciplinary approach. The ten authors represent institutions from around the UK, Europe, and Thailand.

The editors have collected here a set of papers which convey the depth and quality of research presented at the conference. We hope that PARLAY at York will continue to serve the needs of postgraduate researchers in linguistics, for many years to come.

John Williams, Cambridge; Peter Sells, York

September 2015

http://www.york.ac.uk/depts/lang/ypl

http://www.parlayconference.blogspot.co.uk

Contents

SHIFT TOPIC AND TOPIC CONTINUITY IN ITALIAN AND MODERN HEBREW

ILARIA BACOLINI
Ca' Foscari University

Abstract

Following basic assumptions of the Minimalist Program (Chomsky, 1993, 1995), the present contribution aims to analyse the distribution of third null subject pronouns in Modern Hebrew, in comparison with Italian. Based on comparative interface analysis, I argue that a third person singular pronoun in Hebrew, occurring in the same context where in Italian a *pro* would appear, is a phonologically weak and destressed item. On the other hand, when stressed, it proposes a shift in the conversation to a previously mentioned referent (as argued in Frascarelli & Hinterhölzl, 2007). According to Shlonsky (2009), the pro-drop in Hebrew is closely tied to the phi-features of the verb and third person Null Subjects (NS) are not licensed in the present tense. However, several counterexamples will be discussed and I will claim that the crucial factor that determines where a subject can be omitted is topic continuity in spoken languages. To conclude, evidence is provided that the Topic Criterion hypothesis (Frascarelli, 2007) positively accounts for the distribution of third null pronouns, both in a pro-drop language like Italian and a partial pro-drop language like Modern Hebrew.

1. Introduction

The interpretation of a referential *pro* in consistent pro-drop languages depends on a matching relation (Agree) with a specific type of topic, the Aboutness-shift Topic (Frascarelli, 2007). According to Frascarelli & Hinterhölzl (2007), this topic has the function of introducing a new aboutness topic (or proposing a topic-shift) in the discourse, in other words, it combines its [+aboutness] feature with a *shift* in the conversation. This pragmatic function is inherently associated with a rise in the intonational contour that is aligned with the tonic vowel in its full extension and reaches its peak on the post-tonic syllable. Actually, the authors, in detecting a strong correlation between the proprieties of topic and its functions at the Prosody-Syntax interface, show the existence of different types of topic located in the C-domain and propose a Topic Hierarchy:

(1) Topic Hierarchy:

$_{CP}$[A-Top (Topic Shift [+aboutness]) > C-Top (Contrastive Topic) > G-Top (Familiar Topic)]

This Hierarchy presupposes that when the [+aboutness] feature is associated with given information and a low tone, a Familiar Topic is used for topic continuity (left Periphery) or for the function of afterthought (right Periphery). Whereas when a Topic proposes a contrast between its comment and one or more other topics, associated with a specific intonational contour, Contrastive Topics are realized. For instance, consider the following example from Italian:

(2) a. Sai stavo parlando con Marco$_z$ e mi diceva che in questo periodo si vede sia con Maria che con Sara, ma proprio ieri Sara gli$_z$ ha fatto capire che vorrebbe consolidare la loro relazione.

Proceedings of the second Postgraduate and Academic Researchers in Linguistics at York (**PARLAY 2014**) conference
© The Author, 2015 ISSN 1758-0315 Issue 2

'you know, I was talking to Marco and he told me that now he is going out both with Maria and Sara, but just yesterday Sara made him understand that she would consolidate their relationship'.

b. Beh **Sara**, lei sì, ha preso sul serio Mario, mentre **a Maria**, **di lui$_z$**, non gliene importa niente.
'well, Sara is really interested in Mario, while Maria doesn't give a damn about him'.

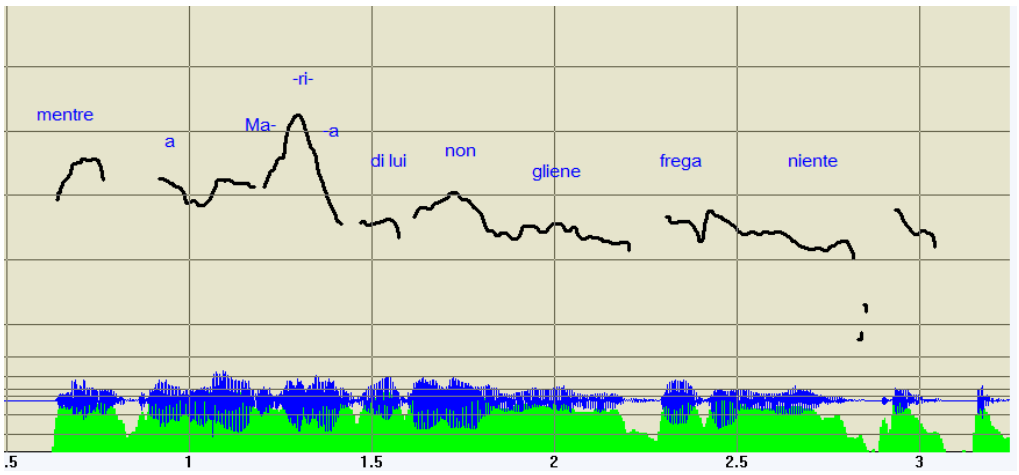


Figure 1: C-Topic and G-Topic

The constituents in bold are all topics. In particular, the PP *di lui* has the pragmatic function of referring to a NP mentioned before which needs to be maintained as Topic; this is confirmed by a low tone as shown in Figure 1. As for the Topic a *Maria*, it denotes a contrast between its comment and what is said about the DP *Sara* (which is a Contrastive Topic as well) and, as we can see in Figure 1, presents a rising intonational contour that reaches its peak on the tonic vowel.
This paper is organized as follows: Section 2 overviews recent significant related works on the NS Parameter, i.e., Frascarelli (2007), Frascarelli and Hinterhölzl (2007), Shlonsky (2009) and Homberg (2010)'s analysis; Section 3 provides a comparison between the data collected in Italian and Modern Hebrew; in Section 4, I discuss the distribution and identification of third person null pronouns in Hebrew; and Section 5 contains an attempt to explain the reasons why this Semitic language is classified as a partial pro-drop language and how the two languages under discussion differ from each other.

2. *The Topic Criterion hypothesis (Frascarelli 2007, in press)*

Pro drop has recently received a Minimalist make-over in the works of Frascarelli (2007, in press), since the author has shown that the identification of a NS does not solely depend on formal considerations internal to IP (narrow syntax), but that more comprehensive considerations regarding Information Structure must be taken in account. In particular, Frascarelli (2007: 26) has formulated the following criterion to account for the identification of *pros* in consistent pro-drop languages such as Italian:

> TOPIC CRITERION
> [+aboutness] is connected with an EPP feature in the high Topic field that yields specific discourse-related property, namely 'Aboutness';

> the [+aboutness] Topic matches with an argument in the main clause through Agree; and
> when continuous, the [+aboutness] Topic can be null (i.e., silent).

The main idea is that every predicational sentence presents an A(boutness-shift) Topic (henceforth A-Topic) in the C-domain that can provide a referential value to a third null pronoun in IP. The author points out that an A-Topic can also be silent. In fact, it is realized only when speakers want to propose a topical shift in the discourse: if the current A-Topic remains as 'what a sentence is about' in the following sentences, then it will be maintained as silent. Lastly, when the topic in question is null, a Familiar Topic (acting as a low copy of it) might be used for topic continuity. Frascarelli (2014: 26) refines this 'Macroparameter' proposing a 'Mesoparameter for partial pro-drop languages where it is claimed that 'the A-Topic chain must have at least one overt link' that could be an A-Topic or its only possible substitute, the G-Topic, to identify a third person null pronoun. Consequently, the author observes that 'the *minimal overt link* in a A-Topic chain should be chosen' to not compromise the grammaticality of a sentence.
Frascarelli (2014) proposes this Mesoparamter as a working hypothesis that should be verified across languages. I will argue that it is valid in Modern Hebrew showing that it can explain the realization/non-realization of NSs in different contexts.

2.1 Modern Hebrew (Shlonsky, 2009)

The distribution of NSs seems to be fairly complex in Modern Hebrew. According to Shlonsky (2009), Hebrew shows the following picture:

1. the expletive *pro* is always licit, without any particular restriction;
2. first and second person NSs simply do not exist, because there are some '*clitic subjects'* incorporated into the verb, that make the [Spec,IP] position appear empty;
3. a third person NS cannot be interpreted referentially, as it lacks a [person] feature. This means, there is no difference between non-referential and referential covert subjects. However, the latter may appear but '*must* be controlled' by the matrix subject that can make it capable of reference. This can occur only in the past and future tense, because 'present tense verbs in Hebrew are participles, not only morphologically but also syntactically. [..] The Hebrew participle lacks a specification for [person] not because a [person] slot happens to be lexically absent from its p-feature set, but because there is a conflict between its nominal nature and the possession of such a slot' (Shlonsky, 2009: 20).

According to the author, this explains the partial pro-drop nature of Hebrew. I will focus on the third point, and present an alternative analysis.

2.2 The D-in-T Hypothesis (Holmberg, 2010)

Homberg (2010) proposes the following picture to account for the realization of NSs cross-linguistically:

1. Consistent pro-drop language (Italian, Spanish ect.)*:*
   T[+D] and *deficient pro*
2. Partial pro-drop language (Finnish, Brasilian Portughese ect.)*:*
   T[-D] and impersonal *pro*, except if there is a local linguistic antecedent that binds it.

3. non-pro-drop language (English, French ect):
   [+D] pronoun

For the first group, it is assumed that *pro* is a 'deficient' pronoun and receives a referential value by T that has a [+D(efinite)] feature as part of its ϕ-features. Then, *pro* is incorporated to T as a result of Agree, to be more precise, when T probes the subject to value its features[1]. Finally, adopting Frascarelli's hypothesis, an A-Topic should intervene to value the uD-feature of T. By contrast, T presents [-D] feature in partial pro-drop languages, and the result is that a pronoun can only be interpreted as impersonal, that is, as an indefinite subject pronoun (D-less). However, a NS can still be realized if a local antecedent can c-command it. Lastly, non-pro-drop languages do not have *pros* by default and, as a consequence, any 'deficient' pronouns. Consider the following example, analysed in Holmberg (2010), where a partial pro-drop language is compared to a consistent pro-drop one:

(3) Finnish:

a. Gianni$_1$ ile sanonut mitään, mutta Poalo$_2$ sanoo että ***pro***$_{*1/2}$ haluaa ostaa uuden auton.

Italian:

b. Gianni$_1$ non ha detto niente, ma Paolo$_2$ ha detto che ***pro***$_1$ vuole comprare una macchina nuova.

'Gianni didn't say anything, but Paolo said that (he) wants to buy a new car'.

Holmberg states that in (3a) the DP *Gianni* cannot locally c-command *pro* in the embedded clause, thus the only possible interpretation is that the referent *Paolo* is the person who wants to buy a new car. By contrast, c-command is not required in Italian, and the referent *Gianni*, being the Topic of the discourse, is also the antecedent that identifies the NS. I would disagree with this interpretation because, in my opinion, (3b) is ambiguous: both *Gianni* and *Paolo* are topics (specifically, Contrastive Topics) and Italian native speakers may identify *pro* both with *Gianni* or *Paolo*: it depends on the previous context (and the prosodic structure), that is, on whether *Gianni* has been previously established as A-Topic or whether *Paolo* was being discussed. As for the Finnish sentence above, Frascarelli (2014) has shown that the interpretation that identifies *Paolo* as the person who wants a car is not the only possible one, in other words, it seems that the c-command condition does not really explain the realization of a NS even in Finnish. The following is an illustration:

(4) Jarin$_1$ puhe teki selväksi, ettei ***pro*** ole syyllinen

'Jari's talk made it clear that (he) is not guilty'.

(FRASCARELLI, 2014: 21)

In (4) there is not a c-commanding antecedent for *pro* and the sentence has been judged grammatical by 48 per cent of Frascarelli's informants.

To conclude, the difference between pro-drop and non-pro-drop languages, as presupposed in Holmberg (2010) depends on the presence or absence of the [D] feature in T[2]. This feature, however, is *discourse related* in the sense that the participants in a conversation can or cannot presuppose the existence of a unique individual denoted by it (cf. Heim, 1999; Ionin, 2004). To put it differently, I believe that the presence of [D] can only affect the felicitousness of a sentence and does not deal with the reference and, as consequences, the

[1] 'In this case the null subject is a deleted copy in a chain headed by T' (Holmberg 2010: 89).

[2] In other words, it appears that the difference lies in the lexicon, because it is assumed that non-pro drop languages do not have *pro* in their grammar and it may seem arbitrary.

identification of *pros*. Indeed, it is a universal feature (-/+ overtly realized, but still universally) and all languages should encode it. Furthermore, the fact that a *pro* is 'deficient' - in the sense that it is D-less - seems arbitrary: I will show that *pros* and weak pronouns have the same function of topic continuity (as pointed out in Frascarelli, 2007) even in Hebrew. In other words, it could be the case that when a *pro* is used in Italian, a weak pronoun may appear in Hebrew (meaning that they have the same features) and there is no lack of definiteness.

3. Comparing Italian and Modern Hebrew

I will now discuss syntactic and prosodic proprieties of some Hebrew sentences from the corpus[3], comparing them with their Italian translation. Let me start by considering the following example in Modern Hebrew:

(5) [Ha-professor] hechzir et ha-mivchhanim metukanim,
the-professor take back.PST.3MS ACC the-exam corrected
[ha-assistent] shelo natan otam aval **hu**
the-assistent 3MS-GEN distribute.PST.3MS ACC but he
itraghez mipneishe ***pro*** lo raza latet otam
get-angry.PST.3MS because NEG want.PST.MS INF.give ACC
be-oto-ha-rega
in-this-the-moment
'The professor has corrected the exams, his assistant has passed out them, but he got angry because he didn't want that (he) had distributed them in that moment'.

In (5) the speaker first introduces the referent *haprofessor* ('the professor'), then another referent is introduced, ie., *haassistent* ('the assistant'); according to the assumptions in Shlonsky (2009), both these DPs would be possible referents for the following overt pronoun *hu* and covert *pro*. Actually, the second DP presents a rise in the intonation contour that reaches its peak on the post-tonic vowel (see Figure 2). It qualifies as A-Topic, that is, as a constituent that can provide a referential value for a thematic *pro* or a weak pronoun. However, the speaker wants to say something more about the first referent, therefore he proposes another shift, by using the strong pronoun *hu* (in bold)[4]. This pronoun is now the current topic of the discourse and, as the consequence, it is also the antecedent that identifies the NS in the last sentence.

[3] The corpus consists of elicited sentences and grammatical judgments. Informants were 27 Hebrew native speakers that have expressed their judgments by filling an online test (that I created using Google Drive). Informants were all between the age of 23 and 55 years old and had an educational level of at least BA degree.

[4] For details, see the analysis proposed in Frascarelli (2007) where it is demonstrated that strong pronouns have the function of proposing a shift in the conversation, when they show specific intonational properties.

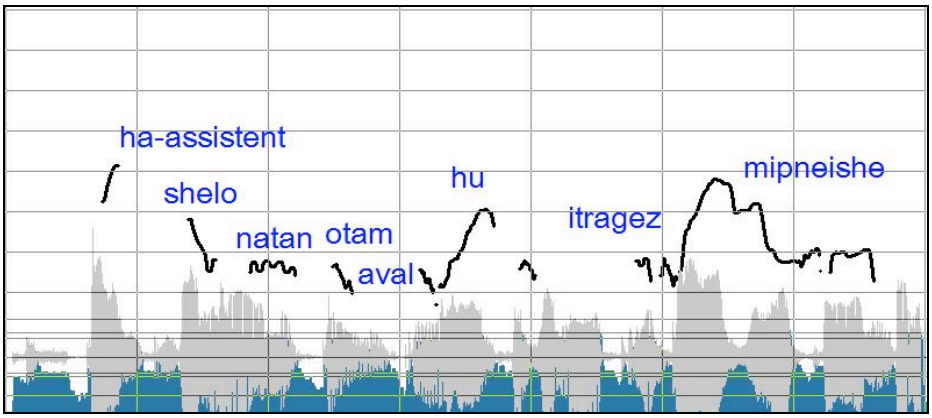


Figure 2: Aboutness-shift Topic

Figure 2 confirms our analysis: both the DP *haassistent* and the pronoun *hu* have the prosodic proprieties of an A-Topic, that is, a rising intonational contour. Furthermore, this analysis is in line with the Topic Criterion hypothesis (cf. Frascarelli, 2007, §2) and is valid also in Italian:

(5') [Il professore]$_x$ ha riportato i compiti corretti, [il suo assistente]$_y$ li ha distribuiti, ma **lui**$_{x/*y}$ si è arrabbiato perché ***pro***$_x$ non voleva che li riconsegnasse subito.

The pronoun *lui* ('he') is coindexed with the DP *il professore* ('the professor') although it is neither the nearest possible referent, nor the current Topic of the discourse (the speaker, in fact, introduces another topic (s)he wants to talk about: *il suo assistente,* 'his assistantì'). This strong pronoun actually switches the conversation to *il professore,* reintroducing him in the discourse as the current Topic. An essential similar analysis has been provided above for Hebrew.
In section 3, we summarise the analysis proposed in Shlonsky (2009) where the dropping of a NP subject in Hebrew is closely tied to the tense features of the verb: a third person singular subject cannot be omitted in present tense. I would like to propose the following as a counterexample:

(6) [contest: two girls, Alice and Sara, are sitting at a café and after chatting for a while, Alice says to Sara:]

Rait	et	ha	bahur	im	ha-hultza	ha-adum-a?	hu	omer
see.PAST.2SM	ACC	the	guy	with	the-shirt	the-red-F.	he	say.PST.3MS
shalom	le-kol	ha-banot	še-		ovrot		lamrot	
hello	to-all	the-girls	that		pass-through-3PLF		even thought	
še- ***pro***	lo	makir			otan			
that	NEG	know.PRES.3MS			them			

'Did you see the guy with the red t-shirt? He says hello to all the girls that go by, even though (he) doesn't know them!'

In (6), the speaker initially introduces the DP *habuhur* ('the guy') which is new information (but not the current Topic), thus a strong pronoun is necessary (*hu*). It qualifies as the A-Topic and provides a referential value for the following 3th person singular NS. Notice that this NS is realized in a present tense sentence, as the form of the verb *makir* 'knows' makes

clear. It should be mentioned that only *pros* are used in the corresponding Italian translation[5]. This leads us to claim that in Hebrew an A-Topic chain needs to be re-activated in root sentences in order to maintain topic continuity. To do that, Hebrew uses the same topic continuity strategies as in Italian, that is, a weak pronoun (7a) or a Familiar Topic (7b):

(7) a. **hu** he'evir la-daf hašeni ba-takhtsir, lama zman še-ze
he turn.PST.3SM the-page second of-report how-many time that-it
lakakh, kach ***pro*** hechlit še-zo avoda meyutevt
take.PST.3M so decide.PST.3MS that-it challange useless

b. [Rosh ha-memshala] matakh et zroota-v meal
head the-government strecht.PST.3MS ACC arms-POSS.3S above
rosh-o achar-kach ***pro*** he'if mabat azuv al
head-3MF.GEN after-that give.PST.3MS glance sad to
misvad-o
office-POSSE.3S

(8) a. ***pro*** passò alla seconda pagina della relazione,
get- PST-3S to-the second page of-the report
pro vide quanto pro era lunga così
see-PST-3S how much be-PST-3S long so
pro decise che pro_{Espl} era un'impresa vana
decide-PST-3S that be-PST-3S a'challenge useless

b. ***pro*** stiracchiò le braccia sopra la testa a quel punto
strecht-PST-3S the arms above the head at the point
pro volse per l'ufficio uno sguardo triste
cast- PST-3S around the'office a glance sad

'(he) got to the second page of the report, he saw how it was long, so (he) decided that it was a useless challenge. The Prime Minister stretched his arms above his head and (he) casted a sad glance around the office'.

In (7), the topic of the discourse, or rather, the A-Topic is the *Prime Minister*. As we can note, it is introduced at the beginning by the pronoun *hu* in (7a); by contrast, a NS appears in Italian in (8a). In the subordinate sentence, however, a NS is used both in Hebrew and in Italian[6]. My expectation is that the pronoun in Hebrew is phonologically weak; if this is the case, it would mean that there are no differences between the two languages in question, because null and weak pronouns have the same function of topic continuity as amply demonstrated in Frascarelli (2007). This expectation is met by the data, as evidenced by the prosodic analysis in Figure 3:

[5] 'Hai visto *il ragazzo con la maglietta rossa*? **pro** saluta tutte le ragazze che passano, nonostante **pro** non le conosca'.

[6] Actually, we see two NSs in Italian, while in Hebrew a NS and an Expletive subject (*ze*) are used. This, however, is due to stylistic choices.

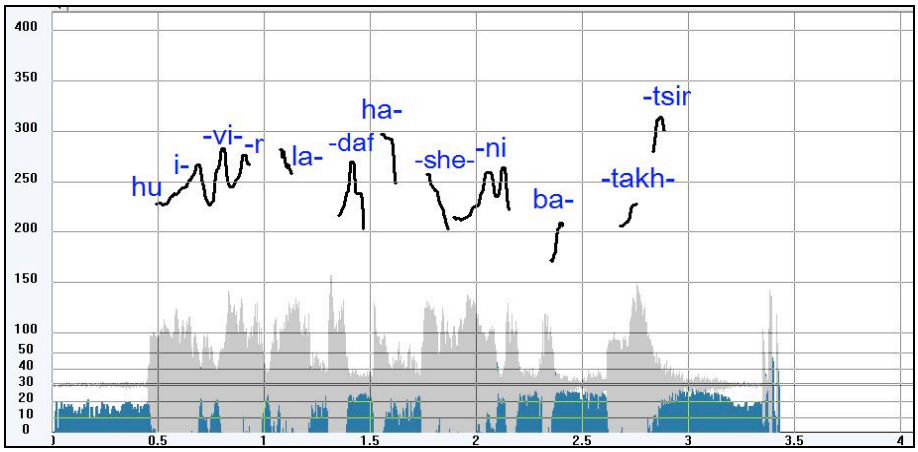


Figure 3: weak subject pronoun

As we can see, the pronoun *hu* is realized with a low tone: the immediately following rise in pitch refers to the next word that is the verb *ivir*. In (7b), the topic of the discourse is reintroduced as a full DP, *rosh hamemshala* ('the prime Minister'), in Hebrew; while in Italian a NS is still used (8b). Therefore, I believe that the DP in question has been reintroduced for topic continuity (to activate the [+aboutness] feature); to put it formally, it is a Familiar Topic that represents a 'low copy' of the previous mentioned Aboutness-shift topic. Let us observe the prosodic analysis of the constituent in question:

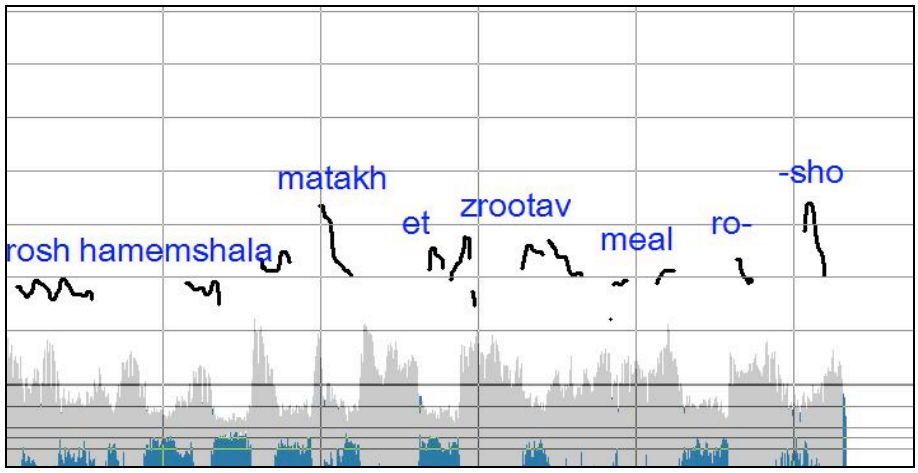


Figure 4: continuing topic

Furthermore, *rosh hamemshala* effectively presents a low tone, devoid of intonational peaks. The fact that an element of topic continuity appears both in (7a) and (7b) (*hu* and *rosh hamemshala* respectively), before the manifestation of *pros*, may support our claims that when the A-Topic is distant, the identification of *pros* becomes difficult. In Frascarelli's terms, there must be at least one overt link in an A-Topic chain and the two continuing topic elements above seem to fulfill this requirement. In fact, this difficulty does not emerge when the Topic *rosh hamemshala* (with the function of reintroduced a topic in the discourse) is close to the NS, as in the following example:

(9) (previous context: Scrimgeour shook it for a moment, while his gaze ran through the room [..] "I prefer not to be interrupted" he said, "nor spied" he added, pointing his wand at the windows. Tends were closed immediately. "Well, then, [..] we need you safe")

[rosh ha-memshala]	natakh	et	atznò		le-govho	ha-merabi
head the-government	rose.PST-3MS	ACC	PRO.RIFL-3S		of-stature	the-height
beoto rega ***pro***	amar	ani	samekh	ve-merutze		
in that moment	say.PST-3MS	I	satisfied	and-happy		

'The Prime Minister rose to his full stature, in that moment (he) said: "I am definitely satisfied'.

This may lead to the conclusion that third person subject NPs in Hebrew can be omitted in some restricted contexts, such as in embedded domain (as argued in Vainikka & Levy, 1999). However, I believe that topic continuity in spoken languages is the crucial factor in determining where and weather a NS subject can be omitted in a given sentence. This will be explored in the next section.

4. Third null pronouns in Modern Hebrew: the collected data

As we have previously mentioned, it has been claimed in the literature that third person subject NPs in Hebrew can be omitted in embedded contexts (see Vainikka & Levy, 1999), including the following:

(10)

Uri	hetchil	le'hitragesh	meod	berega	še	***pro***
Uri	become.PST.3MS	exciting	a lot	as soon as	that	
higi'a		la-pgisha				
arrive.PST.3MS		to-meeting				

'Uri got very excited as soon as (he) has arrived to the appointment'.

The sentence in (10) has been accepted by all our informants. Here the DP *Uri* occupies the A-Topic position in the C-domain, activating the [+aboutness] feature and identifying the person who has arrived to the appointment as *Uri*. Since *pro* in (10) is actually in a subordinate context, I have proposed informants to judge the same sentence, this time preceded by a context where another person, call him Mikhael, is introduced in the *common ground*[7]. Informants were asked again *who* was supposed to arrive to the appointment in (11). Following the assumption in the literature, one should expect the same interpretation as (10):

(11) [previous context: Uri is waiting for this day to come: it's so long that he doesn't see Mikhael!]

Uri hetchil le'hitragesh meod berega še ***pro*** higi'a lapgisha
'Uri got very excited as soon as (he) has arrived to the appointment'.

The most interesting data here is that the majority of Hebrew native speakers have answered *Mikhael*. To put it differently, even though the DP *Uri* is the nearest constituent that can act as antecedent for the null pronoun, 50% of informants accept the interpretation where the NS refers to a NP mentioned in the context (therefore, excluding the matrix subject as the antecedent of the embedded null pronoun)[8]. This means that the identification of *pros* in Hebrew can occur out of embedded domains.

[7] Krifka (2006).
[8] 35% of informants have answered 'Uri' and 15% 'they can be both'.

It is worth observing the different degree of acceptability of sentences containing the so-called bridge verbs. The following is an illustration:

(12) shama-ta ma še-[Daniel] amar? hu chozer ve-
hear.PST.2S what that Daniel say.PST.3MS he repeat.PRES.3S and-
omer še ***pro*** roce lalechet ha-bayta
say.PRES.3MS that want.PRES.3MS INF.come back to-home
'Did you hear what Daniel said? He keeps saying that (he) wants to go home'.

(13) Etmol pagash-ti et [Gianni] hu siper li še ***pro***
yesterday meet.PST.1MS ACC Gianni he tell.PST-3MS me that
nasa lilmod be-anglia le-shana
go.PST.3MS to learn in-England for-year
'Yesterday I met Gianni… he told me that (he) went to UK to study for one year'.

(14) a. Ma im Gavriel?
'What's about Gavriel?'
b. Ah [Gavriel] hu amar še ***pro*** nehene meod az
ah Gavriel he say.PST.3MS that enjoy.PST.3MS a lot so
pro hekhlit lehishaer sham
decide.PST.3MS to stay there
'Ah Gavriel! He said that (he) enjoyed a lot, so (he) decided to stay there'.

In (12), (13) and (14), the speaker reports what *Daniel*, *Gianni* and *Gavriel* have told him/her, making it explicit by using *verba dicendi* (respectively, *omer* 'says', *siper* 'told' and *amar* 'said')[9]. Moreover, in the complement clauses of these verbs, subjects have been omitted. Consider Table 1 for the grammatical judgments:

Sentences:	OK	NO	??
(12)	42%	29%	29%
(13)	57%	14%	29%
(14)	53%	34%	13%

Table 1: grammatical judgments

In table 1, the discrepancy between grammatical, ungrammatical and marginal judgements is not clear, although most native speakers do accept these sentences. However, I believe that the reported speech somehow interferes with the realization of NSs, but it is not clear to me how and why. What we can affirm here is that in Hebrew the highest Spec,CP position is always occupied to identify the [+aboutness] feature and a potential NS. In the above sentences, this function is performed by the pronoun *hu* that sitting in [A-TopP] activates the [+aboutness] feature and identifies the following *pros*.

[9] It is worth pointing out that in (12), a third person singular subject is omitted in the present tense, a case excluded in Shlonsky (2009). For details see §3.

5. Conclusion

Up to now, the above data lead us to propose that in Hebrew the [Spec,TopP] must be filled (by an overt pronoun or a full NP) to activate the [+aboutness] feature. In other words, it seems that the A-Topic cannot be maintained silent across sentences. However, once the [+aboutness] feature is activated, the realization of a NS is largely accepted.
This study also shows that not only in Italian but also in Modern Hebrew a third person singular null pronoun is identified by the local A-Topic. However, the two languages in question differ in the way they maintain topic continuity:

TOPIC CONTINUITY

a) $_{CP}$[<null A-Topic>[…. $_{CP}$[pro…$_{IP}$[hu…]] Hebrew

b) $_{CP}$[<null A-Topic>[…. $_{CP}$[Fam-Top…$_{IP}$[pro…]] Hebrew

c) $_{CP}$[<null A-Topic>[…. $_{CP}$[pro…$_{IP}$[pro…]] Italian

If the A-Topic is null, because it has been previously established and it remains as the current Topic, a weak pronoun (a) or a Familiar Topic (b) are generally used in Hebrew to guarantee topic continuity. These strategies are also present in Italian although only *pros* are usually used (c).
Lastly, working with informants, I could collect data in which NSs appear in cases excluded by Shlonsky (2009), that is, in the present tense.

References

CHOMSKY, N. (1981). *Lectures on Government and Binding*. Dordrecht: Foris Publications.
CHOMSKY, N. (1982). *Some Concepts and Consequences of the Theory of Government and Binding*. Cambridge: The MIT Press.
CHOMSKY, N. (1993). A Minimalist Program for Linguistic Theory. In Hale, K. & S. J. Keyser (eds.). *The View from Building 20: Essay in Linguistics in Honor of Sylvain Bromberger*. Cambridge: The MIT Press.
CHOMSKY, N. (1995). *The Minimalist Program*. Cambridge: The MIT Press.
CINQUE, G. (1999). *Adverbs and Functional Heads: A cross-linguistics perspective*. Oxford: Oxford University Press.
FRASCARELLI, M. (2007). Subjects, Topics and the Interpretation of Referential pro. An interface approach to the linking of (null) pronouns. *Natural Language and Linguistic Theory.* 25 (4). p. 691-734
FRASCARELLI, M. AND R. HINTERHÖLZL. (2007). Types of Topics in German and Italian. In Schwabe, K. & S. Winkler (eds.). *On Information Structure, Meaning and Form.* Amsterdam: John Benjamins.
FRASCARELLI, M. (in press). The Interpretation of Pro in Consistent and Partial NS Languages. A comparative interface analysis. In Cognola F. et al. (eds.). *Understanding pro-drop. A synchronic and diachronic perspective.* Oxford University Press.
HOLMBERG, A. (2005). Is There a Little Pro? Evidence from Finnish. *Linguistic Inquiry*. 17. p. 501-557.
HOLMBERG, A. (2010). Null Subject Parameter. In Biberauer, T., Holmberg, A., Roberts, I. & M. Sheehan (eds.). *Parametric variation: Null subjects in minimalist theory*. Cambridge University Press.
HUANG, Y. (2000). *Anaphora. A cross-linguistic approach*. Oxford: Oxford University Press Oxford.
KRIFKA, M. (2006). Basic Notion of Information Structure. In Féry, C, Fanselow, G & M Krifka (eds.). *Interdisciplinary Studies on Information Structure*. Working Papers of the SFB 632. Postdam: Universitätsverlag.
LEVY, Y & A VAINIKKA. (2003). Empty' Subjects in Hebrew. Shimron. J. (ed.). *Language Processing and Acquisition, Languages of Semitic, Root-Based, Morphology*. p. 363–384.
PUGLIELLI, A. & M. FRASCARELLI. (2008). *Linguistic Analysis: From Data to Theory.* (Trends in Linguistics Series). Berlin: Mouton de Gruyter.
REINHART, T. (1981). Pragmatics and Linguistics. An analysis of sentence topics. *Philosophica.* 27 (1). p. 53-94.
RIZZI, L. (1982). *Issue in Italian Syntax.* Dordrecht: Foris Publications.
RIZZI, L. (1986). Null Objects in Italian and the Theory of pro. *Linguistics Inquiry*. 17. p. 501-558.
RIZZI, L. (1997a). The Fine Structure of the left Periphery. In Haegeman, L. (ed.). *Elements of Grammar*. *Handbook in Generative Syntax*. Dordrecht: Kluwer Academic.
RIZZI, L. (1997b). A Parametric Approach to Comparative Syntax Properties of the Pronominal System. In Haegeman, L. (ed.). *The New Comparative Syntax*. London: Longman.
SHLONSKY, U. (1990). Pro in Hebrew Subject Inversion. *Linguistic Inquiry*. 21. p. 263-275.
SHLONSKY, U. (1997). *Clause Structure and Word Order in Hebrew and Arabic. An Essay in Comparative Semitic Syntax*. New York: Oxford University Press.
SHLONSKY, U. (2009). Hebrew as a Partial Null-subject Language. *Studia Linguistica*. 23(1). p. 133-157.

SIGURDSSON, H. (2011). Conditions on Argument Drop. *Linguistic Inquiry*. 42. p. 267-304.
VAINIKKA, A & Y. LEVY. (1999). Empty subjects in Finnish and Hebrew. *Natural Language & Linguistic Theory*. 17(3). p. 613-671.

Ilaria Bacolini
Department of Linguistics
Ca' Foscari University
Venezia
Italia
email: ilaria.bacolini@gmail.com

THE SYNTACTIC ANALYSIS OF THE MODERN GREEK FACTIVE *pu*–CLAUSES

CATHERINE GKRITZIOU

Queen Mary, University of London

Abstract

This paper investigates the internal structure of Modern Greek (MG) Relative Clauses (RCs) and Factive Complement Clauses (FCCs) introduced by the indicative factive complementiser *pu*, 'that'. Taking as a starting point the assumption that *pu* is the same lexical item in both embedded constructions, I propose a uniform analysis for *pu*–clauses. In particular, RCs introduced by *pu* are analysed on a par with Kayne's (1994, 2008) raising analysis while FCCs introduced by *pu* require an extra layer in the structure; a null FACT DP adjoins to TP in order to create CP–internal factivity and give rise to a factive interpretation. The resulting structure in FCCs aims to account for the islandhood effects (weak and strong) that *pu*–clauses essentially create. Uniformity of structure in both clauses is maintained under the assumption that these clauses are always dominated by a DP node and are headed by a null D which is specified as [Def:]. The null D head obligatorily selects *pu* in both clauses given the requirement to value its uninterpretable [def] feature via Agree satisfying locality conditions. Thus, in *pu*–RCs, the null D gets valued by the [Def:+] feature on the head noun of the RC whereas in *pu*–FCCs, it gets valued by the [Def:+] on the null FACT DP. This selection comes in a form of Head–Complement relation, i.e. a D–CP complementation analysis for both types of *pu*–clause.

1. Introduction

The loss of the infinitive, which was largely employed in various dialects of Greek (Ancient Greek[1], Koiné and Medieval Greek), has been replaced by finite complementation in MG – a shared phenomenon across the Balkan *Sprachbund* (Comrie, 1976; Tomić, 2006). Clausal complementation in MG is introduced by three main complementisers: *oti/pos*, *pu* and *na*. From these, *oti* and *pu* introduce indicative embedded finite clauses while *na* introduces subjunctive clauses and is used as the equivalent of *to* infinitival domains of other languages.[2] The difference between *oti* and *pu* lies in the so–called 'factive' vs 'non–factive' divide (i.e. the factive/propositional distinction) which Kiparsky and Kiparsky (1970) originally proposed. This divide is based on the properties of the predicates involved, that is to say, on whether the matrix predicate subcategorises for a factive or a non–factive complement and, hence, trigger a factive interpretation in the clausal complement. *Oti* is the non–factive complementiser introducing complement clauses of verbs which do not encode a true presupposition of the

Proceedings of the second Postgraduate and Academic Researchers in Linguistics at York (**PARLAY 2014**) conference
© The Author, 2015 ISSN 1758-0315 Issue 2

speaker's utterance in their semantics while *pu* is the factive complementiser introducing complements of verbs which carry along such a presupposition. The verb classes that select indicative complements are:

Indicative verbs

epistemics: *pistevo*, 'believe', *nomizo*, 'think', *dhiadhido*, 'disseminate'
assertives: *ischirizome*, 'claim', *ipostirizo*, 'claim', *leo*, 'say'
fiction verbs: *onirevome*, 'to dream', *fandazome*, 'imagine'
verbs of knowledge: *ksero*/*gnorizo*, 'know'
emotive verbs: *cherome*, 'be pleased', *lipame*, 'regret', *apoghoitevome*, 'be disappointed', *anakufizome*, 'be relieved', *anisicho*, 'worry', *fovame*, 'be scared of'
semi–factives: *thimame*, 'remember'
perception verbs: *vlepo*, 'see'

Of these verb classes epistemics, assertives and fiction verbs are non–factive predicates and, therefore, only compatible with *oti* as in (1) while emotives are factive predicates and, therefore, only compatible with *pu* as in (2). The verbs *thimame*, 'remember' and *vlepo*, 'see' are semi–factive predicates and select both complementisers as is shown in (3a–b) and (4a–b) respectively:

[non–factive predicate]

(1) Nomizo **oti**/*pu i Maria malose ton Jani.
think.1SG that the.NOM.FEM. Mary scolded.2SG the.ACC.MASC. John
'I think that Mary scolded John.'

[factive predicate]

(2) Lipame **pu**/*oti i Maria malose ton Jani.
regret.1SG that the.NOM.FEM. Mary scolded.2SG the.ACC.MASC. John
'I regret that Mary scolded John.'

[semi–factive predicates]

(3) a. Thimame **oti** i Maria malose ton Jani.
remember.1SG that the.NOM.FEM. Mary scolded.2SG the.ACC.MASC. John
'I remember that Mary scolded John.'

b. Thimame **pu** i Maria malose ton Jani.
remember.1SG that the.NOM.FEM. Mary scolded.2SG the.ACC.MASC. John
'I remember that Mary scolded John.'

(4) a. Idha **oti** i Maria malose ton Jani.
saw.1SG that the.NOM.FEM. Mary scolded.3SG.PERF. the.ACC.MASC. John
'I saw that Mary scolded John.'

b. Idha **pu** i Maria malone
saw.1SG that the.NOM.FEM. Mary was-scolding.3SG.PAST.IMPERF.
ton Jani.
the.ACC.MASC. John
'I saw Mary scolding John.'

A first observation that can be made by looking at the above patterns is that the choice of the complementiser can trigger the presence or absence of a factive interpretation in the clausal complement. This can be seen more clearly by the contrast in (3a–b) and (4a–b). More specifically, in (3a) the matrix predicate selects an *oti*–clause which gives rise to a reading along the lines of 'I remember that Mary scolded John even though I may be wrong'. In (3b) this assumption ceases to hold should we try to switch *oti* with *pu*; the speaker now expresses her certainty of the embedded event. Likewise for the pair in (4a–b) which involves a perception predicate in the matrix clause. In (4a) the entailment that the speaker saw the actual event taking place does not hold since the interpretation that arises is 'I understand or I assume that Mary scolded John' because, for instance, John looks sad now. On the contrary, in (4b) the same entailment does hold and this is also reinforced by the imperfective aspect of the embedded verb which indicates direct perceptual report.[3] According to Christidis (1986), *pu* is always factive given that the truth–value of *pu*–complements cannot be questioned, as opposed to the truth–value of *oti*–complements which can. Consider:

(5) a. Thimame oti ton icha sinandisi sto Parisi an-ke bori na kano
remember.1SG that him had met.1SG in Paris however it-may prt make
lathos.
a-mistake
'I remember that I met him in Paris, however, I didn't meet him.'

b. #Thimame pu ton icha sinandisi sto Parisi an-ke bori na kano
remember.1SG that him had met.1SG in Paris however it-may prt make
lathos.
a-mistake
'I remember meeting him in Paris, however, I didn't meet him.'

(Examples from Christidis, 1986)

Based on this contrast, Christidis (1986) argues that the difference in interpretation cannot be attributed to the matrix predicate as argued for by Kiparsky and Kiparsky (1970) but rather to the complementiser *pu* itself (cf. Roussou, 1992, 1993). Factivity cannot be associated with the semantics of the factive verb only; if that were the case then there would be no differences in interpretation with respect to the truth–value of the embedded clause contrary to the examples in (5).[4]

This semantic difference raises the question of whether the ambiguity that arises with those predicates selecting different types of complements can be captured in the syntax if we are to rely solely on the choice of a factive complementiser such as *pu* in languages like MG. The position advocated in this paper is that factivity can only be associated with *pu* and never with *oti* as is shown by the interpretational differences in (5a–b). In other words, *pu* is obligatorily factive while *oti* is obligatorily non–factive since it can never occur with factive predicates.
The paper is organised as follows: In section 2, I discuss a special case of construction in MG, the Determiner–Headed Clauses which are only compatible with *oti*. The discussion is centred around the problem of the unavailability of *pu* in these clauses as was first observed in Roussou (1991). In section 3, I discuss the syntactic properties of *oti* and *pu* clauses with respect to wh–movement and I treat *pu*–clauses introduced by emotive predicates as weak islands (contra Roussou, 1994 and Varlokosta, 1994). In section 4, I provide my arguments for the unavailability of *pu* in subject position followed by the analysis I propose for the MG *pu*–RCs and *pu*–FCCs. In section 5, I apply the extraction pattern of factive complements under the proposed system and, finally, in section 6 I conclude the discussion.

2. Determiner–Headed Clauses and the unavailability of pu

Another context in which *oti* can occur is in Determiner–Headed Clauses (DHCs). This is a special type of construction introduced by the neuter singular definite article *to* which is only compatible with the complementiser *oti* (6a), a wh–phrase (6b), or the particle *na* (6c) but never with *pu* (6d).[5]

(6) a. To oti milise etsi dichni tin kali anatrofi tu.
the.NOM that spoke.3SG like-that shows.3SG the good upbringing his.GEN
'That he spoke like that shows his good upbringing.'

b. To pote tha figo tha to apofasiso ego.
the.NOM when will leave.1SG will it decide.1SG I.NOM
'I will leave when I decide.'

c. To na milas me afto ton tropo faneroni kali
the.NOM prt speak.2SG with this the.ACC way.ACC reveals.3SG good
anatrofi.
upbringing
'To speak in this way reveals good upbringing.'

d. *To pu milise etsi dichni tin kali anatrofi tu.
the.NOM that spoke.3SG like-that shows.3SG the good upbringing his.GEN
'That he spoke like that shows his good upbringing.'

In terms of distribution, DHCs are quite flexible; they can occur either in subject position (7a) or in object (of a verb or preposition) position (7b–c):

(7) a. [To oti perase tis exetasis] simeni pola.
the.NOM that passed.3SG the exams mean.3SG much
'That he passed the exams means a lot.'

b. Mas charopiise [to oti perase tis exetasis]
us satisfied the.NOM that passed.3SG the exams
'It satisfied us that he passed the exams.'

c. ... ine kalitero apo [to oti milise etsi].
... is better from the.NOM that talked.2SG like-that
'...is better than that he talked like that.'

Only two main analyses have been put forward with regards to the structure of these clauses as they still remain an area open to further investigation in the literature. The first proposal comes from Warburton and Papafili (1988) who argue that *to oti*–clauses have the structure of an NP dominated by an NP node with the head noun *jeghonos*, 'fact', having been omitted. Only *to oti*–clauses can occur as complements of the head noun *jeghonos*:

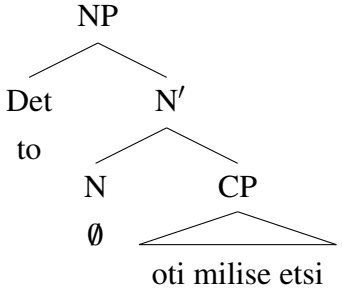
(8) to oti milise etsi ...
the.NOM that spoke.3SG like-that
'That he spoke like that... '

has the underlying structure of:

(9) to *jeghonos* oti milise etsi...
the.NOM fact that spoke.3SG like-that
'The fact that he spoke like that ...'

The proposed structure by Warburton and Papafili (1988) for (9) is as follows:

(10)



Roussou (1991) rejects this analysis on the grounds that it is restricted to DHCs introduced by *oti*. In her proposal, she examines additional cases where *to*–clauses can take the particle *na* or a wh–phrase introducing the CP:

(11) To na ise ekpedeftikos apeti poli dhoulja.
the.NOM prt be.2SG instructor require.3SG lot work.ACC
'For you to be an instructor requires a lot of work.'

(12) To poso kostise to ksero.
the.NOM how-much cost it.ACC know.1SG
'How much it cost, I know.'

According to Roussou (1991), Warburton and Papafili's (1988) analysis yields the wrong results as it fails to capture the data in (11) and (12). More specifically, she argues that if we assumed that CPs can be nominalised, their head nouns (*epithimia*, 'desire' and *fimi*, 'reputation', respectively) would have to be omitted. However, this is not the case:

(13) a. *i ∅ na petihi
the.FEM ∅ prt succeed.3SG
'The reputation to succeed'

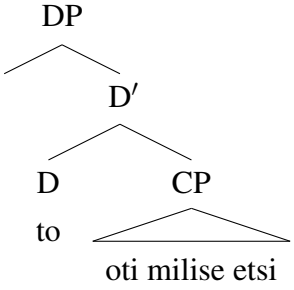
b. *i ∅ oti egine ipurghos
the.FEM ∅ that became.3SG minister.NOM
'That he became minister.'

(Roussou, 1991:81)

In her proposal, MG *to*–clauses select a CP rather than an NP given the presence of the overt determiner. Therefore, the sentence in (14) would generate a structure like that in (15):

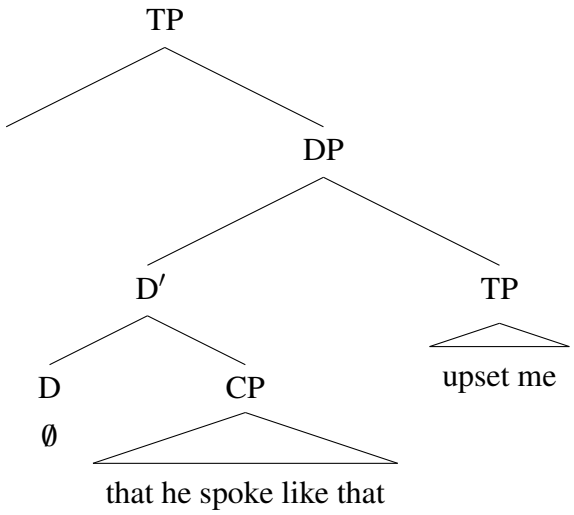
(14) To oti milise etsi ...
the.NOM that spoke.3SG like-that
'That he spoke like that ... '

(15)



Under this analysis there is no need to assume a head noun missing (the same structure captures the *na*–clauses as well as wh–phrases). I will also assume a DP representation for DHCs in MG *pu*–clauses, given the DP hypothesis (Szabolcsi, 1983; Abney, 1987) at least for languages with overt DPs. The DP representation also serves as the basis for the structures I propose in section 4 for the MG *pu*–clauses.
In fact, there is cross–linguistic support for a DP shell analysis dating back to Ross (1967) and, more recently to Takahashi (2010) and Hartman (2012), in which a null D head embeds the CP of the sentential subject as follows:

(16)



Takahashi (2010) presents a range of evidence in support of this analysis including evidence from MG and other languages, like Spanish, which realise the determiner overtly (Roussou, 1991 for MG and Picallo, 2002 for Spanish). Therefore, it seems that sentential subjects in DHCs in MG require a DP projection by virtue of the overt determiner insertion mechanism in the same way sentential subjects can act as nominal phrases in English (Alrenga, 2005; Takahashi, 2010; Moulton, 2013).
Sentential subjects in English have attracted considerable attention and debate regarding their syntactic position. On one hand, they are assumed to be topics with some element occupying the canonical subject position in [Spec, TP] (Koster, 1978; Stowell, 1981; Postal, 1998; Adger, 2003; Alrenga, 2005; Takahashi, 2010 and Moulton, 2013). On the other hand, they are considered to be the real subjects occupying the [Spec, TP] position (cf. Emonds, 1972; Hartman, 2012). More specifically, Koster (1978) and Alrenga (2005) argue that preverbal sentential topics are banned in exactly the same structures where topics are banned in contrast to DPs (as is illustrated in (17b–c) and (18b–c) respectively, in contrast to DPs (17a)–(18a)).

Consider:

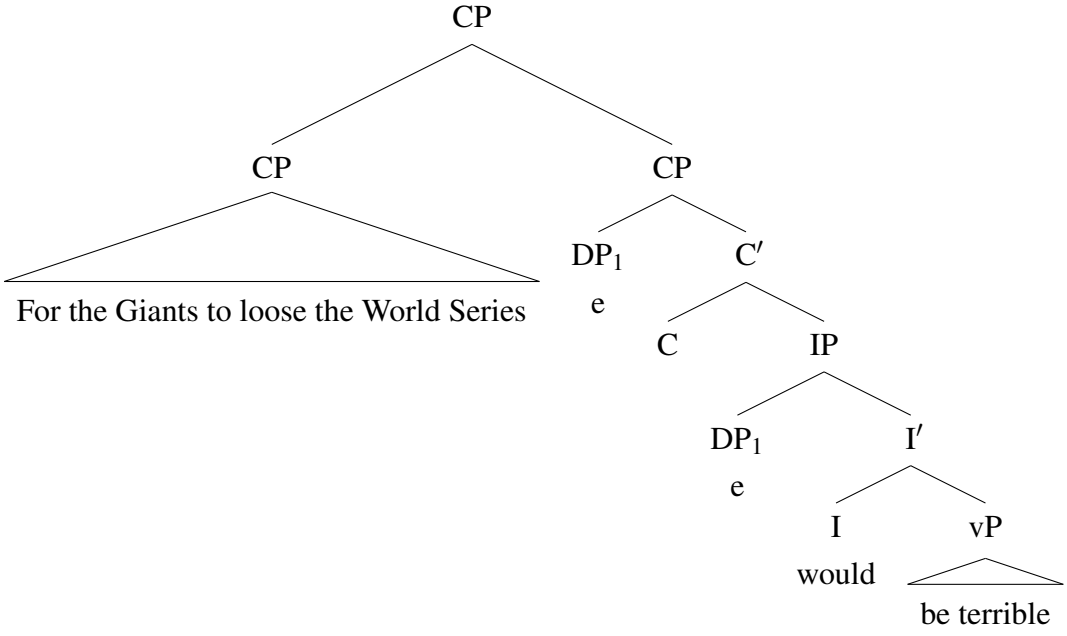
(17) a. Although the house's emptiness depresses you, it pleases me. [DP]
b. ?*Although that the house is empty depresses you, it pleases me. [clause]
c. ?*Although Mary, this may depress, it pleases me. [topic]

(18) a. Mary is unhappy because her trip to Tahiti is no longer necessary. [DP]
b. ?*Mary is unhappy because for her travel to Tahiti is no longer necessary. [clause]
c. *Mary is unhappy because her trip to Tahiti, I've had to cancel. [topic]

(Alrenga, 2005:178)

Koster (1978) proposes the following structure for the topic analysis of sentential subjects:[6]

(19)

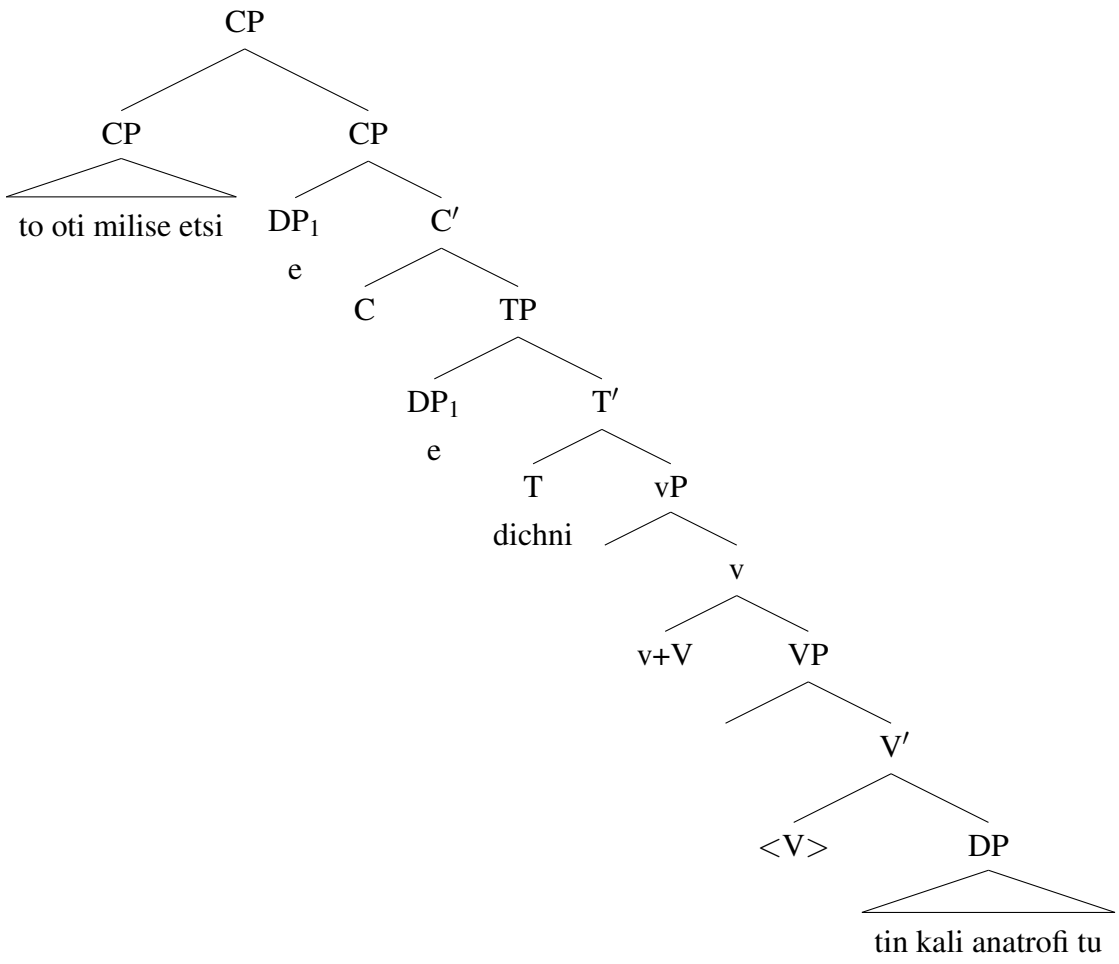


In (19) the sentential subject is a base-generated topic linked to a null DP which originates in a thematic position of the matrix predicate. The null DP originates in [Spec, IP] and – due to the feature [+wh] it is assigned with – eventually moves to [Spec, CP].[7] Although it is hard to see at this point whether MG *to oti*–clauses and sentential subjects in English have the same underlying structure, there are two approaches we can take with respect to the status of MG DHCs. The first one is to treat them as base–generated CPs in a subject–topic position and analyse them on a par with Koster's (1978) proposed structure for English sentential subjects.[8]

The second one is to treat them as DPs and assume that the obligatory presence of the determiner 'forces' a particular language mechanism to come into play and turn these complement clauses into DPs.

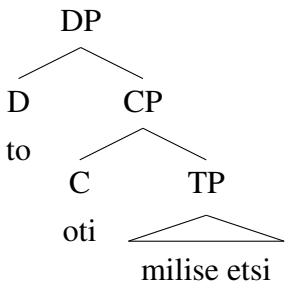
Under the first assumption, the configuration would look like the following:

(20)



In (20) we could assume that *to oti*–subject clause is a base–generated topic linked to a null DP which originates in [Spec, TP]. The null DP is assigned a [Def:+] feature (due to the presence of the overt determiner) which forces it to raise to [Spec, CP]. This structure looks neat and identical to the English one in (19) yet it fails to capture the unavailability of *pu*–clauses co-occurring with the overt determiner *to* in the same position (cf. 6d). An alternative approach would be to assume a DP projection on top of the CP taking into account the obligatory presence of *to* in DHCs. The D selects a CP complement and the C head hosts the complementiser as follows:

(21)



I agree with the structure proposed by Koster (1978) and Alrenga (2005) for the analysis of English sentential subjects; for the MG DHCs I will assume the structure in (21) which, in my view, offers more advantages to the one illustrated in (20). As a matter of fact, if we assumed that *to oti*–clauses are base–generated CPs rather than DPs in topic position, it would be hard to see where exactly the overt determiner and the complementiser sit in the structure in (20).
The second issue that arises, namely the problem for the unavailability of *pu* in DHCs, is a little harder to tackle and requires a closer look at the properties of *pu* itself. As was previously mentioned, *pu* is used in a wider variety of contexts than *oti* including complement clauses of certain factive verbs like *thimame*, 'remember', other factive verbs which denote a psychological state as well as perception verbs. I repeat the relevant examples below:

(22) a. Thimame pu malose ton Jani.
remember.1SG that scolded.3SG the.ACC.MASC. John
'I remember that he/she scolded John.'

b. Lipame pu malose ton Jani.
regret.1SG that scolded.3SG the.ACC.MASC. John
'I regret that he/she scolded John.'

c. Idha pu malone ton Jani.
saw.1SG that was-scolding.3SG.PAST.IMPERF. the.ACC.MASC. John
'I saw him/her scolding John.'

In (22a–c) *pu* requires a fixed reference from the discourse (cf. Roussou, 1991). The same holds for restrictive relative clauses as in (23) which is another context where *pu* can appear:

(23) I kopela pu malose ton Jani ine i Maria.
the.NOM lady that scolded.3SG the.ACC John.ACC is the.NOM Mary.NOM
'The lady that scolded John is Mary.'

However, Roussou (1991) observes that *pu* cannot occur in free relative clauses in which only an indefinite pronoun can be used:[9]

(24) a. Opjosdhipote ano ton dekaokto bori na psifisi.
whoever.NOM above the.NEUT.GEN.PL. eighteen can prt vote.3SG
'Whoever above eighteen can vote.'

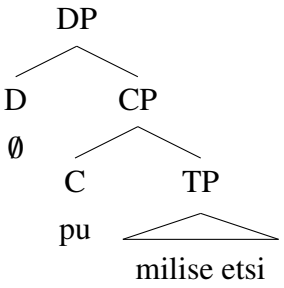
b. *pu ano ton dekaokto bori na psifisi.
that above the.NEUT.GEN.PL. eighteen can prt vote.3SG
'That above the age of eighteen can vote.'

According to Roussou's (1991) analysis, it seems that *pu* must be somehow linked to a particular reference in the discourse. It is well–established in the literature that the discourse context is anchored to prosodic information and has an effect on pragmatics/discourse, namely it can define pragmatic meaning. Direct interaction between PF–LF should be possible, in the sense that prosodic information should access the C–I interface (Szendrői, 2001, 2003; Brody, 2003; Reinhart, 1995, 2006; Jackendoff, 1997, 2003 among others). The discourse context in (24b) has not been previously established or anchored, therefore, the linguistic encoding of information packaging has failed.[10]

The ungrammaticality in (24b) can be explained if we postulate a [Def:+] feature on *pu* which can function as the equivalent of the definite determiner at the clausal level (cf. Christidis, 1986; Roussou, 1994, 2010). What this means is that *pu* becomes available in contexts where there is no specific reference to individuals such as the one in (24a), in which case it is specified as [Def:+], while it is ruled out from contexts specified as [Def:-] as in (24b). With this in mind, the line of argumentation for the reason why *pu* cannot exist in DHCs would run as follows: assume that *pu* bears a [Def:+] feature and the overt determiner is also specified as [Def:+] by virtue of the DP–projection which DHCs acquire. It follows that the compatibility of the overt determiner and *pu* will be immediately ruled out due to feature clash. In other words, the [Def:+] feature on *pu* ceases the requirement for a determiner insertion mechanism in *pu*–clauses.

Taking this feature clash into account, we could assume that in those cases where *pu* already occupies the C head, the D head on top of it must remain null. In this way, the appearance of the overt determiner in D is excluded and, by extension, the compatibility of the two determiners:

(25)



This gives an explanation of why *pu*–clauses cannot appear in subject position:

(26) *pu pire ipotrofia idha ton fititi.
that got.3SG scholarship saw.1SG the.ACC student
'I saw the student that got the scholarship.'

Based on the ungrammaticality of (26) the assumption is that a null D selecting *pu* can never surface in subject position but only in object position as was shown in (7b) as well as in object position in extraposed *pu*–clauses:[11]

(27) **Ton** fititi pu pire tin ipotrofia **ton** idha.
the.ACC student that got.3SG the.ACC scholarship him.ACC saw.1SG
'I saw the student who got the scholarship.'

Furthermore, Roussou (1991) claims that subject clauses headed by *pu* are not attested in MG. They can only function as internal arguments headed by impersonal and psychological predicates as is shown in (28a–b) respectively:

(28) a. Mu arki pu perases tis exetasis.
me.GEN is-enough that passed.2SG the.PL.FEM.ACC exams
'It is enough for me that you passed the exams.'

b. Mu aresi pu ine exipni.
me.GEN pleases that is clever.FEM
'I like the fact that she is clever.

She also attributes the lack of *pu* in DHCs to case reasons (i.e. when a CP is in the subject position or the complement of a preposition):

(29) a. To oti perases tis exetasis mu arki.
the.NOM that passed.2SG the.PL.FEM.ACC exams me.GEN is-enough
'It is enough for me that you passed the exams.'

b. Mu arki to oti perases tis exetasis.
me.GEN is-enough the.NOM that passed.2SG the.PL.FEM.ACC exams
'It is enough for me that you passed the exams.'

(30) Ektos tu oti perase tis exetasis, pire ke vravio.
apart the.GEN that passed.3SG the.PL.FEM.ACC exams got.3SG and award
'Apart from the fact that he/she passed the exams, he/she also got an award.'

As has already been mentioned, the only case where *pu* can co-occur with the overt determiner is in the following type of construction (cf. 15e):

(31) Me to pu ton idhe na erchete, efije katefthian.
with the.NOM that him saw.3SG prt come.3SG left.3SG straight-away
'As soon as he/she saw him coming along, he/she left straight away.'

However, for some native speakers the compatibility between the overt determiner and *pu* is also possible in the following environments (cf. Iatridou & Embick, 1994):

(32) a. Mu arki to pu perases tis exetasis.
me.GEN is-enough the.NOM that passed.2SG the.PL.FEM.ACC exams
'It is enough for me that you passed the exams.'

b. To pu perases tis exetasis, mu arki.
the.NOM that passed.2SG the.PL.FEM.ACC exams me.GEN is-enough
'It is enough for me that you passed the exams.'

According to Roussou (1992, 1993), the examples in (32) are ungrammatical. She claims that DHCs *pu*-clauses are unattested and can never appear in subject position, hence, there is no hidden DP in these constructions. However, as Varlokosta (1994) points out, even if sentences like (32) are marginal or unacceptable for some speakers, one should not disregard adjunct clauses, like the one in (31), which are fully grammatical. It is, of course, rather surprising the fact that DHCs appear to be available in a wider variety of contexts with the complementiser *oti* rather than with *pu* to which no satisfactory answer can be given at present. These clauses remain an area open to further investigation and require a more thorough examination as they seem to be more complicated than what is currently assumed in the literature.

3. Syntactic properties of oti *and* pu*–clauses*

MG *pu*–clauses exhibit a complex pattern with respect to wh–movement. I treat *pu*–clauses as weak islands for extraction (contra Roussou, 1994; Varlokosta, 1994) who argue that they are strong islands. Extraction of arguments is unproblematic (though subject extraction yields worse results than object extraction) but adjunct extraction is blocked as can be seen in (33), in which case a factive verb like 'regret' selects the *pu*–clause:

(33) a. ??Pjos lipase pu sinandise ti Maria?
who.NOM.MASC. regret.2SG that met.3SG the.ACC.FEM. Mary
'Who do you regret met Mary?'

b. *Pote lipase pu aghorases to spiti?
when regret.2SG that bought.2SG the house
'When do you regret that you bought the house?'

c. Pjon lipase pu sinandise i Maria?
who.ACC.MASC. regret.2SG that met.3SG the.NOM.FEM. Mary
'Who do you regret that Mary met?'

'Regret'–type predicate with *pu* ⇒ Weak Island effect

The extraction pattern differs with semi–factive verbs like *thimame*, 'remember', which select *pu*. In this case, subject/object and adjunct extraction is blocked altogether:

(34) a. *Pjos thimase pu sinandise ti Maria?
who.NOM.MASC. remember.2SG that met.3SG the.ACC.FEM. Mary.ACC
'Who do you remember meeting Mary?'

b. *Pjon thimase pu sinandise i Maria?
who.ACC.MASC. remember.2SG that met.3SG the.NOM.FEM. Mary.NOM
'Who do you remember Mary meeting?'

c. *Jati thimase pu aghorases to spiti?
why remember.2SG that bought.2SG the house
'Why do you remember buying the house?'

'Remember'–type predicate with *pu* ⇒ Strong Island effect

As far as extraction out of *oti*–clauses is concerned, extraction is generally unproblematic with complements of epistemic verbs like *nomizo*, 'think'. Subject, object and adjunct extraction is fine – a pattern which is also identical to their English counterparts:

(35) a. Pjos nomizis oti sinandise ti Maria?
who.NOM.MASC. think.2SG that met.3SG the.ACC.FEM. Mary
'Who do you think met Mary?'

b. Pjon nomizis oti sinandise i Maria?
who.ACC.MASC. think.2SG that met.3SG the.NOM.FEM. Mary
'Who do think that Mary met?'

c. Jati nomizis oti aghorases to spiti?
why think.2SG that bought.2SG the house
'Why do you think that you bought the house?'

However, extraction out of semi–factive verbs like *thimame*, 'remember', selecting *oti* creates weak island effects:

(36) a. ?Pjos thimase oti sinandise ton Jani?
who.NOM.MASC. remember.2SG that met.3SG the.ACC.MASC. John.ACC
'Who do you remember met John?'

b. ?Pjon thimase oti sinandise o Janis?
who.ACC.MASC. remember.2SG that met.3SG the.NOM.MASC. John.NOM
'Who do you remember that John met?'

c. *Jati thimase oti aghorases to spiti?
why remember.2SG that bought.2SG the house
'Why do you remember that you bought the house?'

'Remember'–type predicate with *oti* ⇒ Weak Island effect

The findings are summarised in the table below:

Table 1

Extraction	pu-semi-factive	pu-factive		oti-semi-factive	
subject	*	??		?	
adjunct	*	*		*	
object	*	✓		?	

What we observe in the patterns above is that extraction in MG is more complicated than it appears to be. The *regret*–type cases, which are only compatible with *pu*–clauses, create weak islandhood. The *remember*–type cases are compatible with both *oti* and *pu* and create weak islands with *oti* but strong islands with *pu* which indicates that there is a worse violation with the *remember*–type verbs and the strong islandhood they give rise to when they select *pu*. It seems then that factive *pu*–complements give rise to weak islands since argument extraction from the *regret*–type verbs is possible (although subject extraction is still worse than object extraction) but extraction out of adjuncts is barred. In the following section, I put these findings together and propose the basic points towards a unified analysis of *pu*–clauses.

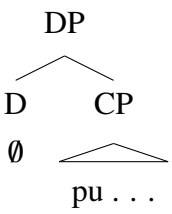
4. The analysis of pu*–clauses*

After having examined the interpretational and syntactic properties of *pu* as well as its interaction with the non–factive complementiser *oti*, I now proceed to its syntactic analysis in FCCs and RCs (leaving matrix exclamative clauses aside) and I argue that *pu* is the same lexical item in both types of subordinate clauses it introduces.
Recall from section 2 that *pu* cannot appear in DHCs; I repeat the relevant example below:

(37) *To pu milise etsi dichni tin kali anatrofi tu.
the.NOM that spoke.3SG like-that shows.3SG the good upbringing his.GEN
'That he spoke like that shows his good upbringing.'

I argue that this is due to the fact that *pu* can only be selected by a null D[12] as is shown in (38):

(38)



With this in mind, the unavailability of *pu* in subject position as in (39) is attributed to the unavailability of MG null heads, in general, to occur in subject position as in (40):

(39) *[pu efighe o Janis] dichni tin kali anatrofi tu.
that left.3SG the.NOM. John shows.3SG the.ACC. good upbringing his.GEN
'That John left shows his good upbringing.'

(40) *Anthropi ine pamfaghi.
humans are omnivores
'Humans are omnivores.'

To be more precise, subjects in MG (as opposed to objects) cannot surface as bare indefinites. Instead they have to be preceded either by the definite article (41a) or an overt quantifier (41b):

(41) a. *(I) anthropi ine pamfaghi.
the humans are omnivores
'(The) humans are omvivores.'

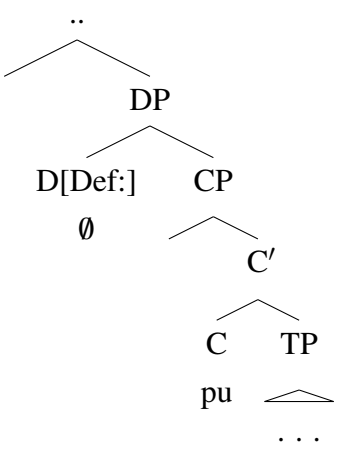
b. Meriki anthropi ine chortofaghi.
some humans are herbivores
'Some humans are herbivores.'

The use of the subject DP in (41a) is associated with a definite description in that the determiner picks up a set of individuals, 'a referent', which has already been introduced into the discourse. The use of the subject DP in (41b) is associated with an indefinite description in that the quantifier picks up a set of individuals, a 'referent', which is introduced into the discourse for the first time. The interpretation in (40) is the generic one, therefore, the subject cannot be interpreted as a definite description despite the presence of the overt D.
With stage–level predicates as in (42), the subject cannot be a bare plural DP. The possible interpretations that arise are the habitual and the progressive one. When the second one is chosen, the subject DP is necessarily a definite description (otherwise it is interpreted as an indefinite). The difference between (41a) and (42) is that subjects of both individual and stage level predicates will have to be preceded by the definite article (without the interpretation being necessarily the definite one).

(42) *(I) mathites pighenun se dhiadhilosis.
the students go.3PL to-the demonstrations
'Students go to demonstrations.' / 'The students go to demonstrations.'

Coming back to MG *pu*–clauses, the analysis I put forward is the following:

(43)

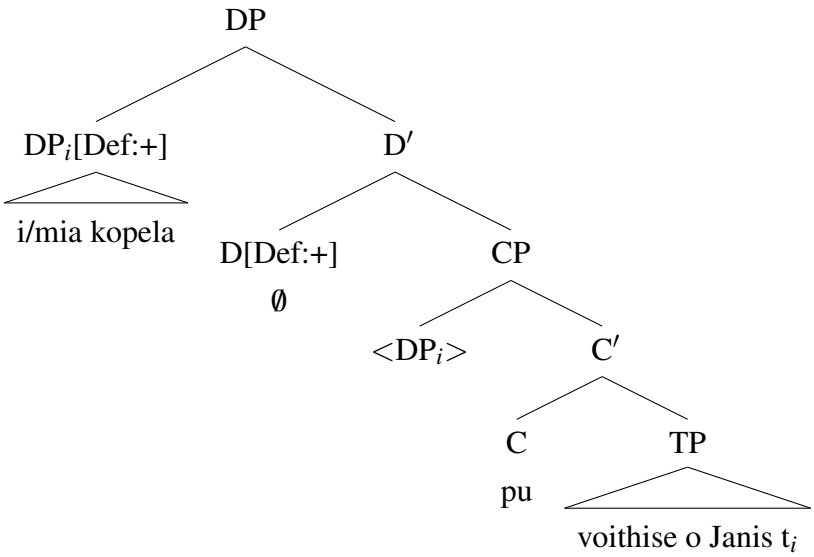


For the structure in (43) I make a number of assumptions: a) MG has a phonologically null D,[13] b) the DP must be projected with a null D (in the sense of Longobardi, 1994, 1996 and Chierchia, 1998)[14], c) the null D has unvalued [Def:] feature and needs to project a Spec which obligatorily selects *pu*, d) D values its features via Agree.
With this in mind, the configuration for a *pu*–RC with a definite and an indefinite head as in (44a–b) respectively would look like that in (45) (following Kayne (1994)):

(44) a. I kopela pu voithise o Janis.
the.NOM.FEM. lady that helped.3SG the.NOM.MASC. John.NOM
'The lady that John helped.'

b. Mia kopela pu voithise o Janis.
a.NOM.FEM. lady that helped.3SG the.NOM.MASC. John.NOM
'A lady that John helped.'

(45)

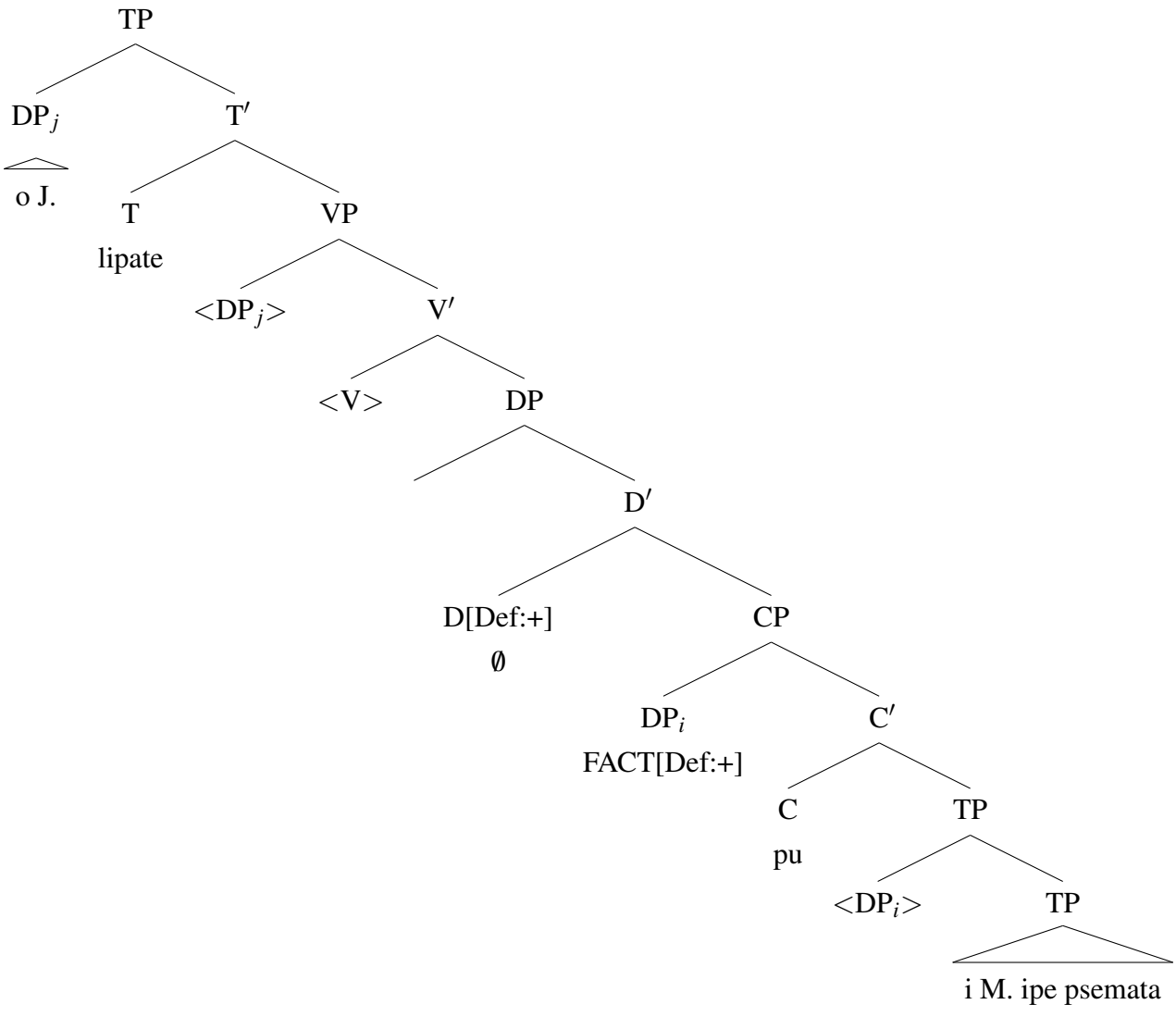


In (45) the head of the relative undergoes movement from its base position CP–internally to [Spec, CP]. The [Def:] feature on null D matches with the [Def:+] feature on the DP *i/mia kopela* and gets valued via Agree.

For a *pu*–FFC such as the one in (46) the structure would look as that in (47):

(46) O Janis lipate pu i Maria ipe psemata.
the.NOM.MASC. John regrets.3SG that the.NOM.FEM. Mary said.3SG lies
'John regrets that Mary told lies.'

(47)



In (47) the null FACT DP adjoins to [Spec, CP] (the same way adverbs do) and raises from [Spec, TP] to [Spec, CP]. The [Def:+] on the null D head matches with the [Def:] feature on null FACT DP via Agree.

5. The extraction pattern of factive complements under this system

In this final section, I apply the extraction patterns of factive complements explored in section 3 to the proposed analysis. I assume the locality condition of phases known in the literature as the Phase Impenetrability Condition (PIC) of Chomsky (2000),

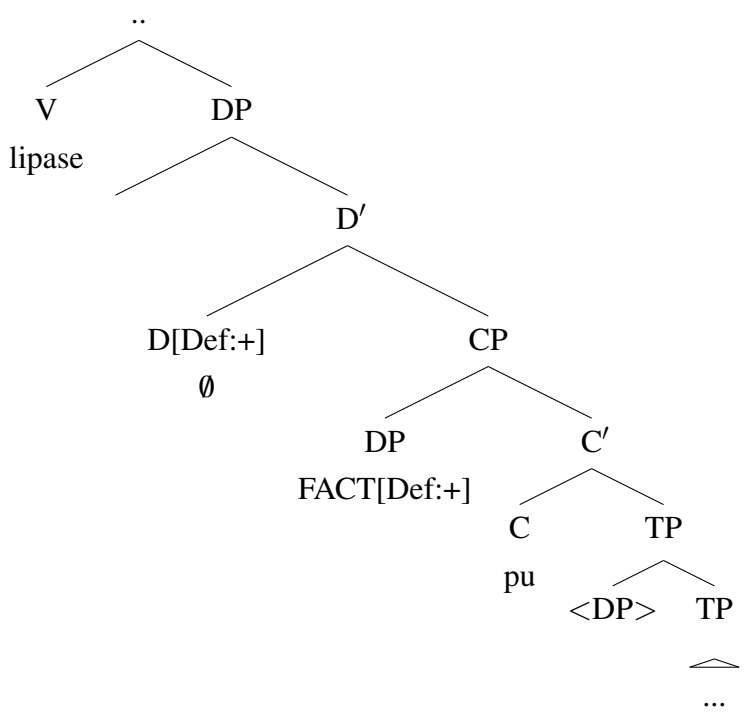
(48) Phase Impenetrability Condition (PIC)

> In phase α with head H, the domain of H is not accessible to operations outside α, only H and its edge are accessible to such operations.
>
> (CHOMSKY 2000: 108)

It should be noted at this point that several recent proposals in the literature depart from the 'phase' concept/PIC.[15] Seely, Epstein and Kitahara (2014), among others, dispense with Chomsky's (2000) phases/PIC theory and provide a theory of minimal labeling as an extension to Chomsky's analysis abstracting away from Merge–over–Move and lexical arrays/subarrays. Even though these proposals make a serious attempt to simplify grammar and dispense with 'unnecessary' operations, I believe that the PIC and the Agree operations are integral parts of the grammar and, by extension, the computational system. I, therefore, endorse the PIC theory in my system as a necessary mechanism to explain the extraction patterns in MG, as these were illustrated in section 3. The syntactic structures for the 'regret'–type predicates selecting *pu* and the 'remember'–type predicates selecting *oti* and *pu* alongside the island effects they give rise to are given in (49), (50) and (51) below:

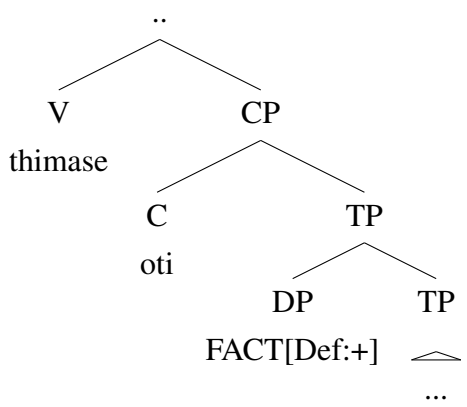
1. Regret–type predicate (selects only *pu*) ⇒ Weak Island effect due to [Def:+] feature on null FACT DP (extraction out of TP creates weak islandhood) as in (49):

(49)



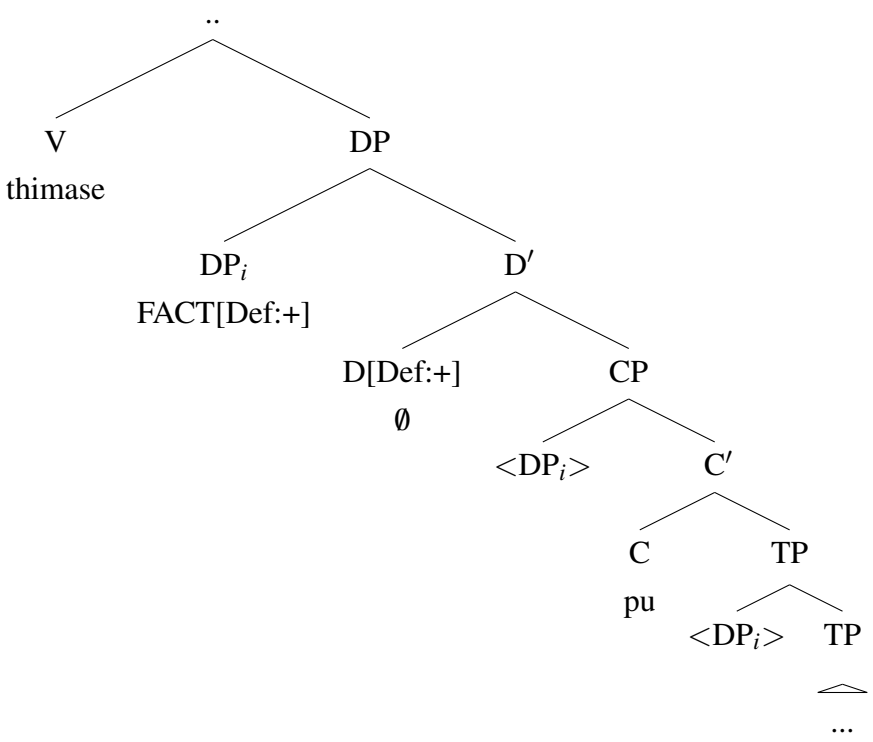
2. Remember–type predicate with *oti* ⇒ Weak Island effect due to [Def:+] feature on null FACT DP (extraction out of TP creates weak islandhood) as in (50):

(50)



3. Remember–type predicate with *pu* ⇒ Strong Island effect (extraction out of TP is banned) as in (51):

(51)



Under this proposal, a) the null D head needs its Specifier to be filled to get valued which requires successive cyclic movement of null FACT to [Spec, DP], b) the null D needs its specifier to be filled in order to get valued, c) factive predicates can value the null D and, therefore, movement is not necessary.

6. Conclusion

In this paper, I investigated the semantic and syntactic properties of MG factive complement clauses introduced by *pu* and proposed a unified analysis for *pu*–clauses. I looked at the distinction between the factive *pu* and the non–factive complementiser *oti* as well as the unavailability of the former to occur in DHCs and surface in subject position in general. I discussed the complex extraction patterns that MG *pu*–clauses exhibit with respect to wh–movement; weak island effects are created with emotive predicates of the 'regret' type and strong island effects with semi–factive predicates of the 'remember'–type.

After having illustrated a brief sketch of the extraction patterns observed with *pu* and *oti*, I proceeded with a unified structure for RC and FCC *pu*–clauses by assuming a null D head which obligatorily selects *pu*. In RCs, I adopted a raising analysis by showing that the relative head DP leaves a trace by moving into the [Spec, CP] first, before surfacing in [Spec, DP] above *pu*. In FCCs, an additional stipulation was made which was the presence of a null FACT DP adjoined to TP and filling the [Spec, CP] position in order to create CP–internal factivity. The only question that remains open under this system is: Why is it that only factive verbs require the Spec of their DP to be filled? The proposed solution is the idea that the null D needs its Spec filled to get valued but factive predicates can value null D regardless, therefore, movement is not necessary in these cases.

The system aims to provide a novel way of capturing and accounting for the complex extraction patterns observed in MG *pu*–FCCs through the following mechanism: the null D that selects *pu* gets its [Def:] feature valued by the [Def:+] on the (phonologically) null FACT DP via Agree (satisfying locality conditions) and its Spec filled by the null FACT DP via movement. The latter operation serves a dual purpose: a) to ensure that a factive interpretation with semi–factive predicates selecting *pu* arises and, b) to account for the strong island effects that these specific predicates give rise to. Under this system, the distinction between *oti* and *pu* does not rely on the semantic notion of factivity nor on the semantics of the two complementisers involved but, crucially, on the [Def:+] feature of the null FACT DP which gives value to the uninterpretable feature on null D via the operation Agree.

On a final note, I would like to address a different approach to the operation Agree being free from syntactic mechanisms that constrain movement, i.e. the PIC and the Activation Condition (AC) as proposed in Chomsky (1999, 2000). Collins (2003), Bošković (2005) and Hornstein (2009) argue that grammar should be simpler in having certain operations eliminated from the syntax. In particular, Collins (2003) argues against Chomsky (1995) who proposes that the label is actually part of the syntactic object yielding an output of the form: Merge (A, B) = {A, {A, B}}. Collins (2003) provides a label–free theory consistent with multiple Spell–Out (to account for phonological phrasing) and Agree–free operations on the grounds that categorial features do not project and, thus, phrases do not have labels (category labels are features instead). Similarly, Hornstein (2009) argues that Merge and labeling should be accounted for independently: Merge takes a pair of two syntactic objects and combines them to form a new syntactic object whereas labeling 'identifies' one of the inputs as the label of the resulting concatenate. Finally, Bošković (2005) proposes a new theory to successive cyclic movement arguing that Agree (but not Move) is phases/PIC–free and that there is no need to posit the AC as an independent principle of the grammar. All these proposals offer new insights (as well as significant empirical consequences) to the theory of grammar in attempting to show that certain principles can be eliminated. Insightful and promising as these proposals may be, I opted for a more 'traditional' path in my system by adopting the phases/PIC model as locality domains of syntax for both Move and Agree.

Acknowledgements

Primary general thanks go to the organisers of the PARLAY conference at the University of York where I had the chance to present this paper in September 2014 and to the participants for stimulating presentations and questions. Special thanks also to George Tsoulas and Peter Sells for their helpful comments and interesting observations. Primary specific thanks go to my supervisor, Prof. David Adger, for his guidance and assistance in general and for giving me invaluable insights into the writing process of this paper as well as to my second supervisor, Prof. Hagit Borer, for her scientific expertise, her valuable comments and contribution. Thanks are also due to two anonymous reviewers for their helpful comments and suggestions on an earlier draft of this paper. All remaining errors are my own.

Notes

1. By *Ancient Greek* I refer to *Classical Greek*, namely the Attic dialect of Greek spoken in Athens in the 5th century BC.

2. The status of the particle *na* has raised much controversy over the years. On one hand, it is considered to be a complementiser (Andriotis, 1934; Agouraki, 1991; Tsoulas, 1993) and, on the other, a modal element occupying a Mood head in the MoodP projection (Ingria, 1981; Veloudis & Philippaki–Warburton, 1984; Philippaki–Warburton, 1992; Tsimpli, 1990; Rivero, 1994). I will not discuss these domains here as this is beyond the scope of this study but see Agouraki (1991), Philippaki–Warburton (1992), (1998), Tsoulas (1993) and Giannakidou (2007) amongst others.

3. It is worth noting that the complements of the verb classes listed above, which select the indicative, behave like unembedded questions. If the indicative mood denotes 'truth in the actual world', complements of belief, fiction and assertive verbs are not true in this sense. Only complements of verbs of knowledge can be true in the actual world and taken as facts (cf. Kiparsky and Kiparsky, 1970).

4. Kiparsky and Kiparsky (1970) argue that there are certain verbs that have no specification in the lexicon as to whether their complements represent presuppositions by the speaker or not as is illustrated in the following examples:

(52) a. I remember him to be bald (so I was surprised to see him with long hair)
b. I remember his being bald (so I brought a wig and disguised him).

The truth-value of the complement clause is presupposed in (i–a) but not in (i–b).

5. I will stay neutral as to the status of *na*; whether it is a complementiser or a particle. According to some researchers, *na* is a complementiser that occupies the C position (cf. Agouraki,

1991; Tsoulas, 1993) while for others it is a mood particle which realises a Mood Phrase below C (cf. Philippaki–Warburton, 1992, 1998; Tsimpli, 1990; Rivero, 1994).

6. I refer to the updated structure in Alrenga (2005:180).

7. The same structure is also proposed by Chomsky (1977) for topicalization constructions: [$_{CP}$ That the Giants would lose]$_i$ [$_{CP}$ [$_{DP}$ Op]$_i$ C^0 [$_{IP}$ John never expected [$_{DP}$ t]$_i$]]

8. The topicalized position of the CP complement either in subject or object position seems to be well-formed. The proposals put forward by Alrenga (2005) and Moulton (2013), treat sentential subjects as topics with an operator movement to [Spec, CP] yielding roughly the following representation:

[$_{CP}$ That he is silly] Op [$_{IP}$ John knows t$_{OP}$]]

9. I will abstract away from the complexities of free relative clauses in the current discussion.

10. By context I refer to the immediate discourse environment that the utterance fits into. See Chafe (1976), Chomsky (1971), Jackendoff (1972), Prince (1981), Reinhart (1981), Vallduví (1992) for a more detailed account on Information Structure.

11. Notice the obligatory presence of the resumptive coreferential pronoun in both the extraposed clause and the matrix clause.

12. See Szabolcsi (1987), Stowell (1991) for the standard assumption that the DPs (but not NPs) can be arguments.

13. I take into account constructions that involve bare singular count nouns (usually after verbs of accomplishment) of the sort:

(53) Egrapsa arthro.
wrote.1SG article
'I wrote an article'

Roussou and Tsimpli (1993) also argue for a null D head by looking at bare plurals where there is a null D head present in order to be assigned Case and satisfy Visibility.

14. Longobardi (1994, 1996) argues that in constructions that involve bare indefinites there is a null D head which receives a (default) existential interpretation and must be lexically governed. In Longobardi (1994) he argues for movement of proper names in Italian; count nouns in the singular that function as arguments must be preceded by a phonologically non–empty determiner. Thus, a nominal expression can only be an argument of a predicate if it is introduced by an element of category D. Chierchia (1998) also argues for a null D head in Italian.

15. See also Collins, 2003; Bošković, 2005 and Hornstein, 2009 for a detailed account.

References

ABNEY, S.P. 1987. *The English Noun Phrase in Its Sentential Aspect.* Ph.D. Thesis, Massachusetts Institute of Technology. Distributed by MIT Working Papers in Linguistics, Cambridge, Mass.

ADGER, D. 2003. *Core Syntax: A Minimalist approach.* Oxford: Oxford University Press.

AGOURAKI, G. 1991. "A Modern Greek Complementiser and its significance for Universal Grammar." *UCL Working Papers in Linguistics*, 3, 1–24.

ALRENGA, P. 2005. "A sentential subject asymmetry in English and its implications for complement selection." *Syntax* 8, 175–207.

ANDRIOTIS, N. 1934. "Iparchi Ipotaktiki sti Nea Elliniki?" (Does Modern Greek have a Subjunctive Mood?). *Nea Estia* 15: 445–450.

BOŠKOVIĆ, Z. 2005. "On the Locality of Move and Agree: Eliminating the Activation Condition, Generalized EPP, Inverse Case Filter, and Phase–Impenetrability Condition." *University of Connecticut Occasional Papers* 3.

BRODY, M. 2003. *String Theory*. Ms University College London.

CHAFE, W. 1976. "A Comparative Analysis of Left and Right Dislocation in Romance." *Studia Linguistica* 1, Vol. 53, 40–67.

CHIERCHIA, G. 1998. "Reference to Kinds Across Languages." *Natural Language Semantics* 6, 339-405. Kluwer Academic Publishers.

CHOMSKY, N. 1971. "Deep Structure, Surface Structure and Semantic Interpretation." In D. Steinberg and L. Jakobovits (eds.), *Semantics: an Interdisciplinary Reader in Philosophy, Linguistics and Psychology*, Cambridge: CUP, 183–216.

CHOMSKY, N. 1977. "On wh–movement." In P. Culicover, T. Wasow, and A. Akmajian, eds., *Formal Syntax*, 71–132, New York: Academic Press.

CHOMSKY, N. 1995. "Categories and transformations." In *The minimalist program*, 219–394. Cambridge, Mass.: MIT Press.

CHOMSKY, N. 1999. "Derivation by phase." In *MIT Occasional Papers in Linguistics* 18. MITWPL, Department of Linguistics and Philosophy, MIT, Cambridge, Mass.

CHOMSKY, N. 2000. "Minimalist Inquiries: The Framework." In: R. Martin, D. Michaels and J. Uriagereka, eds., *Step by Step*. MIT Press, Cambridge, Mass., 89–155.

CHRISTIDIS, A.–P. 1986. "The morpheme *pu* as a definite clause nominalizer." *Studies in Greek Linguistics*, Proceedings of the 7th Annual Meeting of the Department of Linguistics, 135–148, University of Thessaloniki, Greece.

COLLINS, C. 2003. *Eliminating Labels.* In S. D. Epstein and T. D. Seely (eds.), *Derivation and Explanation in the Minimalist Program.* pp. 42–61, Oxford: Blackwell.

COMRIE, B. 1976. *Aspect*. Cambridge: Cambridge University Press.

EMONDS, J. 1972. "Evidence that Indirect Object Movement is a Structure–Preserving Rule." *Foundations of Language*, 8, 546–561.

GIANNAKIDOU, A. 2007. "The landscape of EVEN." *Natural Language and Linguistic Theory*, 25, 39–81.

HARTMAN, J. 2009. "Intervention in Tough–Constructions." In *Proceedings of the 39th Meeting of the North East Linguistic Society* (NELS 39).

HORNSTEIN, N. 2009. *A Theory of Syntax: Minimal Operations and Universal Grammar.* Cambridge: Cambridge University Press.

IATRIDOU, S. & D. EMBICK. 1994. "*Pro*–hibitions on Reference." *Proceedings of WCCFL* 12.

INGRIA, R. 1981. *Sentential Complementation in MG.* Ph.D, MIT.

JACKENDOFF, R.1972. *Semantic Interpretation in Generative Grammar.* Cambridge Mass: MIT Press.

JACKENDOFF, R. 1997. "The Architecture of the Language Faculty." MIT Press, Cambridge, MA.

JACKENDOFF, R. 2003. *Foundations of Language: Brain, meaning, grammar, evolution.* Oxford, UK: Oxford University Press.

KAYNE, R. 1994. *The Antisymmetry of Syntax.* Cambridge, Mass: MIT Press.

KAYNE, R. 2008. "Antisymmetry and the Lexicon." *Linguistic Variation Yearbook* 8: 1–31.

KIPARSKY, P. & C. KIPARSKY, C. 1970. "Fact." In D. Steinberg and L. Jacobovits eds., *Semantics*, 345–369, Cambridge University Press.

KOSTER, J. 1978. "Why Subject Sentences don't Exist." In S.J. Kayser ed., *Recent Transformational Studies in European Languages*, Cambridge MA, MIT Press.

LONGOBARDI, G. 1994. "Reference and proper names." *Linguistic Inquiry* 25: 609–665.

LONGOBARDI, G. 1996. "The Syntax of N–Raising: A minimalist Theory." *OTS Working Papers.* OTS Utrecht.

MOULTON, K. 2013. "Not Moving Clauses: Connectivity in Clausal Complements." *Syntax*, 16:3, 250–291.

PHILIPPAKI–WARBURTON, I. 1992. "I syntaktiki taftotita tou NA." [The syntactic identity of NA], *Studies in Greek Linguistics*, 13, University of Thessaloniki, Greece.

PHILIPPAKI–WARBURTON, I. 1998. "Functional categories and Modern Greek syntax." *The Linguistic Review* 15: 159–186.

PICALLO, M. C. 2002. "Abstract agreement and clausal arguments." *Syntax* 5, 116–147.

POSTAL, P. 1998. *Three Investigations of Extraction.* MIT Press, Cambridge, MA.

PRINCE, E.–F. 1981. "Toward a Taxonomy of Given-New Information." In Cole, P. (ed.) *Radical Pragmatics*, New York, Academic Press.

REINHART, T. 1981. "Pragmatics and Linguistics: An Analysis of Sentence Topics." *Philosophica* 27: 53–94.

RIVERO, M–L. 1994. "Clause structure and v–movement in the languages of the balkans." *Natural Language and Linguistic Theory*, 12, 63-120.

ROSS, J. R. 1967. *Constraints on variables in syntax.* Doctoral dissertation, MIT, Cambridge, MA.

ROUSSOU, A. 1991. "Nominalized Clauses in the Syntax of Modern Greek." *UCL Working Papers in Linguistics*, 3.

ROUSSOU, A. 1992. "Factive complements and wh–movement in Modern Greek." *UCL Working Papers in Linguistics*, 4.

ROUSSOU, A. 1993. "Factivity, factive islands, and the that–t filter." *Proceedings of Console 1.*

ROUSSOU, A. 1994. *The Syntax of Complementizers.* Ph.D dissertation, UCL.

ROUSSOU, A. 2010. "Selecting Complementizers." *Lingua*, 120, 582–603.

ROUSSOU, A. & I.M. TSIMPLI. 1993. "On the Interaction of Case and Definiteness." *Current Issues*

in Linguistic Theory, 117. *Themes in Greek Linguistics*. I. Philippaki–Warburton, K. Nicolaidis & M. Sifianou (eds.), 69-76, Amsterdam: Benjamins.

SEELY, T. D., S. D. EPSTEIN & H. KITAHARA. 2014. "Labeling by Minimal Search: Implications for successive cyclic A–movement and the conception of the postulate 'phase'." *Linguistic Inquiry* 45:3.

STOWELL, T. 1981. *Origins of Phrase Structure.* Ph.D dissertation, MIT.

STOWELL, T. 1991. "Determiners in NP and DP." In *Views on Phrase Structure.* K. Leffel & D. Bouchard (eds.) 37–56. Dordrecht: Kluwer.

SZABOLCSI, A. 1983. "The Possessor that Ran Away from Home." *The Linguistic Review* 3: 89–102.

SZABOLCSI, A. 1987. "Functional Categories in the Noun Phrase." In *Approaches to Hungarian*. I. Kenesei & J. Szeged (eds.). 167–189.

SZENDRŐI, K. 2003. "A Stress-Based to the Syntax of Hungarian Focus." In *The Linguistic Review* 20(1): 37–78.

SZENDRŐI, K. 2005. "Case 43: Focus Movement/Hungarian", In Martin Everaert and Henk van Riemsdijk eds. *The Syncom Project*, Oxford: Blackwell.

TAKAHASHI, S. 2010. "The hidden side of clausal complements." *Natural Language and Linguistic Theory*, 28: 343–380.

TOMIĆ, O. 2006. *Balkan Sprachbund Morpho–syntactic Features.* Springer, Dordrecht, The Netherlands.

TSIMPLI, I.M. 1990. "The Clause Structure and Word Order of Modern Greek." *UCL Working Papers in Linguistics* 2, 220–258.

TSOULAS, G. 1993. "Remarks in the structure and Interpretation of NA–clauses." *Studies in Greek Linguistics* 14, University of Thessaloniki, Greece.

VALLDUVÍ, E. 1992. *Information Packaging: a survey.* Research Paper, University of Edinburgh.

VARLOKOSTA, S. 1994. "Issues of Modern Greek Sentential Complementation.", Ph.D. Dissertation, University of Maryland.

VELOUDIS, G. & I., PHILIPPAKI–WARBURTON. 1984. "The subjunctive mood in Modern Greek." In *Studies in Greek Linguistics: Proceedings of the 4th Annual Meeting of the Department of Linguistics, Faculty of Philosophy, Aristotelian University of Thessaloniki*, 151–168. Kyriakides: Thessaloniki.

WARBURTON, I., & A. PAPAFILI. 1988. "Categorization of Modern Greek Complement Clauses and Binding Theory." *In Studies in Greek Linguistics* 9, 293–313.

Catherine Gkritziou
Department of Linguistics
School of Languages, Linguistics and Film
Queen Mary, University of London
Mile End Road
London E1 4NS
a.gkritziou@qmul.ac.uk

PHONETIC VARIATION AS A CUE TO REGIONAL IDENTITY: AN EXPERIMENTAL APPROACH

DANIEL LAWRENCE

The University of Edinburgh

Abstract

This paper reports on a web-based experiment which investigated British listeners' perceptual sensitivity to phonetic variation in the vowels of BATH, STRUT, FACE, and GOAT. While these vowels are widely reported to be 'shibboleths' of northern/southern regional origin in Britain, perceptual evidence for such a claim has been notably lacking. The present study aimed to address this gap, measuring the extent to which a diverse sample of British listeners could use variation in the target vowels as a perceptual cue to the regional origin of a speaker. A heterogeneous sample of participants from across Britain took part in a web-based regional identification task. Listeners were asked to place recordings of speakers reading isolated words on a clickable map. Among the stimuli were tokens of words containing the target variables, read by four speakers from South Yorkshire. These tokens were digitally manipulated to create two guises: one using vowel variants typical of northern varieties of British English, and one using variants typical of southern varieties. Listeners were more likely to place northern vowel variants in a northern location, with southern variants more likely to be placed in southern locations, confirming the prediction that these vowels function as cues to regional origin among speakers of British English. A comparison of the four vowels using regression analyses and classification methods allows an exploration of quantitative and qualitative differences in the way these variable forms can be used by listeners as socio-perceptual cues.

1. Introduction

Patterned variation in speech has been linked to a range of social categories, including regional background, gender, age, ethnicity, and the membership of subgroups (e.g. Labov, 2001; Eckert, 2000; Milroy, 1980; Trudgill, 1974). While the majority of evidence for this comes from the study of group-level variation in speech production, the often tacit claim made in such work is that phonetic variation serves a social function – group-level differences in production are equated with indexing *social meaning*, available to listeners as a perceptual cue to the identity of a speaker, and available to speakers as a way to express different aspects of their identity (Eckert, 2000; Campbell-Kibler, 2007). Despite this claim, relatively few studies have directly tested listeners' ability to make social judgments based on phonetic variation. Although the ubiquitous evidence of socially-patterned variation suggests that such an ability exists, developing a complete understanding of the interface between language and society requires researchers to grapple with more explicitly cognitively-oriented questions regarding sociolinguistic competence. Rather than simply asking "How does language vary in its social context?", the relevant question becomes "How much do language users know about socially-structured variation, and to what extent can this knowledge impact on their language production?". These issues cannot be addressed by the analysis of production alone – rather, they require evidence from perception.

Proceedings of the second Postgraduate and Academic Researchers in Linguistics at York (**PARLAY 2014**) conference
© The Author, 2015 ISSN 1758-0315 Issue 2

A small number of studies have investigated listeners' ability to use phonetic detail as a cue to the social background of the speaker, mainly in a US context. Fridland, Barlett and Kruez (2004) conducted an experiment in which listeners heard a series of words containing vowels implicated in the Southern Vowel Shift in Memphis. Listeners heard pairs of words including the variable vowels which had been digitally-manipulated to represent southern-shifted or non southern-shifted variants. The participants were asked to identify which token was the more southern-sounding. The results suggest that the SVS-participating vowels vary in the extent to which they mark regional identity for Memphis speakers – those changes which are more widely adopted by Memphis speakers than southern US speakers in general appear to be the most perceptually relevant. Plichta and Preston (2005) investigated US listeners' perceptual sensitivity to the monophthongisation of the PRICE vowel using an online experiment. Listeners were presented with words containing vowels taken from a synthetic continuum representing seven degrees of monophthongisation, and were asked to identify the regional origin of the speaker on a clickable map. The results indicate that listeners were sensitive to individual continuum steps, placing more diphthongal realisations in more northern locations. Interestingly, listeners' comments on the task suggest that they were unaware of their ability to discriminate the steps of the continuum – while they may be aware of PRICE monophthongisation as a northern-southern stereotype, their ability to distinguish the variants in a gradient manner appears to be mainly unconscious. Focussing on Glaswegian English, Macfarlane and Stuart Smith (2012) demonstrated that Glaswegian listeners can distinguish phonetic detail in a range of variable features, including final syllable length in *-er* compounds, the NURSE vowel, and syllable-final /l/. The researchers adopted an innovative elicitation technique where listeners were asked to identify the speaker's identity in relation to a set of locally socially-meaningful brand logos – one set representing a (middle class) 'Glasgow Uni' speaker, and one representing a (working class) 'Glaswegian' speaker. As well as demonstrating that listeners can assign social judgments to the variable forms under study, a comparison of responses across the different variables allowed the researchers to estimate the strength of each form as a social-indexical cue.

The present study extends the perceptual work discussed above, focusing on four variable features of British English – the vowels in BATH, STRUT, FACE and GOAT (used here in reference to Wells' (1982) lexical sets). These vowels are often mentioned in descriptions of differences between northern and southern varieties, notably in Wells (1982) and Chambers and Trudgill (1998). The relevant differences across northern and southern dialects with regard to these vowels are listed below (this is by no means an exhaustive list of the ways in which these vowels can vary in British English):

- The vowel in the GOAT lexical set is a usually a diphthong [əʊ] in southern varieties, but may be realised as a monophthong [oː] in northern varieties.
- The vowel in the FACE lexical set is a usually a diphthong [eɪ] in southern varieties, but may be realised as a monophthong [eː] in northern varieties.
- Southern speakers may realise the vowel in BATH as a low back vowel [ɑː], and the vowel in TRAP as higher and further forward [æ]; speakers of northern varieties, however, often realise both BATH and TRAP as [a], with [ɑː] used only in the PALM and START lexical sets.
- Speakers of southern varieties contrast the vowel in FOOT /ʊ/ with the that in STRUT /ʌ/. Northern speakers, on the other hand, may merge /ʊ/ and /ʌ/ completely, with speakers

realising both as [ʊ], or as an intermediate [ə] - like variant. Wells (1982) reports style-shifting on an [ʊ] - [ə] - [ʌ] continuum for many northern speakers.

These vowels are often described as 'shibboleths' of northern-southern regional identity in Britain. The STRUT and BATH vowels feature widely in linguistic stereotypes of northern and southern speakers in England, and were even the subject of a well-known poem by Leeds-born Tony Harrison, which includes the following passage:

'We say [ʌz] not [uz], T.W.!' That shut my trap.
I doffed my flat a's (as in 'flat cap')
my mouth all stuffed with glottals, great
lumps to hawk up and spit out... E-nun-ci-ate!

Harrison (1978)

Here Harrison, from a working-class family but privately educated, documents his experience of speech stigmatisation from his teacher. The mention of 'flat a's' is a reference to the northern realisations of the BATH vowels discussed above. While variation in FACE and GOAT is perhaps not part of such a well-known folk stereotype as variation in BATH and STRUT, monophthongal variants of these vowels are common in northern varieties of British English, and are widely reported as being connected to northern regional identity (Watt & Milroy, 1999; Haddican et al., 2013). In all cases, these vowels are claimed index regional identity; however, this claim is based either a) on production data; b) metalinguistic discourse from interviews with speakers (e.g. Haddican et al., 2013; Watt, 2002) or evidence from folk-linguistic discourse, as in the above poem. As yet, there exists no direct empirical evidence that British English speakers associate these vowels with the social categories 'northern' and 'southern', nor evidence that listeners can draw on these variables as a cue to regional origin. Thus, the aim of the present study was to test the extent to which these vowels serve as indices of northern/southern regional origin among speakers of British English.

2. Methodology

2.1. Creation of stimuli

Four speakers were recruited from Sheffield, Northern England. They were all between the ages of 20 and 30, and could be described as 'adoptive' speakers of a standard variety. All were capable of producing northern-like and southern-like variants of the target variables. Speakers were recorded reading a list of eight words in the frame "The next word is _" on a Zoom H2n portable digital recorder. The words are summarised in Table 1:

FACE	**GOAT**	**BATH**	**STRUT**
waste	*snow*	*pass*	*bus*
late	*gross*	*disaster*	*butter*

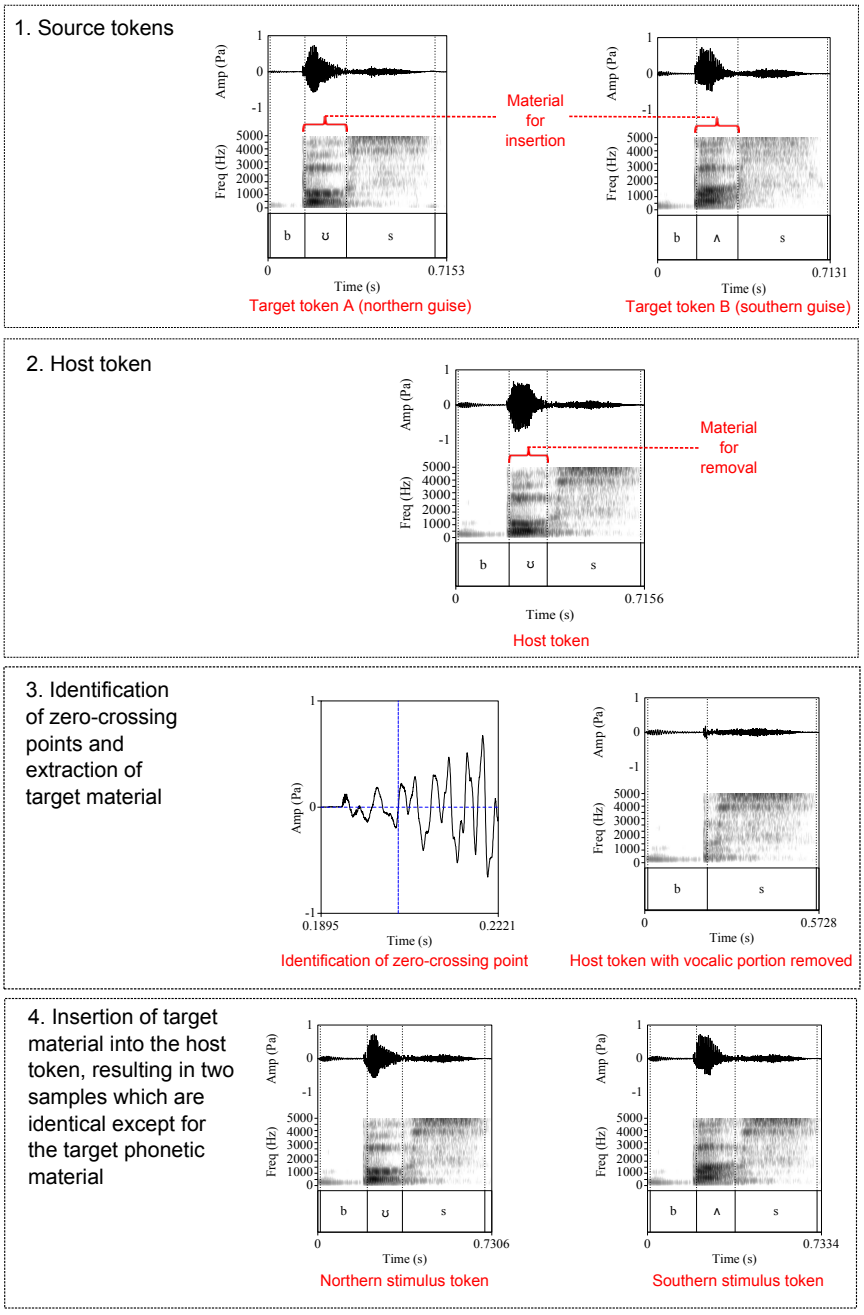
Table 1: Lexical items used as stimuli

Participants were asked to produce these words in northern and southern guises, following an example given by the researcher. All tokens were judged by the researcher to be appropriately representative of the variants of interest.

In order to make claims about the role of an individual phonetic variant in participants' judgments of regional identity, it was desirable to control for any other features which might vary between northern and southern guises. These might include the realisations of the other segments in each token, as well as the pitch contour of each guise. To attempt to control for a possible effect of such differences, the tokens were digitally manipulated in *Praat* (Boersma & Weenink, 2009), following the cross-splicing techniques described by Campbell-Kibler (2007). A secondary purpose in adopting this approach was to evaluate the viability of cross-splicing for potential future studies of the social perception of vowel variation.

For each speaker and item, three tokens were extracted from the word list recording – two instances of the word read in a northern guise, and one in the southern guise. One of the two northern tokens served as the 'host', into which the vowel portion of each of the target northern and southern guises was to be inserted. The splicing process was semi-automated using a script which iterated through the set of recordings in sets of three – two source tokens (Figure 1, point 1) and a host token (Figure 1, point 2). For each token, the script prompted the researcher to identify the material to be deleted or inserted. The researcher manually identified the material to be removed from the host token, at which point the script would delete this material and prompt the researcher to select the desired material from the target token. This was inserted into a copy of the host token at the exact point of deletion (Figure 1, point 4). At every stage of insertion or deletion, the script automatically identified the nearest zero-crossing point of the waveform (Figure 1, point 3), reducing the risk of unnatural clicks or pops caused by the manipulation process. Pitch contours were matched across the stimuli pairs by estimating the pitch pattern of the 'host' token and modifying the stimuli pairs' fundamental frequency using the Praat 'Manipulation' tool. All tokens were mixed down to mono, and the mean intensity of all recordings was scaled to 70dB-SPL.

Figure 1: Creation of minimally-contrastive speech stimuli by cross-splicing natural speech samples



When choosing exactly which phonetic content to select for cross-splicing, it was desirable to replace any material which might provide a cue to vowel quality, whilst modifying the host token as little as possible. The strategy used to achieve this varied depending on the phonetic environment of the vowel:

- *pass*: All material from directly after the burst of [p] up until the beginning of high-frequency turbulence of [s] was replaced.

- *bus*: The steady-state vowel portion was replaced, including the decay of the vowel up until the onset of high-frequency turbulence from the fricative.
- *gross*: It was necessary to replace all material from the release of the velar stop up until the onset of [s] turbulence, as formant structure in the [ɹ] made separating it from the following vowel sound highly unnatural.
- *waste*: It was necessary to include [w] in the segment to be spliced due to differences in the trajectory of the glide between the recordings, as well as the difficulty of segmenting the glide from the diphthong.
- *snow*: The entire vowel portion was replaced, identified as distinct from the nasal by higher-intensity formant structure.
- *disaster*: The entire vowel portion was replaced, from the beginning of visible high-intensity formant structure following the voiced fricative, up until the onset of high-frequency turbulence from the following fricative.
- *butter*: The steady-state vowel portion was replaced, up until the high-frequency turbulence from the release of the alveolar stop.
- *late*: The entire vowel portion was replaced, identified as distinct from the liquid by its high-intensity periodicity. All material up until the high-frequency turbulence from the release of /t/ was included.

In addition to this set of 64 stimuli, 16 filler items were created using recordings from the *Speech Accent Archive* (Weinberger & Kunath, 2011). The aim of including these was to draw listeners' attention away from the fact that the speakers re-occurred, and to add variety in terms of different voices and lexical items. The filler samples were chosen to represent a range of regional varieties, genders, ages, and lexical items, in an attempt to add to the apparent validity of the task. Information about these is provided in Table 2:

SAR Recording Title	Gender; Region; Age	Word	Transcription
english2	F; Birmingham, England; 30	*store*	[stɔː]
		frog	[fɹɒg]
english413	F; Manchester, England; 20	*kids*	[kɪdz]
		frog	[fɹɒg]
english488	F; Irvine, Scotland; 35	*store*	[stɔˠ]
		snake	[sneɪk]
english460	F; Rutland, England; 19	*store*	[stɔː]
		bags	[bagz]
english13	M; Oxfordshire, England; 69	*store*	[stɔə]
		cheese	[tʃiːz]
english57	M; Birmingham, England; 34	*store*	[stɔː]
		cheese	[tʃɨiz]
english141	M; York, England; 19	*kids*	[kɪdz]
		station	[steːʃən]
english319	M; Grimsby, England; 29	*peas*	[pʰːiz]
		bags	[bagz]

Table 2: Filler items

The complete set of 64 target items was split across two conditions, such that each listener heard each speaker reading one of the words for each lexical set in both northern and southern guises. The stimuli were divided in this way to reduce the length of the experiment, in an attempt to avoid listeners' becoming bored or frustrated and exiting early – an important consideration for an online task. The full set of fillers were added to the 32 target items in each group, meaning that a total of 48 responses were collected from each listener. The stimuli were pseudo-randomised in such a way that no two instances of the same speaker or variable would be heard in succession.

2.2. Experimental task

Listeners were presented with the digitally-manipulated speech tokens and were asked to guess the origin of the speaker by placing a pin on a clickable map. Previous work adopting a similar approach has used a range of methods to collect social judgments from listeners. These include comparative questions (e.g. *Which speaker sounds more southern?*) (Fridland et al., 2004) and rating scales (Fridland et al., 2005), as well as check-boxes corresponding to categorical features (Campbell-Kibler, 2007). In the present work, an issue which arose at the early stages of experimental design was the 'slipperiness' of 'North' and 'South' as regional identifiers in Britain. Despite widespread acknowledgment of the 'North-South divide' in public discourse, the actual locations or dialects which are considered to be northern or southern are a matter of debate among speakers (see Wales, 2000). It was thought that including a binary question (e.g. 'Do you think this speaker is northern or southern?') might seem overly simplistic to participants, and would prompt requests for a definition of northern and southern in terms of specific places. On the other hand, providing a list of individual locations meant assuming *a priori* which locations would be relevant choices for listeners. The clickable map, based on Plichta and Preston (2005), was an attempt to solve this problem. The benefit of using a clickable map was that it potentially allowed listeners to identify locations which had not been

pre-specified by the researcher; on the other hand, if a listener could only identify the speaker as northern or southern, but was unable to place a sample in a specific location, they would still be able to place the sample in a broad geographical area. Labels were provided for 14 major cities. Participants were informed that these labels were there as a guide, but that they could click anywhere on the map if they were unsure, or if they felt that none of the labeled locations matched the origin of the speaker. A further benefit to the map interface was that it provided participants with a visually engaging and challenging task, resulting in a high rate of completion.

The experiment was delivered on a custom-built web-based interface which was designed and programmed by the researcher. The programming language used was ActionScript 3.0, based on the guidelines provided in Weinstein (2012). This programming language, based in the Adobe *Flash* platform, is widely used in online behavioural experiments due to its wide cross-platform compatibility (see e.g. Reimers & Stewart, 2007; Simcox & Fiez, 2014). The experiment was hosted on a University of Edinburgh web server, and responses were stored in a private text file on this server. The experiment was promoted through social media by friends and colleagues of the researcher, adopting a convenience sampling approach which allowed a relatively large number of responses to be collected in a short period of time.

On starting the experiment, participants were first presented with a consent form which explained the purpose and nature of the experiment, and required participants to provide basic personal information and confirm their consent to participate in order to continue. They were then prompted to test their sound settings by clicking a button which played a short sound sample, allowing the participant to adjust the volume of the experiment as appropriate.

The experimental task proceeded as follows: participants were presented with a map of Britain, and were prompted to click on a button to listen to the next speaker. After listening, participants were invited to click anywhere on the map to guess the regional origin of the speaker, placing a pin on the map which they were free to move until they chose to continue. They were explicitly told that they did not have to click only on the marked locations. Listeners were allowed to hear each recording as many times as they desired, and were asked to add any comments they had regarding social characteristics of the speaker after choosing a location.

Figure 2 provides an impression of the experiment.

Figure 2: Experimental interface

The experiment ran in a window of fixed size and resolution, reducing cross-participant variation which might occur due to different screen sizes or zoom levels. The responses recorded included the pixel coordinates of each regional placement, any comments about the social identity of the speaker, and the number of times the participant listened to the recording. Detailed background information was collected from each participant, including their age, gender, regional origin, socioeconomic status, and ethnicity. Finally, participants were asked to provide any general comments they had regarding the task, with a view to collecting feedback for future developments of the experiment.

3. Results

3.1. Visualising the data

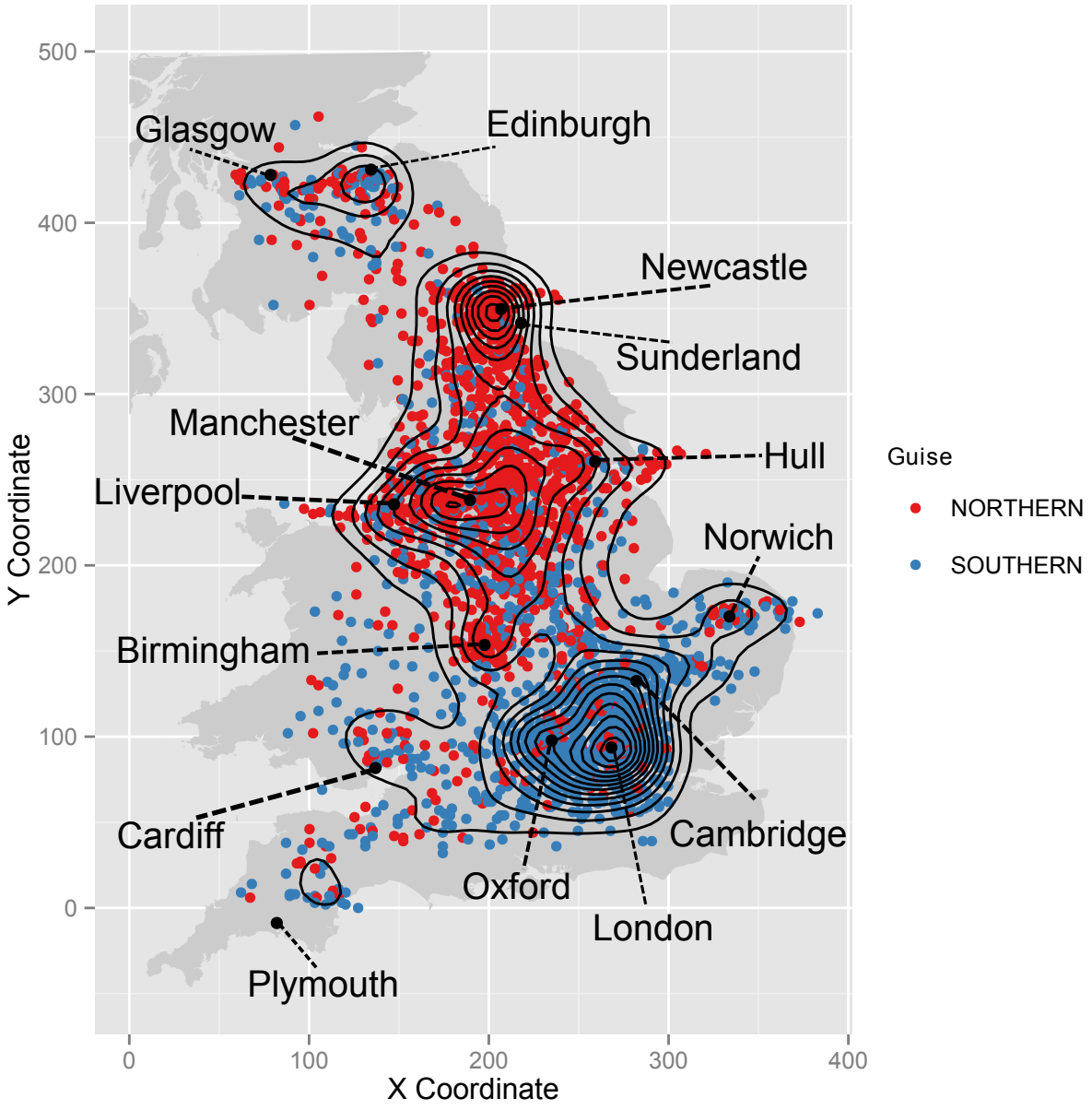
The experiment was published in March 2014 and ran for two months. A total of 86 listeners took part, resulting in a complete dataset of 2752 responses to the target items. This dataset was imported into the statistical package R (R Core Team, 2014) for analysis. Respondents' biographical data were carefully checked, and any respondents who listed their regional origin as somewhere outside of the British Isles were excluded. In addition, any respondents who reported that they had a background in linguistics were not included in the following analyses. 6 participants (192 responses) were excluded in this manner. Participants reported their regional origin by entering it in a text field as part of an exit questionnaire. The table below summarises the responses, using categories adapted from the regions listed on the UK Office of National Statistics website (http://www.ons.gov.uk/).

Region	Number of listeners
East Anglia	3
London	14
South East	12
North West	7
East Midlands	2
West Midlands	3
North East	2
Scotland	16
Wales	3
Yorkshire & The Humber	16
South West	2

It is evident that the sample is biased towards Scotland, Yorkshire and The Humber, and London and the South East, reflecting the convenience sampling approach adopted. The analyses presented in this paper group together all responses, on the basis that the variables under study are generally claimed to be recognised supra-regionally as indexical of northern/southern regional identity in Britain; thus, it would be expected that a patterned response to the vowel variants would be observable regardless of the regional origin of the listener. Due to time and space constraints, an investigation of the role of listener regional origin is left for a future analysis.

The coordinates of each click were plotted on a 400x500 grid, superimposed on a map of the British Isles. Figure 3 visualises the regional placements of the digitally-manipulated recordings; northern variants are displayed in red and southern variants are displayed in blue.[1]

Figure 3: Regional placements separated by guise



It is evident from the above figure that participants responded very differently to tokens from each guise, with northern variants tending to be placed further north on the map, and southern variants further south. The contour lines indicate the areas which received the highest density of clicks, estimated using two-dimensional kernel density estimation – the closer the contours, the higher the density of placements in that area.

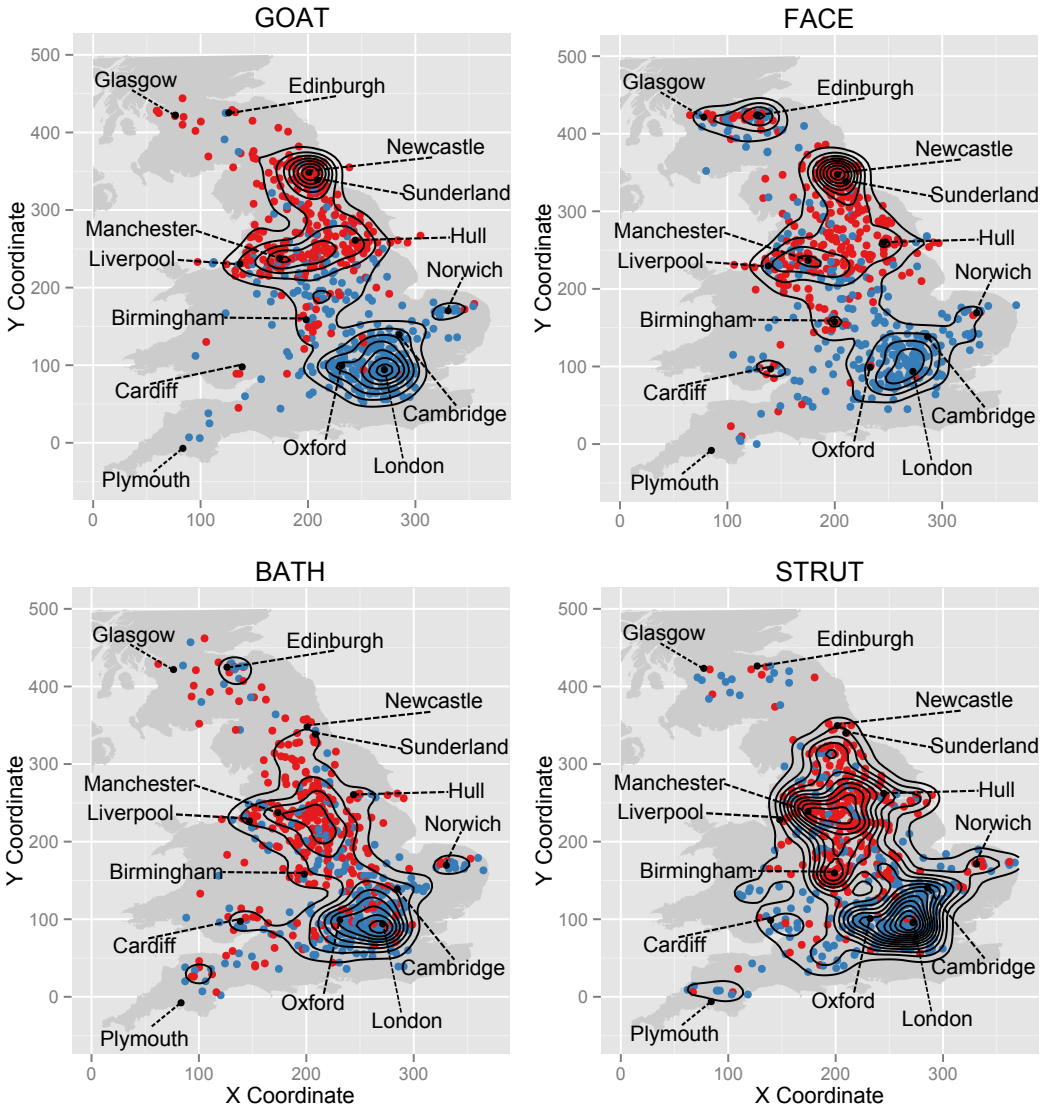
Responses appear to cluster strongly in at least four areas, roughly corresponding to London

[1]Note that although the labeled points marked in Figures 3-6 have the same coordinates as the points provided on the clickable map, in some cases participants seem to have clicked on the label text itself rather than the points – this may explain the occasional slight misalignment of clusters of responses and the labeled points.

and the South East, a central-northern area corresponding to the Midlands, Yorkshire and Lancashire, a north-eastern area corresponding to Tyneside, and Scotland. The colour-coding of guises clearly shows that a larger proportion of northern variants were placed around northern locations and that the converse is true for southern variants. It is interesting to note, however, that respondents' judgments are far from categorical; despite the overall tendency of northern and southern clustering, there is a still a considerable 'error rate' for each guise, with northern variants being placed in southern locations and vice-versa. Rather than determining a categorical judgment, the variable realisations of the vowels shift the probability that a speaker will be identified as coming from a particular region.

Considering the patterns for each variable, it becomes clear that the four vowel variables differ in terms of the regional placements their variants are likely to cue, with the largest differences between the northern variants. This is shown in Figure 4:

Figure 4: Regional placements separated by variable



Northern variants of FACE and GOAT seem to behave differently to the northern variants of STRUT and BATH – the latter generally cluster around central-northern locations, where the former cluster strongly in the Tyneside area. There also appears to be a strong cluster of both

northern and southern FACE variants in Scotland.

3.2. Statistical analysis

To identify statistically-significant differences between the placement patterns of the speech samples, the distributions of each vowel variant were compared in all relevant combinations and tested for independence – first comparing the distributions of variants *within* variables (e.g. [ʊ] vs [ʌ], [eɪ] vs [eː]), then comparing distributions *between* variables (e.g. [eɪ] vs [əʊ]). The statistical test used was Peacock's (1983) two-dimensional extension of the Kolmogorov-Smirnov test. This test estimates the largest difference between the cumulative probability distributions of two sets of points, and estimates the probability of a difference of a given size under a null hypothesis that both sets of points come from the same distribution. Before statistical analyses were conducted, a small number of responses which were placed outside of the map area were excluded (n=63).

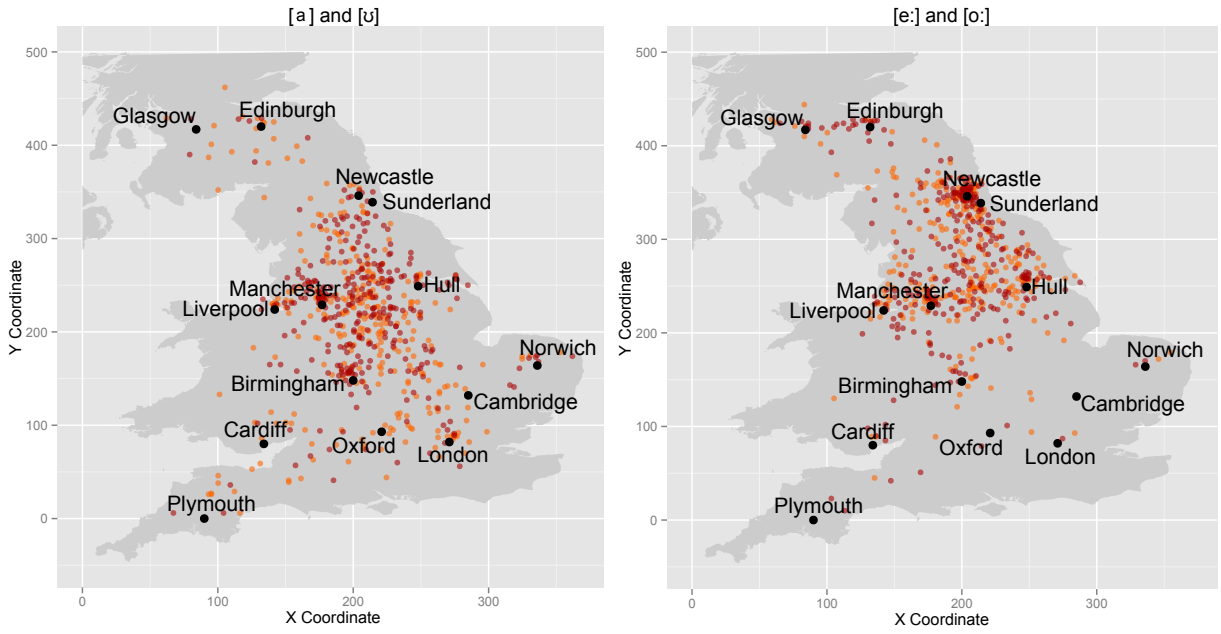
	Variants		K-S	p - value
Within variables, between guises	[ɑː]	[a]	0.4992	2.7313e-29 ***
	[ʌ]	[ʊ]	0.5914	2.4881e-42 ***
	[eɪ]	[eː]	0.6128	2.4850e-45 ***
	[əʊ]	[oː]	0.7333	2.5155e-66 ***
Between variables, within southern guises	[ʌ]	[eɪ]	0.1700	0.0099
	[ʌ]	[əʊ]	0.1138	0.20
	[ɑː]	[eɪ]	0.1027	0.20
	[ɑː]	[əʊ]	0.1410	0.0821
	[ʌ]	[ɑː]	0.1027	0.20
	[eɪ]	[əʊ]	0.2083	2.9078e-04 ***
Between variables, within northern guises	[ʊ]	[eː]	0.3683	2.2901e-15 ***
	[ʊ]	[oː]	0.3429	3.8012e-13 ***
	[a]	[eː]	0.3944	8.9890e-18 ***
	[a]	[oː]	0.4364	3.9175e-22 ***
	[ʊ]	[a]	0.1587	0.0223
	[eː]	[oː]	0.0857	0.20

Table 3: Kolmogorov-Smirnov tests within and between variables

The first four rows of Table 3 demonstrate the highly-significant effect of the vowel manipulation on each variable. When listeners heard words from the BATH, STRUT, FACE and GOAT lexical sets, variants typical of northern varieties cued a placement in a more northern location than their southern counterparts. The next five rows show that there are no significant differences between placements of the majority of southern variants, assuming a Boneferroni-corrected threshold p-value of 0.003. A highly significant difference was found between placements of the southern variants of FACE and GOAT, suggesting that while [əʊ] and [eɪ] cue different regional placements from their northern counterparts, participants interpret them as carrying a different regional meaning. Returning to Table 4, this effect seems to be carried by a higher frequency of [eɪ] placements in Scotland, which will be explored further below. The final six rows of table 3 show that northern variants of BATH and STRUT seem to pattern differently

from northern variants of FACE and GOAT. A comparison of [ʊ] and [a] returns no significant difference, nor does a comparison of [eː] and [oː]; however, comparing northern STRUT and BATH placements to northern FACE and GOAT placements returns highly significant effects in all cases. This exploratory analysis verifies the intuition captured in Figure 4, suggesting that while northern variants of all four variables cue a placement in a general northern location, northern variants of FACE and GOAT are stronger indices of locations in the North-East. Figure 5 highlights this difference:

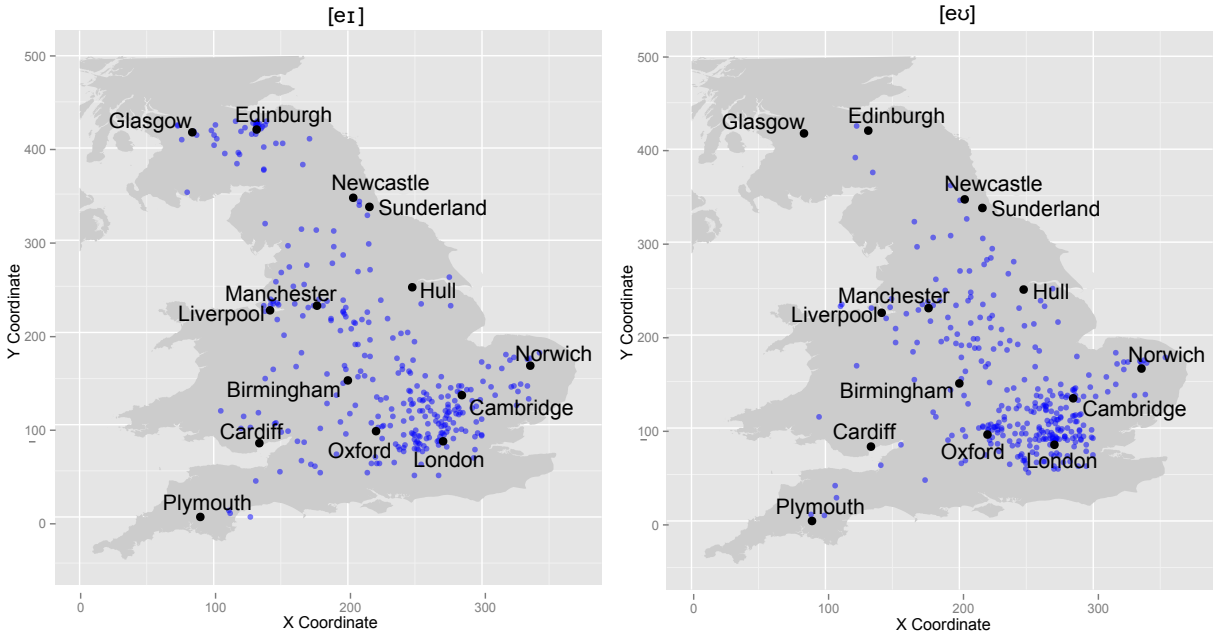
Figure 5: Left: Placements of northern BATH (orange) and STRUT (red); Right: Placements of northern GOAT (orange) and FACE (red)



As well as appearing to be stronger predictors of a placement in the North-East, [eː] or [oː] seem to reduce the probability that a speaker will be placed in a southern location – participants seem to have an intuition that there is some possibility that a speaker who uses [a] in BATH or [ʊ] in STRUT might be from a southern location, but that this is much less likely if the speaker uses [eː] in FACE and [oː] in GOAT.

In addition to the difference in the placement of northern variants discussed above, the tests of independence in Table 3 revealed a highly significant difference in the placements of southern FACE and GOAT variants [eɪ] and [əʊ]. These are compared in Figure 6:

Figure 6: Comparison of southern FACE and GOAT placements



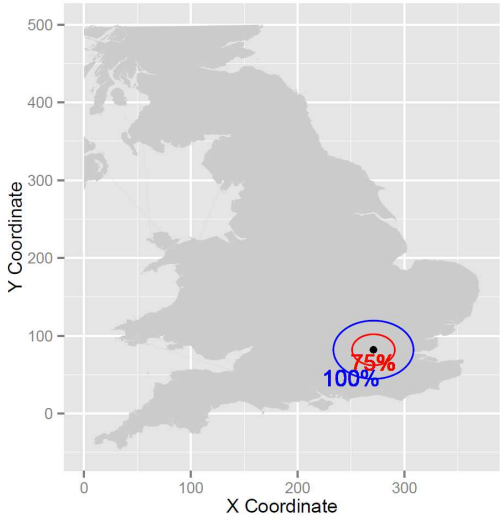
The significant difference between [əʊ] and [eɪ] placements appears to be carried by a tendency for [eɪ] tokens to be placed in Scotland (more accurately, Edinburgh) at a slightly higher frequency than [əʊ]. A future analysis might usefully explore whether this tendency is specific to Scottish listeners – it might be hypothesised that this trend of mapping a southern English form to the Scottish capital represents a perception of SSBE influence on Edinburgh English.

This exploratory analysis shows that the vowels in BATH, STRUT, FACE, and GOAT can be used by listeners as cues to regional identity. While this has generally been taken for granted in the sociolinguistic literature, the present analyses represent the first experimental evidence for their perceptual salience as 'shibboleths' of regional origin. An additional finding is that the different vowel variants seem to contribute in different ways to regional placements, rather than simply being associated with broad northern or southern stereotypes. The 'regional meaning' carried by the vowels can be thought of as a probability that the speaker will come from a particular area, given their use of a particular variant. The presence of this variant appears to shift the probability of a placement in a particular location, and the way that this probability shifts appears to differ depending on the variant – for example, the likelihood of a speaker being identified as from the North-East is higher if a listener hears [eː] and [oː] than if they hear [ʊ] or [a]; furthermore, the likelihood of a speaker being identified as southern even though they use typically northern variants is much higher for [ʊ] or [a] in BATH and STRUT than it is for [eː] and [oː] in FACE and GOAT.

So far, these analyses have ignored the fact that a range of factors might influence a regional placement. Firstly, it is likely that the background of the listener and their linguistic experience play a key role in their judgments. Secondly, the stimuli vary in terms of the lexical items used and phonetic contexts in which the target vowels appear, which might effect the salience of the sociolinguistic variant. In addition, the speakers exhibit natural variation in their pronun-

ciation of both the target variants and other segments in the stimuli; they also vary in terms of their F0 and voice quality. Finally, it is possible that individual participants have idiosyncratic preferences for their placements. In order to control for the effect of these factors, it would be desirable to fit a mixed effects model, as is standard practice in sociolinguistic work. Typical production studies deal with one-dimensional continuous variables (e.g. formant values) or categorical variables (e.g. the realisation of /t/ as [t] or [ʔ]), and attempt to model the linguistic and non-linguistic factors which influence individual production events. However, the independent variable in the present data consists of a set of two-dimensional points. The feature of interest is the extent to which the location of each point can be predicted by aspects of the perceptual events presented in the experiment – either the characteristics of the stimuli or the background of the listener. One notable observation is that listeners' placements of the speech samples generally cluster around regional labels. As Figure 7 illustrates, all points lie within 75 pixels of a regional label, with half of them within 25 pixels of the nearest label.

Figure 7: Distance of placements from nearest regional label



The fact that responses cluster so strongly around regional labels suggests that the labels played a large role in participants' placements. Taking advantage of this, the data were grouped into 13 categories using a simple clustering method, with Newcastle and Sunderland treated as a single category due to their close proximity. Treating the location of each regional label as the centroid of a cluster, each point was assigned to the cluster whose centroid whose coordinates had the shortest Euclidean distance from the coordinates of that point.

Having split the data into 13 categories, a set of logistic regression models were fit for each location using *Rbrul* (Johnson, 2009). This program performs stepwise model selection – given a set of possible predictors, the program generates a set of regression models, selecting the model which accounts for the most variation in the dependent variable with fewest independent variables, and returning the best predictors for a given dataset and their coefficients. The dependent variable in each model was a factor representing the selection of the specified location vs the selection of any other location. Independent variables were included for *Vowel* (referring to the vowel variable that listeners heard on a given trial: FACE, GOAT, BATH or STRUT), *Guise* (whether the vowel was a northern or southern variant), *Variant* (presenting the interaction between Guise and Vowel – which of eight possible variants did listeners hear?) *Speaker* (which

speaker did listener hear?) and *Word* (which of the two possible words did listeners hear?), with random effects for *Item* (the specific recording heard) and *Participant* (the individual listener). Interactions between *Variant*, *Speaker* and *Word* were also checked. A key factor not explored in the present analysis is the role of the listeners' regional origin, which is excluded from the present paper due to space constraints.

Table 4 summarizes the predictors selected for each cluster, representing the factors which influenced participants' selection of each location.

Cluster	**N**	**Best model**
Birmingham	262	Name (Random) + File (Random) + Variant (p = 5.59e-16)
Cambridge	259	Name (Random) + File (Random) + Variant (p = 4.21e-16)
Cardiff	94	Name (Random) + File (Random) + Variant (p = 0.00277) + Speaker (p = 0.0294)
Edinburgh	87	Name (Random) + File (Random) + Variant (p= 0.0295)
Glasgow	51	Name (Random) + File (Random) + Variant (p = 0.0355)
Hull	221	Name (Random) + File (Random) + Variant (p = 2.8e-10)
Liverpool	153	Name (Random) + File (Random) + Variant (p = 0.0215)
London	311	Name (Random) + File (Random) + Variant (p = 4.32e-16)
Manchester	362	Name (Random) + File (Random) + Variant (p = 7.31e-12)
Newcastle	324	Name (Random) + File (Random) + Variant (p = 3.65e-07) + Speaker (p = 0.0148)
Norwich	95	Name (Random) + File (Random) + Variant (p = 8.88e-06)
Oxford	234	Name (Random) + File (Random) + Variant (p = 2.17e-15)
Plymouth	44	Name (Random) + File (Random) + Variant (p = 0.034)

Table 4: Best predictors of placements in each regional cluster

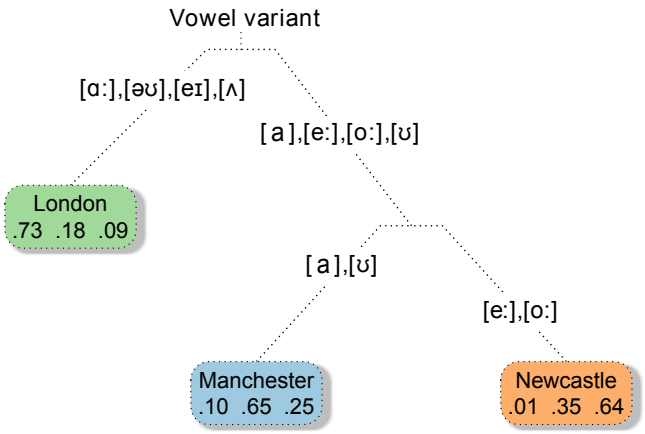
In all cases, the variant (i.e. the individual vowel variant that participants heard) was selected as the best predictor of a regional placement, suggesting that the vowel participants heard influenced the location of the regional placements they made. The northern or southern *Guise* was not selected in any model, suggesting that it is the individual vowel variant that drives placements. This confirms the observation made previously – listeners appear to treat monophthongal FACE and GOAT as indexically very different from the northern variants of BATH and STRUT, and this pattern appears to be robust even when controlling for other factors which might influence listeners' placements. In three cases, Cardiff, Newcastle, and Cambridge, the identity of the speaker appears to have influenced the regional placements. This suggests that listeners were not only drawing on the target vowels, but also used information from other aspects of the recordings. This might be related to the way the speakers realised the other segments in the recorded words, or perhaps some aspect of intonation or voice quality; however, such investigations go beyond the scope of the present paper.

While the extent to which listeners' intuitions represent actual production patterns remains to be seen, the present data provide strong evidence that monophthongal FACE and GOAT variants [eː] and [oː] are strongly associated with North-Eastern locations, whereas [a] and [ʊ] are associated with central-northern locations such as Manchester. These associations are by no means categorical, and patterns can be observed when the rate at which apparently northern variants are placed in southern locations – while a small proportion of [a] and [ʊ] tokens are placed in southern locations, the proportion of southern [eː] and [oː] placements is far lower.

As a final exploratory analysis, an attempt was made to apply the tree-based classification method described in Tagliamonte and Baayen (2012). The aim of this method is the same

as that of logistic regression – the prediction of a particular outcome based on a set of predictors. While regression models accomplish this analytically, classification trees work by splitting the data into partitions on the basis of a set of yes/no questions, then estimating the amount of information captured by a given split. The algorithm works through all specified predictors in the first iteration, then recursively partitions the selected subsets until no further splits are predictive of the data. The resulting *conditional inference tree* expresses the effect of the predictors on the outcome variable in the form of a decision tree. An example is given in Figure 8:

Figure 8: Conditional inference tree generated from a subset of the regional identification data



This tree was produced using the *rpart* package in R (Therneau, Atkinson & Ripley, 2014). Initially, a conditional inference tree was generated with the location of each regional identification as a dependent variable, and *Guise*, *Word*, *Speaker*, *Variable* and *Variant* as predictors. Consistent with the regression models, only *Variant* was selected as a significant predictor. The above tree represents a simplified version created from a subset of the data which only included responses placed in the three largest clusters: London, Manchester or Newcastle. Each branch on the tree represents a split identified as most informative in classifying listeners' placements. The coloured nodes represent the most likely outcome given the factor levels shown on each branch. The numbers express the conditional probability of each class being selected given the predictor levels on that branch. Overall, this classification tree appears to support the claims made previously. When listeners hear a speaker using southern variants [ɑː], [eɪ], [əʊ] or [ʌ], there is a probability of .73 that they will place that speaker in London over Manchester or Newcastle, with a smaller probability that they will choose Manchester (.18), and much smaller probability that they will select Newcastle (.09). The most likely placements of speakers using northern variants [a], [eː], [oː], and [ʊ] are split between Manchester and Newcastle – there is a probability of .65 that [a] or [ʊ] will cue a Manchester placement, and a probability of .25 that a speaker using these vowels will be placed in Newcastle. London placements of speakers using the variants are far less likely (.10). [eː] and [oː] strongly predict a Newcastle placement, with a probability of .64 that a speaker using these sounds will be placed there. The probability that monophthongal FACE and GOAT variants will result in a Manchester placement is lower (.35), and London placements of speakers these sounds are particularly unlikely (.01). Overall, the conditional inference tree analysis confirms the main finding of this study – listeners interpret variation in BATH, STRUT, FACE and GOAT as indexing a speaker's region, with northern BATH and STRUT variants associated with central-northern locations, and northern FACE and GOAT variants associated with locations further north.

4. Discussion

This study aimed to test the claim that variation in the BATH, STRUT, FACE and GOAT vowels can be used by British listeners as cues to the regional origin of a speaker. The status of these vowels as north-south 'shibboleths' is widely referred to in the literature on phonological variation in the UK (Wells, 1982; Chambers & Trudgill, 1998; Watt & Milroy, 1999; Haddican et al., 2013). However, these claims have been based primarily on production/interview data, and the presence of sociolinguistic stereotypes in popular discourse. This experiment presented listeners with a set of recorded words and asked them to identify the regional origin of the speakers. Among the recordings were a set of instances of the target variables which had been digitally manipulated to represent either the northern or southern realisation of the vowels under study.

An analysis of listeners' regional placements confirms that the digital manipulation of the target variants alone was sufficient to cue differences in listeners' intuitions about a speakers' regional origin. The statistical analyses indicate that even when individual-level variation is taken into account, participants had consistent intuitions about the regional information carried in each variant – while southern variants [ɑː], [eɪ], [əʊ] or [ʌ] generally predicted a placement in the south-east of England, northern variants of BATH and STRUT were more likely to be placed in central-northern locations, and monophthongal FACE and GOAT are strongly associated with the North-East. A brief exploratory analysis using recursive classification trees confirmed the patterns identified, demonstrating that each variant contributes to the probability of a placement in a particular location to different degrees.

Overall, the results demonstrate that listeners have intuitions about the regional indexicality of phonological variation which can be captured through perceptual experiments. Presenting listeners with phonetically variable stimuli and asking them to make social judgments allows for a calculation of the probability that a particular social judgment will be assigned given a particular set of acoustic characteristics. This presumably reflects the kind of probabilistic reasoning that speakers do in real life when they interpret the social significance of phonetic variation, with the important difference that real-life sociolinguistic inference presumably involves the integration of a range of socially-meaningful cues (linguistic and non-linguistic) in forming social impressions. Intriguingly, a brief look at listeners' commentary on the task suggests that, although they are explicitly aware that some variants are typical of northern and southern varieties, they do not articulate the fact that monophthongal FACE and GOAT carry a different regional association to northern variants of BATH and STRUT. Typical comments are shown below:

- *The task appeared to be relatively easy in roughly discerning between northern and southern accents. I tried to be more precise about where in the North or South I thought the accents were from but it was mostly guesswork based on my (limited) knowledge of regional dialects.*
- *I didn't feel sure about many - less than half. A single word isn't much to go on. I could pick out things like short and long a sounds. But mostly I just went with a hunch.*
- *Easy to tell whether the speaker was northern or southern but harder to define more precisely.*
- *Some were easier to place than others. Some seemed more generally northern or southern and I couldn't place them by cities.*

While listeners are able to express explicit awareness of some aspects of regional variation, it appears that some of their intuitions are less available to introspection – consistent with the findings of Plichta and Preston (2005). The strength of the modified matched-guise method applied in this study is that it appears to allow researchers to capture listeners implicit awareness of regional (or other) variation, apparently allowing the quantification of the 'hunches' expressed by the participant in the second comment above.

5. Conclusion

The present study adds to a growing body of work exploring the perceptual dimension of sociolinguistic variation. Using a fairly simple experimental design whereby listeners are asked to intuit social information from acoustically-manipulated stimuli, it is possible to obtain information about listeners' social interpretation of linguistic features that would be hard to elicit through direct questioning. However, there are a few issues to be considered if the method is to be employed in future work. Firstly the usefulness of structuring the task around a clickable map is debatable – in the present study, responses tended to be tightly clustered around the regional labels provided, effectively rendering the map superfluous. The need to subsequently convert the data into a set of categories added an unnecessary extra layer of complexity to the analysis, and means that there is no guarantee that responses treated as 'London' or 'Newcastle' in analyses were actually intended as such by listeners. A more useful approach might be to provide listeners with a set of pre-specified locations. Alternatively, a menu-type interface could be constructed with varying levels of granularity – for example, listeners could start by selecting the country, then broad region, then individual city, stopping at the point where they felt they had no further intuitions.

A second issue with this experiment is the extent to which the experimental design might be contributing to the observed patterns. When listeners form intuitions about a speakers' origin in real life, they do so based on a range of possible cues, both linguistic and non-linguistic. The situation presented by the experiment, where a series of regional intuitions based on only a small amount of linguistic material are elicited one after the other, is highly unnatural. It is possible that the observed patterns emerge as an artifact of the task – perhaps listeners notice that BATH, STRUT, FACE and GOAT re-occur in the stimuli and attempt to distinguish them by placing them in arbitrarily different locations. The fact that the observed patterns appear to be consistent across listeners suggests that this may not be the case; however, based on this experiment alone there is no way of knowing if the responses captured reflect the same kind of intuitions that might influence the way listeners perceive and produce variable forms in their day-to-day lives. One avenue presently being explored to address this is testing the experiment among American listeners with limited exposure to British English, who would be expected to posses less consistent intuitions about the regional indexicality of the vowels under study.

A third point to be considered in future developments of this work is the importance of participants' backgrounds and their linguistic experience. While the main patterns in the data appear to hold despite considerable diversity in the regional backgrounds of the listeners, the present analyses are seriously limited by the fact that they overlook the role that this diversity might play. A further area left unexplored in the present work is the question of exactly *why* these patterns of perceptual responses emerge as they do, and the extent to which they represent listeners' exposure regional varieties versus more complex motivations (such as the perception of difference from one's own speech, or (non)-standardness). The next step for this project will

be to address these gaps, exploring systematic variation in listeners' social perceptions of these variable forms, and the relationship between those perceptions and production patterns.

Acknowledgements

Thanks to my supervision team: Dr. Lauren Hall-Lew, Prof. Alice Turk and Dr. Josef Fruehwald for their comments and encouragement. Thanks also to the audience at PARLAY 2014 for their helpful comments, especially Dr. Paul Foulkes, Ania Kubisz and Ella Jeffries. This research was supported by an ESRC studentship attached to grant ES/J500136/1.

References

BOERSMA, P. & WEENINK, D. (2009). Praat: Doing phonetics by computer (Version 5.1.05) [Computer program]. Retrieved May 1, 2014.

CAMPBELL-KIBLER, K. (2007). Accent, (ING), and the social logic of listener perceptions. American Speech, 82(1):32–64.

CHAMBERS, J. K. & TRUDGILL, P. (1998). *Dialectology*. Cambridge: Cambridge University Press.

ECKERT, P. (2000). *Linguistic Variation as Social Practice: The Linguistic Construction of Identity in Belten High*. Oxford: Blackwell

FERRAGNE, E. & PELLEGRINO, F. (2010). Formant frequencies of vowels in 13 accents of the British Isles. *Journal of the International Phonetic Association*, 40(01):1–34.

FRIDLAND, V., BARTLETT, K., & KREUZ, R. (2004). Do you hear what I hear? Experimental measurement of the perceptual salience of acoustically manipulated vowel variants by Southern speakers in Memphis, TN. *Language Variation and Change*, 16(01):1–16.

FRIDLAND, V., BARTLETT, K., & KREUZ, R. (2005). Making sense of variation: Pleasantness and education ratings of southern vowel variants. *American Speech*, 80(4):366–387.

HADDICAN, B., FOULKES, P., HUGHES, V., & RICHARDS, H. (2013). Interaction of social and linguistic constraints on two vowel changes in northern England. *Language Variation and Change*, 25(03):371–403.

HARRISON, T. (1978).Them & [uz]. In HARRISON, T., ed. *From the School of Eloquence and Other Poems*. London: Rex Collings.

HARTIGAN, J. A. & WONG, M. A. (1979). Algorithm AS136: A K-means clustering algorithm. *Journal of the Royal Statistical Society. Series C (Applied Statistics)*, 28(1):100–108.

JOHNSON, D. E. (2009). Getting off the GoldVarb standard: Introducing Rbrul for mixed-effects variable rule analysis. *Language and Linguistics Compass*, 3(1):359–383.

LABOV, W. (2001). *Principles of Linguistic Change, Vol. 2: Social Factors*. Malden, MA: Blackwell Publishers

MACFARLANE, A. E. & STUART-SMITH, J. (2012).'One of them sounds sort of Glasgow unish': Social judgements and fine phonetic variation in Glasgow. *Lingua*, 122(7):764–778.

MILROY, L. (1980). *Language and Social Networks*. Oxford: Blackwell.

PEACOCK, J. (1983). Two-dimensional goodness-of-fit testing in astronomy. *Monthly Notices of the Royal Astronomical Society*, 202(3):615–627.

PLICHTA, B. & PRESTON, D. R. (2005). The/ay/s have it: The perception of /ay/ as a north-

south stereotype in United States English. *Acta Linguistica Hafniensia*, 37(1):107–130.

R CORE TEAM. (2014). *R: A Language and Environment for Statistical Computing.* [Computer program]. Retrieved Jan 15, 2014.

REIMERS, S. & STEWART, N. (2007). Adobe flash as a medium for online experimentation: A test of reaction time measurement capabilities. *Behavior Research Methods*, 39(3):365–370.

SIMCOX, T. & FIEZ, J. A. (2014). Collecting response times using Amazon Mechanical Turk and Adobe Flash. *Behavior Research Methods*, 46(1):95–111.

TAGLIAMONTE, S. A. & BAAYEN, R. H. (2012). Models, forests, and trees of York English: Was/were variation as a case study for statistical practice. *Language Variation and Change*, 24(02):135–178.

THERNEAU, T., ATKINSON, B., & RIPLEY, B. (2014). *Rpart: Recursive Partitioning and Regression Trees.* R package version 4.1-8.

TRUDGILL, P.(1974). *The social differentiation of English in Norwich*. Cambridge: Cambridge University Press.

WALES, K. (2000). North and South: An English linguistic divide? *English Today*, 16(01):4–15.

WATT, D. (2000). Phonetic parallels between the close-mid vowels of Tyneside English: Are they internally or externally motivated? *Language Variation and Change*, 12(01):69–101.

WATT, D. (2002). 'I don't speak with a Geordie accent, I speak, like, the northern accent': Contact-induced levelling in the Tyneside vowel system. *Journal of Sociolinguistics*, 6(1):44–63.

WATT, D. & MILROY, L. (1999). Patterns of variation and change in three Newcastle vowels: Is this dialect levelling? In FOULKES, P. & DOHERTY, G. (eds.). *Urban Voices: Accent Studies in the British Isles*, pp 25–46. London: Arnold.

WEINBERGER, S. H. & KUNATH, S. A. (2011). The Speech Accent Archive: Towards a typology of English accents. *Language and Computers*, 73(1):265–281.

WEINSTEIN, Y. (2012). *Flash Programming for the Social & Behavioral sciences: A Simple Guide to Sophisticated Online Surveys and Experiments*. SAGE Publications.

WELLS, J. C. (1982). *Accents of English: Volume 1*. Cambridge: Cambridge University Press.

Daniel Lawrence
Linguistics & English Language
School of Philosophy, Psychology and Language Sciences
Edinburgh
EH8 9AD
email: dlawrenc@staffmail.ed.ac.uk

A CASE STUDY OF DIGLOSSIA IN SOUTH TYROL: GERMAN LANGUAGE COMPREHENSION AT PRE-SCHOOL AGE

MARA MAYA VICTORIA LEONARDI
Bangor University

Abstract

Bavarian is the native language of most South Tyroleans in Italy. Because Bavarian does not have a written form, German is used for reading, writing and formal communication. Few studies have empirically investigated the potential disadvantages posed to Bavarian-speaking children in their early language process. This study addresses language learning at the pre-primary school phase by comparing the German language comprehension of 54 Bavarian-speaking children (mean age=3;8 years) living in northern Italy and 44 native German peers (mean age=4;0 years) from Germany. Since all Bavarian speakers are educated in German, a language structurally distinct from the local form they grow up with, the objective of this research was to examine receptive German language comprehension using the standardized tool TROG-D (Fox, 2013). Preliminary results show that the diglossic context present in South Tyrol interferes with children's performance in German. Native German preschoolers performed significantly better than their Bavarian-speaking age-matched peers.

1. Introduction

This paper presents an aspect of my doctoral thesis. The current study addresses the issue of diglossia, often disregarded in (first) language acquisition research. In a diglossic situation, the 'H(igh)' and 'L(ow)' (Ferguson, 1959) variety are often linguistically related, but there can also be significant linguistic distance between the two varieties in question, e.g. grammar, phonology, vocabulary and conventions of usage. This paper investigates whether children's ability to learn two varieties within a diglossic relationship is challenged in the same way as learning two languages by *Abstand* and *Ausbau* in Kloss's sense (1987).

Recent studies (e.g. Ibrahim & Aharon-Peretz, 2005; Ibrahim, 2009a) indicate that a diglossic situation has indeed a similar impact on children's linguistic development as in L2 development. The majority of previous research has been concerned within the diglossic context of the Arabic world and Switzerland. Studies about the nature of Arabic diglossia, for instance, have focused mainly on the field of education, since it is the realm where the impact of diglossia is most visible. Several authors claim that, for instance, the Arabic diglossic context hinders the acquisition of basic academic skills (Rosenhouse & Shehadi, 1986; Maamouri, 1998; Ayari, 1996). Even though there is an intensive, interactive and daily use of Spoken Arabic (L) and Modern Standard Arabic (H), studies have shown that the two languages are not processed identically, indicating that Spoken Arabic and Modern Standard Arabic have the status of two separate languages in the cognitive system of their speakers (Ayari, 1996; Eviatar & Ibrahim, 2000; Ibrahim & Aharon-Peretz, 2005; Ibrahim, 2009b). In other words, this means that we are dealing with Spoken Arabic and Modern Standard Arabic bilinguals.

Proceedings of the second Postgraduate and Academic Researchers in Linguistics at York (**PARLAY 2014**) conference

© The Author, 2015 ISSN 1758-0315 Issue 2

The purpose of the present study was to investigate the differences between children growing up in a diglossic situation, namely South Tyrol, compared to their native German peers. South Tyrol is situated in the north of Italy on the border with Austria and Switzerland. It is officially considered a bilingual province and its inhabitants are formally labelled as 'German-Italian bilinguals'. However, people's native language is Bavarian and not German (Rowley, 2011). There are, therefore, three codes and not two (Italian, German and Bavarian) with both varying and overlapping roles, all interacting with each other. It is undisputable that German and Bavarian are linguistically related. Nonetheless, there are also differences in phonology, morphology, syntax, lexicon, phonetics, and grammar. Due to these differences Hinderling (1984) argued that Bavarian should receive the status of a separate language. He continues by claiming that the distance between German and Bavarian is bigger than between Danish and Norwegian. Previous research conducted among South Tyrolean children and pupils has also shown that Bavarian interferes when performing in German (Egger, 1979; Schwienbacher, 1997; Riehl, 2001).

Despite the fact that almost all speech directed to children prior to preschool entry is in Bavarian (Lanthaler, 2006), German is the main language taught and addressed to these children within educational institutions (see Art 19 of the *Statuto Speciale per il Trentino-Alto Adige*, and see *Treaty of Paris* 1946, Art 1). In other words, for these children socialisation takes place in Bavarian, whereas German is the language used in preschool and school, as well as the language for reading, writing, and formal communication. Therefore, any Bavarian-speaking child is de facto bilingual and becomes multilingual later on (Italian and English are compulsory subjects in school). In spite of the interest in the topic of language learning within the diglossic context, we know surprisingly little about the role that German plays in preschool children's language development in South Tyrol.

The present study addresses two research questions:

1. How do Bavarian-speaking preschool children perform on a standardized German assessment test? How do they compare with their German peers?
2. Which types of exposure and input have an impact on children's performance?

2. Methods

2.1. Participants

Fifty-four Bavarian-speaking preschoolers (30 males and 24 females) from South Tyrol and a control group of 44 age-matched monolingual German-speaking children (25 males and 19 females) participated in the study. The South Tyrolean children had a mean age of 46.19 months (range 36-59 months, SD=7.39), and had attended preschool between 2 weeks to 22 months (M=7.39 months, SD=6.34 months) at the time of testing. German children had a mean age of 48.23 months (range 36-59 months, SD=6.29), and they had been in preschool between 3 weeks and 25 months (M=12.48 months, SD= 6.97). Demographic characteristics of all preschoolers are displayed in Table 1.

	German-speaking children	Bavarian-speaking children
Total number of children	44	54
Male/female	25/19	30/24
Age at the time of testing in months (mean/SD)	48.23 (6.29)	46.19 (7.39)
Preschool attendance in months (mean/SD)	12.48 (6.97)	7.39 (6.34)

First born/only child	24 (54.5%)	29 (53.7%)
Child has at least 1 older sibling	20 (45.5%)	25 (46.3%)
Maternal education[1] (mean/SD)	1.41 (1.67)	1.56 (1.52)
Paternal education (mean/SD)	1.16 (2.29)	1.22 (1.50)

Table 1. Demographic characteristics of the study population.

Both groups lived in a rural area and attended preschools in South Tyrol and Germany respectively. One or both parents were educated beyond the secondary school level. 74% of the South Tyrolean mothers and 65% German mothers had a post-secondary diploma (College degree or University degree). Comparing maternal and paternal educational level among the two home language groups, an Independent T-Test revealed that there was no significant difference.

Additionally, South Tyrolean parents were asked to rate their language fluency and competence in German using a five-point rating scale (virtually no fluency=0, limited fluency=1, somewhat fluent=2, quite fluent=3, fluent=4). In the present study, mother's self-rated fluency was on average 3.78 (SD= .42), while fathers had a mean of 3.76 (SD= .43), suggesting that both parents' proficiency in German was quite high. Parents in South Tyrol were also asked to estimate the frequency of speaking German at home (never=0, occasionally=1, often=2, very often=3, always=4). The mean proportion of German spoken at home was .44 (SD= .538), indicating very low usage. Although adults seem to be very self-confident in using German, they mainly use Bavarian at home – a feature which is characteristic for diglossic situations.

Undoubtedly, self-assessing and self-rating questions provide estimation only rather than a direct measurement, which can reflect social expectations rather than the actual situation, as they can be overestimated or underestimated by the respondent (unconsciously or consciously) (Baker, 2011). Nonetheless, it has been claimed that self-assessment in bilingual communities are reliable because greater attention is given to language proficiency (e.g. Lieberson, 1970; Egger, 1985).

2.2. Materials and procedure

Two different methods were used to collect data: a parental questionnaire and the TROG-D test.

The questionnaire gathered information about subjects' general language behaviour at home, demographic information (age, gender), and German input at home (reading activities, watching television). Parents were also asked to state their highest degree awarded, and their occupation. South Tyrolean parents were further asked to rate their language proficiency in German as well as their language use at home. Due to the fact that Bavarian is a non-written language, the questionnaire was provided in German only.

Children's receptive vocabulary and grammar abilities were assessed by using the TROG-D (Fox, 2013). The test has been widely used by other researchers too, with monolingual (Sauerland & Yatsushiro, 2012; Von Lehmden et al., 2013) as well as with bilingual children and pupils (Rinker et al., 2011). The test involves presenting the child with four pictures while the experimenter reads the stimuli (either a word or sentence) in German. The task is to

[1] Maternal and paternal education quantified using a 2-point scale: 1=Secondary school or Professional qualification; 2=Post-secondary diploma or degree.

show which picture best matches that word/sentence. All 84 items are arranged in blocks of 4 sentences, containing the same grammatical construct (each with 3 distractors). If the child fails a single item within the block, he/she is considered to have failed the whole block. Once the child fails 5 successive blocks, the test ends.

Each child was tested individually in a quiet room in his/her preschool. In order to ensure that the child was tested in the variety he/she was most familiar with, the experimental settings in South Tyrol and Germany differed slightly from each other. In both cases the language of testing was German, but in South Tyrol the stimuli were read in German by a local person, while in Germany they were produced by a local native German speaker. The procedure took between 10 and 25 minutes per child.

There were two reasons for the fact that the Bavarian-speaking children were tested in German only. First of all, the TROG test does not exist in Bavarian. Secondly, officially and politically Germanic-speaking people in South Tyrol are labelled as 'German speakers'. That these people acquire Bavarian at home and learn German later on and therefore should not be labelled and treated as German speakers is one of the reasons why this study is important, especially when we are talking about a diglossic speech community and how they should not be treated as monolinguals.

3. Results

The first research question asked how Bavarian-speaking children perform on a standardized test and how they compare with their German peers. Table 2 summarizes children's mean raw score (in terms of number of blocks passed). The Independent-samples T-test showed that the German children performed significantly better than their South Tyrolean peers ($t(80.721)= 4.771$, $p<.001$ two-tailed).

	Age group	***N***	**Mean Raw Score (SD)**
German-speaking children	3;0-4;11	44	8.11 (3.46)
Bavarian-speaking children	3;0-4;11	54	5.06 (2.72)

Table 2. Raw score and standard deviation (SD) for both home language groups.

The second research question asked which types of exposure and input have an impact on children's performance. For answering the second research question, I shall present each type of input and exposure separately before discussing them in the following under-section.

Maternal education

To assess the relationship between maternal education and children's test score, an Independent-samples T-test was performed. South Tyrolean children, whose mother had a College or University degree, had significantly higher test scores (M=5.68; SD=2.74) than those children whose mother had a secondary diploma only or a vocational school qualification (M=3.08; SD=1.70) ($t(51)= -3.210$, $p< .01$). Similarly, a significant difference was also found between the mean scores of the two groups among the German home language group ($t(41)= -2.14$, $p< .05$).

Birth order

In South Tyrol, first-borns and only-children (n=29) (M=4.31; SD=2.37) scored significantly lower than children with at least one older sibling (n=25) (M=5.92; SD=2.90), (t(52)= -2.241, p< .05). In Germany, on the other hand, there was no significant difference between first-born/only-children (n=24) (M= 8.67, SD= 3.43) and children with at least one older sibling (n=20) (M= 7.45, SD= 3.47) (t(42)= 1.164, p> .05).

Preschool attendance

Preschool attendance was calculated by subtracting the time when the child started preschool from the child's age at time of testing. The range of preschool attendance was categorized as: 0-2 months, 3-9 months and 10-25 months. A One-way Between-Groups ANOVA was conducted to compare the effect of length of preschool attendance and children's performance on the TROG-D. Results in South Tyrol and Germany were very similar, showing that length of preschool attendance had a significant effect on children's test scores, F(2, 51)=5.389, p< .001 and F(2, 41)=4.254, p< .05 respectively. Post-hoc-comparisons using the Tukey HSD test indicated that in both home language groups the significant difference was between children with the longest preschool attendance (10-25 months) and those with the shortest preschool attendance (0-2 months), the former scoring significantly higher than the latter.

4. Discussion

The objective of the present study was to gain more insight into children's development of German within a particular diglossic background.

The first research question in this study asked how Bavarian-speaking preschool children perform on a standardized assessment test and how they compare with their German peers. Preliminary results demonstrate (Table 2) that Bavarian-speaking children's performances on the test differ significantly from their monolingual age-matched peers. The findings gained in this study are consistent with previous work on diglossia (Ayari, 1996; Eviatar & Ibrahim, 2000; Ibrahim & Aharon-Peretz, 2005; Ibrahim, 2009b), revealing that growing up in a diglossic situation is comparable to L2 learning where both languages differ by *Abstand* and *Ausbau*. This is also in accordance with previous research showing that L2 children are generally less accurate in standardised tests than monolingual children (e.g. Paradis, 2005; Paradis et al., 2008; Chondrogianni & Marinis, 2011).

The second research question examined which types of exposure and input have an impact on children's performance. In line with previous studies (Oller & Eilers, 2002; Hoff, 2006; Golberg et al., 2008; Paradis, 2009; Blom et al., 2010), this study confirms that maternal education in particular is a significant predictor of children's language development. Both home language groups in the study had more mothers with post-secondary diplomas than mothers with secondary diplomas or vocational school qualification. Results showed that there is a significant difference in both home language groups between the two groups, indicating that children whose mothers had a higher education performed more accurately and had higher TROG-D raw scores.

When comparing South Tyrol and Germany, one must consider the way that German language learning differs as well as the linguistic quality of input that children receive. In

both target areas children have various opportunities to come into contact with spoken German, which, moreover, might be quite different for each individual. Overall, it can be observed that in both areas input differs in terms of quantity and quality to which children are exposed. Cultural and social exposure to German will generally be less in South Tyrol than in Germany. While talking about spoken German, therefore, it is important to distinguish between German input from a native German speaker (e.g. tourist and in TV programs) and German input from South Tyroleans (e.g. parents who read to their children or radio programs produced in South Tyrol). German children will always be exposed to quantitatively more German input than their Bavarian-speaking peers. In addition, German children have more opportunities to interact with other German speakers, which undeniably foster language learning. South Tyrolean Bavarian-speaking children's access to German native speakers, on the other hand, is very limited. Several findings (Pearson et al., 1997; Gathercole, 2002a, 2002b; Paradis, 2009) observed that children's linguistic development is directly correlated to the amount of input they receive in that language. Numerous studies have shown, for instance, that reading has a positive influence on children's linguistic development (see Böhme-Dürr, 2001; Bertschi-Kaufmann, 2007). A review of the diglossic literature (Feitelson et al., 1993; Ayari, 1996; Abu-Rabia, 2000; for South Tyrol, see Bazzoli et al., 2007) demonstrates that regular reading familiarized preschool children with the 'H' variety, and early exposure to 'H' improved children's reading comprehension abilities, listening comprehension as well as other oral linguistic abilities. So, preschoolers' language development may benefit from their early exposure and familiarization with German. The answers provided in the questionnaire showed that all children are regularly exposed to German from very early on (e.g. television). So, even Bavarian-speaking children had already received some level of German input in their home environment, either from books or from television. Therefore, at least on the receptive level, children are already familiar with German before entering school. It can be assumed that this might be important for children's understanding of German and for creating a positive attitude to the language. Studies conducted in Switzerland showed that children who attended a preschool where German (H) was introduced were developing a more positive attitude towards the language, compared to preschoolers who attended a preschool where Schwyzertütsch (L) was spoken (Gyger, 2005, 2007; Landert, 2007). Positive attitudes and language awareness are necessary requirements for successful language learning. However, whether attending preschool or not has had an impact on South Tyrolean preschoolers performance remains unanswered as only preschoolers were tested in this study. Nonetheless, regardless of the language of community, it is interesting to note that in this study regular familiarization with the German language (either through books or television) does not seem to have significant effects on children's mean score.

In South Tyrol, German use in the home had no effect and did not predict children's performance on the TROG-D. Although most parents in South Tyrol were fluent in German, they reported a low use in the home, which can be the possible reason for the limited effect on the TROG-D results.

Regarding preschool attendance, results were similar in Germany and South Tyrol. The mean score for those children with the longest preschool attendance (10-25 months) was significantly higher from the mean score of the group with the lowest preschool attendance (0-2 months), (1) indicating that better performance on the TROG-D develops along with lengthier exposure and (2) implying that children benefit from their experience with German.

A novel finding of this study is the role that siblings play in South Tyrol. Research claiming that the pattern of relationship between siblings has an effect on child development is supported by the results found in Bavarian- and German-speaking children. In South Tyrol,

older siblings can be seen as a source of German input, or even a language model for their younger siblings (Baker, 2007), as they have already had more experience with the target language at school. Consequently, there is a greater amount of German input available for the child in question. Even though it has also been claimed that the input from siblings is structurally less complex and they use smaller vocabularies than adults (Hoff-Ginsberg & Krueger, 1991), these results demonstrate that older siblings do play a positive role in children's development in South Tyrol. Older siblings mean age was 7.97 years (SD=2.3) and therefore they can be seen as an acceptable source of German input. In contrast, it has also been suggested in the literature that children with siblings receive less speech directly directed to them and hence less input from their parents, since adults necessarily have to divide their attention between their children (Jones & Adamson, 1987). This might explain why only-children in Germany achieved the highest mean score (although results were not significant). At the same time, however, these results raise the question why a similar pattern cannot be found in South Tyrol too. A possible explanation lies in the two language systems themselves: German and South Tyrolean Bavarian are linguistically distant which consequently has an impact on early children's development. Directed speech in Bavarian addressed to the South Tyrolean child does not seem to be sufficient. More importantly, older siblings can be seen a source of German input for their younger siblings as they learn German in school and bring the language into the family. Unlike Bavarian-speaking children, German preschoolers get a lot of input already from their family members as well as from their everyday social environment.

5. Conclusion

The main purpose of this paper has been to demonstrate the importance of considering similarities and differences between German and South Tyrolean Bavarian, especially within the educational context, and therefore gain a better understanding of the nature of children's linguistic development in a multilingual context. In particular, I hope to have shown that diglossia does have an impact and that it is worth investigating the extent of such an impact. South Tyrolean children's development of general grammatical abilities can be predicted by age, input availability (older siblings, length of preschool attendance) and higher level of mother's education, producing a complex structure which contributes to children's development. Learning success can be achieved even if it is not only provided by the institution itself, e.g. school, but also if there is intensive and structural varied linguistic input (e.g. siblings). The notion that hearing German at home, either through reading activities or watching TV, enhances German language development was not supported in this study. As characteristic for diglossic situations, the questionnaire showed that parents speak Bavarian most of the times to their children and therefore did not have a significant impact on their performance either.

For a more complete picture, future research should also include other methods, since all results presented in this paper arise from a receptive test. For instance, it would be interesting to see how Bavarian preschool children perform when using a productive test. A cross-sectional design investigating how older Bavarian-speaking children perform in such a task and observing their performance at different points in their development would also be interesting.

Acknowledgements

I would like to thank my supervisor Dr Marco Tamburelli for his support and helpful comments on a previous version of this article. Many thanks also go to Chantal van Dijk, Eszter Seres and Daniel Evans for their valuable feedback on the content of a previous version of this article.

References

ABU-RABIA, SALIM. 2000. "Effects of exposure to literary Arabic on reading comprehension in a diglossic situation". *Reading and Writing: An Interdisciplinary Journal*, 13. pp. 147-157.

AYARI, SALAH. 1996. "Diglossia and illiteracy in the Arab world". *Language, Culture and Curriculum.* pp. 243-252.

BAKER, COLIN. 2007. "*A Parents' and Teachers' Guide to Bilingualism"*. Third Edition. Clevedon, Buffalo, Toronto: Multilingual Matters LTD.

BAKER, COLIN. 2011. "*Foundations of Bilingual Education and Bilingualism".* 5th Edition. Clevedon: Multilingual Matters.

BAZZOLI, CLAUDIA, PETERLIN, SABINE, & SCHULLIAN, SILKE. 2007. „WIR 1. Kindergarten in Südtirol. Sprache lebt". ["Preschool in South Tyrol. Language is alive"]. In: Deutsches Schulamt Kindergarteninspektorat (eds.) *Ganzheitliche Sprachförderung im Kindergarten.* ["*Language support in preschools*"]. Bozen: Deutsches Schulamt. pp. 20-21.

BERTSCHI-KAUFMANN, ANDREA. 2007. „Offene Formen der Leseförderung" ["Methods of promoting reading skills"]. In: Andrea Bertschi-Kaufmann (eds.) *Lesekompetenz Leseleistung Leseförderung. Grundlagen, Modelle und Materialien.* ["Reading skills, reading performance, reading promotion. Basis, models and materials"]. Hannover: Kallmeyer, Klett. pp. 165-175.

BLOM, ELMA, PARADIS, JOHANNE & SORENSON-DUNCAN, TAMARA. 2010. „The acquisition of 3SG-s by L2 children: domain-general or domain-specific learning"? *Poster presented at the "Child Language Seminar"*. City University London, UK.

BÖHME-DÜRR, KARIN. 2001. „Einfluß von Medien auf den Sprachlernprozeß" ["Media influence on the language learning process"]. In: Hannelore Grimm (eds.) *Sprachentwicklung.* ["*Language development*"]. Göttingen: Hogrefe. pp. 433-459.

CHONDROGIANNI, VASILIKI & MARINIS, THEODOROS. 2011. „Differential effects of internal and external factors on the development of vocabulary, tense morphology and morpho-syntax in successive bilingual children". *Linguistic Approaches to Bilingualism*,1 (3). pp. 318-345.

EGGER, KURT. 1979. „Morphologische und syntaktische Interferenzen an der deutsch-italienischen Sprachgrenze in Südtirol". ["Morphological and syntactical interferences on the German-Italian linguistic border in South Tyrol"]. In: Per Sture Ureland (eds.) „*Standardsprache und Dialekte in mehrsprachigen Gebieten Europas. Symposium über Sprachkontakt in Europa 2*" ["*Standard languages and dialects in the multilingual areas of Europe*. *Language contact in Europe 2*"]. Mannheim 1978. Tübingen: Niemeyer. pp. 55-104.

EGGER, KURT. 1985. „*Zweisprachige Familien in Südtirol: Sprachgebrauch und Spracherziehung*" ["*Bilingual families in South Tyrol: Language usage and education*"]. Innsbruck: Innsbrucker Beiträge zur Kulturwissenschaft. Germanistische Reihe Band 27. ["Contributions to cultural studies. Germanic volume 27"].

EVIATAR, ZOHAR & IBRAHIM, RAPHIQ. 2000. „Bilingual is as bilingual does: metalinguistic abilities of Arabic-speaking children". *Applied Psycholinguistics*, 21. pp. 451-471.

FEITELSON, DINA, GOLDSTEIN, ZAHAVA, IRAQI, JIHAD & SHARE, DAVID L. 1993. "Effects of listening to story reading on aspects of literacy acquisition in a diglossic situation". *Reading Research Quarterly*, 28. pp. 71-79.

FERGUSON, CHARLES A. 1959. "Diglossia". *Word*, 15. pp. 325-340.

FOX, ANNETTE V. 2013. "*TROG-D. Test zur Überprüfung des Grammatikverständnisses*". 6. Auflage. ["*TROG-D. Test for reception of grammar*"]. Schulz-Kirchner Verlag.

GATHERCOLE, VIRGINIA C. (2002a). "Monolingual and bilingual acquisition: Learning different treatments of that-trace phenomena in English and Spanish". In: D. Kimbrough Oller & Rebecca E. Eilers (eds.) *Language and literacy in bilingual children.* Clevedon: Multilingual Matters. pp. 220-254.

GATHERCOLE, VIRGINIA C. 2002b. "Grammatical gender in bilingual and monolingual children". In: D. Kimbrough Oller & Rebecca E. Eilers (eds.) *Language and literacy in bilingual children.* Clevedon: Multilingual Matters. pp. 207-219.

GOLBERG, HEATHER, PARADIS, JOHANNE & CRAGO, MARTHA 2008. "Lexical acquisition over time in minority L1 children learning English as L2". *Applied Psycholinguistics*, 29. pp. 41-65.

GYGER, MATHILDE. 2005. „*Projekt Standardsprache im Kindergarten (PSS). Schlussbericht".* ["*Project Standard German in preschool. Final report*"]. Basel: Rektorat Kindergärten Basel, Arbeitsgruppe Integration. ["Preschools Basel, Work group integration"].

GYGER, MATHILDE. 2007. „Hochdeutsch im Kindergarten" ["Standard German in preschool"]. *Linguistik online*, 32 (3). pp. 37-48.

HINDERLING, RÜDIGER. 1984. „Bairisch: Sprache oder Dialekt"? ["Bavarian: Language or dialect?"]. In: Rüdiger Harnisch (eds.) *Jahrbuch der Johann-Andreas-Schmeller-Gesellschaft 1983.* ["*Yearbook of the Johann-Andreas-Schmeller-Society 1983*"]. Bayreuth: Sprach- und Literaturwissenschaftliche Fakultät. pp. 47-64.

HOFF, ERIKA. 2006. "How social contexts support and shape language development". *Developmental Review*, 26. pp. 55-88.

HOFF-GINSBERG, ERIKA & KRUEGER, WENDY M. 1991. "Older siblings as conversational partners". *Merill-Palmer Quarterly*, 37. pp. 465-482.

IBRAHIM, RAPHIQ. 2009a. "The cognitive basis of diglossia in Arabic: Evidence from a repetition priming study within and between languages". *Psychology Research and Behavior Management.* pp. 93-105.

IBRAHIM, RAPHIQ. 2009b. "Psycholinguistic challenges in processing the Arabic language". *International Journal of Psychology Research*, 4 (3/4). pp. 361-388.

IBRAHIM, RAPHIQ & AHARON-PERETZ, JUDITH. 2005. "Is literary Arabic a second language for native Arab speakers? Evidence from a semantic priming study." *Journal of Psycholinguistic Research*, 34 (1). pp. 51-70.

JONES, CELESTE PAPPAS & ADAMSON, LAUREN B. 1987. "Language use in mother-child and mother-child-sibling interactions". *Child Development*, 58. pp. 356-366.

KLOSS, HEINZ. 1987. "Abstandsprache und Ausbausprache". In: Ulrich Ammon, Norbert Dittmar, Klaus J. Mattheier, Peter Trudgill (eds.) *Sociolinguistics/Soziolinguistik. An international handbook of the science of language and society/Ein internationes Handbuch zur Wissenschaft von Sprache und Gesellschaft.* Berlin/New York: de Gruyter. pp. 302-308.

LANDERT, KARIN. 2007. „*Hochdeutsch im Kindergarten? Eine empirische Studie zum frühen Hochdeutscherwerb in der Deutschschweiz*" ["*Standard German in preschool? An*

empirical study of early German language acquisition in the German-speaking part of Switzerland"]. Bern: Peter Lang.

LANTHALER, FRANZ. 2006. „Die Vielschichtigkeit des Deutschen in Südtirol - und wie wir damit umgehen" ["The complexity of German in South Tyrol – and how we deal with it"]. In: Andrea Abel, Mathias Stuflesser & Magdalena Putz (eds.) „*Mehrsprachigkeit in Europa. Plurilinguismo in Europa. Multilingualism across Europe*". Bozen/Bolzano: EURAC. pp. 371-380.

LIEBERSON, STANLEY. 1970. "*Language and Ethnic Relations in Canada*". New York: John Wiley.

MAAMOURI, MOHAMED. 1998. *"Language education and human development: Arabic diglossia and its impact on the quality of education in the Arab region". The Mediterranean Development Forum.* Washington, DC: The World Bank.

OLLER, D. KIMBROUGH & EILERS, REBECCA E. 2002. "*Language and literacy in bilingual children*". Clevedon: Multilingual Matters.

PARADIS, JOHANNE. 2005. "Grammatical morphology in children learning English as a second language: Implications of similarities with specific language impairment". *Language, Speech and Hearing Services in the Schools*, 36. pp. 172-187.

PARADIS, JOHANNE. 2009. "*Oral language development in French and English and the role of home input factors*". Report for the Conseil Scolarie Centre-Nord, Edmonton, Alberta.

PARADIS, JOHANNE, RICE, MABEL L., CRAGO, MARTHA & MARQUIS, JANET. 2008. "The acquisition of tense in English: Distinguishing child second language from first language and specific language impairment". *Applied Psycholinguistics*, 29. pp. 689-722.

PEARSON, BARBARA Z., FERNÁNDEZ, SYLVIA C., LEWEDEG, VANESSA & OLLER, D. KIMBROUGH. 1997. "The relation of input factors to lexical learning by bilingual infants". *Applied Psycholinguistics*, 18. pp. 41-58.

RIEHL, CLAUDIA MARIA. 2001. „*Schreiben, Text und Mehrsprachigkeit. Zur Textproduktion in mehrsprachigen Gesellschaften am Beispiel der deutschsprachigen Minderheiten in Südtirol und Ostbelgien*" ["*Writing, text and multilingualism. Text production in multilingual societies, examples from the Germanic-speaking minorities in South Tyrol and East Belgium*"]. Tübingen: Stauffenburg Verlag.

RINKER, TANJA, BUDDE, NORA, BAMYACI, ELIF & VERENA WINTER. 2011. „Einblicke in die sprachlichen Leistungen türkischer Kinder mit Deutsch als Zweitsprache" ["Insights of the linguistic performances of Turkish children with German as second language"]. *Diskurs Kindheits- und Jugendforschung Heft 4* ["*Discourse childhood and adolescence research*"]. pp. 471-478.

ROSENHOUSE, JUDITH & SHEHADI, C. 1986. "Notes on diglossia problems in Arabic: The educational aspect". In: Israel Idalovichi & Nissan Ararat (eds.) *Philosophy-language-arts: Essays in honor of Alexander Barzel.* Technion-Israel Institute of Technology, Department of General Studies, Haifa. pp. 251-272.

ROWLEY, ANTHONY R. 2011. "Bavarian: Successful dialect or failed language"? In: Ofelia Garcia & Joshua Fishman (eds.) *Handbook of language and ethnic identity. The success-failure continuum in language and ethnic identity efforts.* Volume 2. Oxford; New York: Oxford University Press. pp. 299-309.

SAUERLAND, ULI & YATSUSHIRO, KAZUKO. 2012. "Welche Kinder sind in Sprachförderschulen? Eine Regressionsanalyse anhand von Standardtests" ["Which children attend ‚Sprachförderschulen'? A regression analysis based in standardized tests"]. *Spektrum Patholinguistik*, 5. pp. 117-122.

SCHWIENBACHER, BRUNHILD. 1997. „*Über den Ultner Dialekt. Struktur und Aufbau einer Tiroler Mundart*“ ["*About the dialect spoken in 'Ultental'. Structure and composition of a Tyrolean vernacular*"]. Museumsverein Ulten.

VON LEHMDEN, FRIEDERIKE, KAUFFELDT, JOHANNA, BELKE, EVA & ROHLFING, KATHARINA. 2013. „Das Vorlesen von Kinderbüchern als implizites Mittel zur Sprachförderung im Bereich Grammatik“. ["The reading of children's books as implicit medium for language development in the area of grammar"]. *Praxis Sprache 1*. ["*Practice language 1*"]. pp. 18-27.

Mara Maya Victoria Leonardi
Department of Linguistics & English Language
Prifysgol Bangor University
Bangor, Gwynedd, LL57 2DG
United Kingdom
Email: m.leonardi@bangor.ac.uk

NEURAL SUBSTRATES OF COPREDICATION: WHEN AN UNSTOPPABLE SCAN MEETS AN IMPOSSIBLE OBJECT

ELLIOT MURPHY
University College London

Abstract

This paper reviews a number of studies mapping the neural substrates of abstract and concrete word processing, using them as a guide in proposing a project to map the brain regions implicated in copredication. This is the phenomenon of two apparently incompatible properties being attributed to a single object, creating an "impossible" entity. Licencing conditions on copredication are discussed, and the paper concludes by suggesting some new directions for exploring the brain areas implicated in conceptual representations.

1. Introduction

In a number of publications, Poeppel (2012, 2014) has raised the important concern that there is currently an absence of "linking hypotheses" through which to explore how the primitives of neuroscience (dendrite, cortical column, neuron) form the basis of linguistic computation (concatenation, existential closure, cyclic transfer). This "mapping problem" encompasses what Poeppel calls the "Granularity Mismatch Problem": Linguistics and neuroimaging studies of language operate on objects of different granularity. Correspondingly, the brain sciences cannot succeed in seeking the neural correlates of *syntax* and *phonology* because these are not monolithic concepts, and are much more intricate and modular than 'brute force' neuroimaging often suggests.

Consequently, Poeppel, Boeckx (2010) and others have promoted *computational organology*, which instead proceeds to map the neural correlates of linguistic computations, similar to what Marr (1982) did for vision and, later, what cognitive neuroscientists did for audition. Instead of asking *where is syntax/semantics?*, we should instead ask *where is merge/function application?* To take a model example, Kandel's research into learning in marine snails sought "to translate into neuronal terms ideas that have been proposed at an abstract level by experimental psychologists" (Hawkins & Kandel, 1984: 380). Currently, however, as Schlesewsky and Bornkessel-Schlesewsky (2013: 279) summarise the field, "the only syntactic operation which appears to have possible neurobiological correlates is Merge or something akin to it" (see Murphy, 2015b).

As naturalistic inquiry progresses, the task of the linguist should be to explore the computational properties of mental structures in an effort to employ these principles as the goals of neurobiology, perhaps leading to reduction or unification. Further, any brain scientist concerned with the neural implementation of language should at least understand what language actually is, and not be satisfied with outdated characterisations of syntax and semantics, or indeed of general areas implicated in language use such as Broca's area (Friederici, 2012). This may appear uncontroversial and close to tautology, but a look at the neurolinguistics literature suggests that it is general practice glance at, rather than ponder,

Proceedings of the second Postgraduate and Academic Researchers in Linguistics at York (**PARLAY 2014**) conference
© The Author, 2015 ISSN 1758-0315 Issue 2

recent developments in theoretical linguistics (and, for our purposes, natural language semantics).

In the study of I-language (Chomsky, 1986), what Pietroski has termed I-semantics (which, unlike mainstream philosophy of language, does not concern itself with truth-conditions, reference, rigid designators, Twin Earths and other mind-independent constructions) is not yet accompanied by a body of knowledge comparable to that of I-morphology or I-syntax. This may be the goal, but as will be discussed below, even investigation into the neural substrates of basic concrete and abstract word processing has not been sufficiently decomposed – neither formally nor computationally – to permit the development of 'linking hypotheses' between semantic theory and neurobiology. It will be suggested that studies of a particular complex semantic phenomenon, copredication, which (predictably) implicates both concrete and abstract neural processes, may yield insight into how the brain integrates semantic information from distinct conceptual domains.

2. Copredication

Despite a millennium of investigation, what defines a "thing" remains largely obscure. A contribution of modern linguistics to the debate (Chomsky, 2000,; Gotham, 2015) is to revive certain ideas proposed during the Enlightenment, that 'things' do not exist in the physical world (unlike scientific constructs like H_2O), but are rather formed within syntactic structures and the Conceptual-Intentional system (e.g. *water*). The concept BOTTLE, for instance, relies on visual cognition through its shape and colour features, while language uniquely contributes its *functional* properties such as CONTAINER and USED TO MOVE MATERIAL MASSES (McGilvray, 2005: 308).

Exploring the technical distinctions centred on objecthood, Weinreich (1964) distinguished between *contrastive* ambiguity (e.g. river *bank* vs. *bank* the financial institution) and *complementary* ambiguity (e.g. verbal *bank* vs. nominal *bank*). Contrastive ambiguity – the most basic and uninstructive type – occupies the bulk of research in semantics and neurolinguistics.

In his 1995 monograph, Pustejovsky explored copredication, or the problem of two apparently incompatible properties being attributed to a single object. He termed this a case of *logical polysemy*, defined as "a complementary ambiguity where there is no change in lexical category and the multiple senses of the word have overlapping, dependent, or shared meanings" (1995: 8). For instance, in (1), what Pustejovksy calls the "dot objects" of INFORMATION and PHYSICAL OBJECT are attributed simultaneously to the book, creating an "impossible" entity.

(1) a. The Powys book was brilliant but weighed a ton.
    b. John bought an old, heavy, boring history book.

These and other complex types are coherently bound reifications of multiple types. This is one of the reasons why nominalist debates are beside the point, focussing (like Aristotle and other pre-Lockean philosophers) on allegedly metaphysical questions, not cognitive ones. A comparable situation arises in (2), where "delicious" is a predicate which should be applied only to food, and "took forever" should only be applicable to events. Similarly, in (3) the bill is simultaneously conceived of as an abstract monetary amount and a printed piece of paper, while the newspaper in (4) is simultaneously an organisation and a collection of printed pages:

(2) Lunch was delicious but took forever.
(3) He paid the bill and threw it away.
(4) The newspaper I held this morning has gone bust.

Pustejovsky (2001) later proposed a ranking of types distinguishing between natural, artifactual and complex types:

> *Natural*: Application of formal and/or constitutive qualia roles (*lion*, *rock*, *water*)
> *Artifactual*: Adding agentive or telic qualia roles to natural types (*beer*, *knife*, *teacher*)
> *Complex*: Formed from naturals and artifactuals by a product type between the entities, i.e. the dot (*school*, *bank*, *lunch*)

Only complex types yield copredication, as in *book* (INFORMATION•PHYS_OBJ):

> ***book***
> ARGUMENT STRUCTURE = 1[*y*:INFORMATION], 2[*x*:PHYS_OBJ]
> QUALIA = FORM[hold(*x*,*y*)], TELIC[read(*e*,*w*,*x*.*y*)], AGENT[write(*e*,*v*,*x*.*y*)]

Some elements of *book* may be stable across uses, while others may be open to adjustment (see Ludlow, 2014). Note that copredication does not apply well to *all* complex types (e.g. action nominals like *demolished* and *construction*, discussed below), and may in fact apply to some artifactuals, as in *The red wine was opened one hour early* (which involves the senses DRINK and CONTAINER being predicated in the same context). This may be a case of coercion, however, since *wine* is generally assumed to be lexically associated with a simple artifactual type (DRINK) instead of a complex dotted type CONTAINEE•CONTAINER and to license a sense extension to CONTAINER only contextually, as a coercion effect induced by the semantic requirements of the selecting predicate *opened*. So while copredication activates a sense already available in the lexical item, coercion shifts the type in context.

Copredication is a much more complex phenomenon than many accounts over the past two decades have supposed, including those of Pustejovsky (2001). A recent contribution by Gotham (2012) shows that copredication cannot be solved by appealing, as some have done, to coordination reduction, as in "Lunch_1 was delicious but lunch_2 took forever", since copredication occurs in other syntactic structures. Furthermore, how copredication is understood "will have to be explained in any theory" of semantics, Gotham notes (2012: 2), and ultimately by any neurolinguistic theory.

Although generativists in the late 1990s and throughout the last decade have been virtually the only linguists concerned with copredication, the earliest modern account of it was by Postal (1968: 273), in his Epilogue to Jacobs and Robenbaum's early textbook on transformational grammar, though he did not label or explore it. One might argue that it was known to scholastic philosophers as qua predication, where X qua Y has the property P. Modern accounts of type manipulation essentially follow this approach, and view a property and event not as distinct parts of "lunch", but instead see these as the same object under different conceptualisations. This mereological account must be inadequate however, since no one would judge (5) to be correct when faced with two volumes of the same INFORMATION book and a trilogy of three PHYSICAL OBJECT books.

(5) Five books are heavy but easy to understand.

PHYSICAL–INFORMATIONAL composites are thus never counted in determiner phrases involving numerals (i.e. [$_{DP}$[*num*]]). As I argue in Murphy (2015c), perhaps it therefore becomes less correct to say that a given material object is a book than it would be to say that a book can instead be "realised as" – or have as its "host" – a physical medium. These and other examples of copredication are clear cases of where the distinction between classical categories and family-resemblance categories (of the sort adopted by Pinker, 1999) breaks down.

The computations yielding copredication are also subject to particular, and not well understood, constraints (Antunes & Chaves, 2003). While the polysemous label/head appears to determine sense combinations (see Murphy, 2015c for a discussion of the wider semantic effects of labeling), what Copestake and Briscoe (1995) term *Sense Extension* leads to the prohibiting of possible forms of copredication. This involves a base concept and the construction of distinct meanings leading to a form of immediate contradiction not seen with *Constructional Polysemy* (which encompasses the standard copredication seen above). For instance, taking the standard "ham sandwich" case in which a customer's food is used metonymically to refer to them, sense contradictions, and not copredication, result:

(6) a. The ham sandwich is tasty.
b. The ham sandwich left in a blue car.
c. *The ham sandwich was tasty and left in a blue car.

A comparable situation arises when (4) is modified to yield the unacceptable (7), a case yet to be accounted for in the literature.

(7) *The newspaper has gone bust and is covered in biscuit crumbs.

In addition, while the copredication of adjacent senses is permitted, the copredication of "distant" senses yields degraded judgements. A unique conceptual and cultural object, when presented alongside an individual exemplar, yields questionable results as in (8a), but not when it is defined more generally (in this case as a *book*) as in (8b):

(8) a. ??The Bible inspired centuries of love and violence but has a torn page.
b. The book I hold in my hands inspired centuries of love and violence.

Similar results arise with *bank*:

(9) a. *The bank is FTSE-100 listed and used to be a police station.
b. The bank was smashed by protestors during the recession and became less popular.

Other apparent syntactic constraints on copredication can be found by observing how some lexical conceptual structures impose a level of control over a complement. The root √*book*, for instance, does not permit transfer of possession, unlike √*gift*, as the following examples illustrate (Grimshaw, 1990: 97):

(10) a. John's gift to the hospital.
b. *John's book to the hospital.

More generally, lexical ambiguity and polysemy may partly be a consequence of the fact that "the human brain is limited in the number of signs that it can store and quickly retrieve. This number is relatively small compared to the extremely vast number of situations we may encounter and ideas we can entertain about them" (Bouchard, 2013: 49). Further research is required before an adequate account of copredication can be presented, explaining why these judgement contrasts appear to hold, but enough has been uncovered to subject certain aspects

of copredication to empirical inquiry. As a way of prefacing this interdisciplinary project, certain linguists (e.g. Chomsky, 2000, 2012; Gotham, 2012, 2015; Murphy, 2014; Pietroski, 2005) have used logical polysemy to (i) demonstrate the complexity of the lexicon, and (ii) attack various 'externalist' theories in philosophy of language. But these constructions can be used for another purpose, (iii) to explore the neural organisation of concrete, abstract, polysemous and other concepts. The remainder of this paper will discuss ways of achieving this goal.

3. Cartographic perspectives

Copredication is relevant to and has been discussed by both syntacticians and semanticists, and should be of concern to neurolinguists studying the neural correlates of abstract and concrete word processing, though currently is not. At the most general level, amodal theories of concepts in the cognitive sciences hold that linguistic meaning is stored in heteromodal brain cortices (Volta et al., 2014). It has further been well established by brain scanning studies that the semantic lexicon is organised by imageability, and that low-imageability words (*justice*, *heaven*) are harder to retrieve from memory than high-imageability words (*hammer*, *phoenix*). This has been widely termed the "concreteness effect". The pathological conditions of semantic dementia and herpes simplex encephalitis both affect anterior temporal regions and result in the reverse-concreteness effect (or the "abstractness effect"), thus implicating these regions in concrete and abstract word processing. These neuronal activation differences also appear to be increased in aphasic individuals, likely due to an inflated concreteness effect (Sandberg & Kiran, 2014). Empirical, topographic approaches to concept clustering (Troche et al, 2014; Pollock, 2014) also suggest that the conceptual basis for abstract words extends beyond the lexicon, while certain words like *space*, *action* and *modifying* are often judged equally abstract and concrete. However, neither Troche et al. nor Pollock investigated the lexical or conceptual basis of objects defying such strict categorisation, despite their acknowledgement that the boundary itself is often contentious.

Generally speaking, concrete processing produces more extensive activation in a bilateral network of associative areas, such as parietal and pre-frontal cortex, whereas processing of abstract words produces greater activation in the left superior temporal and inferior frontal cortex (Noppeney & Price, 2004; Hoffman et al., 2015). A meta-analysis of activation studies revealed that abstract concepts activate inferior frontal gyrus and middle temporal gyrus, while the processing of concrete concepts led to greater activation in posterior cingulate, precuneus, angular gyrus, fusiform gyrus, and parahippocampal gyrus (Wang et al., 2010). Semantic similarity has been found to affect abstract and concrete word processing, although the effect of association is stronger in abstract than concrete words (Duñabeitia et al., 2009).

A theory developed by Vigliocco in a number of publications (e.g. Vigliocco et al., 2009) holds that this distinction is a result of the different types of information underlying the meaning of abstract and concrete words; predominantly sensory-motor information for concrete words, predominantly affective and linguistic information for abstract words. But these theories have not taken into account the above developments in semantics (along with many others), whereby certain "abstract" concepts do in fact have rich sensory-motor information. Hence we find statements like the following in one of the seminal works of the neural representations of concrete and abstract words:

> [Abstract concepts] seem harder to understand than concrete concepts, which are concepts that have fairly direct sensory referents. Abstract concepts, however, lack such direct sensory referents. (Schwanenflugel et al., 1988: 499)

Activation studies, then, have attributed different neural correlates to the processing of abstract and concrete words. Exploring the processing of copredication could take the form of, for instance, monitoring activity during sentence processing in neurologically-unimpaired subjects. Lexical decision tasks have revealed a significant activation in right anterior temporal cortex for abstract words as opposed to concrete, but again this only begs the question of what areas are involved in copredication (Kiehl et al., 1999). The same applies to recent studies revealing that concrete word processing as compared with abstract word processing is associated with stronger activation of the left extrastriate visual areas, BA18/19 (Adorni & Proverbio, 2012). More relevant to the study of copredication are the findings of common neural networks for abstract and concrete word processing, which include the ventral and lateral portions of the temporal lobe. Following standard accounts in the literature, investigations into copredication should focus on four sites implicated in these tasks: left inferior frontal, bilaterally posterior-superior temporal, and left posterior-inferior parietal.

Two main models exist which have attempted to account for the concreteness effect. The *context availability theory* argues that concrete words are buttressed by larger contextual support (Schwanenflugel & Shoben, 1983; Xiao et al., 2012). The *dual-coding theory* alternatively claims that the processing of abstract nouns relies on verbal code representations of the left hemisphere only, whereas concrete nouns access a second image-based processing system located in the right hemisphere (Paivio, 1991). One relevant question for the current research project is whether image-based processing is employed when processing INFORMATION features of supposedly "concrete" nouns like *book* or *bank*. Many findings are inconsistent with this view, largely because the right hemisphere has been found to be involved more heavily in the processing of abstract words (Kiehl et al., 1999).

It seems that from a semanticist's perspective (though not, unfortunately, a metaphysician's (Hoffman & Rosenkrantz, 2003: 46)) distinctions like "abstract" and "concrete" are useful at a certain level of analysis (like "Wernicke's area") but ultimately fall short of the full picture. Many experimentalists (Pobric et al., 2009) likewise associate imageability (the ability to visually or acoustically represent a concept) with concreteness, which again is a simplification of the actual lexical items under investigation. Abstract emotion words are easily imageable, for instance. There are currently no studies of the imageability of copredication, such as the imageability of bank (INSTITUTION) versus bank (PHYSICAL OBJECT) in (11). Likewise, discussing brain activity in spatial terms is entirely intuitive and quite often accurate, but as Poeppel points out, "localization and spatial mapping are not explanation" (2012: 35). Jackendoff has expressed similar concerns (2002: 22).

(11) a. The bank became less popular during the recession.
b. The bank was smashed by protestors during the recession.

Despite Hinzen and Poeppel's (2011: 1306) confession that "it is somewhat disappointing that practically every cortical region associated with any aspect of language processing has been implicated in semantics", there is a stark lack of research into the neural correlates of this curious semantic phenomenon (although work on the neural representation of object, action and polysemous words is in many ways related, as discussed below). As may be expected with such a "cool phenomenon" (Poeppel, pc.) as copredication, an open question, and one familiar to biolinguistics (Hinzen, 2008), is how much meaning syntax "carves out".

For instance, the RESULT–STATE interpretation of *construction* or *translation* (i.e. "the state of being constructed/translated") seems to be inaccessible to these otherwise copredication-compatible nominals, since copredication "appears to be licensed only under specific syntactic and semantic conditions" (Ježek & Melloni, 2011: 1). Ježek points out that the event structure of *construction* is complex "since it contains a causing process and a (series of) state(s) connected by a temporal relation envisaging precedence and overlap" (2008:12). In (12), the only interpretation available is the one involving a PHYSICAL OBJECT:

(12) Owen Jones admires the construction of that council house.

Returning briefly to the case of *newspaper* in (4) and (7), Pustevjosky (1995: 133) notes that "while the noun *newspaper* is logically polysemous between the organization and the printed information-containing object, the noun *book* refers only to the latter, while the noun *author* makes reference to the "producer" of the book". A journalist simply contributes, rather than brings about, the existence of a newspaper – an observation which could potentially yield interesting stimuli for neuroimaging studies of copredication, as in (13):

(13) Parts of Owen Jones's new book have been printed **in** [PHYS_OBJ]/ **by** [ORGNS/PHYS_OBJ&ORGNS] the local newspaper.

Asher (2011) also observes that with *city* (in fact, with any polity concept), which can have its walls and foundations *demolished* and *re-built* elsewhere by virtue of its abstract dot object (Murphy, 2012), the order of senses seems to play a role in the acceptability of copredication, suggesting that sense combinations may be subject to discourse effects. Reversing the dot objects of (14a) leads to a licensing failure:

(14) a. The city has 500,000 inhabitants and outlawed smoking in bars last year.
b. ?The city outlawed smoking in bars last year and has 500,000 inhabitants.

It is also unclear whether copredication should be ascribed to structures where one of the selectors is located in a modifying (restrictive) subordinate clause, as in (15) (Jacquey, 2001).

(15) The building, which started yesterday, will be very nice.

Neuroimaging studies would allow comparisons to be drawn between these borderline cases, clear cases of copredication and clear cases of non-copredication (which crucially mirror the borderline cases in either semantic interpretation or syntactic structure) to judge whether the same pathways which subserve copredication are involved in the processing of possible copredication in restrictive subordinate clauses.

A concreteness effect has also been revealed in lexical decision when a block of concrete words precede a block of abstract words and when they are mixed, but not when the block of abstract words precede the block of concrete words (Kroll & Merves, 1986). Tolentino and Tokowicz's (2009) ERP investigation into order effects largely corroborates these earlier findings, and so for our purposes the question then becomes whether similar neural activation is produced by the particular ordering of dot object features (INFORMATION before EVENT, etc.). To take a related case, an important difference between action verbs and mental state verbs was found in recent studies; namely, that the contexts of acquisition in which the former occurred were ones in which mental state verbs could not be detected, suggesting that syntactic frames are both necessary and sufficient for acquiring verbs which do not denote observable actions (Tsimpli, 2013: 67). Copredication stimuli could also enhance empirical understanding of event semantics: While a lunch can be both a material object and an event, a

book can only be a material object and an informational entity, not an event (Godard & Jayez, 1993: 169):

(16) a. John began his book at ten and put it away at eleven.
b. *John began his book at ten and didn't stop it till eleven.
(17) a. John began a book that was very thick.
b. *John began a book that took two hours.

Moving on to related imaging topics, Hagoort et al. (2004) measured ERPs and fMRI activation in response to various constructions containing either world knowledge violations or semantic violations and discovered that a response with similar onset latency, topographic distribution and amplitude was found for both kinds of violations in BA45 and BA47. This indicates that these regions were employed when both semantic and world knowledge violations occurred, but the relevant question for our purposes is whether the same regions are involved in the above syntactic deviations from copredication, and whether constructions involving various combinations of (i) copredication, world knowledge access, and semantic integration, or (ii) copredication deviations, world knowledge violations, and semantic violations yield similar neural responses.

There are also small pieces of evidence that representations of action and object words can be based on the same principles. Imagery data implicates left premotor cortex and middle temporal regions in knowledge of actions (Damasio et al., 2001), the same regions which have been implicated in knowledge of artefacts (Moore & Price, 1999), and which consequently may be activated during the processing of dot object activities like reading, as in "Jason's book was heavy [PHYSICAL OBJECT/ARTEFACT] and fascinating [INFORMATION]".

Questions surrounding the N400 effect (Kutas & Hillyard, 1980) may also arise, depending on whether copredication deviations (or simply more exotic cases of copredication) are processed as semantically congruous or anomalous. If they are processed as the latter, then the main regions involved in the predicted N400 effect would be the left posterior and anterior temporal cortex and the left inferior frontal cortex, with the accessing of lexical representations from long-term storage also predictably activating posterior middle temporal cortex (Lau et al., 2008: 922). Friederici et al. (1993) described a negative brain wave over left frontal areas, the left anterior negativity (LAN), which has been observed when words violate the required lexical category ("the conclusion drinks") – a possible response to copredication deviation.

The findings of Kupberg et al. (2003) raise further questions. Their studies examined what happened when the thematic relationship between the verb and its argument was violated ("The box is biting the postman"), and instead of the N400 effect they found a P600 response, which was previously assumed to be sensitive only to syntactic violations and difficulty in syntactic processing. Again, this response may be triggered when subjects process copredication deviations or semantic violations in copredication ("The city which was burned down and re-built across the river howled like a wolf").

It is also an entirely open question whether the brain treats the dot objects of copredication as a case of two words modifying two semantically distinct arguments (e.g. $lunch_1$ and $lunch_2$), as the semanticist's coordination reduction suggests, or whether neural responses are more localised in either of the relevant semantic regions (those subserving "abstract" and "concrete" words), as the mereological account would imply. For instance, data relevant to the former hypothesis would include the activation of left BA45/46, typically linked to the processing of a word semantically associated with another (Friederici, 2000: 129). Cases of copredication involving eventive verbs, denoting causally structured events, rather than

stative verbs with no causal structure, would also be predicted to take longer to process, with lexical decision tasks and self-paced reading studies having confirmed a processing distinction between the two (the reason most likely being that event structures subsume theta roles and hence may "mediate between syntactic knowledge and semantic interpretation" (Gennari & Poeppel, 2003: B27)).

More generally, it would be expected that areas implicated in the processing of sentences, such as the posterior portion of the superior temporal gyrus bilaterally and a cortical area at the midpoint of the superior temporal sulcus in the right hemisphere, are activated during the comprehension of copredication in all its varieties (Friederici, 2000: 130–133). But even with all of these results, we are warned by Adorni and Proverbio in a recent study of the concreteness effect that "neuroimaging studies provide no clear evidence about the neural underpinnings of concrete vs. abstract word processing" (2012: 881). Inquiry into the neural organisation of copredication will likely yield new and hopefully substantial insights not only into the cortical organization of these concrete and abstract concepts, but also into the neural correlates of the above syntactic constraints on copredication, telicity, and other related notions.

Copredication also shares many properties with semantic type mismatch: climbing does not figure in the lexical material of (18), and so in an event-based semantic framework the sentence is thought to involve the insertion of an implicit activity which can mediate between the verb and the otherwise unsuitable object noun phrase, being "coerced" into an event meaning.

(18) The refugees survived the mountain.

Such coercion has been shown to activate a prefrontal midline MEG field, dubbed the anterior midline field (AMF), which is also activated for two distinct types of aspectual coercion (Pylkkänen et al., 2013: 319). Copredication may well activate the AMF, though it more probably implicates areas strongly associated with abstract and concrete word processing. It would furthermore be expected that the semantic shift between different dot objects seen in instances of copredication is reflected during online processing in the activity of neural pathways relevant to the comprehension of abstract and concrete words. The issue becomes more complex with varieties of copredication which go beyond basic dot object types like INFORMATION and PHYSICAL OBJECT and employ agentive, constitutive and hyponymic concepts (and still more abstract notions like telicity or intended design), and the results of neuroimaging studies would predictably mirror this.

In summary, neuroimaging and behavioural studies into copredication processing will very likely enrich understanding of conceptual representations. There remains the possibility that it will also inform and constrain semantic theories of copredication, perhaps similarly to the studies of Shetreet et al., which lent "neurobiological support for the linguistic distinction" between unaccusative and unergative verbs (2010: 2306). Neurobiological investigations into the constraints of copredication processing, in synthesis with studies into lexical access more generally, may well lead to an understanding about why a *book* can be a printed text, a story, a piece of data on a memory stick, but not, for instance, a wall upon which every word of a book has been spray-painted. That is, neurobiological studies could tell us *what the limits of being a book are*.

4. Conclusion

I have argued that brain scientists should be concerned with a particular topic of semantic investigation, copredication, partly because of the current lively debates surrounding the representation of abstract and concrete words, the concreteness effect, acquisition of these concepts, and so on. It should be stressed, however, that at this stage I am not calling for neural investigations into more technical and fine-grained semantic phenomena (or the most elementary computational operations underlying them), and instead see copredication as an excellent way of informing and constraining semantic theory whilst also contributing to ongoing debates in neurolinguistics (although see Murphy, 2015a). If brain scientists are not engaging with linguists at the level of copredication, then there is little hope of them exploring more technical notions and drawing up linking hypotheses between the two still relatively isolated domains.

Acknowledgements

I would like to thank Andrea Santi, David Poeppel, Cedric Boeckx, Lewis Pollock and Matthew Gotham for their encouragement and helpful advice.

References

ADORNI, ROBERTA, & PROVERBIO, ALICE. 2012. "The neural manifestation of the word concreteness effect: An electrical neuroimaging study". *Neuropsychologia 50*. pp. 880–891.

ANTUNES, SANDRA, & CHAVES, RUI PEDRO. 2003. "On the licensing conditions of co-predication". *GL'2003 Second International Workshop on Generative Approaches to the Lexicon*. University of Geneva. pp. 161-168.

ASHER, NICHOLAS. 2011. "*Lexical Meaning in Context: A Web of Words*". Cambridge: Cambridge University Press.

BOECKX, CEDRIC. 2010. "*Language in Cognition: Uncovering Mental Structures and the Rules Behind Them*". Oxford: Wiley-Blackwell.

BOUCHARD, DENIS. 2013. *The Nature and Origin of Language*. Oxford: Oxford University Press.

CHOMSKY, NOAM. 1986. "*Knowledge of Language: Its Nature, Origin, and Use*". Westport, CT: Greenwood Publishing Group.

CHOMSKY, NOAM. 1995. "*The Minimalist Program*". Cambridge, MA: MIT Press.

CHOMSKY, NOAM. 2000. "*New Horizons in the Study of Language and Mind*". Cambridge: Cambridge University Press.

CHOMSKY, NOAM. 2012. "*The Science of Language: Interviews with James McGilvray*". Cambridge: Cambridge University Press.

COPESTAKE, ANN, & BRISCOE, TED. 1995. "Semi-productive polysemy and sense extension". *Journal of Semantics 12. 1.* pp. 15–67.

DAMASIO, HANNA, GRABOWSKI, THOMAS J., TRANEL, DANIEL, PONTO, LAURA L.B., HICHWA, RICHARD D., & DAMASIO, ANTONIO R. 2001. "Neural correlates of naming actions and of naming spatial relations". *Neuroimage 13*. pp. 1053–1064.

DUÑABEITIA, JON ANDONI, AVILÉS, ALBERTO, AFONSO, OLIVIA, SCHEEPERS, CHRISTOPH, & CARREIRAS, MANUEL. 2009. "Qualitative differences in the representation of abstract versus concrete words: Evidence from the visual-world paradigm". *Cognition 110*. pp. 284–292.

FRIEDERICI, ANGELA. 2000. "The neuronal dynamics of auditory language comprehension". In: Marantz, A., Miyashita, Y., & O'Neil, W. (eds) *Image, Language, Brain: Papers from the First Mind Articulation Project Symposium*. MIT Press. pp. 127–148.

FRIEDERICI, ANGELA. 2012. "The cortical language circuit: from auditory perception to sentence comprehension". *Trends in Cognitive Science 5*. pp. 262–268.

FRIEDERICI, ANGELA, PFEIFER, ERDMUT, & HAHNE, ANJA. 1993. "Event-related brain potentials during natural speech processing: Effects of semantic, morphological and syntactic violations". *Cognitive Brain Research 1*. pp. 183–192.

FRISTON, KARL JOHN, FLETSCHER, PAUL, JOSEPHS, OLIVER, HOLMES, ANDREW, RUGG, MICHAEL, & TURNER, ROBERT. 1998. "Event-related fMRI: Characterizing differential responses". *Neuroimage 7*. pp. 30–40.

GENNARI, SILVIA, & POEPPEL, DAVID. 2003. "Processing correlates of lexical semantic complexity". *Cognition 89*. B27–B41.

GODARD, DANIÈLE & JAYEZ, JACQUES. 1993. "Towards a proper treatment of Coercion Phenomena". In: *Proceedings of the sixth conference on the European chapter of the Association for Computational Linguistics.* pp. 168–177.

GOTHAM, MATTHEW. 2012. "Numeric quantification in copredication". *UCL Working Papers in Linguistics 24*. pp. 1–20.

GOTHAM, MATTHEW. 2015. "*Copredication, quantification and individuation*". PhD dissertation. University College London.

GRIMSHAW, JANE. 1990. "*Argument Structure*". Cambridge, MA: MIT Press.
HAGOORT, PETER, BASTIAANSEN, MARCEL, & PETERSSON, KARL. 2004. "Integration of word meaning and world knowledge in language comprehension". *Science 403*. pp. 438–441.
HAWKINS, ROBERT, & KANDEL, ERIC. 1984. "Is there a cell-biological alphabet for simple forms of learning?" *Psychological Review 91*. pp. 376–391.
HINZEN, WOLFRAM. 2008. "Prospects for an explanatory theory of semantics". *Biolinguistics 2, 4*. pp. 348–363.
HINZEN, WOLFRAM, & POEPPEL, DAVID. 2011. "Semantics between cognitive neuroscience and linguistics theory: Guest editors' introduction". *Language and Cognitive Processes 26. 9*. pp. 1297–1316.
HOFFMAN, JOSHUA, & ROSENKRANTZ, GARY S. 2003. "Platonistic theories of universals". In: Loux, M. J., & Zimmerman, D. W. (eds) *The Oxford Handbook of Metaphysics*. Oxford: Oxford University Press. pp. 46–74.
HOFFMAN, PAUL, BINNEY, RICHARD J, & LAMBON RALPH, MATTHEW A. 2015. "Differing contributions of inferior prefrontal and anterior temporal cortex to concrete and abstract conceptual knowledge". *Cortex 63*. pp. 250–266.
JACKENDOFF, RAY. 2002. "*Foundations of Language: Brain, Meaning, Grammar, Evolution*". Oxford: Oxford University Press.
JACOBS, RODERICK A., & ROBENBAUM, PETER S. 1968. "*English Transformational Grammar*". London: Ginn and Company.
JACQUEY, EVELYNE. 2001. "*Ambiguïtés Lexicales et Traitement Automatique des Langues: Modéelisation des le Polysémie Logique et Application aux déverbaux d'action ambigus en Français*" ["*Lexical Ambiguity and Language Processing: Modeling Polysemy and Application to French Ambiguous Action Verbs*"]. PhD dissertation. Université de Nancy 2.
JEZEK, ELISABETTA, & MELLONI, CHIARA. 2011. "Nominals, polysemy and co-predication". *Journal of Cognitive Sciences 12*. pp. 1–31.
KIEHL, KENT A., LIDDLE, PETER F., SMITH, ANDRA M., MENDREK, ADRIANNA, FORSTER, BRUCE B., & HARE, ROBERT D. 1999. "Neural pathways involved in the processing of concrete and abstract words". *Human Brain Mapping 7. 4*. pp. 225–233.
KROLL, JUDITH F., & MERVES, JILL S. 1986. "Lexical access for concrete and abstract words". *Journal of Experimental Psychology: Learning, Memory, and Cognition 12*. pp. 92–107.
KUPERBERG, GINA R., SITNIKOVA, TATIANA, CAPLAN, DAVID, & HOLCOMB, PHILLIP J. 2003. "Electrophysiological distinctions in processing conceptual relationships within simple sentences". *Cognitive Brain Research 17*. pp. 117–129.
KUTAS, MARTA, & HILLYARD, STEVEN A. 1980. "Reading senseless sentences: Brain potentials reflect semantic incongruity". *Science 207*. pp. 203–205.
LAU, ELLEN F., PHILLIPS, COLIN, & POEPPEL, DAVID. 2008. "A cortical network for semantics: (de)constructing the N400". *Nature Reviews Neuroscience 9. 12*. pp. 920–933.
LUDLOW, PETER. 2014. "*Living Words: Meaning Underdetermination and the Dynamic Lexicon*". Oxford: Oxford University Press.
MARR, DAVID. 1982. "*Vision: A Computational Investigation into the Human Representation and Processing of Visual Information*". New York: Freeman.
MOORE, CAROLINE J., & PRICE, CATHY J. 1999. "A functional neuroimaging study of the variables that generate category-specific object processing differences". *Brain 122*. pp. 943–962.
MURPHY, ELLIOT. 2012. "*Biolinguistics and Philosophy: Insights and Obstacles*". London: Lulu.

MURPHY, ELLIOT. 2014. "Review of *Definite Descriptions* by Paul Elbourne". *The Linguistic Review 31. 2*. pp. 435–444

MURPHY, ELLIOT. 2015a. "Labels and cycles: Towards an explanatory neurolinguistics". Ms. University College London.

MURPHY, ELLIOT. 2015b. "Labels, cognomes and cyclic computation: An ethological perspective". *Frontiers in Psychology 6*: 715. doi: 10.3389/fpsyg.2015.00715.

MURPHY, ELLIOT. 2015c. "Reference, phases and individuation: Topics at the labeling-interpretive interface". *Opticon1826*. doi: http://dx.doi.org/10.5334/opt.cn.

NOPPENEY, UTA, & PRICE, CATHY J. 2004. "Retrieval of abstract semantics". *Neuroimage 22*. pp. 164–170.

PAIVIO, ALLAN. 1991. "Dual coding theory: retrospect and current status". *Canadian Journal of Psychology 45*. pp. 255–287.

PIETROSKI, P. 2005. "*Events and Semantic Architecture*". 2nd ed. Oxford: Oxford University Press.

PINKER, STEVEN. 1999. "*Words and Rules: The Ingredients of Language*". New York: Perseus.

POBRIC, GORANA, LAMBON RALPH, MATTHEW A., & JEFFRIES, ELIZABETH. 2009. "The role of the anterior temporal lobes in the comprehension of concrete and abstract words: rTMS evidence". *Cortex 45*. pp. 1104–1110.

POEPPEL, DAVID. 2012. "The maps problem and the mapping problem: Two challenges for a cognitive neuroscience of speech and language". *Cognitive Neuropsychology 29. 1-2*. pp. 34–55.

POEPPEL, DAVID. 2014. "The neuroanatomic and neurophysiological infrastructure for speech and language". *Current Opinion in Neurobiology 28*. pp. 142–149.

POEPPEL, DAVID, & EMBICK, DAVID. 2005. "Defining the relation between linguistics and neuroscience". In: Cutler, A. (ed) *Twenty-First Century Psycholinguistics: Four Cornerstones*. Lawrence Erlbaum. pp. 103–118.

POLLOCK, LEWIS. 2014. "Empirically investigating the nature and structure of conceptual representations". Poster presented at the UCL ESRC Doctoral Training Centre Annual Welcome Event, 13 November.

PUSTEJOVSKY, JAMES. 1995. "*The Generative Lexicon*". Cambridge, Mass: MIT Press.

PUSTEJOVSKY, JAMES. 2001. "Type construction and the logic of concepts". In: Bouillon, P., & Busa, F. (eds) *The Language of Word Meaning*. Cambridge: Cambridge University Press. pp. 91-123.

PYLKKÄNNEN, LIINA, BRENNAN, JONATHAN, & BEMIS, DOUGLAS K. 2013. "Grounding the cognitive neuroscience of semantics in linguistic theory". In: Boeckx, C., & Kleanthes, K. G. (eds) *The Cambridge Companion to Biolingusitics*. Cambridge: Cambridge University Press. pp. 302–325.

SANDBERG, CHALEECE, & KIRAN, SWATHI. 2014. "Analysis of abstract and concrete word processing in persons with aphasia and age-matched neurologically healthy adults using fMRI". *Neurocase 20. 4.* pp. 361-388.

SCHLESEWSKY, MATTHIAS, & BORNKESSEL-SCHLESEWSKY, INA. 2013. "Computational primitives in syntax and possible brain correlates". In: Boeckx, C., & Kleanthes, K. G. (eds) *The Cambridge Companion to Biolingusitics*. Cambridge: Cambridge University Press. pp. 257–282.

SCHWANENFLUGEL, PAULA J., HARNISHFEGER, KATHERINE KIP, & STOWE, RANDALL W. 1988. "Context availability and lexical decisions for abstract and concrete words". *Journal of Memory and Language 22*. pp. 499–520.

SCHWANENFLUGEL, PAULA J., & SHOBEN, EDWARD J. 1983. "Differential context effects in the comprehension of abstract and concrete verbal materials". *Journal of Experimental Psychology: Learning, Memory, and Cognition 9*. pp. 82–102.

SHETREET, EINAT, FRIEDMAN, NAAMA, & HADAR, URI. 2010. "The neural correlates of linguistic distinctions: Unaccusative and unergative verbs". *Journal of Cognitive Neuroscience 22, 10*. pp. 2306–2315.

TOLENTINO, LEIDA C., & TOKOWICZ, NATASHA. 2009. "Are pumpkins better than heaven? An ERP investigation of order effects in the concrete-word advantage". *Brain & Language 110*. pp. 12–22.

TROCHE, JOSHUA, CRUTCH, SEBASTIAN, & REILLY, JAMIE. 2014. "Clustering, hierarchical organization, and the topography of abstract and concrete nouns". *Frontiers in Psychology 5*: 360.

TSIMPLI, IANTHI MARIA. 2013. "(Evidence for) the language instinct". In: Boeckx, C., & Grohmann, K. (eds). *The Cambridge Handbook of Biolinguistics*. Cambridge: Cambridge University Press. pp. 49–68.

URIAGEREKA, JUAN. 2012. "*Spell-Out and the Minimalist Program*". Oxford: Oxford University Press.

VIGLIOCCO, GABRIELLA, METEYARD, LOTTE, ANDREWS, MARK, & KOUSTA, STAVROULA. 2009. "Toward a theory of semantic representation". *Language and Cognition 1*. pp. 219–247.

VOLTA, RICCARDO DALLA, FABBRI-DESTRO, MADDALENA, GENTILUCCI, MAURIZIO, & AVANZINI, PIETRO. 2014. "Spatiotemporal dynamics during processing of abstract and concrete verbs: An ERP study". *Neuropsychologia 61*. pp. 163-174.

WANG, JING, CONDER, JULIE A., BLITZER, DAVID N., & SHINKAREVA, SVETLANA V. 2010. "Neural representation of abstract and concrete concepts: A meta-analysis of neuroimaging studies". *Human Brain Mapping 31*. pp. 1459–1468.

XIAO, XIN, ZHAO, DI, ZHANG, QIN, GUO, CHUN-YAN. 2012. "Retrieval of concrete words involves more contextual information than abstract words: Multiple components for the concreteness effect". *Brain & Language 120*. pp. 251–258.

Elliot Murphy
Division of Psychology and Language Sciences
University College London
London, England
email: elliot.murphy.13@ucl.ac.uk

THE TRANSFER OF EXPRESSIVE MEANING IN THE TRANSLATION OF SYNAESTHETIC METAPHORS FROM THAI TO ENGLISH

SUPARAK TECHACHAROENRUNGRUEANG
SUDAPORN LUKSANEEYANAWIN
Chulalongkorn University

Abstract

Synaesthetic metaphor is a conceptual phenomenon in which a linguistic expression (or linguistic metaphor) encodes a primary sense modality through a secondary sense modality to convey emotions or feelings. To illustrate, the cross-modal mapping between the auditory domain and the tactile domain is manifested through such synaesthetic linguistic expressions conveying a sense of anger as */khra?1thxxk2 siiang4/*[1] 'hit-sound', */siiang4 khxng4/* 'sound-hard', and */siiang4 riiap2 jen0/* 'sound-smooth-cold'. Crossing sense modalities in synaesthetic expressions (Ullmann, 1962; Williams, 1976; Day, 1996; Yu, 2003; Shen & Gil, 2008; Takada, 2008) reveals both universality and variation in the ways in which perceptual experiences are conceptualised in different languages. The present study therefore explores Thai synaesthetic metaphors and their equivalent English counterparts to find whether Thai synaesthetic expressions are translated into English with the same senses or not. The data were gathered from five famous Thai novels and their English translations. It was found that, in Thai synaesthetic metaphors, the auditory domain as the primary sense was mostly encoded through the tactile domain as the secondary sense. The co-occurrence pattern supports Ullmann's (1959, 1962) proposal that the auditory domain is the predominant target domain for primary sense and the tactile domain is the predominant source domain for secondary sense. The results also showed that the Thai synaesthetic expressions were similar to the English ones in terms of co-occurrence patterns of senses (Wongthai, 2009; Chancharu, 2012). However, some Thai synaesthetic expressions do not share the same translated English synaesthetic expressions, and some were not translated into English synaesthetic expressions. The data appear to show that some synaesthetic expressions are language specific and are motivated by different conceptualisations of senses.

1. Introduction

The use of metaphor is generally to treat one thing as if it were in some way another thing. Metaphors have been explored in the study of language, thought and communication. It also refers to the transference of meaning; that is, a mechanism for deriving a figurative meaning of a word from a literal one (Leech, 1969).With the realisation that human languages reflect the conceptualisation of experienced abstract entities such as emotions, feelings, and other bodily experiences, spatial relationships and natural phenomena, the paradigm of metaphor

[1]To ease the process of transcribing Thai phonetic transcription for computer input, we used the phonetic transcription of the Linguistic Research Unit of Chulalongkorn University (LRU) system (Schoknecht, 2000: 329-336). The system deviates from IPA: 4 changes in the consonants, i.e., ng=/ŋ/; c=/tɕ /; ch=/tɕh/; ?=/ʔ/; 4 changes in the vowels, i.e., v =/ɯ; q=/ɤ/; x=/ɛ/; @=/ɔ/, and double letters represent length of vowels. Numbers 0-4 are used to mark the 5 tones, i.e., 0=mid, 1=low, 2=falling, 3=high, 4=rising conforming to the traditional names of Thai tones

Proceedings of the second Postgraduate and Academic Researchers in Linguistics at York (**PARLAY 2014**) conference
© The Author, 2015 ISSN 1758-0315 Issue 2

shifted towards the cognitive approach and the notion of conceptual metaphor (Lakoff & Johnson, 1980).

Conceptual metaphor is thought to be one of the cognitive mechanisms that help to structure human knowledge as well as experience (Rodriguez, 2010: 21). According to this view, two analogical concepts, the source and the target, are embodied in a particular language and result in linguistic expressions. For example, the mapping between the source "ANGER" and the target "FIRE" in the conceptual metaphor "ANGER IS FIRE" is realised through a number of English expressions such as "anger burned inside her" and "I was burned up!" (Lakoff & Johnson, 1980; Lakoff & Johnson, 1987; Kövecses, 2002). Other examples can be drawn from the Chinese and the Thai expressions as in (1) and (2).

(1) Chinese

他	满	腔	怒 火
Ta	*man*	*qiang*	*nu-huo*
He	full	cavity	angry-fire

"His thoractic cavity is full of angry fire." (Yu 1998: 53)

(2) Thai

โกรธ	เป็น	ฟืน	เป็น	ไฟ
khroot1	*pen0*	*fvvn0*	*pen0*	*faj0*
angry	be	fuel	be	fire

"To be angry as fuel in the fire" (Tawichai 2006: 68)

A major concern in conceptual metaphor research is the notion of universality and the variation across cultures, and the way in which metaphors reflect thoughts among people from different cultures through language use. Universality can be illustrated by the ANGER concept in terms of CONTAINER schema, e.g. "ANGER IS (HOT) FLUID IN A CONTAINER" as in English, Hungarian, Japanese, Chinese, Zulu, Wolof, Polish, and other languages (Kövecses, 2010). However, variation can also be observed with the concept of ANGER among different cultures. In Japanese, the stomach 腹 *'hara'* can be the container for the hot fluid corresponding to ANGER, distinguishing the Japanese ANGER conceptual metaphor from the one in English and other languages (Matsuki, 1995).

Another area of research into conceptual metaphor has explored the conceptualisation of sensory modalities such as auditory, visual, olfactory, gustatory, and tactile. It has focused on how such sensory modalities are used metaphorically to express emotions and feelings as in "Her face was bright with happiness.", a linguistic instantiation of the conceptual metaphor "HAPPINESS IS LIGHT" relevant to the visual experience (Kövecses, 2000 cited in Stefanowisch, 2006:83-84). The question is, therefore, raised as to whether or not the senses of perception in metaphors are the same or different among different languages and cultures.

This present research is focused on synaesthetic metaphor which involves the transfer of meaning from one sensory domain to another (Ullmann, 1959, 1962; Leech, 1969; Williams, 1976). Day (1996: 1) provided the examples "sweet smell" and "dark sound" to demonstrate how one perceptual mode or concept can be linguistically related to another [different] perceptual mode. Since one sense modality as the primary sense is evoked by another secondary sense modality, such mapping is realised through synaesthetic linguistic expressions. They therefore encode a sense modality through another sense modality. Examples of English expressions include "sweet voice" or "the statue had a cold smell." The former expresses an auditory concept "voice" in terms of a gustatory concept "sweet" to convey the meaning of sound pleasing to the ears, whereas the latter expresses an olfactory concept "smell" using a tactile concept "cold" to describe the smell of a statue in the cold

weather (Werning, 2006: 2365). Synaesthetic metaphors can also reflect expressive or emotive meanings. To illustrate, the cross-modal mapping between the auditory concept and the tactile concept from the expression "voice hardens" conveys the sense of resentment, dissatisfaction or stubborn refusal, involving the resemblance between the physical and emotional effects of being hit by a hard object (Takada, 2008).

The aim of the present study is hence to investigate the co-occurrence of sense modalities in Thai synaesthetic metaphors. That is, it will explore how different sense modalities are put together and realised through Thai synaesthetic expressions. Another aim of the present study is to find out how the meanings of these expressions are transferred into English in the translation of synaesthetic metaphors from Thai to English. The study focuses on the meaning equivalence found in the translation of Thai synaesthetic expressions into English and whether the Thai synaesthetic expressions and the translated English expressions are motivated by the same senses or not. In this study, synaesthetic metaphors are defined as the conceptual metaphor according to the cross-domain mapping of sensory modalities, while synaesthetic expressions are the linguistic expressions of any synaesthetic metaphors.

2. Research Design

The data were collected from five Thai novels with the English translation including (1) */wee0 laa0 naj0 khuat1 kxxw2/* by Prapassorn Sewikul and its translated version "Time in a Bottle" by Phongdeit Jianphattharakit and Marcel Barang; (2) */khaang2 lang4 phaap2/* by Siburapha and its translated version "Behind the Painting" by David Smyth; (3) */luuk2 ?ii0saan4/* by Khampoon Boonthavi and its translated version "A Child of the Northeast" by Susan Fulop Kepner; (4) */phra?1chaa0 thip3pa?1taj0 bon0 sen2kha?1naan4/* by Win Liawwarin and its translated version "Democracy, Shaken and Stirred" by Prisna Boonsinsukh; and (5) */khwuam suk1 kh@@ng4 ka?1 thi?3/* by Jane Vejajiva and its translated version "The Happiness of Kati" by Prudence Borthwick. Thai source language texts were selected based on the popularity of the novels and the availability of the English translation.

The data selected were linguistic expressions in which the sensory words of the primary sense modality co-occurred with the other sensory words of the secondary sense modality. In addition, the primary sense and the secondary sense modalities within the same sensory domain were not selected. The criteria for sensory words included:

1. Words belonging to 5 senses of perception i.e. tactile, gustatory, olfactory, auditory and visual domains
2. The semantic domain of sensory words adapted from Thai Lexicon by N. Panthumetha (2001) and the Royal Institute Thai Dictionary (1999) including:
   2.1 Words of sensory organs e.g. */huu4/* 'ear' */taa0/* 'eye'
   2.2 Sensory adjectives e.g. */jen0/* 'cold' */waan4/* 'sweet' */suung4/* 'high'
   2.2 Perceptual verbs e.g. */chap1/* 'touch' */daj2jin0/* 'hear' */duu0/* 'look'
   2.3 Production of sensory organs e.g. */siiang4/* 'sound, voice' */klin1/* 'smell'

The framework of analysis was based on Conceptual Metaphor Theory proposed by Lakoff and Johnson (1980). That is, Thai synaesthetic expressions were analysed in terms of the co-occurrence of the primary sense modality and the secondary sense modality, regarded as the source domain. Later on, the target domain, which is the expressive meaning, was analysed based on the source. The English translated expressions corresponding to the Thai data were

then identified manually, and data files were created in MS-Excel. As for the translation analysis, Thai synaesthetic expressions were compared to the English translated expressions to explore whether there were the same co-occurrence patterns of sensory modalities between Thai and English. Since the English data were collected from English translations performed by professional translators, it was assumed that the expressive meanings in the English target language were the same as those of the Thai source language due to meaning mapping between two languages. The translation analysis was adapted from the translation processes proposed by Nida (1964), Newmark (1988) and Larson (1984).

3. Findings and Discussions

3.1. Thai Synaesthetic Metaphors

The structure of the identified Thai synaesthetic metaphors consisted of the co-occurrence patterns from at least two different sensory modalities where the primary sense was described in terms of the secondary sense(s), and the cross-modal mapping within each pattern was realised through synaesthetic expressions. It was found that the expressions conveyed an expressive meaning including emotion and sensation. The former included the basic emotive concepts i.e. ANGER, SADNESS, HAPPINESS, and FEAR (Johnson-Laird & Oatley, 1989; Wierzbicka, 1992; Kovecses, 1998). The latter was relevant to the sensory perception judged subjectively by attitudes of the speakers towards VOICE QUALITY, COLOUR, SMELL, TASTE and TEMPERATURE.

To illustrate, the emotive concept ANGER arose from the cross-modal mapping between the auditory concept as the primary sense and the visual concept as the secondary sense as in (3).

(3) ขึ้น เสียง
kheun2 *siiang4*
up sound
"To raise the voice"

The upward directional verb */kheun2/*'up' from the visual domain co-occurred with the auditory domain */siiang4/* 'sound' depicting the high volume of sound by an angry person dissatisfied with people and/or an undesirable situation. The attribute of upward verticality [higher in dimension][2] was mapped onto the features of the angry voice [louder in volume, intense emotion]. The example in (4) was derived from the SADNESS concept which came from the cross-modal mapping between the visual concept as the primary sense and the tactile concept as the secondary sense.

(4) แวว แห่ง ความทุกข์ จับ อยู่ ใน ดวงตา
wxxw0 *hxng1* *khwaam0thuk3* *cap1* *juu1* *naj0* *duuang0taa0*
sign of misery catch ASP[3] in eyes
"The sign of misery remains in the eyes."

The attributes of touching */cap1/* 'catch' as the act of human [touching, sticking to the hands] were mapped onto the vision of unforgettable misery [seeing, remaining in the eyes].

[2] The bracket [__] is used for providing attributes or features of the concept.
[3] Some grammatical categories are marked using abbreviations: ASP for ASPECT, RLTV for relative pronoun, DEM for Demonstrative, PAR for PARTICLE, QPAR for QUESTION PARTICLE, RECIP for RECIPROCAL, COMP for COMPLEMENTIZER "that"

With regard to sensation, for instance, there was the cross-modal mapping between the gustatory concept and the tactile concept as in (5).

(5) รส ละมุน ละไม
rot3 *la?3mun0* *la?3maj0*
taste gentle gentle
"mild taste"

Here, the attributes of the gentleness in terms of touch [good, soft touch] are transferred to the gustatory TASTE [good, soft taste]. In addition, the co-occurrence between the taste word */waan4/* "sweet" and the touch word */lxxm4/* "acute, sharp" in the expression */waan4 lxxm4/* literally "sharply sweet" indicated that touch extended its meaning to become more intensified for the purpose of describing a specific kind of sweetness. */lxxm4/* "acute, sharp" therefore acted as the intensifier for */waan4/* to refer to "very sweet." The metaphorical mappings between the expressive concepts and the co-occurrence patterns of sensory modalities found in the study were exemplified as follows:

Expressive concepts (TARGET DOMAIN)	**Co-occurrence patterns (SOURCE DOMAIN)**		**Examples of synaesthetic expressions**
	Primary sense	**Secondary sense**	
ANGER	AUDITORY	VISUAL	*/kheun2 siiang4/* 'up-sound'
	AUDITORY	TACTILE	*/khra?1 txxk1 siiang4/* 'hit-sound'
	VISUAL	TACTILE	*/saaj4taa0 jen0 chaa0/* 'sight-cold-numb'
SADNESS	AUDITORY	VISUAL	*/siiang4 txxk1 phraa2/* 'sound-shatter-unclear'
	AUDITORY	GUSTATORY	*/naam3siiang4 khom4 kheun1/* 'tone-bitter-nauseous'
	AUDITORY	TACTILE	*/naam3siiang4 thii2 puat1 raaw3/* 'tone-RLTV-pained-cracked'
	AUDITORY	GUSTATORY+TACTILE	*/naam3siiang4 plxxp1 praa1/ 'tone-pained-tasteless'*
	VISUAL	GUSTATORY	*/wxxw0taa0 tem0 paj0 duuaj0 khwaam0 khom4kheun1/* 'eyes-full-go-ASP-bitterness'
	VISUAL	TACTILE	*/waew0 haeŋ1 khwaam0tuk3 cap1 juu1 naj0 duaŋ0taa0/* 'sign-of-misery-catch-ASP-in-eyes
HAPPINESS	AUDITORY	VISUAL	*/siiang4 saj4/* 'sound-bright, clear'
	AUDITORY	GUSTATORY	*/khuj0 khan0 ?@@k1rot3/* 'talk-RECIP- tasteful'
FEAR	AUDITORY	TACTILE	*/siiang4 san1/* 'sound-shaking'
VOICE QUALITY	AUDITORY	VISUAL	*/siiang4 suung4/* 'sound-high'
	AUDITORY	GUSTATORY	*/siiang4 waan4/* 'sound sweet'
	AUDITORY	TACTILE	*/siiang4 baw0/* 'sound-light (weight)'
	AUDITORY	GUSTATORY+TACTILE	*/naam3siiang4 ?@@n1 waan4/* 'tone-soft-sweet'
SIGHT AND COLOUR	VISUAL	GUSTATORY	*/sii4 chom0puu0 waan4/* 'colour-pink-sweet'
	VISUAL	TACTILE	*/sxxng4dxxt1 ?@@n1/* 'sunshine-soft'
SMELL	OLFACTORY	VISUAL	*/klin1 khaaw0khaj0 riw3 riw3/* 'smell-fishy-line-line'
	OLFACTORY	GUSTATORY	*/klin1 priiaw2/* 'smell-sour'
	OLFACTORY	TACTILE	*/h@@m4 ?@@n1 ?@@n1/* 'fragrant-soft-soft'
TASTE	GUSTATORY	TACTILE	*/waan4 lxxm4/* 'sweet-acute'
TOUCH	TACTILE	GUSTATORY	*/jen0 chvvt2/* 'cold-tasteless'

Table 1: The metaphorical mappings between the expressive concepts and the co-occurrence patterns of sensory modalities

It can also be observed that the co-occurrence of Thai sensory modalities in this study aligns with the findings of Ullmann (1959, 1962); Williams (1976); Day (1996); Wongthai (2009); and Chancharu (2012) in that the predominant source, the secondary sense, belongs to the TACTILE domain while the predominant target, the primary sense, is the AUDITORY domain in the synaesthetic cross-modal mapping.

According to Table 2 below, the most frequent domain is the tactile domain as the secondary sense modifying any other senses (165 out of 205), while the auditory domain shows the highest number in terms of the primary senses modified by any other senses (154 out of 205). It can also be inferred that the sense of touch is the experience-based sensation that is most easily perceived by the language users and hence more concrete than the sense of sound. The auditory sense, however, requires other concrete sensations to describe (Sukrasorn & Prasithrathsint, 2011; Wongthai, 2009) and can be regarded as the most abstract sensation dependent upon the interpretation of the language users when experiencing a stimulus or an object (Ritchie, 2006; Cavallaro, 2013).

Secondary / Primary	AUDITORY	VISUAL	OLFACTORY	GUSTATORY	TACTILE	Total
AUDITORY	×	23	×	9	122	154
VISUAL	×	×	×	4	36	40
OLFACTORY	×	1	×	2	5	8
GUSTATORY	×	×	×	×	2	2
TACTILE	×	×	×	1	×	1
Total	0	24	0	16	165	205

Table 2: The co-occurrence patterns of sensory modalities in Thai synaesthetic metaphors

It can also be noted from Table 2 that the auditory domain can be described by many composite co-occurrence patterns with two other sensory modalities, i.e., the gustatory and the tactile. These two senses are used to describe the auditory concept, for example:

(6) เสียง แคน อ่อน หวาน
siiang4 *khxxn0?* *@@n1* *waan4*
sound folk musical instrument soft sweet
"The soft, sweet sound of folk musical instrument"

According to (6), it is indicated that the auditory concept is considerably complicated and it needs to be modified by a number of different senses. Additionally, the auditory sense is perceptually salient in terms of conveying the expressive concepts as below:

> Words have meanings that are intersubjective, but they also have affective meaning determined by context and experience. Likewise, conceptualisation of sound is determined by a particular situation and previous auditory experiences…sounds have various affective meanings which are the product of individual and socio-cultural experiences.
>
> (TAKADA 2008: 112)

3.2. The Translation of Thai Synaesthetic Expressions into English

As regard the translation of Thai synaesthetic metaphors into English, the Thai synaesthetic expressions and the English translated counterparts were taken into consideration. Thai synaesthetic expressions are strikingly similar to those in English. The co-occurrence patterns of sensory modalities in the English translation exhibited that many of the English translated expressions were equivalent to Thai, the source language. In Table (3), the expression */khvvn2 siiang4/* literally 'up - voice' was comparable to the English expression "raise (the) voice," defined as "to speak loudly or shout at someone in anger" (McGraw-Hill Dictionary of

American Idioms and Phrasal Verbs, 2006). The upward verticality concept suggested intensity of sound, especially when a person expressed something out loud because of anger. It is also noticeable that the sudden change of state or quality by means of the angry person's voice in both languages was in accordance with the conceptual metaphors "MORE IS UP" (Lakoff & Johnson, 1980) "INTENSITY OF ANGER IS HEIGHT" (Stefanowitsch & Gries, 2006) and "EMOTION IS MOVEMENT" (Goatly, 2007).

ST	เอา ไหม ล่ะ ให้ ฉัน เอา พาน ไป กราบ แม่ นั่น *?aw0 maj4 la?2 haj2 chan4 ?aw0 phaan0 paj0 khraap1 mxx2 nan2* take PAR PAR CAU I bring worship tray go praise her DEM ชื่นชม ที่ มัน แย่ง ผัว คนอื่น ไป ได้ แม่ **ขึ้น** *chvvn2chom0 thii2 man0 jxxng2 phua0 khon0?vvn1 paj0 daj2 mxx2 **kheun2*** compliment COMP she take husband someone else go ASP mother **up** **เสียง** ***siiang4*** **voice**
TT	"Do you want me to prostate myself before the goddamn woman and praise her for stealing someone else's man?" Mum **raises her voice**.

Table 3: The equivalent Thai-English translation of synaesthetic expression[4]

As in the Table (4), */h@@m4 ?@@n1 ?@@n1/* glossed as 'fragrant - soft - soft' was equivalent to English translated expression "soft scent" in that the good smell of the flower was described in terms of tactile sensation. The softness concept was metaphorically related to the meaning "mild and pleasant" (Thesaurus of English words and phrases, 1852).

ST	สอง ข้าง หู แม่ นั้น ก็ มี ดอกไม้ สี ขาว *s@@ng4 khaang2 huu4 mxx2 nan3 kh@@2 mii0 d@@k1maj3 sii4 khaaw4* two side ear mother DEM also have flower colour white สอง สาม ดอก ทัด อยู่ กลิ่น ของ มัน *s@@ng4 saam4 d@@k1 that3 juu1 klin1 kh@@ng4 man0* two three flower put ASP smell POSS it **หอม อ่อน** ๆ ***h@@m4 ?@@n1 ?@@n1*** **fragrant soft soft**
TT	She had put two or three white blossoms behind each ear; their **soft scent** was delightful.

Table 4: The equivalent Thai-English translation of synaesthetic expression

The other example of the same conceptualisation of sense modalities between English and Thai revealed that the co-occurrence between the taste word */waan4/* and the word of the auditory domain */siiang4 /*"voice" was translated with the same domain as in English from Table (5). Experience with food contributed to the metaphorical concept "PLEASANT IS SWEET" (Ritchie, 2013). Association between the sweetness judged by most English and Thai speakers as "pleasant" or "good" mapped onto the sound was therefore realised through the expression */siiang4 waan4/*, resulting in the reduplicated expression "sweet, sweet voice" in English.

[4] According to the figure, ST stands for Source Language (Thai) while TT stands for the Target Language (English)

ST	หมอลำ	หญิง	คน	นี้	คูน	ได้ยิน	เขา	พูด	บ่อย	ๆ
	m@@4lam0	*jing4*	*khon0*	*nii3*	*khuun0*	*dai2jin0*	*khaw4*	*phuut2*	*b@@j*	*b@@j1*
	singer	female	person	DEM	Koon	hear	people	say	often	often
	ว่า	มี	**เสียง**	**หวาน**						
	waa2	*mii0*	***siiang4***	***waan4***						
	COMP	have	**voice**	**sweet**						
TT	Amporn from Roi Et had a **sweet, sweet voice**.									

Table 5: The equivalent Thai-English translation of synaesthetic expression

The use of some English translated expressions was, however, dissimilar to those in Thai despite the same co-occurrence patterns. In Table (6), the expression */nam3siiang4 khom4 kheun1/* literally 'tone - bitter - nauseous (taste)' conveying the RESENTMENT concept with the co-occurrence between the auditory domain and the gustatory domain was translated into English as the predicative construction "(his) voice was bitter". The semantic doublet */khom4 kheun1/* 'bitter - nauseous' was translated using only one word "bitter" in English. That is, the word */khom4/* was translated while */kheun1/* was omitted. The translation still transferred the same co-occurrence pattern of senses from Thai to English and reflected the sharing concept between Thai and English in terms of the attitudes towards bitterness based on the metaphorical concept "UNPLEASANT IS BITTER" (ibid).

ST	แม้แต่	พระ	ยัง	ออก	มา	ว่า	ฆ่า	คอมมิวนิสต์
	mxx3txx1	*phra?3*	*jang0*	*?@@k1*	*maa0*	*waa2*	*khaa2*	*kh@m0miw0nis3*
	although	monk	ASP	out	come	say	kill	communists
	ไม่	บาป	**เสียง**	**ของ**	**เด็ก**	**หนุ่ม**	**ขม**	**ขื่น**
	maj2	*baap1*	***siiang4***	***kh@@ng4***	***dek1***	***nuum1***	***khom4***	***khvvn0***
	NEG	sinful	**voice**	**POSS**	**kid**	**young**	**bitter**	**nauseous**
TT	"Even the monks condoned the massacre, preaching that it was not a sin to kill communists," his voice was bitter.							

Table 6: The same concept but different expressions from Thai-English translation of synaesthetic expression

Moreover, one of the most significant results from the translation came from the case of weight */baw0/* 'light,' applied to the sense of hearing. The word */baw0/*, appealing to the tactile domain, was mostly translated using the different word "soft" or "softly" which, in turn, belonged to the same tactile domain as in English. The expressions */song1 siiang4 khraang0 baw0 baw0/* literally 'send - sound - moan - light - light' and */siiang4 baw0 khang0waan0 phaj0r@?3/* literally 'sound - light - loud - melodious' are translated as "moan softly" and "(her) soft melodious voice," respectively. The weight concept in */baw0/* was frequently transferred into the haptic sensation, softness, as in "soft, softly." The two expressions were so-called dead metaphors which have lost their original imagery through extensive use (Lakoff and Johnson, 1980; Schmid & Ungerer, 1996), meaning that contemporary language users are "hardly conscious of the image" (Newmark, 1988: 106). Hence, */baw0/* and "soft" underwent different translations according to the conventionalised or popular use in each language.

However, some Thai synaesthetic expressions were not always equivalent to the English ones which either employ different synaesthetic expressions or do not use such expressions. To illustrate, */klin1 priaw2/* literally 'smell - sour' where the olfactory domain was described in terms of the gustatory domain became "sour, sharp scent". The word "sharp" from the tactile domain was added to modify the scent showing the higher degree of smell. Another case in point arose from */?@@n1 waan4/* literally 'soft - sweet' translated into "sweet". That is, the sweetness concept was only transferred while the haptic concept was not transferred. This expression was the exocentric compound referring to "gentle, beautiful" (The Royal Institute

Dictionary of Thai, 1999) and was used to modify the characteristics of sound or a person's personality. Interestingly, in both languages, the word */waan4/* or "sweet" itself can represent something pleasing to mind or feelings. According to the use of different synaesthetic metaphors, the translation is assumed to depend on the translator's choice of the English expressions that best consolidate the imagery in the target language.

In the cases of not using synaesthetic expressions in English, there were four translation patterns, including using other metaphorical expressions, metonymy, literal meaning, and omission. The use of other metaphorical expressions was found most. For example, the DISAPPOINTMENT expressions */kham0phuut2 fvvqn1 fvvqn1/* 'speech - bitter and harsh - bitter and harsh', */hua4r@?3 fvvqn1 fvvqn1/* 'laugh - bitter and harsh - bitter and harsh', and */nam3siiang4 plxxp1 praa1/* 'tone - pained - unpalatable taste' were translated using other metaphorical expressions including "laborious chitchat", "force a laugh", and "strained voice", respectively. The translated expressions carried the meaning in the domain of force, supporting Kövecses' (2000) discussion of the major conceptual metaphor "EMOTION IS FORCE." As for another concept, the ANGER expression */khra1txxk2 siiang4/* 'hit, crash-sound' translated as "snap (back)"constituted the metaphor "AN ANGRY PERSON IS A FEROCIOUS ANIMAL (Lakoff & Johnson, 1987). Since the word "snap" was previously more associated with the meaning of animals biting, it has now become "mean people making angry outbursts" and that this change occurred around the 1970s according to the Oxford Etymology dictionary (1989). The DISAPPOINTMENT concept was exemplified in Table (7).

ST	ป้อม	ถาม	ด้วย	**น้ำเสียง**	**แปลบ**	**ปร่า**	
	p@@m2	*thaam4*	*duaj2*	***nam3siiang4***	***plxxp1***	***praa1***	
	Pom	ask	with	**tone**	**pained**	**unpalatable (taste)**	
	แวบหนึ่ง	ผม	เห็น	แววตา	ผิดหวัง	ปรากฏ	ขึ้น
	wxxp2nvng1	*phom4*	*hen4*	*wxxw0taa0*	*phit1waang4*	*praa0khot1*	*khvn2*
	quickly	I	see	flicker	disappointed	appear	up
	บน	ดวงตา	ที่	เข้มแข็ง			
	bon0	*duang0taa0*	*thii2*	*khem2khxng4*			
	on	eyes	RLTV	strong			
TT	She asks with **a strained voice**…For an instant, I see a flicker of disappointment in her unyielding eyes.						

Table 7: The case of not using synaesthetic expressions in English in the translation of Thai synaesthetic expression into English

The use of metonymy can be observed in the translation of */jen0 chvvt2/* 'cold - tasteless' into "stone cold" evoking the image of a dead body which is as hard as stone and which has a cold temperature (see Table 8). The word */chvvt2/,* belonging to the gustatory sense, was not transferred into English, but replaced by "stone," a very hard object. "Stone cold" therefore conveyed the meaning of the dead body physiologically having a cold or inadequate temperature and unable to move, and was regarded as metonymy since there appeared to be no cross-domain mapping between the tactile domain and the gustatory domain. The contiguity of "stone" metonymically belonged to the same domain as "cold" since it partly represented the hardness and coldness, the tactile domain of the stone.

ST	ไฟ	ร้อน	แรง	ละเลียด	ผ้า	ห่อ	หุ้ม	สี	ขาว
	faj0	*r@@n3*	*rxxng0*	*la?3liat2*	*phaa2*	*h@@1*	*huum2*	*sii4*	*khaaw4*
	fire	hot	powerful	touch	shroud	wrap	cover	colour	white
	ที่	ห่ม	คลุม	ร่าง	**เย็น**	**ชืด**	ซึ่ง	ครั้งหนึ่ง	
	thii2	*hom1*	*klum0*	*raang2*	***jen0***	***chvvt2***	*svng2*	*khrang3nvang1*	
	RLTV	muffle	cover	body	**cold**	**tasteless**	RLTV	once	
	เคย	โลดแล่น	ใน	โลก					
	khqj0	*loot2lxxn2*	*naj0*	*look2*					
	ASP	live	in	earth					
TT	The flame danced. Its tongue darted in and out, as quickly as a snake's, consuming first the shroud and then **stone cold** body that once teemed with life and passion.								

Table 8: The use of metonymy in the translation of Thai synaesthetic expression into English

A few of Thai synaesthetic expressions were translated into English as literal expressions. For example, the expression */waan4 lxxm4/* 'sweet – acute' was translated as "sweeter and better" using the denotative meaning as the image of having a sharp point or tip when touching from the word */lxxm4/* was not transferred to English and was replaced by the use of the construction with the comparative degree of adjectives instead. Lastly, there was an omission of Thai synaesthetic expressions translated into English as in Table (9).

ST	แดด	ยามสาย	กระทบ	กระจก	ตู้โชว์	สะท้อน
	dxxt1	*jaam0saaj4*	*khra?1thop3*	*khra?1cok1*	*thuu2coo0*	*sa?1th@@n3*
	sunshine	late morning	hit	mirror	showcase	reflect
	แสง	**ระยิบระยับ**	**จับ**	**ตา**		
	sxxng4	***ra?3jip3ra?3jap3***	***cap1***	***taa0***		
	light	**glistening**	**touch**	**eyes**		
TT	The late morning sun glares off shop windows and I have to avert my face.					

Table 9: The use of omission the translation of Thai synaesthetic expression into English

It can be argued here that the transfer of expressive meaning in the translation of Thai synaesthetic expressions into English is largely metaphorical. The high frequency of using linguistic expressions for translation (both synaesthetic and non-synaesthetic expressions) into English reveals that an emotional state or a subjective sensory perception has a so-called elusive or transient quality and is hence difficult to express with literal meaning or language. The use of metaphorical meaning or language might be a suitable choice to convey the quality and/or the intensity of a particular state (Ortony & Fainsilber, 1987).

In addition, some synaesthetic expressions are traceable to conceptualisations which are universal, whereas others are traceable to language specific conceptualisations. Some co-occurrence patterns are shared in common between Thai and English, such as */siiang4 waan4/* and "sweet voice" or */siiang4 suung4/* and "high sound". The cross-modal mappings between the sound and the taste or the dimension concepts, in fact, are found universally and have been described in a number of studies of different languages, such as Chinese (Yu, 2003), Bahasa Indonesia (Shen & Gil, 2008), Japanese (Takada, 2008), Spanish (Barcelona, 1998), Hungarian and French (Ullmann, 1959), Modern Hebrew (Shen, 1997), and others. On the other hand, some senses in Thai are conceptualised differently from their English translations, for example, the concept of */fvvqn1/* 'bitter and harsh', belonging to the gustatory domain and mapped onto the sound of a sad or disappointed person, is not transferred into English. The concept of */fvvqn1/*actually denotes the strange, fairly bitter taste causing unpleasant aftertaste (The Royal Institute Dictionary of Thai, 1999). In English, there is not an equivalent word that best suits this Thai word. The same case arises from */khiiaw4/* 'green' which modifies */siiang4/* 'sound' or */taa0/* 'eyes' and denotes the ANGER concept as

it represents the furious manner of the speaker (The Royal Institute Dictionary of Thai, 1999). The concept of greenness to denote anger in Thai does not exist in English where greenness refers to ENVY i.e. "green with envy", so it is not transferred into English translations.

It can also be argued that some synaesthetic expressions in both languages are language-specific. For example, Thai synaesthetic expressions have the semantic doublets denoting the secondary sense as in */nam3siiang4 khom4kheun1/* literally 'sound-bitter-nauseous' or */siiang4 plxxp1praa1/* literally 'sound-pained-tasteless'. The semantic doublets, */khom4kheun1/* and */plxxp1praa1/*, convey the sense of taste and touch and then are mapped onto sound. The nature of the semantic doublet is similar to compounding representing a certain degree of similarity, sometimes having alliteration regarded as the poetic feature (Poonlarp, 2009). It is also interesting that such expressions represent a degree of intensification to emphasize the expressive concept, SADNESS. However, in English, synaesthetic expressions are not expressed by semantic doublets based on the observation from the previous studies of English synaesthetic metaphors including Ullmann (1959), Williams (1976), Day (1996), and Bretones Callejas (2001). Thai synaesthetic expressions with semantic doublets are therefore translated without a one-to-one correspondence, resulting in different translation patterns. Another case in point of language specificity arises from the phrasal construction. That is, Thai synaesthetic expressions can be represented by the Head-Modifier construction, i.e. */siiang4 ?@@n1/* 'voice-soft', but when translated into English, the construction is changed into "soft voice" which is the Modifier-Head construction.

4. Concluding remarks

The study has shown that the 205 Thai synaesthetic metaphorical expressions found in the source texts of five Thai novels and their 205 equivalents of English expressions in the target translated English texts are quite similar in terms of co-occurrence patterns of senses. However, some of the Thai expressions are not equivalent to the English data set. They display either different corresponding synaesthetic expressions, or a lack of such metaphorical expressions entirely. It can be concluded that some synaesthetic expressions in Thai and English languages share some universal features, and some exhibit the language-specific feature. This must have been motivated by similar or different conceptualisations of senses found in the two languages and the constraints in terms of the translation of expressive meanings in the source and the target languages.

Acknowledgements

We would like to sincerely express thanks to the Postgraduate Academic Researchers in Linguistics At York (PARLAY) 2014 and the two anonymous reviewers for YPL for their detailed suggestions and constructive comments. We also would like to thank Mrs. Jirada Sunthornsavet (Joey) for her support when we stayed in York.

References

BARCELONA, ANTONIO (ED.). 2000. Metaphor and metonymy at the crossroads: a cognitive perspective. Berlin & New York: Mouton de Gruyter.

BRETONES CALLEJAS, CARMEN. 2001a. Synaesthetic metaphors in English. ICSI Technical Report, 8 September 2001, Available at http://www.icsi.berkeley.edu/techreports (accessed 24 November 2014)

CAVALLERO, DANI. 2013. Synaesthesia and the arts.McFarland& Co Inc, Jefferson NC.

CHANCHARU, NAREUDOL. 2012. “Green stink" and "fragrant taste": synesthetic expressions in Thai. Proceedings of Typological Studies on Languages in Thailand and Japan, HituziSyobo Publishing, Japan, Chapter 11.

COLLINS DICTIONARY [ONLINE]. 1999. Available at www.collinsdictionary.com

DAY, SEAN. 1996. Synaesthesia and synaestheticmetaphors. Psyche, Vol. 2 No. 32, Available at www.daysyn.com/Day1996.pdf (accessed 15 December 2014)

FAINSILBER, LYN & ANDREW ORTONY. 1987. Metaphor production in the description of emotional states.Metaphor and Symbolic Activity, Vol. 2, pp. 239-250.

GOATLY, ANDREW. 2007. Washing the brain: metaphor and hidden ideology. Amsterdam: John Benjamins.

HARPER, DOUGLAS. 2001. Online etymology dictionary. Available at http://www.etymonline.com

JOHNSON-LIARD, PHILIP N. & KEITH OATLEY. 1989. The language of emotions: an analysis of a semantic field. Cognition and Emotion, Vol. 3 No. 2, 81-123.

KOVECSES, ZOLTAN. 1998. Are there any emotion-specific metaphors? In: Angeliki Athanasiadou and Elzbieta Tabaskowska (eds.), Speaking of emotions, conceptualization and expression, 127-151. Berlin and New York: Mouton de Gruyter.

KOVECSES, ZOLTAN. 2000b. Metaphor and emotion. New York and Cambridge: Cambridge University Press.

KOVECSES, ZOLTAN. 2002. Metaphor: a practical introduction. Oxford: Oxford University Press.

KOVECSES, ZOLTAN. 2010. Metaphor and culture. Acta Universitatis Sapientiae, Phololog ica 2(2),197-220.

KATZ, ALBERT N, CACCIARI, CRISTINA, GIBBS, RAYMOND W. JR. & MARK TURNER. 1998. Figurative language and thought. Oxford: Oxford University Press.

LAKOFF, GEORGE. 1987. Women, fire, and dangerous things: what categories reveal about the mind. Chicago: The University of Chicago Press.

LAKOFF, GEORGE & MARK JOHNSON. 1980a. The metaphorical structure of the human conceptual system. Cognitive Science: A Multidisciplinary Journal, Vol. 4 No. 2, 195–208.

LAKOFF, GEORGE & MARK JOHNSON. 1980b. Metaphors we live by. London: The University of Chicago Press.

LARSON, MILDRED L. 1984. Meaning-based translation: a guide to cross-language equivalence. New York: University Press of America.

RITCHIE, L. DAVID. 2013. Metaphor. Cambridge, UK: Cambridge University Press.

RITCHIE, L. DAVID. 2006. Context and Connection in Metaphor. Basingstoke, UK: Palgrave.
LEECH, GEOFFREY. 1974. Semantics. Harmondsworth: Penguin Books.
LEECH, GEOFFREY. 1969. A Linguistic Guide to English Poetry. London: Longman.
MATSUKI, KEIKO. 1995. Metaphors of anger in Japanese. In John R. Taylor and Robert E. MacLaury, eds., Language and the Cognitive Construal of the World, Berlin: Mouton de Gruyter,137–151.
NEWMARK, PETER. 1988. A Textbook of translation. London: Pearson Education Limited.
NIDA, EUGENE. 1964.Towards a science of translating. Netherlands: Leiden E.J. Brill.
PANTHUMETHA, NAWAWAN. 2001. Klang Kham (Thai Thesaurus). Bangkok: Amarin Publishing House.
POONLARP, TONGTIP. 2009. The transfer of expressive meaning in the translation of English intensifiers into Thai. PhD Thesis. Chulalongkorn University.
RODRIGUEZ MARQUEZ, MARIA DE MONTSERRAT. 2010. Patterns of translation of metaphor in annual reports in American English and Mexican Spanish. PhD Thesis, University of Surrey.
ROGET, PETER. 1852. Thesaurus of English words and phrases. United States: Penguin Books
SCHOKNECHT, COLIN. 2000. Three systems of Thai transcription. In: D. Burnham and S. Luksaneeyanawin. (eds.) Interdisciplinary approaches to language processing, 329-336, Bangkok: National Electronic and Computer Technology Center (NECTEC).
SHEN, YESHAYAHU. 1997. Cognitive constraints on poetic figures. Journal of Cognitive Linguistics, Vol. 8 No. 1, 33-71.
SHEN, YESHAYAHU & DAVID GIL. 2008. Sweet fragrances from Indonesia: a universal principle governing directionality in synaesthetic metaphors. In: Willie van Peer & Jan Auracher (eds.) New Beginning or the Study of Literature. Cambridge: Cambridge Scholars Publishing, pp. 49-72.
SPEARS, RICHARD A. 2006. McGraw-Hill Dictionary of American Idioms and Phrasal Verbs. United States: McGraw-Hill Education.
STEFANOWITSCH, ANATOL & STEFAN TH. GRIES (EDS.) 2006. Corpus-based approaches to metaphor and metonymy. Berlin: Mouton de Gruyter.
SUKRASORN, S & A. PRASITHRATHSINT. 2011.Componential analysis of hearing terms in Thai. Songklanakarin Journal of Social Sciences and Humanities, Vol.17 No.2.
TAKADA, MARI. 2008. Synaesthetic metaphor: perception, cognition and language. Saarbrucken: Verlag Dr. Muller.
TAWICHAI, SUPACHAI. 2006. Conceptual metaphors of anger in Thai.M.A. Thesis, Silpakorn University.
THE OXFORD ENGLISH DICTIONARY [ONLINE]. 1989. Available at http://dictionary.oed.com
THE ROYAL INSTITUTE DICTIONARY OF THAI. [ONLINE]. 1999. Available at http://ris3.royin.go.th/dictionary.asp
ULLMANN, STEPHEN. 1962. Semantics: An introduction to science of meaning. Oxford: Basil Blackwell.
UNGERER, FRIEDRICH & HAND-JORG SCHMID. 1996. An introduction to cognitive linguistics. Harlow: Longman.
WERNING, MARKUS, FLIESCHHAUER, JENS & HAKAN, BESEOGLU. 2006.The cognitive accessibility of synaesthetic metaphors.In R. Sun & N. Miyake (Eds.), Proceedings of the Twenty-eighth Annual Conference of the Cognitive Science Society, 2365–2370.
WIERZBICKA, ANNA. 1985. Different cultures, different languages, different speech acts: Polish vs. English. Journal of Pragmatics, Vol. 9, 145-178.
WIERZBICKA, ANNA. 1992a.Defining emotion concepts.Cognitive Science, Vol. 16, 539–81.

WILLIAMS, JOSEPH M. 1976. Synaesthetic adjectives: a possible law of semantic change. Language, Vol. 52 No. 2, 461-478.
WONGTHAI, NUNTANA. 2009. Synaesthetic metaphors in Thai: a cognitive linguistic study. PhD Thesis, Thammasart University.
YU, NING. 1998. The Contemporary Theory of Metaphor: A Perspective from Chinese. Amsterdam: John Benjamins.
YU, NING. 2003. Synesthetic metaphor: a cognitive perspective. Journal of Literary Semantics, Vol. 32, 19-34.

Suparak Techacharoenrungrueang
Department of Linguistics, Faculty of Arts,
Chulalongkorn University
Bangkok, Thailand
Email: suparaksa_be_diff@outlook.com*;* suparaktcr@gmail.com

Sudaporn Luksaneeyanawin, Ph.D.
Department of English as an International Language,
Graduate School
Chulalongkorn University
Bangkok, Thailand
Email: Sudaporn.L@chula.ac.th

A COGNITIVE CDA-APPROACH TO THE ARAB REVOLUTIONS: CONSTRUAL OPERATIONS IN INTERNATIONAL PRESS LANGUAGE

STEFANIE ULLMANN

Philipps-Universität Marburg

Abstract

This paper investigates how the events of the Arab revolutions have been conceptualised linguistically in the media by applying notions of cognitive grammar in a critical study of press language. The analysis is based on a corpus of online news articles published as immediate responses to the 25 January protests in Egypt in 2011 and representing different regional and political perspectives. Focus is laid on grammatical constructions and how they generate alternative event-construal (Langacker, 2000, 2008, 2013). Recurring strategies in representation can be found vis-à-vis the use of transactive constructions, a schematisation of the events as well as different adjustments of scope. Within the framework of Critical Discourse Analysis, the paper also seeks to identify potential ideological qualities of these conceptualisations with regard to civil unrest.

1. Introduction

For some years now, cognitive linguists such as Langacker (2000, 2008, 2013) and Talmy (2000) have proclaimed that there is a strong relation between not only grammar and meaning, but grammar and cognition. In his Cognitive Grammar (henceforth CG), Langacker proclaims not only that grammar is meaningful, but also that it is central to cognition, thus crucially influencing the way we perceive and understand the world (2013: 3-4). Similarly, Talmy states that any portion of discourse is "to evoke in the listener a particular kind of experiential complex [i.e.] a cognitive representation" (Talmy, 2000: 21-22). More recent developments in cognitive science have also shown how our understanding of language is not only grounded in bodily experience but that we tend to subconsciously simulate whatever is encoded linguistically (Bergen, 2012). It has furthermore been demonstrated, on the basis of experiments, how specific grammatical constructions such as the passive or progressive forms do in fact influence our perception of events. To use Bergen's words, "[g]rammar appears to modulate what part of an evoked simulation someone is invited to focus on, the grain of detail with which the simulation is performed, or what perspective to perform that simulation from" (Bergen, 2012: 118). It is on the basis of such findings that I believe in the relevance of analysing the use of such seemingly trivial grammatical structures especially in the context of a discourse that bears socio-political significance. Moreover, this makes the inclusion of a cognitive approach in a Critical Discourse Analysis (henceforth CDA) framework an apposite method for investigating the specific grammar-induced conceptualisations of an event illustrating large-scale public dissent as well as possible implications thereof on the more general consequent discourse in society. Furthermore, previous work by Charteris-Black (2004, 2006), Chilton (2005), Hart (2011; 2013) or Koller (2005) has successfully managed to illustrate how valuable a merging of both cognitive linguistic approaches and CDA can be.

In this study, the 2011 Egyptian protests and their representation in the media pose as the central topic of investigation. For this, a case study has been conducted applying Langacker's notion of construal in order to answer the question of how the events have been presented with regard to specific types of grammatical structures and techniques.

© The Author, 2015 ISSN 1758-0315

2. Theoretical Framework: Construal Operations

Langacker views construal as an integral part of the construction of lexical meaning. Construal here relates to the grammatical or structural form of any content that is being presented. Therefore, both content and grammatical constructions are believed to be equally essential and important or, in other words, how something is portrayed linguistically is about as vital as the content of the expression itself (Langacker, 2011: 23; 2013: 43). This emphasis on form and structure puts the role of grammar in our understanding of lexical and semantic meaning in a central position. From a cognitive-linguistic perspective, grammar is itself always meaningful (see also Bergen, 2012: 118-119) and imposes further interpretation frames on the already existing lexical content. This leads to the fact that different grammatical constructions can not only be used to encode and present one situation in diverse ways (a characteristic also attributed to grammar by Halliday (2004)); grammar can furthermore affect how we perceive and conceive a given event. Most notably, Langacker states that "[c]onceptual content cannot be apprehended in a wholly neutral fashion – it is always viewed at some level of *specificity*, from a certain *perspective*, with particular elements made *prominent*, etc." (Langacker, 2011: 23; emphasis added). Therefore, different construal operations influence or even determine our conceptualisation of situations and events, making them a crucial criterion to consider in a critical approach to socio-politically relevant discourse. Langacker distinguishes four general types of construal: specificity, focusing, prominence and perspective. Depending on the grammatical structure, different elements of construal may be realised. The passive, for instance, can be taken as a good illustration of a number of construal techniques. Despite their depicting the same scene, active and passive constructions tend to put different aspects of a scene into focus:

(1) […] *plainclothes officers* beat several demonstrators (*Times*, 25 Jan.)

(2) […] *a young Egyptian* […] was beaten to death by two policemen (*Fox*, 25 Jan.)

(3) *Two protesters* were killed in Suez (*Guardian*, 26 Jan.)

While in the first example, *plainclothes officers* is the element in focus, in construction (2), focus is shifted to *a young Egyptian*. This is in-line with Langacker's notion of trajector/landmark alignment. Trajector (tr) and landmark (lm) in CG refer to two participants in a profiled relationship that are depicted at different levels of prominence. The trajector is usually the participant in primary, the landmark the one in secondary focus. (Langacker, 2008: 113). In addition, Bergen (2012) and Bergen, Chang and Narayan (2004) claim that choosing the passive or active voice has crucial effects on whose perspective the reader/listener is more likely to adopt. Thus, for expression (1) this would result in readers being more inclined to take the officers' perspective, while in (2) they would most likely tend to view the scene from the perspective of the victim, i.e. the young Egyptian. Lastly, choosing an agentless passive construction, for instance, may influence how fine-grained or specific an action is being depicted. Leaving out the agent – as in (3) – clearly lacks relevant evidence as to who is responsible for the said action and thus does not provide the reader with all necessary information. According to Chilton, "a missing by-phrase in English passive constructions might be seen as an ideological means for concealing or 'mystifying' reference to an agent" (Chilton, 2008 as qtd. in Wodak & Meyer, 2013: 7). Similarly, Danler points out that a specific structural or discursive strategy reflects a choice on behalf of the writer or speaker, thus never allowing language to be neutral or objective (Danler, 2005: 46). Whether made consciously or subconsciously, this choice has its consequences. Any grammatical construction may have its effects on how an event or a scene is being construed and eventually perceived by the reader and listener. Due to limitations of space only a selection of

the most noteworthy constructions and their construal as well as potential ideological qualities will be discussed in this paper, i.e. the use of transactive constructions – or so-called action chains – and their profiling tendencies, schematisation via the use of abstract nouns in subject position as well as adjustments of the scope of attention due to the use of present participle forms. All of these instances will be presented in more detail in chapter four below.

3. Data

The present study was conducted qualitatively on the basis of a 14,848-word sample corpus consisting of a total of 12 international news reports published online on 25th and 26th January 2011 as immediate responses to the Egyptian protests. In early 2011, Egypt bore witness to one of the largest revolutionary movements in the country's history. What had begun in Tunisia in late 2010 as the so-called "Jasmine Revolution" soon reached Egypt and subsequently other countries in the region, a phenomenon which was later termed "Arab Spring" in international media and politics. On that specific day in January – retrospectively known as the "January 25 Revolution" –, thousands of Egyptians took to the streets to protest against the corrupt regime of former president Hosni Mubarak. The events caused an almost unprecedented amount of attention on a large variety of global media platforms (cf. Mason, 2013).

In order to enable a balanced data sample, the articles were collected from a variety of media organisations from the USA, the UK and the Middle East and North Africa (henceforth MENA) representing diverging regional and political affiliations. The sources are as follows: the British *Guardian* and *Telegraph*, the American *New York Times* and *Fox News* as well as the Qatari news channel *Al Jazeera* and the Egyptian *Al Ahram*[1]. From each news site, two articles were chosen, one from each day.

4. Analysis: Construing the Egyptian Revolution

4.1. Action Chains and Ascription of Agency

Action chains or transactive constructions are typically finite clauses "describing an action performed by an agent on some affected thing" (Goatly, 2007: 284). This definition is vital in that it essentially distinguishes transactive structures from transitive ones, which are simply not always actional (Hodge & Kress, 1979: 8). The prototypical transactive construction or action chain, as Langacker calls it, represents a flow or transmission of energy from one participant – the agent or instrument – of an event along an action chain to another participant – the patient (Langacker, 2000: 30). Similarly, CDA also distinguishes between transactive and non-transactive actions, the first "involving two participants, so that the action is represented as actually having an effect on people or things" and the latter "not affect[ing] anyone or anything other than the actor him- or herself" (Wodak & Meyer, 2013: 155).

[1] *The Guardian* and *The New York Times* are considered liberal papers while *The Telegraph* and *Fox News* are known as taking a more conservative stance. The concept of political affiliation is difficult to apply identically to *Al Jazeera* and *Al Ahram.* Nevertheless, contrasting both *Jazeera* and *Ahram*, it can be said that, as one of the leading international news channels, the former may still to a certain degree be considered more liberal-oriented, whereas the latter – especially in the context of the Egyptian revolutions – could be expected to represent a more conservative view on the events.

Transactive constructions can be either asymmetrical or reciprocal leading to different participants of an action being focused or profiled (cf. Hart, 2013). The differences are illustrated in figures 1 and 2 below. While in figures 1a. and 1b., the action is clearly unidirectional, i.e. performed by an agent on a patient as in examples (1) and (2), figure 2 illustrates instances in which both participants are seemingly equally involved and responsible for said actions.

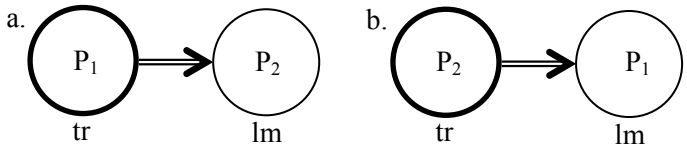


Figure 1: Trajector/landmark alignment in asymmetrical constructions (adapted from Langacker, 2008: 115)[2]

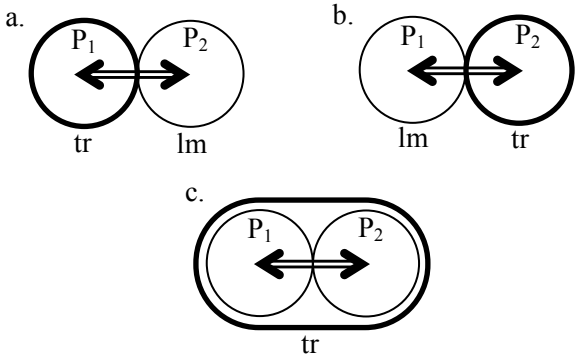


Figure 2: Trajector/landmark alignment in asymmetrical (a. and b.) and symmetrical reciprocal (c.) constructions (adapted from Langacker, 2008: 115)

However, via closer inspection, it becomes obvious that even within a reciprocal construction, asymmetrical profiling may take place. Example (4) shall further illustrate this. Due to the topicalisation of the protesters (instead of the police), these participants are put more strongly into focus and thus profiled. Even if both parties seem equally involved in the action, the author has a choice as to which participant s/he presents first. It is likely that this topicalisation of protesters shall indicate more involvement by the protesters.

(4) *Egypt protesters* clash with police (*Jazeera*, 25 Jan.)

In the context of Langacker's CG, the asymmetrical profiling in example (4) can also be described in terms of trajector/landmark alignment. One participant is put into focus (tr) and is viewed relative to another (lm). In this sense it is indeed crucial, which participant is chosen as trajector since it is the action of this particular participant that is being accentuated (Langacker, 2008: 115). The trajector – the protesters in (4) – inevitably becomes the participant from which the force is exerted. Consequently, it does make a difference if a text reads *Egypt protesters clash with police* or *police clash with Egypt protesters*. This difference is illustrated schematically in figures 2a. and 2b. Finally, a construction may also be truly reciprocal as can be seen in illustration 2c.. An example of such an alignment, i.e. type of profiling is presented in (5).

[2] The abbreviations P_1 and P_2 simply stand for Participant 1 and Participant 2. There are no specific roles assigned to participants at this point, since this is a general schematic illustration and, depending on the example, those roles may shift from protesters to police and vice versa.

(5) […] as *both sides* pelted each other with rocks (*Fox*, 26 Jan.)

In such a case, the action in which both parties are involved is profiled symmetrically. According to Langacker, "trajector status is not conferred on either one individually, but rather on the group comprising them. This group […] is the only focal participant in the profiled relationship" (2008: 115).

All of this is relevant in the current context specifically because the study is interested in identifying different types of profiling and their respective frequencies in the corpus. In other words, which participant is profiled as the agent of an action-chain event and how often this occurs relative to another participant are in focus.

To conduct this analysis, focus has been laid specifically on identifying all transactive constructions depicting actions performed by one protest participant on another[3]. Altogether, transactive constructions can be encountered in all news sources in the corpus (see table 1 for exact numbers). However, the Egyptian *Al Ahram* tends to stand out with a relatively small number of action-chain schemas compared to the others. This point will be addressed in more detail in the context of schematisation in section 3.2.

Ahram	***Jazeera***	***Guardian***	***Telegraph***	***New York Times***	***Fox News***
3	12	16	15	25	23

Table 1: Numbers of action chains

Investigating the action-chain schemas in more detail, what stands out is the predominant use of asymmetrical transactive constructions profiling the police as agents (79%). Some of these ascriptions are, in fact, quite explicit and do not embellish actions on behalf of police officers in the slightest as can be seen in example (6).

(6) […] *officers* set upon fleeing protesters, beating them with bamboo staves. (*Times*, 26 Jan.)

(7) *Protesters* […] were pelting police officers with stones (*Jazeera*, 26 Jan.)

In comparison, asymmetrical structures profiling protesters (see (7) for an example) are relatively rare (12%). Looking at the numbers of reciprocal constructions – which make up 10% of all action chains – more closely, though, protesters turn out to be profiled more often than the police. Here, protesters can be identified as agents in 7 out of 9 cases, whereas the police are profiled only once (see examples (8) and (9) as well as (4)).

(8) There have been a few clashes between *protestors* and riot police (*Ahram*, 25 Jan.)

(9) […] violent early morning confrontation between *security forces* and protesters (*Jazeera*, 26 Jan.)

Furthermore, as has already been illustrated above by example (5), a truly balanced reciprocal construction symmetrically profiling both entities can also only be found occurring once. Altogether, however, the profiling of the police as agents of forceful and violent acts clearly prevails. (See figure 3 for a more detailed overview of the distribution of all different action chain types).

[3] For now, non-transactive actions as well as cases of actions performed against objects or instances of symbolic violence have been disregarded.

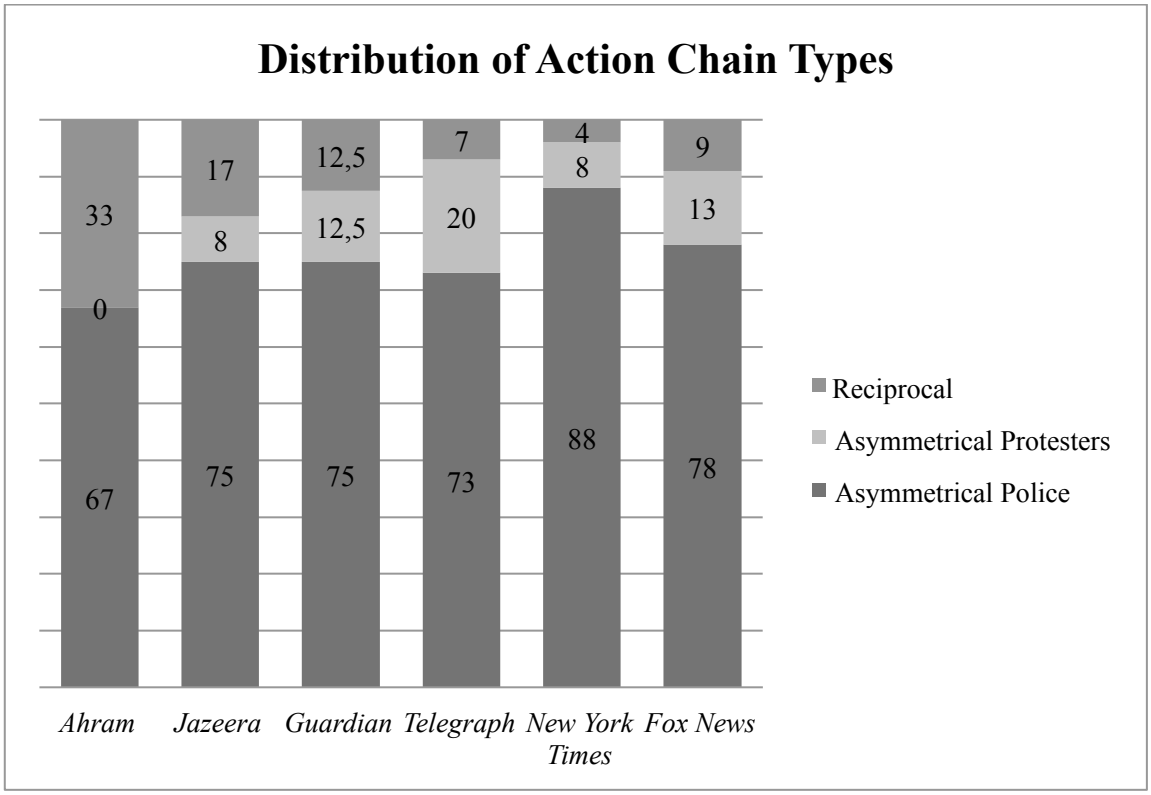


Figure 3: Distribution of action chain types (numbers in per cent)[4]

In contrast to the use of transactive constructions the depiction of actions as motion events (see (10) and (11)) is relatively rare. Hart[5] has previously identified the construing of an action as a motion rather than a transactive event as having a potential ideological character since "there is no transmission of energy between entities but rather a motion path of one entity (the 'trajector') is delineated relative to another entity (the 'landmark')." (2013: 410). He states further that "[t]he construal invoked of the event as a motion event rather than a transactive event is the kind of conceptual process involved in realising framing strategies of euphemisation" (ibid).

(10) A large security forces *moved in* [on a sit-in] around 1 a.m. (*Fox*, 25 Jan.)

(11) […] the government *moved* to isolate them [protesters] (*Guardian*, 26 Jan.)

However, the use of such motion patterns (x9) is clearly underrepresented in this corpus when compared to transactive constructions (x94). In the current context then, this construal may possess a reversed ideological quality in that it specifically does not attempt to alleviate any of the directness of performed actions and even exerted violence but lays bare the rawness of the events. Thus, the events tend to be delegitimised rather than euphemised.

[4] *Fox News* (25 Jan.) once presents an instrument ("police vehicles") as agent. Since the action is nevertheless clearly attributable to the police, the construction is included here.

[5] Hart (2013) conducted a study of British news reports on student fee protests in the UK. His results regarding the use of motion events relative to action chains paint a similar picture, showing that, for instance, *The Guardian* construes actions with police involved as agents as motion events in only 3 out of 14 cases compared to transactive constructions.

Finally, it may be noted that agentless passive constructions (23%) are relatively rare and that a clear assigning of agency prevails in all sources (77%).

4.2. Schematisation

The current corpus also uncovers that the events tend to be schematised to a certain extent. By means of schematisation an event or process is likely to be abstracted away from its usual complexity. An abstract noun is found in subject position of an active clause. The construction thus disregards any real processes underlying an event. Viewed against the backdrop of Halliday's functional grammar, this might also be seen as an instance of an ideational metaphor by which a process is eventually presented as if it were an entity (Halliday & Matthiessen, 2004: 636f.).

In the context of political protest, Hart describes such schematisation as an attempt "to reduce protests to a spectacle" and thus having a delegitimising effect (Hart, 2013: 416). Representative examples can be viewed in (12) and (13).

(12) […] the protest *turned violent* (*Telegraph*, 25 Jan.)

(13) […] the occasional protest *escalated* (*Ahram*, 26 Jan.)

Individual actions involved in the process of demonstrating are "represented as an event, as something that 'just happens' without anybody doing it", a phenomenon also referred to as "eventuation" by Wodak and Meyer (2013: 157). It may be noted that the Egyptian source *Al Ahram* stands out regarding its use of such schematising and eventuating constructions. At the same time, as has already been mentioned above, *Ahram* presents a noticeably smaller number of transactive constructions assigning specific actions to participants. The level of specificity when it comes to depicting the events is thus considerably lower and less fine-grained than in the other articles. This may or may not be related to the fact that *Ahram* is a state-owned media organisation. However, quotes such as the one in (14) may indicate a certain tendency towards embellishing the events and legitimising the government.

(14) The state of Egypt has for quite a while now stopped using repression as a way to deal with protests and political activities, which opened the door for more participation and freedom of expression. (*Ahram*, 26 Jan.)

4.3. Scope

Another means of focusing is the adjusting of scope of attention or viewing frame in which an event is observed. Aspects or elements of an event are selected for specific inspection. Langacker states that this selection has a cognitive basis, i.e. we literally have a restricted viewing frame and "only a portion of our spatial surroundings falls within the scope of vision" (2013: 62). The same is true for our understanding of discourse and linguistic expressions. We can choose how much we want to present and which aspects we want to put focus on. Scope can therefore also be arranged in terms of foreground and background. If only a limited extent of coverage is provided by the author, it is this specific piece of information only which is put at the centre of attention. This limited viewing attention would then be referred to as immediate scope (as opposed to maximal scope). In terms of linguistic expressions, scope may be narrowed or broadened. The difference between the two concepts can be observed in examples (15) and (16).

(15) The demonstrators were given a chance to express their demands and raise their banners for long hours, continuing until dusk when *some hooligans became violent* and were rightly stopped in their tracks […] (*Ahram*, 26 Jan.)

(16) But as crowds filled Tahrir Square […] *security personnel changed tactics and the protest turned violent*. (*Fox*, 25 Jan.)

In (15) we can see an example of a noticeably narrow scope. Protesters – here referred to as *hooligans* – are being described as turning violent. There is no further explanation as to what caused this to happen. In comparison, example (16) – which also mentions the protest turning violent – does provide additional information about relevant actions that occurred prior to this, i.e. security officers changing tactics, and may explain why the situation changed. It is, of course, up to the author to include possible precursors in such a change of events or, similarly, to mention or leave out possible effects of an action. Viewed from a pragmatic perspective, it may also be noted that the narrow scope observed in (15) goes hand in hand with the notions of existential presupposition and implicit meaning (Verschueren, 1999: 27, 156, 246-247). The referenced *hooligans* are given as presupposed. The phrasing also suggests that these *hooligans* are part of the protesting group. Without any further elaboration regarding this term, the reader is thus lead to conceptualise demonstrators in general as hooligans.

Furthermore, including previous events or possible effects and thereby extending the scope can potentially be seen as a means of legitimising actions. At the same time, a narrow scope can lead to an action being perceived as seemingly unjustified and thus even more extreme. Giving no reason for protesters to turn violent makes them appear reckless and unnecessarily aggressive. Another example – found in the same article by *Fox News* – illustrates how the protests in Egypt are presented more as an inevitable reaction to what had previously happened in Tunisia: *Tunisia's popular uprising [...] appears to have pushed young Egyptians into the streets, many for the first time*. Even more so, the uprising in Tunisia is used as an active agent of the action verb *push*, assigning even more responsibility to this event. Here, this can truly be read as an attempt to legitimise people's behaviour in Egypt by broadening the scope. This impression is further emphasised by the adding of *many for the first time*. It reads as if these people had never before protested and maybe, if it had not been for the events in Tunisia, would otherwise have never taken to the streets. May the scope be narrow or broad, how specifically an event is depicted can certainly influence readers' perception of a situation in any possible direction and thus assumes – especially in the media – an ideological quality.

Another grammatical feature that stands out is the frequent use of the present participle. In the first article published by *Fox News* on 25th January, for instance, in only four short paragraphs with a total of 160 words, there are altogether 8 instances of actions being described using the present participle as can be seen in (17) and (18).

(17) a. waves of protesters filled Cairo's central Tahrir…

[…] *hurling* rocks
[…] *climbing* atop armored police trucks

b. thousands of demonstrators stood their ground…
[…] *blocking* the streets
[…] *setting* the stage for even more dramatic confrontations

(18) a. A large security force moved in…

[…] *arresting* people
[…] *chasing* others
[…] *filling* the square with clouds of tear gas

b. Some 20 officers were seen…
[…] brutally *beating* one protester with truncheons

A similar example is (19), taken from the same article:

(19) Protesters emerged *stumbling* amid clouds of acrid tear gas, *coughing* and *covering* their faces with scarves. Some had blood *streaming* down their faces. One man fainted. Police dragged some away and clubbed a journalist, *smashing* her glasses and *seizing* her camera. (*Fox*, 25 Jan.; emphasis added)

With regard to the use of present participle forms, Langacker states that "in CG terms, *–ing* imposes a limited immediate scope (IS) in the temporal domain […]" (Langacker, 2008: 120; emphasis in original). Only a small proportion of the described scene – i.e. that which is explicitly encoded in the participle form – is thus put into focus and profiled, while any other content fades into the background. In other words, the present participle or the progressive tends to only highlight specific aspects or facets of an event (Bergen, 2012: 115), as can be observed in figure 4.

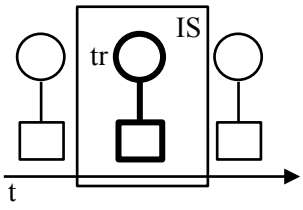


Figure 4: Immediate scope of the present participle (adapted from Langacker, 2008: 121)

The use of the present participle also invokes a special kind of viewing arrangement, namely that of summary instead of sequential scanning (see figure 5). Reading a paragraph or passage with as many instances of participles as illustrated in (17), (18) and (19), for instance, evokes summary scanning of the event(s). Via simultaneous activation, summary scanning imposes on the reader the impression as if all individual states of the process were occurring at once, thus creating one single holistic entity or, to use Langacker's words, "a single gestalt" (2008: 111).

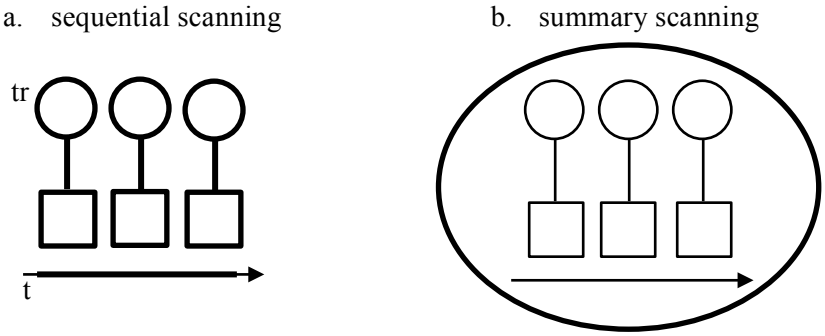


Figure 5: Different types of mental scanning (adapted from Langacker 2008: 119)

Especially in relation with action verbs, some of which describe forms of extreme violence, this construal can have powerful effects on the reader. If we then also consider studies conducted by cognitive scientists such as Bergen (2012) which indicate that we simulate a lot of what we hear or read mentally with our sensor-motor system, the invoked perception of so many unpleasant actions happening at the same time may easily overwhelm and discomfort the reader when processing the information. In a CDA context, this technique, again, appears to put special prominence not only on these specific proportions of an overall event, but also on the trajector, i.e. the agent who is responsible for said actions.

5. Conclusion and Outlook

Altogether, what can be observed based on the present corpus is a type of press coverage that, with only very few exceptions, creates a distinct and explicit representation of the events, while concealing neither details nor responsibility. In the majority of cases depicting interactions between protesters and the police, there is a frequent and clear ascription of agency, presenting a high number of action chains illustrating asymmetrical profiling on behalf of the police. Moreover, differences between sources are almost non-existent, regardless of region or political affiliation. With their explicit depiction of violence, especially on the part of the police, they all tend to delegitimise the said actions. Only *Al Ahram* stands out in this context, showing a more abstract and schematic portrayal and in effect seemingly downplaying the events. Lastly, a relatively high use of present participle or progressive forms can be observed with regard to different adjustments of scope and viewing arrangement, essentially causing the focusing on selected facets only.

Finally, it is important to note that this paper does not aim at providing a full analysis of press language on the events in Egypt, but instead serves to offer initial insights into selected cognitive aspects in discourse surrounding it. Further research is intended to extend this qualitative method to a more quantitative approach and test hypotheses gained from this sample study against a larger tailor-made corpus comprising 10.5 million words of news coverage on the Arab revolutions by using corpus processing tools. The goal is to enable a methodology as unbiased and automatised as possible while still performing a critical analysis of language, i.e. a study in which "the possibility of striking a balance where the corpus data itself is used in the framework of total accountability, but the detailed analysis is reserved for a subset of the data, once those hypotheses that are testable in practical terms on the whole corpus have been tested (KhosraviNik, 2009)." (McEnery & Hardie, 2012: 18).

References

BERGEN, B. 2012. *Louder Than Words: The New Science of How the Mind Makes Meaning*. New York: Basic Books.

BERGEN, B., N. CHANG & S. NARAYAN. 2004. Simulated Action in an Embodied Construction Grammar. *Proceedings of the Twenty-Sixth Annual Conference of the Cognitive Science Society*: 108-113.

CHARTERIS-BLACK, J. 2004. *Corpus Approaches to Critical Metaphor Analysis*. Basingstoke: Palgrave Macmillan.

CHARTERIS-BLACK, J. 2006. Britain as a container: Immigration metaphors in the 2005 election campaign. *Discourse & Society* 17 (6): 563-82.

CHILTON, P. 2005. Missing links in mainstream CDA: Modules, blends and the critical instinct. In R. Wodak and P. Chilton, eds. *A New Agenda in (Critical) Discourse*

Analysis: Theory, Methodology and Interdisciplinarity. Amsterdam: John Benjamins. pp. 19-52.

DANLER, P. 2005. Morpho-syntactic and textual realizations as deliberate pragmatic argumentative linguistic tools? In L. de Saussure and P. Schulz, eds. *Manipulation and Ideologies in the Twentieth Century: Discourse, language, mind*. Amsterdam: John Benjamins. pp. 46-60.

FAUCONNIER, G. AND M. TURNER. 2002. *The Way We Think*. New York: Basic Books.

GOATLY, A. (2007): *Washing the Brain: Metaphor and Hidden Ideology*. Amsterdam: John Benjamins.

HALLIDAY, M.A.K. AND C. MATTHIESSEN. 2004. *An Introduction to Functional Grammar*. 3rd ed. London: Arnold.

HART, C. 2011. Moving beyond Metaphor in the Cognitive Linguistic Approach to CDA: Construal Operations in Immigration Discourse. In C. Hart, ed. *Critical Discourse Studies in Context and Cognition*. Amsterdam: John Benjamins. pp.71-92.

HART, C. 2013. Event-construal in press reports of violence in two recent political protests: A cognitive linguistic approach to CDA. *Journal of Language and Politics* 12 (3): 400-423.

KHOSRAVINIK M. 2009. The representation of refugees, asylum seekers and immigrants in British newspapers during the Balkan conflict (1999) and the British general election (2005). *Discourse & Society* 20(4), 477-498.

KOLLER, V. 2005. Critical discourse analysis and social cognition: Evidence from business media discourse. *Discourse & Society* 16 (2): 199-224.

KRESS, G. AND R. HODGE. 1979. *Language as Ideology*. London: Routledge & Kegan Paul.

LANGACKER, R. 2000. *Grammar and Conceptualization*. Berlin: Mouton de Gruyter.

LANGACKER, R. 2008. *Cognitive Grammar: A Basic Introduction*. Oxford: Oxford UP.

LANGACKER, R. 2011. Culture, Cognition and Lexical Meaning. In K. Turewicz, ed. *Cognitive Methodologies for Culture-Language Interface: from Lexical Category to Stereotype through Lady Macbeth Speech*. Wydawnictwo Akademii Humanistyczno-Ekonomicznej. pp. 11-33.

LANGACKER, R. 2013. *Essentials of Cognitive Grammar*. Oxford: Oxford UP.

MASON, P. (2013): *Why it's Still Kicking off Everywhere: The New Global Revolutions*. 2nd ed. London: Verso.

MCENERY, T. AND A. HARDIE. 2012. *Corpus Linguistics: Method, Theory and Practice*. Cambridge: Cambridge UP.

TALMY, L. 2000. *Toward a Cognitive Semantics*. Cambridge, MA: MIT Press.

VERSCHUEREN, J. 1999. *Understanding Pragmatics*. London: Arnold.

WODAK, R. AND M. MEYER, eds. 2013. *Methods of Critical Discourse Analysis*. 2nd ed. London: Sage.

Stefanie Ullmann
Doctoral candidate
Institut für Anglistik und Amerikanistik
Moderne englische Sprachwissenschaft
Philipps-Universität Marburg
Marburg
Germany
Email: ullmann@uni-marburg.de

THIS REVOLUTIONARY SITUATION HAS BEEN BREWING FOR A LONG TIME: METAPHORS IN THE POLITICAL SPEECHES ABOUT THE UKRANIAN CRISIS

MARIA VASILAKI

King's College London

Abstract

This paper addresses the power of metaphor in the description and construction of a critical political situation, by focusing on the use of metaphor in the speeches of politicians on the issue of the 2014 Ukrainian crisis. Through qualitative and quantitative analysis of 16 speeches by four politicians central to the dispute, I find and analyse the most prevalent metaphors in the dataset and the effect of their use. I am also looking at how a leader's political orientation influences their use of metaphor. The analysis confirms that metaphors that are considered typical in political discourse, such as journey, family, construction/destruction and war metaphors are also of critical importance here. Moreover, I concluded that politicians with the same interests in this situation, (Obama, Cameron and Yatsenyk), use metaphors in a similar (although not identical way), while Putin, who has opposing interests, constructs a different reality through the same metaphors.

1. Introduction

Since early 2014, the world has been preoccupied with the crisis that besets the Ukrainian society. What started as an internal conflict gradually evolved to an international dispute between the EU and the US on the one hand and Russia on the other. A division between Russian-friendly east and European-friendly west has long been present in Ukraine, and now the different parts of the country actually picked sides, with the East clearly expressing its pro-Russian disposition, finally leading to the annexation of Crimea and Sevastopol to Russia.

The Ukrainian crisis has been characterised by the media as the cause of a "New Cold War". Although Barack Obama claimed he rejects Cold War rhetoric, in the very same speech he used the phrase "Iron Curtain", an entrenched metaphor for referring to the Cold-War era. He also presented Russia as "running roughshod over its neighbours", evoking an image of a wild horse, destroying everything while passing. Metaphors have been used in political rhetoric since ancient times, to influence the audience, justify political actions and guide towards a certain world-view (Ricoeur, 1977).

This paper means to examine how the power of metaphors is exploited in political speeches about the Ukrainian situation, focusing on the four leaders central to the dispute: Barack Obama, David Cameron, Vladimir Putin and Arseniy Yatsenyuk, the new Ukrainian prime minister. In the first section, I present the theoretical background on which my subsequent analysis is based, namely critical metaphor analysis (thereafter CMA). I also provide a brief overview of the crisis's socio-political background. The second part contains the actual analysis. I set out to spot and analyse the most prevalent metaphors in the dataset, presenting their most important elements and explaining how they guide towards a particular representation of reality. Furthermore, I consider how the use of the same metaphors can construct a different version of the state of affairs, according to the purposes of the speakers,

Proceedings of the second Postgraduate and Academic Researchers in Linguistics at York (**PARLAY 2014**) conference
© The Author, 2015 ISSN 1758-0315 Issue 2

providing examples from all four politicians. Finally, I present the conclusions drawn from my analysis and certain final remarks.

2. Theoretical Background

2.1 Metaphor: definition, traits, purposes.

Metaphor is defined by Charteris-Black (2004: 21) as "a linguistic representation that results from the shift in the use of a word or phrase from the context or domain where it is expected to occur, thereby causing semantic tension. It potentially has linguistic, pragmatic and cognitive characteristics". This definition classifies metaphor mainly as a linguistic phenomenon. However, it is acknowledged that there is a conceptual background, supporting the metaphorical patterns we come across in texts. Lakoff and Johnson, in their seminal work *Metaphors we live by* (1980), argued that we understand abstract concepts by mapping them to more concrete elements of the world surrounding us, that are familiar and intelligible. Therefore, the domain on which we draw from to understand an unfamiliar concept is called the source domain, while the domain which is understood in terms of another, simpler one, is the target domain (Panaretou, 2011).

According to Semino (2008), the underlying conceptual metaphors account for ideologies, while the metaphorical linguistic expressions are traces of a certain discourse. Discourses are shaped by latent ideologies, while in turn shaping them. Thus, linguistic and conceptual metaphors are inextricably interwoven.

An important trait of metaphor is that it is not immanent in the words themselves. Therefore, any word can function as a metaphor, depending on the context in which it appears (Charteris-Black, 2005). Moreover, metaphors can be constructive. Various elements of a source domain can be mapped into the target domain, and a metaphorical schema can be expanded or modified as necessary (Musolff, 2012).

The ease with which metaphors can be moulded to serve the speaker's purposes has made them an indispensable weapon in the array of politicians. According to Jonhson and Jonhson (2000: 293) political discourse is "the formal exchange of reasoned views as to which of several alternative courses of action should be taken to resolve a societal problem". As it is evident from this definition, each politician wishes not only to present his/her proposed course of action as legitimate and reasonable, but also to ensure that his/her strategy is eventually adopted. Metaphor is a convenient way to achieve both goals. This is due to the fact that a metaphor can provide a more graspable, if not simplified view of politics. Political situations are very complex, their causes are deep and various actors play a significant, and often unclear, role in their development. Talking about politics in metaphorical terms reduces this intricate, interconnected system to a simple cause-effect relationship. Thus, understanding and decision-making is facilitated, and the true dimensions of the problem are obscured (Charteris-Black, 2005).

Linked to this function of metaphor is its potential to frame certain issues in a way convenient for politicians. Every time an element of a source domain is linked to an element of a target domain, a particular relationship is highlighted, while other potential mappings are back-grounded. Metaphor presents reality in a particular way, which implies a given world view, facilitates certain inferences and foregrounds specific elements of the circumstances at hand (Semino, 2008). Therefore, it directs towards one train of thought, hiding alternative, potentially threatening, but equally true, representations of the same topic.

The significance of metaphor lies in that it affects both the conscious and the subconscious. Therefore, it can help to build a political myth. Through metaphor, voters form long-term mental representations regarding critical socio-political affairs, which in turn affect the way they perceive similar affairs in the future, and their subsequent actions (Musolff, 2012). Hence, metaphor achieves its ultimate purpose, which is to legitimise desired courses of action and to "condemn" undesired suggestions or political enemies.

2.2 Critical Metaphor Analysis

CMA is a framework developed by Charteris-Black (2014), to examine metaphor from a critical perspective. CMA, which regards metaphors as an integral part of CDA, aims to identify the metaphors chosen in persuasive genres (such as political speeches), to explain the reasons behind this choice and to reveal the contribution of metaphor in the construction of political myths and justification of policies (Charteris-Black, 2014).

The methodology of CMA is a four-staged process. Firstly, research questions should be formed about how metaphors are employed in a particular sociopolitical situation.

During the second stage, metaphors in the dataset are identified and categorised. According to the Pragglejaz group (2007), words counting as metaphors have:

1. a more basic sense

2. an older sense

3. a sense that is related to bodily action.

Thus, to decide whether a word is actually a metaphor, an analyst can consult a general corpus of a particular language and a dictionary.

In the third stage the analyst engages in the examination and explanation of metaphors. Here, a choice should be made between a classification based on the source-domain (overarching categories of metaphors are formed based on the literal meaning of the metaphorical words) or on the target-domain (metaphors are categorised according to the issue they represent). Then, the analyst unearths the assessments and views conveyed via the metaphors. This leads to the last stage, including final judgements about the purpose of the metaphors, in relation to the wider socio-political context and the motives of the speaker (Charteris-Black, 2014).

2.3 Political Background

In late 2013, anti-government protests started in Ukraine, stemming from President Yanukovych’s refusal to sign an agreement facilitating trade between Ukraine and the EU. Gradually the protests grew larger and the protestors' background became more diverse. The President had to flee after growing pressure from the protestors and a new temporary government took over. The new government announced certain extreme measures, including banishing the languages of the minorities in Ukraine. Under the excuse of protecting the Russians living in Ukraine, the Russian army invaded Crimea, an area among those friendly to Russia. This move caused major disagreements between President Putin on the one hand, and President Obama and EU leaders on the other, leading to sanctions against Russia.

On the 16th of March, a referendum was held in Crimea. According to the official results, 96.77 per cent of the voters wanted Crimea and Sevastopol to become Russian territories. The

next day Vladimir Putin acknowledged the annexation of the aforementioned areas to Russia (Walker & Traynor, 2014).

3. Data Collection and Methodology

The data for this paper consist of political speeches from Obama, Cameron (as a representative voice of the EU), Putin and Yatsenyuk. Obama's and Cameron's speeches were delivered in English, while Putin and Yatsenyuk delivered their speeches in Russian and Ukrainian respectively, therefore translations were used. In total, 16 speeches were closely examined for metaphors. The time span in which the speeches were delivered extends from the 28th of February, when former Ukrainian President Yanukovych fled from the country, to the 18th of March, slightly after Putin recognised Crimea and Sevastopol as Russian territories. I chose to focus on this time period because the developments were rather intense and rapid, and the situation moved from initial warnings towards Russia to a more hostile rhetoric by all parts.

The data were collected from the official websites of the four governments and only the parts that were relevant to Ukraine were examined. I analysed three speeches by Obama, five by Cameron (including one G7 statement), five by Yatsenyuk and three by Putin. This uneven distribution is due to the fact that, in the case of Cameron and Yatsenyuk, certain speeches were shorter. As this could affect the representativeness of the sample, more speeches had to be included from these politicians. However, certain speeches, especially by Putin, were still remarkably longer than the others and this should be taken into account.

Regarding my methodology, I performed both a qualitative and a quantitative analysis. Firstly, I identified all metaphors in the dataset, following the CMA methodology mentioned in the previous section. The identification of metaphors was done with a qualitative close analysis of the dataset. In cases of uncertainty on whether a word functioned as a metaphor in the discourse, I consulted both the Oxford Dictionary and the BNC corpus, as suggested by Charteris-Black (2014). I categorised the metaphors according to their source domain, since the target domain was in essence the same issue (different aspects of the Ukrainian situation).

Subsequently, an analysis on the purpose of each overarching metaphor and its instantiations was performed. Due to length restrictions, only examples of the four more prevalent metaphorical schemata in the dataset are included in the subsequent analysis. However, these four schemata account for 55,4% of the total metaphors found in the data.

Regarding the quantitative part, the instances of each metaphorical schema found in the data were counted, both in the rhetoric of each politician and as a total, so as to identify the most prevalent metaphors. Subsequently, the percentage that each metaphor represents compared to the total of metaphors in the data was calculated. This allowed for comparisons and facilitated the analysis. The results are presented in Table 1, in the following section. Metaphors with three or less instantiations in the dataset are collectively categorised under the label "Other" (except for the strict father metaphor-3 instantiations-that belongs to the broader metaphor "family").

4. Analysis

	Obama	Cameron	Putin	Yatsenyuk	Total	**%**
Journey	21	15	19	5	60	**17**
Construction/ Creation	8	5	13	13	39	**11**
Destruction	1	5	8	6	20	**5,7**
Nurturing Father	8	6	17	4	35	**10**
Strict father	0	0	2	1	3	**0,9**
Family (general)	0	0	7	3	10	**2,8**
War	6	3	13	6	28	**8**
Relationships	3	2	12	9	26	**7,4**
Link schema	5	2	8	1	15	**4,3**
Up and Down	6	8	0	1	15	**4,3**
Neighbourhood	0	3	8	2	13	**3,7**
Container	4	0	8	3	14	**4**
Arguments	2	3	4	2	11	**3,1**
Health and disease	0	0	4	2	6	**1,7**
Theatre	0	2	3	1	6	**1,7**
Sports	1	2	1	1	5	**1,4**
House	0	0	4	1	5	**1,4**
Ecomonics/ Finance	3	1	1	0	5	**1,4**
Cleaning	0	2	2	0	4	**1,1**
Engineering/Mechanics	1	1	1	1	4	**1,1**
Other (including categories such as seasons, crime, slavery, bad weather, animals, agriculture e.t.c)					28	**8**
TOTAL					352	**100**

Table 1: List of metaphors found in the dataset

*Note: Metaphorical schemata belonging to the same overarching category are marked with the same colour.

4.1 Journey Metaphors

As can be seen from the above table, journey metaphors are the most common category in the dataset, as 60 instances were found. Obama makes use of journey metaphors (21 instances) most often, closely followed by Putin (19 instances) and Cameron (15 instances). This indicates the importance of journey metaphors for western, as well as Russian rhetoric, already identified by Charteris-Black (2004) and Koteyko & Ryazanova-Clarke (2009) respectively. Journey metaphors are based on the prototypical path schema, which includes a starting point, a finishing point, the direction of movement and the road connecting the end and the beginning. Politics, as a typical purposeful activity, is often presented in terms of journeys. The current situation is usually the start, the desired political goal is the destination, the intermediate goals that should be achieved are the steps to be taken, while the desired direction is always forward (Semino, 2008). The broad real-world knowledge that we have about experiences related to journeys, allow for the journey metaphor to be extended and exploited, so as to include various elements that suit the rhetoric of each politician (Charteris-Black, 2005)

4.1.1 Obama and Journey metaphors

(1) And so Secretary Kerry [...] has offered to *try to explore* [..] a diplomatic solution to this crisis. We are in close communication with the Ukrainian government in terms of how we might proceed *going forward.* But we will continue to say to the Russian government that if it continues *on the path that it is on* [..] we will be forced to apply a cost to Russia's violations of international law [...] There's *another path available*, and we hope that President Putin is willing to *seize that path (*17/3/2014)

This whole passage is built on an extended journey metaphor, and shows how journey metaphors can be expanded to accommodate different elements from our experience with travelling. Initially, the US secretary is presented as an explorer, a traveller determined to examine an uncharted territory, the diplomatic solution to the tension with Russia. Through the positive values that an exploration is usually associated with (courage, strength, innovation, will-power), the US is constructed as a moral and ethical leader, who is willing to find solutions which do not involve extreme actions. Obama's expression "going forward" reflects the underlying metaphor of the desired course of a journey. The progress ahead is necessary in a journey, since only in this fashion the destination can be reached. Agreement in the Ukrainian situation is the implied goal here, which is shared by Ukraine and its Western partners. Russia's unwillingness to cooperate is presented as an obstacle, hindering the progress. Problems are often presented as obstacles in the journey schema (Charteris-Black, 2014).

It is suggested that Russia's military presence in Crimea is the wrong road, and political consent is the alternative path. The fact that the right way is the one suggested by the US triggers knowledge of the role of guides in journeys, allowing positive evaluations. The choice that Russia has to make evokes a part of the journey metaphor, presenting important decisions as cross-roads, where only one road is right and should be followed. This image is first found in ancient myths, as the one with Hercules and the roads of vice and virtue. It is a common experience in journeys to stray from the correct path. However, if one advertently chooses the wrong direction, although the right way is indicated to them, the destination will not be reached and negative experiences are sure to follow. In the case of Russia, these will be the sanctions proposed by the Western partners. A similar metaphor is used by Cameron,

who mentions that Russia can *choose the path* of de-escalation, implying that de-escalation is the desired outcome and Russia should move towards this destination.

4.1.2 Cameron and journey metaphors

(2) It is essential to stop Russia *taking further unacceptable steps* in Ukraine (10/3/2014)

Russia here is personified as a traveller, and its actions in Ukraine, in this case inciting Crimea to hold a referendum, are the steps towards the destination, the annexation of Crimea to Russia. The Russian government is presented as gradually but purposefully taking a series of initiatives that are against Ukrainian interests, like taking one step after another. This representation of journeys implies that not all journeys are a positive experience, and that there are some destinations that would better not be reached, because getting there would be catastrophic. The EU is presented by Cameron as a force, capable of halting Russia's movement forward, by taking strict measures.

4.1.3 Yatsenyuk and journey metaphors

(3) We have to [..] take *immediate, rapid and effective* steps to ensure [...] real changes in Ukraine (5/3/2014)

The new government is depicted as willing to pursue further actions, so as to ensure reforms in Ukraine. Changes are the goal of the journey and the government is moving towards this direction. Unlike the previous (similar) example, this is a positive journey. It is implied that, as in journeys, which are usually long and tiring, achieving the changes will probably be a staged and laborious process. However, the outcome is worth waiting for, just as reaching one's destination is rewarding. Here agency is on the Ukrainian government itself, whereas in the previous case the EU was presented as acting on behalf of Ukraine. In Cameron's case, what is evoked is an image of Ukraine as a child that needs to be cared for (as will be illustrated in section 4.3), whereas in the second Ukraine is capable of making its own decisions. The three-part list of pre-modifiers intensifies the Ukrainian government's image of decisiveness.

4.1.4 Putin and journey metaphors

(4) After a long, hard and exhausting voyage, Crimea and Sevastopol are returning to their harbour, to their native shores, to their home port, to Russia! (17/3/2014)

In this case, the metaphors create a completely different representation of reality. Putin presents the annexation of Crimea and Sevastopol to Russia as the desired destination which is finally reached, after a long journey by ship, exploiting the element of the mode of travel (Semino, 2008). It is common knowledge that journeys by ship can be long and tiring, and that obstacles like bad weather can prolong them even more. It is therefore implied that Crimea and Sevastopol should long ago have been part of Russia, the home port, and their belonging to Ukraine was the storm/tempest hindering their return. Since every wandering ship eventually reaches a safe haven, what happened in Crimea was natural and expected. Here we also find an instantiation of the ship-of -the -nation metaphor (Honohan, 2008), which first found in ancient Greek poetry (Alcaeus and Sophocles) and is usually used for solidarity purposes.

4.2 Construction/creation and destruction metaphors

Construction and destruction metaphors are different sides of the same coin. Construction metaphors are mostly used for reification, to describe abstract meanings in material terms. The most common construction metaphors are the ones related to building. Various types of abstract concepts, such as nations, relationships, or society itself are parallelised to buildings, as building is a typical example of a staged, collaborative process, needing detail and patience, with a positive outcome. On the other hand, destruction metaphors are often used to describe bad policies/governing as a force that wreaks havoc on society (Charteris-Black, 2004).

In the dataset construction and destruction metaphors are the second most popular metaphors used by the political leaders, closely following journey metaphors. There are 59 instances found in the data. Yatsenyuk and Putin employ equal number of construction metaphors (13), while Putin is in the lead regarding destruction metaphors (8). This can be explained, seeing that Yatsenyuk wants to introduce the image of a legitimate government, needed to rebuilt/reorganise the country. Conversely, Putin emphasises the problematic situation in Ukraine and the impotency of the government, making Russia's intervention necessary, to recreate what has been destroyed.

4.2.1 Obama and construction/creation metaphors

(5) We have already *put in place the architecture* for us to apply financial and economic consequences (12/3/2014)

The Western partners are presented as architects, forming a plan for imposing sanctions on Russia. Plans are necessary for a correct building process. Since building is evaluated positively, it is implied that the sanctions on Russia will be a positive development, as they will protect Ukrainian citizens. The fact that building is a staged process suggests that the sanctions on Russia, now in an initial phase, will gradually intensify if the Russian government is unwilling to cooperate.

4.2.2 Cameron and construction/creation metaphors

(6) They will need to carry out far-reaching reform needed to *stabilise and repair* their economy. And as they do this, we are prepared to offer a powerful package of finance, trade and technical assistance (6/3/2014)

The Ukrainian economy is presented as a building to be repaired. The responsibility undertaken by the Ukrainian government, to ameliorate the economy, will be a long and laborious process, just as building, however the outcome is worthwhile. The fact that the economy needs repairing implies that someone destroyed it in the first place. Although there is no clear agent, we can suppose that it refers to the previous government and possibly Russia. In building, someone (an architect, a mechanic) needs to supervise the builders and provide guidance and help. This is the role of the EU in this case, as it is obvious from the next sentence, where it is mentioned that the EU will support Ukraine economically. A similar role is implied in the previous example, too. These metaphors frame reality in a certain way, and the fact that the architect has more authority than the builders is backgrounded.

4.2.3. Yatsenyuk and construction/creation metaphors

(7) We will never recognise any kind of *hand-made* [...] referendum. (13/3/2014)

The referendum in Crimea is presented as an artefact that is made by hand. This is a clear example of metaphor used to foreground what is convenient to the speaker. Although hand-made things are often praised for their beauty, uniqueness and effort needed for their creation, here other aspects of making something by hand are promoted: sometimes hand-made creations are crude and inartistic, while they can be completed at a moment's notice. Therefore, the referendum is presented as sharing these qualities of hand-made objects. It is instantaneous, poorly though and roughly designed by Russia, therefore unacceptable.

4.2.4 Putin and destruction metaphors

(8) Their actions have sincerely *destabilised* the east and southeast of Ukraine (18/3/2014).

The country is presented as a building that is lacking stability and the cause of destruction are the radicals' actions. From our real-world knowledge, we can assume that usually buildings are destroyed either by construction mistakes, which does not seem to apply here, or by natural forces. We can therefore assume that the radicals are presented as a dangerous, unstoppable force. What is striking is the difference with regard to the rhetoric of the rest of the leaders, where we find the same metaphor, but Russian actions are presented as the force destroying Ukraine.

4.3 Family metaphors

In the dataset 48 instances of family metaphors were found. The vast majority (35) of them are based on the nurturing father metaphor. As stated by Lakoff (1999), according to the nurturing father morality, the government is the father, who gives the children (citizens) the chance to freely develop their personality. People should make their own decisions for the future, just as children, so as to develop into independent human beings. The relation between the leader and the people is a loving, protective and caring one.

All the instantiations of the nurturing father metaphor, in all the political speeches looked at, were lexicalised by similar expressions: The citizens/people of Ukraine (9) *should be able to chart/choose/determine their own future* or *We will protect the people of Ukraine*. In the case of Obama and Cameron, the US and EU are presented as the nurturing father, caring for the Ukrainian people as a father would for his children, but at the same time wanting them to be able to decide for their future. In this fashion, they legitimise the sanctions they imposed on Russia and the help they provide in Ukraine. Putin presents the opportunity of Crimea and Sevastopol to choose where they want to belong, as the freedom of choice that should be granted to the children, which is hindered by the Western partners. Finally, Yatsenyuk presents the Ukrainian government as the father who will protect the citizens and allow them to make their own choices, without being blackmailed to make hasty decisions. In this case, it is implied that Russia is the strict father that wants to impose on the children and influence their decisions.

Particularly interesting is the phrasing *chart their own future* (Cameron), which combines journey and family metaphors. It implies that independent people should be able to decide for themselves, exactly as a traveller should be in charge of organising their journey. Here, the future is presented as a route to be charted.

I also spotted three clear instantiations of the strict father morality, which is based on order and discipline, two in Putin's rhetoric and one in Yatsenyuk's. To take an instance from Putin, he mentions, referring to the Ukrainian radicals:

(10) We need to teach our society to follow other traditions: traditions of respecting the main law of the nation, the Constitution, and all other laws (4/3/2014).

Here, citizens are presented as immature children that need to be disciplined and educated. This is striking, considering that Putin uses the nurturing father metaphor 17 times when talking about the Ukrainian people. The nurturing father morality seems to not apply to all Ukrainian people, but only to the ones that are not perceived as trouble-makers, the ones that share the Russian aims and ideals.

Finally, other instances of family metaphors, such as motherland, you are all brothers to us, we are family, not just neighbours, are only found in Putin's speeches. This is expected, as Putin is trying to present the relation of Russia and Ukraine as one between family members. Hence, he naturalises the annexation of Crimea to Russia, since families must be united. As families are connected by bonds of love and care, Putin suggests that Russia's interest in Crimea is initiated by feelings of closeness and has no hidden political motives.

4.4 War metaphors

War is a common way to refer to political actions. The politics-is-war metaphor evokes the idea of a competitive activity, where winning is the ultimate purpose. It also presents politics as difficult and hazardous, sometimes calling for extreme measures (Semino, 2008). As Charteris-Black (2004: 92) puts it, in politics-is-war metaphors "initially there is a threat-leading to the identification of an enemy; then there is a call to action in which allies are summoned, a military struggle against an enemy [...] leading to a victory, surrender and some sort of punishment." In the data, while war metaphors are equally used by Obama and Yatsenyuk (6), and only 3 instances are found in Cameron, Putin uses more than twice as many (13) war metaphors. Thus, he probably attempts to create an image of Russia being under an unfair attack, obliging it to strike back.

4.4.1 Obama, Cameron and Yatsenyuk war metaphors

In the speeches by all three leaders, we get similar elements of the schema suggested in the aforementioned quote by Charteris-Black. Obama and Cameron mention their European *allies*, while Yatsenyuk declares "we will not *surrender*". However, a common highly-repeated metaphor is the one about the barrel of the gun.

(11) a set of elections that they can move forward to [...] but this is not something that can be done with a *barrel of a gun pointed at you* (Obama, 12/3/2014)

(12) a sham referendum held at the *barrel of the Russian gun* (Cameron, 18/3/2014)

(13) we extended our hand to Russia, but instead we got a *barrel* (Yatsenyuk, 18/3/2014)

In the first two cases, political pressure is framed as an attack, where Russia is the enemy and the Ukrainian people are the victims. Being obliged to take decisions about political affairs without poised and careful thinking, in circumstances of pressure, is presented as being threatened with a gun. Russia is clearly presented as an agent in the second, later speech, while in Obama's earlier speech agency is implied.

Yatsenyuk exploits and intensifies the metaphor. Via personification, Ukraine is presented as extending its hand to Russia, a typical move signalling good will. Russia, however, decides to attack, ignoring the efforts for friendly solutions. There is a strong antithesis between the peaceful Ukrainian approach and the violent Russian response, which victimises Ukraine.

4.4.2 Putin and war metaphors

(14) Russia found itself in a position it could not *retreat* from. If you compress the spring all the way to its limit, it will snap back hard. (18/3/2014)

In this highly metaphorical section, Russia is presented as a troop that cannot retreat at this point of the battle. Although sometimes in war retreating is necessary to save yourself (in this case to avoid sanctions), Russia does not have this choice, and the metaphor presenting political change as a phenomenon of mechanics explains why. It is a well-known law of physics that the stronger and the longer you compress a spring, the more intense the release, once it is un-compressed. Therefore, the will of Ukrainians to connect with Russia has been oppressed for so long, that it has now become unstoppable and is as inevitable as a natural law. Therefore, Russia could do nothing but accept it, continuing the fight. The metaphors - imply that those who tried to halt the union are those who have been compressing the spring (the western partners), and suggest that this is a futile effort.

5. Conclusions

The above analysis of the prevalent metaphors in the speeches about the Ukrainian crisis confirms that, when dealing with intricate and critical political situations, politicians repeatedly resort to metaphor, which offers "a way of seeing relations, reifying abstractions and framing complexity in manageable terms" (Semino, 2008: 90). In addition, we notice that the politicians examined drew from a highly conventional pool of metaphors to describe the Ukrainian situation, although they exploited certain metaphors in novel ways. Journey and construction/destruction metaphors, which are identified as the most central metaphors in western and Russian political discourse were also central in this issue (17% and 16,7% respectively), closely followed by family (13,7%) and war metaphors (8%). Each of these metaphors frames reality in a completely different way. In the Ukrainian case, their combination helped each side to pursue its goals: to present the desired outcomes as a long but positive effort, with journey and building metaphors, to legitimise involvement in Ukraine by evoking paternal images, and to justify political actions as being necessary and unavoidable, as most actions in times of war. I should also underline that metaphors of all kinds were typically combined with personifications of the nations, which strengthen their power and simplify understanding.

Another important conclusion is related to how metaphors are used according to the positioning of the leaders. The analysis confirmed my hypothesis that similar metaphors are used in a similar way by the politicians with common orientation in the issue, namely Obama, Cameron and Yatsenyuk. On the other hand, Putin uses metaphor to frame reality in the completely opposite way, which is to be expected, considering that Russia's vital interests in the Ukrainian case are opposed to those of Ukraine and the Western partners.

However, although certain metaphors are shared between the leaders with common purposes, their use in each case highlights different elements of the schema, therefore foregrounding different roles and aspects of the situation. More specifically, Obama and Cameron, although

they present themselves as allies, usually emphasise the agency of their own country in resolving the situation. Additionally, while claiming that they only act to protect the interests of Ukrainians, they repeatedly present themselves in metaphorical roles suggesting a superior position (e.g in a sports metaphor, they are the coach). Conversely, Yatsenyuk, although often using the same wording as Obama and Cameron, underlines these elements of a metaphor that accentuate his and his government's potential to solve the Ukrainian crisis, backgrounding the external help.

Since the Ukrainian crisis has been characterised by various sources, such as the British politician William Hague, as the biggest crisis of the 21st century in Europe, further research could be undertaken on the topic. Other studies could focus on the time span after the annexation of Crimea, on the rhetoric of other politicians involved (for instance former president Yanukovych), or on a comparison between the metaphors used in political and media discourse about Ukraine.

References

CHARTERIS-BLACK, J. 2004. *Corpus approaches to critical metaphor analysis*. Basingstoke: Palgrave Macmillan.

CHARTERIS-BLACK, J. 2005. *Politicians and rhetoric : The persuasive power of metaphor*. Houndmills: Palgrave Macmillan.

CHARTERIS-BLACK, J. 2014. *Analysing political speeches : Rhetoric, discourse and metaphor*. Basingstoke: Palgrave Macmillan.

HONOHAN, I. 2008. Metaphors of solidarity. In Carver, T. & Pikalo, J. (eds.) *Political language and metaphor: Interpreting and changing the world*. London: Routledge, pp. 69-82.

JOHNSON, D. W., & JOHNSON, R. T. 2000. Civil political discourse in a democracy: The contribution of psychology. *Peace and Conflict: Journal of Peace Psychology*, vol. 6, no. 4, pp. 291-317.

KOTEYKO, N., & RYAZANOVA-CLARKE, L. 2009. The path and building metaphors in the speeches of Vladimir Putin: Back to the future? *Slavonica*, vol. 15, no. 2, pp. 112-127.

LAKOFF, G., & JOHNSON, M. 1980. *Metaphors we live by*. Chicago: University of Chicago Press.

LAKOFF, G. 1999. Metaphor, morality, and politics, or, why conservatives have left liberals in the dust. *The workings of language, from prescriptions to perspectives*, pp. 133-156.

MAMMADOV, A. 2012. Metaphors in the american and russian political discourse. *University of Southern Denmark website.* Available from http://static.sdu.dk/mediafiles/C/8/1/%7BC81F7500-F598-45CD-86E0-F44DF4D1FC5A%7Dazad%20mammadov.pdf [May 25, 2015]

MUSSOLF, A. 2012. The study of metaphor as part of critical discourse analysis. *Critical Discourse Studies*, vol. 9, no. 3, pp. 301-310.

PANARETOU, E. 2011. *Themata Gnosiakis Glossologias* [Issues on Cognitive Linguistics]. Athens: Papazisis Publications.

PRAGGLEJAZ GROUP. 2007. MIP: A method for identifying metaphorically used words in discourse. *Metaphor and Symbol*, vol. 22, pp. 1–39.

RICOEUR, P. 1977. *The rule of metaphor: The creation of meaning in language*. Toronto: University of Toronto Press.

SEMINO, E. 2008. *Metaphor in discourse*. Cambridge: Cambridge University Press.

WALKER, S., TRAYNOR I. 2014. *Putin confirms Crimea annexation as Ukraine soldier becomes first casualty*. Available from http://www.theguardian.com/world/2014/mar/18/putin-confirms-annexation-crimea-ukrainian-soldier-casualty [May 5, 2015].

Maria Vasilaki
PhD student
Centre for Language, Discourse and Communication
King's College London
London, United Kingdom
email:maria.vasilaki@kcl.ac.uk

OUT-OF-THE-ORDINARY ORTHOGRAPHY: THE USE OF TEXTISMS IN DUTCH YOUNGSTERS' WRITTEN COMPUTER-MEDIATED COMMUNICATION

LIEKE VERHEIJEN
Radboud University

Abstract

Recent decades have seen an explosive growth in computer-mediated communication (CMC). Since the language used in CMC can deviate from standard language conventions, concerns have been expressed that CMC may degrade youths' reading, writing, or spelling skills. However, before studying the possible impact of CMC on traditional literacy, the ways in which 'CMC language' differs from the standard language need to be established. This article discusses the first findings of an ongoing large-scale corpus study examining the register of written CMC of Dutch youngsters between the ages of twelve and twenty-three, revealing how their CMC language differs from Standard Dutch in various dimensions of writing. The focus here is on a salient orthographic feature, namely the use of textisms (unconventional spellings). A range of CMC modes was investigated, including instant messages, text messages, and microblogs. It is shown that the extent to which CMC users deviate orthographically from the standard language and the degree to which they use particular textism types depends both on CMC mode and on individual user characteristics such as age.

Keywords: computer-mediated communication (CMC), writing, register, orthography, spelling, corpus study

1. Introduction

Computer-mediated communication (CMC) has been defined as "the practice of using networked computers and alphabetic text to transmit messages between people or groups of people across space and time" (Jacobs 2008:470). Simply put, it is communication that takes place via modern communication tools, such as personal computers, mobile (smart) phones, and tablets. Since CMC is used more and more nowadays by even young children, groups such as parents, teachers, and the popular media are afraid that it may have a detrimental impact on youths' literacy skills. Such concerns have been documented for English-speaking countries (Thurlow 2006) and the Netherlands (Postma 2011). A *Daily Mail* article by Humphrys (2007), titled "I h8 txt msgs: How texting is wrecking our language," expresses this widespread fear about the language used in CMC. Humphrys describes texters as:

> vandals who are doing to our language what Genghis Khan did to his neighbours eight hundred years ago. They are destroying it: pillaging our punctuation; savaging our sentences; raping our vocabulary. And they must be stopped. (¶15)

Some linguists, on the other hand, argue for the positive effects of CMC. They mention the creative, innovative use of written language; increased motivation to read and write; more exposure to written text and extra opportunities to engage with writing; and greater phonological and metalinguistic awareness, that is, sensitivity to the underlying (sound) structure of language (since certain types of abbreviations used in CMC reflect an understanding of grapheme-phoneme patterns). In sum, opinions about CMC and its impact on literacy vary greatly. As Swartzlander (2010:9) put it, CMC has caused "a tsunami of anxiety, excitement, paranoia, enthusiasm, fear and fascination."

© The Author, 2015 ISSN 1758-0315

Before we can study if and if so, how, CMC affects youths' reading or writing skills, we need to establish the ways in which their 'CMC language' differs from the standard language norms. The present article addresses this question by discussing the first results of a large-scale corpus study into the register of CMC writing produced by Dutch youngsters.

2. Background

2,1 The landscape of computer-mediated communication

A prerequisite for studying the register of CMC is to establish what belongs to the domain of computer-mediated communication. CMC is an umbrella term covering an array of new/social media. Figure 1 presents a classification of CMC modes (based on Merchant 2007; Herring 2012; Van Dijck 2013), along with popular examples. A well-known CMC mode is text messaging, also known as texting and SMS (Short Message Service). There is also online chat, of which there are two kinds: chatting in web-based chat rooms and instant messaging (IM). IM can occur through four kinds of technologies: using a mobile app (e.g. *WhatsApp*, *Telegram*, *Google Hangouts*) or a desktop application (formerly *MSN Messenger*, now *Skype text chat*), through a social networking site (*Facebook chat*), and within an online gaming network or virtual world (*World of Warcraft*, *Second Life*). Another CMC mode, widely used for both personal and professional purposes, is emailing. CMC also occurs through social networking sites (*Facebook*, *Google+*, *MySpace*), microblogging platforms (*Twitter*, *Tumblr*), and visual media sharing platforms (*YouTube*, *Instagram*, *Pinterest*). Furthermore, CMC includes blogging and online forums or discussion boards.[1] All this shows that CMC covers a broad range of computer-mediated genres.

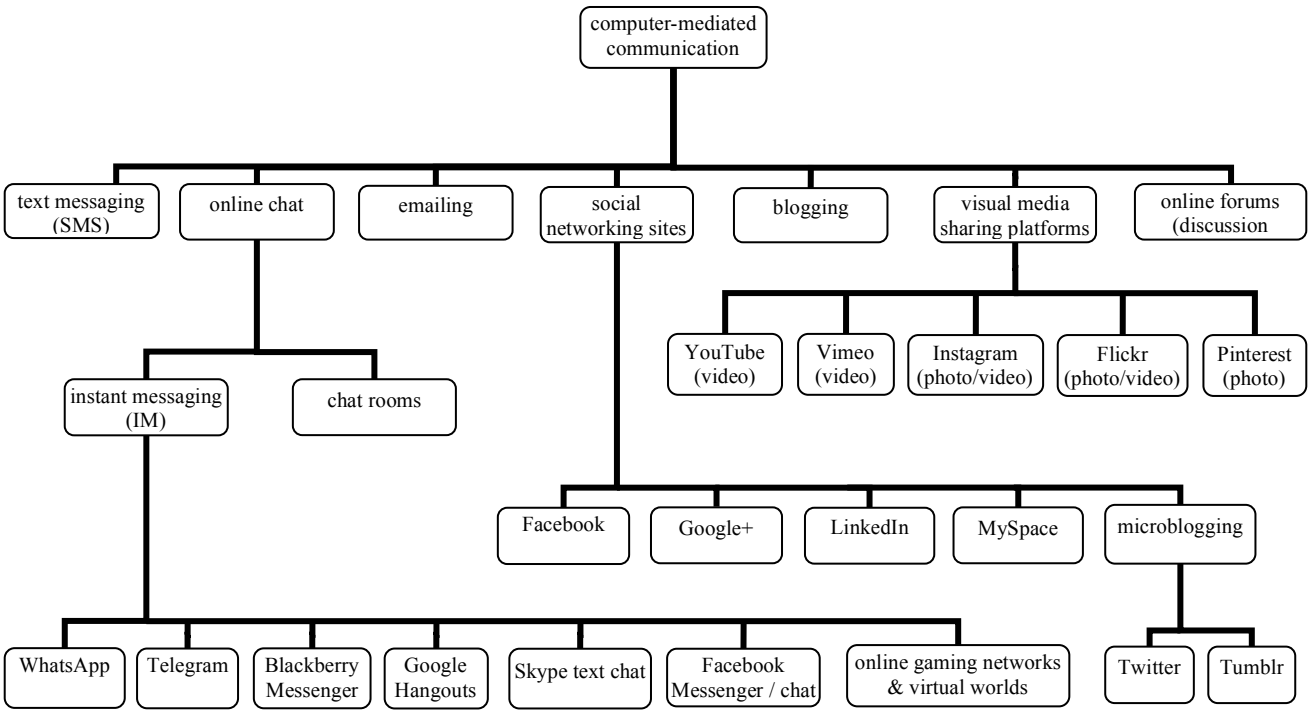


Figure 1: classification of computer-mediated communication

[1] One could argue that web pages and wikis are part of CMC as well, but I have excluded them from myclassification, because their main function is not transmitting interpersonal messages but conveying information.

CMC modes differ in their medium variables. Characteristics and constraints of the CMC modes analysed in this study are summarized in Table 1.

Characteristic	**MSN**	**SMS**	**Twitter**
Message size limit	no	yes (max. 160 characters)[i]	yes (max. 140 characters)
Synchronicity of communication	synchronous (real time)	asynchronous (deferred time)	asynchronous (deferred time)
Visibility	private	private	public, sometimes private[ii]
Level of interactivity	one-to-one, sometimes many-to-many (group conversation)	one-to-one, sometimes one-to-many (broadcast message)	mostly one-to-many, sometimes one-to-one (direct message)
Technology	computer	mobile phone	mobile phone or computer
Channel of communication	multimodal	textual	multimodal

Table 1: medium variables of three CMC modes

[i] Except for concatenated text messages: messages linked together when the limit is exceeded.

[ii] Only direct messages (DMs) are private on Twitter.

2.2 The language of computer-mediated communication

CMC language, which can differ markedly from the standard language, has been described with numerous terms, including 'text/SMS/IM/chat/Internet/cyber language/speak', 'text talk', 'textish', and 'textese'. There are various reasons for CMC users to disregard standard language conventions. First of all, because efficiency comes first: effective CMC requires speed rather than correctness (Silva 2011). Another reason is that some CMC modes are limited in message size, which makes brevity crucial: tweets are limited to 140 characters, text messages to 160. Furthermore, orthographic deviations are frequently used to increase expressiveness: they can compensate for paralinguistic features that are present in speech but lack in writing – prosody, such as stress and volume, and body language, so gestures and facial expressions (Thurlow & Brown 2003). Finally, deviating from the standard spelling and grammar is seen as playful and cool by many young people: they mark in-group belonging and are part of youth culture (Bergs 2009).

Previous research has identified several features characteristic of CMC language, where the writing is affected by the brevity, speed, and creativity of CMC. In terms of orthography, CMC language includes emoticons/smileys, such as :D indicating great joy and ;-) symbolising a wink, and abounds with 'textisms', i.e. spellings deviating from the standard language (see section 3.2 for examples). Textisms are not just used in CMC in English, but also, for example, in German (Bieswanger 2006; Bergs 2009), French (Rúa 2005; Anis 2007; Fairon & Klein 2010), Italian (Pietrini 2001; Herring & Zelenkauskaite 2009), Spanish (Rúa 2005; Alonso & Perea 2008), Portuguese (Silva 2011), Finnish (Plester et al. 2011), and Swedish (Hård af Segerstad 2002). A syntactic feature of CMC language is the omission of function words (Crystal 2006; Frehner 2008; Herring 2012). For example, the sentence "will leave hotel 3 Feb," in which a personal pronoun, article, and preposition have been omitted, is a perfectly acceptable CMC variant of "I will leave the hotel on 3 February." A lexical feature is the use of borrowings (Crystal 2008; Frehner 2008; De Decker & Vandekerckhove 2012): CMC in languages other than English often contains English loan words and loan

textisms, such as *lol* (for *laughing out loud*) and *btw* (*by the way*). Graphically speaking, CMC language stands out for the addition of images, videos, or other multimedia; for the use of colour; and for the inclusion of hyperlinks. Whether these features also occur in Dutch CMC has not been systematically analysed yet. The present paper, focusing on the orthographic feature of textisms, is the first step of such an analysis.

Deviations from the standard language are what catches the eye in computer-mediated messages. Still, this does not mean that CMC language is entirely riddled with opaque abbreviations and rebuses. Crystal (2006:128) rightly points out that the "graphological deviance" in CMC messages is not universal. In fact, the extent to which CMC users deviate from standard language depends on diverse factors. The first of these is individual user characteristics, such as age, gender, regional background, ethnic background, familiarity with CMC, and personal preferences. Secondly, it depends on situational factors, such as discourse topic, recipient of the message, and communicative intent. It is also subject to particulars of the medium: CMC modes differ in message size limits, synchronicity, level of interactivity, and technology (as shown in Table 1). All these factors make CMC language stylistically diverse. This paper looks into the effects of both medium and user age on Dutch CMC language, by investigating writings of three CMC modes (MSN, SMS, Twitter) and two age groups (adolescents, young adults).

3. Methodology

The method employed in this study is a register analysis, investigating how Dutch CMC writings deviate from Standard Dutch. The research is of a quantitative nature: the frequencies of a large set of linguistic features were charted. This paper focuses on the most striking orthographic feature of CMC, namely textisms. It was also investigated how the independent variables age group and CMC mode affect this linguistic feature.

3.1 Materials

The corpus of CMC writings used so far contains instant messaging conversations, text messages, and microblogs. These have been obtained from SoNaR ('STEVIN Nederlandstalig Referentiecorpus', see Sanders 2012; Treurniet et al. 2012; Treurniet & Sanders 2012; Oostdijk et al. 2013). SoNaR is a reference corpus of contemporary written Dutch, including a variety of text sources, both conventional text types and texts from new media. SoNaR includes texts from the Netherlands and Flanders; Flemish texts were excluded in this study. Since the texts in SoNaR are accompanied by metadata on e.g. age, gender, and residency, it was possible to select texts by adolescents (12–17) and young adults (18–23).[2] The selected texts were written under non-experimental conditions between 2009 and 2011. Specifics can be seen in Table 2.

[2] These groups were chosen so that they match the age groups of participants who will partake in later studies in my PhD project about the impact of computer-mediated communication on literacy.

CMC mode	Year(s) of collection	Age group	Mean age	No. of words	No. of conversations or contributors[i]
instant messaging: MSN	2009–2010	12–17	16.2	45,051	106
		18–23	19.5	4,056	21
		total		49,107	127
text messaging: SMS	2011	12–17	15.4	1,009	7
		18–23	20.4	23,790	42
		total		24,799	49
microblogging: Twitter	2011	12–17	15.9	22,968	25
		18–23	20.6	99,296	83
		total		122,264	108
		grand total		196,170	284

Table 2: overview of selected CMC writings

[i] Number of conversations: MSN, number of contributors: SMS, tweets.

3.2 Classification

A comprehensive taxonomy of the different textism types that occur in Dutch CMC was made on the basis of Thurlow and Brown's (2003) and Plester, Wood, and Joshi's (2009) classifications of textisms in English CMC. It is presented here with Dutch examples:[3]

- initialism (alphabetism, acronym): first letters of each word/element in a compound word, phrase, (elliptical) sentence, or exclamation, e.g. *sv* < *samenvatting* ('summary'), *hvj* < *hou van je* ('love you'), *omg* < *o mijn God* ('oh my God');
- contraction: omission of letters (mostly vowels) from middle of word, e.g. *vnv* < *vanavond* ('tonight'), *grtjs* < *groetjes* ('greets'), *idd* < *inderdaad* ('indeed');
- clipping: omission of final letter of word (mostly silent *-n* or *-t*), e.g. *lache* < *lachen* ('laugh'), *truste* < *trusten* ('good night'), *nie* < *niet* ('not');
- shortening (truncation): dropping of ending or occasionally beginning of word, e.g. *eig* < *eigenlijk* ('actually'), *wan* < *wanneer* ('when'), *knuf* < *knuffel* ('hug');
- phonetic respelling: substitution of letter(s) of word by (an)other letter(s), while applying accurate grapheme-phoneme patterns of the standard language:

a) abbreviation, e.g. *fyn* < *fijn* ('nice'), *ff* < *effen* ('for a sec'), *nix* < *niks* ('nothing');
b) replacement, e.g. *ofso* < *ofzo* ('or something'), *jonguh* < *jongen* ('boy'), *owk* < *ook* ('also');
c) extension, e.g. *heej* < *hé* ('hey'), *okee* < *oké* ('okay'), *errug* < *erg* ('very');

- single letter/number homophone: substitution of entire word by phonologically resembling or identical letter/number, e.g. *k* < *ik* ('I'), *n* < *een* ('a'/'an'), *t* < *het* ('it'), *4* < *for*;
- alphanumeric homophone (rebus): substitution of part of word by phonologically resembling or identical letter(s) and/or number(s), e.g. *suc6* < *success* ('good luck'), *w88* < *wachten* ('wait'), *btje* < *beetje* ('little');

[3] A less exhaustive version of this taxonomy can be found in Verheijen (2013).

- reduplication: repetition of letter(s), e.g. *zoooo* < *zo* ('so'), *neeeee* < *nee* ('no'), *superrr* < *super* ('super');
- visual respelling: substitution of letter(s) by graphically resembling non-alphabetic symbol(s) (special character or number), e.g. *Juli@n* < *Julian* ('Julian'), *m%i* < *mooi* ('pretty'), *c00l* < *cool* ('cool');
- accent stylisation: words from casual, colloquial, or accented speech spelled as they sound, e.g. *hoezut* < *hoe is het* ('how are you doing'), *kweenie* < *ik weet het niet* ('I don't know'), *lama* < *laat maar* ('never mind');
- inanity: "nonsensical transmogrification" of word (Craig 2003:120), e.g. *plezierhr* < *plezier* ('fun'), *helaasje* < *helaas* ('too bad'), *laterz* < *later* ('later');
- standard language abbreviation: abbreviation that is part of the standard language, e.g. *aug* < *augustus* ('August'), *bios* < *bioscoop* ('cinema'), *info* < *informatie* ('information');
- unconventional use of spacing, punctuation, diacritics, and capitalisation.

Example (1), an excerpt from an MSN dialogue, illustrates how textisms were classified (all textisms are underlined):[4]

1. *hooooooooooowj*
   keb net de film klein beetje gmonteerd, ziet er strak uit jonguh!:D
   keb uhm in zwartwit oude film style staan nu is eg fat
   mja ben wieder weg
   kom strx nog trug
   mzzzzzzzzl (MSN0000001099)

This fragment contains the following textisms:

- *hooooooooooowj* < *hoi*: phonetic respelling (extension) + reduplication of letter;
- *keb* < *ik heb*: accent stylisation;
- gmonteerd < gemonteerd: contraction;
- *jonguh* < *jongen*: phonetic respelling (replacement);
- *keb* < *ik heb*: accent stylisation;
- *uhm* < *hem*: phonetic respelling (replacement);
- *zwartwit oude film style* < *zwart-witoudefilmstyle*: omission of hyphen + overuse of spacing;
- *eg* < *echt*: phonetic respelling (abbreviation) + clipping;
- *fat* < *vet*: phonetic respelling (replacement);
- *strx* < *straks*: contraction + phonetic respelling (abbreviation);
- *trug* < *terug*: phonetic respelling (abbreviation);
- *mzzzzzzzzl* < *mazzel*: contraction + reduplication of letter.

As can be seen, a single textism can include multiple textism types, as is the case for *hooooooooooowj*, *zwartwit oude film style*, *eg*, *strx*, and *mzzzzzzzzl*; these have been coded for all types present. Multiple words can also represent one textism, as with *zwartwit oude film style*, where elements of a compound word are separated with spaces.

[4] No English translations have been provided for this example and some others, because what matters is the orthographic *form* of the words rather than their *meaning*. In addition, since textisms deviate from the standard language, they are practically untranslatable on many occasions.

3.3 Procedure

Textisms have been identified and classified manually. After initial data coding, all the data were checked to make sure no textisms were overlooked and to filter out any possible misclassifications. The results presented here concern the total number of textisms and the number of textism types.[5] Figures and tables show the frequencies standardised per 10,000 words, because the subcorpora differ in their total amount of words (as shown in Table 2 above). Statistical tests were conducted on the unstandardised, raw frequencies.

4. Results and discussion

Figure 2 shows the results for all textisms per CMC mode – instant messages (MSN), text messages (SMS), and microblogs (tweets).

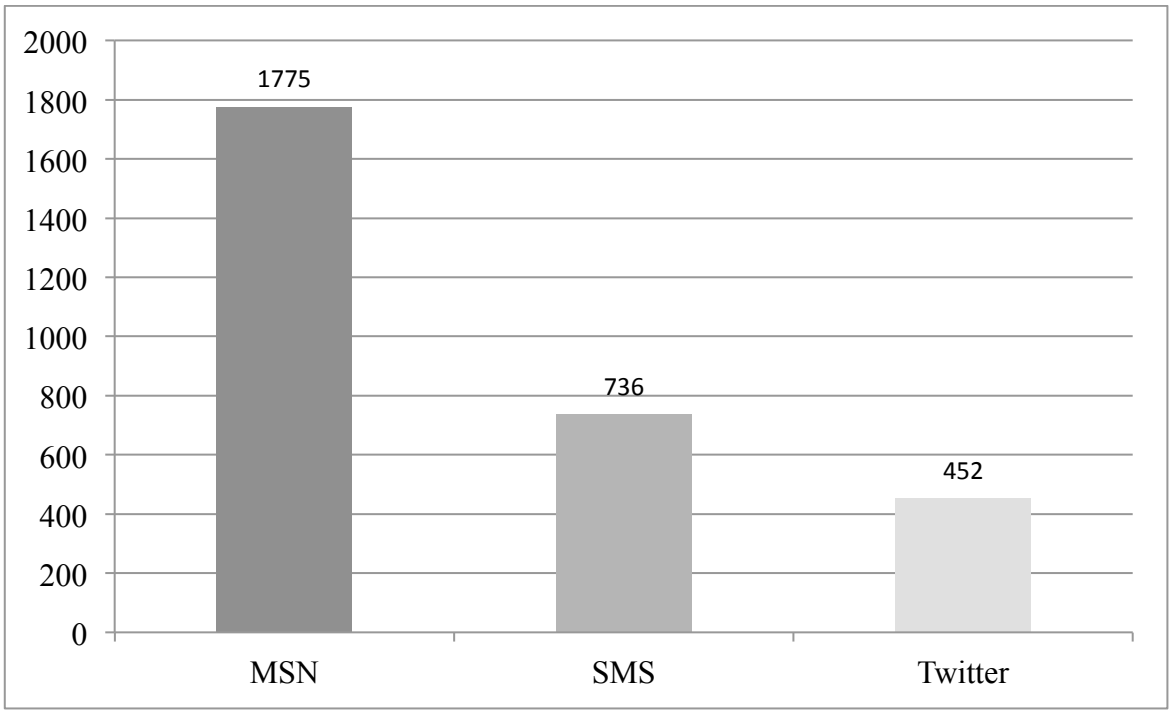


Figure 2: total no. of textisms, per CMC mode

The graph makes it clear that CMC modes diverge in frequency of textisms. A Pearson chi-square test confirms that there was a significant association between CMC mode and total number of textisms (χ^2 (2, n = 196,170) = 8183.20, p < .001). The genre of instant messages contains the most textisms and so deviates most from Standard Dutch in terms of orthography, whereas writings from microblog Twitter contain the least textisms. This result supports the view that we should not approach CMC as one way of communicating (Hård af Segerstad 2002). Rather, each CMC mode is a unique mode of communication with its own orthographic conventions, caused by a complex interplay of medium variables (see Table 1).

[5] The sum of textism types has also been computed, where textisms such as *strx*, which belong to two types, are counted twice. Since the sum is higher than the total number of textisms, it was chosen to report the latter instead, in order not to exaggerate textism use in the CMC writings.

Results show that Dutch youngsters' text messages and tweets contain fewer textisms than their instant messages. This might, in part, be attributed to the fact that these two CMC modes are asynchronous, with messages exchanged sequentially over time, which provides users with more time to edit their writing and to filter out textisms. Instant messaging, by contrast, is synchronous,[6] which makes it direct, immediate, and rushed: users have to respond rapidly to keep up with the conversational pace in order to maintain the floor, which gives them less time to revise their writing and check their spelling.

The lower frequency of textisms in tweets might be caused by their public character: most tweets are 'one-to-many', either visible for everyone to read or for one's entire list of followers. The presence of this larger audience may possibly constrain tweeters to adhere more to standard language norms, so as to avoid being chided for their spelling. Tweets where fierce criticism is passed on "spelling errors" in CMC language illustrate this point; examples (2)–(3) are from adolescents and (4)–(10) from young adults. Metalinguistic terms here are, for instance, *correct schrijven* ('correct writing') in (3), *typvouten/typfouten* ('typos') in (4) and (6), *taalfouten en incorrecte zinnen* ('language errors and incorrect sentences') in (5), and *spelfouten* ('misspellings') in (9). Instant messages and text messages, on the other hand, are sent only to selected recipients, usually friends and family, who may be less prone to point out their communication partner's deviations from the standard language, in order not to harm their relationship.

2. *@roderickmathieu Ellende schrijf je dus met dubbel L. Iets met #incapabele mensen en #opvoeden*
   '@roderickmathieu *Ellende* is written with double L. Something about #incompetent people and #education' (tweet0000000029)
3. *"@TOBIASGROOT: WAAROM KAN NOG STEEDS NIEMAND HET WOORD 'SOWIESO' CORRECT SCHRIJVEN?!" dat is zo'n groot irritatie-factor*
   '"@TOBIASGROOT: WHY IS EVERYONE STILL UNABLE TO WRITE THE WORD '*SOWIESO*' CORRECTLY?!" that is such a big factor of annoyance' (tweet0000000072)
4. a. *@brigadierREUSEL hij vertelt, stam + t. ;)*
      '@brigadierREUSEL *hij vertelt*, stem + t. ;)'
   b. *@orkestmagic typvouten zijn uit den boze.*
      '@orkestmagic typos are absolutely forbidden.' (tweet0000000075)
5. *ik snap dat ze blij zijn, maar zijn al die taalfouten en incorrecte zinnen nodig? 'KADDAFI GEDOOD' http://t.co/vJQeFiFF #nuandroid*
   'i get that they are happy, but are all those language errors and incorrect sentences necessary? 'KADDAFI KILLED' http://t.co/vJQeFiFF #nuandroid' (tweet0000000111)
6. *@mrlkrmr nog steeds typfouten? je hebt nu geen excuus meer hè :P*
   '@mrlkrmr still typos? you no longer have an excuse eh :P' (tweet0000000136)
7. *@IzJoen Ik wordt? Met dt? Ff serieus man, laat je testen op dyslexie ofzo...*
   '@IzJoen *Ik wordt*? With dt? Seriously man, have yourself tested for dyslexia or something... ' (tweet0000000178)
8. a. *TIS GVD FLUORESCEREND*
      'ITS *FLUORESCEREND* GODDAMNIT'
      Fluorizerend
      '*Fluorizerend*'
   b. *"Muggenbulden". Word gek hier*

[6] In reality, CMC cannot be as completely synchronous as spoken interaction, because of the time that inevitably passes between the typing and the receiving of a message. Therefore, it has also been called 'quasisynchronous' or 'near synchronous' (Hård af Segerstad 2002).

'"*Muggenbulden*". Going crazy here'
"Ik heb niks geruikt". Het wort steeds gekker
'"*Ik heb niks geruikt*". Its going too far'

c. *"dan maar een keer m'n rug versjouwen". Niemand kan er tegenwoordig noch Nederlands.*
'"*dan maar een keer m'n rug versjouwen*". No one can write Dutch anymore nowadays.' (tweet0000000194)

9. *@milouvangaans van jouw spelfouten krijg ik nog veel meer stress!*
'@milouvangaans your misspellings cause me even more stress!' (tweet0000000273)

10. *@silvertje Ik scheldt?! #foei ;-)*
'@silvertje *Ik scheldt*?! #shameonyou ;-)' (tweet0000000399)

The distributions of textism types within the CMC modes are shown in Figure 5 in appendix A. This reveals which types are principally responsible for the differences observed in Figure 2. Unfortunately, discussion of these distributions is beyond the scope of this article.

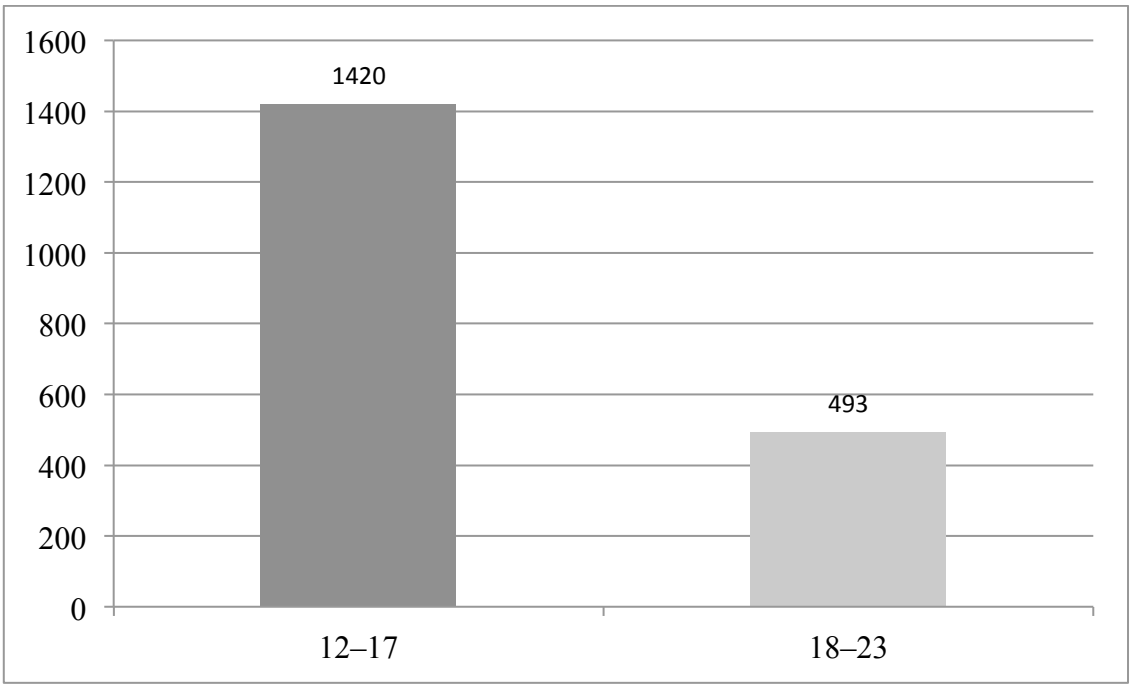


Figure 3: total no. of textisms, per age group

Figure 3 shows the results for all textisms per age group, separating adolescents between the ages of 12 and 17 from young adults between 18 and 23. It reveals that age affects the frequency with which textisms are used in CMC writings: taking all CMC modes together, adolescents use many more textisms than young adults. The relationship between age group and total number of textisms was significant (χ^2 (1, n = 196,170) = 5114.28, $p < .001$). At this point, we can only speculate about what causes this age effect, but it is possible that young adults regard textisms as somewhat childish. This is evident in the comments made by participants in Wood et al.'s (2011) study that using textisms was considered immature. Similarly, Grace et al. (2014) suggest that young adults' lower use of textisms may be occasioned by social pressure not to come across as immature. Figure 6 (appendix B) shows how different textism types are represented in the age groups. Again, the bulk of the differences in Figure 3 is brought about by only some of the textism types.

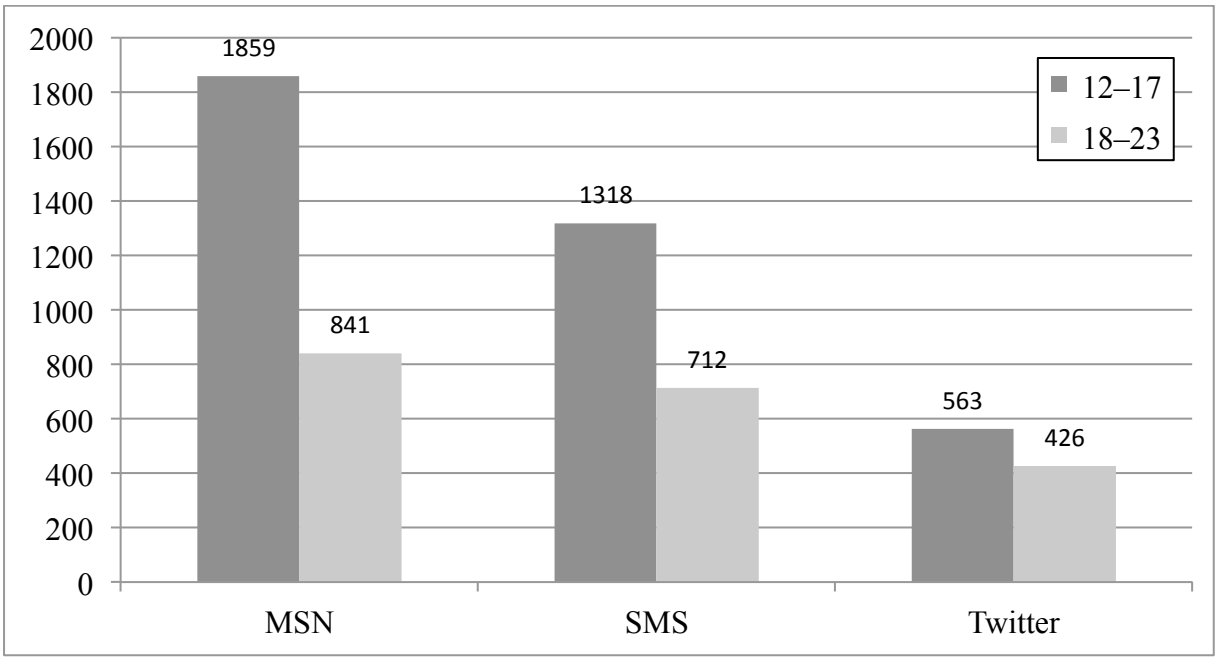


Figure 4: total no. of textisms, per CMC mode and age group

The results for all textisms, distinguishing between CMC modes as well as age groups, are presented in Figure 4. In all three CMC modes, textisms are used more by adolescents than young adults. A three-way loglinear analysis produced a final model that retained all effects, with a likelihood ratio of χ^2 (0) = 0, p = 1. This indicated that the highest-order interaction (CMC mode x age group x textisms) was significant (χ^2 (2, n = 196,170) = 100.81, p < .001). The difference is quite large for instant messages and text messages, but smaller for microblogs, because adolescents use fewer textisms in tweets.

Examples (11)–(16) present instant messages, text messages, and tweets by adolescents and young adults. These examples reflect the continuum shown in Figure 4: most textisms (again, all are underlined) are used by adolescents on MSN, while the lowest number of textisms is used by young adults on Twitter.

11. *mwa tvalt mee hoor, tis altijd IETSJE minder snapje, maar keb strxx ff wrongturn gdraaid, nouja tis gwoon goed omtkijke, je denkt niet van hmmm geen goede kwaliteit ofsow snapje, tis gwoon goed ma ligt natuurluk owk aan je film* (MSN0000001111)
12. *tineke wist het ook niet blijkens haar meel van vorige week* (MSN0000001370)
13. *Heeeeeeeeeee jarige!!! Happy birthday! Ik hoop dat je een leuke verjaardag krijgt ;^) Xx Love you skot* (SMS0000000176)
14. *Hey. Ik ben waarschijnlijk pas om 2 uur in Dordt.. De trein reed net voor m'n neus weg -_-* (SMS0000000153)
15. *@bernoutjee IK HEB EEN KOEKIEMONSTER SHIRT GEKOCHT :D* (tweet0000000147)
16. *Ben benieuwd naar bijeenkomst met schoolbesturen vlgde week. En uiteraard ook naar debat in #raad024 op 16 november. #schoolwijzer* (tweet0000000598)

In the instant message by an adolescent (11), the majority of words are textisms, representing various types. The instant message produced by a young adult (12) shows omission of capitalisation with a proper name (*tineke* < *Tineke*) and a phonetic replacement (*meel* < *mail*).

The text message by an adolescent (13) contains reduplication of letters and omission of a diacritic (*Heeeeeeeeeee* < *Hé*) and reduplication of exclamation marks (*!!!*), as well as an accent stylisation (*skot* < *schat*). The text message (14) and tweet (16) written by young adults only contain contractions (*Dordt* < *Dordrecht*, *vlgde* < *volgende*). The tweet by an adolescent (15) obviously contains overuse of capitalisation. The variety in CMC language becomes apparent through these examples.

Table 3 below shows the top five textism types (again standardised per 10,000 words), separated per age group and CMC mode. It shows the age impact on youths' preferences for particular textisms types: adolescents and young adults prefer to use different types. Young adults mostly omit capitalisation, which is no great deviation from Standard Dutch, and they use many standard language abbreviations, which are typical of CMC language but are nevertheless part of Standard Dutch. This age group thus exhibits a more conventional attitude towards orthography. With adolescents, phonetic respellings are quite popular. These represent a kind of word play, since they involve creative experimentation with the existing grapheme-phoneme patterns of the language. This may be attributed to the so-called adolescent peak (Holmes 1992), which entails that youths are most non-conformist in their linguistic behaviour around the ages of fifteen and sixteen.

MSN	SMS	Twitter
	12–17	
1. phonetic respelling (541)	1. phonetic respelling (218)	1. omission of capitalisation (98)[i]
2. clipping (299)	2. omission of capitalisation (198)	2. reduplication of letter (90)
3. omission of spacing (245)[ii]	2. standard language abbreviation (178)	3. phonetic respelling (60)
4. omission of capitalisation (195)	4. contraction (119)	4. overuse of capitalisation (53)
5. contraction (162)	4. single letter homophone (119)	5. stand. lang. abbreviation (52)
	18–23	
1. omission of capitalisation (375)	1. omission of capitalisation (171)	1. omission of capitalisation (75)
2. stand. lang. abbreviation (254)	2. stand. lang. abbreviation (95)	2. stand. lang. abbreviation (54)
3. reduplication of letter (64)	3. phonetic respelling (77)	3. initialism (42)
3. omission of diacritic (64)	4. omission of diacritic (57)	4. phonetic respelling (37)
4. phonetic respelling (59)	5. single letter homophone (47)	5. overuse of spacing (31)

Table 3: top five textism types, per CMC mode and age group

i Omissions of capitalisation that occurred sentence-initially or in hashtags (in tweets) were excluded, so only capitalisation omitted from proper names and abbreviations was counted.
ii Omissions of spacing after punctuation marks and in hashtags were excluded; only spaces omitted between words were included in the counts.

5. Conclusions and future research

As part of an ongoing corpus study into the register of CMC language, the results observed thus far allow us to draw several conclusions. In terms of orthography (which is, according to Crystal 2006, most distinctive of CMC language), the written CMC of Dutch youngsters from twelve to twenty-three years old greatly deviates from Standard Dutch. The CMC modes selected from the SoNaR corpus deviate to different extents, instant messages containing the most textisms and microblogs the least, which confirms the impact of CMC mode. The impact of age group has also been detected: adolescents between twelve and seventeen use many more textisms in CMC than young adults between eighteen and twenty-three. This occurs across the board in CMC writings, but the difference is greater for instant messages

and text messages than for tweets. Moreover, adolescents and young adults prefer to use different textism types: while adolescents use many playful, self-invented spellings, young adults achieve the brevity and speed required in CMC by employing many standard language abbreviations. All this suggests that youths' written CMC clearly deviates from Standard Dutch, at least where orthography is concerned. This shows the potential of interference of youngsters' informal CMC register with their more formal school register – an issue which will be addressed in future studies part of this project into the impact of CMC on literacy.

Of course, linguistic features from other dimensions of writing, namely syntax and lexis, need to be added to this register analysis, to determine whether Dutch youngsters' CMC writings deviate from Standard Dutch in more than just orthography. In addition, data from other CMC modes which are not in SoNaR, but are at present very popular among Dutch youths need to be collected and analysed, such as WhatsApp and Facebook. Ultimately, this will yield linguistic writing profiles which characterise the language of various CMC modes. The CMC writings can then also be compared to samples of school writings produced by youngsters of similar ages, to explore the differences between these registers. It would also be interesting to interview youths to discover why they believe they use (specific types of) textisms; such self-reports could add valuable insights to this corpus study.

It is fascinating to observe that Dutch youngsters' orthography in their CMC writings can deviate from the standard language to a considerable extent and yet despite these deviations, the message being communicated largely remains understandable. Only on certain occasions communication breaks down, as is evident in the MSN conversation in (17), where the omission of spacing in and shortening of *erma* cause some textism confusion:

17.	*heb het erma is over;)*	'talk about it sumtime orso;)'	
	?	'?'	
	erma?	'orso?'	
	aaaaaah	'aaaaaah'	
	haha	'haha'	
	ja ik heb het er over:P	'yes I'll talk about it:P'	
	sorry	'sorry'	
	er maar	'or something'	
	:P	':P'	
	;)	';)'	(MSN0000001125)

This example shows that too much idiosyncrasy in orthography can impair the recognisability of a word, thereby causing problems of intelligibility and leading to unsuccessful communication. So although the use of textisms by youths is, on the whole, creative and cost-effective, their freedom to deviate from standard language norms is not unlimited.

Acknowledgements

My thanks go to Wilbert Spooren and Ans van Kemenade for their comments on previous drafts of this paper. Any remaining errors are my sole responsibility.

References

ALONSO, E., & M. PEREA. 2008. "SMS: Social and cognitive impact." *Escritos de Psicología* 2(1): 24–31. http://www.escritosdepsicologia.es/eng/previousnumbers/i_vol2num1/i_vol2num1_4.html.

ANIS, J. 2007. "Neography: Unconventional spelling in French SMS text messages." In: B. Danet & S.C. Herring (eds.) *The Multilingual Internet: Language, Culture, and Communication Online*. New York: Oxford UP. pp. 87–115.

BERGS, A.T. 2009. "Just the same old story? The linguistics of text messaging and its cultural repercussions." In: C. Rowe & E.L. Wyss (eds.) *Language and New Media: Linguistic, Cultural, and Technological Evolutions*. Cresskill, NJ: Hampton Press. pp. 55–73.

BIESWANGER, M. 2006. "2 abbrevi8 or not 2 abbrevi8: A contrastive analysis of different shortening strategies in English and German text messages." *Texas Linguistics Forum* 50. http://studentorgs.utexas.edu/salsa/proceedings/2006/Bieswanger.pdf.

CRAIG, D. 2003. "Instant messaging: The language of youth literacy." *The Boothe Prize Essays 2003*: 116–133.

CRYSTAL, D. 2006. *Language and the Internet*, second edition. Cambridge: Cambridge UP.

CRYSTAL, D. 2008. *Txtng: The Gr8 Db8*. Oxford: Oxford UP.

DE DECKER, B., & R. VANDEKERCKHOVE. 2012. "English in Flemish adolescents' computer-mediated discourse: A corpus-based study." *English World-Wide* 33(3): 321–352.

DIJCK, J. VAN. 2013. *The Culture of Connectivity: A Critical History of Social Media*. New York: Oxford UP.

FAIRON, C., & J.R. KLEIN. 2010. "Les écritures et graphies inventives des SMS face aux graphies normées" ["The inventive writings and scripts of the SMS vis-à-vis normative orthography"]. *Le Francais aujourd'hui* 170(3): 113–122.

FREHNER, C. 2008. *Email - SMS - MMS: The Linguistic Creativity of Asynchronous Discourse in the New Media Age*. Bern: Peter Lang.

GRACE, A., N. KEMP, F.H. MARTIN, & R. PARRILA. 2014. "Undergraduates' text messaging language and literacy skills." *Reading and Writing* 27(5): 855–873.

HÅRD AF SEGERSTAD, Y. 2002. *Use and Adaptation of Written Language to the Conditions of Computer-Mediated Communication*. PhD thesis, University of Gothenburg.

HERRING, S.C. 2012. "Grammar and electronic communication." In: C.A. Chapelle (ed.) *Encyclopedia of Applied Linguistics*. Oxford: Wiley-Blackwell. pp. 1–11.

HERRING, S.C., & A. ZELENKAUSKAITE. 2009. "Symbolic capital in a virtual heterosexual market: Abbreviation and insertion in Italian iTV SMS." *Written Communication* 26(1): 5–31.

HOLMES, J. 1992. *An Introduction to Sociolinguistics*. London: Longman.

HUMPHRYS, J. 2007, September 24. "I h8 txt msgs: How texting is wrecking our language." *Daily Mail*. http://www.dailymail.co.uk/news/article-483511/I-h8-txt-msgs-How-texting-wrecking-language.html.

JACOBS, G.E. 2008. "People, purposes, and practices: Insights from cross-disciplinary research into instant messaging." In: J. Coiro, M. Knobel, C. Lankshear, & D.J. Leu (eds.) *Handbook of Research on New Literacies*. New York: Routledge. pp. 469–490.

MERCHANT, G. 2007. "Writing the future in the digital age." *Literacy* 41(3): 118–128.

OOSTDIJK, N., M. REYNAERT, V. HOSTE, & I. SCHUURMAN. 2013. "The construction of a 500-million-word reference corpus of contemporary written Dutch." In: P. Spyns & J. Odijk (eds.) *Essential Speech and Language Technology for Dutch: Results by the STEVIN Programme*. Heidelberg: Springer. pp. 219–247.

PIETRINI, D. 2001. "X' 6 :-(?": Gli sms e il trionfo dell'informalità e della scrittura ludica ("X' 6 :-(?": The SMS and the triumph of informality and ludic writing). *Italienisch* 46(2): 92–101.

PLESTER, B., M.-K. LERKKANEN, L.J. LINJAMA, H. RASKU-PUTTONEN, & K. LITTLETON. 2011. "Finnish and UK English pre-teen children's text message language and its relationship with their literacy skills." *Journal of Computer Assisted Learning* 27(1): 37–48.

PLESTER, B., C. WOOD, & P. JOSHI. 2009. "Exploring the relationship between children's knowledge of text message abbreviations and school literacy outcomes." *British Journal of Developmental Psychology* 27(1): 145–161.

POSTMA, K. 2011. *Geen paniek! Een analyse van de beeldvorming van sms-taal in Nederland*. Master thesis, VU University Amsterdam.

RÚA, P.L. 2005. "Shortening devices in text messaging: a multilingual approach." *Neuphilologische Mitteilungen* 106(2): 139–155.

SANDERS, E. 2012. "Collecting and analysing chats and tweets in SoNaR." *Proceedings LREC (Language Resources and Evaluation) 2012*: 2253–2256.

SILVA, C. 2011. "Writing in Portuguese chats :). A new wrtng systm?" *Written Language & Literacy* 14(1): 143–156.

SWARTZLANDER, C.L. 2010. *The Language of Texting: The New Language of a Digital Nation*. Master thesis, Annenberg School for Communication.

THURLOW, C. 2006. "From statistical panic to moral panic: The metadiscursive construction and popular exaggeration of new media language in the print media." *Journal of Computer-Mediated Communication* 11(3): 667–701.

THURLOW, C., & A. BROWN. 2003. "Generation txt? The sociolinguistics of young people's text-messaging." *Discourse Analysis Online* 1. http://www.shu.ac.uk/daol/articles/v1/n1/a3/thurlow2002003-paper.html.

TREURNIET, M., O. DE CLERCQ, H. VAN DEN HEUVEL, & N. OOSTDIJK. 2012. "Collecting a corpus of Dutch SMS." *Proceedings LREC 2012*: 2268–2273.

TREURNIET, M., & E. SANDERS. 2012. "Chats, tweets and SMS in the SoNaR corpus: Social media collection." In: D. Newman (ed.) *Proceedings of the 1st Annual International Conference Language, Literature & Linguistics*. Singapore: Global Science and Technology Forum. pp. 268–271.

VERHEIJEN, L. 2013. "The effects of text messaging and instant messaging on literacy." *English Studies* 94(5): 582–602.

WOOD, C., S. MEACHEM, S. BOWYER, E. JACKSON, M.L. TARCZYNSKI-BOWLES, & B. PLESTER. 2011. "A longitudinal study of children's text messaging and literacy development." *The British Journal of Psychology* 102(3): 431–442.

A.J.P. (Lieke) Verheijen
Department of Dutch Language and Culture
Radboud University
postal address: PO box 9103, NL-6500 HD Nijmegen
visiting address: Erasmusplein 1, 06.23, NL-6525 HT Nijmegen, the Netherlands
email :lieke.verheijen@let.ru.nl

Appendix A

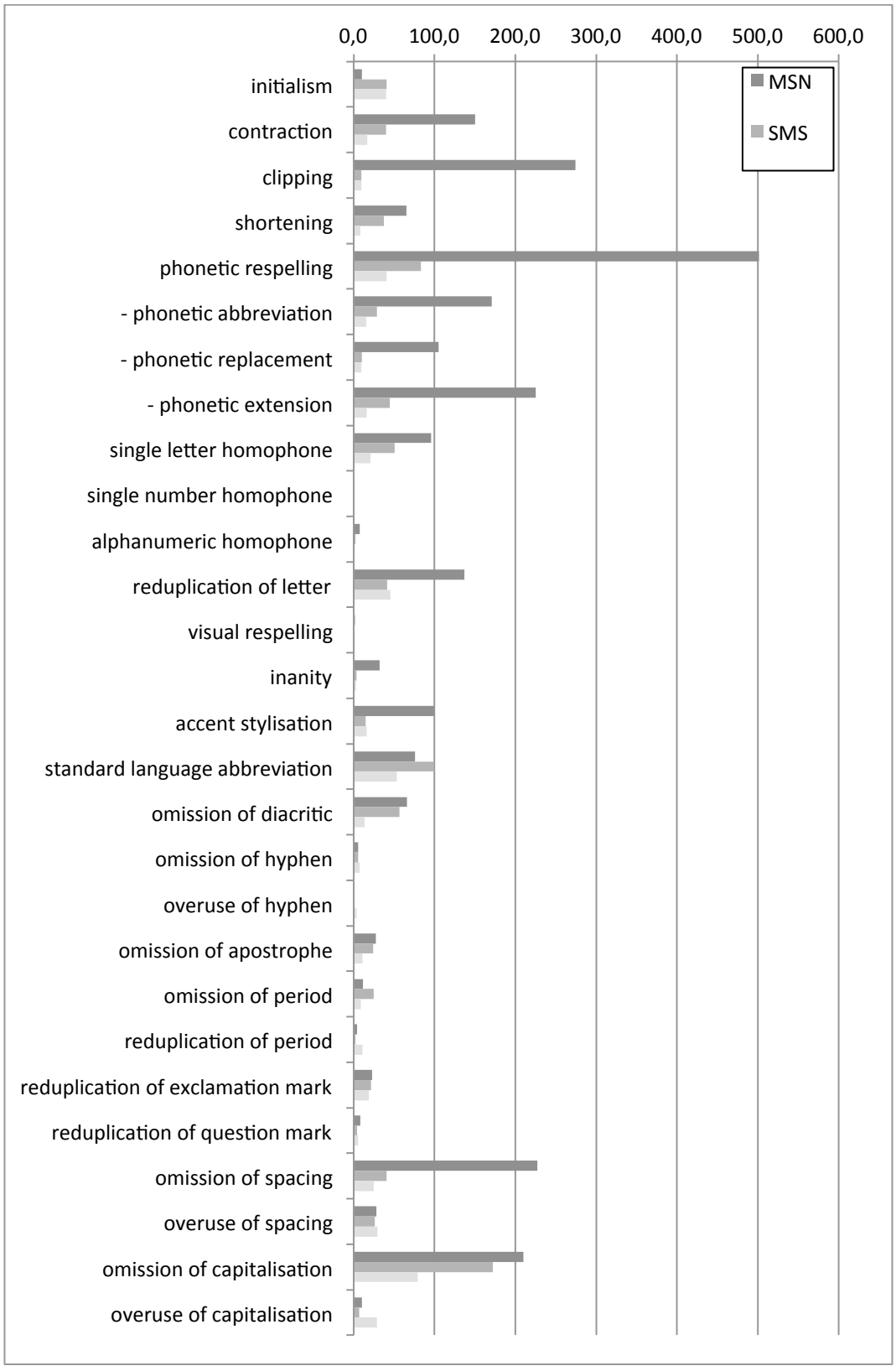


Figure 5: textism types, per CMC mode

Appendix B

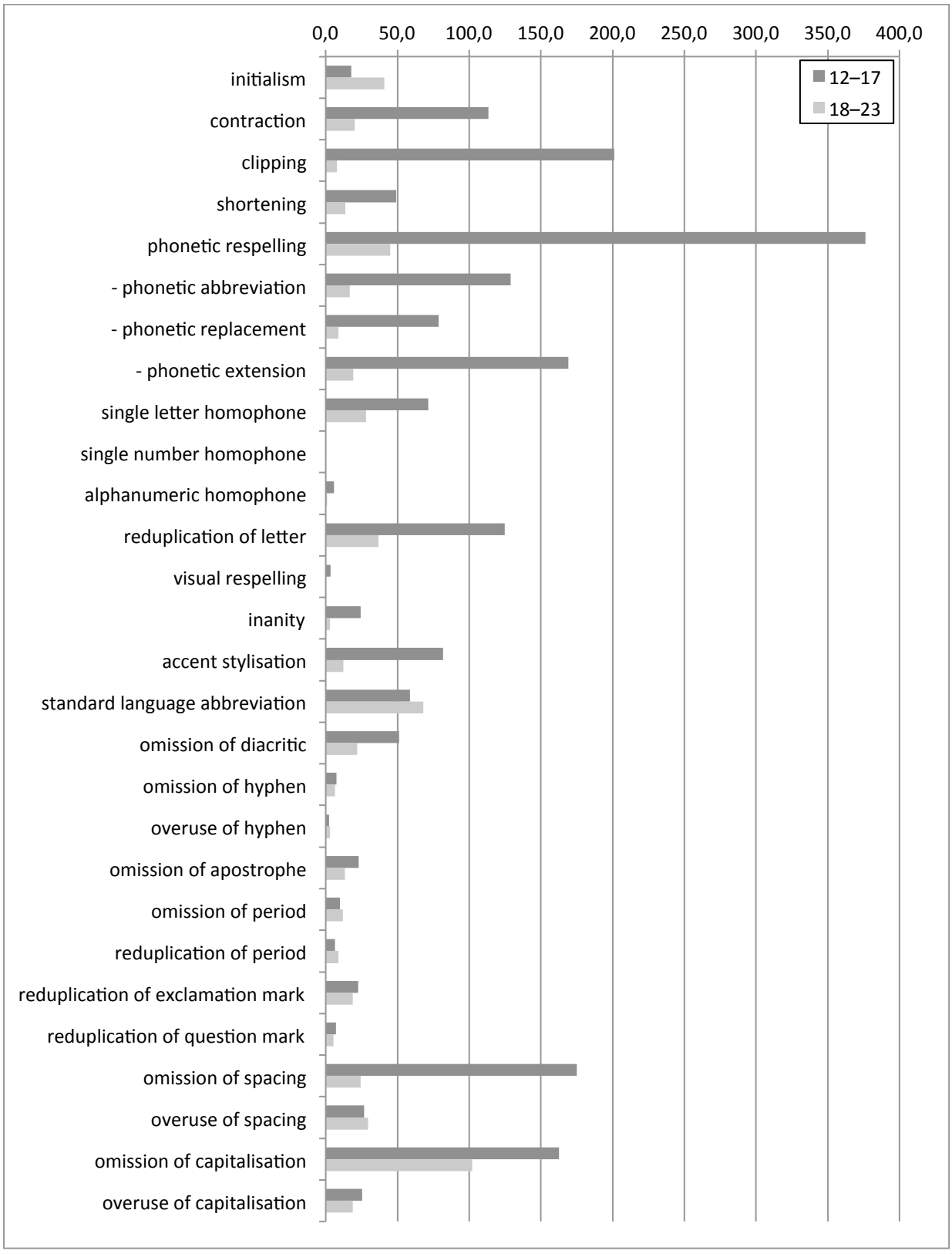


Figure 6: textism types, per age group

A CROSS-CULTURAL PRAGMATIC STUDY: COMPLIMENTING IN AMERICAN ENGLISH AND THAI CONTEMPORARY NOVELS

SAKULRAT WORATHUMRONG
SUDAPORN LUKSANEEYANAWIN
Chulalongkorn University

Abstract

This study presents cross-cultural pragmatic research on American and Thai compliments focusing on pragmatic structures and strategies found in novels written by American and Thai novelists. The data were collected from three American English and three Thai contemporary novels ranging from 208 to 607 pages in length. The analysis of the data examined the pragmatic structures and strategies in the two languages. Six pragmatic structures in terms of head acts [H] and supportive moves (S) were found. These were: [H] only, [H]+(S), [H]+(S)+[H], (S)+[H], (S)+[H]+(S), and (S) only. The findings showed that both the American and Thai writers preferred to use S-oriented structures in giving compliments. They tended to employ more implicit strategies than explicit strategies. For both cultures, compliments were found as face-boosting or face-enhancing acts. In conclusion, the findings suggest that pragmatic factors (speaker-hearer relationships) in each culture greatly influenced the similarities and differences in compliment structures and strategies reflecting cultural specific pragmatic repertoires.

1. Introduction

People's conceptualisation and verbalisation of compliments varies to a great extent across cultures (Herbert 1990, Mane and Wolfson 1981). While compliments are seemingly common and simple, they can cause a great deal of trouble in cross-cultural communication because of different perceptions of compliments and compliment variation (Wolfson 1983). Such differences and variations are cultural-bound or context-dependent. Hall[1] (1976) categorised different value systems of cultures into two broad types: (1) high-context cultures such as Thai, which value non-verbal cues, indirectness or implicit meaning, small talk, and collectivism; (2) low-context cultures such as American, which value verbal cues, directness or explicit meaning, straight talk, and individualism. The two types of value systems of cultures can be studied through contexts of situations, the experiences of members and speaker-hearer relationships (Firth 1950).

2. Background

The issue of universality (or similarity) versus culture specific (or difference) in cultures has been of great interest in the field of contrastive or cross-cultural pragmatics. In this field,

[1] In the realm of cross-cultural pragmatics studies, classic works of the four following proponents have generated a wealth of theoretical background in many of the studies up to present (e.g., Mustapha 2012, Taavitsainen and Jucker 2008) as related to the importance of contexts. Firth (1950) highlighted the significance of context of communication as related to contexts of situations and contexts of experiences of participants or speaker-hearer relationships. Austin (1962) and Searle (1969, 1976) proposed principles of pragmatics. Hall (1976) proposed the dichotomy between the high-context and the low-context of cultures influencing the different value systems of cultures.

Proceedings of the second Postgraduate and Academic Researchers in Linguistics at York (**PARLAY 2014**) conference
© The Author, 2015 ISSN 1758-0315 Issue 2

speech acts are one of the main foci of investigation. Some scholars have argued that speech acts are operated by universal principles of pragmatics (Austin 1962, Searle 1969). Based on such principles, Searle (1976) proposed that compliments are expressive speech acts in which the speaker's propositional content specifies some reactions to the hearer. Searle's principle of compliment was criticised for the fact that it did not take into account the interactional or 'appellative' function of language (Bühler 1934, 1990). Later on, Wierzbicka (1991) added the 'appellative' function of language as the sixth component in her semantic components of compliment:

1. I perceive something good about your Y.
2. I want to say something good about you because of that.
3. I say: (something good about X and X's Y).
4. I feel something good about thinking about it.
5. I say this because I meant to cause you to know that I am thinking something good about you.
6. I assume that you will feel something good because of that.

(WIERZBICKA, 1991: 136-145).

However, the hearer may not always feel good because of the speaker's compliment. For instance, in Thai culture the recipient of a compliment about body appearance or weight from a non-intimate or person of a younger age may not be well received. This is because body appearance or the issue of weight are sensitive topics and are usually used as topics of compliments among intimates or people of equal age.

Grice (1975) contended that speech acts were governed by principles of cooperation. To many low-context cultures, such as American, the speaker is likely to give compliments in a set of predictable semantic-syntactic structures or compliment formulae, such as [*NP is/looks (really) ADJ*], [*I (really) like/love NP*], and [*PRO is (really) an ADJ NOUN*]. The speaker offering such compliments could be said to be cooperative. However, in many high-context cultures, the speaker tends to give a compliment to a stranger on a dance performance by uttering "Where did you learn to dance like this?" The example, according to Grice, may be considered as a violation of the maxim of manner. This is because the hearer may interpret the utterance as asking for information, and not as a compliment.

Other scholars claim that speech acts are also governed by politeness in which relationships between speaker and hearer affect strategies of politeness (Brown and Levinson 1978, Leech 1983). For Brown and Levinson (1978), giving compliments was relevant for adhering to other individuals' positive face wants which Goffman (1955) defined as the desires of individuals to be liked by others. This was also an output of the 'give gifts to the addressee' strategy through which the addresser shows sympathy, understanding, and cooperation to the addressee or as Farenkia (2011) put it, provides a 'face-boosting act'. However, to some extent giving compliments can be associated with degrees of exaggeration. Paying compliments in this manner can be interpreted as face-threatening acts or FTAs. For instance, if the exaggeration is reflected through words containing negative meaning which co-occur with positive lexical markers such as 'ridiculously beautiful' in English or '/suuaj4 wqq2/[2]

[2] To ease the process of transcribing Thai phonetic transcription for computer input, we used the phonetic transcription of the Linguistic Research Unit of Chulalongkorn University (LRU) system (Schoknecht 2000). The system deviates from IPA: 4 changes in the consonants, i.e., ng = /ŋ/; c = /tɕ /; ch = /tɕʰ/; ? = /ʔ/, 4 changes in the vowels, i.e., v = /ɯ/; q = /ɤ/; x = /ɛ/; @ = /ɔ/, and double letters represent length of vowels. Number 0-4 are used to mark the 5 tones, i.e., 0 = mid, 1 = low, 2 = falling, 3 = high, 4 = rising conforming to the traditional names of Thai tones.

beautiful over' in Thai, this variation of compliment may be taken as a FTA towards the hearer's positive face when the speaker and hearer do not know each other well. Put simply, compliments in this light could be considered impolite. Thus, giving compliments without respect of specific linguistic and cultural norms may lead to misunderstandings in interpersonal and intercultural communications.

Although previous research has been carried out on speech acts of complimenting in cross-cultural perspective (e.g., Yousefvand 2010), very few studies highlighted those in English and Thai. The very few studies focused on compliment responses and ignored compliments (e.g., Cedar 2006, Gajaseni 1994). In order to fill this gap, more research on compliments is necessary. The study explores the following research questions:

1. What are the similarities and the differences of compliments found in the selected American English and Thai contemporary novels?
2. In which contexts of situations do compliments found in (1) share their similarities, and exhibit their culture specifics?

3. Research Methodology

3.1 Material used in the Study

The six selected contemporary novels consisted of three American English and three Thai contemporary novels. The three American English contemporary novels were *The Marriage Plot* (Jeffrey Eugenides 2011), *For One More Day* (Mitch Albom 2006), and *The Devil Wears Prada* (Lauren Weisberger 2003). The three Thai contemporary novels were /*th@@ng0 nvva3 kaaw2*/ (Botan 1986), and /*naam3 saj4 caj0 cing0*/ (Wo Winitchaikun 1992) as well as /*rvvan0 maaj3 sii4 beet0*/ (Wo Winitchaikun 1999)[3]. Compliments occurred in conversational exchanges between two or more people in these six selected contemporary novels were the focus of this study.

Werth (1999) suggested that literary texts reflect real language use in situational contexts embedded in the "text world" or as spoken data in the written form. Through the idea of the "text world", the languages that fictional characters in the novels 'speak' in the selected American English and Thai contemporary novels should reflect reality or production of linguistic action in context and thus deserve our attention.

[3] In terms of content, *The Marriage Plot*, */naam3 saj4 caj0 cing0/*, */rvvan0 maaj3 sii4 beet0/* reflect college student lives and the life of students after graduation. *For One More Day* and */th@@ng0 nvva3 kaaw2/* represents working class and middle class people's problematic lives. For authors' credentials, the authors of these novels have received many awards in writing literatures including Pulitzer Prize (Jeffrey Eugenides), International Bestseller Books (Mitch Albom, and Lauren Weisberger), and Thai national literature prizes (Botan, and Wo Winitchaikun).

3.2 Analysis framework

3.2.1 Head Act and Supportive Move of Compliments

Head acts [H] were defined as the nucleus of a particular speech act or the part that functions to realize the act independently (Blum-Kulka and Olshtain 1984). In this study, [H] of compliments was the nucleus of compliment realized through positive lexical markers, e.g., adjective—nice, pretty, or awesome; verb—like, love. The [H] could also be realized through positive clauses, e.g., "I'm so proud of you."

Supportive moves (S) were defined as modifications that preceded or followed the [H] and affected the context in which the [H] was embedded (Blum-Kulka and Olshtain 1984). In this study, (S) of compliments was modifications of the [H] which preceded or followed the [H]. These modifications included (1) non-straightforward compliment in which context played an important role in interpretive procedures to judge if it could be considered a compliment. Without context, the hearer could evaluate this non-straightforward compliment as asking general questions, e.g., "Where did you get this blouse?", or as initiating a conversation, e.g., "I didn't know you wear glasses."; (2) external modifications, e.g., interjections, address terms, or final particles; (3) opt-out or non-verbal response, e.g., smiling, laughing, or winking. Table 1 below illustrates the framework of analysis and examples of the pragmatic structures of compliments.

Pragmatic Structures of Compliments	Examples from American English Corpus	Examples from Thai Corpus
1. [H] Only	[Nice boots.]	[dii0] good [Good.]
2. [H]+(S)	[You look beautiful.](What's your secret?)	[a1r@@j1 lvva4 kqqn0] (s@@n4 tham0 n@@j1 naa3) delicious excessively teach do little particle [Super delicious.] (Can you teach me how to cook?)
3. [H]+(S)+[H]	[I like your bag.] (Where did you buy it?) [It was gorgeous.]	[ch@@p2 cang0] like particle [I like it particle] (maj2 khqqj0 hen4 thii2naj4 maa0 k@@n1) never see where come before (I have never seen this anywhere.) [suuaj4 maak2] beautiful very [very beautiful.]
4. (S)+[H]	(My dear!)[Don't you look beautiful today?]	(muk3) [suuaj4] Mook beautiful (Mook) [You are beautiful.]
5. (S)+[H]+(S)	(Darlin,) [you're looking more beautiful every time I see you.] (What are they feeding y'all at *Runway*, huh?)	(muk3) [cha1laad1 maak2] (tham0 daj2 jang0ngaj0) Mook clever very do can how (Mook)[You are very clever.](How could you do that?)
6. (S) Only	(When did you learn to sing like that?)	(jaak0 tham0 daj2 jaang1 thqq0 baang2) want do can like you particle (I want to do just like you did particle)

Table 1: Analysis framework of pragmatic structures of compliments

3.2.2 Compliment Strategies

After the analysis of the pragmatic structures of the data as shown earlier, each compliment utterance under a certain pragmatic structure was categorised into the following compliment strategies as shown in table 2.

Main Compliment Strategies	Sub Compliment Strategies	Examples from American English Corpus	Examples from Thai Corpus
1. Explicit	Straightforward	[Nice boots.]	/dii0/ good [Good.]
	Conventional	[I'm so proud of you.]	/phuum0 caj0 naj0 tuua0 luuk2 na3/ proud in body child particle [I am proud of you particle.]
2. Implicit	Non-Straightforward	(What's your secret?)	/paj0 tham0 a1raj0 maa0/ go do what come (What have you done to yourself?)
	External Modification	(Wow!) (I don't know you can do it.)	/maj2 jak3 ruu3 waa2 tham0 pen0/ never know that do can (I don't even know you can do it.)
	Opt-Out	(Smile.)	/jim3/ smile (smile.)
		(Laugh.)	/huua4r@3/ laugh (laugh.)

Table 2: Analysis framework of compliment strategies

The main compliment strategies in this study included explicit and implicit strategies. The explicit strategies consisted of two sub-categories: straightforward and conventional strategies. Straightforward strategy was the strategy in which at least one positive lexical marker was used. Conventional strategy was the strategy in which at least one positive clause was employed. Both straightforward and conventional compliment strategies were considered the non context-based strategies because it was possible for the hearer to discern that the speaker is giving a compliment. Thus, utterances with explicit or non context-based strategies were considered overt compliments.

The implicit strategies included three sub-categories: non-straightforward, external modification, and opt out or non-verbal response. Non-straightforward strategy was the context-based strategy in which the hearer needed to infer corresponding implicature for his/her interpretation if (1) the speaker referred to the hearer's appearance or performance, or (2) the speaker referred to the third entity the hearer admires, works with, or has close relationship with, or (3) the speaker evaluated the hearer that he or she had something of good quality, or performed good quality conducts. Therefore, utterances with non-straightforward strategy were considered covert compliments. External modifications included interjections, terms of address, and different kinds of speech acts supporting compliments, such as, thanking, or requesting. Opt out referred to the non-verbal responses, such as smiling or laughing.

4. Findings and Discussions

4.1 Pragmatic Structures of Compliments

In separating compliments into [H] and (S) structures, the findings were shown in table 3 below:

Pragmatic Structures of Compliments	American Characters *N=83* %	Thai Characters *N=92* %
1. [H] Only	19.28	19.57
2. [H]+(S)	15.66	18.48
3. [H]+(S)+[H]	8.43	1.09
4. (S)+[H]	34.94	33.70
5. (S)+[H]+(S)	19.28	21.74
6. (S) Only	10.84	5.43
Total	**100**	**100**

Table 3: Comparison of pragmatic structures of compliments

The findings of previous research (e.g., Kavanagh 2010, Knutson et al 2003) allow us to hypothesise that people in high-context cultures such as Thai, who value indirectness or implicit meaning, are more likely to be covert in complimenting and thus prefer (S) structure. On the contrary, people in low-context cultures such as American, who value directness or explicit meaning, tend to be overt and are therefore more likely to employ [H] structure in giving compliments. As opposed to the hypothesis, Thai characters had a slightly higher percentage of using [H] structure, i.e., [H] only, and [H]+(S) in compliments than that of the American characters. The use of [H] structure in high percentage among the characters of both cultures could be viewed as related to the last 'appellative' function of language that Wierzbicka (1991) added to her semantic components of compliment: *I assume that you will feel something good because of what I said to you* (1991:136-145; emphasis added). With such assumption, the characters of both cultures tend to express overtness in complimenting to their interlocutors. We also found that American characters preferred S-oriented structure, especially (S)+[H], and (S)+[H]+(S). The former structure was the most preferred structure of compliment for both American and Thai characters. The preference towards such structures could suggest dynamic positions of compliments within interactions which Manes and Wolfson (1981) addressed as compliment mobility in natural conversations. Compliments may occur at the beginning, in the middle, or at the end of an interaction. It is observed that the dynamic position of compliments, i.e., (S)+[H] and (S)+[H]+(S) frequently occur when acquaintances interact. These sequences suggest important functions of compliments: reinforcing solidarity and lessening FTAs (e.g., Brown and Levinson 1978). A closer look at the content of the structures exposed the differences in the use of [H] structure through intensification or strengthening devices and in the use of (S) structure through de-intensification or softening devices.

In the [H] structure, strengthening devices included elongation of the phonological units in compliments, reduplication of adverbs as well as the uses of adverbs of degree, swearwords/ taboo words/vulgarisms, and repetition of syntactical patterns. Only the uses of adverbs of degree, such as, very, so, really, absolutely, were found in both American English and Thai data.

Phonological elongation or vowel lengthening was observed only in the American English data, for example, 'niiiiice dress'. The lengthening of the vowel 'i' representing by many 'i's marks intensity of emotive meaning putting emphasis on 'being extremely fond of the dress.' Swearwords/ taboo words/vulgarisms, such as f-word, or dam(n), and repetition of syntactical patterns, such as 'You did great. You did.' were also observed in the American English data. Reduplication of adverbs was found only in the Thai data. One example was /khon0 man0 dii0 khon0 man0 dii0/. This two-time repetition of /dii0/ and /dii0/ increases the force of goodness quality of the person being complimented. These strengthening devices could be considered as intensification which was used to convey highly emotive meaning and to

express speakers' strong feelings and attitudes (Poonlarp 2009). For both American and Thai characters, the process of intensification frequently occurred when people of older age gave compliments to younger people, or when intimates paid compliments to intimates.

In the (S) structure, the softening devices were used to express personal belief and perception including the interpersonal information between the speakers and the hearers. These are represented by prefaces of personal belief and perception, interjections, and terms of address. Prefaces of personal belief and perception, such as, 'I think' or '*person's name* think—*/coom0/* thinks', were most often used. Address terms were used prominently by Thai characters, such as /phii2/ or brother/sister, /aaa0caan0/ or teacher, while the use of interjections, such as 'wow' and 'ohmigod', were found to be prominent among American characters. The use of address terms may be interpreted as employing positive politeness strategy in (a) showing respect to people who are older, thus confirming the idea of Thai culture as an interpersonal and age-sensitive culture (Modehiran 2005), and (b) using the in-group identity markers. The use of interjections may indicate the intensification of positive expressiveness. Drawing on Brown and Levinson's face threatening acts and politeness strategies (1987), both address terms and interjections could be considered positive politeness strategies in paying attention to the hearer's positive face wants. These softening devices can be considered as de-intensification devices. They appear to have been used to scale down the degree of compliments. For both American and Thai characters, it is observed that the softening devices are used more frequently when people of younger age gave compliments to older people, or when acquaintances or strangers complimented each other.

4.2 Compliment Strategies

In categorising the [H] and (S) structures into compliment strategies, the findings were shown in table 4.

Main Compliment Strategies	Sub Compliment Strategies	American Characters %	Thai Characters %
1. Explicit	Straightforward	37.21	41.03
	Conventional	1.99	2.79
	Subtotal	**39.20**	**43.82**
2. Implicit	Non-Straightforward	4.32	5.18
	External Modification	54.82	49.80
	Opt-Out	1.66	1.20
	Subtotal	**60.80**	**56.18**
Total		**100**	**100**

Table 4: Comparison of main and sub strategies of compliments

Similar to the use of [H] structure, when using explicit strategies, both American and Thai characters appeared to employ the straightforward sub strategy more frequently than the conventional sub strategy and the Thai characters had a slightly high percentage use of the straightforward sub strategy that that of the American characters.

The characters in both cultures tended to use positive lexical markers, such as adjectives—'great', 'good', 'wonderful', 'smart', and 'beautiful' as well as verbs—'like', and 'love'.

Since both American and Thai characters appeared to prefer S-oriented structure, the findings showed their preferences in implicit strategies to explicit strategies. When employing implicit strategies, both the American and Thai characters used the external modification sub strategy more frequently than the non-straightforward and opt-out sub strategies. For external modification sub strategy, the characters in both cultures had high percentages in the three following categories: (1) in the use of comments which usually began with prefaces of personal belief and perception; (2) in the use of address terms; and (3) in the use of interjections as shown in table 5.

Main Compliment Strategies	Sub Compliment Strategies	American Characters %	Thai Characters %
Implicit	External Modification		
	Comment	55.42	50.40
	Interjection	7.23	16.80
	Address Term	22.29	11.20
	Question	3.01	9.60
	Parting	3.61	1.60
	Greeting	2.41	3.20
	Thanking	2.41	0
	Joking	0	3.20
	Promising	1.81	3.20
	Wishing	1.81	0.80
Total		**100**	**100**

Table 5: Comparison of the implicit strategies

Overall findings suggest that pragmatic factors or the speaker-hearer relationships or interpersonal information including sex, degree of proximity, age, and relative social status affected the similarities and differences of compliment structures and strategies in the two cultures, especially the use of implicit strategies. Table 6 below illustrates how the interpersonal relation in terms of sex of the speakers and the hearers affected compliment strategies of American and Thai characters.

Sex Difference	Explicit Strategy		Implicit Strategy	
	American Characters (%)	Thai Characters (%)	American Characters (%)	Thai Characters (%)
F-F	42 **(35.29)**	28 **(25.45)**	86 **(47.25)**	41 **(29.08)**
M-M	14 **(11.76)**	24 **(21.82)**	16 **(8.79)**	31 **(21.99)**
F-M	18 **(15.13)**	34 **(30.91)**	22 **(12.09)**	47 **(33.33)**
M-F	45 **(37.82)**	24 **(21.82)**	58 **(31.87)**	22 **(15.60)**
Total	119 **(100)**	110 **(100)**	182 **(100)**	141 **(100)**

Table 6: Sex difference and compliment strategies

For American characters, implicit strategies were found to be used most frequently used when females gave compliments to same sex hearers and when males paid compliments to females. Thus, it could be concluded that the sex difference is not a salient factor in giving compliments among American characters. For Thai characters, implicit strategies were found to be employed most frequently when females gave compliments to males, and when females paid compliments to same sex. Thai females were more likely to be compliment givers.

Drawing on Brown and Levinson's FTA theory, giving compliments by using implicit strategies in such context could be seen as to reduce negative face threat to the hearer's face. Taking Lakoff's view on female politeness (1975), using implicit strategies this way could give the interlocutors options in response to compliments or not to do so. Table 7 below shows the difference in degree of proximity between the speakers and the hearers as related to compliment strategies of American and Thai characters.

Degree of Proximity	Explicit Strategy		Implicit Strategy	
	American Characters (%)	Thai Characters (%)	American Characters (%)	Thai Characters (%)
Intimate	58 (48.74)	67 (60.91)	94 (51.65)	80 (56.74)
Acquaintance	27 (22.69)	28 (25.45)	28 (15.38)	45 (31.91)
Stranger	34 (28.57)	15 (13.64)	60 (32.97)	16 (11.35)
Total	119 (100)	110 (100)	182 (100)	141 (100)

Table 7: Degree of proximity and compliment strategies

In terms of degree of proximity, the Thai characters tended to employ more explicit strategies to pay compliments to whom they were intimate than the American characters did. However, both American and Thai characters appeared to also use implicit strategies to give compliments to people with whom they were intimate. As we observed, for both cultures the preference of explicit strategies over implicit strategies exhibits when their interactants are close friends, or colleagues who have been working together for a long time. The implicit strategies are more likely to be used when both American and Thai characters give compliments to their family members such as parents, siblings, or in-laws. When the degree of proximity between the speaker and hearer was farther, the American characters tended to use implicit strategies to give compliments to strangers while the Thai characters were more likely to use such strategies with acquaintances.

Age Difference	Explicit Strategy		Implicit Strategy	
	American Characters (%)	Thai Characters (%)	American Characters (%)	Thai Characters (%)
Older-Younger	49 (41.18)	66 (60.00)	80 (43.96)	96 (68.09)
Equal-Equal	63 (52.94)	28 (25.45)	86 (47.25)	23 (16.31)
Younger-Older	7 (5.88)	16 (14.55)	16 (8.79)	22 (15.60)
Total	119 (100)	110 (100)	182 (100)	141 (100)

Table 8: Age difference and compliment strategies

According to table 8, the Thai characters tended to employ both explicit and implicit strategies when people of older age paid compliments to those of younger age. As we observed, the Thai characters' preference of explicit strategies over implicit strategies exhibits when their interactants are, for example, seniors at the university or at work. The implicit strategies are more likely to be used when the Thai characters give compliments to their family members such as parents, siblings, or relatives. For the Thai characters, it was very clear that people of older age used implicit strategies to give compliments to people of younger age or complimenting downward was preferred. The findings showed that the American characters tended to prefer both explicit and implicit strategies in the

following rankings (1) when giving compliments to equal age (i.e., relatives); (2) when people of older age paid compliments to those of younger age (i.e., father-daughter); (3) when people of younger age gave compliments to those of older age (i.e., son-mother). Compared to the findings of the Thai characters, it could be concluded that age is not a significant factor when giving compliments among the American characters.

Relative Social Status	Explicit Strategy		Implicit Strategy	
	American Characters (%)	Thai Characters (%)	American Characters (%)	Thai Characters (%)
Higher-Lower	26 (21.85)	42 (38.18)	36 (19.78)	75 (53.19)
Equal-Equal	89 (74.79)	53 (48.18)	141 (77.47)	43 (30.50)
Lower-Higher	4 (3.36)	15 (13.64)	5 (2.75)	23 (16.31)
Total	119 (100)	110 (100)	182 (100)	141 (100)

Table 9: Relative social status and compliment strategies

Drawing on table 9, the American characters used implicit strategies among people of status equal (i.e., siblings), of higher to lower status (i.e., professor-student), and of lower to higher status (i.e., assistant-director), respectively. For the Thai characters, the strategies were employed among people of higher to lower status, of status equal, and of lower to higher status, respectively.

Taking Lewandowska-Tomaszczyk's view on indirectness (1989), when speakers pay compliments to hearers with whom they feel intimate, or when people of older age/higher status give compliments to those of younger age/lower status, it could be seen as extra efforts on the speakers' sides to produce compliments in showing their personal involvement and sincerity towards the hearers. Drawing on Brown and Levinson's FTA theory (1978), it could be argued that the speakers are performing less negative face threat towards the hearer's face.

5. Conclusion

The present study investigated compliments found in American English and Thai contemporary novels with the assumption that novels should reflect reality and worth consideration as spoken data in written form or as production of linguistic action in context. This study argues that the issue of context is crucially important in investigating compliments across cultures. Previous research contests that American culture should be categorised as a low context culture while Thai culture should be classified as a high context culture. In addition, the difference in the context of culture results in the differences of complimenting acts of people of both cultures. However, when we look closely at the interactions among characters in American and Thai contemporary novels, they suggest that the context of interlocutors or the speaker-hearer interpersonal relationships (i.e., sex, degree of proximity, age, and relative social status) influence the similarities in performing speech acts of complimenting and the culture specifics in the choice of linguistic representations of both American and Thai compliments.

Unlike other speech acts (e.g., corrections, and request) in which Thais employ more (S) structures as oriented towards covertness in the context of making corrections (Modehiran 2005) and that of making requests (Wiroonhachaipong 2000), in this study of compliments, Thai characters use more [H] structures as oriented towards overtness in the context of paying compliments. In addition, the tables identifying pragmatic factors, which affected the

similarities and differences of compliment strategies in the two cultures, especially the use of implicit strategies, show that explicitness is clear in most situations but more or less differs across cultures. This could be because in the speech acts of making corrections and requests the degree of FTAs is fairly high and thus the need to be more covert in the interactions exhibits. For compliment, it is the assertive, expressive, and positive speech act. For both cultures, 'face-boosting compliments', that is, compliments used to satisfy the face wants of the hearers or the speakers (Farenkia 2011) or as 'give gifts to the addressee' (Brown and Levinson 1978) are used. The speakers' use compliments to show sympathy, understanding, and cooperation to the hearers, or 'face-enhancing compliments' (Bayraktaroğlu and Sifianou 2001) to make the interlocutors feel good. Thus in giving compliments the need to be covert is minimised. Positive lexical markers such as 'good', 'great', 'wonderful', or 'smart' were employed by both American and Thai characters to give compliments in a straightforward manner. It is observed that for both cultures, compliments among close friends or intimate people of equal age sometimes contain certain degree of exaggeration through the co-occurrence of negative and positive lexical markers such as 'ridiculously smart'. The study also suggests that both American and Thai characters use implicit strategies in certain situations. These include symmetrical situations, i.e., among people with close degree of proximity as well as same sex, and asymmetrical situations, i.e., between older to younger people, or between people of higher to lower status, or people with different sexes. Such uses of pragmatic structures of compliments and compliment strategies among the characters in both cultures indicate a similarity or universality of a fundamental function of compliments as maintaining and promoting interpersonal relationships, or managing rapport. However, in terms of culture specifics, the findings suggest that the four pragmatic factors including sex, degree of proximity, age, and relative social status influence the differences in the choice of linguistic representations of Thai compliments while only the pragmatic factor of degree of proximity tends to affect the choice of linguistic representations of American compliments.

The findings lend support to the universalities of definition and fundamental functions of compliments. The study also supplies evidence of culture specifics in which there are some interesting points needed further investigation. It is recommended that the use of covert supportive moves in paying compliments in certain contexts (e.g., among people with close degree of proximity and same sex) needs more exploration. Further studies on cross-cultural compliments should investigate in-depth not only the overt compliments but also the covert supportive moves. Negative lexical markers found used in compliments in both American English and Thai should also be explored on how and why they are used. This use seems to share among many languages. In addition, compliment responses may also be co-examined as important parts of compliment events or discourses. This is to fill in the appellative function or the perception of the hearers towards the given compliments in certain contexts of communication.

Acknowledgements

This paper was presented in the poster session at the PARLAY2014 Conference at the University of York, September 2014. We are indebted to the two anonymous reviewers for very insightful and helpful suggestions. All errors and omissions remain our own responsibility.

References

ALBOM, MITCH. 2006. *For One More Day*. Hyperion: USA.

AUSTIN, JOHN L.1962. *How to Do Things with Words*. Cambridge, MA: Harvard University Press.

BAYRAKTAROĞLU, ARIN & SIFIANOU, MARIA. 2001. Linguistic politeness across boundaries: The case of Greek and Turkish. In Arin Bayraktaroğlu, & Maria Sifianou (eds.). *Pragmatics and Beyond New Series*, 88, xiv.

BLUM-KULKA, SHOSHANA & OLSHTAIN, ELITE. 1984. Requests and Apologies: A Cross-Cultural Study of Speech Act Realization Patterns (CCSARP). *Applied Linguistics*, 5 (1), 196-213.

BOTAN. 1986. *ทองเนื้อเก้า /th@@ng0 nvva3 kaw2/*. Bangkok: Suveeriyasarn Press.

BROWN, PENELOPE & LEVINSON, STEPHEN C. 1978. Universal in language usage: Politeness phenomena. In Esther N. Goody (ed.). *Question and politeness: Strategies in social interaction*, 60-289. Cambridge: Cambridge University Press.

BÜHLER, KARL. 1934/1990. *The Theory of Language: The Representational Function of Language (Sprachtheorie)*, 35. Translated by Donald Fraser Goodwin. Amsterdam: John Benjamin's Publishing Company.

EUGENIDES, JEFFREY. 2011. *The Marriage Plot*. Fourth Estate: Great Britain.

FARENKIA, BERNARD M. 2011. Speech acts and regional variations in French: The case of compliments on skills in Cameroon and Canadian French. *Speech and Context*, 2(III), 1-19.

FIRTH, JOHN R. 1950. Personality and language in society. *The Sociological Review*: Journal of the Institute of Sociology, vol., XLII, section 2. Republished in John R. Firth. 1957. *Papers in Linguistics 1934-1951.* (5th impression, 1969), 177-179. Oxford University Press.

GOFFMAN, ERVING. 1955. On Face-work: An Analysis of Ritual Elements of Social Interaction. *Psychiatry: Journal for the Study of Interpersonal Processes* 18(3), 213-231. Reprinted in GOFFMAN ERVING. 2005, 5-46.

GRICE, PAUL H. 1975. Logic and Conversation. In Peter Cole & Jerry Morgan. (eds). *Syntax and Semantics III: Speech Acts*. New York: Academic Press, 41-58.

HALL, EDWARD T. 1976. *Beyond Culture*. Garden City, NY: Anchor Press.

HERBERT, ROBERT K. 1989. The ethnography of English compliments and compliment responses: A contrastive sketch. In Wieslaw Oleksy (ed.), *Contrastive Pragmatics*, 3-35. Amsterdam: John Benjamins.

HERBERT, ROBERT K. 1990. Sex-based differences in compliment behavior. *Language in Society*, 19, 201-224.

Holmes, Janet. 1988. Compliments and compliment responses in New Zealand English. *Anthropological Linguistics*, 28(4), 485-508.

KASPER, GABRIELE. 2009. Linguistic politeness: Current research issues. *Journal of Pragmatics*, 14, 193–218.

KAVANAGH, BARRY. 2010. A cross-cultural analysis of Japanese and English non-verbal online communication: The use of emoticons in weblogs. *Intercultural Communication Studies*, XIX:3, 65-80.

KNUTSON, THOMAS J., KAMOLSEVIN, ROSECHONGPORN, CHATIKETU, PAT & VAL R. SMITH. 2003. A cross-cultural comparison of Thai and US American rhetorical sensitivity: Implications for intercultural communication effectiveness. *International Journal of Intercultural Relations*, 27, 63-78.

LAKOFF, ROBIN. 1975. Language and a Woman's Place. *Language and Society,* 8-19.

LEECH, GEOFFREY. 1983. *Principles of Pragmatics*. London: Longman.

LEWANDOWSKA-TOMASZCZYK, BARABARA. 1989. Praising and complimenting. In Wieslaw Oleksy (ed.), *Contrastive Pragmatics*, 73-100. Amsterdam: John Benjamins.

MANES, JOAN & NESSA WOLFSON. 1981. The compliment formula. In Florian Coulmas (ed.), *Conversational Routine: Explorations in Standardized Communication Situations and Prepatterned Speech*. Mouton, The Hague, 115-132.

MODERHIRAN, PRANNAPHA. 2005. *Correction making among Thais and Americans: A study of cross-cultural and interlanguage pragmatics*. PhD dissertation, Chulalongkorn University.

MUSTAPHA, ABOLAJI S. 2012. A functional approach in identifying compliment data. *Rice Working Papers in Linguistics*, Vol.3, Spring, 1-15.

POONLARP, TONGTIP. 2009. *The transfer of expressive meaning in the translation of English intensifiers into Thai.* PhD dissertation, Chulalongkorn University.

SCHOKNECHT, COLIN. 2000. Appendix: Three systems of Thai transcription. InDenis Burnham, Sudaporn Luksaneeyanawin, Chris Davis, & Mathieu Lafourcade (eds.), *Interdisciplinary approaches to language processing*, 329-336.. Bangkok: NECTEC.

SEARLE, JOHN. 1976. The Classification of Illocutionary Acts. *Language in Society*, 5(1), 1-24.

TANNEN, DEBORAH. 1990. *You Just Don't Understand: Women and Men in Conversation*. New York: William Morrow.

TAAVITSAINEN, IRMA & ANDREAS H. JUCKER. 2008. Me thinks you seem more beautiful than ever: Compliments and gender in the history of English. In *Speech Acts in the History of English* (eds.) Irma Taavitsainen & Andreas H.Jucker, 195-228. Amsterdam/Philadelphia: John Benjamins.

WO WINITCHAIKUN. 1992. *น้ำใสใจจริง /naam3 saj4 caj0 cing0/*. Bangkok: Peundee Press.

WO WINITCHAIKUN. 1999. *เรือนไม้สีเบจ /rvvan0 maaj3 sii4 beet0/*. Bangkok: Peundee Press.

WEISBERGER, LAUREN. 2004. *The Devil Wears Prada*. USA: Broadway Books

WERTH, PAUL. 1999. *Text Worlds: Representing Conceptual Space in Discourse*. Harlow: Longman.

WIERZBICKA, ANNA. 1991. *Cross-Cultural Pragmatics: The Semantics of Human Interaction*. New York: Mouton de Gruyter.

WIROONHACHAIPONG, PIYAWAN. 2000. *Structures and strategies of requests in Thai and American English: A contrastive pragmatic study*. Master thesis, Chulalongkorn University.

WOLFSON, NESSA. 1983. An empirical based analysis of complimenting in American English. In Nessa Wolfson & Elliot Judd (eds.), *Sociolinguistics and Language Acquisition: Series on Issues in Second Language Research*, 82-95. Rowley, MA: Newbury House.

YOUSEFVAND, ZOHREH. 2010. Study of compliment speech act realization patterns across gender in Persian. *Arizona Working Papers in SLA & Teaching*, 17, 91-112.

Sakulrat Worathumrong, Sudaporn Luksaneeyanawin
English as an International Program, Graduate School
Chulalongkorn University
Bangkok
Thailand
10330
email: sworathumrong@gmail.com, sudaporn.l@chula.ac.th