

**A comparative Study of Restrictive Relative Clauses in Latakian
Syrian Arabic and English and the Acquisition of English Restrictive
Relative Clauses by First Language Speakers of Latakian Syrian
Arabic**

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A thesis submitted for the degree of Doctor of Philosophy

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January 2013

**To my beloved parents
To my dear brothers and sisters
To my sweet niece**

Acknowledgment

First of all, I would like to express my deepest thanks to my family who believed in me: my parents, my brothers, my sisters and my niece for their prayers, never-ending encouragement and help. I would like also to thank Joan Davis, my British ‘mother’, for her continuous support.

Second, thanks go to my supervisors: Professor Robert Borsley and Professor Roger Hawkins. Their guidance is appreciated. I am also indebted to Mr. Philip Scholfield for helping me with my data; with his clever and simple way, I was able to do all the statistical work.

I would like also to express my gratitude to the English Departement of Tishreen University, Latakia, Syria for funding my PhD study. This grant enabled me to carry out this research. A very big thank you goes to Dr. Yousef Shaheen for his kind help; he arranged all the classes which were to participate in my pilot and main study. Without his help, the task of recruiting this number of participants was almost impossible. I would not like to forget to thank all the students who accepted to take part in the study without being paid for their participation.

I also wish to thank the academics in my department at Essex University who participated in my study and those who offered any piece of information and constructive feedback.

I am grateful to Audiences at the following postgraduate and international conferences for helpful comments: LALA 2012, EGCL 2011 and 2012, LangUE 2011 and 2012.

I wish to extend my gratitude to all the native speaker of English for their participation and cooperation.

Last but not least, I am grateful to my thesis examiners (Prof. Andrew Radford and Prof. Janet Watson) for helpful comments on an earlier draft of my dissertation.

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Abbreviations

A&Ch	Aoun and Choueiri
AGJT	Arabic Grammaticality Judgement Task
A&L	Aoun and Li
C	Complementizer
CLLD	Clitic left dislocation
CNP	Complex Noun Phrase
CO	Complex
CO O	Complex object
CO OP	Complex object of preposition
CP	Complementizer projection
CO RRC	Complex restrictive relative clause
CO S	Complex subject
EPP	Extended Projection Principle
FT/FA	Full Transfer/Full Access
GGFT	Guided Gap Filling Task
GJT	Grammaticality Judgement Task
H&Ch	Hawkins and Chan
Interm	Intermediate
L1	First language
L2	Second language
LF	Logical Form
O	Object
OGen	Object genitive
OP	Object of preposition
OPGen	Object of preposition
OPT	Oxford Placement Test
PF	Phonological form
RC	Relative clause
RRC	Restrictive relative clause
PRO	Null case pronoun
RP	Resumptive pronoun

S	Subject
SGen	Subject genitive
SLA	Second Language Acquisition
Spec	Specifier
TopP	Topic projection
TP	Tense projection
TT	Translation Task
UG	Universal Grammar
V&Y	Vainikka and Young-Scholten
Ø	Null relativizer

Guide to the Symbols Used for Transliteration (EI)

Consonants

Arabic	EI
ب	b
ت	t
ث	th
ج	j
ح	ḥ
خ	kh
د	d
ذ	dh
ر	r
ز	z
س	s
ش	sh
ص	ṣ
ض	ḍ
ط	ṭ
ظ	ẓ
ع	ʿ
غ	gh
ف	f
ق	q
ك	k
ل	l
م	m
ن	n
ه	h
ء	ʾ
ة	a
و	w
ي	y

Vowels

Short vowels

Long vowels

a	ā
u	ū
i	ī
e	ē
o	ō

Diphthongs

ai
īa

Abstract

The study reported in this thesis had two goals. The first was to critically evaluate existing proposals for the syntactic structure of restrictive relative clauses with definite and indefinite heads in English and Latakian Syrian Arabic (a colloquial dialect of Arabic), and to select those proposals which provide the best fit for the facts of English and for the facts of Latakian Syrian Arabic. The second goal was to contribute to the development of a theory of second language acquisition by investigating how speakers of Latakian Syrian Arabic acquire English definite and indefinite RRCs. Since this is the first study of the structure of restrictive relative clauses in Latakian Syrian Arabic, an important first task was to collect grammatical intuitional data from native speakers of that variety. Based on the findings, and the well-known properties of restrictive relative clauses in English, it was argued that the account that best fits the data of English is the traditional operator movement analysis, while for Latakian Syrian Arabic a clitic left-dislocation account offers the best fit. Assuming this analysis, the acquisition of restrictive relative clauses in English by speakers of Latakian Syrian Arabic was investigated using a quasi-longitudinal design. Learners of elementary, lower intermediate, upper intermediate and advanced proficiency (as measured by an independent proficiency test) completed a grammaticality judgement task, a guided gap-filling task and a translation task. Results show first language influence at early stages of learning on some properties, but not all. There is also persistent influence of the first language in later stages of learning, but specifically on properties that involve uninterpretable features. Interpretable features appear to have been fully acquired. The implications of these findings for theories of second language acquisition are considered.

Chapter 1

Introduction

This thesis deals with the structure of restrictive relative clauses (RRCs henceforth) from a syntactic point of view as well as a second language acquisition (SLA) perspective, and thus can be divided into two parts: a theoretical part which deals with the syntax of RRCs in English and in Latakian Syrian Arabic (LSA); and an empirical part which deals with the acquisition of this construction in English by speakers of LSA.

In this introductory chapter, I outline the aims of the thesis. The first investigative challenge that I attempt to respond to is to find an analysis for RRCs in English and then for those in LSA. This includes reviewing current proposals for the representation of RRCs cross-linguistically. This will be discussed in Chapters 2 and 3 of the thesis.

In Chapter 2, the question of what is the best analysis for English RRCs will be addressed first through evaluating three major syntactic proposals. These are the traditional operator-movement analysis, the head-raising promotion analysis and the partial promotion analysis. The head-raising and the partial promotion analyses are assessed and criticized. These largely depend on the reconstruction phenomenon which does not provide evidence for movement of the crucial element as will be explained in detail later. It is the operator movement approach that will be adopted in

this work. This is because it is a parsimonious account which offers a unified analysis for all types of RRCs, and overcomes the weaknesses of the other analyses.

Chapter 3 deals with the second challenging task, namely providing an analysis for this construction that suits data from LSA. The structure of RRCs in this dialect has not been investigated before, to the best of my knowledge. Various views of this construction in different Arabic dialects are presented and assessed against data from LSA.

The analysis adopted for LSA will be arrived at after explaining the island phenomenon, providing an analysis for clitics and resumption, and exploring the nature of the linking words in RRCs of LSA. It will be argued that islands regardless of their nature block movement, that there is a null resumptive pronoun which is licenced by a clitic, and there is only one type of RRC: complementizer-relatives for definite RRCs and null-complementizer-relatives for indefinite ones.

Chapter 3 also reports the results of an Arabic Grammaticality Judgement Task (AGJT) administered to native speakers of LSA. This was undertaken to verify that the data on which the analysis of RRCs is based really represent the dialect of native speakers of this dialect.

The SLA part starts in chapter 4. One of the goals of SLA research is to find a theory which can predict and explain what second language (L2) learners can acquire. One of the aims of this thesis is to contribute to this goal by investigating the acquisition of RRCs by native speakers of LSA.

As will be discussed in Chapter 4, SLA research which has looked at the persistent difference between native speakers and non-native speakers with regard to this particular structure can be classified as follows:

- In the case of the initial stage, the first camp welcomes the idea that there is full first language (L1) transfer, another argues for minimal transfer, and the third camp rejects the notion that there is any transfer involved.
- In the case of the endstate, there are those who argue for full access to UG, others for partial access, and yet others for no access.

Hence, the purpose of Chapter 4 is to provide a sketch of the literature on SLA theories and RRCs in particular, and to pave the way for the main empirical study which is meant to investigate the acquisition of English RRCs by L1 speakers of LSA, and to address a number of intriguing issues that are important to the development of a theory of SLA: the role that the L1 plays in development, the extent to which universal principles of linguistic organisation (universal grammar (UG)) guide the development of L2 learners' mental grammars of the target language, and the extent to which L2 learners can fully acquire morpho-syntactic properties of the L2.

The empirical investigation reported in chapter 5 homes in on finding a satisfactory account of convergence and divergence in the L2 initial state and endstate. The results of three tasks: a Grammaticality Judgement Task (GJT), a Guided Gap Filling task (GGFT) and a Translation Task (TT) will be reported.

Chapter 6 summarises the key findings in the empirical study and presents conclusions and suggestions for future research.

Chapter 2

Syntactic Analyses of English RRCs

2.1 Introduction

The structure of English RRCs¹ like those in (1) has been the subject of considerable debate in the linguistic literature:

- 1a. The student whom I met ____
- b. The student that I met ____
- c. The student I met ____

In each of the examples of (1) there is a dependency between a head N *student* and an empty position in the RRC, as well as differences in the form that links the head N and the clause. The issue is: what is the nature of the dependency, and is this related to the forms that link the head and the clause? This chapter evaluates three main proposals² that have addressed this issue, one that might be described as the traditional operator-movement/matching analysis, another whose merits have been

¹ RRCs differ from non-RRCs in meaning, syntax, prosody and punctuation. My discussion is limited to RRCs. For details of the distinction between the two types of relatives see Huddleston and Pullum (2002: 1058-1068), and for discussion of the structure of non-RRCs see Borsley (1997), De Vries (2002: 181-231) and (2006), and Citko (2008).

² There is another approach; that which does not involve any movement. An example of this is that proposed by Adger and Ramchand (2005). Adger and Ramchand argue for a base generation analysis in establishing *wh*-dependencies in some languages like Gaelic and Modern Irish. They assume that in *wh*-constructions the minimalist operation Agree allows a connection to be established between two positions without movement. Minimalism distinguishes between Move and Agree and some versions of Minimalism assume that all instances of Move are accompanied by an instance of Agree (see Chomsky (2000), and Radford (2009)). In other words, one can't have Move without Agree but one can have Agree without Move. Adger and Ramchand ask whether some unbounded dependencies might be the result of Agree without Move.

highlighted by Kayne's (1994) anti-symmetry approach to phrase structure, and the other is the partial promotion analysis, that of Aoun and Li (A&L) (2003).

The chapter is organised into nine parts. Section 2 describes the operator-movement/matching analysis. Section 3 briefly discusses the rationale for Kayne's anti-symmetry approach to phrase structure, and shows how a second account of RRCs – the promotion analysis – is consistent with it, but an operator-movement/matching analysis is not. Section 4 discusses some problems for the promotion analysis. Section 5 introduces A&L's partial promotion analysis of RRCs and section 6 evaluates it and shows the relevance of this for the comparative analysis of RRCs in different languages. In section 6 a modified version of the promotion analysis, Donati and Cecchetto's (2011), is introduced and then evaluated. The analysis to be adopted for English RRCs is decided in section 7, and section 8 concludes the chapter. Discussion is based primarily on proposals in Radford (2009), Kayne (1994), Bianchi (2000), Borsley (1997) and (2001), A&L (2003) and Donati and Cecchetto (2011).

2.2 The traditional operator movement analysis of RRCs

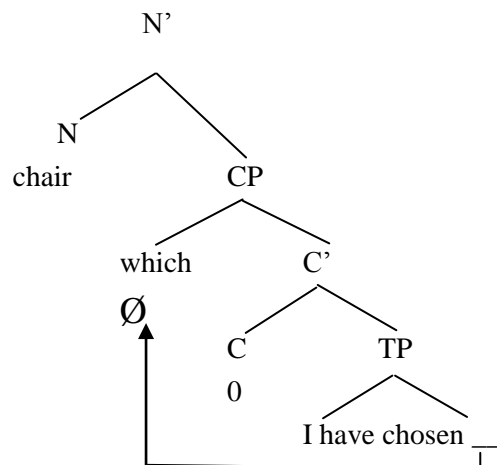
The operator-movement/matching³ analysis of RRCs (as described, for example, in Chomsky (1995: chapter 1) Chomsky (2000) and Jackendoff (1977)) assumes that a clause (CP) is right-adjoined to a head N⁴, and an operator moves from some DP

³ Matching means that the moved operator and the antecedent have the same number, gender features.

⁴ Kayne (1994) and Bianchi (2000) have argued against this adjunction analysis (the traditional analysis) of RRCs. How good the arguments are and how satisfactory the alternative is will be discussed in section 2.4.

position in the clause to the specifier (Spec) of CP leaving behind in the extraction site a full copy⁵ deleted in PF. The fronted operator is co-indexed⁶ with the null copy in the clause, as illustrated in (2).

2.



This analysis accounts for the three possibilities in RRCs: *wh*-operator-null complementizer (C), null operator-null C, null operator-*that* C, (but not *wh*-operator-*that* C (see Rizzi (1990: 65-71) for a discussion of the impossibility of this option in English)). When the RRC begins with a *wh*-element such as *whom* as in (1a), *whom* occupies the Spec CP position, and when there is no overt *wh*-element, the Spec CP position is occupied by an empty/null operator followed either by an overt C as in (1b) or a null C as in (1c).

Different accounts have been proposed to answer the question of what triggers *wh*-movement: Rizzi (2000: 214-215), for example, assumed that it is the *wh*-criterion that provides a fundamental motivation for movement:

⁵ Within minimalism, a copy is left behind in the extraction site. In this work, sometimes we refer to traces and sometimes to copies because in the literature these two terms are used (but not in the same work).

⁶ Minimalism does not allow indices; however, work in minimalism commonly makes use of them (see for example Radford 2009), that is why they are used in this work.

- a. A *Wh*-operator must be in a Spec-head configuration with [+*wh*] head
- b. A head with [+*wh*] must be in a Spec-head configuration with a *wh*-operator.

Chomsky (1998) and (2000) proposed that movement is triggered by an EPP feature and more recently by an Edge Feature (Chomsky, 2005) which requires a C constituent to have Spec. These proposals share the assumption that the empty copy left behind by operator movement (represented by ___ in (2)), is a variable whose value must be determined. The N *chair* provides the value. It is assumed that the clause is predicated of the head N such that the operator takes on some of the head N's feature values⁷ (number and gender) and then binds the variable. This is the 'matching' part of the account.

One remark on the EPP feature is that it is an uninterpretable feature. Uninterpretable features are those that are 'nonsemantic' (Chomsky, 2000: 102). Chomsky (2000) drew a distinction between interpretable and uninterpretable features. Here is an example from Radford (2009: 201-202) to clarify the point: the case feature of *they* is uninterpretable since a subject pronoun surfaces as nominative, accusative or genitive depending on the type of the clause it is in without any effect on meaning:

- 3a. It seems [*they* were arrested]
- b. He expected [*them* to be arrested]
- c. He was shocked at [*their* being arrested]

⁷ The operator does not take the case feature of the antecedent normally. Also the constituent in Spec CP may be a PP in which case it has a different categorical status from the head.

This is unlike the person, number and gender features of pronouns which are interpretable; *I* differs in meaning from *they*.

Some of the work done in SLA relies on this notion of the interpretability of features as we shall see in Chapter 4.

2.2.1 CP domain⁸

Before we move to discuss different proposals for the analysis of RRCs, it is vital to review briefly some work on the CP domain. This will be relevant when we discuss Aoun and Li (2003) in this Chapter and the structure of RRCs in the different Arabic dialects in the next Chapter.

It has been argued that the CP domain can be split into more than one layer: Force, Topic, Focus, and Finiteness projections. In his work (2001: 287), Rizzi argues that ‘the primary role of the C system is the expression of the Force (distinguishing various clause types: declarative, interrogative, exclamative, relative, comparative, different types of adverbial clauses, etc.) and Finiteness’. The Topic/Focus field motivates further heads in between Force and Finiteness.

In an earlier work, Rizzi (1997) elaborated on the difference between the Topic and Focus fields. Of relevance to this work are the following differences:

⁸ The structure of CP has also been discussed in the literature on Arabic (see Ouhalla (1997), Shlonsky (2000), Aoun et al (2010)).

- A topic can be related to a resumptive clitic, whereas the Focalized element cannot relate to a resumptive clitic. Here are some examples that he presented from Italian:

4. Il tuo libro, lo ho comprato

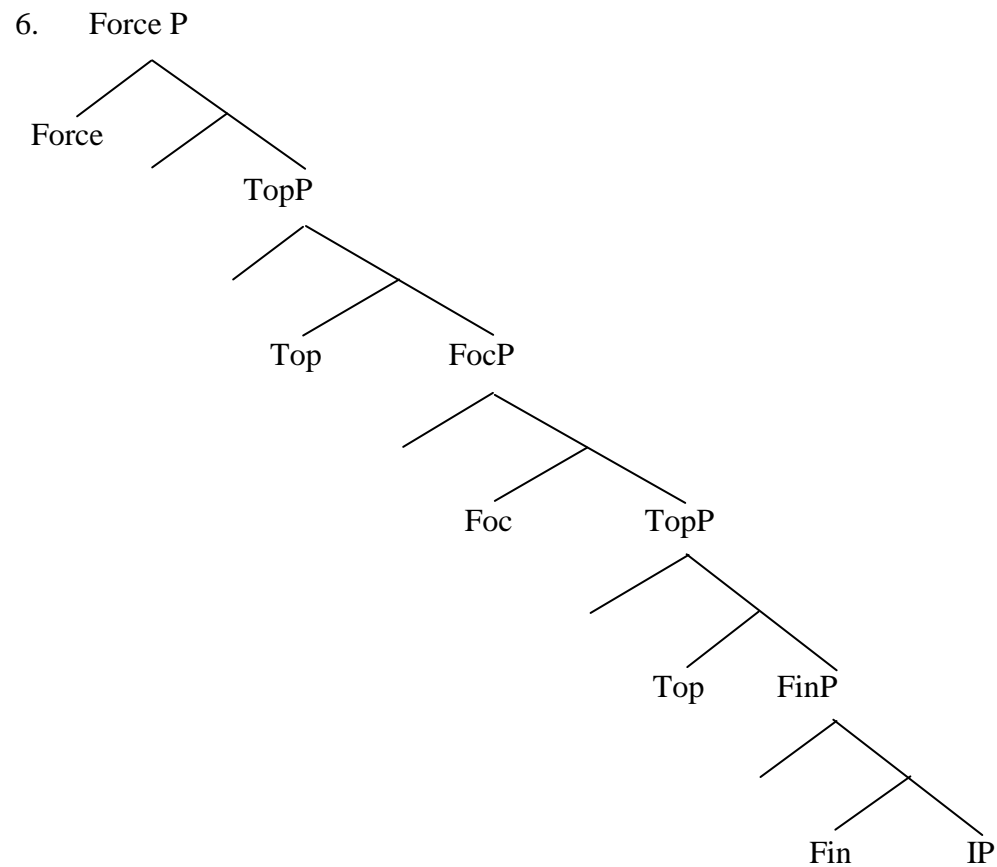
Your book, I bought it (289)

5. *IL TUO LIBRO lo ho comprato (non il suo)

Your book I bought it (not his) (290)

- Whereas there can be more than one topic, there can be only one Focalized element.

So the CP domain could have the structure in (6):



Here is an example from English that shows the four CP layers:

7. She hoped [_{ForceP} [_{Force} that] [_{TopP} people like those [_{Top} Ø] [_{FocP} never again [_{Foc} would Ø] [_{FinP} [_{Fin} Ø] she meet].

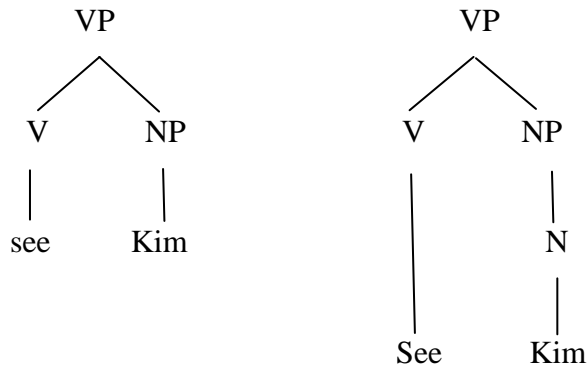
Rizzi argues that if there is a relative operator in RRCs, then it occupies Spec Force.

2.3 The promotion analysis of RRCs

A very different analysis has been proposed by Kayne (1994). Kayne tried to revive the promotion analysis of RRCs proposed previously by Vergnaud (1974) and Schachter (1973). His proposal is an attempt to derive the linear ordering of terminal nodes in a syntactic structure from the nature of phrase structure itself, and not by stipulation whereby heads project but with no ordering. A central tenet of the proposal is that right-adjunction is excluded as a possible operation of UG. This means that some analysis of RRCs other than the traditional one is required. The promotion analysis is an obvious candidate.

The proposal is known as *Antisymmetry Theory*. It is a version of phrase structure in which ‘asymmetric c-command invariably maps into linear precedence’ (1994: 3). Two key words here need explanation: antisymmetry and precedence. Antisymmetry means that if *a* c-commands *b*, *b* does not c-command *a*. In this sense, it is different from the traditional *transitive relation* whereby two sister nodes *a* and *b* in a binary branching phrase marker can c-command each other. The two trees below taken from Borsley (2009) show the difference: in the first, V and NP c-command each other and therefore they cannot be ordered. In the second, V c-commands N, but the reverse is not true. Therefore they can be ordered.

8.



Precedence means that if a nonterminal node *A* dominates the terminal node *a*, and the nonterminal node *B* dominates the terminal *b* it follows then that if *A* asymmetrically c-commands *B*, then *a* precedes *b*. From here Kayne assumes that there is a rigid relationship between hierarchical structure and linear order, i.e. it is the phrase structure which determines word order (this is what he calls the linear correspondence axiom). One can no longer assume that a given hierarchal representation is associated with more than one linear order. Thus, two languages could not have the same structure but different orders.

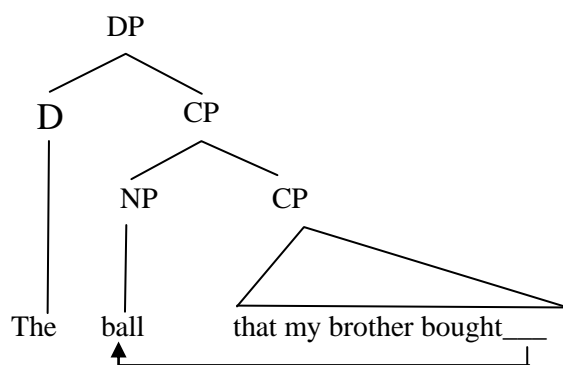
This proposal has certain implications, for example, that complements must always follow their associated heads, and that adjoined elements, which for Kayne, include Specs must always precede the phrase that they are sister to. There are no longer right-adjunction structures. So instead of assuming, for example, that an RRC is right adjoined to a preceding antecedent, Kayne has to propose an alternative to the right adjunction analysis and *promotion* is one possibility. In a promotion analysis of RRCs, it is assumed that the head *N* raises to the left of the CP that contains it: a left adjunction analysis.

In the light of the Kaynian proposal, let us take a closer look at the derivation of RRCs, all of which involve a D with a CP complement structure. We start with *that*/zero RRCs first since it is easier to propose a promotion analysis for them, and then move to *wh*-RRCs.

2.3.1 Non-*wh*-RRCs

In contrast to the matching analysis, where a CP is right-adjoined to N (or NP), in a Kaynian antisymmetry model, a *that*-RRC involves a D with a CP complement like the other kinds of RRCs, but differs in what exactly the CP contains and what movement processes apply. More precisely, the process involved is movement of an NP to Spec CP position. Thus, a sentence like (9) has the following representation:

9. The ball that my brother bought



Under this analysis, the NP no longer heads the RRC (as in the movement-matching analysis). Rather D heads the RRC.

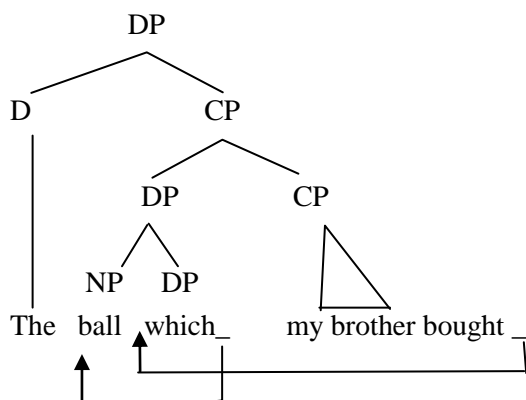
As for zero RRCs like (10), they differ from (9) only in having null C (this has an effect on stacked relative structures which will not concern us here)

10. The ball my brother bought

2.3.2 *Wh*-RRCs

Kayne assumes again that *wh*-RRCs involve a D with a CP complement. What is being raised here is a DP to Spec CP position (it may also be a PP that is raised followed by movement of NP to Spec PP, as we shall see in section 2.3.2.1) followed by movement of an NP to the Spec DP position. Although at first sight the head of the moved NP and the relative pronoun appear to be competing for the same position, this tension is accounted for. A sentence like (11) involves the NP *ball* moving to another place within the DP, this time in front of *which*, i.e. to Spec CP.

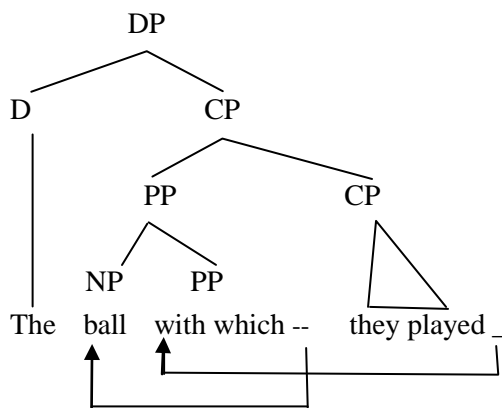
11. The ball which my brother bought



2.3.2.1 PP-RRCs

PP-RRCs which are another type of *wh*-RRC as they involve a *wh*-element originate inside the CP followed by *wh*-movement of the PP to the Spec CP position. The NP then gets raised to Spec PP position, see (12) below. Kayne argues that the motivation behind this movement is that the NP needs to be governed by a higher D.

12. The ball with which they played



The analysis of *that*-RRCs, *wh*-RRCs and *PP*-RRCs shares major assumptions: (a) there is movement to the Spec CP position; (b) the relative CP is the complement of the outer determiner D; (c) the relative pronoun is a D; (d) D does not form a constituent with the following NP (De Vries, 2006).

2.4 Problems for the promotion analysis of RRCs

2.4.1 Criticisms of Kayne's analysis of *that*-RRCs

Borsley (1997) observed that the promotion analysis of RRCs requires ‘numerous additional mechanisms to achieve observational adequacy’ (1997: 630). Firstly, Kayne’s analysis assumes that what is promoted is an NP. However, Borsley shows that the constituent that is promoted is in fact a DP:

(i) Pronouns in English are assumed to be DPs. Where they are bound, the antecedent must also be a DP. In (13a), the trace left by promotion from subject position in the RRC binds the pronoun *he*. The trace in the *that*-RRC behaves just like a DP-trace in a *wh*-question as in (13b), which suggests that it is a DP-trace.

13a. The man that *t* thought he saw a UFO

b. Who *t* thought he saw a UFO? (632)

(ii) The trace in an RRC may control a PRO. This is similar to a DP trace in a *wh*-question as in (14b)

14a. The man that *t* tried PRO to fool everybody.

b. Who *t* tried PRO to fool everybody?

(iii) The trace can also license a parasitic gap. A parasitic gap cannot easily stand on its own; that is why it depends on the preceding gap for its interpretation. The

parasitic gap co-refers to the copy of the preceding gap (which is assumed to be DP); therefore, it must itself be a DP (15a). Again this is similar to a DP trace in a *wh*-question (15b):

15a. The book that Bill criticized *t* without reading *pg*

b. Which book did Bill criticize *t* without reading *pg*? (632)

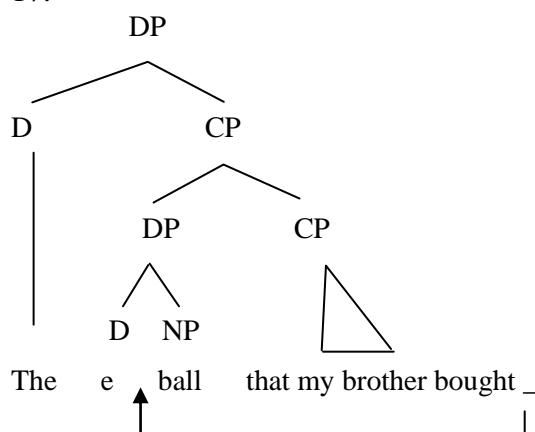
(iv) The trace must fill a case-marked position. The trace must carry the case of the position it originates in. In (16a) *the man* is supposed to carry accusative case, but it does not since the verb *arrested* is in the passive voice, and may not require an object, hence, the ungrammaticality of (16a). This is like a DP-trace in a *wh*-question (16b)

16a. *The man that it was arrested *t*

b. *Which man was it arrested *t*? (633)

One way of rescuing the promotion analysis is to assume that the promoted constituent is a DP with an empty D head, co-indexed with the c-commanding D:

17.



However, Borsley goes on to suggest that this alternative also faces problems. Firstly, why should D be empty? Borsley argues that there is nothing to guarantee that (i) the DP is preceded by a null D, thus, what is the reason for not having structures like:

18. *The the ball that Mudar bought.

(ii) The null D does not occur in other positions with a singular count noun, as in

19. *The leader won [_{DP} e battle].

The other point that Borsley highlighted in his criticism of Kayne's proposal has to do with case. Borsley argues that the fronted constituent – NP or DP – should have the case of the position it has moved from. The promotion analysis has, thus, to explain why it does not. In (20) the constituent *ball* originates as the object of the verb *bought*, and thus, has the accusative case. But then it moves to a position which has supposedly a nominative case. There is going to be a clash of cases.

20. The ball that my brother bought__ is here.

Borsley takes evidence for this argument from Polish, a language which has overt case on nouns and determiners and where it is easier to see whether the moved constituent has the case from the position which it has supposedly moved from or the case that is associated with the position of the complex NP in the superordinate sentence.

21. Widziałem tego pana, co zbił ci szbybę
 saw-1_{SG} the-_{ACC} man-_{ACC} what broke your-_{SG} glass-_{ACC}
 I saw the man who broke your glass (Borsley, 1997: 635).

In this example, NP/DP is accusative and not nominative although it has supposedly come from subject position. What Borsley is suggesting here is that there must exist a mechanism to prevent the NP from inheriting case from its trace in RRCs.

There are examples in various languages (see Bejar and Massam, 1999) which suggest that it may sometimes be necessary for an expression to have one case at one stage of derivation, and another one later. It is not clear, however, what the implications of this are within Minimalism, and how such cases should be handled within this framework where movement involves two operations: Copy and Merge.

2.4.2 Criticisms of Kayne's analysis of *wh*-RRCs and *PP*-RRCs

What drives the NP to move to Spec DP or PP is another question asked by Borsley. For him the motivation for movement is not a valid one because if NP promotion is motivated by the need to be governed by a higher head, one would be inclined to say that the NP is already governed by a D before movement if we are to follow Kayne in considering relative pronouns as Ds.

Apart from the motivation behind head raising, Kayne's approach faces some serious problems. The first problem is related to the fact that the *wh*-phrase and the CP clause

should be one constituent, but in Kayne's analysis (22) the *wh*-phrase and the following CP are not one constituent as shown in the bracketing:

22. [DP the [CP [DP book which] [CP I read]]]]

This has problematic consequences, most apparent in sentences like the following:

23. The ball which Mudar bought and which Maher lost.

What is being conjoined here are sequences which are not single constituents: *which Mudar bought* and *which Maher lost*, rather two separate constituents; *Mudar bought* is one constituent and *which* is part of another constituent. One might suggest that deletion of *ball* has occurred here. That is, the first *which* has its own Spec CP, whereas the second *which* has no Spec CP since the latter has undergone deletion. This deletion for Borsley is unjustified since coordination suggests that the *wh*-phrase and the following clause form a constituent, and there is no deletion. Thus, a mechanism is needed to allow coordination cases like this, as Borsley puts it.

Another problem is related to case. In the case of *wh*-RRCs, the raised *wh*-word carries a different case from that of the landing site, as is obvious in a language like Polish:

24. Widziałem tego pana, który zbił ci szbybę
 Saw-1_{SG} the-_{ACC} man-_{ACC} who-_{NOM} broke your-_{SG} glass-_{ACC}
 I saw the man who broke your glass (Borsley, 1997: 638).

In this example, *pana* starts out as complement of *który* and it is expected to agree with *który*, but it does not. Again a clash of cases arises. Thus, the same mechanism needed in non-*wh*-relatives is needed here ‘to ensure the correct realization of case in relative clause constructions’ (Borsley, 1997: 646)⁹.

2.4.2 Bianchi (2000)

Bianchi (2000) tries to refine Kayne’s proposal, though she preserves the core of his approach. In her reply to Borsley (1997) she argues that ‘the raising approach is indeed tenable’ and that the analysis of RRCs is ‘fully consistent with the restrictiveness of the antisymmetry theory’ (2000: 123). She has something to say regarding RRCs involving *that* and those involving *wh*-elements.

2.4.2.1 Non-*wh*-RRCs

Regarding non-*wh*-RRCs, she disagrees partially with Kayne’s proposal in the sense that although she thinks that the RRC (CP) is the complement of a preceding D, she agrees with Borsley that what is being fronted is a DP rather than an NP. In this analysis, the motivation behind movement is to satisfy the selectional N-feature on D. The external D attracts the immediate category within its minimal domain, i.e. it selects a nominal category within the following CP. The empty D associated with the nominal category gets incorporated with the higher D. After the incorporation of the relative D takes place, unification applies: the result will be only one D since the other D gets deleted. The idea of incorporation is triggered by the economy of

⁹ Borsley has further objections to Kayne’s approach, e.g. one related to stacking (see Borsley 1997: 639)

representation principle: ‘incorporate a functional head to a host whose feature structure is consistent with its own’ (Bianchi, 2000: 126).

Bianchi argues that empty Ds with singular count nouns are licensed here but not elsewhere because in other places there might be no possibility of incorporating the empty D with a higher D, as in the following sentence: *Mudar bought [DP e [NP ball]].* Here the empty segment cannot be licensed as it is locally related to a lexical head.

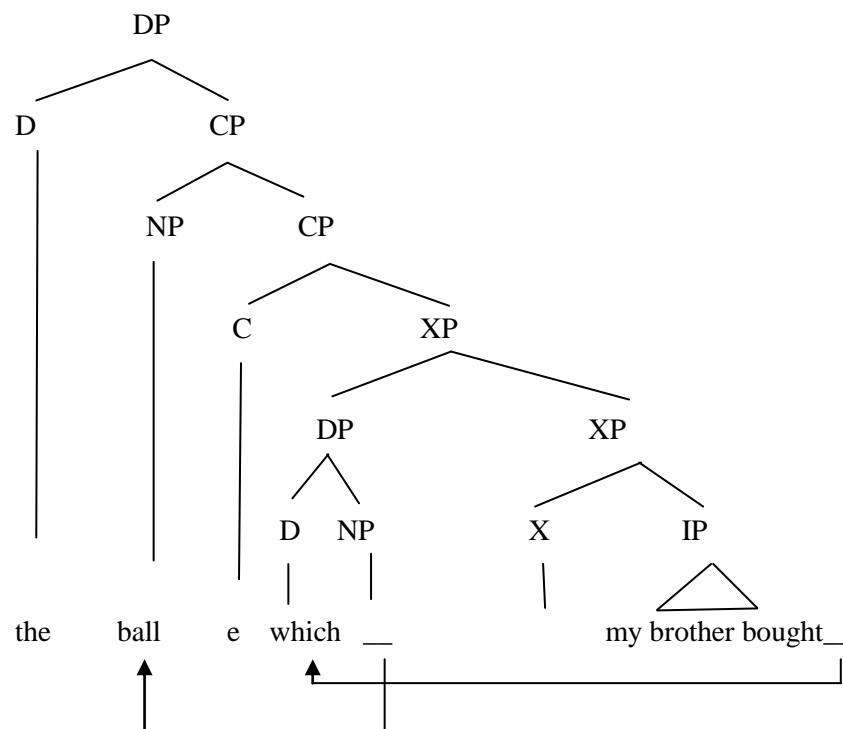
For Bianchi, one of the consequences of raising the relative DP is being marked by the same case as that of the external D. This is because ‘being case marked is a property of the D position; N morphologically agrees with D by which it is governed’ (2000: 129).

2.4.2.2 *Wh*-RRCs

Wh-RRCs have a modified analysis in Bianchi’s approach. To address Borsley’s criticism that the *wh*-phrase and the CP clause are not one constituent in the promotion analysis, Bianchi reanalyzes *wh*-RRCs so that the *wh*-phrase and the following clause form a constituent. Under her approach, the NP moves to Spec CP after the DP has moved to the lower Spec XP position¹⁰: the DP undergoes promotion to the Spec position of a functional head between C and I (Bianchi here adopts the split CP hypothesis), and then movement of the NP (within the *wh*-phrase) to Spec CP position as the following example shows:

¹⁰ Bianchi uses the term XP; she does not commit herself to anything specific, but later work does, e.g. Aoun and Li (2003) specify that this XP position is TopP.

25. The ball which my brother bought.



For Bianchi, this analysis has the effect of avoiding problems arising from coordination. Thus, in the case of *wh*-RRCs, what is coordinated is two XPs, whereas, what is being conjoined in the case of *that*-RRCs is two CPs coordinated as complements to the external D; the coordinated structures within this analysis are constituents:

26. [_{DP} The ball [[_{XP} which Mudar bought] and [_{XP} which Maher lost]]]

Borsley (2001) questioned the possibility of extraction from Spec XP but not from Spec IP or Spec CP; one would expect the three to be subject to similar constraints as in the following examples:

27. a *[The children] she thought [[some of t] saw Modar]

b *[The children] she thought [[which of t] Modar saw]

2.4.3 Borsley (2001)

Although Bianchi seeks to defend Kayne's approach by modifying some points, Borsley (2001) argues that her solutions are not entirely satisfactory¹¹.

One objection to a promotion analysis involves case once again. We have seen in previous sections how moving the NP can create a clash of cases between those of the original site and those of the landing site. Evidence for this comes from languages like Polish. Thus, it is normal for a moved constituent to have the case of the position from which it has moved. Hence if the head of the RRC has moved from a subject position one would expect it to be nominative and if it has moved from an object position one would expect it to be accusative. Bianchi argues that the case gets checked and erased by the time it reaches the landing site.

In response, Borsley remarks that case cannot be erased before moving to the Spec CP position as it is here that the form of D is decided. Thus, if one follows Bianchi's reasoning, what would guarantee that *który* has the suitable nominative form in a *wh*-question like in (28):

¹¹ For Bianchi, the motivation behind moving the head from within the CP is checking N-feature on the external D. However, for Borsley, this process involves a dual selection in the sense that the external D also selects its complement which must be a CP not an IP with an NP as a specifier. Thus, we cannot have a sentence like * *the [IP[NP teacher] [IP was inside]]*.

28. który pana zbił ci szbybę?

Which-NOM man-NOM broke your-SG glass-ACC

Which man broke your glass?

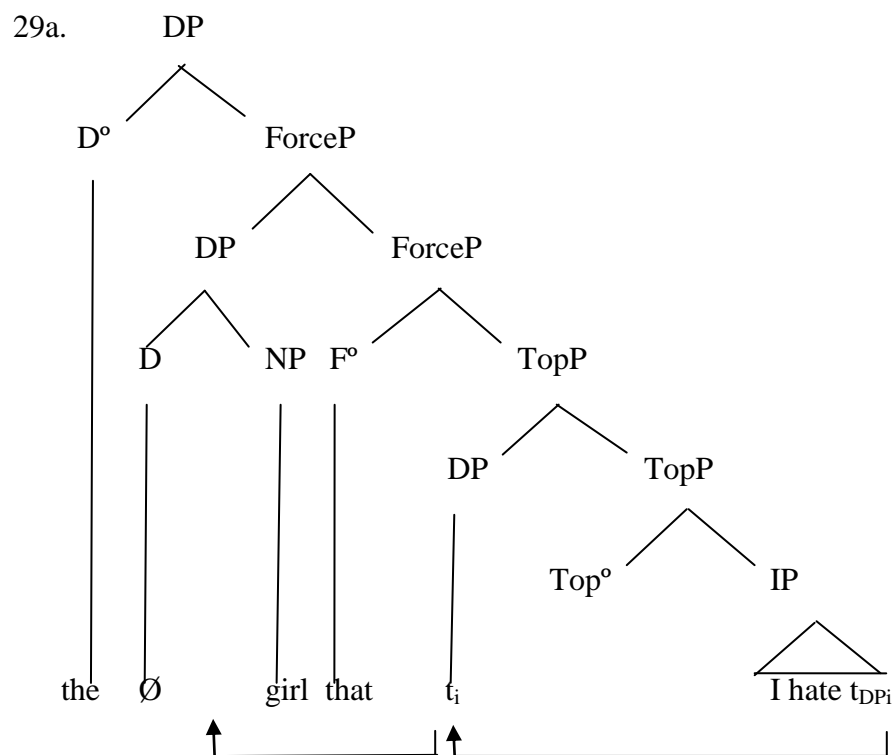
Moreover, even when features associated with D get checked and consequently erased, there remain the case features of the NPs which remain unchecked

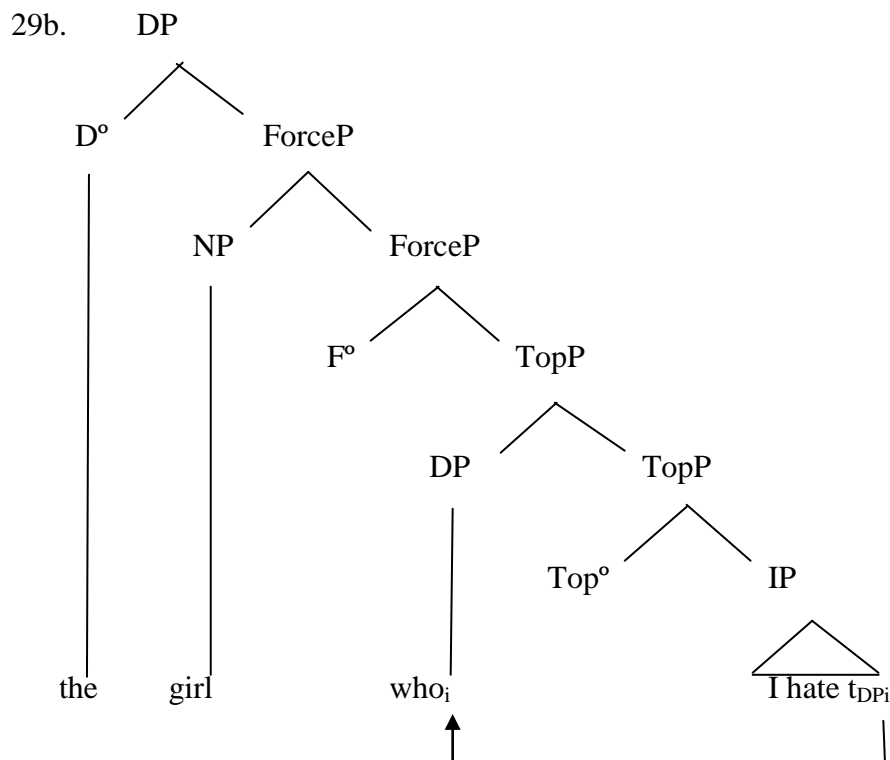
Borsley also objects to the analysis of possessive RRCs under the promotion analysis. In *The leader whose army she led*, the head cannot originate as a complement of *whose army* in the way that it might originate as a complement of *which* because *whose army* is a phrase. It looks as though *leader whose army* has to somehow derive from *which leader's army did she lead?*, but it is not clear how it could. It is not clear what sort of structure the sentence could have within Bianchi's approach? *The* [_{CP} [_{NP} *leader*_j] [_{XP} [_{DP} *whose army* *t_j*]_i] [_{IP} *she led t_i*]]. Is *leader* in the Spec position of *whose army*? Since there is no possessive marking, one cannot consider the NP *leader* to occupy the Spec position of *whose army*. However, even if we assume that *wh*-word has the genitive form and that *leader* is extracted from a possessive Spec position as in *The* [_{CP} [_{NP} *leader*] [_{XP} [_{DP} [_{DP} *whose* *t*] *army* *t*] [_{IP} *she led t*]]] extraction is not possible from such a position, hence the impossibility of **Which country did you meet the president of's wife?* (Borsley, 2001:7).

2.5 Aoun and Li's (2003) partial promotion analysis

The preceding discussion assumes that one analysis (the promotion analysis) is right for both *wh*-RRCs and non-*wh*-RRCs. A&L (2003) give relative constructions a new

analysis; they make use of both analyses: movement-matching and promotion. The spirit of their proposal is that there is a difference in the derivation of *that*-RRCs and *wh*-RRCs, the former requiring the promotion of the head to Spec ForceP as in (29a), the latter requiring basing the head in the Spec CP position and moving the *wh*-operator instead to the Spec Top position as in (29b). In other words, they propose a version of the movement-matching analysis for *wh*-RRCs, but a novel one in that it does not involve right adjunction.





Although their approach involves the availability of two mechanisms for deriving RRCs, this does not necessitate the adoption of two different structures: the adjunction structure and the complementation structure. Rather, the latter is presumed to be sufficient to generate different kinds of RRCs in English.

The choice of the derivation mechanism (promotion or movement-matching) depends on the presence of *that* or a *wh*-word, and on morphosyntactic properties (namely the use of some Ds). A&L assume that a promotion analysis is only appropriate for *that*-RRCs with certain Ds like *the/these/every/any/all/what/my*. And a matching analysis is suitable in cases where there is no evidence for head raising (when the operator is being moved). In this case *wh*-RRCs are used with a different kind of D: *ten/few/lots/many/a/some/a few/several/most/each*.

A&L agree with Bianchi's analysis as far as *that*-RRCs are concerned, but reject the main feature of her analysis of *wh*-relatives. Bianchi assumes that the *wh*-phrase raises from within the IP to the Spec Topic position. This is followed by movement of the NP from within the DP to the Spec Force position. A&L disagree to this two-step movement; rather they claim that there is only one step to the Spec Top position.

In cases involving *wh*-phrases such as [who NP] [why NP] [where NP] and [when NP], *who/why/where/when* are by themselves XPs as they can occur in XP positions without any NPs as complements, in other words, whereas one finds *which* NP in *wh*-interrogatives one does not find any of these combinations anywhere else: * *when time*. In other words, it might be plausible to suppose that *the book which I read* involves movement of *which book*, but it is less plausible to suppose that *the man who I met* involves movement of *who man*, *the reason why I left* movement of *why reason*, *the place where I lived* movement of *where place* and *the time when I left* movement of *when time*.

A second reason is that in the same way that *the apple which I ate* is generated in such a way that the NP *apple* has moved from Spec DP occupying Spec of Topic position to Spec of Force, we should be able to derive a sentence like *the teacher which I like*, but this is not acceptable because *which* cannot occur with animate NPs. Similarly, we cannot generate the otherwise unacceptable *who teacher*.

A&L assume that the head raising analysis can explain certain phenomena:

i) The appearance of definite articles with names that do not normally have articles is taken as evidence for reconstruction (the term reconstruction effect is used for a certain sort of interpretation whereby X is not c-commanded by Y but it is in a sense interpreted as if it were). (30a) is ungrammatical because *Paris* is a proper noun which is normally not modified by an article. However, for A&L, relative constructions allow this combination because of the complementation structure that they claim

30a. I love (*the) Paris.

b. The Paris that I love

ii) Idioms are introduced as a unit: *made fun* as in (31a). However, there are cases like (31b) where the parts of the idiom are separated. For A&L, this is possible because there is head raising:

31a. They made (*the) fun of me

b. The fun that they made of me

What the above analysis suggests is that the head in *wh*-RRCs does not behave as if it were in some lower position as is the case with *that*-RRCs, i.e. it does not exhibit reconstruction effects. The kind of movement approach, like that of A&L, that captures the fact that X was c-commanded by Y before movement occurred will be described in the next section.

2.5.1 Analysis

2.5.1.1 *That*-RRCs under Aoun and Li's approach

In the course of arguing for a partial promotion analysis, A&L adduce evidence for their analysis of both kinds of RRCs from a number of facts. Concerning *that*-RRCs, A&L present various kinds of reconstruction effects as evidence for a promotion analysis of *that* RRCs but not *wh*-RRCs.

i) Binding: It is assumed that a reflexive anaphor normally needs to be c-commanded by a local antecedent, but in some relative constructions it is not. In (32) *portrait of himself* is, on the surface, not c-commanded by an antecedent, but, for A&L, this expression could be thought of as originating in a position after *painted* inside the RRC, thus, showing a reconstruction effect.

32. The portrait of himself that John painted is extremely flattering (Schachter 1973 cited in A&L, 2003: 98).

The RRC in (32) would derive from the following structure:

33. [_{DP} the [_{FP} that John painted [_{DP} portrait of himself]]]

ii) Bound pronouns: A pronoun with a quantified antecedent must normally be c-commanded by that antecedent. In (34), however, the pronoun in the head nominal refers to a noun within the RRC:

34. The picture of his mother that every student liked best was an old black and white
(A&L, 2003: 99)

For A&L, the RRC in (34) would derive from the structure (35):

35. [_{DP} the [_{FP} that every student liked [_{DP} picture of his mother] best]]

Apparently, *his* is not c-commanded by an antecedent, but one can assume that *picture of his mother* originates below *every student* and is c-commanded by it. Thus, *his* could be said to refer to *every student*.

(iii) Scope interpretation: A&L presented examples illustrating scope interaction to show the availability of reconstruction whereby a head nominal can be interpreted as having narrow scope over another quantifier within the RRC. The narrow scope interpretation can be given to cases where there is a definite article in RRCs having narrow scope with respect to the quantifier phrase inside the RRC as in (36):

36. 100 students were graduating and each student was to bring two guests to the ceremony. Unfortunately, the ceremony was cancelled because of illness. The departmental secretary had to phone *the two people that every student had invited* to tell them of the cancellation.

The meaning of the RRC can be that the secretary phoned two hundred people. The relativised nominal *two people* c-commands *every student*, and it can be interpreted as having narrow scope with respect to the quantifier phrase *every student* in the RRC,

i.e. there can be twice as *many people* as *students*. This interpretation is possible if we assume that *two people* originates in object position after *invited* and then get raised to its position in the PF.

This would involve the following structure on a head-raising analysis:

37. [_{DP} the [_{FP} that every student had invited [_{DP} two people]]]

The above-mentioned facts apparently assume that some DP constituents are moved from the lower position to the Spec CP position leaving behind a copy which can be interpreted appropriately at LF. A critical discussion of these arguments will be presented in section 2.6.1.2.

2.5.1.2 *Wh*-RRCs under Aoun and Li's approach

A&L claim that there are no reconstruction effects with *wh*-RRCs. For them, the lack of reconstruction and the presence of a gap in sentences like (38) led them to conclude that the head is base-generated, and the *wh*-word is moved.

38. Some boys [who I know everyone would bring t to the party] (A&L, 2003: 110)

The presence of a *wh*-element or some particular Ds (such as: *ten/few/lots/many/a/some/a few/several/most/each*) in idioms, anaphors, bound pronouns, scope interpretation is assumed to make the sentences worse as the following examples from A&L (2003: 110-114) show:

i) Idioms: A&L assume that when the idiom chunk is inside the RRC, the use of a *wh*-word or one of the above-mentioned Ds is unacceptable as in (39a) and (39b)

39a. ?? The headway which Mel made was impressive.

b. *Some/Much headway that Mel made was satisfactory

ii) Scope: For A&L the presence of the *wh*-element means that the head has no narrow scope over the quantifier inside the RRC. In (40) the numeral expression *two students* has no scope over *most professors* suggesting that the number of students is only *two*:

40. I will interview the two students who most professors would recommend.

iii) Anaphors: whereas *wh*-interrogatives (complex or non- complex) allow reconstruction as in:

41a. Which picture of himself did John paint in art class?

b. Which picture of himself did John think Mary painted in art class/liked the best?

However, according to A&L, the corresponding declaratives do not:

42a. ?? The portrait of himself which John painted is extremely flattering.

b. ?? I saw some pictures of himself that Mary said everyone liked the best.

iv) Bound pronouns: the same contrast between declaratives and *wh*-interrogatives holds here:

43. Which picture of his mother does every student think Mary painted in art class?

But not:

44. ??I would like to collect the best pictures of his friend which I think everyone will bring tomorrow.

45. ??I saw some pictures of his mother that Mary said everyone liked the best

iv) Scope interpretations also provide a contrast between *wh*-RRCs and *that*-RRCs:

46a. I phoned the two patients (that) every doctor will examine tomorrow.

b. I phoned the two patients who every doctor will examine tomorrow.

A&L argue that the interpretation of the first sentence is that each doctor examined two different patients, an interpretation which is not available for the second sentence where there are only two patients to be examined by all the doctors.

So far I have considered the essential features of three different analyses of RRCs: the traditional operator-movement analysis (such as that adopted by Radford, 2009), the promotion analysis (that of Kayne, 1994) and the partial promotion/mixed analysis (such as that of A&L, 2003). Each of these analyses tried to avoid the drawbacks of the preceding ones. However, there remain problems, though to varying degrees, in

each one of them, and they all need additional mechanisms to achieve adequacy as we shall see in the coming section.

2.6 Movement-matching or promotion?

In what follows I will present the weak points in A&L's account, and then move to show how the traditional operator-movement analysis tackles them.

2.6.1 Weaknesses of the mixed analysis

There are some problems with A&L's account which cast doubt on its plausibility. These problems are related to both their claim that RRCs are structurally D heads with CP complements, and to the distinction they wish to make between the *promotion analysis* and the *operator movement analysis*.

2.6.1.1 Complementation structure

A number of objections can be raised about the very idea of complementation:

i) Since A&L assume the promotion of a DP head to Spec CP, the question to be asked here is what ensures that the raised DP has an empty D and what ensures promotion? One answer (see Bianchi, 2000) is that the upper D needs to be associated with an NP and the following DP contains a suitable NP so that incorporation can take place. A possible reply to this claim would be that sentences involving *this* or

that do not require a nearby NP, so it is not clear why the DP containing an NP should be fronted when the D is *this* or *that*. Consider the following sentences (47-49):

47a. *The [I saw e man]

b. The [e man I saw]

(47a) is ungrammatical for two reasons: *the* does not have an NP close enough, and *e* *man* needs an overt D near to it. These two conditions are satisfied in (47b). This is not the case in (48a), where we have a different D:

48a. *This [I saw e man]

b. This [e man I saw]

(48a) is ungrammatical for one reason; *man* needs a nearby overt D, *this* does not need a DP near it; it can stand by itself. This condition is fulfilled in (48b). Now consider the ungrammaticality of (49):

49a. *This/that [I saw the man].

b. *This/that [the man saw me].

The question to be asked here is the following: how can A&L's analysis account for the ungrammaticality of (49).

ii) Apparently the definiteness effects in A&L's constructions seem to argue for a complementation structure. That is, for A&L there seems to be a possibility of a gap in a position which only allows indefinite DPs:

50a. *There were the men in the garden

b. There were 0 men in the garden

c. The men that there were in the garden were all diplomats (A&L, 2003: 103).

The DP *men* that can only be indefinite in declarative clauses (50b) can become definite in RRCs (50c). However, this argument is rather dubious because in (50c) there is a gap following *were* and it has to be a definite expression and *men* is an indefinite expression. If a DP with an empty D is fronted, then this empty D can be indefinite; consequently, one might expect a clash between definite and indefinite articles and incorporation may not take place. Moreover, A&L consider the plural *men* which does not have to appear with a D. Thus, although one cannot have a definite DP after *there be*, one cannot have a bare singular count NP either, hence the ungrammaticality of (51b):

51a. The man that there was in the room

b. *There was man in the room.

A&L's argument about the definiteness effect does not really choose between the two approaches: the operator movement analysis and the promotion analysis. On the promotion analysis, the empty D can be indefinite and on the non-promotion analysis the empty operator can be indefinite.

iii) As indicated earlier in section 2.5, the appearance of definite articles with names that do not normally have articles is taken by A&L as another piece of evidence.

52a. I love (*the) Damascus.

b. The Damascus that I love.

Actually the contrast in (52a) and (52b) is expected on Kayne's analysis because *Damascus* is only superficially adjacent to *the* in (52b). It is not clear, however, why movement should apply in (52a). *Damascus* does not need to be close to an overt D. In other words, objection (i) arises again here.

Moreover, Kayne assumes that a proper name originates as an ordinary nominal constituent with no article on his analysis of RRCs, and he tries to assume a related analysis for examples like (53) below in which the proper name is preceded by an adjective¹², but it is not clear how a similar analysis could be proposed for (54):

¹² Kayne (1994) assumes that the similarity between relatives and attributive adjectives suggests that they should have similar analyses. Both adjectives and relative clauses are CPs since they serve the same semantic function which is modifying the head. Thus, for Kayne (p 101), (1a) has the structure in (1b):

1a The yellow book

b The [_{CP} [_{AP} yellow]_i [_{CP} C⁰ [_{IP} [_{NP} book]_j [_{IP} t_i]]]]

Here the AP is moved to Spec CP, and the CP does not contain any form of *be*.

However, if we applied this analysis to relatives, it turns out to be problematic. Borsley (1997: 634), for example, presents a number of reasons to reject the CP analysis:

i) It is not clear how the above adjective structure analysis is to be allowed here while excluded elsewhere, that is, how *be*-omission can be required in one case and banned in the other, e.g.:

2. *I think [that the book yellow]

ii) It is also not clear how it is possible to have an NP *book* as subject of the complement, or if it is really a DP with an empty D it is not clear how it is licensed given that it is not close to *the*. Obviously, one can have more than one adjective between *the* and NP, but this has the effect of making the distance between the determiner and the NP even bigger.

iii) It is not clear why AP and not NP moves to Spec CP. The NP has normally to move to Spec CP to be close enough to the determiner and here it has not.

iv) It is also not clear how this approach can deal with adjectives which can only be used attributively, e.g. *utter* in the following:

3a. an utter fool

b. *The fool is utter.

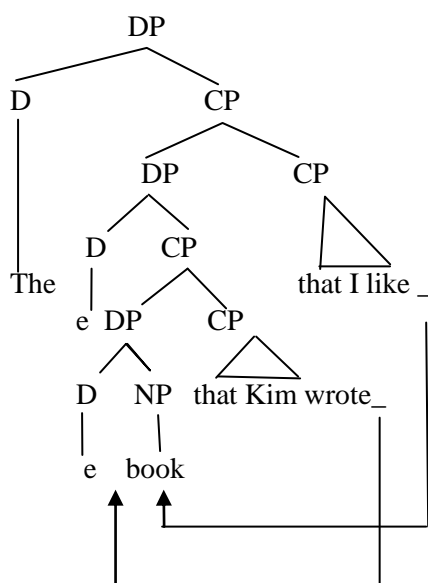
53. The ever-popular Paris is my next holiday destination.

54. The Paris of my dreams is my next holiday destination.

(53) and (54) show that a proper name can be preceded by the definite article if it is modified in some way in some constructions that do not involve RRCs. (53) contains a proper noun *Paris* modified by an article with an adjective in exactly the same manner as it is modified by an RRC. In (54) the proper noun is directly preceded by an article and followed by a prepositional phrase, i.e. it is not in an RRC context.

iv) Stacking (a situation where two or more RRCs directly follow each other and have the same head) is also problematic for A&L's analysis of *wh*-RRCs. Concerning *that*-RRCs such as (55), Bianchi provides an analysis for stacked *that*-RRCs and A&L adopt it (this analysis is based essentially on Borsley's 1997 suggestion).

55. The book that Kim wrote that I like.

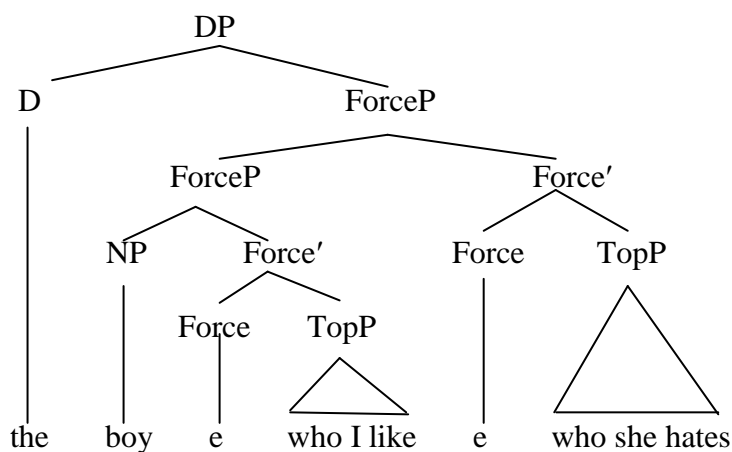


This tree involves two empty Ds: *book that Kim wrote* would be a DP with an empty head and *book* is also a DP with an empty head. As Borsley observed, one must guarantee that both are obligatorily empty.

As for *wh*-RRCs such as (56b), A&L do not assume Bianchi's analysis of *wh*-RRCs, they have a slightly different analysis. In (56a) *Book which Kim wrote* is presumably a constituent in Spec ForceP. But in the stacked construction (56b), it would have to be a ForceP, but in this case we end up having two different categories in Spec ForceP: NP and Force P.

56a. The book which Kim wrote.

b. The book which Kim wrote which I like.



This analysis forces one to assume that either NP or ForceP may appear in Spec ForceP in an RRC structure. In other words, the analysis has to allow something new (ForceP in Spec ForceP) to accommodate stacking. This is a weakness in their analysis.

So far I have highlighted a variety of weaknesses in A&L's account. The evidence they presented does not account for the obligatory fronting of DP. The following seem to be problematic:

- (i) The difference in the behaviour of *this/that* and *the*.
- (ii) The difficulty of replacing adjectives with RRCs.
- (iii) The difficulty of stacking in *wh*-RRCs.

2.6.1.2 Reconstruction

The evidence A&L present from reconstruction effects is inconclusive in various respects¹³:

Reflexives: usually a reflexive requires a local c-commanding antecedent. It seems, however, that the structural location of reflexives is the factor that determines whether it can be bound or not by an antecedent:

57a. The [portrait of himself] [that John painted in art class ...] is impressive.

b. *The [portrait of John] [that himself painted in art class ...] is impressive.

(A&L, 2003: 111)

¹³ Platzack (2000) argues that reconstruction as an argument for the Kaynian head raising analysis is questionable. Platzack uses examples from Swedish where head raising fails to account for the non-licensing of possessive reflexive, hence the ungrammaticality of the following sentence:

*Var la du brevet fran sin larare som sara fick igar?
 where put you letter.the from her.REFL. teacher that S. got yesterday
 Where did you put the letter from her teacher that Susan got yesterday (267)

A&L claim that the reason why (57a) is grammatical is because a copy of *portrait of himself* is left behind in the RRC (the copy is deleted in PF only) and from there can be bound by *John*. In (57b) a copy of *portrait of John* is left behind by movement, but the copy cannot bind *himself*. Hence, the sentence is ungrammatical because *himself* is unbound.

There is evidence from examples like the following discussed in Pollard and Sag (1994: 279) that some reflexives do not have a c-commanding antecedent at any level of syntax:

58. a The picture of himself in Newsweek dominated John's thoughts.
 b The picture of himself in Newsweek made John's day.
 c The picture of himself in Newsweek shattered the peace of mind that John had spent the last six months trying to restore.

In the first sentence *The picture of himself in Newsweek* is the subject and *John's thoughts* is the object, *The picture of himself in Newsweek* cannot originate inside object. The same situation holds for *The picture of himself* in the second sentence. In the third *John* is inside an RRC modifying *piece of mind*, but *picture of himself in Newsweek* does not start inside this RRC meaning that it is not c-commanded by *John*. This kind of reflexives can be subsumed under 'exempt anaphors' (Pollard and Sag, 1994) (these do not have to be c-commanded by antecedent).

Bound pronouns: for A&L the distribution of bound pronouns indicates that there is reconstruction. Thus a bound pronoun c-commands a quantifier phrase in the RRC

suggesting that the pronoun has originated inside the RRC as in example (34) repeated here in (59):

59. The picture of *his* mother that *every student* liked best was an old black and white (A&L, 2003: 99)

However, here is an example which suggests that some pronouns have a quantified antecedent which does not c-command it at any level of syntax:

60. His X-box is every boy's favourite toy (Borsley, personal communication).

Even if (60) were derived from (61), c-command does not apply as shown by (61):

61. Every boy's favourite toy is his X-box.¹⁴

Scope interpretation: scope interaction as dealt with by A&L (see section 2.5.1.1) involves the idea that a head nominal can have narrow scope with respect to another quantifier within the RRC, if the former c-commands the latter.

62. I phoned the two patients that every doctor will examine tomorrow.

¹⁴ To support this argument, one can assume that the contrast between (1) and (2) below shows that the ungrammaticality of (2) shows that *every boy* does not c-command a constituent of the VP. It follows that *every boy* does not c-command *his* in (1).

1. Every boy's favourite toy is his X-box.

2. *Every boy's favourite toy annoyed himself.

The QP *every doctor* can have scope over the relativized nominal *two patients*. However, here is an example which suggests that a universal quantifier sometimes has scope over an existential quantifier which it does not c-command in the syntax

63. An X-box is every boy's favourite toy (Borsley, personal communication).

There is no plausible movement analysis which allows *every boy* to c-command *an X-box*. *Every boy* has scope over *an X-box*, but it doesn't c-command it at any level suggesting that there can be as many *X-boxes* as *boys*. This is because X-box is not referring to a single X-box. This interpretation is possible even though *every boy* does not c-command *an X-box* as *every boy* is inside the DP *every boy's favourite toy*.

It might be thought that (64) derives from the following:

64. Every boy's favourite toy is an X-box.

Again *every boy* does not c-command an X-box, as shown by the ungrammaticality of the following:

65. *Every boy's mother likes himself.

Idiom chunks: A&L claim that the behaviour of idiom chunks shows that they must involve promotion (see section 5). However, there are some arguments, one of which is that of Nunberg, Sag and Wasow (1994)¹⁵, which assume that idioms are

¹⁵ This argument came originally from McCowley (1981) as they note.

‘semantically compositional’, and the very idea of idiomaticity is ‘fundamentally semantic in nature’ (491):

66. a The strings [that Pat pulled] got Chris the job

b. Pat pulled the strings [that got Chris the job]. (Nunberg, Sag and Wasow, 1994: 510).

(66a) would have the structure in (67) on A&L’s:

67. [_{DP} the [_{FP} that Pat pulled [_{DP} strings] got Chris the job]]

(66b) would have the structure in (68) on A&L’s:

68. [_{DP} the [_{FP} that [_{DP} strings] got Chris the job]]

If we assume that the head nominal raises out of the RRC, this might work to explain why (a) may be interpreted idiomatically, but then (b) should not allow an idiomatic interpretation, as the *strings* is in the RRC in the underlying structure, while *pull* is in the upper clause. What this means is that idioms are not always introduced as one unit, a fact that weakens A&L’s evidence.

The effect of the presence of a wh-word vs. that-RRCs (or no overt C) on reconstruction possibilities (whether in idioms, reflexives, bound pronouns, scope interpretation) is quite questionable. A&L claim that reconstruction facts are evident

in non-*wh*-RRCs but not in the *wh*-RRCs. Under their account, reconstruction is supposed to be possible in (69a), but in (64b) it is not:

69. a The picture of himself [(that) John painted ...] in art class is impressive.

b ?The picture of himself [which John painted ...] in art class is impressive.

However, this contrast is not very clear. This is not robust evidence for distinguishing two kinds of RRC formation. In fact, the native speakers of English who were asked whether they make any distinction in meaning between *that*-RRCs and *wh*-RRCs gave an answer that they do not. It is worth noting that A&L don't star the *wh*-reconstruction examples, but just mark them as ? or ??.

Reconstruction is possible even when no movement is involved: Both *wh*-RRCs and *that*-RRCs show this if the relevant examples are in fact grammatical, contrary to A&L. Aoun and Choueiri (1997), for example, assume that reconstruction effects give evidence for movement; however, their discussion of the following example suggests that there may be reconstruction where the crucial constituent has not been moved:

70. His last poem is what every Englishman prefers (A&Ch: 16).

Here *what* presumably originates as object of *prefer*. If so, *his last poem* cannot originate there¹⁶. They assume that '[A]lthough the c-command requirement on bound pronouns fails to apply in (70), the pronoun *his* can still be bound by the QP *every*

¹⁶ Sentence (70) seems to be a pseudo-cleft, and *what every Englishman prefers* is arguably a free relative, for further discussion see Heycock and Kroch (1999), and Yoo (2003). See also Romero (2007) and Caponigro and Heller (2007) for discussions of reconstruction effects in specificational copular sentences.

Englishman. In (70), the DP *his last poem* is coindexed with the RRC via predication. *What*, which bears the same index as *his last poem*, can be interpreted as a ‘copy’ of this DP. Informally, at LF, *his last poem*, *what*, and the trace of *what* within the RRC, form an extended chain. Hence, the availability of the bound pronoun reading in (58)’ (p.16)

The point here is that if coindexing between the antecedent and the empty operator can account for reconstruction effects then reconstruction does not provide any support for a head-raising analysis. Moreover, if coindexing can account for reconstruction here then there is no reason why it shouldn’t do so elsewhere.

A further problem for movement-based views of reconstruction is outlined in Sharvit (2007): *Reconstruction cannot predict the difference between which-interrogatives and superlative RRCs*. Sharvit is critical of the idea that movement leaving behind a copy is the way to explain reconstruction. He focussed his discussion on the following sentence:

71. The longest book John said Tolstoy had written was Anna Karenina (336).

Example (71) has two readings: high (because *longest book* is outside the scope of *say*) and low (because *longest book* is in the scope of *say*). It is only the low one that gives rise to a reconstruction effect:

72a. ‘High’ reading (*longest book* >> *say*)

John said about a bunch of books that they were written by Tolstoy. Of these books, *Anna Karenina* is the longest.

- b. ‘Low’ reading (say >> longest book)

John said that *Anna Karenina* is the longest book written by Tolstoy.

Sharvit argues that if we form a *which*-interrogative sentence out of (71), we get the sentence in (73a). (73a) does not have the low reading in (73b), but rather that in (73c)

73.

- a. Which longest book did John say Tolstoy had written? (337)
- b. Which x is such that John said that x is the longest book Tolstoy wrote?
- c. Out of the set of entities such that each of them is the longest member in some set of books (e.g., (Book a (=longest member of set A), Book b (=longest member of set B), Book c (=longest member of set C)), which entity is such that John said that Tolstoy wrote it?

Under the copy theory of reconstruction, (73b) was predicted to be a possible reading of (73a) if the generation of the ‘low’ reading of (71) and the generation of the ‘low’ reading of (73) ‘involve the same ‘degree’ of reconstruction’ (337).

Sharvit’s aim was to point out that before we provide an account of reconstruction, we need a real understanding of what it is. He also wanted to emphasize that ‘any theory of reconstruction has to be formulated in such a way as to block the undesired readings’ (338)

2.7 HEAD-raising analysis

A modified version of the raising analysis is advanced in Donati and Cecchetto's (2011) work. They argue that the raising analysis proposed by Kayne and Bianchi 'suffers from drawbacks that all trace back to an incomplete understanding of the nature, the properties, and the trigger of this movement operation' (552). For example, in the case of *wh*-RRCs, they highlighted a problem with the derivation, namely that it is unsatisfactory to have a D with a CP complement; the complement of the D should be an NP.

The central idea of their proposal is that what is raised in an RRC is a noun and not an NP or a DP. On their analysis it follows from this that the mother of the moved expression becomes an NP. Hence, we have the structure in (74b), but not in (74a).

74a. [DP the [CP book [CP that I read]]

b. [DP the [NP book [CP that I read]]

Donati and Cecchetto assume a Probing Algorithm (the label of a syntactic object (α , β) is the features(s) that acts as a probe of the merging operation creating (α , β) (521)). What this means is that only lexical items, 'heads', can raise to check their feature, the edge feature¹⁷, that forces them to merge with another element. Thus, *book* in (74b) is a lexical item and has an edge feature that needs to be satisfied and that is why it is merged with CP leaving behind in the original position a stranded null D. In conformity with the the Probing Algorithm, it relabels the structure and allows it

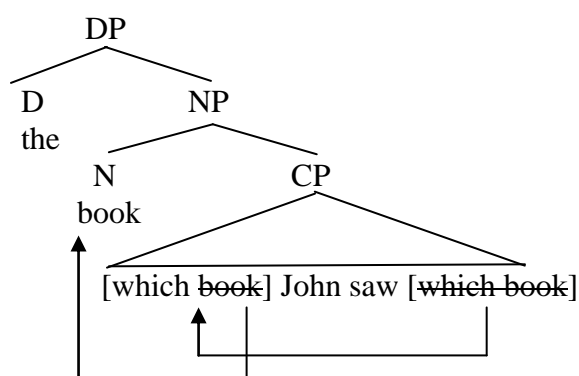
¹⁷ Donati and Cecchetto assume that lexical items have an edge feature. Their account is different from the standard account where the edge feature is associated with C.

to combine with the external D. In other words, when there is movement of a head, the moved constituent projects, and this is not what is traditionally assumed.

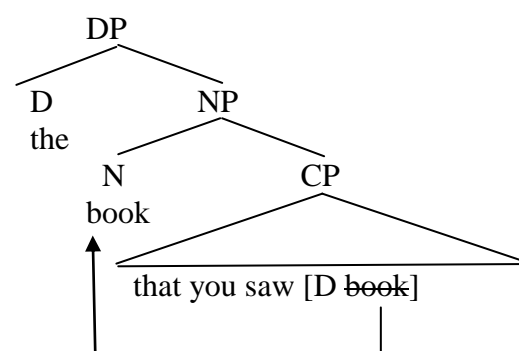
Here are the trees they propose for both *wh*-RRCs and *that*-RRCs:

75.

a. *Wh*-RRC



b. *That*-RRC



The structure that they are proposing is the one assumed in a traditional non-raising analysis in that there is a D followed by an NP, and not DP followed by CP.

They argue that when D has a *wh*-feature as in the case of *wh*-RRC (a), it is visible to the root C, therefore, the *wh* D-label is closer than the N to C, and the entire DP is attracted to C. Whereas when D does not have a *wh*-feature as is the case with *that*-RRCs (b), N can move alone since the D-label no longer interferes.

They also propose that when it looks as if a noun and its modifier have been raised, the modifier has been added after movement so that the modifier cannot prevent

labeling. Thus, in (76) only *book* is raised out of the RRC and *recently published* and *about syntax by a linguist from Oxford* are added after raising; later merged:

76. The recently published book about syntax by a linguist from Oxford that we are planning to read

2.7.1 Problems for the HEAD-raising analysis

Donati and Cecchetto use the absence of a reconstruction effect in (77) (the fact that *he* and *John* can be coindexed) as evidence for their position:

77. The professor of John_i's that he_i always praises

However, they have to reject the account of reconstruction effects that A&L and others assume for a sentence like (32) discussed earlier and repeated here as (78). They provide evidence against the raising of the whole antecedent.

78. The portrait of himself that John painted is extremely flattering

They have to say that this is not evidence that *of himself* originates inside the RRC.

One more weakness of their analysis is that they assume that *that*-RRCs involve movement of an N leaving behind an empty D. So we have the following structure:

79. [DP the [NP book [CP that I read [DP D ~~book~~]]]]

Essentially they are assuming that a head can move in the same way as an XP, for example, that it can be extracted from a subordinate clause.

80. [DP the [NP book [CP that I think [CP he read [DP D ~~book~~]]]]]¹⁸

It is traditionally assumed (see Radford 2009: 122-124) that head-movement is local, i.e. it is subject to the Head Movement Constraint, which only allows movement to the nearest higher head. They have a brief remark on head movement which is that head movement ‘is not restricted by such a condition’ (530). Donati and Cecchetto have to assume that head movement can operate in exactly the same way as A'-movement; it is no more restricted than A'-movement (e.g. that it can extract a head from a clause).

Moreover, this analysis does not explain why the empty D cannot appear with an in-situ noun, as in (81).

81. *He read [DP D book]

It also doesn't explain why one cannot have an overt D left by movement as in **the book that I read the ____* or a complement of the noun as in **the book that ____ about syntax impressed us*. (Head-movement can normally leave a complement behind as in *Will you be there*, where *will* has left its complement *be there* behind).

¹⁸ We could have a similar example to (80) but with *that* in C position: [DP the [NP book [CP that I think [CP *that* he read [DP D ~~book~~]]]]]. In this case, *book* cannot move via the C position as it is filled by the overt C. This could be a potential problem for Donati and Cecchetto's analysis.

In addition, they claim that their analysis solves the Case problem raised by Borsley. They argue that the case clash can be resolved by assuming that ‘there are two DPs which share the same N head’ (531) so that the lower DP gets one case and the higher DP could get a different case. However, assuming a noun agrees with the preceding D, the lower *book* in (79) will be accusative but the higher *book* may have some other case. It is not clear how this can be accounted for under their analysis.

Their analysis also faces the problem highlighted by A&L (2003) and discussed in 2.5 namely that it involves *wh*-phrases for which there is no independent motivation: *who man, when time, where place* and *why reason*.

The final weakness to mention here is that it is not clear how their analysis deals with stacking. For instance in (90) they would have to assume that *book* raises out of *which I read last year* to give the structure in (91):

90. The book that Chomsky wrote which I read last year.

91. [_{NP} book [_{CP} which I read last year]]

Then *that Chomsky wrote* would somehow have to be added to *book*. The problem is that *that Chomsky wrote* must presumably be the result of head-raising, but that will give something like *book that Chomsky wrote*. If *book that Chomsky wrote* is combined with *book*, the result is **book book that Chomsky wrote*, which is obviously not acceptable.

So far the analyses discussed under the *raising* analysis all suffer from major drawbacks. In the next section, the analysis to be adopted for English RRC is decided.

2.8 The traditional operator is the analysis for English RRCs

The traditional operator movement analysis has the advantage of accounting for the above mentioned problems:

- i) The antecedent is base-generated, so there is no need to assume an incorporation process of two DPs whereby the moved D has to be empty.
- ii) Stacking does not constitute a problem for an adjunction structure, thus one can have more than two RRCs, all right-adjoined to the head:

92. The movie which/that I watched which/that Mudar hated.

Which/that I watched and *which/that Mudar hated* are two CPs added to the head *the movie*.

- iii) Adjective constructions can easily replace relative constructions.

- iv) Case is not a problem for this analysis because there is no expectation that the antecedent and the *wh*-element will agree in case. In other words, if the antecedent is base-generated then it is co-indexed with the *wh*-word and agrees with it in gender and number. This is similar to the Polish example (24) repeated here as (93) where

pana, which is the antecedent, is accusative and *który*, which is the *wh*-word, is nominative, and the structure is grammatical:

93. Widziałem tego pana, który zbił ci szbybę

Saw-1_{SG} the-_{ACC} man-_{ACC} who-_{NOM} broke your-_{SG} glass-_{ACC}

I saw the man who broke your glass (Borsley, 1997: 635).

The traditional operator-movement analysis is therefore going to be adopted, although it is not clear how it can account for the following:

- i. Reconstruction effects.
- ii. The relativisation of relativisable idiom chunks: While the head-raising analysis can readily accommodate examples such as *We made all the headway that we expected*, it is not clear how the operator movement analysis can deal with them.
- iii. Selection restrictions: Whereas *The cake that he ate* is acceptable; *!the theory that he ate* is not. This can be handled straightforwardly by the head raising analysis, but it is not clear how it would be handled under operator movement.
- iv. The across-the-board movement and case-mismatching in structures like *someone who is well respected and everyone admires*'. In this example, *who* is subject of *respect* and object of *admire*; it apparently has moved from two different positions, and it can be both nominative and accusative. This poses a

problem for any movement analysis including the operator-movement analysis.

Thus, the operator movement analysis needs to be developed further to handle the full range of potential limitations. However, I will adopt it, because (as already noted) the head raising analysis is arguably even more problematic.

2.9 Conclusion

No analysis appears to satisfactorily explain all aspects of the syntax and interpretation of RRCs in English. The above discussion shows a variety of gaps in the promotion analysis and the partial promotion analysis which render them untenable. Thus, until these analyses are made to work well, the traditional operator-movement analysis will be the one to be adopted for analyzing both *wh*-RRCs and *that*-RRCs in English and for their counterparts in LSA. Accordingly, I will assume it.

Chapter 3

The Syntax of RRCs in LSA

3.1. Introduction

In this chapter we discuss RRCs in LSA. Two of the main properties of RRCs in LSA are that they involve resumptive pronouns (as in many other languages), and they never involve a relative pronoun introducing the RRC. These are the most striking differences between RRCs in Arabic and English. A number of analyses for RRCs in Arabic will be presented, and we shall examine the same issue as in English; namely whether there is head-raising involved or not. One more issue that will be dealt with in this chapter is what happens when there is a resumptive element; is there any movement involved when there is a resumptive element or not. With both of these issues, reconstruction is potentially relevant. In fact, reconstruction has figured in the literature on Arabic in the same way as in the literature on English. It is used in Arabic to argue for head-raising, and for movement when there is a resumptive. We will argue that reconstruction does not support either of these positions. Later in the chapter an analysis is proposed for LSA.

So this chapter has three main interrelated goals: first, to present data about RRCs from LSA; and second to review some of the relevant literature about Arabic RRCs, and then to test the different analyses against the LSA data in order to decide which analysis is the most appropriate for LSA, if any.

The chapter is organized as follows: Section 2 provides a theory neutral presentation of the data of RRCs in LSA. In Section 3, the results of an AGJT are given for the purpose of verifying the data presented in section 2. A brief discussion of island constraints is presented in Section 4. In Section 5, I discuss the relationship between clitic pronouns and resumption and then come up with an analysis of both for LSA. An argument follows in Section 6 about the types of RRCs that exist in this variety and I conclude that for definite RRCs there is a single construction which is introduced by the complementizer *yalli*, while indefinite RRCs are null-complementizer-RRCs. A review and an evaluation of the existing analyses of RRCs in different Arabic dialects is presented in Section 7. In Section 8 an analysis is adopted for LSA. This is followed by the conclusion.

3.2. The distribution of clitic pronouns in LSA RRCs

Two different types of RRCs are distinguished in LSA; definite RRCs and indefinite RRCs. The first are always used with an element which can be argued to be C, LSA appearing not to have overt relative pronouns¹⁹ (as will be shown in section 6). The second type is used with a phonologically empty C.

In what follows I give a theory-neutral presentation of the facts of RRCs in LSA.

¹⁹ This is unlike interrogatives in LSA where there are overt interrogative pronouns.

3.2.1 Definite and indefinite RRCs

One of the characteristics of RRCs in LSA that distinguishes it from English is the use of clitic pronouns at the position in the clause at which the head of the RRC is interpreted, as illustrated in the examples (1)-(5). These are often referred to in the literature as resumptive pronouns (RPs). However, the link between *clitic* and *resumption* is not straightforward, as will be argued in section 5. For the moment, in describing the facts of RRCs in LSA, it will simply be reported whether a clitic appears or not. In certain contexts, clitics are obligatory. In others, they are ruled out. There are no contexts in which both gaps and clitics can appear. The distribution of clitics²⁰ in different RRC types is illustrated in the following examples:

- i. Clitics are required in all non-subject positions:

Direct object position:

1a. l-ktāb [yalli dras-t-o]²¹

the-book [that studied-I-it]

The book that I studied

b. ktāb [dras-t-o]

book [studied-I-it]

A book I studied

²⁰ Clitics in Arabic are nominal; they have the function of DPs (see Aoun et al (2010: Chapter 2 and 6) and Aoun (1999) for the distribution of clitics in Lebanese Arabic which is similar to that in Syrian).

²¹ The system adopted for transliteration is EI.

Complex object positions:

2a. l-ktāb [yalli fekkar-te 'inn-o shtarai-t-o]
the-book [that thought-you._{SF} that-it bought-I-it]

The book that you thought that I bought

b. ktāb [fekkar-te 'inn-o shtarai-t-o]
book [thought-you._{SF} that-it bought-I-it]
A book you thought that I bought

Object of preposition positions. The antecedent is nominal in (3), and adverbial in (4)

²²:

3a. l-ktāb [yalli sme'-t `ann-o]
the-book [that heard-I about-it]

The book that I heard about

b. ktāb [sme'-t `ann-o]
book [heard-I about-it]
A book I heard about

4. l-yom yalli riḥ-t fī-h `a landon
the-day that went-I in-it to london
The day when I went to London

Complex object of preposition positions:

²² As we will see in 3.7.2.1.1 there are similar examples in which both a preposition and a resumptive are missing.

5a. l-ktāb [yalli fekkar-te 'inn-o sme`-t `ann-o]
 the-book [that thought-you._{SF} that-it heard-I about-it]
 The book that you thought I heard about

b. ktāb [fekkar-te 'inn-o sme`-t `ann-o]
 book [thought-you._{SF} that-it heard-I about-it]
 A book you thought I heard about

Possessor position (Genitive RRCs)²³:

6a. l-mu'allef [yalli qrī-na ktāb-o]
 the-author [that read-we book-his]
 The author whose book we read

b. mu'allef [qrī-na ktāb-o]
 author [read-we book-his]
 An author whose book we read

However, although clitics are allowed in relativized object positions, they are not when object positions are questioned:

7. shu 'akal-t-(*a)?
 what eat-you-(*it)?
 What did you eat?

²³ Possession in LSA is expressed either by annexation whereby an NP immediately follows an indefinite possessed noun, e.g. *zawjat mudar* [wife mudar], or by clitic doubling, e.g. *qalam-u l-mudar* [pen-his for-mudar].

ii. Clitics do not occur when the highest or complex subject²⁴ position is relativized.

8a. l-mu'allefi [yalli katbe-t l-ktāb]

the-author [that wrote-_{FS} the-book]

The author that wrote the book

b. mu'allefi [katbe-t l-ktāb]

author [wrote-_{FS} the-book]

An author that wrote the book

9a. l-mu'allef [yalli fekkar-te 'inn-o katab l-ktāb]

the-author [that thought-you._{FS} that-him wrote the-book]

The author that you thought that wrote the book

b. mu'allef [fekkar-te 'inn-o katab l-ktāb]

author [thought-you._{FS} that-him wrote the-book]

An author that you thought that wrote the book

When a relativized subject is contrastively focused, however, a non-clitic strong pronoun may appear in both highest and complex subject positions:

²⁴ Arabic is a pro-drop language. There are two analyses for subjects in verbal clauses in Arabic; one assumes that the morphology attached to the verb as in (8) is a subject pronoun that has been incorporated; and the other assumes that this morphology is an agreement marker and there is a pro subject (see Mughazy, 2009: 65).

10a. l-mu'allef [yalli *huwi* katab l-ktāb]

the-author [that he wrote the-book]

The author that wrote the book

b. l-mu'allef [yalli fekkar-te 'inno *huwi* katab l-ktāb]

the-author [that thought-you.FS that-him he wrote the-book]

The author that you thought that wrote the book

One point to mention here is that although both *yalli* and *?inno* (*?inno* in examples (9) and (10b)) are Cs, they differ in that *yalli* introduces RRCs, whereas *?inno* introduces complement clauses.

iii. Clitics appear also within islands:

Adjunct Island

11. l-bēt [yalli zāri-t-**o** qabl ma nedhan-**o**]

the-house [that visited-she-it before paint._{1P}-it]

The house that she visited before we painted it

Wh-Island

12. l-bēt [yalli s'al-t iza shtarai-na-**h**]

the-house [that asked-she whether bought-we-it]

The house that you asked whether we bought it

Complex-NP Island

13. shefna l-qaşr [yalli qābal-na l-muhandes yalli şammam-o]

saw-we._{1P} the-palace [that met-we the-architect that designed-it]

We saw the palace that we met the architect that designed it.

All of the examples mentioned above involve the use of *yalli*. However, even when *yalli* follows an indefinite noun, the modified element, i.e. the head of the RC, is not the indefinite noun. This is called free RCs²⁵ or headless RCs:

14. shef-t ktāb yalli gābal-t-o mbareḥ

saw-I book that met-I-him yesterday

I saw a book of the person I met yesterday.

The RC does not modify the definite noun *book*; rather it is a free RC²⁶ functioning as a possessor. So this is an example of possession: whenever there is a possessor, the noun becomes definite if the possessor is definite.

All the data presented above involve verbal RRCs. There are, however, RRCs based on nominal sentences. A nominal sentence consists of a subject and a non-verbal predicate. The predicate of the RRC could be AP or PP as in (15) and (16) respectively:

²⁵ I follow the line of argument proposed by Grosu (2003) in assuming that free relatives consist of a CP and a null head.

²⁶ The free relative is modifying a definite null noun 'the person'.

15. l-bint yalli ḥilwi `mra `arba` snīn

the-girl that beautiful age four years

The girl that is beautiful is four years old.

16. l-wlād yalli b-l-bās ḥilwīn

the-children that in-the-bus beautiful.

The children that are in the bus are beautiful

As noticed from example (15) and (16) the subject RP is null. The subject RP is less likely to be null where the predicate is a noun, as in (17):

17. r-rijjāl yalli hūwi mudīr

the-man that he manager

The man who is a manager

In this work, we will restrict the discussion to the verbal RRCs, because these are the cases that will be investigated in the SLA part.

The distribution of clitics in RRCs described above is based on the intuitions of the author. It is important to test the generalizability of these intuitions before proceeding to analyse the syntactic properties of RRCs in LSA. In the next section, therefore, an empirical study of the intuitions of grammaticality of a group of native speakers of LSA is reported.

3.3 LSA native speakers' intuitions about RRCs in their L1

3.3.1 Method

It is not uncommon practice for linguists not to depend on their intuitions alone in judging what is acceptable and what is not in a particular language²⁷. Following this line, an AGJT was constructed to measure the intuitions of native speakers of LSA about their own language as far as the structure of RRCs is concerned. The data will have implications for the study of the acquisition of RRCs in English by L2 learners reported in chapter 5.

3.3.1.1 Materials

The aim of this task was twofold: to verify that the Arabic sentences used in this chapter and on which the analysis of LSA is based are natural sentences of LSA. These are sentences that the participants probably would say, or hear a native speaker of LSA saying. The second aim of the task was to compare participants' answers to this task with those of an English GJT (this will be described in full detail in chapter 5).

The test consisted of 80 sentences (see appendix 1 for test items, and appendix 2 for the actual test). The participants were required to judge the *naturalness* of the

²⁷ For example, in their (2007), Alexopoulou and Keller presented a discussion about the role of resumptive pronouns in three languages: English, Greek, German. They conducted three main experiments for this purpose. Also, Perez-Leroux (1995) examined the use of resumptives in English child language; she drew her conclusions on the basis of experimental evidence.

sentence. They were given three choices under each sentence: perfect, possible and impossible as follows:

- شفت لابتوب بظن أنو كان غالي كتير بمركز السنوني

صحيح	ممکن	خاطئ

The distribution of the properties tested is presented in table 1. (ES, EO, EOP, Gen means complex subject, complex object, complex object of preposition and genitive RRCs respectively).

Table 1. Distribution of items in the AGJT

Tested aspects	Subclasses within each aspect tested	No. of test items in each sub-group ²⁸	Total no. of test items in each group
Definite simple RRCs without clitics	S COS *O *COO *OP *CO OP *GENS *GENO *GENOP	2	16
Indefinite simple RRCs without clitics	S COS *O *COO *OP *GENS *GENO *GENOP	2	16
Sentences testing the grammatical use of clitics in definite simple RRCs	*S *COS O COO OP	2	16

²⁸ In the AGJT, there is one item that was supposed to test ungrammatical relativized definite simple O, ungrammatical relativized definite simple GenO, use of clitics in relativized definite simple S position, use of clitics in relativized indefinite simple GenO, grammatical relativized definite complex RRCs S, these were discovered later after the test was conducted to be testing other relativized positions. So it was decided that these items should be added to the properties they are testing.

	GENS GENO GENOP		
Sentences testing the grammatical use of clitics in indefinite simple RRCs	*S *COS O COO OP GENS GENO GENOP	2	16
Violation of the <i>wh</i> -island constraint	+ clitic (O) *- clitic (O)	2 2	4
Violation of the CNP constraint	+ clitic (O) * - clitic (O)	2 2	4
Violation of the adjunct constraint	+ clitic (O) *- clitic (O)	2 2	4

3.3.1.2 Participants

The AGJT was not conducted in a classroom setting²⁹. The test was undertaken with different participants individually. Participants were all speakers of LSA. They were 17 in number and aged 26-60.

3.3.1.3 Scoring

The analysis of the data was in terms of participant ratings of sentences that were a priori deemed to be grammatical. It was decided to use a three point scale to represent

²⁹ The test was undertaken with different participants individually, as the head of the English department in Syria could not afford to give more than two sessions for all the tests used in this study (see Chapter 5).

perfect (2), *possible* (1), and *impossible* (0) responses. Data were scored and analysed using the statistical package SPSS (v18).

3.3.2 Arabic Grammaticality Judgement Task Results

Examples of the grammatical relativized positions are provided above 1-13.

3.3.2.1 Definite RRC results

S, O and OP RRCs

The mean ratings of the three relativized positions - definite S, O and OP positions with no clitic involved - are provided in table 2.

Table 2 Mean rating/2 of relativized definite S, O and OP positions with no clitic

position	S		O		OP	
Participants	M	sd	M	sd	M	sd
Native speakers (n=17)	1.88	.28	.35	.70	.02	.12

Participants were considerably more likely to accept RRCs without a resumptive in S position than in O and OP positions; they were not willing to accept ORRCs and OPRRCs without a clitic.

Gen RRCs

The mean ratings for the three types of definite genitives: SGen, OGen and OPGen which do not involve a clitic are displayed in table 3.

Table 3. Mean rating/2 of relativized definite SGen, OGen, and OPGen with no clitic

Gen	SGen		OGen		OPGen	
Participants	M	sd	M	sd	M	sd
Native speakers (n=17)	1.97	.12	1.94	.24	.17	.37

The results show that native speakers of LSA give high ratings to SGen and OGen constructions that do not include a clitic (although the OGen structure had a different equally acceptable interpretation without a clitic³⁰), but were much less likely to accept the structure without a clitic in the case of the OPGen.

3.3.2.2 Indefinite RRCs

S, O and OP RRCs

The mean ratings of participants for the three relativized positions - indefinite S, O and OP with no clitics involved - are provided in table 4.

Table 4 Mean rating/2 of relativized indefinite S, O and OP positions

position	S		O		OP	
Participants	M	sd	M	Sd	M	sd
Native speakers (n=17)	1.67	.35	.52	.44	.61	.60

The mean scores indicate that the SRRCs were much more accepted without a resumptive pronoun than the ORRC and OPRRC.

³⁰ The sentence هَنَّت اللجنة البروفسور يلي قدم مقال بالمؤتمر **The board congratulated the professor that he presented his paper in the conference* is acceptable in Arabic with or without a clitic. Without the clitic, the sentence would be *The board congratulated the professor that he presented a paper in the conference* which is acceptable in LSA.

Gen RRCs

The mean ratings of SGen, OGen and OPGen with no clitics involved are shown in table 5.

Table 5. Mean rating/2 of relativized indefinite SGen, OGen, and OPGen with no clitic

position	SGen		OGen		OPGen	
Participants	M	Sd	M	sd	M	sd
Native speakers (n=17)	1.84	.23	.52	.64	.41	.59

Participants highly rated the indefinite SGen without a clitic more than OGen and OPGen.

3.3.2.3 RRCs involving clitics

Clitics in relativized definite S, O, OP positions

The mean ratings of participants for SRRCs involving a clitic (see example 8) and the mean ratings of the other two types of relativized positions involving a clitic: ORRCs and OPRRCs are displayed in table 6.

Table 6. Mean rating/2 of relativized definite S, O and OP positions with a clitic

clitic	S		O		OP	
Participants	M	sd	M	sd	M	sd
Native speakers (n=17)	1.29	.84	1.61	.41	1.76	.34

The mean scores show that the participants accepted the clitic in ORCs, OPRCs and the RP in SRRCs though they rated SRRCs less with a RP (participants did accept the SRRCs with and without a RP; this structure is out of context, and learners would

generally assume that the SRRCs have meaning when used with a pronoun, and so they try to think of a context which would suggest that meaning).

Clitics in definite SGen, OGen, OPGen RRCs

The mean ratings of participants for SGen, OGen, OPGen RRCs are shown in table 7.

Table 7. Mean rating/2 relativized definite SGen, OGen, and OPGen with a clitic

Gen	SGen		OGen		OPGen	
Participants	M	sd	M	sd	M	sd
Native speakers (n=17)	1.29	.84	1.73	.43	1.55	.39

The results show that the resumptive was accepted in all three types of Gen RRCs, most clearly in OGen RRCs.

Clitics in relativized indefinite S, O, OP positions

The mean ratings of participants for the three indefinite types of relativized positions involving a clitic are displayed in table 8.

Table 8. Mean rating/2 of relativized indefinite S, O and OP positions with a clitic

clitic	S		O		OP	
Participants	M	sd	M	sd	M	sd
Native speakers (n=17)	.55	.65	1.85	.38	1.64	.38

Clitics in ORRCs and OPRRCs were more accepted than resumptives in SRRCs.

Clitics in indefinite SGen, OGen, OPGen RRCs

The mean ratings of participants for the three types of relativized genitives: indefinite SGen, OGen and OPGen RRCs are shown in table 9.

Table 9. Mean rating/2 of relativized definite SGen, OGen, and OPGen with a clitic

Gen	SGen		OGen		OPGen	
Participants	M	sd	M	sd	M	sd
Native speakers (n=17)	.47	.58	1.88	.33	1.58	.50

The mean scores indicate that learners rated the clitic highly in OGen and OPGen, but not the resumptive in SGen.

3.3.2.4 Complex RRCs

Definite CO RRCs

The mean ratings for the two types of CO RRCs: those involving a clitic and those that do not are shown in table 10.

Table 10. Mean rating/2 of relativized definite CO O position: with a clitic vs. no clitic

Participants	CO RRC	-clitic		+clitic	
Native speakers (n=17)		M	sd	M	sd
	S	1.70	.58	1.47	.57
	O	.23	.43	1.27	.54
	OP	.14	.34	1.55	.49

The CO RRC was accepted with a clitic in all the three types. However, this structure was accepted with no pronoun only in SRRCs.

Indefinite CO RRCs

Table 11 displays the mean ratings for the two types of indefinite CO RRCs: those involving a clitic and those that do not.

Table 11. Mean rating/2 of relativized indefinite CO O position: with a clitic vs. no clitic

Participants	CO RRC	-clitic		+clitic	
Native speakers (n=17)		M	sd	M	sd
	S	1.64	.34	1.29	.91
	O	.20	.46	1.79	.30

The mean scores show that participants accepted the indefinite CO RRCs involving a RP in SRRCs and a clitic in ORRCs positions. However, they accepted this structure with no pronoun only in SRRCs.

3.3.2.5 Island constraints results

Wh-island Constraint

The mean ratings of participants for sentences where a relativized position (O position) is inside an island, with and without a clitic, are shown in table 12.

Table 12. Mean rating/2 of *wh*-island constraint violation: with clitic vs. no clitic

<i>Wh</i> -island	+clitic		-clitic	
Participants	M	sd	M	sd
Native speakers (n=17)	1.70	.46	.02	.12

The results show that this structure was accepted with a clitic.

CNP Constraint

The mean ratings for sentences where a relativized position is inside a CNP, with and without a clitic, are displayed in table 13.

Table 13. Mean rating/2 of CNP constraint violation: with clitic vs. no clitic

CNP island	+clitic		-clitic	
Participants	M	sd	M	sd
Native speakers (n=17)	1.38	.60	.05	.16

The mean scores show that CNP constraint was accepted with a clitic.

Adjunct Island Constraint

Table 14 shows the mean ratings of participants on sentences where a relativized position is inside an adjunct island, with and without a clitic.

Table 14. Mean rating/2 of Adjunct island constraint violation: with clitic vs. no clitic

Adjunct island	+clitic		-clitic	
Participants	M	sd	M	Sd
Native speakers (n=17)	1.76	.50	.38	.57

The mean scores show that adjunct island constraint is accepted with a clitic.

It is clear that the results of the AGJT are consistent with the data presented in section 1. These results will be dealt with further in chapter 5. The next section will shed light on the island constraints.

3.4 Island constraints

In section 3.2.1, three types of islands were mentioned, however, without giving any explanation of the island phenomenon. It is, nevertheless, not of direct relevance to go into the details of this phenomenon; we will only have something of the flavour of the idea because this will have implications for the SLA part of this work. The

acceptability/rejection of island violations will be used as a diagnostic for the sensitivity to movement.

In Chapter 2, it was clear that English RRCs allow a gap³¹ in a variety of relativized positions, however, here we shall see that the gap cannot appear absolutely anywhere.

The main restrictions on the possibility of the gap are called island constraints.

Islands can be defined as structures that do not allow extraction. In his work (1967), Ross illustrated some island types. Here we list some of these islands as presented in Borsley (1999: 206-209):

- Subject Condition: A *wh*-dependency cannot cross the boundary of a subject, for example:

18a. The girl who it's likely [that he saw ____].

b.*The girl who [that he saw ____] is likely.

In (18b) the *wh*-element has crossed the boundary of a subject. This rendered the sentence unacceptable.

³¹ There are some English constructions where the resumptive is used, however, as noted by McKee and McDaniel (2001: 114) 'their distribution is very limited and appears to be influenced by linear distance, depth, and extractability'. Below are two examples of resumptives from McCloskey (2006: 94 cited from Prince (1990)):

a. There are guests who I am curious about what *they* are going to say.

b. The only one we could see *her* finger was Number Two.

Andrew Radford (personal communication), however, pointed out that this is not true of spoken English; he has recorded hundreds of examples of resumptive relatives from live radio and TV broadcasts in English in which resumptives are not deeply embedded, and distance is not a factor, e.g. an immediately following subject can be a resumptive *He's a right-sided attach midfielder who, he crosses very well* (Tim Vickey, BBC Radio 5). However, there are some studies in the literature, for example Alexopoulou and Keller (2007), which show that embeddedness plays a role. More importantly, the learners in my study were not exposed to resumptive relatives.

- CNP Constraint: A *wh*-dependency cannot cross the boundary of a clause and an NP that contains it as in:

19a. The girl who I believe [that Hobbs saw ____]

b. *The girl who I believe [the claim [that Hobbs saw ____]]

Who in (19b) has crossed the boundary of a clause and an NP that contains it, hence the ungrammaticality of (19b).

- The Coordinate Structure Constraint: A *wh*-dependency cannot cross the boundary of a coordinate structure unless it affects every conjunct. Example (20) illustrates the point:

20a. *The man who I think [[Hobbs dislikes ____] and [Rhodes hates Trumper]]

b. The man who I think [[Hobbs dislikes ____] and [Rhodes hates ____]]

The ungrammaticality of (20a) comes from the fact that the dependency cannot cross the boundary of the coordinate structure because there is only one gap in one conjunct only. This is unlike (20b) which is grammatical because there is a gap in both conjuncts.

- *Wh*-island Constraint: A *wh*-dependency crossing the boundary of a subordinate *wh*-RRC is of reduced acceptability. This is highlighted in the following examples:

21. ?*The car which he wondered [how he should fix ____]

(21) is not completely acceptable because *which car* is extracted out of a clause introduced by another *wh*-word *how*.

- Adjunct Island Constraint: A *wh*-dependency crossing the boundary of a verbal adjunct is often of reduced acceptability. This is illustrated in the following example:

22. ?*The book which t he criticized Chomsky [without reading ____]

(22) is not fully acceptable as the *wh*-element was extracted from a verbal adjunct.

- Complementizer Gap Constraint: A *wh*-dependency gap cannot appear in subject position in a clause introduced by an overt C. This is highlighted by the following example:

23a. The man who I think [saw Hobbs____]

b. *The man who I think [that ____ saw Hobbs]

Having considered a number of island violations, we can now look at how some³² of these constraints (Subject Condition, CNP, Wh-island, and Adjunct Island constraints) have been explained in terms of Subjacency³³.

³² The other constraints are related to the Empty Category Principle which will not be discussed here.

Subjacency³⁴ can be formulated as follows: A-bar movement cannot cross more than one barrier (see Chomsky (1986) and Haegeman (1994)). Subjacency can account for the ungrammaticality of *wh*-island Condition violation, for example:

24. *The car which [he wondered [_{CP} how [_{TP} he should fix ____]]]

Which did not move successively; the movement will cross CP and TP, hence the ungrammaticality of the sentence.

The conclusion arrived at in the literature is that the gap inside an island renders the structure ungrammatical or less acceptable. It is also argued (see McCloskey (2006)) that the presence of a resumptive clitic in the position of the gap inside the island could rescue island violations as the *wh*-element does not move to Spec CP but rather is base-generated in Spec CP and binds the resumptive inside the RRC, i.e. there is no movement when there is a resumptive and hence no island sensitivity. In fact there are languages in which the resumptive is quite acceptable inside the island as is the case in LSA (see examples 11-13 above).

There are others who give syntactic explanations of island violations less importance; rather they attribute the unacceptability of island violations to processing factors. This is a position held by Hofmeister and Sag (2010) among others. For them, ‘the variation in acceptability judgements associated with these constructions, both

³³ I will continue to use the term Subjacency though it is a pre-minimalist concept. Work from the pre-minimalist paradigm is sometimes referred to in this thesis. It is worth saying that most of the L2 work has been conducted within such a framework.

³⁴ The more recent work on phases (phases as discussed in Chomsky (2005), Radford (2009: chapter 9) and Hornstein et al (2005: chapter 10) entails that the apparatus of phases (phases here include CPs and transitive vPs, maybe also DPs, and perhaps PPs) can probably account for some island constraints: constituents can only be extracted from a phase via the specifier of its head. Hornstein et al (2005: 361) assumes that ‘the phase model suggests a new way of looking at successive-cyclic A’-movement’.

language-internally and crosslinguistically, can be better explained by appealing to cognitive constraints on language processing' (367). They also argue that 'island constraints offer little insight into anything about language or cognition, except islands themselves' (406).

So we shall assume here that island constraints whatever their precise nature serve to block movement. In Chapter 4, we shall see how far native speakers of English and speakers of LSA accept island violations and the implications this has on SLA. The next section will tackle the relationship between clitics and resumption and the relevance of this to the analysis of RRC constructions in LSA.

3.5 Clitics and resumption

Up to this point, the overt element that appears at the site in the complement clause where the head of an RRC is interpreted has been referred to as a clitic. However, as pointed out in section 2, many studies refer to such forms as RP. This section first discusses various proposals for the derivation of clitics (section 3.4.1) and then considers how clitics are related to resumption.

3.5.1 Clitics

A number of different proposals have been made in previous studies for the derivation of clitics (see Gerlach and Grijzenhout, 2000 and Spencer, 1991 for a review of these approaches), one of which is the movement approach in which clitics are elements that start out in an argument position and are moved and combined with an associated

head. For example Kayne (1975), in his discussion of French, suggests that a clitic occupies the position after the verb and then it is incorporated with the verb. He supported his argument by assuming that when the clitic occupies the NP position, it fulfils the subcategorization requirement of the verb. However, languages in which there is clitic doubling, where ‘the pronominal clitic appears alongside the co-indexed NP’ (Borer, 1986: 4) cast doubt on this proposal³⁵. Example (25) from Lebanese Arabic shows that the clitic *-o* is generated to the left of the preposition *ma`* [with]; it cannot have originated in an argument position as the argument position is already occupied by the argument *Karim*.

25. ḥki-t maʕ-o_i la Karīm_i

talked-I with-him to Karim

I talked to Karim (Borer, 1986: 4)

Another approach to clitics is the base-generation approach in which clitics originate in the position where they surface combined with a head like an affix. Aoun (1999), in his discussion of clitic-doubled arguments in Lebanese Arabic, proposes that clitics are not generated by movement, rather they are directly attached to the head they are selected by - be it a verb, a noun or a preposition. The clitic occupies a non-argument position and is co-indexed with a null *pro* which occupies the argument position. Aoun’s case for a base-generation approach is supported by a number of arguments, two of which are the following:

³⁵ One might maintain the movement analysis in languages in which there is no doubling and propose a different analysis for languages in which there is doubling, but it would be better to have essentially the same analysis for both languages.

- i) Cliticization in Arabic is local³⁶; the clitic is immediately attached to the head with which it is semantically associated. This is unlike some languages which have clitic-climbing where ‘clitic pronouns which are objects to a verb in an infinitival subordinate clause ‘climb’ out of their own clause and appear in the matrix clause’ (Spencer, 1991: 357). An example of clitic climbing is the following from French:

26. Marie le fait lire `a Paul. ‘Marie is making Paul read it.’ [*le* argument of *lire*] (Miller and Sag, 1997: 36)

- ii) The clitic may co-occur with an overt non-doubled argument:

27. $\int\text{əft}$ $[\text{QP} [\text{Spec } l\text{-wleed}] [\text{Q}[\text{kəll-un}^{37}]]$
 saw.1S the-boys all-them
 I saw all the boys

l-wleed [the boys] which is in argument position enters a Spec-Head relation with the quantifier *kəll-un* [all]. That explains why the clitic *-un* co-occurs with *l-wleed* [the boys]. If the clitic *-un* was in an argument position, that would result in a violation of the Theta Criterion as the structure would result in two arguments sharing the same thematic role.

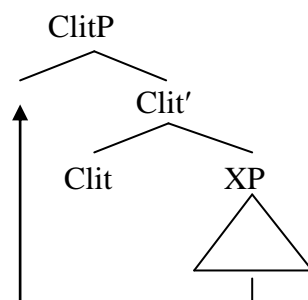
³⁶ Cliticization here is syntactic. To illustrate, Arabic VSO word order is assumed to be the result of verb movement, and the verb moves the clitic with it: for example, in *ʃāf-a John* [saw-her John], the clitic is attached to the verb before it moves. However, as we shall see in 3.6.1.2, there are cases which involve surface PF cliticization.

³⁷ One might claim that (27) is a case of right dislocation as in *I do not like [Stoke City], [their long ball style of play]*, however, this cannot be the case, because other elements (e.g. an adverb such as *mbareh* [yesterday]) can follow the quantifier and resumptive, [all-them]. Another argument that this is not right dislocation is that an element is not possible between [the-boys] and [all-them].

There is yet another approach where clitic constructions involve base-generation of the clitic which is the head of its projection, and movement of an XP element to Spec clitic. Sportiche (1998) proposed such an approach for French and Romance. This approach has the purpose of ‘reconciling the two dominant approaches on this topic’ discussed above. He argues that proponents of movement analyses ‘can explain the condition of locality holding between the clitic and XP*’ (246), whereas those who advocate base-generation can account for ‘the lack of complementarity between clitic and full XP* (clitic doubling construction)’ (246). This is the reason why he wanted to combine these properties (base generation and movement) in his analysis.

For Sportiche, clitics are the realization of certain functional heads above VP which require movement of some element to their Spec position. The derivation of clitics is of the following form where XP is either another Clitic Phrase or VP:

28.



The problem with this analysis is the following:

- It makes the structure more complex; it involves more structure; each clitic is a head of a projection. An analysis in which they are affixes seems simpler in

that it involves less structure. There are simpler proposals³⁸, such as those in Aoun (1999) and Borer (1986) mentioned above.

- It is tied closely to Romance languages where clitics are associated with verbs. His idea is that above VP there are a number of clitic projections. In Arabic, clitics are not particularly associated with verbs; they occur with verbs, nouns and prepositions.
- He is assuming an early version of Minimalism in which the crucial relation is one between a head and Spec. Minimalism has assumed that the crucial relation is c-command between a head and something it c-commands (see Radford, 2009: Chapter 7).
- He is focusing on languages which have clitic climbing³⁹. This is not true for Arabic where the clitic is local.

For the analysis of clitics in LSA, therefore, clitics are going to be considered affixes in the subsequent discussion.

The above discussion casts light on clitics, but does not answer the question whether these elements function as resumptives. If the clitic starts out in an argument position, it is the resumptive. If it starts out attached to the head with a *pro* in the argument position, then the *pro* is the real resumptive unless there is movement, in which case there is a copy in the argument position and strictly speaking there is no resumptive element.

³⁸ Miller and Sag (1997) assumes that clitics are pronominal affixes in French. Their proposal ‘challenges grammatical architectures that seek to explain the behaviour of clitics in terms of functional projections, head movement...’ (573).

³⁹ There are analyses of clitic climbing in Romance which do not involve movement (see Miller and Sag (1997))

3.5.2 Resumption

McCloskey (2006: 95) defines a resumptive pronoun⁴⁰ as ‘a pronominal element which is obligatorily bound and which appears in a position in which, under other circumstances, a gap would appear. The binder of the pronoun is the same, apparently, as the element which binds the gap in the corresponding filler-gap construction’. In his discussion of Irish (1990) he argues that the RP is bound by a null base-generated operator in Spec CP, so he proposes the following structure for resumptives in RRCs:

29. $[_{DP} NP_i [_{CP} OP_i C [_{IP} \dots pro_i]]]$

However, in his (2006) study, he presents a different approach, namely, that there is movement with RPs in some languages, e.g. Swedish, Vata and Gbadi. For McCloskey ‘[O]ne cannot maintain that the presence of a gap indicates that movement has applied and that the presence of a pronoun indicates that movement has not applied.’ (109). Under this analysis, the pronoun is the result of ‘spelling-out’ a trace. By this he means that the moved element leaves behind a copy which is later partially deleted and the residue modified. To provide evidence for this position, he draws inter alia on the work of Aoun et al (2001), who use reconstruction as evidence for movement (reconstruction as we saw in chapter 2 is the idea that if a constituent X, which on the surface c-commands a constituent Y, is interpreted as if it were c-

⁴⁰ Some analyses of resumption were dealt with from the promotion theory perspective, e.g. Boeckx (2003) advocates a movement approach. This approach entails that an NP is moved in examples with a resumptive pronoun leaving the latter ‘stranded’ (hence following Kayne (1994)). However, a DP is moved in examples with a gap. De Vries (2002) is another example. However, these proposals will not be discussed here.

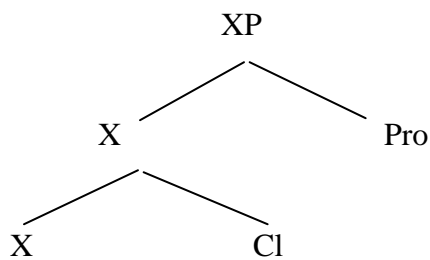
commanded by Y, then it must have moved from such a position). Aoun et al (2001: 392) distinguish between true and apparent resumptives:

- 30a. Apparent resumption: lexical Dp_i ... [$_{DP}$ lexical Dp_i [$_D$ weak pronoun]]
 b. True resumption: lexical Dp_i ... [$_D$ weak pronoun]_i

When the resumptive is separated from its antecedent by an island there is apparent resumption: a resumptive occupies the head D position and Spec DP undergoes movement, whereas when there is no island separating them there is true resumption and no movement. What emerges from this body of work is that there is an interaction between resumption and reconstruction; when there is a resumptive element outside an island, there is a reconstruction effect, however, when the resumptive is not inside an island, the resumptive does not exhibit reconstruction effects. In Chapter 2 it was shown that reconstruction does not provide good evidence for movement. Reconstruction was used to support a head-raising analysis, and it is used here to support the movement of resumptives. This line of argument which shows the interplay between reconstruction, resumption and movement is questionable.

In this work, I follow Aoun's (1999) line of argument in assuming that i) clitics are not generated by movement, ii) the clitic is not the resumptive, it is the little *pro* that is functioning as a resumptive; iii) little *pro* is in the argument position and it is co-indexed with the clitic, and licensed by it. Little *pro* needs to be identified by a local identifier whose morphology identifies the features of *pro* (see Chomsky, 1982).

31.



The term *clitic* will continue to be used to refer to the resumptive clitic hereafter. The reader is asked to bear in mind that the clitic is not strictly the resumptive, and that it is *pro* which is the resumptive. In the next section, we try to answer the following question: what are the kinds of RRCs available in LSA.

3.6 What is *yalli*?

Although definite and indefinite RRCs in LSA have the same structure - apart from the latter not having any overt form linking the RRC and the head - the question to raise here is what kinds of RRCs are available in this variety: *wh*-RRC, *that*-RRC or both.

Yalli/li are the only forms that link heads and RRCs in LSA. A priori it is not clear whether these forms are Cs, relative pronouns or Ds (the last possibility is raised by Ouhalla, and will be discussed in section (3.6.3)). In what follows I will discuss the syntactic status of these forms, and consider evidence that appears to suggest that *yalli/li* are Cs.

Superficially the forms *yalli/lli* look like relative pronouns in that they appear in a position in which certain pronouns can appear. A&L (2003) and Elomari (1998) among others have proposed that these are Cs, however without discussing the evidence to support this claim. Shaheen (2012) argues that *yalli* is a C as we shall see in the coming section.

3.6.1 *Yalli/lli* as complementizers

One might be inclined to consider *yalli/lli* as relative pronouns, thinking that they are variants of the classical *alladhi* (that)⁴¹. This is the case of Mohammad (2000) and Eksell (2009) who consider the linking form in both Standard Arabic and some other Arabic dialects to be relative pronouns. However, there are a number of reasons for thinking that *yalli/lli* have the properties of Cs, rather than relative pronouns:

3.6.1.1 *Yalli* not having the versatility of a pronoun

Yalli does not have the versatility of a pronoun. It has only one form regardless of number and gender of the antecedent.

⁴¹ The behaviour of *alladhi* is different from that of *yalli/lli* in that it varies in form according to the case, number and gender of the preceding antecedent:

Sg m (alladhi) nom/acc/gen	Sg f (allati) nom/acc/gen
Pl m (alladhīn) nom/acc/gen	Pl f (allawāti) nom/acc/gen
Dual m (alladhān) nom (alladhayn) acc/gen	Dual f (allatān) nom (allatayn) acc/gen

The variation in form makes *alladhi* look like a pronoun, but the fact that it cannot be part of a larger fronted phrase suggests that it too is a C.

32. l-'istāz yalli kân hōn

the-teacher._M that was._{S,M} here

The teacher that was here

33. l-'ānsi yalli kân-it hōn

the-teacher._F that was-_{F,S} here

The teacher that was here

34. l-'istāzēn yalli kân-o hōn

the-teachers._{M,D} that were-they here

The two teachers that were here

35. l-'ānistēn yalli kân-o hōn

the-teachers._{F,D} that were-they here

The two teachers that were here

36. l-'asātzi yalli kân-o hōn

the-teachers._{P,M} that were-they._{M,P} here

The teachers that were here

37. l-'ānsāt yalli kân-o hōn

the-teacher._{F,P} that were-they._{F,P} here

The teachers that were here

Yalli does not change its form with the change of number of the antecedent; the antecedent is singular in both (32) and (33), dual in (34) and (35), and plural in (36) and (37). *Yalli* also has the same form irrespective of the gender of the antecedent, the antecedent is masculine in (32), (34) and (36) and feminine in (33), (35) and (37). Pronouns, however, have different forms for number and gender:

38. huwi 'ija

he came._{S,M}

He came.

39. hiyyi 'ije-t

she came._{S,F}

She came.

40. hinni 'ij-o

they _{M/F,D/P} came-they._{M/F,D/P}

They came.

Also *yalli*⁴² has one form regardless of the case of the relativized position: examples (32)-(37) show *yalli* introducing the RRC when subject position is relativized,

⁴² Wright (1970) maintains that the case of the classical relative marker *alladhi* in Arabic is determined by its function in the main clause, not in the relative clause (Wright, 1970: 320, 321):

1. *urinā al-šayāTayn alladhayni aDallānā* 'show us the [two] devils who led us astray (Wright, 1970: 320).

2. *thumma inna waladayhi alladhayni qatalāhu* 'then his [two] sons who killed him (Wright, 1970: 321).

The behaviour of *alladhi* contrasts with the behaviour of a *wh*-phrase in Classical Arabic. Contrary to the assumption made by Beeston (1970: 53). Suaieh (1980), Galal (2004); Mughazy (2009) that the raised *wh*-word doesn't carry a different case from that of the landing site, here I show that the *wh*-word may or may not agree with the case of the element it is related to in the sentence. In (3) *who* is associated with prepositional object position which is a genitive position but *who* is nominative:

examples (41) and (42) show *yalli* when object position is relativised; and examples (43) and (44) show *yalli* introducing the RRC when object of preposition position is relativised:

41. l-ktāb yalli qrī-t-o

the-book that read-I-it._{M.S.ACC}

The book that I read

42. t-tiffāḥa yalli 'akal-t-a ...

the-apple that ate-I-it._{F.S.ACC} ...

The apple that I ate ...

43. l-bint yalli l'ibi-t ma`-a ...

the-girl that played-I with-her._{F.S.DAT} ...

The girl I played with ...

44. l-bēt yalli trebbai-t fi-h

the-house that brought-up-I in-it._{M.S.DAT}

The house that I was brought up in

Again *yalli* has only one form although the case of the relativized position in (41) and

3. man takallam-ta ma`-hu?

who talked-t with-him?

Who you talked to him?

In example (4) the *wh*-word *ayya* is accusative and it agrees with the case of the original site:

4. ayya kitābin qara`-ta?

which book read-you._{M.S}?

Which book did you read

(42) is accusative, and the case of the relativized position in (43) and (44) is dative.

Further evidence that *yalli* is C comes from the following:

3.6.1.2 *Yalli* not being part of a larger fronted phrase

Yalli cannot be part of a larger fronted phrase either as object of preposition within a PP or as a possessor within a DP⁴³. A preposition cannot be used directly before *yalli*:

45a. r-rijjāl yalli ḥkai-t ma`-o
 the-man that talked-I with-him
 The man to whom I talked

b. *r-rijjāl ma`-yalli ḥkai-t
 the-man to-that talked-I
 The man to whom I talked

46a. r-rijjāl yalli ba`rif mart-o
 the-man that I-know wife-his
 The man whose wife I know

⁴³ This is true of *who* in spoken English, as pointed out by Andrew Radford. However, *who* in colloquial English is restricted to subject use (according to Cheshire, Adger and Fox, to appear), so there is no real parallel with *yalli*.

b. *r-rijjāl mara yalli ba`rif

the-man wife that I-know

The man whose wife I know

(45b) is ungrammatical because *yalli* behaves as if it were a possessor with a fronted DP; if *yalli* were a pronoun, it would be able to appear as a possessor.

Yalli contrasts with a *wh*-word; e.g. *mīn/who*. The latter can be part of a complex initial expression in a *wh*-question:

47. ma` mīn reḥ-ti?

with who went-you

With whom did you go?

48. zōj mīn shif-t?

husband who saw-you

Whose husband did you see?

Though we might get examples with a preposition before *yalli*, still there is reason for thinking that *yalli* is different from a relative pronoun, mainly because the preposition does not form a constituent with *yalli* from a syntactic point of view:

49. wsāq b-yalli bta`arf-o mnīh

trust in-that you-know-him well

Trust whoever you know well.

50. `te la-yalli meḥtāj hal maṣāre

give to-that in need this money

Give whoever is in need this money.

51. ḥkait-o `an yalli shef-nā-h mbariḥ

talked-you about that saw-us-him yesterday

You talked about the person that we saw yesterday.

52. `akl-o min yalli ṭbakh-t-o

ate-they from that cooked-I-it

They ate from the food that I cooked

The sentences (49)–(52) contain a type of free RC (a RC with no antecedent). The prepositions here are selected by the preceding verb and not by some element in the RRC. They can be followed by an ordinary NP; an antecedent can be inserted between the preposition and *yalli*. So (48)–(52) can be changed into (53)–(56):

53. wsāq b-sh-shakhṣ yalli bta`arf-o mnīḥ

trust in-the-person that know-him well

Trust the person that you know well.

54. `te la-sh-shakhṣ yalli meḥtāj hal maṣāre

give to-the-person that in need this money

Give the person that is in need this money.

55. ʔkait-o ʔan sh-shakhʃ yalli shef-nā-h mbāreh
 talked-you about the-person that saw-we-him yesterday
 You talked about the person that we saw yesterday.

56. ʔakl-o min l-ʔakl yalli ʔbakh-t-o
 ate-they from the-food that cooked-I-it
 They ate from the food that I cooked.

Although the preposition and *yalli* are cliticized in examples (53) and (54), I presume they combine in the phonology and they are not one syntactic constituent; this is surface PF cliticization. In other words, the preposition *b* and *l* [in] and [to] respectively do not form a syntactic constituent with *yalli*. This is rather like *he's* in *He's clever* or *he'll* in *he'll be here*, which are single phonological units but not syntactic constituents. It is also like *to's* in *The man we talked to's clever*, where the auxiliary attaches to a preceding preposition. The preposition which is in the main clause is the head of a PP, and the RRC is the complement. It is quite common to analyse free RCs as RCs with a null antecedent (see Grosu: 2003).

One might argue that the analysis of *yalli* as C poses some problems:

The first problem is how to account for a preposition like *b-* cliticising onto *yalli* in free relatives as in (49) and (50). This is because there is an intervening null head *pro*(noun) and null operator:

57. [_{PP} [_P b-] [_{DP} [_D pro] [_{CP} OP [_C yalli]...]]]

This objection is vitiated by the fact that cliticization is not blocked by empty elements; e.g., *Who do you think's going to agree with us?* Between *think* and *s*, there is a copy of *who* in Spec CP, there is head of CP, and there is a copy of *who*.

Another objection has to do with the fact that prepositions generally cliticise only to a (pro)nominal object which they case-mark. Furthermore, complementisers like English *that* are case-resistant. One answer to this objection would be that the counterpart of *that* in Swedish (= *att*) can be case-marked, and the same may be true of *yalli*.

A third objection to the cliticisation of *yalli* onto *bi-* would be that this is head-to-head adjunction (*yalli* raising to adjoin to *b-*). Head to head adjunction is local. The answer to this is that head to head adjunction is possible as far as there is no visible intervening element between the two heads.

My claim that this is merely a phonological cliticization and does not involve any morphological process is supported by the following arguments:

- i) There are other prepositions which precede *yalli*, but which are not cliticized to it. Examples (51) and (52) contain prepositions *`an* and *min* [about] and [from] which come immediately before the complementizer but are not attached to it. (51) and (52) are similar to (49) and (50) in this respect except that the preposition in the former examples is cliticized to *yalli*.

- ii) The same prepositions *b* [in] and *l* [to] can combine with other elements such as the following definite article (58) and (59) and the following noun (60) and (61). This suggests that they are syntactically independent of their hosting words:

58. wsāq be-l-brofisōr

trust in-the-professor

Trust the professor

59. `tai-t la-l-ulād baskōt

gave-I to-the-children biscuits

I gave biscuits to the children.

60. tfaja`-t b-se`r ş-şarf

surprised-I in-rates the-exchange

I was surprised at the exchange rates.

61. `tai-t la-laila baskōt

gave-I to-Laila biscuits

I gave biscuits to Laila.

- iii) There are free RCs introduced by *yalli* on its own, where the relativized position is a nominal position: subject position (62) or object position (63).

62. *yalli* 'akal l-baskōti hōn

that ate the-biscuit here

The person that ate the biscuit is here

63. *yalli* ba`af-o hōn

that know-him here

The person that I know is here

Since free RCs can appear in subject and object position, one expects them to appear in prepositional object position (regardless of whether the preposition is combined with *yalli* or not)

3.6.1.3 *Yalli* occurring with a *wh*-word

Yalli can co-occur with *mīn*/who in a *wh*-question: if *yalli* were a pronoun, one would expect it to occupy initial position in a question, and not follow a question word *mīn*. That is, *yalli* cannot be in Spec CP in these *wh*-questions and therefore it has to be C. If it is C in *wh*-questions it is natural to assume that it is C in RRCs.

64. *mīn yalli rāḥ?*

who that went?

Who went?

As (64) shows, both *m̄in* and *yalli* can co-occur. It is not uncommon for languages to allow overt *wh*-elements and Cs⁴⁴. In Norwegian a *wh*-phrase can be followed by an overt C:

65. jeg lurer på hvem som ser mest svensk ut.

I wonder who that looks most Swedish

I wonder who looks most Swedish (Taraldsen, 1978: 633, cited in Borsley, 1991:165)

One might counter by arguing that interrogative *who+yalli* structures as in (64) are likely to be null copula structures paraphraseable as *Who is the one that went?* This claim is vitiated by the fact that if *who+yalli* is a null copular structure, then it would be possible to have a past tense version of the copular in between *who* and *yalli*. However, it is not possible to insert the past tense copular between *who* and *yalli*; this insertion would render the structure unacceptable (it is possible, however, to get a past tense copular in structures like *She was the one that bought it*).

3.6.1.4 *Yalli* appearing in all types of RRCs

Yalli also appears in all types of RRCs including ones with an adverbial gap which in English only allow *that*:

⁴⁴ In modern English this is not the case: ‘an overt complementizer (like *that/for/if*) cannot have an overt specifier in the superficial structure of a sentence’ (Radford, 2009: 131)

1a. The man who we saw

b. The man that we saw

c. *The man who that we saw

66. *steghrabe-t min ʔ-tarīqa yalli ʔalle-t fiyya l-mishkli*

surprised-I from the-way that solved._{S.F} in-it the-problem

I was surprised at the way that she solved the problem.

In the English translation, one might expect to get *how* in place of *that*, but this is not possible.

3.6.2 English complementizer *that* vs. *yalli*

I now consider evidence that supports the claim that English *that* is a complementizer⁴⁵, and explain how *yalli/li* are similar to English *that* in this respect.

A. The fact that *that* has one form regardless of different antecedent types is consistent with it being a C rather than a pronoun (Radford, 1988: 483). Pronouns, however, typically co-vary in form with their antecedents:

67. I have seen the boy _{Mas}/girl _{Fem}/book _{Inanimate} *that* was here yesterday.

68. Have you met the man _s/men _{pl} *that* we talked to yesterday?

⁴⁵ There are arguments which support the fact that English *that* is C, but which cannot be extended to *yalli* in LSA:

A. Huddleston and Pullum (2002: 1057) argue that *that* ‘would not only cover the ground of all the simple ‘wh’ words put together...it would also appear in a variety of constructions where no ‘wh’ word could replace it’ as shown in (1) where a relative pronoun like *how* cannot replace *that*:

(1) a I was surprised at the way that she handled the problem.

b *I was surprised at the way how she handled the problem.

Huddleston and Pullum argue further that *that* can take non-nominal as antecedents, unlike relative pronouns:

(2) a. It was *to him* that I was referring.

b. *It was *to him* who I was referring.

B. Relative pronouns can be used in both finite and infinitival relative clauses, by contrast, *that* can only introduce finite relative clauses (Radford, 1988: 483):

(3) a. Peter is not a good father to who to talk.

b. *Peter is not a good father to that to talk.

This is also true for *yalli* as in examples (32) – (37).

It is worth mentioning here that there is a pronoun *that* in English which is different from the relative *that*; the former having singular/plural forms:

69a. That's an interesting book.

b. Those are interesting books.

Roberts and Roussou (2003: 110-121)⁴⁶ discussed further the distinction between complementizer *that* and the pronoun *that*. In fact they argued that the former developed from the latter (I will not go into this any further; the historical change of these elements is not the focus of interest here).

So if relative *that* was a pronoun we would expect (70b) not (70a) to be grammatical, but this is not the case.

70a. The men that we talked to yesterday.

b. *The men those we talked to yesterday.

B. English *that* can never be part of some larger relative phrase; it cannot, for example, be a direct complement of a preposition (see Huddleston and Pullum, 2002: 1057 and Radford, 1988: 483). Thus, whereas we can have RRCs which are introduced just by *who* and ones which are introduced by more complex phrases containing *who*, we cannot have *that* in the same context; 'For one thing, typical

⁴⁶ Roberts and Roussou (2003) also argue that the relative clause marker *pou* in Modern Greek has derived out of the classical Greek relative adverbial *hopou* (where).

Pronouns (e.g. relative *who* or *which*) can function as the immediately following Complement of a Preposition, whereas *that* cannot' (Radford, 1988: 482):

71a. The man to whom you gave it.

b. *The man to that you gave it

That also does not have a genitive form, unlike relative pronouns (Radford, 1988: 483):

72a. The man whose mother went shopping.

b. *The man that's mother went shopping

73a. The man to whose mother you give the flowers.

b. *The man to that's mother you gave the flowers

Yalli (see examples (45b) (46b)) cannot be part of a larger fronted phrase. In this respect it is similar to English *that*.

The argument so far suggests that English *that* is not a pronoun. The argument also shows that the syntactic behaviour of *that* is similar to that of *yalli* suggesting that *yalli* is C.

There are others who have proposed that *that* is a pronoun, but here I show that this position is dubious. Sag (1997), for example, offers the following argument about *that* being a pronoun and not C: Firstly, *that*-RRCs like (74) involve what would appear to

be a *that*-trace structure of a kind that is not in general permitted: for Sag (74) is acceptable because the gap is following a relative pronoun and not C, unlike (75) where the gap is not grammatical as it is following C.

74. The people [that ____ voted in the election]

75. *The people [that I thought [that ____ voted in the election]] (462)

The counterargument to this claim is that the contrast between (74) and (75) suggests that the two *thats* can just be two different Cs: relative *that* and complement-introducing *that*. Essentially, Sag highlights a difference between relative *that* and complement *that*. The former but not the latter allows a following extraction site. This is similar to LSA, where there is *yalli* and *inno*; two different Cs (see Ouhalla, 2004) where the former introduces an RRC, whereas the latter introduces a complement clause. The only difference in the two languages is that the two Cs look different in LSA, but similar in English.

Secondly, *that*-RRCs freely coordinate with *wh*-RRCs (Sag, 1997: 463). For Sag, the fact that *that*-RRCs and *wh*-RRCs can be combined requires them to be of the same sort of structure:

76a. Every essay which she's written and that I've read is on that pile.

b. Every essay that she's written and which I've read is on that pile.

However, it is important to note that coordinate structures typically allow as conjuncts anything that can appear in the position where the coordinate structure appears. The

fact that the two RRCs have different structures if *that* is C is no reason why they shouldn't be coordinated. Here is an example where noun phrases with different structures are coordinated:

77. I borrowed [[Kim's book about syntax] and [those papers about phonology]]

The important point here is that one conjunct *Kim's book about syntax* has Spec *Kim*, while the other conjunct does not have anything in the Spec position. This is the same in the RRC examples in (76a) where there is *which* in the Spec position in the first conjunct, but there is nothing visible in the Spec position in the other conjunct.

C. Other evidence for the (pro)nominal status of *that* comes from dialect variation, for example, the existence of varieties (Hudson, 1990 cited by Sag 1997) where relative *that* allows a possessive form, as in (78) :

78. The pencil [that's lead is broken] (Sag, 1997: 463)

That probably is a pronoun in a dialect that allows (78) but Standard English does not allow such things.

3.6.3 Could *yalli* be a determiner?

The discussion so far yields evidence that *yalli* which is similar to relative *that* is not a pronoun. However, there is yet another analysis that assumes that relative *that* is a determiner. It has been argued that *alladhi* (which is equivalent to *yalli* as mentioned in

3.6.1) is historically ‘demonstrative-based’ (see Van Gelderen, 2009: 167). However, I show here that even if *yalli* originates historically from a determiner, this does not mean that it is a determiner now. This is similar to the case of the English complementizer *that* which is historically a determiner, but it is not a determiner now; it is a complementizer.

The idea that *yalli* is a determiner is proposed by Beeston (1970), Watson (1993), Dickins (2009) and Ouhalla (2004) among others. Below I deal with some of these proposals.

3.6.3.1 Watson (1993) and Dickins (2009)

Watson (1993) analyses *alli* (the San’ani equivalent of *yalli*) as a clausal definite article. One of the main reasons for this assumption is that *alli* behaves in a similar way as the nominal definite article in clauses such as the following San’ani examples:

79. al-warag al-xafif -> al-waraq alli xafif

the light paper/the paper which is light (Watson, 1993: 236)

Al and *alli* are followed by an adjective and both are in nominal sentences. In (79) the definite article is a prefix attached to the adjective in the first case; in the second case, the relative particle is not a prefix but immediately precedes the adjective. However, if we changed the tense of the second sentence into the past, the relative particle will not immediately precede the adjective; and it looks less like the simple adjective phrase.

Dickins (2009), in his discussion of Sudanese RRCs, argues that definite verbal RRCs parallel a definite article followed by an active participle, e.g.:

80. *il-ḥa'' miš hu illī ġaltān ... ana l- ġaltān* In fact/The fact is, it was not him who
 was [the] wrong [one]; it was me/I was
 [the] wrong [one] (Dickins, 2009: 549)

As argued above, if the tense of the nominal RRC changes into the past, the definite article and the active participle will no longer commute with the RRC.

It has also been argued that in some dialects the relative marker takes the same form as the nominal definite article, including Khorasan Arabic (Seeger 2002), Sudanese Arabic (Dickins 2009) (see also Vicente, 2009). However, superficial similarity does not provide strong evidence that these elements are articles.

3.6.3.2 Ouhalla (2004)

Ouhalla (2004) also assumed that *yalli* is a determiner. He proposed an analysis for RRCs in which *yalli* is the head of DP which is a specifier, which follows the antecedent noun as a result of N-to-D movement as (81) shows:

81. [DP l- [NP [DP *yalli* shef-t-o] [N' ššadīq]]] ⇒
 [DP the- [NP [DP that saw-I-him] [N' friend]]] ⇒
 [DP l- [N ššadīq] [NP [DP *yalli* shef-t-o] [N' t]]]
 [DP the- [N friend] [NP [DP that saw-I-him] [N' t]]]

This proposal might explain why *yalli* only appears with definite heads and not with indefinite antecedents as in (83). When there is an adjective phrase modifying an indefinite noun there is no definite article used (82b).

82a. l-bint l-ḥilwi

the-girl the-beautiful

The beautiful girl

b. bint ḥilwi/* l-ḥilwi

girl beautiful/*the-beautiful

A beautiful girl

83. a. r-rijjāl yalli ḥkai-t ma`-o

the-man that talked-I to-him

The man that I talked to him.

b. rijjāl (*yalli) ḥkai-t ma`-o

man that talked-I to-him

A man that I talked to him.

However, this analysis has three problems. Firstly, it treats Arabic RRCs as distinctive; D with a TP complement whereas in most languages they seem to be CPs. One wants to treat languages as similarly as possible. Moreover, if the complement is a TP, there is a problem about A' movement that presumably applies in some *yalli*

relatives. One might assume that it is movement to Spec DP, but Spec DP is not an A' position. In possessive structures in English, Spec DP has genitive case which is not expected in an A' position. Another point about Spec DP here is that it is different from the two standard specifiers: Spec TP and Spec CP which are filled by movement. However, this is not filled by movement; it is rather base-generated.

Secondly, there is a serious empirical problem; N may have a complement. In examples like (84), after head movement a complement incorrectly follows the RRC. This is ungrammatical because the complement should precede the RC. The grammatical form is (85):

84. * $\text{t-}\text{tar}\bar{\text{t}}\text{q}$ yalli $\text{h}\text{kai-na } \text{'ann-o}$ la-landon
 the-road that talk-we about-it to-London
 *The road that we talked about to London

85. $\text{t-}\text{tar}\bar{\text{t}}\text{q}$ la-landon yalli $\text{h}\text{kai-na } \text{'ann-o}$
 the-road to-London that talk-we about-it
 The road to London that we talked about

Thirdly, stacking as in (86), where a nominal is associated with more than one RRC, is another argument against Ouhalla's proposal:

86. l-bint yalli shef-t-a yalli $\text{h}\text{kai-na } \text{'ann-a}$ mbāreh
 the-girl that saw-I-her that talked-we about-her yesterday
 The girl that I saw that we talked about yesterday

In (86) there are two RRCs, and both of them are Specs on Ouhalla's analysis. However, it is widely assumed (see Kayne (1994) for example) that one cannot have more than one instance of Spec; N' combines with DP to form an NP, one does not expect to apply that again. It is worth mentioning here that both T and C have a single Spec in Arabic (as is the case in English).

A more satisfactory analysis of Ouhalla's account could be one in which *yalli* heads a DP right adjoined to a nominal constituent. Ouhalla's analysis has a problem where the noun has a PP complement. The second analysis does not have the problem of having a complement after the RRC; there is instead a noun and then a complement followed by an RRC.

87. [DP [D *yalli*] [CP [C \emptyset]...]]

Both analyses face the problem that *yalli* differs from ordinary determiners in not allowing a nominal complement. Some languages allow a determiner with a CP complement, as discussed in Borsley and J. Kornfilt (2000). However, the determiner can also take a nominal complement.

A possible response to these points would be to assume that *yalli* is a D with a CP complement, as in the following:

88. [DP [D *yalli*] [CP [C \emptyset]...]]

With either structure, a question arises about indefinite relatives. Are they also DPs? There is no obvious evidence for this. But if they are just CPs, then they are quite different from definite relatives, which seems undesirable.

3.6.3.3 An alternative analysis

In this section, I present an analysis in which *yalli* is a determiner that heads a DP right adjoined to a nominal constituent as in (89):

89. [DP] [DP [D *yalli*] [CP [C \emptyset]...]]

The structure (89) involves an apposition structure. An example of an apposition structure is *John, the doctor* where the two DPs can appear in either order. However, a definite relative cannot precede its antecedent. Hence, it is not a normal apposition structure.

This discussion of *yalli/li* leads us to the conclusion that they are Cs that introduce RRCs in LSA. I have highlighted a number of reasons for thinking they are not pronouns, especially the fact that they are invariant and the fact that they are never part of a larger clause-initial phrase. I have also shown that they are rather like English relative *that*, another C which has sometimes been assumed to be a pronoun. Finally I have argued against Ouhalla's (2004) proposal that *yalli/li* are Ds. If they are neither pronouns nor Ds, it seems clear that they must be Cs.

The fact that they are Cs does not, however, rule out the possibility of having RRCs with an invisible *wh*-element; RRCs in LSA could still involve null operators, rather

than overt *wh*-phrases. The question still remains as to whether RRCs are derived by head-raising (promotion) or movement of an empty operator. I now turn to deal with this question.

3.7 Head-raising vs non-head-raising analyses

A number of analyses have been proposed for the structure of Arabic RRCs in Arabic dialects. The main distinction between them is centred on the presence or absence of head raising discussed in chapter 2 (section 2.3). In a head-raising analysis, the antecedent starts out inside the RRC and then moves in front of it, whereas in a non-head-raising analysis the antecedent is base-generated and some other element moves (in Arabic it is an empty element). The question is whether RRCs are derived by head raising or by movement or by neither. In what follows I will present a critical review of these analyses.

3.7.1 Head-raising/promotion analysis

3.7.1.1 Darrow (2003)

Darrow's analysis (2003) is an example of a head-raising analysis. Darrow assumes that what is raised is an NP and that a D^{47} , which may be phonologically empty, is left behind. His main argument for head-raising comes from reconstruction effects

⁴⁷ Under Darrow's analysis, when D is overt it is a resumptive pronoun.

92. ?aqtiraḥtu [[liqtiraah ?innu aḥmed ḥabb **layla**₁]₂ [yalli t₂
 suggest(PERF).1cs DEF.suggestion C loved C
 zaṣaalha **pro**₁ ...kathiiran]]
 bothered.3fs very much

I made the suggestion that Ahmed loved Layla₁ that bothered her₁ very much (67).

The definite antecedent *liqtiraah ?innu aḥmed ḥabb layla₁* [DEF.suggestion C aḥmed loved layla] containing an embedded name *layla₁* originates in the subject gap position within the RRC. The gap c-commands *pro₁* which is coindexed with the name *layla₁*. This is acceptable according to Darrow, because the object *pro₁* is c-commanded by the name *layla₁*, and therefore Condition C is satisfied.

Sentence (93) is unacceptable as it contains a name *layla₁* in a CP complement to the noun *liqtiraah* and a pronominal subject of the RRC modifier of *liqtiraah*. When the name and the pronoun are reversed as in (93) the sentence becomes unacceptable. This is because the name *layla₁* can no longer c-command *pro₁* leading to a violation of Condition C:

93. *?aqtiraḥtu [[liqtiraah ?innu aḥmed ḥabb **layla**₁]₂ [yalli t₂
 suggest.1cs DEF.suggestion C loved.3fs pro C
pro₁ ṣaaraḍetu *pro*₂ ...tamaaman]]
 object.3fs.3ms very much

I made the suggestion that Ahmed loved Layla₁ that she₁ objected to completely (65-66).

3.7.1.2 Aoun and Benmamoun (1998) Aoun et al (2001) and Aoun et al (2010)

In their discussion of clitic left dislocated constructions (CLLD) in Lebanese Arabic, Aoun and Benmamoun (1998), Aoun et al (2001), and Aoun et al (2010) claim that there are reconstruction effects only where the CLLD element is generated by movement and when the resumptive is not separated from its antecedent by an island. The CLLDed construction would have the representation in (94) where there is movement:

94. CLLDed-NP_i... t_i-X + Clitic

An example of (94) is (95):

95. *təlmiiz-[a]_i l-kəsleen* ma baddna nḡabbir [wala mḡallme]_i ʔənno l-mudiira
 student-her the-bad NEG want.1P tell.1P no teacher that the-principal.SF
ḡaḡaṭəṭ-o mn l-madrəse
 expelled.3SF-him from the-school
 Her bad student, we don't want to tell any teacher that the principal expelled him
 from school (2001: 392). (Aoun and Benmamoun (1998) translate *l-kəsleen* as
 bad not lazy)

The interpretation of (95) is that each teacher has his/her own bad student. There is a pronoun in the topic *təlmiiz-a l-kəsleen* [her bad student] whose antecedent is a QP *wala mḡallme* [no teacher], the pronoun is not c-commanded on the surface by the

QP. The constituent containing the pronoun *təlmīiz-a l-kəsleen* [her bad student] is claimed to have originated in a position that is c-commanded by the QP as there is no island separating them.

This is unlike in (96) where the bound pronoun in *təlmīiz-a* [her student] is separated from its antecedent QP *wala mʕallme* [no teacher] by an island; a reconstruction interpretation would require movement out of an island, and this accounts for the unacceptability of (96):

96. **təlmīiz-[a]_i l-kəsleen* ma badkun tʃabbro [wala mʕallme]_i ʕan l-bənt yalli
 student-her the-bad NEG want.2P tell.2P no teacher about the-girl that
 seeʕadət-o b-l-faħs
 helped.3SF-him in-the-exam
 Her bad student, you don't want to tell any teacher about the girl that helped him
 on the exam. (2001: 393)

3.7.1.2 Weaknesses of the head-raising/promotion analysis

A number of weaknesses of the promotion analysis are outlined here. There are RRC structures where the idea that there is movement is problematic, especially examples where object of preposition position and possessor position are relativized.

97. *r-rījāl yalli ʔkai-t ma`-o*
 the-man that talked-I with-him
 The man I talked [PP to-Cl]

98. r-rijjāl yalli sta`ar-t siyyārt-o

the-man that borrowed-I car-his

The man that I borrowed [_{NP} car-Cl]

There is no evidence that movement is possible from these positions. For example, *wh*-questions with a gap in these positions are ungrammatical.

99. *mīn ḥkai-t ma`?

who talked-you with?

Who you talked [_{PP} to ____]?

Who did you talk to?

100. *mīn sta`ar-t siyyārt?

who borrowed-you car?

Who you borrowed [_{NP} car ____]?

Whose car did you borrow?

The same problem is discussed in A&Ch (1997) as we shall see in section 3.6.2.1.

Further evidence comes from Malkawi and Guilliot (2006) and (2007) in their discussion of Jordanian Arabic. They argue against the idea⁴⁸ that ‘whenever an XP allows reconstruction, movement of that XP has occurred’ (2007: 89). For them, there can be reconstruction effects when there is an island intervening between the resumptive and its topic. For example, in both (101) and (102) the *-ha* [her] in *ṭalib-*

⁴⁸ Malkawi and Guilliot (2006) and (2007) argue against Aoun et al (2001) reconstruction claim.

[*ha*] *l-kassul* [her bad student] can refer to the QP *wala mʕalmih* [no teacher] so that bound variable reading would be satisfied even though *ṭalib-ha l-kassul* [her bad student] is base-generated in its surface position; no movement is involved here:

101. [ṭalib-[*ha*]_i l-kassul]_j l-mudiira ziʕlat laʔannuh [kul mʕalmih]_i šafat-uh_j/-

student-her the-bad the-principle upset.3sf because every teacher saw.3sf-

CL/CL -hu_j yaš bi-li-mtiḥan

he cheated.3sm in-the-exam

Her bad student, the principle got upset because every teacher saw him cheating in the exam (91).

102. [ṭalib-[*ha*]_i l-kassul]_j ma bad-ku tisʔalu [wala mʕalmih]_i layš l-mudiira

student-her the-bad Neg. want2p. ask no teacher why the-principal

kaḥšat-uh_j /-uh hu_j mn l-madrassa

expelled.3sf-CL/-CL he from the-school

Her bad student, you do not want to ask any teacher why the principal expelled him from school (92).

Also Malkawi and Guilliot, unlike Aoun et al (2001), argue that there can be no reconstruction interpretation when there is no island intervening between the topic and the resumptive. In (103), for example, there is a copy of the antecedent *ʕalamit kariim* [note Karim] in the c-command domain of the subject *pro*. There is a co-reference between *Karim* and *pro*.

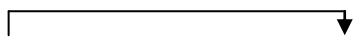
103. [ʕalamit_j kariim_i], lazim pro_{i/k} ʔiɣayyar-ha_j

Note Karim must he change-it

The note of Karim, he must change (it) (Malkawi and Guilliot, 2001: 92)

(103) has the structure in (104):

104. [ʕalamit_j kariim_i] lazim pro_{i/k} ʔiɣayyar- ~~ʕalamit_j kariim_i~~ ha_j
 Note Karim must he change note Karim it



The above discussion casts doubt on the head-raising analysis and suggests that the antecedent is base-generated. I will assume that this is right and go on to consider why movement is not possible from object position. Three proposals, A&Ch's (1997), Shlonsky's (1992) and Elomari's (1998), assume that there is movement of some empty element.

3.7.2 The non-head raising analysis

A number of very different proposals have been made; they mainly share the idea that what is being moved is not the head of the RRC.

3.7.2.1 Aoun and Choueiri (1997)

A *pro*-movement analysis was proposed by A&Ch (1997) in their analysis of Lebanese Arabic. A&C claim that *yalli* is C and it triggers the movement. They also argue that *yalli* bears some features: definiteness, person, number, and gender. These

features need to be checked. Checking can be done in two different ways: movement and coindexing without movement.

i) In case there are no islands to separate the antecedent from the clitic, a *pro* moves from inside the RRC (*pro* originates as Spec of the clitic) and adjoins to *yalli* as in the following representation:

105. Definite relativized DP_i [*pro*_i-*yalli* RP_i t_i.....] (A&Ch, 1997: 15)

(106) is an example of (105):

106. *ʃəfna l-bənt yalli hannət-*(a) l-mʕallme*
 saw.1P the-girl that congratulated.3SF-*(her) the-teacher
 We saw the girl that the teacher congratulated. (3)

In (106), a null *pro* moves from object position after the verb to the position before *yalli* for checking as there is no island to block movement.

A&C claim that it is *pro* that is moved for several reasons: it accounts for why adjuncts may not be relativized in Lebanese:

107. **ssabab yalli rəft-o...*
 the-reason C left.1S.it
 The reason that/why I left... (20)

The reason why (107) is ungrammatical is that the gap is in a non-argument position; these positions cannot license *pro*. Here is a grammatical example where a non-argument position is filled:

108. ssabab yalli riḥ-t min ḡān-o
 the-reason C left-I for case-it
 The reason that/why I left

Also under their *pro* analysis, a clitic is obligatory in object position as in this position *pros* are always generated with a clitic:

109. ḡəfti-i
 saw.2SF-him
 You saw him (A&Ch: 21)

As opposed to the ungrammaticality of (110):

110. * l-walad yalli ḡəfte
 the-boy that saw.2SF
 The boy that you saw (A&Ch: 21)

If *l-walad* raised from object position within the clause, this should be acceptable under a head-raising analysis, but this is not the case. The gap renders the sentence ungrammatical, as an object clitic is necessary in this construction.

Another reason is that *Pro* is strictly definite, and it raises to Spec CP to check the definiteness feature⁴⁹ (a reconstruction interpretation is possible in this case). When C is indefinite, *pro* does not raise. Thus no reconstruction reading⁵⁰ is possible, as is clear from the absence of variable binding in (111):

111. *ʃəft [Suura la-ʔəbn-a]_j [kəll mwazzafe]_i ʔaalit ʔənno badda tʃalləʔ-a
 saw.1s [picture of-son-her] [every employee.f] said.3sf that want.3sf hang.3sf-it
 bi-maktab-a
 in-office-her
 I saw a picture of her son every employee said she wants to hang in her office. (9)

The pronoun within the indefinite constituent *Suura la-ʔəbna* [picture of-son-her] cannot refer to the following quantified expression *kəll mwazzafe* [every employee.f]. Hence there is no reconstruction.

A&Ch claim that coindexing between the head and *pro* induces variable binding, that is, a reconstruction effect, i.e. they are committed to the position that reconstruction does not entail that the head has moved, rather the *pro* has moved. The checking process can be explained through example (112) as follows: *Yalli* bears the same features as the antecedent *SSuura tabaa təlmiiz-a* [the-picture of student.m-her]. The *pro* subject of the embedded verb is masculine, and thus cannot check those features. Instead, the *pro* in the complex object position raises and adjoins to *yalli* and crosses

⁴⁹ Under more recent accounts, the definiteness feature of *yalli* would be checked before movement. This is because there is no longer Spec-head checking but rather probe-goal checking as mentioned in 3.5.1.

⁵⁰ If there can be reconstruction effects where the crucial constituent is not moved then one can't simply say that there is no reconstruction in some cases because the crucial constituent is not moved. In particular one can't say that there is no reconstruction with indefinite antecedent relatives or when a resumptive is inside for this reason.

the complex subject *pro*, and then checking takes place. The head is coindexed with the moved *pro* and hence with the copy of *pro* in object position and therefore the head behaves as if it were in object position allowing *kell mʃallmee* to bind *təlmiiɜ-a*.

112. ʃəfna [SSuura tabaʃ təlmiiɜ-[a]_i]_j yalli [kəll mʃallmee_i] ʔaalit ʔənno *pro*
 saw.1P [the-picture of student.m-her] that every teacher said.3sf that
 baddo yʃalleʔ-[a]_j
 want.3sm hang.3sm-it

We saw the picture of her student that every teacher said that he wants to hang it
 (p. 15).

ii) In case there are islands separating the antecedent from the clitic, a null *pro* is generated directly in front of *yalli*, and it is coindexed with another null pronoun in an argument position within the RRC.

113. ʃikiina maʃ l-muxriɜ yalli fallit laila ʔabl ma tʃuuf-*(o)
 talked.1P with the-director that left laila before see.3SF-*(him)
 We talked to the director that Laila left before she saw him (p. 4).

Movement is not allowed in this construction because of the presence of an Adjunct island that separates the relativized DP *l-muxriɜ* [the director] and the resumptive element to which it is related.

Thus, (114) has the following representation:

114. Definite relativized Dpi ... [*proi*-yalli RPi*proi*] (A&Ch, 1997: 15)

3.7.2.1.1 Weaknesses of Aoun and Choueiri's proposal

A fundamental limitation of A&Ch's discussion is that they do not explain why an RP is required when an object position is relativized. Another point is that A&Ch's claim that it is *pro* that is being moved is not tenable; although example (107) is ungrammatical, movement is possible from an adjunct position as shown from examples (115)–(119)

115. waqt yalli ghadar-t, int ijī-t

time that left-I, you came-you

(At) the time that I left, you came

116. ʔ-ʔariqa yalli `mal-t-a

the-way that did-I-it

The way that I did it

117. l-makān yalli reḥ-t-o

the-place that went-I-it

The place I went to

118. wiṣl-o s-sā`a lli ghādar-t

arrived-they the-hour that left-I

The time when I left

119. rakd-o l-mīl yalli ḥaddid-o-lin yah
 ran-they the-mile that specified-they-them it
 They ran the mile that they specified for them

These are instances where a gap in an adjunct position appears, where little *pro* or any sort of pronominal cannot occur.

3.7.2.2 Shlonsky (1992)

Shlonsky argues for an operator movement approach for the analysis of Palestinian RRCs. In particular, he claims that an empty operator moves to Spec CP and that the preceding NP is base-generated.

Clitics and gaps are in complementary distribution in this dialect. This is because a clitic occurs where a gap is not allowed. Thus, it is not the occurrence of C that determines whether there is going to be a gap or a clitic; rather it is the absence of movement which determines the obligatoriness of clitics.

Shlonsky discusses Palestinian examples which to a large extent resemble the Syrian examples mentioned earlier, so I will give an example where there is a difference in the syntactic structure. A gap appears in the highest subject position. Since there is nothing to block movement from Spec IP to Spec CP, ‘it follows by economy’ (Shlonsky: 449) that a clitic is prohibited. This means that where a gap appears in the highest subject position, there is no phonetically null RP, rather a trace. The question then is what prevents a gap from appearing in various other positions. A clitic is

obligatory in some contexts and is conceived as a ‘rescue device’ to prevent otherwise ungrammatical sentences. A gap in oblique object position, NP-internal position, complex subject position is not allowed in Palestinian RRCs because, for Shlonsky, this leads to a violation of the empty category principle ECP⁵¹. (120) is not grammatical because there is no RP in the complex subject position:

120. *l-bint ʔilli fakkarti ʔinno raayha ʕal beet
 the-girl that (you) thought going to house.
 The girl that you thought is going home (450).

Movement from direct object position is not allowed due to the Specified Subject Condition, i.e., no movement across one A-position to another A-position is allowed. This is because, for Shlonsky, Spec CP in Palestinian is an A-position rather than A' position, thus movement from direct object position to Spec CP is a movement across Spec IP to Spec CP position. This movement, however, is illicit because it violates the Specified Subject Condition.

3.7.2.2.1 Weaknesses of Shlonsky's proposal

Shlonsky's analysis has several undesirable consequences:

- i. It predicts incorrectly that movement is also impossible from object position in a *wh*-question, i.e. his analysis predicts that it should be impossible to move an object *wh*-phrase to Spec CP in *wh*-questions and that a clitic should be obligatory:

⁵¹ Shlonsky did not spell out which version of ECP he is employing.

121. shu 'akal-t?

what ate-you?

What did you eat?

- ii. Shlonsky's idea, that Spec CP is an A-position in this language, is non-standard as in a standard view Spec CP occupies an A' position (This is why movement across a subject to Spec CP is possible in most languages).

The rationale behind his claim is to offer an explanation of why movement is impossible from object position. The derivational process goes as follows: C is endowed with ϕ agreement features that need to be satisfied. This can be done by coindexing it with a Spec. An agreement between C and a null operator in the Spec position is established. Palestinian does not, however, overtly represent the agreeing features, as the C *illi* has one invariant frozen form like Syrian. This necessitates spelling out a clitic that can overtly show these features i.e. there is a need to identify the features on *pro*. Shlonsky went further to say that a phonetically null RP, *pro* alone (with no clitic) cannot be said to fill the position of the direct object. This is because the features of *pro* cannot be fully recovered from the overt features on C (since agreement on C is impoverished in Palestinian). This offers an answer to why *pro* requires a clitic in this dialect.

- iii. In order to get the interpretation of the operator right at LF, Spec CP has to be an A' position. This requires some mechanism that changes the status of Spec CP; from A position into A' position. However, this process is a complicated

one. Elomari (1998) argues instead that ‘any specifier that hosts an operator must be an A’-position and that this status is indelible and unalterable through the derivation’ (52)

- iv. Shlonsky’s analysis cannot be extended to a dialect which allows a gap in object position, e.g. Moroccan, since we cannot assume that it is a little *pro* without any clitic to identify it.

The problems above render Shlonsky’s proposal weak. Another proposal which is based on an operator movement analysis is proposed by Elomari which will be discussed in the following section.

3.7.2.3 Elomari (1998)

Based on data from Moroccan Arabic, Elomari (1998) argues that the structure of RRCs is derived via movement of an operator to an A’ position. He assumes two different structures for RRCs: where a clitic appears, the RRC has the structure of a CLLD sentence such as (122) in which the operator moves to Spec CP and leaves a trace in the Spec TopP position; and where a gap appears, there is movement from within VP to Spec CP.

122. Nadia jeef-a Kariim mbeerih

Nadia saw._{3SM}-her Karim yesterday

Nadia, Karim saw her yesterday (Aoun & Benmamoun, 1998: 570)

In particular, he assumes the following:

- (i) A resumptive *pro* exists in subject position. Elomari also assumes that a gap is present in subject position since movement from Spec-IP to Spec-CP is not blocked.
- (ii) There is an obligatory clitic inside PPs and NPs, as Ps and Ns do not let their complement move. Extraction from DP and PP would only be possible via the Spec of those categories (because of Shortest Move) but Arabic does not allow a Spec within DP and PP like other languages.
- (iii) All kinds of island require the use of a clitic, as the occurrence of a gap would violate Subjacency/the ECP/Minimality. Instead, relativization is possible only when a clitic is co-indexed with the operator which is generated outside the island.
- (iv) The most important point is that there is apparent free variation between clitics and gaps in VP object position. This optionality is due to the existence of two types of RRCs that have the same surface spell-out realization: (a) where there is a gap, the relative CP dominates an IP as in (123) below; (b) where there is no gap, the relative CP dominates a CLLD structure which is related to the clitic as in (125).

123. [_{CP} Op_i [_{TP} t_i]]

124. l-ktab lli qra-w l-əwlad

the-book that read-3P-it the-children

The book that the children read (Elomari, 1998: 57)

125. [_{CP} Op_i [_{TopP} t_i [_{TP} clitic]]]

126. hada huwa l-ktab lli saʕida šuf-na-ha ka-tə-qra-h

this is the-book that Saida saw-1P-3FS PROG-3FS-read-it

This is the book that we saw Saida reading (Elomari, 1998: 53)

Thus, where a clitic appears, the RRC is presumably made out of a CLLD sentence in which the operator moves to Spec CP and leaves a trace in the Topic position.

3.8 Which analysis?

The analyses presented above differ from each other in a number of respects: Shlonsky's and Elomari's analyses differ from A&Ch's in two respects: first, A&Ch reject the idea that movement and clitics cannot happen in the same construction because, for them, movement in certain cases is possible even in the presence of a clitic. In fact, they use reconstruction as evidence for this. Second, Shlonsky posits operator movement to a Spec CP in case there is a gap rather than a *pro* movement. Where there is a clitic, he posits a base-generated operator in Spec CP. These two, however, differ from Darrow's proposal which argues for head-raising.

The discussion so far suggests that focus should be made on the properties RRCs have when various positions are relativized. Most importantly, there is an obligatory clitic when the object position is relativized in some dialects, whereas there is only an optional clitic when the object position is relativized in other dialects, and no clitic when the object position is questioned.

An approach which might be suggested to explain the impossibility of a gap in object position could be the following: minimalist assumptions about phases entail that movement of an object to Spec CP is via Spec vP⁵². So *who Kim likes* has the following structure:

127. [CP *who*_i [TP Kim_j [vP *t*_i *t*_j likes *t*_i]]]

Given this, one might propose that some languages do not allow movement of a constituent to Spec vP. All these approaches seem to predict that one cannot move any constituent of vP to Spec CP in Arabic dialects, not just objects. This means that it should not be possible to have a gap in an complex subject position. So one should have a clitic element in something like *Who Kim thinks is/was clever*. However, what is noticeable about this approach is that it excludes cases like:

128. Ma` mīn ḥkai-t?

with whom talked-you

To whom did you talk?

129. 'aimat shef-t lī ?

when saw-you Lee

When did you see Lee?

In this case, the prepositional phrase is extracted from little vp; and the temporal adverb *when* originates inside vP, the fact that renders the approach weak.

⁵² This is an extra Spec vP in an example with an agentive subject, which originates in Spec vP.

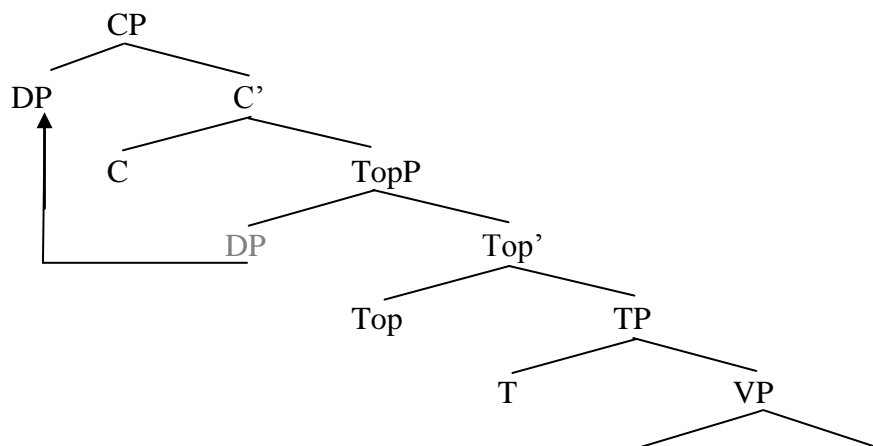
3.8.1 Analysis of definite RRCs

In her analysis of RRCs in LSA, Shaheen (2012) follows Elomari in assuming that an RRC is based on a CLLD structure, and that there is movement, but not of the DP head, nor of a *pro*; rather it is the movement of a relative operator to Spec CP. In other words, she adopts the analysis represented in (125). Assuming a CLLD structure for RRCs is necessary especially to account for the fact that, in RRCs, object clitics are obligatory in LSA.

If *yalli* is generated in the head C position, this would mean that an element is necessary to check the definiteness feature of *yalli* in the course of the derivation. I identify this feature with a null operator rather than a *pro*. This is because the operator can be related not only to an argument position but also to an adjunct position.

With (130) the only movement will be from Spec TopP to Spec CP. On the assumption that there is no movement in a CLLD structure, there will be no other movement in (130), but there will be a *pro* somewhere coindexed with the empty operator in Spec TopP. If *pro* is in object position it will need to be identified by a clitic. RRCs in LSA only has the structure in (130)

130.

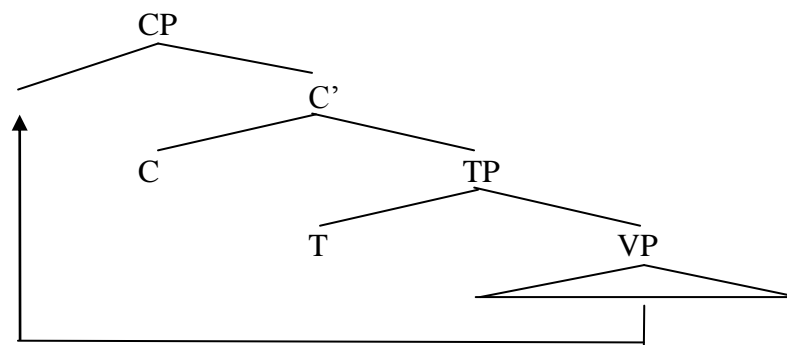


Andrew Radford (personal communication) has pointed out that the structure in (130) violates Grohmann's (2003) Antilocality Constraint (which bars movement from one position within the periphery to another) and Rizzi & Shlonsky's (2005) *riterial freezing* constraint (specifying that a topic occupying a criterial topic position is frozen in place). He offered an alternative analysis whereby the operator is base-generated in Spec CP and has a topic interpretation. However, if a simple CP is assumed, one cannot have an account for why movement from object position is not possible in RRCs. That is why, it is fundamental to assume a CLLD structure there⁵³.

Wh-questions in LSA have the structure in (131). With (131) movement to Spec CP is possible from various positions including object position.

⁵³ We could alternatively argue that there is a CLLD inside the RRC with an operator base-generated in Spec CP and co-indexed with Spec TopP.

131.



This analysis is supported by the fact that there is no clitic when object position is questioned, and there is no difficulty moving a PP complement or an adverbial expression out of VP; in questions C has a TP complement just like in English.

132. 'aimat/wēn/kīf shef-t John?

when/where/how saw-you John?

When/where/how did you see John?

However, adverbial RRCs as in (115) – (116) repeated here pose a problem for the idea that *yalli* always takes a TopP complement:

133. waqet yalli ghadar-t, int ijī-t

time that left-I, you came-you

The time when I left

134. ʔ-ʔariqa yalli `mal-t-a

the-way that did-I-it

The way that I did it

If Syrian only has the structure in (130) it should only have RRCs which look like CLLD structures without the initial topic. Adverbial RRCs don't look like this. The solution is to assume that Syrian has structures like (131) but only for adverbial RRCs. In fact, Aoun et al (2010) assume that adjunct relatives involve gaps in Lebanese Arabic.

Andrew Radford (personal communication) pointed out that in the case of adjunct relatives, it has been a fairly standard assumption (since Rizzi's (1990) analysis of *why* as base-generated in Spec-CP) that local circumstantial adjuncts are directly generated in the clause periphery (i.e. in Spec CP if an unsplit CP analysis is adopted). This is justified by the claim that adjuncts don't trigger intervention effects (The Intervention Constraint specifies that a constituent can't move to the clause periphery across another constituent which has moved to the periphery). So in (135) an *idiot like that* is a fronted argument, so if *why/how* moved to the front of the clause, the sentence should induce an intervention violation and be ungrammatical: the fact that it is grammatical suggests that *why/how* are generated in situ:

135. I don't understand *why/how* an idiot like that, everyone seems to admire.

However, although local adjuncts like *why* and *how* in (135) do not seem to be derived by movement, there is evidence that shows that non-local adjuncts are derived via movement as in (136):

136. Why do you think that John went home?

If *why* modifies the main clause, it can be generated in situ; but if it modifies the embedded clause, it needs to move to the front of the main clause. Hukari and Levine (1995: 222) argue that ‘adjunct extraction in English falls within the province of a syntactic account of Unbounded Dependency Constructions’. Hukari and Levine drew evidence for this from a number of facts; for example the parallel constructions in which they appear, and from anaphora effects such as crossover and weak crossover.

It is not hard to implement this idea. One can propose that Syrian has two RRC complementizers, one taking a TopP complement and a nominal Spec, and one taking a TP complement and an adverbial Spec. The simple structure is there in LSA but with an adverbial Spec as in (131)

This idea is supported by the fact that it is not unusual for a language to have more than one relative C with different selectional properties. English, for example, seems to have one relative C taking a finite complement and allowing an NP, a PP or an empty operator as its Spec and another taking a non-finite complement and allowing only a PP or an empty operator as its Spec.

137. The man $\left\{ \begin{array}{l} \text{who we rely on} \\ \text{on whom we rely} \\ \text{we rely on} \end{array} \right\}$

138. A man $\left\{ \begin{array}{l} * \text{ who to rely on} \\ \text{on whom to rely} \\ \text{to rely on} \end{array} \right\}$

Therefore, there is nothing unusual in the analysis of LSA proposed here.

So for LSA, one can assume the following:

- i. The only movement involved in a non-adverbial RRC is that of an operator from Spec TopP to Spec CP as in (130)
- ii. In the case of high subject position and complex subject position, there is a resumptive *pro* within the RRC.
- iii. A resumptive *pro* fills the position of the direct object licensed by an obligatory clitic.
- iv. A clitic is obligatory in possessor and object of preposition positions (the clitic is obligatory in other constructions not only in RRCs). This is because DPs and PPs do not allow extraction in LSA as well as in many languages.
- v. Movement does not occur within islands. Since the operator is not possible from within an island, the features of *yalli* can only be checked by moving *pro* from Spec TopP to Spec CP and coindexing it to a clitic inside the island.

One point of relevance here is that it is the structure in (131) that is going to be the focus in the SLA part. In other words, all the RRC constructions included in the empirical study in Chapter 5, which will test learners' knowledge of this structure in English, is based on CLLD structure.

3.8.2 Analysis of indefinite RRCs⁵⁴

There is a consensus over the obligatoriness of clitics in indefinite RRCs, but the question remains as to whether there is movement involved or not.

Shlonsky (1992) claims that in indefinite RRCs, *pro* does not appear because its features cannot be identified by the null C. For Shlonsky, definite and indefinite RRCs are the same apart from the C being invisible. So the same weaknesses of definites identified in (3.6.2.2.1) can be extended to his analysis of indefinites.

Elomari (1998) also claims that there is a null C involved in the formation of this type of RRC. For him, C has weak features that prevent it from attracting the operator to Spec CP. That is why, the operator remains in-situ until later in LF. Elomari distinguishes definite and indefinite RRCs because of differences in object position. In LSA, there is no such difference, and this is why this analysis is not going to be adopted.

A&Ch have two possible representations for indefinite RRCs, neither of them involving movement: (i) in the first representation, a base-generated *pro* in Spec CP is co-indexed with another *pro* in the RRC; (ii) in the second representation, there is only one *pro* within the RRC. What these representations could suggest is that the RRC is either a CP with a null C as in (139a), or a TP as in (139b)

139. a ... Indefinite relativized DP_i [_{rel} *pro*_i *pro*_i]...

⁵⁴ Traditionally indefinite RRCs in Arabic are called *jumlat alṣṣifa* ‘adjectival clauses’ (see Ghalāyīnī (1973)).

b. ... Indefinite relativized DP₁ [_{Irel} *pro*_i]... (A&Ch, 1997: 19)

One possible reason for the invisibility of C is that a clash of features might occur if *yalli* which is definite modifies an indefinite noun. Adjectives in Arabic agree with the noun they modify. Thus, a sentence is ungrammatical where an adjective does not agree with the modified noun in definiteness:

140. *l-kteeb ʒdiid Talabtii wəSil ʕal-maktabe
 the-book newarrived at-the-bookstore.
 The new book arrived at the bookstore. (11)

If there is a null C, it could be endowed with features that differ from those of the overt one, i.e. it could be indefinite whereas the overt one is definite.

A&C also argue that indefinite RRCs are generated without movement as they do not contain *yalli*; it is the features of *yalli* that trigger movement. A pronoun within an indefinite DP cannot be bound by a QP in the indefinite RRC:

141. *ʃəft [Suura la-ʔəbn-a_i]_j [kəll mwazzafe]_i ʔaalit ʔanno badda tʃalləʔ-a
 saw.1s [picture of-son-her] [every employee.f] said.3sf that want.3sf hang.3sf-it
 bi-maktab-a
 in office-her
 I saw a picture of her son every employee said she wants to hang in her office (9).

The clitic, whether inside an island or not, is base-generated and coindexed with the indefinite relativized DP:

142. ʕam tfattif l-mʕallme ʕa kteeb ma ʔaryu-*(u) ttlemiiz

asp look.3SF the-teacher for book not read.3P-*(it) the-students

The teacher is looking for a book that the students haven't read (5).

143. fikiina maʕ muxriʕ fallit laila ʔabl ma tʕuuf-*(o)

talked.1P with director left.3SF L. before see.3SF-*(him)

We talked to a director that Laila left before she saw. (6)

A&C distinguish between definites and indefinites in order to account for the difference in reconstruction possibilities. However, it has been shown in Chapter 2 (section 2.6.1.2) that reconstruction is not a good test for movement. This is a reason for being sceptical about A&C's analysis.

Darrow (2003) objected to A&C's analysis because, for him, there is no obvious reason why the clitic would appear inside islands. That is, if the role of the clitic is to identify the features of the overt C, then in the absence of an overt C, the role of the clitic is not clear⁵⁵. Darrow (p 81) writes 'And so, it is entirely unclear how one might explain the fact that resumptive clitics appear inside islands in Syrian Arabic'.

Having considered a number of analyses for indefinite RRCs, I assume the following for the analysis of indefinite RRCs in LSA:

⁵⁵ Shlonsky's idea about clitics is dubious because something must appear in an argument position and if it is not some element that is moved then it must presumably be a resumptive *pro*.

- i. There is a null C in indefinite RRCs.
- ii. Since the only difference between definite RRCs and indefinite RRCs is just that the C is visible in the former and invisible in the latter, I assume that both types are similar in their structures and derivational processes.
- iii. One might argue that the analysis cannot be right for indefinite RRCs because one can only have a definite element in the topic position, and hence cannot be co-indexed with an indefinite head. The answer to this claim is that the empty operator is definite and the fact that it can be co-indexed with indefinite element does not rule out that it cannot be definite. A pronoun can have a (in)definite antecedent, e.g. *a/the man shot himself*.

3.9 Conclusion

The set of assumptions arrived at about the syntax of RRCs in LSA are the following:

- The discussion of reconstruction in the case of English did not provide good evidence for a promotion analysis in the first chapter. In the case of Arabic, it did not provide a basis for distinguishing between examples which do and examples which do not involve movement. So reconstruction effects provide no clear evidence for or against movement.
- There is little *pro* functioning as the resumptive element and it is licensed by a base-generated clitic.
- *Yalli/lli* is argued to be C.

- There are two types of RRCs: one that involves base-generation of the head of RRCs and the movement of an empty operator; and the other type (adverbial RRCs) involves movement of the adverbial element to Spec CP.
- Apart from the fact that indefinite RRCs do not involve an overt C, they are similar to definite RRCs in their structure and derivation.

Chapter 4

Theories of SLA and studies of the L2 acquisition of RRCs

4.3.1 Introduction

The aim of this chapter is to link the linguistic background Chapters 2 and 3 which presented an analysis of RRCs in English and LSA, and highlighted the main differences and similarities between English and Arabic as far as this structure is concerned, with the empirical study in Chapter 5 which will make use of the insights gained from this comparative study to test claims about the role of the L1 and access to properties of UG in adult L2 acquisition.

The first part of this chapter will be concerned with presenting a variety of hypotheses proposed to explain the phenomenon of SLA, whereas the second part will narrow down the discussion to literature written about *wh*-movement, mainly in RRCs.

4.3.2 UG

Before I present the different hypotheses about the role of UG in SLA, it is useful to give a brief idea about what UG is. UG is a proposed architecture for the language faculty and it establishes a number of design principles within which languages fall (see Chomsky 1995 and White 2007: 42-43). It also offers a range of interpretable and uninterpretable features (parameters). Variation between languages can be viewed

as different selections of these features. Where particular selections of features determine syntactic differences between languages, these correspond to what are traditionally called ‘parameters of variation’ in the generative framework. Language learners use interpretable and uninterpretable features to analyse the categorized linguistic samples they encounter (see Adger (2003) for a discussion of this view).

4.3.3 L2 acquisition

Researchers interested in SLA have viewed this phenomenon from a number of perspectives, one of which is the nature of L2 knowledge that underlies the use of the language. For them, such knowledge can usefully be investigated at three points of development: (i) a starting point (the initial state); (ii) an endpoint (the steady state); and (iii) a transitional stage between these two phases. Two of the questions much addressed in the literature are:

1. ‘In what way does the learner’s native-language grammar influence ... L2 knowledge?’ (Eubank, 1996a: 73)
2. To what extent are L2 learners’ grammars constrained by innate linguistic knowledge (UG)?

4.3.4 L1 Influence on L2 grammatical knowledge

In much of the existing research literature there is a controversy about the role that L1 plays in the development of L2 knowledge. This controversy has triggered a number

of questions: (i) what constitutes the initial state of SLA? (ii) Is there any role for the mother language? (iii) If yes, to what extent is it involved; partially or fully? (iv) Does this influence end as adult L2 learners develop their L2 grammar? Different accounts have been proposed to answer these questions: there are those who argue for full transfer, others for partial transfer, and yet others for no transfer.

4.3.4.1 The full transfer view

In the full transfer hypothesis, researchers (Towell and Hawkins, 1994: chapter 6, White, 2003: chapter 3, Schwartz and Sprouse 1994, amongst others) argue that the L1 final state constitutes the entirety of the initial state by which L2 learners analyse L2 input based on their L1 grammar. When learners are exposed to L2 input, they resort to the grammar they already possess in their L1 in order to gain access to the newly introduced language. All the parameter settings available in the mother tongue are completely transferred into the L2, and these determine the way L2 learners approach the L2 data. This has the particular implication that UG at this stage is a particular grammar, in the sense that it has all the grammatical representations available in L1, and L2 learners have access to UG principles and parameters only through those instantiated in the L1.

Proponents of this view base their argument on two claims; first, that learners with different L1s behave differently when they embark on the task of learning the same L2, thus reflecting different initial states; second, that L1 properties are found in the initial grammar of L2 learners (White, 2003).

L1 transfer has been reported in a number of studies. For example, Haznedar (1997) took her data from the spontaneous production of a Turkish child learning L2 English. Turkish is different from English in headedness: both VP and NegP are head-final unlike in English, where they are head-initial. The subject under study produced utterances with head-final word order, suggesting that he depended on his native L1 grammatical representations; in almost all cases, he transferred the word order of his language into English.

Since this is a case study, it might be thought unrepresentative of L2 learners more generally. However, other studies of groups of learners provide similar evidence. For example, the empirical study by Yuan (1998). Yuan collected experimental data from a co-reference judgement task testing the acquisition of long-distance reflexives in L2 Chinese, in particular, the interpretation of the Chinese reflexive *ziji*. His subjects were speakers of two different languages, and were of the same proficiency level: L1 English and L1 Japanese learning L2 Chinese. The reason why he chose these two languages was because Japanese is similar to Chinese in that it has long-distance reflexives as well as local ones, unlike English which does not instantiate the particular property tested; English reflexives take a local antecedent normally. Another property of the long-distance reflexives which was tested in this experiment is subject orientation. Whereas reflexives in English allow both subjects and objects as their antecedents, Chinese and Japanese allow only subject antecedents. The claim is that if there is L1 transfer, the Japanese learners of Chinese would show a similar pattern to that in Chinese unlike English learners. This was indeed borne out in the experiment; both groups behaved differently: the Japanese subjects' performance was close to that of the natives. The English group, however, lagged behind the Japanese

subjects. The results of this test showed clear L1 influence in the L2 acquisition of the Chinese reflexive *ziji*.

4.3.4.2 The partial transfer view

Some researchers look at the interlanguage initial state from a different perspective; they believe in the involvement of L1 in the initial stages of learning only partially. I will present one position⁵⁶ that falls within this view: the Minimal Trees Hypothesis.

This position⁵⁷ is held by Vainikka and Young-Scholten (V&Y) (1996a, 1996b, 1998). Here it is claimed that the lexical part of the L1 grammar only (verbs, nouns, adjectives and prepositions) constitutes the first stage. It is these categories that

⁵⁶ There is a second position that falls within the partial transfer position; the Valueless Features Hypothesis. This maintains that the L1 is not present in its entirety in the initial stage is the Valueless Features Hypothesis of Eubank (1993, 1994 and 1996). In Eubank's early work the claim was full transfer of the L1, except the strength features of functional categories. So it is mid way between the Full Transfer and Minimal Trees hypotheses. In his later work he assumed, like Minimal Trees, that only lexical category properties transfer, and that in addition the strength features of functional categories in the L2 are inert. That is, although both the lexical and functional categories of the L1 are there, the feature strength of functional categories is not transferred (a feature can be either strong or weak in a given language, and this gives rise to a contrast between movement or non-movement: of V to inflection, of *wh*-operators to C, of N to D). Because strength features are inert in the L2 grammar, the consequence, according to Eubank, is optional movement. The rationale behind the disappearance of the strength value is 'morphology-driven' (Eubank, 1993/94:183) in that the morphological affixes of the L1 themselves do not transfer, and it is on the basis of morphology that the strength of inflection is determined. The evidence that Eubank adduces in support of this hypothesis comes from studies like Eubank (1993/1994) of the syntactic optionality in the location of the verb vis-à-vis medial adverbs among French learners of L2 English. The evidence comes also from a (1996) study of data taken from Wode (1981), where German-speaking L2 learners of English develop target-like negation. Wode's longitudinal recordings show that learners' early productions do not show verbal inflection, and the type of NegP used (e.g. no finish) suggests that NegP does not dominate the VP but rather is adjoined to it. No inflection is projected, null subjects are permitted and verbs do not raise. What happens next is that learners move to negation with non-thematic *be* (e.g. Lunch is no ready), then to negation with thematic verbs (e.g. John go not to the school). For Eubank, this progression of syntactic development is an indication that inertness vanishes as learners gain more exposure to L2 data. The problem with Valueless features is that it cannot explain differences between speakers of different L1s acquiring the same L2 where issues of strength of features are involved.

⁵⁷ Bhatt and Hancin-Bhatt (2002) partially supported this position; they claim that the CP did not appear in the grammar of their Hindi learners of English.

trigger L2 learning. Functional categories (such as Ds, Cs, auxiliaries and modals, verb raising, agreement features, *wh*-movement) are completely lacking at this stage.

In their (1996a) study, V&Y assume that the absence of target-like inflectional properties is evidence that L2 learners do not transfer morphological and syntactic properties from their L1s (from whence the name minimal trees; only minimal structure is implicated). These functional categories, however, do not remain absent. It is rather the case that they are latent in the UG inventory awaiting a trigger in the input to emerge gradually ‘bottom up in discrete stages’ (White, 2003: 69). What this means is that, for example, the emergence of CP does not precede the emergence of IP.

In order to test their hypothesis, V&Y (1996b) examined spontaneous oral production data in L2 German from speakers of different L1s: Korean, Turkish, Italian and Spanish in their longitudinal study. Some of these languages resemble L2 German in the property tested, this being the verb position: Turkish and Korean are, like German, head-final; whereas Italian and Spanish are head-initial. The results of their study were consistent with their proposal; learners transferred the headedness of their L1 verbs into German, but they did not inflect the verbs. Rather they used them in canonical forms ending in *-en* or *-e*, suggesting that they had not yet projected any functional categories. If functional categories had been present, appropriate use of tense and agreement inflections would be expected. Korean and Turkish speakers used head-final VP in 98% of cases, while Italian and Spanish learners used head-initial VPs echoing their L1, using OV order in only 19% of cases. V&Y argue that

these learners initially posit a bare VP because they do not know the position to which the verb raises in German.

V&Y derived evidence not only from the absence of inflections, but also from the fact that the same learners did not use any constructions that involve a CP projection. However, they argued that these functional categories are acquired gradually as learners gain more exposure to target language input.

The Minimal Trees hypothesis has been questioned. Haznedar (2003), for example, argued for a mismatch between surface morphology and various syntactic features in the interlanguage grammar in the results gained from a longitudinal study which collected data from a child L1 speaker of Turkish learning L2 English. The results provided counterevidence to V&Y, in particular that there is no step-by-step gradual build-up of the functional categories VP-IP-CP.

Another problem for this hypothesis is that there are studies that found early learners using constructions that appear to involve functional categories (see Trahey and White (1993)). V&Y's criterion for acquisition of 60% use in obligatory contexts is problematic: if learners are using forms 50%, 40% or even 30% of the time productively, and when they use them they use them correctly, in some sense they have acquired those forms, and have functional projections. Minimal Trees also predicts that where properties relating to functional categories are involved, all L2 learners should develop in the same way (since development is based on input from the L2). But as noted earlier in 4.3.4.1, there is the case of the acquisition of long

distance binding of *ziji*, which implicates the inflectional category, where Japanese learners are markedly different from English learners.

4.3.4.3 The No Transfer view⁵⁸

The three hypotheses discussed above all agree that there is an L1 effect, though they disagree as to the extent to which the L1 is implicated. The question that may be asked now is: if the L1 does not constitute the L2 initial state, what do adult L2 learners start with? In fact, some researchers deny any role for the L1 in L2 acquisition, instead claiming that L2 learners start with the set of features and open values for parameters offered by UG, just as in L1 acquisition.

The No Transfer Hypothesis can be criticized as being unable to offer an explanation of why L2 learners acquiring the same language perform differently. These differences correlate directly with properties that exist in the L1.

The studies reviewed in this section (4.3.4) have dealt with the earliest stages of L2 acquisition and, in particular, whether the L1 has any effect on the process of learning

⁵⁸ There are two hypotheses that support this view: the Initial Hypothesis of Syntax and the Full Access (Without Transfer) Hypothesis. Actually, both reduce to the same point, holding that the initial state of L2 learning is similar to L1 learning in that UG is distinct from any particular grammar. Learners come to know the L2 through the interaction between UG and L2 input without any prior stage of L1 settings. Interlanguage grammar at this stage contains all the functional categories made available by UG. It includes functional features, which are associated with functional categories, but with unspecified default strength (White, 2003). Thus, learners with different L1s start the task of learning the target language with weak features. Depending on the L2 input, these features acquire strength. Platzack (1996 as reported in White 2003), for example, argues that all learners start with SVO word order; other word orders such as SOV are the result of the acquisition of a strong object feature which must be checked in Agr-Object, causing the object to raise above the verb. Epstein et al. (1998), argue that L2 learners possess all the lexical and functional syntactic categories offered by UG. They base their argument on data collected from an elicited imitation test from L1 Japanese speakers learning L2 English. The study investigated the acquisition of functional categories. Results showed evidence for the presence of these functional categories in their grammar even at an early stage.

the target language, and whether or not the initial interlanguage grammar is UG-constrained. The findings are relevant to the empirical study to be described in the next chapter, in particular on what might be expected from speakers of LSA who are at an elementary level in L2 English.

The next section reviews studies that deal with learners who are beyond the initial stage grammar and it addresses questions like: What happens as L2 learners get exposed to more L2 data? How does the interlanguage grammar change over time? Does the L1 effect disappear? Does UG maintain its involvement? If yes, to what extent? Such questions have given rise to considerable controversy in SLA research, as will be made clear in the next section.

4.3.5 The availability of UG to L2 learners

Different accounts have been proposed of the extent of the availability of UG in SLA. Three different hypotheses are considered here: the Full Transfer/Full Access (FT/FA) hypothesis, the partial access hypothesis and the no access hypothesis, the latter being fundamentally different from the first two.

4.3.5.1 The full access view

Some L2 researchers maintain that L2 learners have full access to UG with the possibility of acquiring new functional categories, features and parameter values that are not present in the L1 grammar. These researchers hold the view that the L1 grammar, with all its lexical and functional properties, acts as an initial processor for

L2 input. When the L1 grammar is unable to accommodate L2 input into the representations available, the learner resorts to the full UG inventory not found in the L1, and starts the process of restructuring by building new grammatical representations until they arrive at native-like competence (White, 2003). The result will be a UG-constrained grammar that falls within the limits defined by UG, hence the description *full access*.

Supporters of this view assume that building up a native-like grammar has certain characteristics. Schwartz and Sprouse (1996: 41), for example, claim that ‘[I]n some cases, this restructuring may occur quite rapidly; in others, much more time may be needed’. The second aspect is that obtaining L2 competence cannot be guaranteed; there is a possibility of fossilization. However, for Schwartz and Sprouse any divergence from the target L2 is not a sign of partial access to UG, but an effect of insufficient linguistic experience, or ambiguity/complexity of the input.

To test their hypothesis (FT/FA), Schwartz and Sprouse investigated the acquisition of German by one adult native speaker of Turkish, Cevdet. In this case study, they depended on spontaneous production data collected over 26 months. Their primary focus was the acquisition of word order in German, more specifically, the position of the verb which is a feature instantiated differently in the two languages under study. Although both languages have OV word order in complex clauses, only in German does the finite verb move to the second position in a matrix clause. Schwartz and Sprouse claimed that their subject was able to restructure German word order consisting of more than just the subject and a single finite verb in a main clause. The subject, however, still produced a verb in third position in the matrix clause. Schwartz

and Sprouse's account for this is that '[W]hile all the main-clause data to which Cevdet is exposed will be V2, Cevdet will not hear any utterances indicating that V3 is ungrammatical' (49). There was no input data to force the delearning of this word order. For them, this is a case of fossilization.

However, other studies have come up with results which are not consistent with the FT/FA. In particular learners whose L1 is endowed with features that do not exist in the L2 were unable to reach native-like grammar. I now turn to review relevant studies.

4.3.5.2 The partial access view

Another group of researchers argue for the involvement of UG, but only partially. Within this view, it is claimed that some part of UG is no longer available. Thus, although the principles of UG constitute part and parcel of the interlanguage grammar of L2 learners, only L1 parameter settings are available. All the new parameters that are not instantiated in the L1 are difficult to set, and therefore L2 learners compensate for the missing features by drawing on other resources available within UG.

Hawkins and Chan (1997) and Smith and Tsimpli (1995) among others, proponents of the *No Parameter Setting Hypothesis*, assume that learners have access to UG via the functional features of the L1 which they transfer in the early stages of learning. When the L1 and L2 differ in the instantiation of a particular feature, the claim is that beyond a critical period for language acquisition, features that are absent from the L1 are no longer accessible, and thus, their interlanguage representations remain

incomplete. What is meant by feature here is only the uninterpretable features. These disappear if not selected from the UG inventory prior to the end of the critical period. This claim includes all features regardless of their value: strong or weak. Once the learner has learnt the L1, certain uninterpretable features which are not used during the acquisition of the L1 disappear, but interpretable features remain. So an L2 learner who has lost the uninterpretable feature that was not realized in his mother tongue acquires languages using UG, but lacks those particular features. Some studies of other proponents of partial access to UG will be reviewed in detail in section 4.4.3.6.

4.3.5.3 The no access view⁵⁹

The third position to be discussed concerning UG availability in L2 acquisition is that of no access. Under this position, there are two sub-positions to be considered: global impairment (see Clahsen and Hong, 1995) and local impairment (see Beck 1998a). The first argues that L2s are not constrained by UG, and, consequently, they do not behave like natural languages. Failure to have access to L2 parameter settings is taken as clear evidence against any role of UG. What constitutes L2 interlanguage grammar are constructions built one by one through observing the surface characteristics of the linguistic forms in the L2 input (White, 2003). The other sub-position argues for a partial breakdown in the parameters in the sense that some parameters are never set. L2 learners' grammar is characterised by the inert features that never acquire any value but rather become impaired. Thus, feature strength is deficient, and 'later

⁵⁹ Some of the views discussed in this chapter such as the *no transfer view* and the *no access view* will not be discussed any further in the coming chapters, as hardly anyone in the field still maintains them. They were mentioned here just to give an overview of the different views that have been advanced in the literature.

learners' grammars incorporate an impairment to strength features' (Beck, 1998a: 337)

I have briefly reviewed a number of views held about the role of the L1 in SLA and the extent to which UG is involved, focusing particularly on the initial stage and the final stage of development. It appears that there is no consensus among these views; although all the views are formulated within 'the principles and parameters approach to Universal Grammar, they embody different conceptions about the nature of second language syntax' (Hawkins, 2001: 67)

In the next section focus will be shifted to studies conducted on *wh*-movement particularly *wh*-movement in RRCs. The more evidence that is accumulated from the investigation of different L1-L2 pairings where features underlying syntactic constructions differ, using different methodologies, the more chance there will be of deciding between competing hypotheses about the role of UG in L1 in L2 acquisition. Since RRCs show constrained differences in realisation cross-linguistically, and implicate principles of UG, they are a good area in which to pursue further research.

4.3.6 RRCs in the acquisition literature

In what follows, I shall review some of the studies that investigate the acquisition of one property, namely *wh*-movement mainly in RRCs with two different views on accessibility to UG and influence of the L1 in early and advanced stages.

As shown earlier, the existing literature is largely divergent. The first view is that learners can construct full target-like mental representations for the target L2 whereby syntax and morphology are native-like in high-proficiency learners. Where L2 learners diverge, they have an output problem or a processing problem.

The second view is that there is always a gap in L2 representation; some properties in the target language might be persistently problematic, i.e. some aspects of their knowledge are impaired as a result of a critical period with the result that they do not establish fully the representation for the target language.

4.4.3.6 Evidence for L1 influence and partial UG involvement

Supporting the partial availability of UG hypothesis, Hawkins and Chan's (H&Ch) (1997) empirical work triggered much attention in the field of L2 acquisition. H&Ch provided evidence for their *Failed Functional Features Hypothesis* based on the absence of acquisition of properties associated with uninterpretable features. In doing so, they followed Smith and Tsimpli's (1995) line of argument that functional items consist of morphophonological forms, which are non-parameterised, together with functional features, which are parameterised. It is only these parameterized features that are affected by a critical period.

What happens then is that when learners are exposed to the target language, they might behave in one of two ways where there are parameteric differences between the languages: either (i) they generalise the features of their L1 to the L2 and treat them alike, or (ii) once they have enough exposure to recognise that the L2 is different on

the surface, they resort to different devices from those of their L1, but also different from those of L2 native speakers. In the latter case, the devices will nevertheless agree with the principles of UG. Hence L2 learners would have different but possible interlanguage grammars constrained by UG principles. This is not to say that learners will find difficulty acquiring morphophonological forms that differ in the L2 from the L1: ‘learning lexical and morphological properties does not entail learning the syntax associated with those properties’ (Smith and Tsimpli, 1995: 84)

4.3.6.2 Hawkins and Chan (1997)

H&Ch (1997) focused on testing L1 Chinese speakers and L1 French speakers learning L2 English. In particular, they wanted to examine their acquisition of RRCs at different ages and proficiency levels: elementary, intermediate and advanced. They used three Chinese groups and three French groups, in addition to the control group. The French group was used mainly for the purpose of increasing ‘the validity and reliability’ of the test.

The formation of RRCs in English and French on the one hand, and Chinese on the other reflects a parameteric difference. In Chinese, RRCs are introduced by Cs rather than by *wh*-phrases. Where there is an empty category in English/French, resumptive pronouns are used instead in Chinese. The resumptive pronoun can be overt or null. In the latter case, an empty category *pro* is used. Thus, no movement is involved in Chinese due to the fact that the C does not have the feature specification $[-/+wh]$ and consequently, there is nothing to motivate *wh*-movement. As a result, the null topic

which is base-generated in Spec CP is related either to a null *pro* or to an overt resumptive pronoun.

Based on these linguistic differences, a learnability problem is expected even at advanced stages due to the persistent effects of the L1. Learners will be able to acquire *that*, but this will not be the lexical realisation of [-wh]. It is predicted that these learners will not acquire the [CP...gap] which involves relativiser movement. This has certain consequences for Subjacency and resumption.

The French group was predicted to differ in performance from the Chinese group because French is similar to English in that it involves *wh*-operator movement. They were expected to outperform the Chinese speakers at all ages and proficiency levels.

H&Ch designed a GJT to test these predictions. The tested properties were: (i) grammatical/ungrammatical use of operators and Cs; (ii) ungrammatical use of resumptives; (iii) ungrammatical null subjects in complex clauses; (iv) violation of the Subjacency constraints.

The results were consistent with the predictions: there was a noticeable difference between the performances of the two groups, with the French speakers outperforming the Chinese on all the aspects tested. As for the Chinese speakers, they appeared not to have acquired most properties of English RRCs; most importantly they had not acquired *wh*-movement. Actually what happened here is that the [topic...pronoun] pattern had been transferred from Chinese into English. Subjects at the elementary level resorted to the following strategy: instead of moving the operator to CP, they

base-generated the *wh*-phrase in CP and bound it to an overt RP in the lower clause, so that it looked as if they had rejected cases which violated Subjacency. Advanced learners, on the other hand, analysed the English gap as a null RP, thus giving the impression that they were aware of the ungrammaticality of resumptives, but consequently they accepted sentences which for native English speakers violate Subjacency because for the Chinese speakers movement is not involved.

Based on the results obtained, they concluded that although adult learners of Chinese were able to associate new morphophonological forms with RRCs in English, their interlanguage grammars are still not native-like. They are however still UG constrained because the [topic...*pro*] pattern is a UG-licensed option.

H&Ch (1997) have been criticised for not including other kinds of constructions such as questions which involve *wh*-movement in their study. White and Juffs (1998) argued that in the case of questions, L2 learners whose language does not involve movement were able to acquire this uninterpretable feature. Lardiere (2007) also has reservations about this study: (i) if Chinese subjects have not acquired the syntactic properties of *wh*-expressions and overt Cs, then there is no reason why they should not co-occur. However, H&Ch's participants correctly rejected doubly filled CP structures; (ii) Lardiere claims that in all the Subjacency studies, the ability to acquire native-like competence increases with the increase of proficiency, unlike this study whereby subjects relied on their L1 instantiations. In fact, Lardiere questioned the existence of any parametric difference between the two languages. She argues that 'although it is possible (even likely) that knowledge of L1 features influences the development of relativization in L2, as Hawkins and Chan argue, the differences

between those languages appear not to boil down to a single stark parametric choice that divides English-type languages from Chinese/Japanese-type languages' (p173). The structures examined by H&Ch are topicalized structures in Chinese and not RRCs. Syntactically speaking, topicalized and relative structures involve different kinds of movement. She mentioned also that there is one type of RRC in Chinese (adjunct relativization) which is similar to the English relatives.

4.3.6.3 Yuan (2007)

Superficial native-likeness is evidenced in another study by Yuan (2007). Yuan carried out an empirical study to test the acquisition of *wh*-questions in Chinese, a language impoverished as far as overt inflection is concerned. His L2 participants were native speakers of Japanese. *Wh*-questions in Chinese and Japanese are similar in many respects: i) both are *wh*-in-situ languages; ii) both use question particles in the formation of *wh*-questions. However, the differences between the two lie in the features attached to the question particles: '[I]t is assumed that C° in *wh*-questions is essentially ambiguous and unvalued and that unvalued C° must be valued. In Chinese, the *wh*-particle *ne* values C° with [+Q, +wh] features, which licenses the *wh*-word *in situ*. ... Japanese also employs question particles, such as *ka* or *no*. However, they are defective in the sense that they can only value the ambiguous C° as [+Q] and they are unable to specify the question as to whether it is [+yes/no] or [+wh]. To value C° as a head with [+wh], a *wh*-operator in a *wh*-word inside the sentence has to raise overtly to C° ' (329). This movement of the operator can be blocked, however, by a c-commanding quantifier resulting in ungrammaticality. This implies that there are Subjacency effects in Japanese. This is unlike Chinese where the invisible *wh*-

operator is directly generated inside an island with the result that the *wh*-operator does not cross any island.

The results of the acceptability judgement test used in this study show that the intermediate and advanced Japanese speakers ‘overwhelmingly’ allowed the yes-no question particle *ma* to value and specify C°, and this process seems to happen by merging the *wh*-particle into C°, that is, the *wh*-word remains *in-situ*. However, when they were asked to judge sentences that involve a quantifier, their judgement was divided equally between acceptable and unacceptable. This suggests that there is still *wh*-movement in their L2 Chinese grammars, and that this movement is blocked by the c-commanding quantifier.

For Yuan, the motivation for raising the *wh*-operator by the Japanese participants is because the Chinese particle *ne* is considered the counterpart of the Japanese particle *ka* or *no*, both of which have the [+Q] feature but not the [+wh] feature. When *ne* is used to value the sentence as a *wh*-question, the C° is specified as [+Q], but it cannot agree with the features of the *wh*-word and license it because it is far away. This drives movement and leads to persistent variability among the advanced learners. This result led Yuan to the conclusion that ‘... any lexical item with deficient morphological features selected from the L2 lexicon by the computational system will have an effect on the L2 syntax.... The lexical morphology-syntax interface is likely to be a source of variability in L2 grammars’ (355).

4.3.6.4 Hawkins and Hattori (2006)

This is another study which investigated the role of the L1 in restricting the ultimate attainment of L2 learning following Tsimpli and Dimitrakopoulou's *Interpretability Hypothesis* (2007)⁶⁰. The *Interpretability Hypothesis* 'makes an explicit claim about one area where L2 speaker knowledge will permanently diverge from that of native speakers' (271). This area is once again related to the uninterpretable syntactic features that have not been selected during L1 acquisition. The claim here, as in H&Ch, is that while interpretable features remain available even if they are not selected during a critical period, uninterpretable features do not, as they cease to exist after the critical period. It is these features only that are subject to a critical period because they are 'members of the set of properties that are selected in response to experience (linguistic input)' (271). Thus, even when learners appear to have native-like performance, caution is required against 'over-interpreting' their mental representations.

In order to further test this hypothesis, Hawkins and Hattori explored the acquisition of the uninterpretable feature that forces *wh*-movement in English interrogatives by L1 Japanese. Japanese lacks a strong uninterpretable feature for interrogative C required to drive movement of *wh*-phrases, i.e. it has *wh*-in-situ interrogatives. Japanese interrogatives require an Agree dependency between interrogative C with an interpretable question feature that marks the sentence as a question and an element in the clause with an interpretable feature to mark it a quantifier. It thus differs from English interrogatives where this dependency can be achieved through an

⁶⁰ Tsimpli and Dimitrakopoulou (2007) was referred to in Hawkins and Hattori as 'to appear'; it was not published at the time.

uninterpretable [*uwh*:] feature on C: [C, Q, *uwh*:]. This in turn necessitates the operation Agree to value and delete the uninterpretable feature. Valuing the [*uwh*:] should occur within the immediate projection of interrogative C. Consequently, the *wh*-word/phrase is forced to move to the Spec CP, as in (3), where *what* has moved in cyclic fashion.

3. What did John remember [CP (what) Mary bought (what) yesterday]? (275)
4. *? What did who buy? (277)
5. *? Where did the professor say when the students studied? (277)

Such movement, however, is subject to Subjacency as is the case in RRCs: *wh*-words/phrases should move to the closest potential landing site. (4) is ungrammatical because *who* is the subject of the clause, it is closer to Spec CP than *what* (object); hence, movement of *what* produces ungrammaticality. This violation is called a Superiority Violation. In (5), movement of *where* from the complex clause to Spec CP of the matrix clause violates Subjacency.

Japanese and English interrogative C have the uninterpretable feature [*uwh*:], however, only English has an uninterpretable strength feature (represented by an asterisk: [*uwh**:] that forces *wh*-movement. In Japanese, a *wh*-word could move in multiple *wh*-questions without a violation of Subjacency because this movement is not forced by a [*uwh**:] feature: this kind of movement is called scrambling. So Japanese learners need to acquire from English *wh*-interrogatives the following (280):

- a. that one *wh*-word/phrase must appear in the left periphery of an interrogative clause;
- b. that such movement results from the requirement that valuing occur within the immediate projection of [C, Q, *uwh**:]

In order to test L2 Japanese speakers' sensitivity to Subjacency, a truth value judgement task was administered. The results indicate that although Japanese participants were aware of the long distance dependency between the *wh*-word and the gap, they showed no sensitivity to Superiority and Subjacency. They allowed both the grammatical and ungrammatical readings of the complex clauses. For Hawkins and Hattori, this implies that they have different mental representations for the dependency other than movement driven by the [*uwh**:] feature. This can be due to their L1, i.e, what Japanese speakers had in mind is that these are cases of obligatory *wh*-scrambling, a property which, though not grammatical in English, is still a UG option.

Hawkins and Hattori proposed another interpretation which is 'extremely tentative', namely that these learners could have established a Focus projection in the left periphery of C[Q] sentences with an interpretable feature [ident] needed for the identification of non-presupposed information, as well as an uninterpretable feature [*uFoc**:]. The interpretable [Foc] feature is assigned to all *wh*-words, as *wh*-words identify non-presupposed information. In multiple *wh*-questions one of the *wh*-words must move to value [*uFoc**:]. However, since this movement relates to Foc interpretation, the head of the *wh*-chain not the foot of the chain is required for interpretation. Also since all 'focus-able' elements within the same clause are the

same distance from the Foc constituent, this renders them potential candidates for movement to focus with the result that no violation of Subjacency occurs. ‘This could be because focus interpretation is qualitatively different from interrogative interpretation, and does not need to ‘see’ hierarchical structure in searching for a target to value [*uFoc**:]’ (297). So once again, L2 Japanese learners did not reach target-like competence.

4.3.6.5 Schachter (1989)

Schachter (1989) also investigated whether UG is available to adult L2 learners entirely or partially. To do this, she chose the Subjacency Principle. Two tests were conducted: a syntax test and a Subjacency test. Learners who pass the syntax test should show knowledge of four constructions:

- i. Sentential subjects: *That oil prices will rise again this year* is nearly certain.
- ii. RRCs: The theory *we discussed yesterday* will be on the next week.
- iii. NP complements: There is a good possibility *that we can obtain the information elsewhere*.
- iv. Complex questions: The dorm manager asked me *who I wanted to have as a roommate*.

Learners who pass the Subjacency test should show knowledge of Subjacency violations in these constructions.

Schachter conducted the study with proficient speakers of English: Indonesian, Chinese and Korean L2 learners of English as well as native speakers of English. The reason why she chose subjects who were native speakers of different languages was to test whether their L1 instantiations would affect their ultimate attainment. Schachter made the assumption that contrary to English, Korean *wh*-constructions are formed without movement, which means Subjacency is not activated in Korean grammar, whereas Indonesian and Chinese speakers have limited movement: in Chinese, *wh*-movement is possible in topicalised and RRC constructions (this is different from what H&C claim about the syntax of Chinese, viz. that there is no movement involved in RRCs) but not in questions. In Indonesian, movement occurs in questions, in particular from subject position.

Results in both tests showed that subjects in general performed quite poorly, and they differed from the control group whose performance was high, as expected. More specifically, only one third of non-native subjects exhibited knowledge of both Subjacency and syntax constructions. The remainder did well only in the latter test without corresponding knowledge of the Subjacency constraints involved therein. Interestingly, the number of Korean speakers who passed both the syntax test and the Subjacency test was the smallest among all the other groups, suggesting that they did not have access to a full UG.

Based on this, she maintained that the results ‘constitute a major difficulty for ... those who believe that all the principles of UG are available and accessible to postpuberty language learners’ (Schachter, 1989: 85). Also, they partially support

those who claim that adult learners do not have at their disposal all the instantiations of UG, but only those found in the L1.

For a similar account of the reduced availability of UG to L2 learners see Johnson and Newport (1991).

4.3.6.6 Other studies

A study by Sarko (2009) was carried out to test the acquisition of the article system in English by speakers of L1 Syrian Arabic. The use of the article was tested in a number of constructions, including RRCs, in particular the use of articles in definite and indefinite RRCs where the antecedents are singular count nouns. Syrian Arabic has an article to mark definiteness, but it does not have a phonologically overt element for indefiniteness. Her participants were of four proficiency levels: lower intermediate, upper intermediate, advanced, and very advanced. It was shown that in a Forced Choice Elicitation Task, lower intermediate Syrian Arabic learners showed poor suppliance of the indefinite article 44% in indefinite contexts, whereas they overused *the* in the same context 53%. However, they were native-like in definite contexts. On a different task, a Story Recall Task, lower intermediate learners provided 41% indefinite articles in indefinite contexts and 46% definite articles in the same context. The upper intermediate learners provided 35% indefinite articles in indefinite contexts and 56% definite article in the same context. The conclusion arrived at is that the L1 is playing a role in the learners' choice of articles in RRCs.

Results consistent with these results came from an experiment conducted by Hajjar (2009). Hajjar administered a Grammatical Gap Filling Task to lower intermediate, upper intermediate and advanced speakers of Syrian Arabic learning English. The results showed that his learners were highly accurate in article usage in RRCs in all definite contexts tested. However, the lower intermediate learners were not target-like in indefinite contexts. His interpretation for this is that ‘the behaviour of the Syrian L2 learners in both definite and indefinite contexts was influenced by their L1: since Arabic has articles that mark definiteness, potential knowledge of the distribution of definite articles in English is already present in low proficiency Syrian L2 learners and is unaffected by further development of general proficiency’ (269).

The above studies assumed partial availability of UG and a potential persistent L1 effect even at the later stages of development. In the next section, a different perspective is presented, namely the full availability of UG.

4.3.7 Evidence against partial UG involvement

Taking divergence from native speaker’s competence as a sign of L1 influence on L2 learners’ access to UG is such a challenging conclusion for strong proponents of the FT/FA view. Many studies explored the availability of UG in its entirety for adult learners.

4.3.7.1 White and Juffs (1998)

White and Juffs (1998) designed a study that measures awareness of island constraints subsumed under the same principle, Subjacency. Subjacency studied here is involved in *wh*-question formation. Chinese is the language under study once again⁶¹. White and Juffs' argument is that if Chinese learners show evidence of 'obeying constraints that operate only in the L2, or of resetting parameters to L2 values, this suggests UG availability, since knowledge of the L2 system cannot come solely from the L1 and ..., could not have come solely from the L2 input' (1998: 113). This constitutes a counterargument to those who believe in the difficulty of parameter setting.

Two tasks were devised: one was a GJT⁶². Half of the items in the GJT were grammatical, while the other half were ungrammatical, involving different types of Subjacency violations.

The other task was a question formation task (pencil and paper task) used to verify possession of subconscious knowledge about *wh*-movement. The argument is that 'if L2 learners have unconscious knowledge of constraints on *wh*-movement in English, they will find some way of phrasing their questions to avoid producing violations' (1998: 119).

⁶¹ The subjects participating in this study were categorised into two groups, both of which learned English in China during adolescence. One of the groups was then exposed, while still in China, to a kind of immersion in English, while the other group moved to Canada and was exposed to English there. There were also two control groups for each Chinese group.

⁶² The task was administered on a portable computer, and was designed to measure 'intuitional knowledge and speed of judgement'.

Generally speaking, the results showed that both groups of adult subjects achieved native-like competence in the production and perception tasks, though performed at less than native-like speeds. Thus they concluded that attainment of native-like competence was possible, and UG knowledge remains accessible regardless of the L1.

Two points about this study should be mentioned here: there was one case which was ignored in the discussion; that of *that*-trace violations (e.g. *Which horse do you think that ___ will win the race?*): subjects were not accurate in rejecting the ungrammaticality of the sentences involving *that*-trace violations⁶³. Certain constructions were also problematic; the extraction of subject and object were difficult for participants, so they were less accurate and slower in their performance. For White and Juffs, this is due to processing problems rather than lack of competence.

4.3.7.2 Martohadjono and Gair (1993)

Martohadjono and Gair (1993) assume learners arrive at native-like competence not through learning strategies, as is assumed by H&Ch, rather by constructing mental representations similar to those of the L2. They conducted an experiment with adult Indonesian learners of L2 English. The experiment tested whether learners have

⁶³ As Andrew Radford (personal communication) pointed out some studies show that native speakers allow *that*-trace violations (see Sobin, 2002), but they tend to be mainly in contexts where there is an element intervening between *that* and the verb, for example, *Which horse do you think that undoubtedly will win the race?*. However, in core cases such as *Which horse do you think that ___ will win the race?*, native speakers would reject these constructions. Nonetheless, there are some speakers who accept them even without an intruding adverb, as in the following authentic examples recorded by Andrew Radford:

(i) What are we hoping [**that** --- can come from this]? (Johnny Gould, Talk Sport Radio)

acquired movement. They made use of some diagnostics: sensitivity to Subjacency violations, appearance of gaps resulting from movement, applying the ECP principle (since the only gaps in this grammar are nominal, and only non-pronominals are subject to the ECP (p85)), allowing object gaps (since in this grammar gaps can only be filled by *pro* (p86)). Learners were: intermediate and advanced learners and a group of native speakers of English.

Three constructions were used in this experiment: *wh*-questions, RRCs, topics. In Indonesian *wh*-questions⁶⁴ and RRCs do not involve any movement; topics include both gap topics and left-dislocated topics. Two tests were employed: an Elicited Imitation Task to examine the constraint against *pro* in object position, comparing the use of a gap in subject position and object position. The second test was a paced GJT for the purpose of testing Subjacency.

The results of the first test show a difference in the performance of the intermediate and advanced groups; while the intermediate group had difficulty with the gap objects, the advanced group did not. Worth mentioning here is that the intermediate group performed very well on the topicalized and left-dislocated structures, which are derived similarly in the two languages. For Martohadjono and Gair this is suggestive that ‘the L1-L2 parallelism facilitated the necessary recognition’ (79). Where there are differences between the two languages, they applied their L1 principles to these structures in that they seem to still use the *pro* representation which is obstructing the use of the gap. However, ‘the constraint on *pro* in object position is not in effect for the advanced group’ (p93).

⁶⁴ Schachter (1989) claimed that in Indonesian, movement occurs in questions only from subject position.

The results on the Subjacency test showed that both groups performed better on this test than on the other. The sensitivity to Subjacency violations is correlated with the degree to which the movement is instantiated. For them, this is evident from the performance of the intermediate group which showed a subject/object asymmetry for the gap structures, as is to be expected from a grammar which has not yet instantiated movement.

The main conclusion which they drew from this experiment is that there seems to be no full UG involvement in L2 acquisition, but in fact this has to do with ‘the learners’ failure to recognize the applicability of some specific UG principle to a specific L2 structure or structures. ... an interaction with the L1 might be a factor in such failure to apply’ (96).

4.3.7.3 Lardiere (2007)

In her case study, with a particular reference to H&Ch (1997), Lardiere examined the production of a Chinese subject. The production data indicated that the subject appeared to be sensitive to all the features that were problematic to subjects in H&Ch. The subject was also able to use RRCs in different positions (S, O, OO (oblique object) positions) freely and correctly. Among these positions, it is the OO position which is of special interest to Lardiere. This is because in Chinese a resumptive is obligatory after a preposition.

Her subject allowed preposition stranding in her production, suggesting that she is not base-generating the *wh*-expressions in Spec CP, but rather deriving the *wh*-element

via movement to Spec CP. However, in the subject's production, there was evidence for the existence of L1 influence; the subject used two types of so called 'serial verb constructions' used in Chinese. The first type, pivotal verbs, 'contains a noun phrase that functions as both the (direct) object of the first verb and the subject of the second' (2007: 165), as in *ni* 'you' in (6):

6. wo yuanliang ni si-huai-le wode shu
 I forgive you tear-ruin-ASP my book
 I forgive you for tearing up my book (165)

The other type, a realis descriptive clause, is 'semantically similar to a relative clause in its modification function, but appears to be less restrictive. ... The verb in the first clause is transitive and takes an object that is described by the second clause, and the direct object must be indefinite' (166) as in the following example:

7. a. wo mai-le yi-jian yifu tai da
 I buy-ASP one-CL outfit too big
 b. wo mai-le yi-jian tai da de yifu
 I buy-ASP one-CL too big [C] outfit
 I bought an outfit that was too big.

The first member of this pair is an example of a descriptive clause, and it has the meaning that the speaker bought an outfit that turned out to be big. The second is a true relative clause, and it means the hearer knew that the speaker was looking for an outfit which is too big.

Unlike H&Ch's claim that subjects learnt only the surface morphophonological properties, Lardiere assumes that there is a mapping between the syntactic features and their corresponding morphological realization underlying her own subject's production.

In order to further support the evidence she got from the production data, Lardiere conducted a GJT similar to H&Ch's. It consisted of grammatical and ungrammatical items: the ungrammatical sentences tested sensitivity to the doubly filled CP and to Subjacency Violations (extraction from adjuncts and noun complements), resumptive pronouns in different positions, serial verb constructions. The results were compatible with the production data. The learners showed a rejection rate of 100% for doubly filled CP, 90% for Subjacency Violations, and 91% for resumptive pronouns. This was indicative, for her, that the subject's mental representation for this construction is similar to the natives'.

However, the results obtained from the serial verb constructions showed only 25% rejection, though the subject noted that the sentence can be rescued by the use of a resumptive (which would render the sentence correct in English). This is indicative, for Lardiere, that the L1 and the L2 representations are both present in her mental grammar.

4.3.7.4 Hu and Liu (2007)

Hu and Liu (2007) report the results of a study they conducted to investigate the acquisition of RRCs in Chinese by L1 English and Korean speakers. In particular,

they wanted to check whether the differences and similarities between these languages affect the development of L2 learners' mental representation. Hu and Liu sum up these similarities and differences as follows: 'RRCs are right-branching in English but left-branching in Korean and Chinese. Second, RRCs in English and Korean involve *wh*-operator movement whereas RRCs in Chinese do not. Third, there are complementizers in English and Chinese but not in Korean. Finally, Chinese allows RPs optionally in direct object position but obligatorily in indirect object and genitive/possessor positions, whereas English and Korean do not allow RPs' (270).

The results of their study were consistent with FT/FA hypothesis proposed by Schwartz and Sprouse (1994; 1996). The elementary Korean learners started out accepting ungrammatical RRCs more strongly than grammatical ones. This, superficially, does not follow the FT hypothesis whereby feature specifications of functional categories of the L1 constrain elementary learners' grammar. Hu and Liu's analysis for this superficially-no-transfer case is that either i) elementary Korean learners assume that 'L2 RRC falls in line with the RRC pattern in their L1 and contains a CP structure without a complementizer in C'; or that since the main verb of a Korean RRC is marked by a morpheme that reflects both the tense and indicates that the clause is identifying an RRC, and since Chinese RRCs do not show tense overtly, this resulted in the absence of an identifiable clause boundary in a Chinese RRC which caused problems for these learners.

This is unlike the performance of the elementary English participants who accepted the grammatical RRCs more than the ungrammatical ones. Hu and Liu's

interpretation is that the difference between English and Chinese led to a ‘rapid restructuring’ in the English L2 grammar.

4.3.7.5 Other studies

Another study that argues in favour of parameter setting is White and Genesee (1996). They argued that L2 learners who achieve native-like proficiency in the L2 can obtain native-like competence even when they are adults⁶⁵.

Bley-Vroman et al (1988) tested the accessibility of UG to adult Korean speakers of L2 English using a GJT that focused on Subjacency and the ECP. The conclusion they drew from the experiment was that ‘it is extremely difficult to maintain the hypothesis that universal grammar is inaccessible to adult learners’ (p26), though it is available in an ‘attenuated form’ (p27).

Juffs (2005) also investigated the effect of the L1 in the processing of *wh*-movement in L2 English. He reports that ‘success in on-line processing of *wh*-movement in the L2 depends only to some degree on whether the L1 has overt *wh*-movement ... If there is no *wh*-movement in the L1, word order in the L1 has an additional negative effect on processing’ (145). His Chinese, Japanese and Spanish participants were able, however, to distinguish grammatical and ungrammatical *wh*-extraction at a native-like level.

⁶⁵ White and Genesee removed the results obtained on the *that*-trace from the analysis because they brought down the overall scores, and this casts some doubt on the results of the experiment.

Having reviewed a selection of related research, the nature of the divergence in the perspective of researchers on the acquisition of *wh*-movement in the L2 is clear. There is no consensus on the nature of the initial stage and the final stage or about the involvement of UG.

4.3.8 Research questions

A number of questions remain unresolved as has been made clear in the previous section. The next chapter will be concerned with reporting an empirical study conducted to further examine the acquisition of RRCs in English by speakers of LSA. The choice of the LSA-English pairing gives the opportunity to address relevant research questions. LSA has some morphological and structural properties that are advantageous for studying the acquisition of RRCs: (i) definite RRCs are introduced by an overt C, and indefinite RRCs are introduced by a null C, unlike English which has relative pronouns, C and a null-form used in both the definite and indefinite RRCs; (ii) definite Gen RRCs in LSA are formed on the basis of a non-inflected C, and a clitic in the relativized position, whereas in English they are formed by operator movement that pied pipes that N complement to the relative pronoun to the Spec CP; (iii) LSA makes use of resumptive clitics whereas English does not⁶⁶; (iv) there are no Subjacency effects in LSA, unlike English which abides by island constraints.

⁶⁶ Andrew Radford (personal communication) notes that in non-standard varieties of spoken English resumptives occur, but it is likely that these are not the kind of constructions that LSA learners are exposed to. Looking at a range of grammar books, they typically do not include resumptives. Moreover the crucial difference is that resumptives are categorically obligatory in certain positions in LSA, whereas in English they are non-standard and they are not as common as gaps.

The differences will allow us to address the following question(s): Do native speakers of LSA no longer significantly differ from English native speakers in:

- i) recognizing that presence/absence of the relativizer in English is not determined by definiteness. This measures L1 influence on the L2 grammar.
- ii) identifying the grammatical-function-constrained optionality of the relativizer in English. This measures the ability to acquire a target property that is under-determined by input.
- iii) identifying the fact that RPs are disallowed in English. This is another measure for L1 influence
- iv) recognizing that the presence of gaps in English RRCs is the result of operator movement, and whether this is accompanied by sensitivity to grammatical vs ungrammatical long-distance movement of *wh*-relative pronouns. This directly engages access to UG. Knowledge that English RRCs involve operator movement will be shown in responses to the ungrammaticality of extraction from islands
- v) identifying the range of English RRC constructions, including the form of Gen RRCs. This measures L1 transfer, and also tests the acquisition of a language-specific property in the L2

4.3.9 Predictions

Here, I present predictions relevant to the acquisition of RRCs by LSA learners from the perspective of the different hypotheses dealt with in this chapter.

4.3.9.1 Initial stage

- From the Full Transfer point of view, the following assumptions follow: LSA learners would i) prefer *C*, being the only relativizing word in this variety; ii) prefer *that* with definite RRCs, and \emptyset relativizer with indefinite RRCs; iii) overuse RPs, iv) show no sensitivity to island constraints when there is a gap inside the island, v) not use the Gen form *whose* to refer to possession, rather *that* with a RP would be used instead.
- Under the Minimal Trees Hypothesis, the functional categories of LSA are not transferred. This implies the following: i) no Ds are expected to be used, and hence learners' judgements of definite and indefinite RRCs are going to be the same or random; ii) Cs are absent; iii) RPs will be used; iv) no *whose* form is used; v) no sensitivity to island constraints.

4.3.9.2 Final stage

- FA predicts that LSA learners would reach a native-like English grammar as a result of the restructuring of the L2 English grammar which is guided by UG. That means they will come to realize that i) the presence/absence of the relativizer in English is not determined by definiteness; ii) optionality of the relativizer in English has to do with the function of the relativized position; iii) the learners will unlearn the resumptive strategy, however, if there seems to be variability in the use of RPs, this might be taken as a indication of some superficial problem; iv) learners will reject sentences violating island

constraints suggesting that UG is involved; and v) *whose* is used where appropriate to indicate possession without being linked to a RP.

- The FFF viewpoint, which assumes that the L1 affects L2 development, predicts that learners i) will recognize that C can be used with both definite and indefinite RRCs; ii) learners will experience no difficulty using all the possible relativizers in English: *that*, *wh*-relativizer, and \emptyset -relativizer; iii) there is going to be a variability in the use of the RP; v) learners will continue to accept sentences that violate Subjacency; v) there is going to be a persistent difficulty in producing the English possessive construction.

4.3.10 Conclusion

This chapter considered some influential theories that account for the non-native speakers' early grammars and their ultimate attainment with particular focus on the acquisition of RRCs. That discussion led to the formulation of my research questions and showed how using LSA and English in this study will allow these questions to be addressed. The next chapter will discuss the method used in the study and the results of the three tests used: GJT, GGFT, and TT.

Chapter 5

Methodology of the Empirical Study and Results

5.1 Introduction

This chapter reports the results of a study undertaken with L2 learners of English whose L1 is LSA. In order to test the predictions outlined at the end of Chapter 4 in relation to development of knowledge of RRCs, participants were chosen from different proficiency levels using a standardised general test of proficiency (to provide a measure of development over time, on the assumption that each level is representative of a stage of development that will be found in individual learners). Furthermore, three tests were constructed specifically aimed at eliciting information about knowledge and use of English RRCs by the participants: a GJT, a GGFT and a TT. There was also an AGJT in Arabic (the results of which were reported in Chapter 3) to gain information about the intuitions of native speakers about assumed grammatical and ungrammatical sentences involving RRCs in LSA.

The rationale for selecting these tasks was the following. Because RRCs are relatively infrequent in the spontaneous use of a target language by L2 speakers, and because information about participants' use and knowledge of both grammatical and ungrammatical RRC constructions was required, tasks were needed where control could be exercised over the clause types involved. GJTs have been widely used in SLA research, particularly studies concerned with RRCs. While the drawbacks of

GJTs are well-known (see, for example, the discussion in Birdsong 1989, Bachman 1990, Schachter and Yip 1990, Ellis 1991, among others, about the extra-grammatical factors that can affect validity of performance on GJTs), it was decided that a GJT should be one of the battery of tests because it provides a measure of what is possible and what is not in learners' L2 internalized grammars (Gass and Mackey 2007: 85, Gass and Selinker 2008: 65). The GGFT, which presented participants with sentences containing RRCs with gaps in them and a set of choices for possible fillers, was chosen because, rather than asking participants to rate sentences as natural or unnatural (as in a GJT), it asks them for a positive decision about whether a sentence feels natural for production. The TT was chosen because it allows control over the types of RRC tested, while at the same time requiring participants to access their knowledge of the L2 for production. Although the main drawback of translation is that the central presence of the L1 in the task may bias the constructions chosen in the L2, masking knowledge that a speaker might have of other constructions, it was felt that this disadvantage was outweighed by the advantages of a controlled production task. The choice of three tasks, rather than one, was to provide what White (2003) has described as 'converging evidence' about the nature of interlanguage grammars from different types of performance task.

5.2 Participants

The participants in the GJT, GGFT, and TT were students studying at the department of English Language at Tishreen University/Latakia/Syria. The test was conducted with 5 classes: the 1st class comprised solely 3rd year students, the 2nd class 4th year students, the 3rd diploma students (they were specifically specializing in translation),

the 4th class MA students (specializing in linguistics), and the 5th class MA students (specializing in Literature studies).

All students were native speakers of LSA and they were learning English as an L2. Those who did not speak this variety were later excluded from the experiment. Some of the informants knew a little French and others a little German, as students in the department have to learn a third language in addition to English.

Native speakers of English who formed the control group were all university educated and spoke British English. The AGJT was administered to 17 native speakers of LSA who were different from the participants who took the English tests. This group was also university-educated.

Although an initial selection of study participants was made on the basis of their year of English classroom study, a more reliable method of assessing L2 proficiency – version 2 of the Oxford Quick Placement Test (OPT) (1992) – was used to assign participants to general proficiency levels in English (see appendix 3). This is a 60-item written multiple-choice test that covers a range of grammatical and lexical properties of English. Participants were given 40 minutes to complete the test (See section 5 for details of scoring). Detailed information about the groups so formed is given in table 15.

Table 15. Participant information

Participant group	Number of participants	Age range	No of years studying English	Starting age of L2 learning
Elementary	37	24-28	14-19	9-13
Lower interm	58	22-28	14-18	9-13
Upper interm	28	23-27	14-18	9-13

advanced	25	23-34	14-20	9-13
Natives speakers of English (control group)	16	19-60		
Native speakers of LSA (control group)	17	26-60		

5.3 Materials

As described in section 1, the test materials consisted of two GJTs (one in English and one in Arabic), a GGFT, and an Arabic to English TT. Before proceeding to the description of the tests, a number of general principles used in their design are outlined below. Attention was given to consistency within the same test and between the tests, the number of test items, the way they were presented, the ordering of the test items, and the appropriate amount of time allowed to participants to answer each item:

1. All vocabulary items in the three tests were checked for their frequency. This was done using a programme called Compleat Lexical Tutor. Within the Compleat Lexical Tutor, the British National Corpus (BNC -20) was used to check the frequency of words. Most of the vocabulary items that were regarded as less frequent were eliminated from the task⁶⁷. However, some of the words that were considered less frequent such as laptop, vase, download ... were kept in the tasks because they are loan words or widely used in English met in LSA.
2. Sentences were composed to be semantically acceptable as independent clauses before they were turned into RRCs. This was particularly important in the

⁶⁷ 85% of the total number of vocabulary items belonged to the first 1000 most frequent items; 4.87% belonged to the second 1000 most frequent items; 5.63% included proper names.

construction of sentences that involved extraction from an island, to ensure that the resulting ungrammaticality was only attributable to the island violation and not some other factor.

3. The antecedent in all RRCs in all the tests consisted of a determiner (*the*, *a*, or *an*) followed by an NP; no other modifiers were used.
4. There were no split main clauses as in *The doctor advised Sarah who the fever had a bad effect on to rest for a week*. Such structures were avoided in order to eliminate any possible ambiguity in the sentence.
5. All the sentences used in the main study had the same tense (simple past).
6. All the tested properties had animate and inanimate relative heads equally.
7. All the relativized heads occupied the object position in the main clause.
8. The four tests were paced so that all participants attempted the same sentence at the same time, and made decisions on the basis of *feel* rather than conscious reflection. Subjects heard the voice of a native speaker reading the task sentences (the test items were recorded by a native speaker of English). After listening to the recording and reading each sentence (the tested items were also written), the participants were given a short time to answer (the time allocated for the items in each test was estimated after a pilot study):

- 7 seconds in the case of the English GJT
- 12 seconds in the case of the GGFT
- 45 seconds in the case of the TT
- 7 seconds in the case of the Arabic GJT

Although it is important to get ‘quick’ responses (see Gass and Mackey 2007: 90) without allowing a great deal of thinking time, the ‘test format and time allocation

that distinguishes level of ability from speed, or rate of performance' (Bachman, 1990:123) was taken into consideration.

9. No successive items tested the same property to lessen the likelihood that participants would identify the properties being tested.

In what follows, I will present a description of each of these tests as well as the reasons for using them.

5.3.1 Grammaticality Judgement Task⁶⁸

The GJT included sentences that tested extraction from S, O, OP, and GEN positions. The reason for including these different types of extraction is that in Arabic, unlike in English, these positions involve an obligatory clitic (except for the S position), and this provides a means for investigating L1 transfer. Definite and indefinite heads of RRCs were distinguished because in LSA indefinite RRC heads disallow overt Cs, and this is a potential measure of L1 influence. RRC tokens involving overt relative pronouns, null relative pronouns, overt C *that* and the null C were included to test participants' knowledge of the distribution of these forms. Ungrammatical sentences involving RP or violations of island constraints were also included. This is in order to test whether they are sensitive to island violations and their possible rescue with a RP. The distribution of RRC types and the number of tokens representing each are summarised in table 16 (see appendix 4 for test items)

⁶⁸ Almost all the sentences used in the Arabic GJT are the same in the English GJT. Only a few RRC structures were added to the AGJT, these are the ones used for chapter (3), so that they can be rated by native speakers of Arabic. These included complex definite and indefinite (S, O, OP, GEN) RRCs.

Table 16. Distribution of items in the English GJT

Tested aspects	Sub-classes within each aspect	No. of test items in each sub-class ⁶⁹	Total no. of test items in each aspect
Grammatical definite simple RRCs using relative pronoun	S O OP SGen OGen OPGen	2	12
Grammatical definite simple RRCs using C	S O OP	2	6
Definite simple RRCs using Ø relative pronoun and Ø C	*S O OP	2	6
Definite simple RRCs using both C and relative pronoun	*S *O *OP	2	6
Indefinite simple RRCs using a relative pronoun	S O OP	2	6
Indefinite simple RRCs using C	S O OP	2	6
Indefinite simple RRCs using Ø relative pronoun and Ø C	*S O OP	2	6
RPs in definite simple RRCs	*wh (S) *that (S) * Ø (S) *wh (O) *that (O) * Ø (O) *wh (OP) *that (OP) * Ø (OP) *that + RP (SGen) *whose + RP (SGen)	3 3 3 4 4 4 4	

⁶⁹ In the GJT, there was one item that was supposed to test the grammatical relativized ORRC with C and another which was supposed to test the use of clitics in SRR. These were discovered later after the test had been conducted to be testing other relativized positions. So it was decided that these two items should be added to the properties tested.

	*that + RP (OGen) *whose + RP (OGen) *that + RP (OPGen) *whose + RP ⁷⁰ (OPGen)		
Grammatical CO RRCs	O		3
RPs in CO RRCs	*O		3
Violation of the <i>wh</i> -island Constraint	*+ RP (O) *- RP (O)	3 2	5
Violation of CNP Constraint	*+ RP (O) *- RP (O)	3 2	5
Violation of the Adjunct Constraint	*- RP (O) *+ RP (O)	2 2	4

There were 88 items in the test. Because the test was already long, no distractors were used. Over-long tests are counterproductive because participants get tired and respond erratically. Because the RRC structures tested in this task are varied, they act as distractors for one another (Gass and Mackey, 2007: 88).

The test items were randomized using a programme called Research Randomizer. After that, the items were checked again to make sure that no successive items tested the same property.

Sentences were presented to participants bimodally: they both read (on paper) and simultaneously heard the sentences (recorded by a native speaker of English). The reason for this was (a) to allow participants to judge both the sound and visual form of

⁷⁰ Some of the items of this test were disregarded, specifically those that involve *whose ... clitic*. This is because they did not yield interesting results and in order to decrease the number of items tested.

the sentences being presented to them; (b) to control the pace of their decision making, to ensure that they were not taking too long in making judgements, and were responding by *feel* rather than on the basis of any conscious knowledge they might have about RRCs in English.

Participants were required to judge the *naturalness* of the sentence since linguistically naïve informants often have divergent interpretations of what is meant by *grammaticality*. Asking them to judge whether a sentence sounds *natural* or is *likely to be said by a native speaker* is assumed to be a better reflection of their intuitions about their own internalized grammars.

Participants were given three choices for each sentence: perfect⁷¹, possible and impossible. The use of different levels of rating in principle allows the researcher to gain greater insight into the subtleties of participants' intuitions than a forced choice test (Birdsong, 1989: 116). Where participants rated the sentence as impossible, they were asked to underline the part of the sentence which made the sentence impossible. The logic behind this is that 'one cannot be sure that a learner marked a sentence ungrammatical for the same reason that the researcher believes it to be ungrammatical' (Gass and Selinker, 2008:66) and because '...learners can avoid processing syntactically by relying on semantic processing' (Ellis, 2003:158).

⁷¹ This scale consists of *possible* which is a middle term, *perfect* which is one extreme, and *impossible* which is the other extreme. In the test instructions it was made clear what each option meant:

Perfect – the sentence feels like a perfectly natural sentence of English.

Possible – the sentence does not feel perfectly natural. You probably wouldn't say it yourself, but you might hear native speakers saying it.

Impossible – the sentence is not one you would say, and you don't expect to hear other native speakers saying it either.

The reason for using a three-point scale is that L2 learners often find it difficult to make decisions about more than three points in a scale.

Participants were given a few sentences as practice before the start of the actual task. Here are three examples of items from the GJT. The full set of test sentences is given in appendix 5.

She had just painted the wall that you hung the picture on.

Perfect	Possible	Impossible

I admire the scientist that his field is chemistry.

Perfect	Possible	Impossible

The child broke the laptop which Mary said she bought yesterday.

Perfect	Possible	Impossible

The final GJT was arrived at following extensive piloting. The aim of the pilot study was to examine the validity, adequacy and reliability of the instruments used in the full study as well as the administration procedures. The following elements of the task were decided on the basis of the responses of participants in the pilot studies:

- The test was paced.
- Some properties were added, e.g. *wh*-RRCs and \emptyset RRCs, Gen RRCs, Adjunct Islands, and complex object RRCs (without a RP).

5.3.2 Guided Gap-Filling Task

The GGFT is both a comprehension and production task. This kind of test has been used in other studies⁷², though not widely. It is a multiple-choice test with more than one right answer. Participants were encouraged to choose more than one option if this was appropriate. This test has the advantage that (i) many aspects can be tested using a small number of sentences; (ii) it eliminates any potential fatigue as it is less time consuming.

There were 33 items in the GGFT testing the same range of RRC types tested in the GJT. This is in order to increase the validity and reliability of the results gained from GGJT. The table below gives detailed information about the GGFT; its properties and number of items (see appendix 6 for test items).

Table 17. Distribution of items in the GGFT

Tested aspects	Sub-classes within each aspect	Choices in each aspect	Total no. of items in each sub-class
definite simple RRCs	S	Wh- that *Ø *Wh- that *Wh- RP *none	2= 1+animate head 1 -inanimate head
	O	Wh- ... Ø that ... Ø Ø... Ø *Wh- that ... Ø *Wh- RP *none	2= 1+animate head 1 -inanimate head
	OP	Wh-... Ø that... Ø Ø... Ø *Wh- that... Ø	2= 1+animate head 1-inanimate head

⁷² For example Schriefers, Friederici, kuhn (1995) used a filler-gap task

		*Wh- RP *none	
	SGen	whose *wh- ... RP *that ... RP * RP *whose ... RP *none	2 +animate head
	OGen	whose ... Ø *who ... RP *that ... RP *Ø ... RP *whose ... RP *none	2 +animate head
	OPGen	whose ... Ø *who ... RP *that ... RP *Ø ... RP *whose ... RP *none	2 +animate head
Indefinite simple RRCs	S	Wh- that *Ø *Wh- that *Wh- RP *none	2= 1+animate head 1 -inanimate head
	O	Wh- ... Ø that ... Ø Ø... Ø *Wh- that ... Ø *Wh- RP *none	2= 1 +animate head 1 -inanimate head
	OP	Wh- ... Ø that ... Ø Ø... Ø *Wh- that ... Ø *Wh- RP *none	2= 1+animate head 1 -inanimate head
CO RRCs	O	Wh- ... Ø that... Ø Ø... Ø *Wh- that... Ø *Wh- ... RP *none	3= 2 +animate head 1 -inanimate head
Violation of the Wh-island Constraint	O	*Wh- ... Ø *that ... RP *Ø ... RP *Wh- ... DP	4= 2 +animate head 2 -inanimate head

		*Ø... Ø none	
Violation of the CNP Constraint	O	*Wh-... Ø *that RP *Ø RP *Wh- ... DP *Ø... Ø none	4= 2 +animate head 2 -inanimate head
Violation of the Adjunct Constraint	O	*Wh-... Ø *that ... RP *Ø ... RP *Wh- ... DP *Ø... Ø none	4= 2 +animate head 2 -inanimate head

Under each test item, participants were given 4 or 5 options for filling the gap. The gaps in these items were two: one in the landing site and one in the extraction site.

As in the case of the GJT, items in this task were randomized using the Research Randomizer, but were later checked to avoid having successive items testing the same property. The options provided under each sentence were also randomized, so that they would have a different order in every sentence. Before the start of the actual test, participants did some sentences as a practise. The following are illustrative test items from the GGFT. The full test is given in Appendix 7.

Kim enjoyed the card games she played with her friends.

(a) which ... Ø	(b) that ... Ø	(c) Ø ... Ø
(d) which that ... Ø	(e) which ... them	(f) none

I watched the race ... Robert participated in

(a) which ... Ø	(b) which ... it	(c) which that ... Ø
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(d) Ø ... Ø	(e) that ... Ø	(f) none
-------------	----------------	----------

The company sold the land ... the manager questioned the decision that the company should have bought

(a) that ... it	(b) which ... Ø	(c) Ø ... it
(d) which ... the land	(e) Ø ... Ø	(f) none

5.3.3 Translation Task

The translation task was made up of 27 items (see appendix 8) all of which were composed by the researcher. The items were constructed on the basis of a number of points:

- i. They test properties comparable to those in the other tasks, for example, the test included items with the three types of island constraint violations. This is because parallel constructions are acceptable in Arabic and the presence of such constructions allows the testing of the influence of the L1.
- ii. The vocabularies used are accessible to the less proficient speakers.

Table 18. Distribution of items in the translation task

Tested aspects	Sub-classes within each aspect	No. of test items in each sub-class	Total no. of items in each aspect
Grammatical definite simple RRCs	S O OP SGen OGen OPGen	2= 1+animate head 1 -inanimate head	12

Indefinite simple RRCs	S O OP	2= 1+animate head 1 -inanimate head	6
CO RRCs	O	3= 2 +animate head 1-inanimate head	3
Violations of island constraints	CNP Constraint Wh-island Constraint Adjunct Island Constraint	2= 1+animate head 1 -inanimate head	6

Participants were asked to translate the sentences from LSA into English after listening to the Arabic sentence read by a native speaker of LSA. They were asked not to change the structure of the sentence except when the change was necessary to produce a proper English sentence. Participants were encouraged to ask about the meaning of words that might be difficult for them although a translation for some vocabulary items (which might be unknown⁷³ to elementary-level participants) was provided next to the majority of sentences (see appendix 9 for the actual test).

Here are some examples of the translation test:

2- حسد الأستاذة مضر يَلِي بيشتغلو طلابو بِجَدَّ (envy: حسد, hard: بجد)

(The teacher envied Modar whose students work hard)

.....

.....

3- قرئت المقال يَلِي عن جد احتجت لغوي يقدر يشرحلي ياه.

(لغوي: مقال, really: عن جد, linguist: لغوي)

(I read the paper which I really needed a linguist to explain to me)

.....

.....

4- اشتريت الأرض يلي بنيت عليها بيتي.

(I bought the land in which I built my house)

.....

.....

⁷³ As mentioned in section 5.3, all words used in all tests were checked for their frequency; they are high frequency items. It is highly unlikely that participants are unfamiliar with these words.

5.4. Procedure

Since test environment can affect performance (see Bachman, 1990:118), testing took place in a location familiar to participants using a method (paper and pen) with which they were also familiar. The personnel involved in administering the test were already known to the participants, and testing took place during a time when they normally have classes.

All subjects involved in this study did the four tests: the OPT, the GJT, the GGFT, and the TT. These tests were given to subjects within a period of three weeks. This helped to lessen the loss of subjects and prevent disturbance of their university timetable. The four tasks all had to be administered in two sessions because this was the maximum amount of time that the head of department could afford to give. The OPT and the GJT were done first, and then the GGFT and the TT. All the tests were given to subjects by the researcher with the assistance of the class teachers who introduced the researcher to the students. Amplifiers were used to guarantee that all students heard the voice of the reader clearly.

5.4.1 Administration of the Oxford Placement Task

The session started with an oral explanation of what the subjects were supposed to do in the grammar test. This was followed by reading the instructions and some example questions. The subjects were then asked if they understood what they were supposed to do. If the answer was no, an explanation in Arabic was given. Subjects had to

underline the correct answer from the three/four choices for each question. They were given 40 minutes to finish the test.

5.4.2 Administration of the Grammaticality Judgement Task

15 minutes after finishing the OPT, the GJT was given to subjects. Subjects were asked to stay in the class during the break, and not to go back to the previous test and change their answers. At the beginning of the test, instructions were presented orally, sometimes in Arabic (for undergraduates). This was in order to avoid the consequence of vague or misunderstood instructions (see Gass and Mackey, 2007: 97, and Birdsong, 1989: 114). Participants were instructed to follow the tape while doing the test. They were told not to turn back to previous questions, to change answers or do those questions which had not yet been read on the tape. Example sentences were shown as part of the written instructions. After that, they were given a few practice sentences in order to get used to doing the task according to the time assigned to each sentence in this task. They had to put a tick in the appropriate box provided under each sentence. They were also asked to underline the part of the sentence which they thought made the sentence impossible. Subjects could ask questions if they had problems doing the test.

5.4.3 Administration of the Guided Gap Filling Task

In the presence of the class teacher, the GGFT was given to subjects one week after the administration of the GJT. As in the case of the GJT, the instructions were explained orally in both Arabic and English for undergraduates, but in English to

postgraduates. Then they were asked to listen to them recorded. They were given example sentences. Following that, they were asked to do some practise sentences. They were asked if they had any questions about the task. The test then started.

The test required the subjects to listen to sentences and then underline which of the options provided under each sentence is a possible answer for the sentence. For some of the sentences, there might be one possible answer, more than one answer, or no possible answer. In every sentence there were two spaces. Subjects needed to decide which pairs of items were appropriate for those two spaces (or if none of them are).

5.4.4 Administration of the Translation Task

Both the GGFT and the TT were conducted in the same session with 15 minutes interval between the two. The students were asked to listen to each Arabic sentence read by a native speaker of LSA, and then translate it. They were told they can ask about the meaning of any word, although every sentence is provided with the Arabic translation of some potentially difficult words. Participants were asked not to change the structure of the Arabic sentence except to produce a correct English sentence.

5.5 Scoring

After the tests, the answers were scored by the researcher. Apart from participants in the Arabic GJT, not all the participants were included in the study as in table 15. Only the students who did the three tests were included. Students who were non-Latakians

were also eliminated⁷⁴. Apart from the OPT, none of the tests was scored according to correctness but according to what the participants accepted or gave as an answer (whether correct or not).

5.5.1 Scoring of the Oxford Placement Task

In this task, one mark was given for a correct answer for each question, and 0 to each incorrect answer. Students were grouped into four levels according to their results in the Quick OPT in the following way⁷⁵:

Students who scored 18-29/60 were placed in the elementary group.

Students who scored 30-39/60 were placed in the lower intermediate group.

Students who scored 40-47/60 were placed in the upper intermediate group.

Students who scored 48-54/60 were placed in the advanced group.

5.5.2 Scoring of the Grammaticality Judgement Task

The first analysis of the data was simply in terms of participant ratings of sentences that were a priori deemed to be grammatical. A three point scale 0-2 was used to represent perfect (2), possible (1), and impossible (0) options. In this analysis all those who chose *impossible* got 0 regardless of whether they underlined the correct part of the sentence or not.

⁷⁴ Students were asked to write down their city name next to their name.

⁷⁵ This is following Allan's (1992) guide as to what scores correspond to elementary, lower intermediate, upper intermediate and advanced.

The second analysis was in relation to participant ratings of sentences deemed a priori to be ungrammatical. This analysis distinguished different categories of response where the impossible option was chosen⁷⁶: the degree to which the participant recognizes the true nature of the impossibility. The rationale for having this divided set of scores depending on how learners actually treated the sentences is because there are different degrees of judgements of unacceptability. So when a learner decides that the sentence is unacceptable and fails to underline the unacceptable part, that might be because the learner thinks that the whole sentence is unacceptable, but when a learner correctly underlines the incorrect part, this shows that he/she knows what the incorrect part is.

1 was given to a participant who rated an ungrammatical RRC as perfect

2 was given to a participant who rated an ungrammatical RRC as possible

3 was given to a participant who rated an ungrammatical RRC as impossible and correctly underlined correctly the ungrammatical part.

4 was given to a participant who rated an ungrammatical RRC as impossible but underlined the wrong part.

5 was given to a participant who rated an ungrammatical RRC as impossible but underlined only a RP, where the RP is not the only error as in **the doctor that we called his secretary* or where the RP is not completely incorrect *?I do not like the video game which Kitty told Sally when she could see it.*

⁷⁶ When marking the participants' scripts, it was noticed that in the case of the ungrammatical sentences, participants marked the sentence as impossible however (i) some of them did not put the underline under the incorrect part rather they put it under some other part of the sentence, these participants constitute 3.4%, (ii) some others did not underline any part of the sentence, these constitute 11.2%; some others underlined the resumptive instead of underlining the whole sentence in the case of sentences violating the island constraints, these form 8% . These participants were included in the study as excluding them was not possible because they were the same participants who did the other tasks and because their deviance was negligible.

6 was given to a participant who rated an ungrammatical RRC as impossible but did not underline the incorrect part

5.5.3 Scoring of the Guided Gap Filling Task

Each answer chosen was given the value 1 regardless of its correctness (and if not chosen the subject is awarded 0). Then the number of times a participant selected a particular token out of the total number of possible tokens for a given type was counted, e.g. the number of times a participant chose *which* in a context like *the book ____ I bought*, the number of times the participant chose *that*, *Ø*....so each participant is scored separately for each option offered for each sentence, not with a single score for a sentence item.

5.5.4 Scoring of the Translation Task

As in the case of the GGFT scoring, only one value 1 was given to the translation provided. In other words there was a set of relevant features of translations (some correct and some not) which was established and each person scored 1 or 0 depending on whether their translation had that feature(s). The scores were given to the following:

- Producing a perfect RRC
- Producing an RRC which contains a RP
- Producing an RRC which contains wrong linking word
- Changing the structure of the RRC

- Not completing the sentence
- Using a *wh*-word as a linking word
- Using *that* as a linking word
- Using \emptyset form as a linking word
- Producing an RRC which contains a violation of island constraints
- Producing an RRC with an indefinite head

In this task, errors of tense, agreement and spelling were not considered.

5.6 Data analysis

Data from each of the tasks used were scored and analysed using the statistical package SPSS (v18). Because Kolmogorov-Smirnov tests showed that some (although not all) of the variables used for comparisons between and within groups were normally distributed, it was decided to use parametric inferential statistics (ANOVAs and *t*-tests), which is also a common practice in the analysis of data in L2 studies. Furthermore, since there are no non-parametric tests for repeated measures and independent groups combined together equivalent to those in the parametric tests, and since there is a focus in this study on the interaction effect of proficiency groups and repeated measures, parametric tests were used.

However, as a rough check, non-parametric tests of main effects were carried out, with the finding that on the whole the non-parametric results agreed with the ANOVA results. See appendix (10) for the results of parametric and non parametric tests.

Percentage agreement and standard deviation were used as measures of item reliability to quantify how far identical judgements were given to items that are testing the same property. Reliability here means absolute agreement reliability, i.e. consistency in the rating scale. This means the items supposedly measuring the same property are judged as reliable insofar as subjects gave the same rating or other response to them. The reliability results were all positive and high in most of the tests: 49.95% for the GJT, 72.52% for the GGFT, 82.92% TT, 72.71% AGJT. For full details, see appendix (11a, 11b, 11c, 11d).

5.6.1 Results

I here report the results of the three studies conducted for the purpose of testing certain predictions (4.3.9). These predictions are based on the structural differences and similarities between LSA and English (see chapter 3), and on the background research on RRCs (presented in chapter 4). The research questions, however, will be dealt with in turn in the next chapter.

5.6.1.1 Results of the Grammaticality Judgement Task

5.6.1.1.1 Definite RRCs with *wh*-word, *that*, and \emptyset form results⁷⁷

Definite RRCs in LSA always involve the overt and invariable linking form *yalli* between the head and the RRC. It was argued in chapter 3 that *yalli* belongs to the C category. English allows three linking options in non-S, non-Gen RRCs: *that*, an overt relative operator (*who*, *which* ...) and \emptyset operator/C. In SRRCs only the first two of these options are available. In Gen RRCs, only *whose* is available. This section reports the ratings given by participants to the different English options. The findings should provide evidence bearing on the extent of L1 transfer. It is possible that the L2 learners will (at least initially) reject the \emptyset operator/ \emptyset C option because in LSA *that* option is only available where the head of the RRC is definite (see section 3.5). Results should also provide evidence about participants' preferences with respect to relativizer form.

SRRCs

The mean ratings of participants for the three types of head-RRC linker are shown in table 19.

⁷⁷ No between subject comparisons (comparisons between the results of the native speakers of English and the non-native speakers) were conducted in the case of definite and indefinite RRCs with *wh*-word, *that*, \emptyset relativizers. Only within subject comparisons were carried out. Reporting them would be uninformative because the focus in these constructions is on which relativizers learners accept, and not on how different or similar they are to native speakers.

Table 19. Mean rating/2 for each RRC linking form: definite SRRCs

Linker	wh-		that		Ø	
Participants	M	sd	M	sd	M	sd
Elementary (n=37)	1.69	.4	1.27	.49	.54	.46
Lower Interm (n=58)	1.84	.28	1.44	.59	.62	.55
Upper Interm (n=28)	1.89	.25	1.48	.5	.34	.41
Advanced (n=25)	1.88	.22	1.84	.35	.24	.50
Native speakers (n=16)	1.84	.24	1.97	.13	.09	.27

The mean scores show that the *wh*-word was highly accepted (and descriptively with some slight increasing across proficiency levels) and is the favoured form among all the groups (except for the natives who preferred *that*); *that* was highly accepted as well though to a less degree than the *wh*-relativizer (it starts lower than *wh*- but increases strongly across proficiency levels to reach almost the same level as *wh*- for the advanced group); the Ø relativizer was accepted to a low degree and in fact tends to decrease across proficiency levels.

A repeated measures 5*3 ANOVA (proficiency level*relativizer type) found a non-significant main effect for proficiency level, a significant main effect for relativizer type and a significant interaction between proficiency level and relativizer type. See table 20 for the statistical details.

Table 20. Summary of ANOVA output – SRRCs

	df	F	Sig
Proficiency level	4	1.94	.106
Relativizer type	2	488.1	<.001
interaction	8	9.53	<.001

All the groups right from early stages preferred the *wh*-type over the other two types. *That* might have been expected to be the favoured form, because it is the realization of the C category, hence equivalent to *yalli* in LSA. Since the null relative operator/null C construction is impossible with definite RRCs in LSA, all learners did not rate it highly.

The discussion above focused on the behaviour of groups with respect to different relativizers. Table 21 shows within-group results; how divergent individual behaviour within the same proficiency group is.

Table 21 No. of participants accepting all instances of each linker in definite SRRCs

Linker	wh-	that	Ø
Participants			
Elementary (n=37)	20	6	0
Lower Interm (n=58)	43	25	1
Upper Interm (n=28)	23	11	0
Advanced (n=25)	19	20	1
Native speakers (n=16)	11	15	0

Within group results show that no elementary speakers accepted all instances of Ø, there were some, however, who accepted *that*. These findings will be returned to in the discussion chapter.

ORRCs

The mean ratings of participants for the three types of RRC linker in relativized O position are provided in table 22.

Table 22. Mean rating/2 for each RRC linking form: definite ORRCs

Linker	wh-		that		Ø	
Participants	M	sd	M	sd	M	sd
Elementary (n=37)	1.60	.458	1.54	.44	1.32	.59
Lower Interm (n=58)	1.68	.49	1.60	.47	1.43	.54
Upper Interm (n=28)	1.80	.31	1.57	.42	1.82	.31
Advanced (n=25)	1.70	.43	1.92	.18	1.92	.31
Native speakers (n=16)	1.43	.30	1.96	.12	1.84	.23

The mean scores show that the elementary and lower intermediate groups favoured the *wh*-relativizer; the upper intermediate group marginally preferred Ø form; the advanced group preferred both *that* and Ø form, and the native control group preferred *that*.

A repeated measures 5*3 ANOVA (proficiency level*relativizer type) shows a significant proficiency effect, a non-significant main effect of the relativizer type, and importantly a significant interaction of the proficiency level and the relativizer type.

See statistical details in table 23:

Table 23. Summary of ANOVA output – ORRCs

	df	F	Sig
proficiency	4	8.535	<.001
Relativizer type	2	1.093	.336
interaction	8	5.132	<.001

To summarize, all groups showed high ratings for the *wh*-option. If LSA speakers were transferring this property from Arabic into English, and had identified *that* as a C in English, it is expected that this would be the preferred option. Learners might have been expected to reject the Ø option at the earliest stages of acquisition because

such an option is not possible in Arabic. The lowest proficiency groups are indeed rating it less acceptable than the native controls though still as higher than possible.

Within-group results were also checked as displayed in table 24. There are learners within each proficiency level who accepted all instances of the different relativizers:

Table 24 No. of participants accepting all instances of each linker in definite ORRCs

Linker	wh-	that	Ø
Participants			
Elementary (n=37)	18	14	12
Lower Interm (n=58)	37	28	21
Upper Interm (n=28)	19	12	21
Advanced (n=25)	15	23	23
Native speakers (n=16)	2	15	11

OPRRCs

Table 25 displays the mean ratings of participants for the three types of linkers in relativized OP position.

Table 25. Mean rating/2 for each RRC linking forms: definite OPRRCs

Linker	wh-		that		Ø	
Participants	M	sd	M	sd	M	sd
Elementary (n=35)	1.45	.533	1.48	.52	1.11	.56
Lower Interm (n=58)	1.39	.52	1.37	.60	1.32	.57
Upper Interm (n=28)	1.69	.36	1.57	.53	1.58	.36
Advanced (n=25)	1.72	.38	1.80	.32	1.88	.21
Native speakers (n=16)	1.68	.35	1.81	.30	1.87	.22

It is clear that the elementary group slightly rated *that* higher than the *wh*-linker, the lower and upper intermediate group favoured the *wh*-relativizer, the advanced group and the native control group preferred the \emptyset form.

A repeated measures 5*3 ANOVA (proficiency level*relativizer type) found a significant proficiency effect, a non-significant main effect of the relativizer type, and a significant interaction of the proficiency level and the relativizer type.

Table 26. Summary of ANOVA output –OPRRCs

	df	F	Sig
Proficiency	4	13.003	<.000
Relativizer type	2	.483	.617
Interaction	8	2.253	.024

What these results suggest is that, as in the case of the SRRCs and ORRCs, the *wh*-link is highly rated. *That* is also highly accepted. The null form which does not constitute an option in the L1 is less accepted only among the elementary group.

Individual results are shown in table 27. As is the case with ORRCs, there are learners within each proficiency level who accepted all instances of the different relativizers.

Table 27. No. of participants accepting all instances of each linker in definite OPRRCs

Linker	wh-	that	\emptyset
Participants			
Elementary (n=37)	13	15	6
Lower Interm (n=58)	16	23	16
Upper Interm (n=28)	15	15	8
Advanced (n=25)	15	18	19
Native speakers (n=16)	8	11	12

Doubly filled complementizer

As stated in chapter 2, definite RRCs in LSA involve the use of *yalli* between the head and the RRCs. No other forms are available or are used with *yalli* to link the RRCs and the antecedent. English allows three linking options in non-S, non-Gen RRCs, but never two overt forms together. If learners are influenced by their L1, they should reject this structure. Results should provide information related to whether learners are aware that English only allows one linker and not two. Results also quantify how far the L1 is influencing subjects' performance. The mean ratings of participants for the doubly filled C in relativized S, O and OP are shown in table 28.

Table 28. Mean rating/2 for doubly-filled C in relativized S, O and OP

Linker	S		O		OP	
	M	sd	M	sd	M	sd
Elementary (n=37)	.41	.47	.50	.52	.64	.59
Lower Interm (n=58)	.52	.60	.55	.61	.78	.60
Upper Interm (n=28)	.21	.31	.35	.50	.57	.63
Advanced (n=25)	.04	.20	.10	.25	.30	.47
Native speakers (n=16)	.00	.00	.03	.12	.09	.20

The mean scores show low ratings in all three relativized positions. Learners seem to be able to distinguish impossible linkers, and to know that English⁷⁸ does not allow doubly filled C from early on.

⁷⁸ Although doubly filled complementizer structures are common in spoken English, as noted by Andrew Radford (personal communication), L2 learners showed no willingness to accept this structure. This suggests that learners are not exposed to these spoken varieties.

Gen RRCs

In LSA, Gen RRCs are formed on the basis of a non-inflected C and a possessive clitic in the relativized position. In English they are formed by operator movement that pied-pipes the N complement to the relativized pronoun to Spec C. Learners of all proficiency levels are expected to have difficulty acquiring this structure given that it is different from the structure they have in their L1. The results should provide evidence bearing on whether LSA learners identify the English construction. This in turn will give information about the extent of L1 influence. This will also measure the acquisition of a language-specific property in L2: pied piping of a complement to a relative operator. The mean ratings of participants for the three types of Gen RRCs: SGen e.g. *The optician whose eyesight was weak*, OGen e.g. *No one supported the president whose policy the government opposed* and OPGen e.g. *I recently met the woman whose son I always had problems with* are displayed in table 29.

Table 29. Mean rating/2 for each Gen RRC type: SGen, OGen, OPGen RRCs

Gen	SGen		OGen		OPGen	
Participants	M	sd	M	sd	M	sd
Elementary (n=36)	1.65	.44	1.05	.60	1.25	.626
Lower Interm (n=58)	1.75	.48	1.18	.65	1.12	.589
Upper Interm (n=28)	1.87	.25	1.33	.68	1.35	.63
Advanced (n=25)	1.96	.20	1.50	.57	1.66	.59
Native speakers (n=16)	1.87	.28	1.46	.42	1.71	.36

Participants showed acceptance to the three forms from the elementary level, and increasingly rated *whose* highly.

Results of a repeated measures 5*3 ANOVA (proficiency level*relativized Gen position) shows a significant proficiency effect, a significant main effect of the relativized position, but a non-significant interaction of the proficiency level and the relativized Gen position.

Table 30. Summary of ANOVA output – Gen RRCs

	df	F	Sig
proficiency	4	6.216	<.001
Relativized position	2	46.945	<.001
interaction	8	1.309	.238

In order to shed light on the interaction effect, follow-up between-subjects comparisons with a univariate analysis of variance were conducted to compare each group of learners for each relativized position separately against the native norm. Results of between-subjects paired comparisons show no significant differences between the groups and the natives in the case of the SGenS. In the case of OGenS, only elementary learners were significantly lower than the advanced in accepting this structure ($p=.028$), other groups performed at a native-like level in accepting relativized OGenS. Both the elementary and the lower intermediate groups were significantly lower than the advanced in accepting relativized OPRGenS ($p=.005$) and ($p=.001$) respectively, the other groups showed a similar level of acceptance of this structure as the native speakers.

To summarize, learners arrived at a native-like level on all the different Gen positions though they varied at the stage at which they started to be native-like: they were very likely to accept the English Gen form in the early stages in the case of the SGenS and OGenS, but at more advanced stages in the case of the relativized OPRRCs.

When it comes to individual results, table 31 shows that there are a number of participants within each group who accepted all instances of *whose* in all relativized positions.

Table 31. No. of participants accepting all instances of GEN RRCs

Linker	SGEN	OGEN	OPGEN
Participants			
Elementary (n=37)	21	5	9
Lower Interim (n=58)	43	12	6
Upper Interim (n=28)	22	12	10
Advanced (n=25)	24	11	15
Native speakers (n=16)	13	4	9

5.6.1.1.2 Indefinite RRCs with *wh*-word, *that*, zero form

In LSA, the presence of C in RRCs is associated with the definiteness/indefiniteness of the antecedent. In English, the presence/absence of a relativizer is associated with the grammatical function of the head in the RRC: an overt form is obligatory with the SRRCs, optional elsewhere. If learners are influenced by their L1, they are expected to show a preference for the \emptyset relativizer as it is the option that they have in their L1.

Two questions are addressed here:

- Will L2 learners recognize that presence/absence of the complementizer/relativiser in English is not determined by definiteness? This question is meant to measure L1 influence on L2 grammar.

- Will they identify the grammatical-function-constrained optionality of the complementizer/relativiser in English? This question measures the ability to acquire a target property that is underdetermined by input.

SRRCs

Table 32 provides the mean ratings of participants for the three relativizers in relativized S position.

Table 32. Mean rating/2 for each RRC linking form: indefinite SRRCs

Linker	wh-		that		Ø	
Participants	M	sd	M	sd	M	sd
Elementary (n=36)	1.54	.48	1.50	.41	.68	.52
Lower Interm (n=58)	1.65	.47	1.61	.52	.78	.52
Upper Interm (n=28)	1.69	.41	1.55	.56	.62	.52
Advanced (n=25)	1.84	.27	1.84	.34	.38	.54
Native speakers (n=16)	1.56	.40	1.81	.25	.15	.30

The mean scores show that L2 learners accepted the *wh*-operator more than the other two linkers (the advanced learners accepted *that* equally as the *wh*-operator). The native control group accepted *that* more than the other two linkers.

Results of a repeated measures 5*3 ANOVA (proficiency level*relativizer type) show a non-significant proficiency effect, a significant main effect of the relativizer type, and importantly a significant interaction of the proficiency level and the relativizer type.

Table 33. Summary of ANOVA output – SRRCs

	df	F	Sig
proficiency	4	1.700	.153
Relativizer type	2	289.406	<.001
interaction	8	5.378	<.001

The results show that almost all the groups from early stages rated the *wh*-type and the C type highly. They did not, however, rate the \emptyset form highly. Learners might have been expected to accept the \emptyset relative operator/null C construction given that it is the only possibility with indefinite RRCs in LSA, but reject the other two options, but all proficiency groups rate the *wh*-relativizer as the most acceptable form.

The results show the following:

- As in the case of the definite SRRCs, learners highly accepted the *wh*-relativizer with indefinite SRRCs.
- Like definite SRRCs, learners showed high acceptances of *that*.
- In the case of the \emptyset link, learners tended to reject the \emptyset form as they progressed in both definite and indefinite SRRCs.

As in the case of definite SRRCs, the individual results were checked and they showed that within each group participants favoured the overt linkers. All elementary learners accepted the overt linkers with the exception of one learner who wrongly accepted the null relativizer, see table 34:

Table 34. No. of participants accepting all instances of each linker in indefinite SRRCs

Linker	wh-	that	Ø
Participants			
Elementary (n=37)	15	12	1
Lower Interm (n=58)	35	32	2
Upper Interm (n=28)	17	15	1
Advanced (n=25)	18	20	0
Native speakers (n=16)	5	10	0

ORRCs

The mean ratings of participants for the three types of linkers are displayed in table 35.

Table 35. Mean rating/2 for each RRC linking form: indefinite ORRCs

Linker	wh-		that		Ø	
	M	sd	M	sd	M	sd
Participants						
Elementary (n=37)	1.45	.55	1.37	.49	.78	.40
Lower Interm (n=58)	1.56	.49	1.62	.42	1.02	.54
Upper Interm (n=28)	1.66	.40	1.50	.49	1.19	.56
Advanced (n=25)	1.80	.35	1.84	.27	1.74	.32
Native speakers (n=16)	1.71	.44	1.53	.38	1.78	.31

The elementary and upper intermediate learners accepted the *wh*-operator more than *that* and the Ø form, the lower intermediate and advanced learners accepted *that* more than the other forms, and the control native group preferred the Ø form more than the other forms.

A repeated measures 5*3 ANOVA (proficiency level*relativizer type) found a significant proficiency effect, a significant main effect of the relativizer type, and a significant interaction of the proficiency level and the relativizer type.

Table 36. Summary of ANOVA output – ORRCs

	df	F	Sig
proficiency	4	17.355	<.001
Relativizer type	2	23.388	<.001
interaction	8	5.540	<.001

To sum up, learners are more likely to accept the overt links in the early stages, but less likely to accept the \emptyset option.

A comparison between the results of the definite and indefinite ORRCs shows the following:

- In the case of the *wh*-word, elementary learners rated the *wh*-word the highest.
- In the case of *that*, elementary learners rated this relativizer highly though not as high as the *wh*-relativizer
- The \emptyset form was the least accepted linker among elementary learners.
- As learners progressed in their proficiency, they showed varied preferences.

Advanced speakers rated the three relativizers highly.

The within-group results show that elementary participants preferred the overt forms to \emptyset but as they progressed their judgements varied, see table 37:

Table 37. No. of participants accepting all instances of each linker in definite ORRCs

Linker	wh-	that	Ø
Participants			
Elementary (n=37)	14	9	0
Lower Interm (n=58)	28	27	6
Upper Interm (n=28)	15	11	6
Advanced (n=25)	18	19	14
Native speakers (n=16)	11	5	10

OPRRCs

The mean ratings of participants for the three linkers in relativized OP are displayed in table 38.

Table 38. Mean rating/2 for each RRC linking form: indefinite OPRRCs

Linker	wh-		that		Ø	
	M	sd	M	sd	M	sd
Participants						
Elementary (n=36)	1.38	.44	1.38	.49	1.06	.54
Lower Interm (n=58)	1.42	.56	1.56	.50	1.17	.52
Upper Interm (n=28)	1.46	.42	1.60	.45	1.30	.65
Advanced (n=25)	1.64	.33	1.80	.38	1.70	.43
Native speakers (n=16)	1.65	.39	1.81	.30	1.50	.40

That was the most preferred form among all groups (the elementary group accepted the *wh*-operator equally as *that*)

A repeated measures 5*3 ANOVA (proficiency level*relativizer type) shows a significant proficiency effect, a significant main effect of the relativizer type, but a non-significant interaction of the proficiency level and the relativizer type.

Table 39. Summary of ANOVA output – OPRRCs

	df	F	Sig
proficiency	4	9.511	<.001
Relativizer type	2	13.013	<.001
interaction	8	.882	.532

Learners favoured the overt linking forms to the null link. Given what they have in their L1, they might be expected to show a preference for the Ø link, but this was not the case.

A comparison between definite and indefinite OPRRCs show:

- Elementary learners rated overt relativizers higher than the null relativizer.
- Other learners rated the three forms highly as they progressed in their proficiency.

The individual results displayed in table 40 show that within the elementary group, there are some participants who were likely to accept the null form.

Table 40. No. of participants accepting all instances of each linker in definite OPRRCs

Linker	wh-	that	Ø
Participants			
Elementary (n=37)	11	10	5
Lower Interm (n=58)	20	28	9
Upper Interm (n=28)	9	16	7
Advanced (n=25)	10	17	15
Native speakers (n=16)	8	11	5

5.6.1.1.3 Rating of RRCs involving resumptive pronouns

In LSA, RRCs require a clitic in the relativised position. It was shown in chapter 3 that in LSA an RRC is based on a CLLD structure, and that there is movement involved not of the DP head, nor of a *pro*, rather of a relative operator from Spec TopP to Spec CP. Assuming a CLLD structure for RRCs is necessary especially to account for the fact that there is a resumptive (and a clitic in all non-SRRCs) involved in all types of RRCs in LSA. English disallows resumptives and clitics in all relativized positions.

The results should yield information about whether native speakers of LSA identify the fact that RPs are disallowed in English. This can account for L1 influence. Since it was also argued that absence of a RP is the result of operator movement from all relativisable positions in English, the question to ask here is whether they recognize that absence of RPs in English is the result of operator movement. This directly engages access to UG. LSA has movement- not from the relativized position, but from the Top position and some element is needed to bind the relativized position as mentioned earlier. So when learners recognize that English does not have RPs, the implication is that they are either using a non-UG based grammar, or accessing UG and have acquired the movement strategy and they would be expected to recognize island violations. However, if they allow gaps, and at the same time allow island violations, this means they have not acquired the English setting.

RPs in relativized S, O, and OP positions

Table 41 displays the mean ratings of participants for the three types of relativized positions involving a RP.

Table 41. Mean rating/2 for simple S, O, OP RRCs with a RP

RP	S		O		OP	
Participants	M	sd	M	sd	M	sd
Elementary (n=36)	1.31	.45	1.31	.46	1.21	.47
Lower Interm (n=58)	1.28	.52	1.21	.53	1.22	.53
Upper Interm (n=28)	.97	.47	.94	.48	1.08	.61
Advanced (n=25)	.62	.48	.24	.41	.57	.59
Native speakers (n=16)	.33	.24	.18	.20	.18	.29

The mean scores show that all L2 groups increasingly rejected RPs as their proficiency increased (with the exception of lower intermediate learners who were almost at the same level as the elementary learners in OPRRCs). Natives rejected them.

The results of a repeated measures 5*3 ANOVA (proficiency level*relativized position) show a significant proficiency effect, a significant main effect of the relativized position, and a non-significant interaction of the proficiency level and the relativized position.

Table 42. Summary of ANOVA output – S, O, and OP RRCs with a RP

	df	F	Sig
proficiency	4	39.670	<.001
Relativized position	2	3.708	.026
interaction	8	1.809	.075

The between-subject paired comparisons reveal that all groups were significantly higher than the natives in accepting the RP in S and OP RRCs even at the advanced levels: ($p<.001$) ($p<.001$) ($p<.001$) ($p=.056$) for the SRRCs, and ($p<.001$) ($p<.001$) ($p<.001$) ($p=.024$) for OPRRCs. In the case of the ORRCs, only the advanced group were not significantly different from the control group: elementary group ($p<.001$), lower intermediate ($p<.001$), upper intermediate ($p<.001$).

Further within-subject comparisons with a paired sample t-test were carried out to compare learners' judgement of RRCs with and without a RP. This is to check whether they make any distinction between the two cases as they showed a high rate of acceptance for both. The test results show that there is a significant difference between cases that involve RPs in the different relativizing positions and the cases which do not: for definite SRRCs, the result was ($t(15)$, $df=162$, $p<.001$); for definite ORRCs, the result was ($t(13.182)$, $df=163$, $p<.001$), and for definite OPRRCs ($t(8.776)$, $df=163$, $p<.001$).

Although learners highly accepted the RP in all three positions, nevertheless, they seem to be aware of the difference between RP cases and their grammatical counterparts.

Individual results show that some learners within each group rejected all instances of RPs as displayed in table 43.

Table 43. No. of participants rejecting RP in simple S, O, OP RRCs

RP	S	O	OP
Participants			
Elementary (n=36)	1	0	1
Lower Interm (n=58)	2	3	5
Upper Interm (n=28)	1	2	2
Advanced (n=25)	2	16	8
Native speakers (n=16)	3	8	11

RPs in S, O, and OP GENs

The mean ratings of participants for S, O, and OP Gens are shown in table 44.

Table 44. Mean rating/2 for simple SGen, OGen, OPen RRCs with a RP

RP	SGen		OGen		OPGen	
Participants	M	sd	M	sd	M	sd
Elementary (n=35)	1.35	.55	1.40	.57	1.25	.65
Lower Interm (n=57)	1.51	.50	1.31	.57	1.39	.54
Upper Interm (n=28)	1.28	.46	1.32	.47	1.21	.46
Advanced (n=25)	.92	.75	1.16	.60	1.28	.48
Native speakers (n=16)	.31	.35	.62	.46	.84	.35

The mean scores show that RPs were rated high even among advanced learners.

A repeated measures 5*3 ANOVA (proficiency level*relativized Gen type) was conducted. The results show a significant proficiency effect, a non-significant main effect of the genitive type, and a significant interaction of the proficiency by the genitive type.

Table 45. Summary of ANOVA output – GenRRCs with a RP

	df	F	Sig
proficiency	4	13.557	<.001
Relativized Gen	2	2.661	.071
interaction	8	3.623	<.001

Between-subject paired comparisons show that all the groups were significantly higher than the control group in accepting the RP in all three Gen positions.

Further within-subject comparisons with a paired sample t-test were conducted to check whether learners make a distinction between the use of SGen, OGen, OPGen RRCs with and without RPs. The test results show that there is a significant difference between the two cases with and without RPs only in the case of the SGen: ($t=9.575$, $df=162$, $p<.001$) suggesting that learners differentiate between the two cases. In the case of the OGens and OPGens, results show no significant difference in the treatment of both: ($t=.133$, $df=162$, $p=.894$) for OGen RRCs, and ($t=1.062$, $df=161$, $p=.290$) for OPGen RRCs indicating that learners do not make a distinction between the cases that involve a RP and those that do not.

Individual results show that only very few learners within each group rejected the RP, see table 46:

Table 46. No. of participants rejecting RP in simple S, O, OP GEN RRCs

RP	S	O	OP
Participants			
Elementary (n=36)	1	1	4
Lower Interm (n=58)	1	2	2
Upper Interm (n=28)	1	0	1
Advanced (n=25)	13	2	0
Native speakers (n=16)	8	4	2

5.6.1.1.4 Complex RRCs

Complex ORRCs involve more structure between the original site and the landing site of the operator in English RRCs. If an RP was involved, it might be more difficult for learners to realize, because of the distance involved. The results here should provide further evidence bearing on learners' awareness of the ungrammaticality of the RP.

The mean ratings of participants for the two types of CO RRCs: with and without a RP are presented in table 47.

Table 47. Mean rating/2 for CO RRCs: with a RP vs. no RP

CO RRC	-RP		+RP	
Participants	M	sd	M	sd
Elementary (n=37)	1.22	.48	1.29	.48
Lower Interm (n=58)	1.41	.44	1.33	.49
Upper Interm (n=28)	1.52	.38	1.23	.55
Advanced (n=25)	1.70	.30	.88	.53
Native speakers (n=16)	1.58	.31	.16	.29

Although only elementary learners accepted CO RRCs with a RP more than without it, RPs were prominent even among the advanced learners.

A repeated measures 5*2 ANOVA (proficiency level*presence of RP) was carried out. The results show a significant proficiency effect, a significant main effect of presence of RP, and a significant interaction of the proficiency level and the presence of RP.

Table 48. Summary of ANOVA output – RP in CO RRCs

	df	F	Sig
proficiency	4	7.366	<.001
presence of RP	1	95.469	<.001
interaction	4	23.368	<.001

The between-subjects paired comparisons show that in the case of the grammatical CO RRCs only the elementary group was significantly lower than the native control in accepting this structures ($p=.004$). However, in the case of CO RRCs involving a RP, all the groups were significantly lower than the natives in rejecting this structure ($p<.001$)

Further within-subject comparisons with a paired sample t-test were conducted to check whether learners treat simple RRCs and the CO RRCs similarly. The test results show that learners do not treat ungrammatical CO RRCs in the same way as ungrammatical simple RRCs; there is a significant difference between the two situations ($t(-3.817)$, $df=163$, $p<.001$), with the CO RPs being more accepted. They also treat the grammatical simple and CO ORRCs differently ($t(4.732)$, $df=163$, $p<.001$) with the simple RRCs being more accepted.

To summarize, learners show a high acceptance rate for ungrammatical CO RRCs from the early stages till the advanced stages. They also accept RPs in complex RRCs more than in simple RRCs.

The individual results show that very few learners within each group (apart from the elementary group) rejected all instances of the RP in genitive constructions.

Table 49. No. of participants rejecting RP in CO RRCs

RP	O
Participants	
Elementary (n=36)	0
Lower Interim (n=58)	2
Upper Interim (n=28)	2
Advanced (n=25)	4
Native speakers (n=16)	12

5.6.1.1.5 Island constraints results

In English movement out of islands is not permitted as this leads to different types of island constraint violations. In LSA, a resumptive is used in all types of islands and a resumptive clitic is used in all non-subject positions as shown in the results of the AGJT (reported in Chapter 3). Learners are therefore expected to accept the structure with RPs. The results should show learners' awareness of the ungrammaticality of extraction from islands. If they recognize the ungrammaticality of RRCs involving island violations, this could mean that they have the knowledge that RRCs in English involve operator movement. Moreover, this is suggestive that UG is involved.

Wh-island Constraint

The mean ratings of participants for *Wh*-island constraint with and without a RP are shown in table 50.

Table 50. Mean rating/2 for *wh*-island constraint violation: with RP vs. no RP

<i>Wh</i> -island	+RP		-RP	
	M	sd	M	sd
Participants				
Elementary (n=37)	1.04	.43	1.17	.43
Lower Interm (n=58)	.97	.44	1.21	.34
Upper Interm (n=28)	.76	.43	1.05	.38
Advanced (n=25)	.58	.49	1.11	.32
Native speakers (n=16)	.15	.19	.19	.16

Learners showed the same pattern; they all accepted the structure more without a RP. They did not prefer the structure which they have in their L1, rather they chose the cases which involve a violation of island constraint. Natives did not accept it⁷⁹.

Results of repeated measures 5*2 ANOVA (proficiency level*presence of RP) show a significant proficiency effect, a significant main effect of presence of RP, and a non-significant interaction of the proficiency level and presence of RP.

Table 51. Summary of ANOVA output – *wh*-island constraint

	df	F	Sig
proficiency	4	10.405	<.001
presence of RP	1	17.276	<.001
interaction	4	2.282	.063

⁷⁹ Some native speakers of English use resumptives in islands to avoid producing an island violation. This is different from the case of L2 learners who accepted the islands with and without an overt resumptive.

Between-subjects paired comparisons show that in the case of *wh*-islands which involve a RP the elementary, and lower intermediate and upper intermediate groups were significantly higher than the natives in accepting the structure ($p=.001$), ($p<.001$) and ($p=.031$) respectively. In the case of the *wh*-islands which do not involve a RP, all groups were significantly higher than natives in accepting the structure: ($p<.001$)

Further within-subject comparisons with a paired sample t-test show that there is a significant difference between the two types ($t(-5.406)$, $df=161$, $p<.001$) with more preference to the cases which do not involve a RP.

Table 52 shows the number of participants within each group rejecting *wh*-islands with and without RPs.

Table 52. No. of participants rejecting *wh*-island constraint violations: with RP vs. no RP

RP	+RP	-RP
Participants		
Elementary (n=36)	6	4
Lower Interm (n=58)	11	3
Upper Interm (n=28)	6	3
Advanced (n=25)	9	5
Native speakers (n=16)	9	12

CNP Island Constraint

Table 53 shows the mean ratings of participants for the complex NP constraint: with and without a RP.

Table 53. Mean rating/2 for CNP constraint violation: with RP vs. no RP

CNP island	+RP		-RP	
Participants	M	sd	M	sd
Elementary (n=36)	1.29	.46	1.34	.57
Lower Interm (n=58)	1.08	.56	1.20	.53
Upper Interm (n=28)	.80	.47	1.03	.55
Advanced (n=25)	.68	.67	1.16	.37
Native speakers (n=16)	.06	.25	.15	.35

As in the case of *wh*-island constraint, learners accepted the structure more with no RPs; learners gradually rejected their L1 structure.

The results of a repeated measures 5*2 ANOVA (proficiency level* presence of RP) show a significant proficiency effect, a significant main effect of presence of RP, and a non-significant interaction between the proficiency level and presence of RP.

Table 54. Summary of ANOVA output – CNP constraint

	df	F	Sig
proficiency	4	25.374	<.001
presence of RP	1	14.307	<.001
interaction	4	2.178	.074

The between-subject paired comparisons show that in the case of both CNP constraint that involve a RP and those which do not, the groups were significantly different from the natives: ($p < .001$)

Further within-subject comparisons show that there is a significant difference between the two types ($t(-3.691)$, $df=162$, $p < .001$) with more preference to the cases which do not involve a RP.

The number of participants rejecting CNP island violations is displayed in table 55.

Table 55. No. of participants rejecting CNP constraint violations: with RP vs. no RP

RP	+RP	-RP
Participants		
Elementary (n=36)	1	1
Lower Interim (n=58)	6	5
Upper Interim (n=28)	4	3
Advanced (n=25)	8	0
Native speakers (n=16)	15	13

Adjunct Island Constraint

The mean ratings of participants for the adjunct island constraint: with and without a RP are shown in table 56.

Table 56. Mean rating/2 for Adjunct island constraint violation: with RP vs. no RP

Adjunct-island Participants	+RP		-RP	
	M	sd	M	sd
Elementary (n=37)	1.24	.60	1.32	.62
Lower Interim (n=58)	1.18	.62	1.34	.55
Upper Interim (n=28)	1.01	.70	1.35	.50
Advanced (n=25)	.70	.67	1.36	.42
Native speakers (n=16)	.12	.34	.28	.36

These results show that, as in the case of the other two types of island constraints, learners accepted the structure which does not involve a RP more; they rated the cases which involve a violation of island constraint higher.

The results of a repeated measures 5*2 ANOVA (proficiency level* presence of RP) show a significant proficiency effect, a significant main effect of the presence of RP, and a significant interaction between the proficiency level and the presence of RP.

Table 57. Summary of ANOVA output – adjunct island constraint

	df	F	Sig
proficiency	4	20.133	<.001
presence of RP	1	19.488	<.001
interaction	4	2.819	.027

Between-subject paired comparisons show that in the case of Adjunct Islands which involve a RP the elementary, and lower intermediate and upper intermediate groups were significantly higher than the natives in accepting the structure ($p < .001$). In the case of the Adjunct Islands which do not involve a RP, all groups were significantly higher than natives in accepting the structure: ($p < .001$).

Further within-subject comparisons show that there is a significant difference between the two types ($t(-4.193)$, $df=163$, $p < .001$) with more preference to the cases which do not involve a RP.

The number of participants within each group who rejected Adjunct islands with and without is shown in table 58.

Table 58. No. of participants rejecting Adjunct constraint violations: with RP vs. no RP

RP	+RP	-RP
Participants		
Elementary (n=36)	3	2
Lower Interim (n=58)	4	3
Upper Interim (n=28)	7	0
Advanced (n=25)	8	1
Native speakers (n=16)	14	9

5.6.1.2 Results of the Guided Gap Filling Task

Although the same properties which were investigated in the GJT are dealt with in this task, the additional perspective that the GGFT brings to our understanding of the knowledge of the L2 learners and which makes it complementary to both the GJT and TT is that it is a combination of an intuition/receptive task and a production task; the learner does not have to generate answers since the answers are already provided under each testing item, so it is similar to the GJT. However, unlike the GJT also, the answers provided are not ratings rather they are im/possible answer/s to be filled in the blanks; the learner has to think about which options are (not) acceptable. This requires the learner to provide the possible matching options for the blanks. So the task shares some of the properties of both the GJT and the GGFT, and this has the effect of enhancing the validity of the study through three way triangulation.

5.6.1.2.1 Results for definite RRCs with *wh*-word, *that*, zero form

SRRCs

Like the results of SRRCs in the GJT, the *wh*-relativizer is the preferred linking word for all L2 learners of different proficiency levels, and the Ø form was the least accepted. Native speakers, however, showed different preferences in the two tasks: they accepted C more in the GJT whereas they favoured the *wh*-relativizer more in the GGFT.

The individual results show that only one advanced speaker accepted all instances of the zero form (see appendix 12, tables 1 and 2 for group results, and table 3 for individual results).

ORRCs

All learners of different proficiency levels and native speakers favoured the *wh*-relativizer, while they did not accept the Ø form highly (see appendix 12, tables 4 and 5 for group results). In the GJT, the elementary and lower intermediate learners preferred the *wh*-relativizer.

The individual results show that no elementary speaker accepted the Ø form, only one elementary speaker chose *that*, the rest chose the *wh*-linker (see table 6 for individual results).

OPRRCs

The results of this relativized position are not completely consistent with those of the GJT; all learners of different proficiency levels showed a preference for the *wh*-form in the GGFT (advanced learners favoured both the *wh*-word and *that* relativizers equally), while the native speakers favoured the *wh*-form and *that* equally. The null relativizer was the least accepted (see appendix 12, tables 7 and 8 for group results). In the GJT, however, only lower intermediate and upper intermediate learners preferred the *wh*-form.

The individual results show that the elementary learners did not accept all instances of any of the relativizers; they varied in their choice of the linker. There were individuals within the other proficiency groups who accepted all three linkers (with the exception of upper intermediate learners who did not accept all instances of the null form) (see table 9 for individual results).

Doubly filled C

There is no evidence of any learners making a significant choice of the doubly-filled C, since the highest rate of selection is 0.05. In the GJT as well, learners did not prefer the option.

Gen RRCs

Elementary learners did not accept the three genitive types, however, there was a gradual progression in accepting the types among the other proficiency levels (see appendix 12, tables 10 and 11 for group results). This is similar to the results of the GJT in that there was a progression in accepting *whose*.

The between-subject comparisons show a significant difference between the elementary and lower intermediate groups as compared to natives in the case of the SGen; they rated this structure less acceptable than natives ($p < .001$) ($p < .001$). All groups, however, were significantly different from the natives in the case of the other Gen types: ($p < .001$) ($p < .001$) ($p < .001$) ($p = .009$) for OGen, ($p < .001$) ($p < .001$) ($p < .001$) ($p = .005$) for OPGens.

Individual results (see table 12 for individual results) indicate that no elementary speakers accepted all instances of *whose* in both OGen and OPGen. Some learners within the other proficiency level accepted all instances of *whose*.

5.6.1.2.2 Indefinite RRCs with *wh*-word, *that*, zero form results

SRRCs

The results of this relativized position are consistent with those of the GJT in that the *wh*-form is the preferred form among L2 learners (in the GJT the advanced speakers preferred *that* equally as the *wh*-form), while the null form was the least accepted (in fact it was rejected in the GGFT). Native speakers showed different preferences: they chose *that* in the GJT and *wh*-form in the GGFT (see appendix 12, tables 13 and 14 for group results).

When comparing learners' performance on relativized definite S position involving a *wh*-relativizer with the indefinite ones, we find a similarity in their preference; learners were more likely to accept the *wh*-linker from early stages.

The results of individuals within each proficiency level show that there are participants who accepted the three linkers (see table 15 for individual results).

ORRCs

Only the elementary learners preferred *that*, other learners chose the *wh*-form (see appendix 12, tables 16 and 17 for group results). In the case of the GJT, the elementary and upper intermediate learners favoured the *wh*-relativizer, whereas the lower intermediate and advanced learners favoured *that*. Native speakers favoured the \emptyset form in the GJT and the *wh*-relativizer in the GGFT.

A comparison between learners' performance on definite relativized O position and indefinite ones shows a similarity in the preference; the *wh*-relativizer was the favoured relativizer (apart from the elementary learners who preferred *that* in indefinite ORRCs), while the \emptyset form was least favoured.

As is the case with indefinite SRRCs, the results of individuals within each proficiency level show that there are participants who accepted the three linkers (see table 18 for individual results).

OPRRCs

The *wh*-relativizer was the preferred form in the GGFT (see appendix 12, tables 19 and 20 for group results). Different preferences were found in the GJT: *that* is the preferred linker in the GJT among all participants (elementary learners favoured the *wh*-form equally as *that*).

When comparing definite and indefinite OPRRCs, we find a similarity in the preference; the *wh*-form is the preferred option, while the zero form is the least accepted.

Individual results indicate that no elementary learners chose the zero relativizer, while some other learners in the other proficiency levels chose all linkers (see table 21 for individual results).

5.6.1.2.3 Rating of RRCs involving resumptive pronouns

RPs in relativized S, O, OP positions

Learners did not accept the RP in S position, however (with the exception of the advanced learners), they accepted the RP in OP position. In O position only elementary and lower intermediate learners accepted the RP. Natives did not accept the RP in any relativized position (see appendix 12, tables 22, 23 for group results). In the GJT elementary learners accepted the RPs in all relativized positions, however, as proficiency increased, learners progressed in rejecting the RPs.

All groups, except for the lower intermediate group, were not significantly different from the natives in accepting the RP. The lower intermediate group accepted the RP more than natives ($p=.054$). In the case of the ORRCs, both the elementary and lower intermediate groups were significantly different from the control group in accepting the RP more: ($p<.001$) ($p<.001$) respectively. All groups except for the advanced, were significantly higher than the natives in accepting the RP in OPRRCs ($p<.001$) ($p<.001$) ($p<.001$).

The paired samples t-tests results show that there is a significant difference between cases that involve RPs in the different relativizing positions and the cases which do not: for definite SRRCs the result was ($t(25.258)$, $df=161$, $p<.001$); for definite ORRCs, ($t(8.072)$, $df=162$, $p<.001$), and for definite OPRRCs ($t(1.278)$, $df=162$, $p=.203$). Although learners accepted the RP in all three positions (though to varying degrees), they nevertheless seem to be aware of the difference between RP cases and their grammatical counterparts.

There are some speakers from all proficiency levels who rejected all instances of the RP (see table 24 for individual results).

RPs in Gen RRCs

Learners did not accept RPs highly in all relativized positions (though advanced learners accepted the RPs more than the other groups). Natives did not accept them in all positions (see appendix 12, tables 25, 26 for group results. This is different from the results of the GJT where all learners were more likely to accept the RPs in all relativized positions.

Between-subject comparisons show that the upper intermediate and advanced speakers were significantly more likely than the natives to accept the RP in SGen positions ($p=.048$), ($p=.030$). In the case of OGens, the lower intermediate, upper intermediate, and advanced groups were significantly more likely to accept the RP than the natives ($p=.044$), ($p=.001$), ($p<.001$). The upper intermediate and the advanced learners were significantly more likely than the natives to accept the RP ($p=.007$), ($p=.002$).

The results of the paired samples t-tests show that there is a significant difference between the use of Gen RRCs with and without RPs: ($t=11.841$, $df=163$, $p<.001$) for the SGens, ($t=2.847$, $df=162$, $p=.005$) for OGens, and ($t=4.780$, $df=161$, $p<.001$) for OPGen RRCs. Although upper intermediate and advanced groups (and lower intermediate in the case of OGens) highly accepted the RPs in all three Gen positions, learners seem to be able to recognize the difference between the grammatical and the ungrammatical cases.

Individual results show that there are some speakers from all proficiency levels who rejected all instances of the RP in genitive constructions (see table 27 for individual results).

5.6.1.2.4 Complex RRCs

The results of this test (see appendix 12, tables 28 and 29 for group results) show that although learners preferred the structure more with RPs at the elementary and lower intermediate stages, they seemed to favour the structure with less RPs as they progressed. In the GJT, however, only elementary learners accepted CO RRCs more with a RP.

The between-subject comparisons show that the elementary group, lower intermediate, upper intermediate groups were significantly different from the natives: in the case of CO RRCs involving a RP, the three groups were significantly more likely to accept a sentence with a RP than the natives ($p<.001$) ($p<.001$) ($p=.001$), whereas in the case of the grammatical CO RRCs, the same three groups were

significantly lower than the natives in accepting this structure ($p < .001$) ($p < .001$) ($p < .001$).

The results of the paired sample t-tests show that learners treat grammatical CO ORRCs and grammatical simple ORRCs differently; there is a significant difference between the two situations ($t(5.459)$, $df=158$, $p < .001$) with the simple RRCs being more accepted. They also treat the ungrammatical simple and CO ORRCs differently ($t(-4.998)$, $df=158$, $p < .001$) with the RP being more accepted in the complex constructions.

In the case of individual results, some learners from different proficiency groups rejected all instances of the RP (see table 30 for individual results).

5.6.1.2.5 Island constraints results

Wh-island Constraint

The results of this test and the GJT show that RPs are less favoured (with the exception of the elementary learners in the GGFT who favoured the RP more in this structure) (see appendix 12, tables 31, 32 for group results).

The between-subject comparisons show that in the case of *wh*-islands which involve a RP the elementary, and lower intermediate and upper intermediate groups were significantly more likely than the natives to accept the structure ($p < .001$), ($p = .002$) and ($p = .009$) respectively. In the case of the *wh*-islands which do not involve a RP, the lower intermediate, upper intermediate and the advanced groups were

significantly more likely than the natives to accept the structure: ($p=.036$), ($p=.011$) ($p<.001$).

The paired samples t-test results show that there is a significant difference between the two types ($t(-5.482)$, $df=163$, $p<.001$) with a stronger preference for the cases which do not involve an RP.

CNP Constraint

The results of this test (see appendix 12, tables 34 and 35 for group results) are consistent with those of the GJT; all participants preferred this structure more with no RPs.

The between-subject comparisons show that, in the case of sentences that violate the CNP constraint and that involve a RP, the elementary and lower intermediate group were significantly more likely than the natives to accept the structure: ($p<.001$) ($p=.017$), whereas in the case of the islands that do not involve a RP, the elementary, lower intermediate, upper intermediate groups were more likely than the natives to reject the structure. ($p=.004$) ($p=.004$) ($p<.001$)

The results of the within-subject comparisons show that there is a significant difference between the two types ($t(-9.097)$, $df=163$, $p<.001$) with more preference to the cases which do not involve a RP.

Adjunct Island Constraint

Only the advanced learners preferred the structure with no RPs (see appendix 12, tables 37 and 38 for group results). In the GJT, all participants preferred the structure with no RPs.

Between-subject comparisons show that in the case of Adjunct Islands which involve a RP the elementary, and lower intermediate and upper intermediate groups were significantly more likely than the natives to accept the structure ($p < .001$). In the case of Adjunct Islands which do not involve a RP, all groups, except the elementary one, were significantly more likely than the natives to accept the structure: ($p = .023$) ($p = .016$) ($p < .001$).

The within-subject comparisons results indicate that there is a significant difference between the two types ($t(5.514)$, $df=163$, $p < .001$) with more preference to the cases which involve a RP.

Unlike the case of the other two types of island constraint, learners generally tended to accept the structure which involves an RP.

Individual results for all three types of islands show that some learners from different proficiency levels rejected all instances of islands with or without an RP (see table 33, 36 and 39 for individual results).

5.6.1.3 Results of the Translation Task

The TT used in this study is the closest of the three tasks to a measure of production, and the extent to which participants produce RRCs in a native-like way. It is also useful for comparison with participants' intuitions (the results from the GJT) and the semi-productive GGFT. Whether the results correspond to those of the other tasks or not will have implications for the interpretation of the nature of the L2 interlanguage grammar. The same properties which were investigated in the other two tasks are investigated in this task.

5.6.1.3.1 Definite RRCs with *wh*-word, *that*, zero form results

S, O, OP RRCs

The mean translation accuracy of S, O and OP RRCs is displayed in table 59.

Table 59. Mean translation accuracy/1 of definite S, O and OP RRCs

RRC type	SRc		ORc		OPRRc	
	M	sd	M	sd	M	sd
Participants						
Elementary (n=37)	.85	.28	.48	.41	.24	.34
Lower Interm (n=57)	.89	.22	.57	.39	.40	.42
Upper Interm (n=28)	.96	.13	.94	.15	.73	.39
Advanced (n=25)	.98	.10	1.00	.00	.94	.16

Accuracy here means that participants produce the RRC which they were asked to translate without changing the structure of the sentence, for example, if the sentence in Arabic is a SRRC, learners are supposed to translate it as a SRRC into English. If, on the other hand, learners (i) used the incorrect linking word; (ii) produced a

sentence which is not an RRC; (iii) made changes to the structure of the RRC so that the sentence no longer tests the property it is meant to test; (iv) if learners started translating the RRC but did not continue, and (v) used a definite head where they should have used an indefinite one, then all these translations are considered not accurate⁸⁰.

The mean scores show that learners were mostly accurate in translating SRRCs right from early stages. In the case of ORRCs and OPRRCs, learners were initially inaccurate but as they progressed, their accuracy increased so that ORRCs were correct, and SRRCs and OPRRCs were almost all correct.

In order to investigate the sources of inaccuracy and (sometimes mistakes), further analyses were conducted to measure accuracy. Learners did not misuse the linking words; they used them as productively as native speakers; learners produced very few sentences which are not RRCs; they did not resort to changing the structure of the sentence in translating simple S, O and OP RRCs; and there are almost no cases when learners produced sentences which were not complete. The results also show that learners hardly used indefinite heads where they should have used definite ones (see appendix 13, tables 1-6). The actual reason for the lower scores among the elementary and lower intermediate participants as compared to the upper intermediate and advanced speakers' scores has to do with the use of RPs: this will be discussed later in section 5.6.1.3.3.

⁸⁰ Although not all these cases reflect inaccuracy, for analytical purposes, they are all classed under one single category and referred to as inaccurate.

Gen RRCs

The mean translation accuracy for Gen RRCs is shown in table 60.

Table 60. Mean translation accuracy/1 definite SGen, OGen, and OPGen

Gen type	SGen		OGen		OPGen	
Participants	M	sd	M	sd	M	sd
Elementary (n=37)	.44	.38	.01	.08	.05	.15
Lower Interm (n=58)	.59	.41	.08	.21	.11	.24
Upper Interm (n=28)	.78	.37	.17	.24	.12	.25
Advanced (n=25)	.84	.27	.44	.16	.44	.44

Learners were not accurate in producing grammatical OGen OPGen RRCs. This is different from the case of SGen where learners' mean scores results were low at elementary levels but got higher in advanced stages.

Learners' inaccuracy is mainly due to the wrong use of the linking word *whose*. This is mostly apparent in OGen and OPGen RRCs as in table 61.

Table 61. Definite simple Gen RRCs: wrong linking word/1

Wrong linker	SGen		OGen		OPGen	
Participants	M	sd	M	sd	M	sd
Elementary (n=37)	.39	.42	.95	.13	.79	.29
Lower Interm (n=58)	.17	.31	.89	.24	.77	.32
Upper Interm (n=28)	.08	.23	.82	.24	.75	.28
Advanced (n=25)	.08	.23	.56	.16	.50	.43

There were very few cases of non-RRCs, of changing the structure, of the sentence not being complete and of using indefinite heads.

Different relativizers in S, O and OP RRCs

The *wh*-relativizer was the most used linker among all learners in the three relativized positions. While there were just few cases where *that* was used, the \emptyset relativizer was rarely used (see appendix 13, tables 7-8, 10-11, and 13-14 for group results).

A comparison between the GJT, GGFT and TT shows that learners in the three tasks preferred the *wh*-relativizer more than the other forms (with the exception of the upper intermediate and advanced learners in the GJT in ORRCs in GJT, and elementary and advanced learners in OPRRCs in GJT).

Individual results show that all learners from all proficiency levels did not use the zero and *that* forms in both SRRC and OPRRCs (with the exception of only one upper intermediate learner who used *that* in SRRCs, and one lower intermediate learner who used *that* in OPRRCs). In the case of ORRCs, there were no elementary learners who used the zero form, some other learners from the other proficiency levels used different linkers (see tables 9, 12 and 15 for individual results).

Doubly-filled C

No cases of doubly filled C were observed in the TT among all participants. This is consistent with the results of the GJT and GGFT.

Different relativizers in SGen, OGen, OPGen RRCs

There are very few uses of *that* and the \emptyset operator. The *wh*-relativizer (*who* or *which* but not *whose*) is highly used in the three Gen types right from early stages. There are,

however, learners from different proficiency levels who used *whose* (see appendix 13, table 16 for group results and table 17 for individual results).

5.6.1.3.2 Indefinite RRCs with *wh*-word, *that*, zero form results

S, O and OP RRCs

The mean translation accuracy of S, O and OP RRCs is presented in table 62.

Table 62. Mean translation accuracy/1 of indefinite S, O and OP RRCs

Linker	S Rc		O Rc		OP Rc	
	M	sd	M	sd	M	sd
Elementary (n=37)	.74	.30	.17	.29	.17	.24
Lower Interm (n=58)	.70	.35	.38	.37	.34	.31
Upper Interm (n=28)	.69	.28	.58	.38	.62	.32
Advanced (n=25)	.84	.31	.84	.23	.84	.23

Learners were not accurate in the early stages in translating ORRCs and OPRRCs, but as they progressed, their accuracy increased. They were, however, accurate right from early stages in translating SRRCs.

The source of inaccuracy in translating the indefinite RRCs comes slightly from the production of sentences which are not RRCs as in table (63) and the overuse of definite heads where indefinite ones are required as in table (64). There are very few cases where there is a wrong use of the linking word, a change in the structure of the sentence, or the sentence is not complete.

Table 63. Inaccuracy: sentence is not an RRC/1

Not an RRC	SRRc		ORRc		OPRRc	
Participants	M	sd	M	sd	M	sd
Elementary (n=37)	.13	.25	.02	.11	.33	.23
Lower Interm (n=58)	.05	.17	.02	.11	.32	.27
Upper Interm (n=28)	.07	.17	.01	.09	.23	.28
Advanced (n=25)	.08	.18	.02	.10	.12	.21

Table 64. Inaccuracy: the indefinite simple RRC is translated as definite/1

Indef head	SRRc		ORRc		OPRRc	
Participants	M	sd	M	sd	M	sd
Elementary (n=37)	.71	.30	.71	.38	.39	.35
Lower Interm (n=58)	.83	.30	.82	.28	.44	.38
Upper Interm (n=28)	.82	.24	.83	.23	.53	.33
Advanced (n=25)	.86	.27	.84	.27	.74	.32

A comparison of the accuracy in translating definite and indefinite RRCs shows that the overall scores in translating the different kinds of definite RRCs were higher than those of the indefinite RRCs.

Different relativizers in S, O and OP RRCs

As in the case of definite RRCs, the *wh*-relativizer is the preferred linker in the indefinite RRCs; there are almost no cases where the \emptyset relativizer is used (see appendix, tables 18-19, 21-22, and 24-25 for group results).

The results of this test are consistent with the results of GGFT in the sense that the preferred-linker is the *wh*-form (with the exception of elementary learners in the

GGFT who favoured *that*). In the GJT, all learners preferred the *wh*-relativizer in the case of SRRCs, but they showed varied preferences in the other relativized positions.

As in the case of definite RRCs, individual results here show that all learners from all proficiency levels did not use the zero and *that* forms in both SRRC and OPRRCs (with the exception of only two advanced learners who used *that* in SRRCs, and two lower intermediate learners who used *that* in OPRRCs, and one lower intermediate learner who use \emptyset in OPRRCs). In the case of ORRCs, there were some learners from the other proficiency levels who used different linkers (see table 20, 23, and 26 for individual results).

5.6.1.3.3 Ungrammatical relatives involving resumptive pronouns

RPs in relativized S, O, OP positions

In early stages, learners produced RPs mainly in ORRCs and OPRRCs. However, their production of RPs decreased to almost nothing among the advanced proficiency learners (see appendix 13. tables 27-28 for group results).

A comparison of the results of the three tasks shows that the results of GGFT and TT tasks are consistent; while RPs were not used in SRRCs right from early stages, they were used in the other positions though they decreased as learners progressed in their proficiency. In the GJT, elementary learners used the RPs in all relativized position, but rejected them as they progressed.

There were some learners from different groups who rejected the RP in the different relativized positions (see table 29 for individual results).

RPs in SGen, OGen, OPGen RRCs

Elementary learners produced many RPs, however, while the other learners rejected them in later stages in SGen RRCs, they remained frequent in the case of OGen and OPGen (see appendix 13. tables 30-31 for group results).

The results of this test are not consistent with the results of the GGFT; while learners did not accept RPs highly in all relativized positions in the GGFT, they showed a high frequency of use for them in both OGen OPGen RRCs in the TT. In the GJT, RPs continued to have a high acceptance rate even among advanced learners in all relativized positions.

There are some elementary, upper intermediate and advanced learners who reject all instances of the RP in OGens (see table 32 for individual results).

5.6.1.3.4 Complex RRCs

There are very few cases where learners produced a sentence which is not an RRC, changed the structure of the RRC or did not complete the translation of the RRC. Their main inaccuracy comes from their use of RPs, especially at lower levels of proficiency. However, as they progressed, their production of RPs decreased to almost nothing in the advanced stage (see appendix 13. tables 33-34 for group results).

The results of the TT and GJT are similar in that only the elementary learners chose the RP more in CO RRCs, the other proficiency levels preferring the construction with no RPs. In the GGFT, the elementary and lower intermediate learner preferred the RP with the CO RRCs.

There are learners from different proficiency levels who rejected the RP in CO RRCs (see table 35 for individual results).

5.6.1.3.5 Island constraint results

Wh-island Constraint

Inaccuracy here means the extent to which participants produced a literal translation of the Arabic sentence and either did or did not use the RP and the extent to which they chose other strategies.

Learners produced RPs at the early stages, but as proficiency increased, their use of the RPs decreased. All learners showed a high rate of production for sentences which violate island constraints. This might indicate that they were not sensitive to the ungrammaticality of this construction. There are very few cases where learners produced a sentence which is not an RRC, changed the structure of the RRC or did not complete the translation of the RRC (see appendix 13. tables 36-37 for group results).

The results of the three tests are consistent in that learners preferred this structure with no RP (this is with the exception of the results of the elementary participants in the TT and the GGFT who preferred the structure more with a RP).

CNP Constraint

Learners resorted to changing the structure of the RRC. Learners also produced many RPs at early stages, but their use decreased in later stages. Again this might suggest that they are not aware of the unacceptability of the CNP-island in English. Hardly ever did they produce a sentence which is not an RRC, or an RRC which is not complete (see appendix 13. tables 39-41 for group results).

Unlike the results of the GGFT and GJT, the results of the TT show a preference for the RP (with the exception of the results of the advanced learners).

Adjunct-island Constraint

Learners resorted to changing the structure of the RRC and sometimes they produced a sentence which is not an RRC. There was also a preference for using RPs which remained clear even at the advanced stage (see appendix 13. tables 43-45 for group results).

These results are similar to the results of the GGFT where learners (with the exception of the advanced learners) preferred the structure with no RP, but different from the results of the GJT where all learners accepted the structure with no RP.

Individual results for all three types of islands show that some learners from different proficiency level rejected all instances of islands with or without an RP (with the exception of one advanced learner who did not reject CNP without an RP) (see table 38, 42 and 46 for individual results).

5.7 Conclusion

In this chapter, the methodology used for the empirical study was presented and the results of the GJT, GGFT and TT were reported. In the next chapter, the answers to the research questions will be provided based on the results of the three tasks.

Chapter 6

Discussion and Conclusion

6.1 Introduction

In this chapter the research questions that have guided this study will be considered in the light of the empirical evidence presented in chapter 5. Section 1 presents a discussion of the GJT results. Section 2 provides a discussion of the GGFT. A discussion of the TT results follows in Section 3. Section 4 presents the conclusion and finally in Section 5 some ideas for extending this research further are proposed.

6.2 Discussion of the Grammaticality Judgement Task results

The review of the literature and the study reported in chapter 5 suggest the following as answers to the research questions proposed in chapter 4:

6.2.1 Answer 1

There was a progression in recognizing that the absence of C in English is not determined by definiteness.

Group results show that elementary learners preferred the *wh*-relativizer⁸¹, then *that*-relativizer, and finally the \emptyset relativizer for both definite and indefinite RRCs (except for the relativized OP position where learners marginally preferred C to *who*). Advanced speakers accepted the three forms.

Individual results show that some elementary learners did not favour the *wh*-relativizer, some others did not favour *that*.

In the case of definite RRCs, there appears to be no L1 transfer as elementary learners did not show a preference for *that*⁸², the form that is equivalent to the complementizer *yalli* in their L1.

There are a number of possible scenarios to explain this. First, it can be argued that this is just an apparent non-transfer case. *Allađi* which is the equivalent form to *yalli* in Modern Standard Arabic (see Aoun & Choueiri, 1997: 11) is categorized as a relative noun in Arabic grammar books (see Ghalāyīnī, 1973), so learners might have thought that they are using the form (the *wh*-word in English) which is equivalent to the form they have in their L1. In this sense there is L1 transfer.

The second scenario is that the preference for *wh*- over *that* could be the effect of input. Learners are presented with many more cases of *who* in the input than cases of

⁸¹ In Cheshire et al (to appear) it was reported that *who* is only used to relativise subjects in spoken English, *that* and *zero* relatives being used otherwise. It concluded that *who* is a focus marker in spoken English. However, the results here show that the *wh*-word is the preferred option for all three relativized positions.

⁸² In a study of the acquisition of English by Japanese learners by Yokota (2011), it was found that Japanese learners restricted *that* to inanimate antecedents. The reason for this is that the coursebooks these learners were exposed to almost always used *that* only with an inanimate antecedent. However, the results of this study are not consistent with those found in Yokota's; animacy was controlled for and still it was found that learners preferred the *wh*-form.

that; learners are drilled to use *who* whenever there is an RRC, and teachers tend to focus on *wh*-relatives. So the frequency of the different linkers in input mostly in textbooks might have led learners to favour the *wh*-relativizer. As a rough check, the researcher went through two coursebooks the learners used, and counted how many examples of each relativizer types are used in the coursebooks. See results in table 65.

Table 65. No. of relativizers in two coursebooks

Course books	That	Wh-word				Ø
		Who	which	whom	whose	
English grammar in use	85	130	112	28	23	59
Advanced grammar in use	132	127	132	29	38	33

However, the assumption that patterns of acquisition follow what is taught has to be cautious because learners do not learn necessarily what is taught to them. Ellis (1985: 224), for example argues that ‘... we can say that the overall sequence of development is not affected by formal instruction’ and that ‘[W]hat is quite clear ... is that SLA possesses certain structural properties which are immune to environmental differences inherent in classroom and natural settings’ (242). With regard to the notion of frequency in SLA, Vanpatten (2007) and Gass and Mackey (2007) argue that frequency does not play a major role. Learners build up their grammar and make sense of the input they get including the instructions, but what they produce might bear little resemblance to what they are taught (see, for example, White, 2003, chapter 5.8).

The third possibility is that learners are accepted *who* because they identify it as the default form for both questions and relatives. *Who* has more uses than *that* which is

more restricted in its contexts. There is no clear evidence to support one of these arguments or the other.

There is yet another possibility, suggested by Andrew Radford (personal communication), which is that if L2 learners start out by using the structure which is most readily identifiable to the parser a relative clause, one would expect the following order of preference:

- i. *Wh*-words as they unambiguously identify the clause as an RRC. L2 learners have to learn to parse structures in the L2, and may favour the use of items which make this maximally simple. Use of a relative pronoun is the clearest unambiguous way of making a relative clause readily identifiable as such.
- ii. *That* as it identifies the beginning of the clause and marks it as finite
- iii. \emptyset least favoured as neither the beginning of the clause nor the relative nature of the clause is marked.

The last possibility we offer here is that learners might equate *who/which* with the null relative operator in LSA.

This was not the case for the other groups who showed different judgements for different linkers. The advanced group also showed different preference patterns suggesting that they accept the three types of relativizers. In the case of SRRCs, the preference was for the *wh*-word and then *that*. In the case of ORRCs, learners came to recognize that *that* and \emptyset are common in English⁸³. In fact, these were marginally the

⁸³ In Biber et al (1999: 609-611), the frequency of different relativizers is measured with the result that:

favoured forms followed by the *wh*-relativizer which was also highly accepted. This suggests that there is a progression in the acceptance of the relativizers. This might be due to the following:

- i. As learners get more proficient, they become more aware of the fact that *wh*-, *that*, and \emptyset are acceptable in English; this is a proficiency effect.
- ii. As learners develop more proficient parsing strategies in the L2, the preferences mentioned above might disappear, or be replaced by others such as ‘favour economy of spellout’ (a UG Economy Principle which requires spelling out as little as possible at PF). This would mean using a null C except SRRCs to avoid ambiguity, e.g. *the boy [who] threw the stone* may be mis-parsed as a main clause without *who/that*. Another strategy might be using the structure that requires the least computational effort; once learners become more proficient at parsing L2 structures, they may then prefer more economical or (computationally) simpler structures. Non-*wh* structures may be simpler in computational terms because they do not involve spelling out the number, gender and case features of the (null) relative pronoun.

In the case of indefinite relatives, all elementary learners preferred the *wh*-relativizer (elementary learners accepted the *wh*-relativizer and *that* equally in OPRRCs). There also appears to be no L1 effect as elementary learners did not favour the \emptyset form. Learners are treating indefinite English structures as completely different from the

Three relativizer stand out as being particularly common: *who*, *which*, and *that*.

The zero relativizer is moderately common.

Other relativizers such as *whom* and *whose* are considerably less common.

The relativizers *which* and *that* are the most common overall.

In academic writing, the frequency of *that* is around 2400 per million words, the frequency of *which* is around 3650 per million words, the frequency of *who* is around 1100 per million words, the frequency of *whom* is 100 per million words, and the frequency of *whose* is around 100 per million words.

Arabic structures. One explanation could be that learners are treating definite RRCs and indefinite RRCs similarly; they might have over-generalized the *wh*-relativizer either because it can be used in many contexts, or because it is more frequent in the input.

However, as in the case of definite RRCs, as learners get more proficient, they become familiar with the frequency of these forms in the input, and realize that all three are possible.

Learners were moreover aware that English only allows one relativizer and not two together; they rejected the doubly filled C cases in both definite and indefinite RRCs. It is unlikely that this is an indication that learners have acquired the syntactic properties of the *wh*-expressions and the overt C because even elementary learners who highly accepted the ungrammatical use of RPs rejected the doubly filled C. The fact that the RPs remained a persistent feature of their grammars could mean that they have not acquired the *wh*-movement strategy, rather they rejected the doubly filled C on the basis of their L1 where only one form, *yalli/that*, can introduce an RRC. The L1 effect on this structure is attested in another study. On the basis of the study that H&Ch conducted, there is existing evidence that learners may accept these cases if in their L1 they have RRCs which are very different from the target language. Chinese does not have a doubly filled C, however, the RRCs in Chinese are right-headed, and they get elements that look like a C which links it with the RRC. These Chinese speakers are assuming that English might allow doubly filled C in the early stages. Elementary Chinese learners accepted this structure about 50% of cases in contrast to elementary French learners, whose L1 is similar to English as far as this structure is

concerned, who accepted the structure about 91% of cases. By comparing Arabic, French and Chinese, we can see that the LSA learners are like the French learners. If there were a general trend for learners not to have doubly filled C because English does not have it on the surface, then we would expect all three groups to be the same, but they are not.

Another possibility (Andrew Radford, personal communication) for why *who* and *that* are mutually exclusive in the elementary learners' grammar is that learners may think that relative pronouns like *who* move into C rather than into Spec CP. This might be the result of 'shortest move' or 'economy'. Once learners master pied-piping with relative pronouns (e.g. the person *to whom* he spoke), they are forced to restructure their grammar and assume that relative pronouns moves to Spec CP.

Collins (2007) argued that the doubly filled C filter is a principle of UG. If this is so, that would also be another account.

The above discussion has the following implications:

i) The L1 facilitates L2 learning, in contrast to the claim proposed by Hu and Liu (2007) that similarity might not facilitate L2 learning. Elementary learners accepted the *wh*-form the most, they tended to accept the overt linkers as is the case in their L1, and they did not accept the doubly filled C as this is not acceptable in LSA and in UG as discussed by Collins (2007). This is consistent with the claim by Martohadjono and Gair (1993) that similarity between languages facilitates acquisition.

ii) Learners accepted C, which is a functional category, right from the early stages. This provides a counterargument to what V&Y (1996a, 1996b, 1998) proposed that in early grammars functional categories are absent. Minimal trees assumes that functional morphology is only developed on the basis of positive evidence from the target language but not from the L1: however, there is evidence that shows that there is L1 influence on functional categories. If V&Y are right, there should be no L1 effect on island constraints, for example, but this was not the case; learners accepted island with and without overt resumptives. If there is L1 influence on functional categories, then the minimal trees approach cannot be right.

6.2.2 Answer 2

There is a gradual recognition that the optionality of the relativizer in English has to do with the relativized position rather than definiteness of the head.

Superficially there was no L1 influence with regard to elementary learners' recognition that the choice of the linking word is grammatically constrained in English. That is, the choice of an overt linking word or \emptyset form is related to the function of the relativized position in English: in SRRCs, the linking word has to be overt, whereas in ORRCs and OPRRCs the overt and the \emptyset relativizers are possible. Elementary learners used an overt form (mainly *wh*-word) in both definite and indefinite relatives in SRRCs, when they were expected to favour only *that* for definites and \emptyset relativizer for indefinites. In ORRCs and OPRRCs, elementary learners accepted all three types in both definite and indefinite RRCs. (The individual

results showed though that there are some learners who do not follow this pattern). The other more proficient groups accepted the three forms.

Apparently, this does not reflect L1 transfer. The possibilities offered in the previous section can be applied here, namely, that the situation could be that there is L1 transfer, learners transferred the form which they thought equivalent to a *wh*-form. Alternatively, learners could have accepted the *wh*-word as it has more uses. They could also have used the overt form which is most frequent in the input. It might also be the case that this is a parsing effect, or that this is the results of learners equating the *wh*-word with the null operator. There is no clear evidence to support one explanation over the other.

6.2.3 Answer 3

Learners seem to have learned a language-specific word; whose.

In the case of the Gen form *whose*; all learners progressed in accepting this form. They seemed to have acquired this form in the case of SGen RRCs, however in the case of OGen RRCs elementary learners were significantly less likely to accept it than the native control group. In the case of OPGen RRCs, the elementary and lower intermediate groups were also less likely to accept the form than the native group. However, all advanced groups accepted this language-specific form at a native-like level. The individual results showed that there are learners at all proficiency levels who did not accept all instances of *whose*.

Whose has interpretable properties; it indicates possession⁸⁴. Learners seemed to learn this form as the morphophonological part of lexical items remains potentially open to acquisition as assumed by Tsimpli and Smith (1995). *Whose* also has uninterpretable features associated with *wh*-movement⁸⁵. The question to raise here is the following: if learners gradually got to learn this language-specific form, does that mean that they learnt all its associated properties? Do they no longer associate a RP with it? This question will be dealt with in answer 4.

6.2.4 Answer 4

Learners accepted RPs even at advanced stages.

The results of between subject comparisons show that there is a progression in the rejection of RPs in the case of simple SRRCs, ORRCs, and OPRRCs; the low proficiency subjects allowed more RPs than the more proficient groups. Individual results showed, however, that there are learners who rejected all instances of RPs. Two questions might be posed here: if learners can only learn from positive evidence, how do they learn to *stop* using resumptives? There are two possible answers to this question: when learners learn gaps, they assume that (on the grounds of computational efficiency) a language which has gaps will not use resumptives (because efficiency means that languages avoid having two ways of saying the same

⁸⁴ Genitives in English primarily indicate possession, but they can also cover other meanings such as *Someone whose death was much mourned*. However, the examples used in this study are ones that indicate possession.

⁸⁵ What one might ask here is that if *wh*-words carry uninterpretable features driving *wh*-movement, wouldn't this predict that in multiple *wh*-questions, all the *wh*-words would have to be fronted? In one version of Minimalism, uninterpretable features are deleted by Agree and movement is triggered by an EPP feature. If Agree can apply to multiple goals then it will delete the uninterpretable features on multiple *wh*-words. Then the EPP feature on C will attract the nearest of them to Spec CP. Within this framework, however, it is not clear why some languages (e.g. Polish) require all *wh*-words to be fronted.

thing). The other possibility is that the frequency of gaps in English would be sufficient to pre-empt the use of RPs. H&Ch found that Chinese speakers started out assuming RPs, but then they realized that English has gaps in these positions. Learners could be sensitive to these frequencies, and therefore they will arrive at a grammar of English which favours gaps over RPs.

The second question is related to whether the learners who rejected RPs have acquired movement? Do the same learners use both the RPs and gaps, or some participants consistently use gaps and others consistently use RPs? Although the individual results show that a number of participants especially among the advanced learners rejected the RPs, however, after further examination of these results it turned out to be that there are no learners who consistently rejected all instances of RPs.

When comparing learners' judgements of RRCs that involve a RP and those that do not, it is found that there is a significant difference between the two. This tentatively suggests that learners' L2 grammars have both RPs and gaps, that learners make a distinction between the two cases, and that they have acquired the English structure possibly because they could have got clear positive evidence that there are gaps. It might also be argued that they judged the RPs as acceptable just because they want to make the co-reference between the RP and the antecedent explicit (and not because they have the RP in their L1). However, these arguments are questionable as all the groups were more likely to accept the RPs than the natives (except for the advanced learners in the case of ORRCs).

In the case of Gen RRCs, acceptance of RPs remained widespread among all the non-native groups. All learners were significantly more likely than the natives to accept the Gen form with a RP. When comparing learners' judgement of Gen RRCs that contain a RP with those that do not, no significant difference was found between the two in the case of OGen and OPGen RRCs. One might propose that this is due to the fact that the frequency of this construction is quite low and that the evidence in the input might be obscure, and the learners have not had enough evidence that RPs are not allowed. Yet a second possibility could be that Gens are expected to be acquired later irrespective of the L1, typologically. According to the Noun Phrase Accessibility Hierarchy (see Keenan and Comrie, 1977), there is an implicational relation between less and more marked RRC types, whereby Gens are more marked than ORRCs or SRRCs. Translated into acquisitional terms, this hierarchy predicts an order of acquisition in the L2 of the relativization positions, and Gens are expected to be acquired later in the L2 even if the L1 allows them, although the L1 might make it more difficult.

However, this argument is questioned in some studies like Hawkins⁸⁶ (2007) where he argues that the Noun Phrase Accessibility Hierarchy is not applicable to Asian languages because their RRC structure is different: 'when L2 learners start to use RRCs productively, they are capable of using them on a range of dependent positions, not just Subjects, but also Direct Objects, Indirect Objects, Genitives. ... The NPAH, based as it is on implicational relations between grammatical functions, would play no role in such an account.' (347-348)

⁸⁶ Hawkins (2007) argues that even in English the evidence is not strong for the noun phrase accessibility hierarchy in the acquisition of English RCs.

The L1 could be at play here. The fact that there was no significant difference between the cases that involved a RP and those that did not could suggest that learners do not distinguish between the two cases. So, that led to a persistent L1 effect in these contexts even in the advanced speakers.

The interpretation of this in terms of the acquisition of movement would be either that in some contexts advanced speakers have got movement so they do not use RPs, whereas in other contexts they have not got movement as in the case of Gens, and they still allow non-movement; or it means that they have not actually acquired movement at all; they simply allow a null RP in some contexts. LSA has a resumptive in all relativized positions. The choice between these two possibilities could be determined depending on whether learners allow long distance movement and in whether they allow Subjacency violations. I now turn to examine this issue.

6.2.5 Answer 5

Learners are not sensitive to long distance movement.

In the case of long distance movement, the within subject comparisons showed a significant difference between the groups' judgments of RPs in CO RRCs. However, the between subject comparisons showed that all learners accepted the RP significantly more than the natives. There was also a significant difference between their judgements of simple ORRCs with a RP and CO ORRCs with a RP; they accepted the RP more in the CO RRCs. They also accepted simple grammatical RRCs significantly more than CO RRCs.

Individual results show that there are few learners who rejected all instances of the PRs in CO RRCs, however the same individual showed variation in accepting the islands with and without RPs.

Two explanations are possible here. Firstly, learners accepted the RP more because they have a problem processing the sentences; E sentences are more difficult to process because they have more structure to keep in the mental grammar which is not yet fully developed. So they could have relied on making co-reference explicit. Alexopoulou and Keller (2007: 110) states that ‘embedding reduces acceptability even in extraction out of non-islands and declaratives’. The other explanation is that learners might not be sensitive to long distance movement as they accepted the RPs in the CO clauses more, i.e. they have not established the non-resumptive strategy yet. In CO RRCs, the processing load is heavier, so learners possibly resorted to the default L1 case which is accepting overt resumptive clitics. Vanpatten (2007: 116) argues that ‘[L]earners may make use of certain universals of input processing but may also make use of the L1 input processor’. When learners have more processing capacity as in the case of simple RRCs, and they can integrate the information that English does not allow overt RPs, they performed apparently better; they used fewer overt RPs, and started using null resumptives.

The results gained from judgements of islands support the second explanation. In the case of sensitivity to island constraints, all learners, including the advanced learners, accepted the islands with no RPs to a considerable extent; they allowed Subjacency violations. Learners accepted ungrammatical sentences with gaps, where they would be expected to prefer the RP as is the case in their L1. This might suggest that they

retained the notion that there is a need for a RP. That is why they allowed the island violations without a RP. There is no overt resumptive element in S position in LSA, so learners might have extended this idea to the other positions. The natives rejected such cases; they were treating these sentences as less grammatical than the Arabic speakers.

The above discussion is consistent with that of H&Ch (1997) whereby Chinese Learners were argued not to have acquired *wh*-movement. Rather they assumed the presence of RPs (overt in the case of the elementary subjects, and Ø in the case of the advanced subjects). H&Ch (1997: 220) argue that ‘... many adult second language learners, despite long exposure to an L2, never fully acquire the same syntactic representations as native speakers’. This is not consistent with what White and Juffs (1998: 127) assume, that their Chinese subjects were native like in their acquisition of *wh*-questions, and that the nature of their difficulty is the result of ‘processing difficulties, rather than competence difference’. This is also not compatible with Lardiere (2007) who argues that the L1 and the L2 representations are both present in learners’ mental grammar.

6.3. Discussion of the Guided Gap Filling Task results

As explained in Chapter 5, this task was designed to elicit information about participants’ intuitions about RRCs as well as their production of RRCs. The task tested the same properties tested in the GJT. This is in order to test the reliability of the results gained from that task. The results of this task present converging evidence to those of the GJT in relation to the research questions outlined in chapter 4.

6.3.1 Answer 1

In both definite and indefinite RRCs, elementary learners showed a preference for the *wh*-word and then *that* and finally the \emptyset relativizer (except for the indefinite ORRCs where elementary learners chose *that* more than the *wh*-word, and OPRRCs where learners favoured both the *wh*-relativizer and *that* equally). Apparently, this does not entail an L1 effect, however, as mentioned previously in the discussion of the GJT, learners might have given the form that they think equivalent to *yalli*. In this sense, it is possible to argue that they transferred the equivalent Arabic relativizer into English. Learners might have chosen the *wh*-relativizer as it can be used in a variety of constructions, they could have been influenced by the input where the *wh*-form is more frequent than the others, they might also have accepted the *wh*-relativer as it maximally makes the clause simple to identify as a RRC, or else they matched the *wh*-word with the null operator that they have in their language.

Elementary learners also treated definite and indefinite RRCs similarly, in that they did not choose the \emptyset relativizer as the link for indefinite RRCs. This is probably because the *wh*-relativizer has wide uses, or more frequent in the input.

For advanced learners, the preferred pattern was similar to that of the elementary learners: *wh*-relativizer, then *that* and finally \emptyset relativizer.

Learners of all proficiency levels rejected the doubly filled C; again this is not to say that they recognized the syntactic properties of the *wh*-word and *that*. Rather, this is either based on their L1; they recognize that only one element can introduce the RRC.

The fact that learners were more likely to accept the RP in different relativizing positions even at advanced stages suggests that they have not acquired the properties of the target structure. The other possibility is that learners at the initial stages thought that relative pronouns like *who* move into C rather than into Spec CP, that is why the *wh*-word and the relativizer remained exclusive.

6.3.2 Answer 2

Elementary Learners' choice of the relativizer was in a sense affected by their L1 (they favoured the overt linker); they did not recognize that the choice of the relativizer has to do with the position that is being relativized. This is because an overt linker, *wh*-linker, was the preferred link among all the advanced learners. They did not highly accept the \emptyset relativizer or *that* in ORRCs and OPRRCs. This is further enhanced by the individual results which showed that no elementary learners chose all instances of the null relativizer in any of these relativized positions. However, there was a trend to accept the other forms as their proficiency developed.

6.3.3 Answer 3

Learners progressed in their acceptance of *whose*, especially in the case of the SGen RRCs. However, all learners remained significantly different from the native group in OGen RRCs and OPGen RRCs. This might be an indication that their L1 pattern (*that* ... RP) is still influencing their L2 choices.

6.3.4 Answer 4

There was a progression among all participants in rejecting the RP (this is also clear from the individual results), and they reached a native-like level (though they varied at the stage when they started to be native-like). When comparing their choice of RRCs that involve a RP with those that do not, there was a significant difference between the two in the case of SRRCs and ORRCs indicating that they can distinguish the two cases. However, no significant difference was found in the case of OPRRCs, suggesting that learners do not make a distinction between the cases. What the case could be here, as in GJT, is that the learners are assuming a null RP, because if they were able to distinguish the two constructions, one would expect this to be the case for all the relativized positions, not just some of them.

In the case of Gen RRCs, there was no progression in rejecting RPs, and the advanced learners used more RPs than the other groups. When comparing the results of Gen RRCs with and without RPs, there appeared to be a significant difference between the two cases. These results are different from those in the GJT in that, in the latter, advanced learners progressed gradually in rejecting the RP, unlike here. It can be argued then that learners are not random in their choice, rather they might be still thinking that English has a null RP, and that is why there are still both gaps and RPs.

6.3.5 Answer 5

In the case of CO RRCs, all the advanced learners favoured cases with fewer RPs more than the other groups. A comparison between the results of the CO RRCs and

simple RRCs shows a significant difference between the two suggesting that they tend to accept the RP with CO RRCs more than simple RRCs. However, because learners were also more likely to accept the grammatical simple RRCs than the CO ones, one has to be cautious in assuming that learners are not sensitive to long distance movement.

Evidence of insensitivity to long distance movement comes from island violations. All advanced learners favoured the null resumptive cases, the other groups varied in their preference. This means advanced learners are not sensitive to movement. This again would be consistent with the idea that when they accept the gap, they are assuming a null RP.

6.4. Discussion of the Translation Task results

In the two previous tasks, there was an element of comprehension: the GJT is clearly intuitional; the GGFT is partly intuitional. Learners are more ready to allow the categorical use of certain constructions in their comprehension grammar which is not part of their productive grammar. The TT is expected to show learners' productive grammar which might be more restricted and closer to the LSA grammar. The discussion of the TT will reveal findings compatible to a large extent with those of the other tasks.

6.4.1 Answer 1

Whenever learners produced a relativizer, they used it correctly in both definite and indefinite RRCs. The same features observed in the previous tasks are observed here: there was a preference for the *wh*-relativizer, there were no cases of a doubly filled C, there was no use of \emptyset relativizer at the elementary level either for definites or for indefinites (though it was used more in the later stages), and there was a progression in correctly producing the other linker, advanced learners used the three forms correctly. This is supported by the results gained from individual results; all elementary learners used the *wh*-relativizer in all relativized positions (except for three learners who used *that* in ORRCs).

In the case of indefinite RRCs, learners had the tendency to treat them like definite RRCs. Learners were inaccurate in producing RRCs with indefinite heads; rather they tended to overgeneralize the definiteness of the head to the indefinite cases. This tendency might be the reason why they preferred to use overt relativizers rather than the null relativizer. This is again supported by the individual results which showed that all elementary learners used the *wh*-word in all relativized positions (apart from three learners who used *that* once in ORRCs and the null form twice in ORRCs).

These findings are consistent with the results in Sarko (2009) and Hajjar (2009) reported in Chapter 4 where learners tended to overgeneralize the definite article in RRCs in contexts where they were supposed to use indefinite ones.

6.4.2 Answer 2

As mentioned earlier, the *wh*-linker was overwhelmingly the most used especially at the elementary level though the two other forms were used correctly when produced. There was no use of \emptyset relativizer in SRRCs. It is not very clear whether learners realized that the choice of the linker is decided by the relativized position and not the definiteness of the head.

6.4.3 Answer 3

In the case of *whose* where learners though showed a progression in its use, they still did not make much use of it in OGen RRCs or Gen OPGen RRCs (no learner within the same proficiency group rejected all instances of the RP in all relativized Gen RRCs). The reason again is that learners may have not had enough exposure to the gap in possessives to pre-empt the resumptive pattern and acquire the gap pattern. Worth noting here is that the form that learners used is mostly *who* with animate and *which* with inanimate together with the RP.

6.4.4 Answer 4

Learners did not allow RPs in advanced stages; instead, once more they showed a progression in rejecting the RP. However, this was not the case of Gen RRCs where participants allowed the RP which was highly prominent in OGen RRCs and OPGen RRCs, though not with SGen RRCs.

6.4.5 Answer 5

In the case of long distance movement, learners gradually did not allow the RP in their production, so that in the advanced stage, they were unlikely to produce them.

RPs were prominent in the case of the *wh*-island and Adjunct Constraints though learners showed a decrease in the use of RPs as they got more proficient. In the case of the CNP Constraint, learners sometimes resorted to changing the structure of the sentence so that it no longer involved an island violation. However, they used a lot of RPs in their translations. This might suggest that they are not sensitive to movement, and where the RP was not overt, a null RP was still there.

6.5 Conclusion

The above discussion has the following implications for a number of competing theories of SLA.

6.5.1 Contaminated L1 transfer

The results offer partial support for the FT Hypothesis. Not all the properties tested seem to have transferred from LSA. In particular, results from relativizers in definite and indefinite RRCs presented a blurred picture; there were a number of explanations for this. Which of these possibilities holds is not clear.

However, it seems quite conceivable that there are clear cases of L1 effects especially in the case of the persistent use of RPs. This appears to suggest that the instantiations of RRCs are still those of the L1. This will be discussed in the next section. The results are not compatible with the Minimal Trees Hypothesis as functional categories were present in learners' grammars right from early stages.

6.5.2 No parameter resetting

The results of this study constitute a challenge for the advocates of parameter resetting; the belief that all the parameters of the L2 are acquirable in adult L2 learners. The results show that the assumption of parameter resetting potentially overestimates the success of learners as it seems that not all the parameters were reset.

It has been made clear that the structure of RRCs in English and LSA is different reflecting a parametric difference between the two languages. In order to acquire the English structure, LSA learners have to acquire the edge feature on C that induce movement of the *wh*-operator to Spec CP. These features are checked in LSA through the movement of an operator from Spec TopP to Spec CP.

There was evidence that learners seemed to progressively be more accurate in their intuitions and production of RRCs in English. The more advanced learners are, the more likely they are to accept the sentences without RPs especially in cases which involved short distance movement. However, the results from the three tasks also suggest that participants have not acquired movement, and that they resorted to the way the L1 generates RRCs in order to deal with these constructions in the L2. A

potential indication of this can mainly be seen in their response to the Gen RRCs in the three tasks where they showed a high acceptance of the RP.

What this could suggest is that the learners' mental representation of these constructions does not include operator movement. In other words, the status of the gap in LSA learners' mental grammars is not that of a trace/copy, but rather that of a null RP (it is worth reminding the reader that although there were some learners who accepted the gap sometimes, they themselves accepted the resumptive in other cases), and the operator has not moved from within the RRC rather it has moved from Spec TopP to Spec CP. Thus RRCs for LSA learners are antecedent-topic-clitic, and this structure is basically LSA suggesting that they have not established the parametric option that allows the wh-operator to move from within the RRC to Spec CP.

6.5.3 UG fully involved

In both the production and intuition tasks, the learners did not approximate the performance of native speakers in obeying Subjacency: Learners accepted cases of different island violations which did not involve an overt RP, as well as cases which involved an overt RP. LSA learners' mental representation about island violations (whether with a null RP or overt clitic) seems different from those of the English native group. Nevertheless, this representation is UG constrained. UG is fully available, but maybe the evidence learners got from English was not sufficient to lead them to fully acquire the English movement pattern. It might be that their experience of null positions in RRCs made them think that English is a language which has null resumptives as in their L1.

There are languages which involve null RPs in islands. LSA is one. This is just to say that this option is UG-constrained.

6.6 Suggestions for future research

As far as I can tell, no L2 study has been conducted on this particular structure in this variety of Arabic. The discussion and the conclusion outlined could serve as the basis for more research on the syntax of this dialect and its influence on the acquisition of L2s by L1 speakers of LSA.

6.6.1 Suggestions for future syntactic studies

Promising areas for further research are:

- Other *wh*-constructions, particularly the syntax of *wh*-questions in this dialect: The structure of questions in LSA was mentioned in passing in Chapter 3. It would be beneficial to see how different and similar this construction is from that of RRCs.
- The reconstruction phenomenon: It was observed in chapter 2 that reconstruction is not a diagnostic for movement of the crucial element (be it an N, NP, or DP), i.e. a syntactic treatment of the reconstruction interpretations was rejected. The question remains as to what exactly can explain reconstruction; is it semantics, or something else?

6.6.2 Suggestions for future SLA studies

Further SLA research could be conducted on a number of variables that merit closer scrutiny:

- The present study homed in on the investigation of the acquisition of English RRCs by L1 speakers of LSA. Three tasks were used for this purpose. However, as mentioned in Chapter 5, a number of the items that were used in the AGJT and English GJT were excluded because they were problematic, so the results of the relevant properties are tentative. In future work it might be more appropriate to focus on fewer properties and increase the number of tokens to provide more robust findings.
- Although the number of participants in this study was sufficient to run statistical comparisons, it would be useful to conduct the same experiment on a larger population of informants at the four proficiency levels in order to increase the statistical power of the findings.
- It is also worth conducting the same experiments on LSA speakers who have had exposure to English for a longer time, or who have lived in an English-speaking country for a long time for the purpose of testing the end-state of their L2 grammars. This study did include advanced speakers of English, but no very advanced or near-native speakers were included.
- None of the tasks used involved spontaneous production of RRCs. It would be informative if data from spontaneous free conversation is involved as well (bearing in mind that RRCs are relatively infrequent constructions in spoken varieties).

- The study did not reveal the exact reason responsible for learners' preference for the *wh*-relativizer. It was not clear whether it is teaching in the classroom and teacher instruction, learners' overgeneralization of this form, or an indirect L1 influence. Further research is needed to decide the source of the influence.
- In many SLA studies two or more languages are included to compare the performance of speakers of different languages. No speakers of another language were included in this study. The first part of this work was dedicated to the investigation of the structure of RRCs in both English and Arabic; it was not easy to include a second group of L2 learners because of the limitations of space and time. It would be useful to conduct the same experiment on speakers of a different language and compare their results with those of the native speakers of LSA. That would give more insight into these learners' interlanguage grammars.
- It was mentioned in Chapter 3 that RRCs in LSA are derived in two different ways: one in which the structure of the RRC is based on a CLLD structure (this was the area of investigation in this study), and another, adverbial RRCs, which involve a gap and which are derived in a similar way to the English RRCs. The latter was not addressed in this study. This is a domain where further research can be conducted to explore whether, in particular, LSA speakers overgeneralize the resumptive strategy or produce it productively in an English native way.
- It is recommended also to investigate the acquisition of English *wh*-questions by LSA learners. This is because it seems that the equivalent structure of questions in LSA is similar to that in English; both involve gaps. This might

shed light on some aspects of SLA: L1 transfer and the extent to which development of knowledge about the structure of questions might be guided by access to Universal Grammar.

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Appendices

Appendix 1

AGJT

S position

1. I finally met the author that wrote the book.

أخيراً قابلت المؤلف يَلِي كتب الكتاب

2. The father encouraged his child that was swimming in the pool.

شجّع الأب ابنو يَلِي كان عم يسبح بالمسبح

3. ? I saw the man who he lives next door in the garden.

شفت الرجال يَلِي هوّي ساكن جنبي بالحديقة

CO S position

4. We liked the author that we knew that wrote the book.

حببنا الكاتب يَلِي عرفنا أنّو كتب الكتاب

5. ?The woman introduced the artist who I think he admired her to her friends.

عرّفت المرا الرسام يَلِي بظن هوّي معجب كثير ع رفقاتها

6. ?The doctor prescribed the bills that I think he usually gave to diabetic people.

وصف الدكتور الحبوب يَلِي بظن هوّي يبيعطين لمرضى السكرى

O position

7. I found the book that you studied interesting

شفت الكتاب يَلِي درسته ممتع

8. I visited the neighbour that I have not seen for ages yesterday.

زرت مباح الجار يَلِي صرلي ما شفتو سنين

9. *The party assassinated the politician they did not like him.

اغتال الحزب السياسي يَلِي ما حب

CO O position

10. The library had the book that you thought that I bought.

فيها المكتبة الكتاب يَلِي فكّرت أنّي اشتريته

11. They classified the university which they said the queen visited one of the top universities.

صَنَّفُو الجامعة يَلِيَّ قالو زارينا الملكة وحدة من أحسن الجامعات

12. *Amanda did not help her classmate who I think she hated her in the exam.

ما ساعدت اماندا رفيقتها يَلِيَّ بظن بتكره بالامتحان

13. *The father fixed the toy which I think the baby broke.

صَلَح الأب اللعبة يَلِيَّ بظن كسر الصَّغِير

OP position

14. My family visited the place that you heard about on TV.

زارت عيلتي المكان يَلِيَّ سمعو عَنُو بالتلفزيون

15. I have always loved the music that I listened to when I was a child.

كنت دائماً حب الموسيقى يَلِيَّ كنت اتسمّع عليها وقت كنت ظغِير

16. * They appointed the lady who they had confidence in her as a minister.

عَيَّنُو المرا يَلِيَّ كان عندن ثقة فيها وزيرة

17. * The council reconstructed the hall which they held conferences in it.

غيرت البلدية القاعة يَلِيَّ كانو يعقدو في مؤتمرات

18. *The chemist analysed the chemicals which the river got contaminated by them.

حلَّل الكيميائي المواد الكيميائيَّة يَلِيَّ تلوث من النُّهر

CO OP position

19. Jim booked the restaurant which I reckon he always had lunch in.

حجز جم المطعم يَلِيَّ بظن كان دائماً ياكل فيه

20. She never again booked the room that she said she stayed in last summer.

ما بقى عادت حجز الغرفة يَلِيَّ قالت إِنَّا ضلَّلت فِيَّهَا الصَّيْفِيَّة الماضِيَّة

21. * The cook used the pan that he said that he made his pancake in it.

استخدم الطَّبَّاح المقلَّاي يَلِيَّ قال أَنُو عمل في حلويات

22. * The thief stole the document that Sara claimed she put the important information in it.

سرق الحرامي الإضبارة يَلِيَّ ادَّعت سارة أَنُو حطَّت في معلومات مهمَّة

Possessor position

a. S position

23. I have always preferred the horse whose colour is white.

دائماً كنت فضّل الحصان يَلِيّ لونه أبيض

24. I took my neighbour whose eyesight is weak to hospital.

أخذت جاري يَلِيّ نظرو ضعيف ع المشفى

25. ?Peter always admired the scientist that his field is chemistry.

كان بيتر دائماً معجب بالعالم يَلِيّ هوّي فرعو كيميا

26. ?The girl saw the doctor that his reputation was widespread

شافت البنت الدكتور يَلِيّ هوّي سمعتو منتشرة كثير

b. O position

27. I considered the author whose book we read is a big thinker.

اعتبرت المؤلف يَلِيّ قرينا كتابو مفكر كبير

28. I visited the engineer whose plans the government executed.

زرت المهندس يَلِيّ نفذت الحكومة خططو

29. *The board congratulated the professor that he presented his paper in the conference.

هنت اللجنة البروفسور يلي قدم مقال بالمؤتمر

c. OP position

30. The debtors were following the business man whose company we had shares in.

كانو الدّيانى عم يلحقو رجل الأعمال يَلِيّ عنا أسهم بشركتو

31. We liked the gentleman whose children we always played with football.

حببنا الزّلمة يَلِيّ كنّا نلعب مع ولادو كرة قدم

32. The priest welcomed the people that they came to his church.

رحّب الخوري بالنّاس يَلِيّ هنيّ اجو ع كنيسة

33. * The employees annoyed the manager that they played games in his office.

الموظفين زعجو المدير يَلِيّ لعبو بمكتب

34. * The film producer chose the actor that the hairdresser could play with his shape easily.

اختار منتج الفيلم الممثل يَلِيّ قدر يلعب بشكل بسهولة

35. *We thanked the farmer that we rode his horse.

تشكرنا المزارع يَلِيّ ركبنا ع حصان

5. Islands

a. Adjunct Island

36. We bought the house that Sarah visited me before we painted.

اشترينا البيت يَلِي سارة زاريتو بعد ما دهناه

37. I saw the car that Sarah sold in London after she hated.

شفت السيَّارة يَلِي سارة باعيتها بلندن بعدما كرهتها

38. *Sarah attended the movie which Bob left the cinema before she criticized it.

حضرت سارة الفيلم يَلِي بوب طلع من السَّيْما قبل ما هي تنقذ

39. *The author wrote the novel which he spent 5 years before he finished it.

كتب المؤلّف الرّواية يَلِي قضى خمس سنين قبل ما يخلص

b. Wh-Island

40. We left the house that you asked whether we bought 10 years ago.

تركنا البيت يَلِي سألتني اذا كنّا اشتريناه من عشر سنين

41. She finally had the car that we were wondering whether she bought.

أخيراً صار عندها السيَّارة يَلِي كنّا عم نتساءل اذا اشتريتها

42. I admired the boy who Kitty told me when she would meet.

انعجبت بالولد يَلِي كيتي قالتلي وقت يَلِي بدّا تقابل

43. Bill trusted the woman who Bill told Jim when he will appoint her.

وثق بل بالمرأ يَلِي بل قال لجم ايمت رح يعين

c. CNP Island

44. We saw the palace that we met the architect who designed.

شفنا القصر يَلِي قابلنا المهندس المعماري يلي صمّم

45. The class criticized the student that I knew the teacher who she did not respect.

انتقد الصّف الطّالبة يَلِي عرُفْتُ الأستاذ يَلِي ما احترمت

46. The ambulance took the schoolboy who Susan heard the news that the teacher hit him in school.

أخذ الإسعاف الطّالب يَلِي سوزان سمعت خبر إنّو الأستاذ ضربو بالمدرسة

47. The boss accepted the lady who John questioned the decision that the boss employed her.

قبل المدير السّت يَلِي جون استغرب القرار إنّو المدير وظّفها

6. Indefinites

a. S

48. The engineer suggested a plan which was executed by the government later.
اقترح المهندس خطة تنفذت من قبل الحكومة بعدين
49. I bought a cake that went off immediately
اشتريت كاتو فسد فوراً
50. ?I met a friend who he played chess with me in hospital.
قابلت صديق كان يلعب هويّ معي شطرنج
51. ?My friend always preferred a song that it has nice lyrics.
كان رفيقي دائماً يفضّل أغنية إلها هيّ كلمات حلوة

b. CO S position

52. I saw a laptop that I think was very expensive in the Sony centre.
شفت لابتوب بظن أنو كان غالي كتير بمركز السوني
53. I had a cow which I remember used to produce twenty litres of milk a day.
كان عندي بقرة بتذكر كانت تنتج عشرين كيلو باليوم
54. ?The army honoured a soldier that they believed he fought bravely in the war.
كرّم الجيش جندي بيعتقدو أنو هويّ قاتل ببسالة بالحرب
55. ?Mahraan married a girl that I think she has blue eyes.
تزوج مهران بنت بظن إلها هيّ عيون زرق

c. O position

56. Bob formatted a laptop which the viruses had infected.
فرمت بوب لابتوب ضربيتو الفيروسات
57. I met a friend that I have not seen for ages yesterday.
قابلت مبارح صديق صرلي ما شفتو سنين
58. *Mary was looking for a house that she could buy it in London.
كانت ماريّا عم تدوّر ع بيت فيها تشتري بلندن
59. *Sarah was drawing a map which she expected it in the exam.
كانت سارة عم ترسم خريطة توقّعت بالامتحان

d. CO O position

60. Margret sold a machine which I think she no longer needed.
باعت مارغرت آلة بظن ما بقي احتاجيتها

61. The butcher sold meat which he said he got from Halal shops.

باع اللَّحَام لحمَةً قال أنَّو اشتراها من محلّات حلال

62. *I needed a present which I thought I could offer it to my mother in her birthday.

كنت بحاجة لهدية فكّرت إنّي إقدر قدّم لأُمّي بعيد ميلادها

63. *I received a parcel which I thought a friend of mine sent it a month ago.

اجاني طرد فكّرت أنَّو صديق بعث من شهر

c. OP position

64. Richard's family preferred a hotel that they could stay in to be nicely furnished.

فضّلت عيلة ريتشارد أوتيل بيقدروا يضلّو فيه يكون مفروش بشكل مرتّب

65. I knew a figure which producers made films about.

كنت بعرف شخصية عملو المنتجين أفلام عنّها

66. *Paul preferred a bank that he deposited his money in it without any interest.

فضّل بول بنك أودع مصرياتو في بدون فائدة

67. *Sally always liked a teacher that she could interact with him in the class.

كانت سالي دائماً تحب أستاذ تقدر تتفاعل مع بالصّف

d. Possessor

S position

68. They adopted a child whose eyes were blue.

تبَنّو ولد عيونو زرق

69. Jim dated a girl whose hair is very long.

واعد جيم بنت شعرها طويل

70. The police arrested a gang whose leader did bombings in the city.

اعتقل الشرطي عصابة عمل قائدتها تفجيرات بالمدينة

71. *The farmer bought a sheep that its wool is long

اشترا المزارع خاروف صوفاتو هوّي طوال

72. *I hated a shopkeeper that his shop is dirty.

كرهت بيّاع محلّو هوّي وسخ

Object position

73. I liked an announcer whose programme we watched yesterday night.

حبّيت مذيع شفنا برنامجو مبارح المساء

75. * The enemy employed a spy that the police discovered some networks.

وظّف العدو جاسوس كشفوا البوليس بعض شبكات

76. * The family hated a judge that he sentenced their relative to prison.

كرهت العائلة قاضي حكم قريب بالسجن

OP position

77. I pitied a man whose leg the doctor messed up with.

اشفقت ع رجّال خبصلو الدّكتور برجلو

78. We saw a house in whose ceiling there is a hole.

شفنا بيت في ثقب بسطحو

79. * I pitied a patient that the doctor forgot a piece of cotton in his wound.

اشفقت ع مريض نسي الدّكتور قطنه بجرح

80. * I envied a farmer that the government made a nice fence around his land.

حسدت مزارع عملتلو الدّولي سياج مرتّب حول أرض

Appendix 2

في الاختبار الموضوع بين أيديكم، عليكم أن تستمعوا و تقرؤوا معاً بعض الجمل، و تقيّموا كل واحدة من حيث صحتها هناك ثلاثة معايير للتقييم .

الجملة تبدو صحيحة تماماً باللهجة اللاذقية : **صحيح**

الجملة لا تبدو صحيحة تماماً، ربما لا تقولها أنت ولكن ممكن أن تسمعها من لاذقيين : **ممکن**

الجملة لا تقولها أنت و لا تتوقع أن تسمعها من لاذقيين أيضاً : **خاطئة**

أمثلة

هناك بضع جمل أود أن تقيموها بوضع اشارة في الحقل المناسب :

اليوم رحت ع المدرسة

صحيح	ممکن	خاطئ
√		

بالنسبة لي تبدو الجملة صحيحة تماماً باللهجة اللاذقية لذلك وضعت اشارة في الحقل صحيح

التقينا بالنهر

صحيح	ممکن	خاطئ
		√

بالنسبة لي تبدو الجملة خاطئة؛ فحرف الجرب خاطئ و لذلك سأضع اشارة في الحقل خاطئ

عم تقرا على الشباك

صحيح	ممکن	خاطئ
	√	

بالنسبة لي لا تبدو الجملة خاطئة تماماً، قد أقول 'عم تقرا جنب الشباك'

و لكن من الممكن أن يوجد ناطق باللهجة اللاذقية يقول 'عم تقرا ع الشباك' و لذلك أضع إشارة في الحقل لممكن

اقرأ و اصغ إلى الجمل بدقة وليكن اتخاذك للخيار مبنياً على انطبائك الأول عن الجملة لا تفكر كثيراً بالإجابة ولا تغير خيارك الأول. اذا اعتبرت الجملة خاطئة، اشر إلى موضع الخطأ بوضع خط تحته كالتالي /التقينا بالنها

قبل أن نبدأ بالإختبار الحقيقي يفضل أن نقيم بعض الجمل كتدريب

أختي راح ع المدرسة

صحيح	ممکن	خاطئ

قدّيش الساعة معك؟

صحيح	ممکن	خاطئ

التقى الطلاب مع الأساتذة على الباحة

صحيح	ممکن	خاطئ

1- حبينا الزّلمة يلّي كنّا نلعب مع ولادو كرة قدم

صحيح	ممکن	خاطئ

2- شفت لابتوب بظن أنو كان غالي كتير بمركز السّوني

صحيح	ممکن	خاطئ

3- فضّلت عيلة طلال أوتيل بيقدروا بضلّو فيه يكون مفروش بشكل مرتب

صحيح	ممکن	خاطئ

4- تركنا البيت يلّي سألتني اذا كنّا اشتريناه من عشر سنين

صحيح	ممکن	خاطئ

5- اشفت ع رجال خبّصلو الدّكتور برجلو

صحيح	ممکن	خاطئ

6- وصف الدكتور الحبوب يَلِي بظن هَوِي بيعطين لمرضى السّكري

صحيح	ممکن	خاطئ

7- هَنَّت اللّجنة البروفسور يَلِي قَدَم مقال بالمؤتمر

صحيح	ممکن	خاطئ

8- شَجَّع الأب ابنو يَلِي كان عم يسبح بالمسبح

صحيح	ممکن	خاطئ

9- صلّح الأب اللّعبة يَلِي بظن كسر الصّغير

صحيح	ممکن	خاطئ

10- أخذ الإسعاف الطّالب يَلِي سوزان سمعت خبر إنَّو الإستاذ ضربو بالمدرسة

صحيح	ممکن	خاطئ

11- باع اللّحَام لحمة قال أنو اشتراها من محلاتّ حلال

صحيح	ممکن	خاطئ

12- اغتال الحزب السّياسي يَلِي ما حب

صحيح	ممکن	خاطئ

13- كان مضر دائماً معجب بالعالم يَلِي هَوِي فرعو كيميا

صحيح	ممکن	خاطئ

14- كانت سالي دائماً تحب أستاذ تقدر تتفاعل مع بالصّف

صحيح	ممکن	خاطئ

15- اختار منتج الفيلم الممّثل يَلِي قدر يلعب بشكل سهولي

صحيح	ممکن	خاطئ

16- كَرَّم الجَيْش جندي بيعتقدو أَنُو هُوِي قاتل ببسالة بالحرب

صحيح	ممکن	خاطئ

17- كانوا الدِّيَّانِي عم يلحقو رجل الأعمال يَلِي عنا أسهم بشركتو

صحيح	ممکن	خاطئ

18- أخيراً قابلت المؤلف يَلِي كتب الكتاب

صحيح	ممکن	خاطئ

19- أخيراً صار عندها السَّيَّارة يَلِي كُنَّا عم نتساءل اذا اشتريتها

صحيح	ممکن	خاطئ

20- تزَوَّج مهران بنت بظن الها هي عيون زرق

صحيح	ممکن	خاطئ

21- كتب المؤلف الرِّوَاية يَلِي قَضَى خمس سنين قبل ما يخلص

صحيح	ممکن	خاطئ

22- باعت مها آلة بظن ما بقى احتاجيتها

صحيح	ممکن	خاطئ

23- واعد نضال بنت شعرها طويل

صحيح	ممکن	خاطئ

24- شافت البنت الدَّكْتور يَلِي هُوِي سمعتو منتشرة كثير

صحيح	ممکن	خاطئ

25- اجاني طرد فكَرت أَنُو صديق بعث من شهر

صحيح	ممکن	خاطئ

26- كان رفيقي دائماً يفضل أغنية إلها هي كلمات حلوة

صحيح	ممکن	خاطئ

27- عَيّنو المرا يَلّي كان عندن ثقة فيها وزيرة

صحيح	ممکن	خاطئ

28- كانت سارة عم ترسم خريطة توقّعت بالامتحان

صحيح	ممکن	خاطئ

29- وظّف العدو جاسوس كشفلو البوليس بعض شبكات

صحيح	ممکن	خاطئ

30- ما ساعدت اماندا رفيقتها يَلّي بظن بتكره بالامتحان

صحيح	ممکن	خاطئ

31- شفت الرجال يَلّي هوّي ساكن جنبي بالحديقة

صحيح	ممکن	خاطئ

32- كنت بعرف شخصية عملو المنتجين أفلام عنّها

صحيح	ممکن	خاطئ

33- ما بقى عاديت حجز الغرفة يَلّي قالت إنّنا ضلّلت فيّها الصّيفيّة الماضيّة

صحيح	ممکن	خاطئ

34- انتقد الصّف الطّالبة يَلّي عرّفْت الأستاذ يَلّي ما احترمت

صحيح	ممکن	خاطئ

35- زرت المهندس يَلّي نفّذت الحكومة خططو

صحيح	ممکن	خاطئ

36- اقترح المهندس خطة تنفّذت من قبل الحكومة بعدين

صحيح	ممکن	خاطئ

37- اشترا المزارع خاروف صوفاتو هوّي طوال

صحيح	ممکن	خاطئ

38- كنت بحاجة لهديّة فکرت إنّي إقدر قدّم لأمي بعيد ميلادها

صحيح	ممکن	خاطئ

39- صَنَفُو الجامعة يَلّي قالو زارينا الملكة وحدة من أحسن الجامعات

صحيح	ممکن	خاطئ

40- فضّل وسيم بنك أودع مصرياتو في بدون فائدة

صحيح	ممکن	خاطئ

41- قَبِل المدير السّت يَلّي جون استغرب القرار إنّو المدير وظّفها

صحيح	ممکن	خاطئ

42- تشكّرنا المزارع يَلّي ركبنا ع حصان

صحيح	ممکن	خاطئ

43- زرت مبارح الجار يَلّي صرلي ما شفتو سنين

صحيح	ممکن	خاطئ

44- اشتريت كاتو فسد فوراً

صحيح	ممکن	خاطئ

45- فرمت باسل لابنوب ضربيتو الفيروسات

صحيح	ممکن	خاطئ

46- شفنا بيت في ثقب بسطحو

صحيح	ممکن	خاطئ

47- حَبِينَا الْكَاتِبُ يَلِي عَرَفْنَا أَوَّ كَتَبَ الْكَتَابَ

صحيح	ممکن	خاطئ

48- اشْفَقْتُ عَ مَرِيضِ نَسِي الدَّكْتُورِ فُطْنَةُ بَجْرَحَ

صحيح	ممکن	خاطئ

49- تَبَنَّى وَلَدَ عَيُونُو زَرْقَ

صحيح	ممکن	خاطئ

50- شَفَتِ الْكَتَابَ يَلِي دَرَسْتِيهِ مَمْتَعَ

صحيح	ممکن	خاطئ

51- غَيَّرَتِ الْبَلَدِيَّةُ الْقَاعَةَ يَلِي كَانُوا يَعْقُدُو فِي مُؤْتَمَرَاتِ

صحيح	ممکن	خاطئ

52- الْمَوْظَفِينَ زَعَجُو الْمَدِيرَ يَلِي لَعَبُوا بِمَكْتَبِ

صحيح	ممکن	خاطئ

53- شَفْنَا الْقَصْرَ يَلِي قَابِلْنَا الْمَهْنَدِسَ الْمَعْمَارِي يَلِي صَمَمَ

صحيح	ممکن	خاطئ

54- رَحَّبَ الْخُورِي بِالنَّاسِ يَلِي هَنَّى اِجْوَعُ كُنَيْسَتُو

صحيح	ممکن	خاطئ

55- اِعْتَقَلَ الشَّرْطِيُّ عَصَابَةَ عَمَلٍ قَائِدَهَا تَفْجِيرَاتٍ بِالْمَدِينَةِ

صحيح	ممکن	خاطئ

56- شَجَّعَ الْأَبُ ابْنُو يَلِي شَافُو عَمَ يَرْسُمُ لَوْحَةً

صحيح	ممکن	خاطئ

57- حلّل الكيميائي المواد الكيميائية يَلِي تلوث من النّهر

صحيح	ممکن	خاطئ

58- حبّيت مذبغ شفنا برنامجو مبارح المسا

صحيح	ممکن	خاطئ

59- استخدم الطّبّاخ المقلاي يَلِي قال أنّو عمل في حلويات

صحيح	ممکن	خاطئ

60- شفت السيّارة يَلِي سارة باعيتها بلندن بعد كرهيتها

صحيح	ممکن	خاطئ

61- قابلت صديق كان يلعب هوّي معي شطرنج

صحيح	ممکن	خاطئ

62- كانت ماريّا عم تدوّر ع بيت فيها تشتري بلندن

صحيح	ممکن	خاطئ

63- زارت عيلتي المكان يَلِي سمعو عنّو بالتلفزيون

صحيح	ممکن	خاطئ

64- وثق نهاد بالمرّا يَلِي وسيم قال لنضال ايمنت رح يعين

صحيح	ممکن	خاطئ

65- كرهت العيلة قاضي حكم ع قريب بالسّجن

صحيح	ممکن	خاطئ

66- كان عندي بقرة بتدّكر كانت تنتج عشرين كيلو باليوم

صحيح	ممکن	خاطئ

67- انعجبت بالولد يلّي منى قالتلي وقت يلّي بدّا تقابل

صحيح	ممکن	خاطئ

68- أخذت جاري يلّي نظرو ضعيف ع المشفى

صحيح	ممکن	خاطئ

69- عرّفت المرا الرّسام يلّي بظن هوّي معجب فيها كثير ع رفاقّتها

صحيح	ممکن	خاطئ

70- قابلت مبارح صديق صرلي ما شفتو سنين

صحيح	ممکن	خاطئ

71- اشترينا البيت يلّي سارة زاريتو بعد ما دهنّاه

صحيح	ممکن	خاطئ

72- دائماً كنت فضّل الحصان يلّي لونو أبيض

صحيح	ممکن	خاطئ

73- حضرت سالي الفيلم يلّي بوب طلع من السّينما قبل ما هيّ تنتقد

صحيح	ممکن	خاطئ

74- اعتّبرت المؤلّف يلّي قرينا كتابو مفكّر كبير

صحيح	ممکن	خاطئ

75- حجز مضر المطعم يلّي بظن كان دائماً ياكل فيه

صحيح	ممکن	خاطئ

76- حسدت مزارع عملتلو الدّولي سياج مرتّب حول أرض

صحيح	ممکن	خاطئ

77- كنت دائماً حب الموسيقا يلّي كنت اتسمّع عليها وقت كنت صغير

صحيح	ممکن	خاطئ

78- فيها المكتبة الكتاب يلّي فکرت أنّي اشتريتو

صحيح	ممکن	خاطئ

79- کرهت بیّاع محلّو هوّی وسخ

صحيح	ممکن	خاطئ

80- سرق الحرامي الإضرارة يلّي ادّعت سارة أنّو حطّت في معلومات مهمّة

صحيح	ممکن	خاطئ

Appendix 3

**Oxford University Press
and
University of Cambridge Local Examinations Syndicate**

Name:

Date:

quick placement test

Version 2

This test is divided into two parts:

Part One (Questions 1 – 40) – All students.

Part Two (Questions 41 – 60) – Do not start this part unless told to do so by your test supervisor.

Time: 30 minutes

Part 1

Questions 1 – 5

- Where can you see these notices?
- For questions 1 to 5, mark **one** letter **A**, **B** or **C** on your Answer Sheet.

1

You can look, but don't touch the pictures.

A in an office
B in a cinema
C in a museum

2

Please give the right money to the driver.

A in a bank
B on a bus
C in a cinema

3

**NO
PARKING
PLEASE**

A in a street
B on a book
C on a table

4

**CROSS BRIDGE FOR TRAINS TO
EDINBURGH**

A in a bank
B in a garage
C in a station

5

**KEEP IN A
COLD PLACE**

- A** on clothes
- B** on furniture
- C** on food

Questions 6 – 10

- In this section you must choose the word which best fits each space in the text below.
- For questions **6** to **10**, mark **one** letter **A**, **B** or **C** on your Answer Sheet.

THE STARS

There are millions of stars in the sky. If you look **(6)** the sky on a clear night, it is possible

to see about 3000 stars. They look small, but they are really **(7)** big hot balls of burning

gas. Some of them are huge, but others are much smaller, like our planet Earth. The biggest stars are

very bright, but they only live for a short time. Every day new stars **(8)** born and old stars

die. All the stars are very far away. The light from the nearest star takes more **(9)** four

years to reach Earth. Hundreds of years ago, people **(10)** stars, like the North star, to know

which direction to travel in. Today you can still see that star.

6 **A** at

B up

C on

7 **A** very

B too

C much

8 **A** is

B be

C are

9 **A** that

B of

C than

10 **A** use

B used

C using

Questions 11 – 20

- In this section you must choose the word which best fits each space in the texts.
- For questions 11 to 20, mark **one** letter **A**, **B**, **C** or **D** on your Answer Sheet.

Good smiles ahead for young teeth

Older Britons are the worst in Europe when it comes to keeping their teeth. But British youngsters

(11) more to smile about because (12) teeth are among the best.

Almost

80% of Britons over 65 have lost all or some (13) their teeth according to a World Health Organisation survey. Eating too (14) sugar is part of the problem. Among (15) , 12-year olds have on average only three missing, decayed or filled teeth.

11 A getting B got C have D having

12 A their B his C them D theirs

13 A from B of C among D between

14 A much B lot C many D deal

15 A person B people C children D family

Christopher Columbus and the New World

On August 3, 1492, Christopher Columbus set sail from Spain to find a new route to India, China and Japan. At this time most people thought you would fall off the edge of the world if you sailed too far. Yet sailors such as Columbus had seen how a ship appeared to get lower and lower on the horizon as it sailed away. For Columbus this **(16)** that the world was round. He **(17)** to his men about the distance travelled each day. He did not want them to think that he did not **(18)** exactly where they were going. **(19)** , on October 12, 1492, Columbus and his men landed on a small island he named San Salvador. Columbus believed he was in Asia, **(20)** he was actually in the Caribbean.

- | | | | | |
|-----------|---------------|-------------------|------------------|-----------------|
| 16 | A made | B pointed | C was | D proved |
| 17 | A lied | B told | C cheated | D asked |
| 18 | A find | B know | C think | D expect |
| 19 | A Next | B Secondly | C Finally | D Once |
| 20 | A as | B but | C because | D if |

- 31 She had changed so much that anyone recognised her.
A almost B hardly C not D nearly
- 32 teaching English, she also writes children's books.
A Moreover B As well as C In addition D Apart
- 33 It was clear that the young couple were of taking charge of the restaurant.
A responsible B reliable C capable D able
- 34 The book of ten chapters, each one covering a different topic.
A comprises B includes C consists D contains
- 35 Mary was disappointed with her new shirt as the colour very quickly.
A bleached B died C vanished D faded
- 36 National leaders from all over the world are expected to attend the meeting.
A peak B summit C top D apex
- 37 Jane remained calm when she won the lottery and about her business as if nothing had happened.
A came B brought C went D moved
- 38 I suggest we outside the stadium tomorrow at 8.30.
A meeting B meet C met D will meet
- 39 My remarks were as a joke, but she was offended by them.
A pretended B thought C meant D supposed
- 40 You ought to take up swimming for the of your health.
A concern B relief C sake D cause

Part 2

Do not start this part unless told to do so by your test supervisor.

Questions 41 – 50

- In this section you must choose the word or phrase which best fits each space in the texts.
- For questions 41 to 50, mark **one** letter **A**, **B**, **C** or **D** on your Answer Sheet.

CLOCKS

The clock was the first complex mechanical machinery to enter the home, (41) it was too expensive for the (42) person until the 19th century, when (43) production techniques lowered the price. Watches were also developed, but they (44) luxury items until 1868 when the first cheap pocket watch was designed in Switzerland. Watches later became (45) available and Switzerland became the world's leading watch manufacturing centre for the next 100 years.

- | | | | |
|---------------------|------------|-------------|------------|
| 41 A despite | B although | C otherwise | D average |
| 42 A average | B medium | C general | D common |
| 43 A vast | B large | C wide | D mass |
| 44 A lasted | B endured | C kept | D remained |
| 45 A mostly | B chiefly | C greatly | D widely |

Dublin City Walks

What better way of getting to know a new city than by walking around it?

Whether you choose the Medieval Walk, which will (46) you to the Dublin of

1000 years ago, find out about the more (47) history of the city on the Eighteenth

Century Walk, or meet the ghosts of Dublin's many writers on the Literary Walk, we know you will

enjoy the experience.

Dublin City Walks (48) twice daily. Meet your guide at 10.30 a.m. or 2.30 p.m. at

the Tourist Information Office. No advance (49) is necessary.

Special

(50) are available for families, children and parties of more than ten people.

- | | | | |
|------------------------|--------------------|------------------|-------------------|
| 46 A introduce | B present | C move | D show |
| 47 A near | B late | C recent | D close |
| 48 A take place | B occur | C work | D function |
| 49 A paying | B reserving | C warning | D booking |
| 50 A funds | B costs | C fees | D rates |

Appendix 4

Grammaticality Judgement Task

Grammatical definite simple RRCs using a relative pronoun

1. The committee rewarded the actor who played the main part. (S)
2. They liked the house which is in the village. (S)
3. I changed the baby-sitter who the child did not like. (O)
4. The students didn't read the book which the teacher wrote for them. (O)
5. The pupils wanted the teacher who they always had fun with. (OP)
6. The manager himself set the table which the guests sat at happily. (OP)
7. The audience pitied the tennis player whose leg was broken in the match. (SGen)
8. The optician phoned the man whose eye sight was weak. (SGen)
9. Sally befriended the manager whose family she knew recently. (OGen)
10. No one supported the president whose policy the government opposed. (OGen)
11. The ministry warned the head teacher whose reports the parents objected to. (OPGen)
12. I recently met the woman whose son I always had problems with. (OPGen)

Grammatical definite simple RRCs using C

13. The police caught the thief that stole my purse. (S)
14. My brother baked the cake that made us ill. (S)
15. I admired the lady that I met yesterday. (O)
16. I really needed the milk that you drank. (O)
17. I invited the girl that I always played with. (OP)
18. She had just painted the wall that you hung the picture on. (OP)

Definite simple RRCs using Ø

19. *The lady lost the ring was very expensive. (S)
20. * The player could not hit the ball was passing on the right. (S)
21. John married the girl he met at the university. (O)
22. The gardener had to kill the snake you saw yesterday.(O)
23. I lost the postcard John wrote his address on. (OP)
24. They had not polished the floor you danced on last night. (OP)

Definite simple RRCs using both C and a relative pronoun.

25. * I saw the girl who that lost her way. (S)
26. * The farmer killed the dog which that bit the child. (S)
27. * Amanda did not help her classmate who that she hated. (O)
28. * The father fixed the toy which that the baby broke. (O)
29. * They appointed the lady who that they had confidence in. (OP)
30. * The council reconstructed the building which that they held conferences in. (OP)

Indefinite simple RRCs using a relative pronoun.

31. I met a friend who played chess with me in hospital yesterday. wh (S)
32. My friend always preferred a song which has nice lyrics. wh (S)
33. I needed a present which I could offer to my mother on her birthday. wh (O)
34. I invited to my house a friend who I met a month ago. wh (O)
35. That gentleman wanted a girl who he could dance with at the party. wh (OP)
36. My mother bought a vase which she put a big bouquet in. wh (OP)

Indefinite simple RRCs using C

37. The army honoured a soldier that fought bravely in the war. that (S)
38. Jim bought a cat that has white fur. that(S)
39. Sarah was learning a topic that she expected in the exam. that (O)
40. Paul preferred a bank that he could put money in safely. that (OP)
41. Sally always liked a teacher that she could interact with in the class. (OP)

Indefinite simple RRCs using Ø

42. *The scientist measured a flood hit the country. (S)
43. *The teacher warned a child were very noisy. (S)
44. The snake bit a man it saw on the farm. (O)
45. I downloaded a programme I could use for translation. (O)
46. The engineer scanned a laptop the student had downloaded suspicious files to. (OP)
47. I thanked a friend I borrowed some books from. (OP)

Clitics in definite simple RRCs.

48. * I finally saw the man who he lives next door. wh (S)
49. *The customer ordered the meal that he always had it in this restaurant. zero (S)
50. * The man introduced the girl who he admired her a lot. wh (O)
51. * The doctor prescribed the pills that the patient took them for one month. that (O)
52. * The party expelled the politician they did not like him. zero (O)
53. *The doctor checked the patient who the medicine did not work with him. wh (OO)
54. * The cook used the pan that he usually cooks rice in it. that (OP)
55. * The thief stole the file she left the important documents in it. zero (OP)
56. * They elected the leader that his future plans are feasible. that + RP (SGen)
57. *The priest welcomed the people that they came to his church. That + RP (SGen)
58. * I admire the scientist that his field is chemistry. that + RP (SGen)
59. * The girl saw the doctor whose his reputation was good. whose + RP (SGen)
60. * The ambulance helped the man whose his son is seriously ill. whose+ RP (SGen)
61. *We met the farmer that we rode his horses. that + RP (OGen)
62. *Mary was looking for a man that she could employ in her school. that (OGen)
63. * The teacher saw the woman that he punished her children. that + RP (OGen)
64. *The plumber visited the woman whose the dirt blocked her toilet. whose + RP (OGen)
65. * The board congratulated the professor whose the journal accepted his paper. whose + RP (OGen)

66. *They annoyed the manager that they played games in his office. that + RP (OPGen)
 67. *They hated the woman that they threw stones at her house. that + RP (OP Gen)
 68. * Sally liked the neighbour whose she took care of his kid. whose + RP (OPGen)
 69. * The film producer chose the actor whose he believed in his talent. whose + RP (OPGen)

Definite CO RRCs.

70. The journalist met the president who we believed people like very much. (O)
 71. The child broke the laptop which Mary said she bought yesterday. (O)
 72. The army got rid of the guns which it is thought the soldiers used during the war. (O)

RPs in CO definite RRCs.

73. * People pitied the prisoners who it was announced the enemy killed them. (O)
 74. * My mother successfully managed the hospital which the doctors thought she would ruin it. (O)
 75. * People could not buy the medicine which they said the shops sold it too expensively. (O)

Violations of the Wh-island Constraint

76. ? I did not like the boy who Kitty told Sally when she could see him. + RP (O)
 77. ? I do not like the videogame which Kitty told Sally when she could see him. + RP (O)
 78. ? Bill trusted the officer who he told Susan when he will appoint him. + RP (O)
 79. * People believed the story which the journalist told his boss when he would investigate. - RP (O)
 80. * The boss employed the clerk who Lily told Peter when the company would pay. - RP (O)

Violations of the CNP constraint

81. ? The ambulance took to hospital the schoolboy who Susan heard the news that the teacher will visit him. + RP (O)
 82. The boss did not accept the plan which I questioned the decision that he should execute it. + RP (O)
 83. *I finally met the secretary who Peter heard the news that the boss would marry. - RP (O)
 84. * The doctor did the operation which Mary described the way that he conducted. - RP (O)

Violations of the Adjunct Constraint

85. ? Sarah disliked the movie which Bob left the cinema before she criticized it. + RP (O)
 86. ? The author wrote the novel which he spent 5 years before he finished. - RP (O)

87. * I admire the footballer whom I printed the photo after I photographed him. + RP (O)
88. * My daughter broke the camera which I was excited after I bought. - RP (O)

Appendix 5

The Grammaticality Judgement Task

Thank you for helping me with this study. I am collecting information about the kinds of sentences that speakers of English, both native and non-native speakers, find natural and those that they do not. Results from the study should help me understand better how people learn English, and this might eventually lead to improving methods for learning and teaching English. I am NOT assessing your knowledge of English – there are no right or wrong answers. Responses from a number of different speakers of English will be pooled to discover how people rate the naturalness of sentences.

Instructions

In the task you are about to do, you will be asked to listen to and simultaneously read some sentences, and to ‘rate’ each one for how natural it sounds to you. There are 3 rating categories:

Perfect – the sentence feels like a perfectly natural sentence of English.

Possible – the sentence does not feel perfectly natural. You probably wouldn’t say it yourself, but you might hear native speakers saying it.

Impossible – the sentence is not one you would say, and you don’t expect to hear other native speakers saying it either.

Examples

Here is an example of the kind of sentence I would like you to rate. The task is to rate the sentence by putting an X in one of the boxes:

(a) Who did she forget to invite to the party?

Perfect	Possible	Impossible

For me, the sentence feels like a perfectly natural sentence of English, so I would put an X in the ‘Perfect’ box:

(a’) Who did she forget to invite to the party?

Perfect	Possible	Impossible
X		

Here is another example:

(b) Who she forgot to invite to the party?

Perfect	Possible	Impossible

For me, the sentence does not feel natural. There should be a *do* after the *who*, as there was in the first example, so I would put an X in the 'Impossible' box:

(b') Who she forgot to invite to the party?

Perfect	Possible	Impossible
		X

Here is a final example:

(c) She saw there appear a stranger at the corner of the street.

Perfect	Possible	Impossible

For me, the sentence does not feel completely impossible. I would probably have said *She saw a stranger appear at the corner of the street*, but I can imagine a native speaker saying this. So we would put an X in the 'possible' box:

(c') She saw there appear a stranger at the corner of the street.

Perfect	Possible	Impossible
	X	

Read and listen to each sentence carefully, but in making your decision go by 'first impression' or 'feel' for whether the sentence is possible or not. Don't think too hard about your decision, and do not go back and change your initial decision.

If you decide that the sentence is 'impossible', draw a line under the part of the sentence that makes it impossible, if you can. In the case of the sentence that was rated as unnatural above, I would have underlined as follows:

Who she forgot to invite to the party?

Before we start with the actual test, it would be best to do some sentences as a practise:

I watched the sun setting in the west yesterday.

Perfect	Possible	Impossible

While she is wear the coat, the mother gives a kiss to the daughter

Perfect	Possible	Impossible

Jack sent Jill a postcard. Mary did too.

Perfect	Possible	Impossible

Because of the beautiful day, Mary cut the grass in garden.

Perfect	Possible	Impossible

1. I changed the baby-sitter who the child did not like.

Perfect	Possible	Impossible

2. The author wrote the novel which he spent 5 years before he finished.

Perfect	Possible	Impossible

3. She had just painted the wall that you hung the picture on.

Perfect	Possible	Impossible

4. I admire the scientist that his field is chemistry.

Perfect	Possible	Impossible

5. The child broke the laptop which Mary said she bought yesterday.

Perfect	Possible	Impossible

6. Sally liked the neighbour whose she took care of his kid.

Perfect	Possible	Impossible

7. I do not like the video game which Kitty told Sally when she could see him.

Perfect	Possible	Impossible

8. I lost the postcard John wrote his address on.

Perfect	Possible	Impossible

9. People believed the story which the journalist told his boss when he would investigate.

Perfect	Possible	Impossible

10. I admired the lady that I met yesterday.

Perfect	Possible	Impossible

11. I thanked a friend I borrowed some books from.

Perfect	Possible	Impossible

12. My daughter broke the camera which I was excited after I bought.

Perfect	Possible	Impossible

13. Mary was looking for a man that she could employ in her school.

Perfect	Possible	Impossible

14. They liked the house which is in the village.

Perfect	Possible	Impossible

15. They elected the leader that his future plans are feasible.

Perfect	Possible	Impossible

16. Sarah was learning a topic that she expected in the exam.

Perfect	Possible	Impossible

17. They appointed the lady who that they had confidence in.

Perfect	Possible	Impossible

18. The army got rid of the guns which it is thought the soldiers used during the war.

Perfect	Possible	Impossible

19. Sally befriended the manager whose family she knew recently.

Perfect	Possible	Impossible

20. The girl saw the doctor whose his reputation was good.

Perfect	Possible	Impossible

21. Amanda did not help her classmate who that she hated.

Perfect	Possible	Impossible

22. My mother bought a vase which she put a big bouquet in.

Perfect	Possible	Impossible

23. The optician phoned the man whose eye sight was weak.

Perfect	Possible	Impossible

24. The doctor did the operation which Mary described the way that he conducted.

Perfect	Possible	Impossible

25. My friend always preferred a song which has nice lyrics.

Perfect	Possible	Impossible

26. People pitied the prisoners who it was announced the enemy killed them.

Perfect	Possible	Impossible

27. The ambulance helped the man whose his son is seriously ill.

Perfect	Possible	Impossible

28. The army honoured a soldier that fought bravely in the war.

Perfect	Possible	Impossible

29. The snake bit a man it saw on the farm.

Perfect	Possible	Impossible

30. The boss employed the clerk who Lily told Peter when the company would pay.

Perfect	Possible	Impossible

31. The player could not hit the ball was passing on the right.

Perfect	Possible	Impossible

32. The party expelled the politician they did not like him.

Perfect	Possible	Impossible

33. The teacher saw the woman that he punished her children.

Perfect	Possible	Impossible

34. The gardener had to kill the snake you saw yesterday.

Perfect	Possible	Impossible

35. The police caught the thief that stole my purse.

Perfect	Possible	Impossible

36. The film producer chose the actor whose he believed in his talent.

Perfect	Possible	Impossible

37. The committee rewarded the actor who played the main part.

Perfect	Possible	Impossible

38. The doctor checked the patient who the medicine did not work with him.

Perfect	Possible	Impossible

39. The manager himself set the table which the guests sat at happily.

Perfect	Possible	Impossible

40. My brother baked the cake that made us ill.

Perfect	Possible	Impossible

41. I downloaded a programme I could use for translation.

Perfect	Possible	Impossible

42. The engineer scanned a laptop the student had downloaded suspicious files to.

Perfect	Possible	Impossible

43. The board congratulated the professor whose the journal accepted his paper.

Perfect	Possible	Impossible

44. Sally always liked a teacher that she could interact with in the class.

Perfect	Possible	Impossible

45. Bill trusted the officer who he told Susan when he will appoint him.

Perfect	Possible	Impossible

46. The priest welcomed the people that they came to his church.

Perfect	Possible	Impossible

47. Paul preferred a bank that he could put money in safely.

Perfect	Possible	Impossible

48. I really needed the milk that you drank.

Perfect	Possible	Impossible

49. The council reconstructed the building which that they held conferences in.

Perfect	Possible	Impossible

50. They annoyed the manager that they played games in his office.

Perfect	Possible	Impossible

51. I saw the girl who that lost her way.

Perfect	Possible	Impossible

52. My mother successfully managed the hospital which the doctors thought she would ruin it.

Perfect	Possible	Impossible

53. The scientist measured a flood hit the country.

Perfect	Possible	Impossible

54. The thief stole the file she left the important documents in it.

Perfect	Possible	Impossible

55. The students didn't read the book which the teacher wrote for them.

Perfect	Possible	Impossible

56. The plumber visited the woman whose the dirt blocked her toilet.

Perfect	Possible	Impossible

57. I needed a present which I could offer to my mother on her birthday.

Perfect	Possible	Impossible

58. The lady lost the ring was very expensive.

Perfect	Possible	Impossible

59. The audience pitied the tennis player whose leg was broken in the match.

Perfect	Possible	Impossible

60. I finally met the secretary who Peter heard the news that the boss would marry.

Perfect	Possible	Impossible

61. John married the girl he met at the university.

Perfect	Possible	Impossible

62. I met a friend who played chess with me in hospital yesterday.

Perfect	Possible	Impossible

63. The ambulance took to hospital the schoolboy who Susan heard the news that the teacher will visit him.

Perfect	Possible	Impossible

64. People could not buy the medicine which they said the shops sold it too expensively.

Perfect	Possible	Impossible

65. Sarah disliked the movie which Bob left the cinema before she criticized it.

Perfect	Possible	Impossible

66. I invited the girl that I always played with.

Perfect	Possible	Impossible

67. No one supported the president whose policy the government opposed.

Perfect	Possible	Impossible

68. The cook used the pan that he usually cooks rice in it.

Perfect	Possible	Impossible

69. The teacher warned a child were very noisy.

Perfect	Possible	Impossible

70. I recently met the woman whose son I always had problems with.

Perfect	Possible	Impossible

71. The journalist met the president who we believed people like very much.

Perfect	Possible	Impossible

72. I finally saw the man who he lives next door.

Perfect	Possible	Impossible

73. That gentleman wanted a girl who he could dance with at the party.

Perfect	Possible	Impossible

74. The man introduced the girl who he admired her a lot.

Perfect	Possible	Impossible

75. I did not like the boy who Kitty told Sally when she could see him.

Perfect	Possible	Impossible

76. They hated the woman that they threw stones at her house.

Perfect	Possible	Impossible

77. The customer ordered the meal that he always had it in this restaurant.

Perfect	Possible	Impossible

78. The farmer killed the dog which that bit the child.

Perfect	Possible	Impossible

79. I admire the footballer whom I printed the photo after I photographed him.

Perfect	Possible	Impossible

80. The pupils wanted the teacher who they always had fun with.

Perfect	Possible	Impossible

81. Jim bought a cat that has white fur.

Perfect	Possible	Impossible

82. The doctor prescribed the pills that the patient took them for one month.

Perfect	Possible	Impossible

83. We met the farmer that we rode his horses.

Perfect	Possible	Impossible

84. The boss did not accept the plan which I questioned the decision that he should execute it.

Perfect	Possible	Impossible

85. I invited to my house a friend who I met a month ago.

Perfect	Possible	Impossible

86. The ministry warned the head teacher whose reports the parents objected to.

Perfect	Possible	Impossible

87. The father fixed the toy which that the baby broke.

Perfect	Possible	Impossible

88. They had not polished the floor you danced on last night.

Perfect	Possible	Impossible

Appendix 6

Guided Gap Filling Task

Definite simple RRCs

1. The committee gave the athlete won the race the gold medal. (S)
(a) who, (b) that, (c) Ø, (d) who that (e) who he, (f) none
2. The farmer sold the cow no longer produced milk. (S)
(a) which, (b) that, (c) Ø, (d) which that (e) which it, (f) none
3. I liked the lady ... my mother visited (O)
(a) who ... Ø, (b) that ... Ø, (c) Ø... Ø, (d) who that ... Ø (e) who it, (f) none
4. Kim enjoyed the card games she played with her friends. (O)
(a) which... Ø, (b) that... Ø, (c) Ø... Ø, (d) which that ... Ø (e) which ... it, (f) none
5. I visited the man many people discussed their travelling plans with (OP)
(a) who... Ø, (b) that... Ø, (c) Ø... Ø, (d) who that... Ø (e) who him, (f) none
6. I watched the race Robert participated in (OP)
(a) which... Ø, (b) that...Ø, (c) Ø... Ø, (d) which that... Ø (e) which... it, (f) none
7. Martin engaged the girl was very pretty. (SGen)
(a) whose face, (b) who her face , (c) that her face, (d) her face, (e) whose her face
(f) none
8. They did not like visiting the woman is very wild. (SGen)
(a) whose dog Ø, (b) who her dog, (c) that her dog, (d) Ø... her dog(e) whose her dog, (f) none
9. We pitied the neighbour the children damaged (OGen)
(a) whose car... Ø, (b) who ... his car, (c) that ... his car , (d) Ø ... his car,

(e) whose ...his car, (f) none

10. We thanked the friend we attended (OGen)

(a) whose party... Ø, (b) who ... her party, (c) that ... her party, (d) Ø ... her party,

(e) whose ...her party, (f) none

11. I finally met the father I always have discussions with (OPGen)

(a) whose son ... Ø, (b) who ... his son, (c) that ... his son, (d) Ø ... his son,

(e) whose ... his son, (f) none

12. We saw the doctor Mary quarrelled with (OPGen)

(a) whose nurse ... Ø, (b) who ... his nurse, (c) that ... his nurse,

(d) Ø ... his nurse (e) whose ...his nurse, (f) none

Indefinite simple RRCs

13. I rescued a child ... was drowning in the river. (S)

(a) who, (b) that, (c) Ø, (d) who that (e) who it, (f) none

14. Martin lent me a CD was boring. (S)

(a) which, (b) that, (c) Ø, (d) which that (e) which it, (f) none

15. I attended a seminar I did not enjoy at all. (O)

(a) which... Ø, (b) that... Ø, (c) Ø... Ø, (d) which that... Ø (e) which it,

(f) none

16. Margaret fired an employee ...sheno longer needed

(a) which... Ø, (b) that... Ø, (c) Ø... Ø, (d) which that... Ø (e) which ...it,

(f) none

17. The tourist admired an actress..... he took many photos of (OP)

(a) who ... Ø, (b) that... Ø, (c) Ø... Ø, (d) who that... Ø (e) who it, (f) none

18. I solved a problem I have been thinking about since last week. (OP)

(a) which... Ø, (b) that... Ø, (c) Ø... Ø, (d) which that... Ø (e) which... it,

(f) none

Definite CO RRCs

19. The journalist interviewed the writer we heard the committee honoured ... last week (O)

who... Ø, (b) that... Ø, (c) Ø... Ø, (d) who that... Ø, (e) who ... him, (f) none

20. I liked the musician my sister said Amy admired...(O)

(a) who... Ø, (b) that... Ø, (c) Ø...Ø, (d) who that ... Ø, (e) who... him, (f) none

21. The traveller found the suitcase... he expected he would never find ... (O)

(a) which... Ø, (b) that...Ø, (c) Ø...Ø, (d) which that... Ø, (e) which... it, (f) none

Violation of the Wh-island Constraint

22. I did not know the man ... Mary told me when she would meet (O)

(a) who... Ø, (b) that... him, (c) Ø... him, (d) who... the man, (e) Ø... Ø, (f) none

23. I wanted the flat ... my father told me when he would rent ...(O)

(a) which... Ø, (b) that ... it, (c) Ø... it, (d) which... the flat, (e) Ø... Ø, (f) none

24. I knew the clerk Tom told me when he would employ (O)

(a) who... Ø, (b) that... him, (c) Ø... him, (d) who...the clerk, (e) Ø... Ø, (f) none

25. The officer studied the plans he wondered when he should execute(O)

(a) which... Ø, (b) that... them, (c) Ø... them, (d) which... the plans, (e) Ø... Ø,
(f) none

26. The guests didn't like the chicken ... my sister burned her fingers when she cooked ...(O)

(a) Ø... Ø, (b) which... Ø, (c) Ø... it, (d) which... it, (e) none

Violation of the CNP constraint

27. The police found the child... I heard the news that the gang kidnapped ... (O)
 (a) who... Ø, (b) that... it, (c) Ø... it, (d) who... the money, (e) Ø... Ø,
 (f) none
28. The company sold the land ... the manager questioned the decision that the
 company should have bought (O)
 (a) which... Ø, (b) that... it, (c) Ø... it, (d) which... the land, (e) Ø... Ø, (f) none
29. I bought the book ... I heard the news that a young author wrote ... (O)
 (a) which... Ø, (b) that... it, (c) Ø... it, (d) which... the book, (e) Ø... Ø, (f) none
30. They caught the criminal... the officer described the way that they attacked ...
 (O)
 who... Ø, (b) that... it, (c) Ø... it, (d) who... the gang, (e) Ø... Ø, (f) none

Violation of the Adjunct Constraint

31. She likes the professor ... I left the meeting before Sam criticised ... (O)
 (a) Ø ... Ø, (b) who ... Ø, (c) Ø ... him, (d) who ... him, (e) none
32. They admired the dress ... she visited several shops before she bought ... (O)
 (a) Ø ... Ø, (b) which ... Ø, (c) Ø ... it, (d) which ... it, (e) none
33. The judge questioned the thief... the police found the wallet after they arrested
 ... (O)
 (a) Ø... Ø, (b) who... Ø, (c) Ø... him, (d) who... him, (e) none

Appendix 7

Guided Gap Filling task

The following test requires you to listen to sentences and then underline which of the options provided under each sentence is a possible answer for the sentence. Please note that for some of the sentences, there might be one possible answer, more than one answer, or no possible answer ('none') as the following examples show. Please note that Ø means leaving the space empty. In every sentence there will be two spaces. You need to decide which pairs of items are appropriate for those two spaces (or if none of them are).

Examples

(i) The professor reading the book, and so the student.

(a) did ... was	(b) <u>was ... was</u>	(c) was Ø
(d) Ø was	(e) none	

Only answer (b) is appropriate for the spaces in the sentence.

(ii) I met student yesterday who works in library.

(a) <u>a ... a</u>	(b) <u>a ... the</u>	(c) Ø ... the
(d) a ... Ø	(e) none	

Answers (a) and (b) are appropriate for the spaces in the sentence.

(iii) Who the student met in the library?

(a) did ... Ø	(b) was ... Ø	(c) Ø ... Ø
(d) Ø ... him	(e) <u>none</u>	

None of (a)-(d) are appropriate to the spaces in the sentence, so the answer is (e).

Please follow the recording, do not underline any response until you have heard the sentence read by the reader.

Before we start with the actual test, it would be best to do some sentences as a practise:

Which astronaut ... you read a book about ...?

(a) did ... him	(b) does ... him	(c) have ... him
(d) did ... Ø	(e) Ø ... Ø	(f) none

Jill and Mary ... applying for ... same job.

(a) were ... a	(b) was ... the	(c) was ... a
(d) were ... the	(e) Ø ... Ø	(f) none

In the laboratory, Tom ... sodium and iron. John said that Jill ... too.

(a) mixed ... was	(b) mixed ... is	(c) mixing ... is
(d) mix ... is	(e) Ø ... Ø	(f) none

This ... the paper that we really need ... someone who understands.

(a) is ... to find	(b) was ... finding	(c) was ... to find
(d) is ... find	(e) Ø ... Ø	(f) none

1. Kim enjoyed the card games she played with her friends.

(a) which ... Ø	(b) that ... Ø	(c) Ø ... Ø
(d) which that ... Ø	(e) which ... them	(f) none

2. I watched the race ... Robert participated in

(a) which ... Ø	(b) which ... it	(c) which that ... Ø
(d) Ø ... Ø	(e) that ... Ø	(f) none

3. Martin engaged the girl ... was very pretty.

(a) whose her face	(b) who her face	(c) that her face
(d) her face	(e) whose face	(f) none

4. The company sold the land ... the manager questioned the decision that the company should have bought

(a) that ... it	(b) which ... Ø	(c) Ø ... it
(d) which ... the land	(e) Ø ... Ø	(f) none

5. The tourist admired an actress ... he took many photos of

(a) Ø ... Ø	(b) that ... Ø	(c) who ... Ø
(d) who that ... Ø	(e) who ... her	(f) none

6. I rescued a child ... was drowning in the river.

(a) who he	(b) that	(c) Ø
(d) who that	(e) who	(f) none

7. We thanked the friend ... we attended

(a) whose ... her party	(b) who ... her party	(c) that ... her party
(d) Ø ... her party	(e) whose party ... Ø	(f) none

8. I wanted the flat ... my father told me when he would rent

(a) that ... it	(b) Ø... Ø	(c) Ø ... it
(d) which ... the flat	(e) which... Ø	(f) none

9. I finally met the father ... I always have discussions with

(a) whose son ... Ø	(b) who ... his son	(c) that ... his son
(d) Ø ... his son	(e) whose ... his son	(f) none

10. I bought the book ... I heard the news that a young author wrote

(a) which ... Ø	(b) Ø... Ø	(c) Ø ... it
(d) which ... the book	(e) that ... it	(f) none

11. Martin lent me a CD ... was boring.

(a) which it	(b) which	(c) Ø
(d) which that	(e) that	(f) none

12. She likes the professor ... I left the meeting before Sam criticised

(a) Ø ... Ø	(b) who ... Ø	(c) Ø ... him
(d) who ... him	(e) none	

13. I visited the man ... many people discussed their travelling plans with

(a) who... Ø	(b) that... Ø	(c) Ø... Ø
(d) who that... Ø	(e) who ... him	(f) none

14. The farmer sold the cow ... no longer produced milk.

(a) Ø	(b) that	(c) which
(d) which that	(e) which it	(f) none

15. The guests didn't like the chicken ... my sister burned her fingers when she cooked

(a) Ø ... Ø	(b) which ... Ø	(c) which ... it
(d) Ø ... it	(e) none	

16. The police found the child ... I heard the news that the gang kidnapped

(a) who ... Ø	(b) that ... her	(c) Ø ... her
(d) Ø... Ø	(e) who ... the child	(f) none

17. We saw the doctor ... Mary quarrelled with

(a) whose nurse ... Ø	(b) who ... his nurse	(c) that ... his nurse
(d) Ø ... his nurse	(e) whose ... his nurse	(f) none

18. I liked the lady ... my mother visited

(a) who ... her	(b) that ... Ø	(c) Ø... Ø
(d) who that ... Ø	(e) who ... Ø	(f) none

19. I knew the clerk ... Tom told me when he would employ

(a) that ... him	(b) who... Ø	(c) Ø ... him
(d) who ... the clerk	(e) Ø ... Ø	(f) none

20. The journalist interviewed the writer ... we heard the committee honoured ... last week.

(a) who that ... Ø	(b) that ... Ø	(c) Ø ... Ø
(d) who ... Ø	(e) who ... him	(f) none

21. I attended a seminar ... I did not enjoy ... at all.

(a) which ... Ø	(b) that ... Ø	(c) Ø ... Ø
(d) which that ... Ø	(e) which ... it	(f) none

22. They caught the criminal the officer described the way that they attacked

(a) Ø... Ø	(b) that ... him	(c) Ø ... it
(d) who ... the criminal	(e) who ... Ø	(f) none

23. The committee gave the athlete ... won the race the gold medal.

(a) who	(b) that	(c) who that
(d) Ø	(e) who he	(f) none

24. They did not like visiting the woman ... is very wild.

(a) that her dog	(b) who her dog	(c) whose dog Ø
(d) Ø... her dog	(e) whose her dog	(f) none

25. They admired the dress ... she visited several shops before she bought

(a) Ø ... Ø	(b) which ... Ø	(c) Ø ... it
(d) which ... it	(e) none	

26. The traveller found the suitcase ... he expected he would never find

(a) which ... Ø	(b) that ... Ø	(c) which that ... Ø
(d) Ø... Ø	(e) which ... it	(f) none

27. I did not know the man ... Mary told me when she would meet

(a) who ... the man	(b) that ...him	(c) Ø ... him
(d) who ... Ø	(e) Ø... Ø	(f) none

28. I solved a problem ... I have been thinking about ... since last week.

(a) Ø ... Ø	(b) that ... Ø	(c) which ... Ø
(d) which that ... Ø	(e) which it	(f) none

29. Margaret fired an employee ... she no longer needed

(a) who that ... Ø	(b) that ... Ø	(c) Ø... Ø
(d) who... Ø	(e) who ... him	(f) none

30. The officer studied the plans he wondered when he should execute

(a) which ... Ø	(b) that ... them	(c) Ø ... them
(d) which ... the plans	(e) Ø ... Ø	(f) none

31. We pitied the neighbour ... the children damaged

(a) that ... his car	(b) who ... his car	(c) whose car... Ø
(d) Ø ... his car	(e) whose ... his car	(f) none

32. I liked the musician ... my sister said Amy admired

(a) Ø Ø	(b) that ... Ø	(c) who that ... Ø
(d) who ... Ø	(e) who ... him	(f) none

33. The judge questioned the thief ... the police found the wallet after they arrested ...

(a) Ø ... Ø	(b) who ... Ø	(c) Ø ... him
(d) who ... him	(e) none	

Appendix 8

Translation Task

Grammatical definite simple RCs

1. My sister liked the boy who brought some flowers to her. (S) animate
2. I sold the computer which broke down last week. (S) inanimate
3. My mother didn't know the boy who my sister liked. (O) animate
4. I attended the seminar which our doctor organized. (O) inanimate
5. The doctor treated Sarah who the fever had a bad effect on. (OP) animate
6. I bought the land which I built my house on. (OP) inanimate
7. The manager punished the waiter whose clothes were dirty. (SGen)
8. The teachers envied Modar whose students worked so hard. (SGen) animate
9. I thanked the friend whose notebook I borrowed. (OGen)
10. We called the doctor whose patients he treated efficiently. (OGen)
11. The manager rewarded the employee whose work he was happy about. (OPGen)
12. The people elected the president whose policies they believed in. (OPGen)

Grammatical indefinite simple RCs

13. Maher bought a car which does not use much petrol. (S) inanimate
14. Mudar helped a man who lives next door. (S) animate
15. I saw a man who a waiter warmly greeted in this restaurant. (O) animate
16. The teacher explained an idea which he thought important. (O) inanimate
17. Sameer saw a friend who he had a short conversation with. (OP) animate
18. Saamer won a cup which he dreamed of. (OP) inanimate

Definite CO RRCs

19. Usamaa met the girl who he thought he would marry. (O)
20. The engineer fixed the machine which he thought he could not fix. (O)
21. My brother supported the team which I expected he would support. (O)

Violation of island constraint

22. They opened the company that Muneer spread the rumour that he will manage. (O) (CNP constraint)
23. I read the paper that I really needed a linguist who could explain to me. (O) (CNP constraint)
24. Mysoon wrote the essay which Ayham wondered whether the committee discussed in the conference. (O) (wh-island constraint)
25. Rasha saw the man who people doubted whether the police arrested. (O) (wh-island constraint)
26. Waleed helped the girl who did not study the books before the teacher taught. (O) (adjunct island constraint)

27. Sally watched the play which Mahraan had dinner before she saw. (O) (adjunct island constraint)

Appendix 9

اختبار الترجمة

بعد الاستماع إلى الجمل باللغة العربية ترجمها إلى الإنكليزية.
بإمكانك السؤال عن معنى أي كلمة تجد صعوبة في ترجمتها، علما بأن الجمل مرفقة بمعاني الكلمات التي قد
تصعب ترجمتها.
الرجاء عدم التغيير في بنية الجملة العربية إلا ما تستلزمه صياغة جملة إنكليزية صحيحة.

1- ساعد مضر رَجَّال بيسكن جنبو (جنبو: next door)

.....
.....

2- حسد الأساتذة مضر يَلِي بيشتغلو طلابو بِجَدَّ (بجد: hard, حسد: envy)

.....
.....

3- قرئت المقال يَلِي عن جد احتجت لغوي يقدر يشرحلي ياه.

(لغوي: linguist, عن جد: really, مقال: paper)

.....
.....

4- اشتريت الأرض يلي بنيت عليها بيتي.

.....
.....

5- حَضُرْتُ حلقة البحث يَلِي نَظَّمَهَا دكتورِي (حلقة بحث: seminar, حضر: attend, نظم: organize)

.....
.....

6- كَتَبْتُ ميسون الموضوع يلي تساءل أيهم إذا ناقشتو اللجنة بالمؤتمر.

(موضوع: essay, مؤتمر: conference, لجنة: committee, ناقش: discuss, تساءل: wonder)

.....
.....

7- انتخب الشَّعْبُ الرَّئِيسَ يَلِي آمنو بسياستو .

(انتخب: elect, رئيس: president, سياسة: policy, يؤمن ب: believe in)

8- شَجَّعَ أَخِي الْفَرِيقَ يَلِّي تَوَقَّعْتُ أَنْوَ رَحْ يَشْجَعُو. (توقع: فريق, team: شجع, support:)

9- شَفَّتْ رِجَالَ رَحَّبَ فِيهِ الْكَرْسُونُ بِحَرَارَةٍ (بحرارة: warmly, رحب: welcome)

10- بَعَثَ الْكَمْبِيُوتَرُ يَلِّي تَعَطَّلَ الْأُسْبُوعَ الْمَاضِي (تعطل: break down)

11- شَافَ سَمِيرٌ صَدِيقَ حَكِي مَعُو شُوي

12- شَافَتْ رِشَا الرِّجَالَ يَلِّي شَكَّو الْعَالَمَ إِذَا اعْتَقَلْتِو الشَّرْطَةَ (شك: arrest: doubt, اعتقل)

13- كَافَأَ الْمَدِيرُ الْمَوْظَّفَ يَلِّي كَانَ مَبْسُوطَ مَنْ شَغَلُو (موظف: employee, كافأ: reward)

14- حَبَّتْ إِخْتِي الصَّبِي يَلِّي جَبَلْهَا وَرَدَ

15- صَلَحَ الْمَهْنَدِسُ الْآلَةَ يَلِّي كَانَ مَفْكَرٌ يَصْلَحُهَا (آلة: machine, صلح: fix)

16- شترى ماهرسيارة ما بتستهلك بنزين كثير (استهلك: use)

.....

.....

17- تشكرت الصديق يلّي استعرت دفتر (استعار: borrow)

.....

.....

18- ربح سامر كأس كان دائماً يحلم فيه (كأس: cup, ربح: win)

.....

.....

19- شافت سالي المسرحية يلّي تغداً مهران بعد ما شافينا

(يتغدى: have dinner, مسرحية: play)

.....

.....

20- عاقب المدير الكرسون يلّي كانت ثيابو وسخه (كرسون: waiter)

.....

.....

21- قابل أسامة البننت يلّي فكر أنّو رح يتزوجها

.....

.....

22- ما عرفت إمّي الولد يلّي حبّيتو إختي

.....

.....

23- افتتحوا الشركة يلّي نشر وسيم شائعة أنّو رح يديرها

(يدير: manage, شائعة: rumour, افتتح: start)

.....

.....

24- اتصلت بالدكتور يلي عالج مرضاه بكفاءة
(بكفاءة: efficiently, عالج: treat, اتصل: call)

.....
.....

25- عالج الدكتور سارة يلي كان للحمى تأثير كبير عليها
(حمى: fever, عالج: treat)

.....
.....

26- شرح الأستاذ فكرة فكّر ها مهمّة

.....
.....

27- ساعد وليد البنت يلي ما قرت الكتب قبل ما يعلمها الأستاذ

.....
.....

Appendix 10

Normality results of Grammaticality Judgement Task

Tested property	parametric				Non-parametric			
	all	Separate properties			all	Separate properties		
Definite simple RRCs/wh-, that, Ø/S	.000	.000	.000	.000	.000	.112	.000	.000
Grammatical definite simple RRCs/wh-, that, Ø/O	.336	.000	.000	.000	.568	.013	.000	.000
Grammatical definite simple RRCs/wh-, that, Ø/OP	.617	.000	.000	.000	.239	.011	.005	.000
Ungrammatical definite simple RRCs/wh+that/S, O, OP	.000	.000	.000	.000	.000	.000	.000	.000
Definite simple GenRRCs/ SGen, OGen, OPGen	.000	.000	.000	.000	.000	.012	.025	.000
Indefinite simple RRCs/wh-, that, Ø/S	.000	.000	.000	.000	.000	.077	.008	.000
Grammatical indefinite simple RRCs/wh-, that, Ø/O	.000	.000	.000	.000	.000	.067	.001	.000
Grammatical indefinite simple RRCs/wh-, that, Ø/OP	.000	.000	.000	.000	.000	.177	.003	.000
Use of RPs in simple definite RRCs/S, O, OP	.026	.001	.005	.003	.124	.000	.000	.000
Use of RPs in simple definite GenRRCs/SGen, OGen, OPGen	.071	.000	.000	.000	.650	.000	.000	.005
Definite complex RRCs/-RP, +RP	.000	.000	.000		.001	.008	.000	
Violation of wh-island constraint/-RP, +RP	.000	.000	.001		.000	.000	.001	
Violation of Complex NP island constraint/-RP, +RP	.000	.000	.000		.000	.000	.000	
Violation of Adjunct island constraint/-RP, +RP	.000	.000	.001		.000	.000	.000	

Reliability results (11a)**Arabic Grammaticality Judgement Task**

Tested items	Reliability result/%
Grammatical definite simple RRCs /S	82
Ungrammatical definite simple RRCs/OP	93
Grammatical definite simple RRCs/SGen	94
Ungrammatical definite simple RRCs/OPGen	97.9
Grammatical indefinite simple RRCs using C/S	58
Ungrammatical indefinite simple RRCs using C/O	35
Ungrammatical indefinite simple RRCs using C/OP	80
Use of clitics in definite simple RRCs/O	60
Use of clitics in definite simple RRCs/OP	89
Use of clitics definite simple RRCs/ SGen	41.1
Use of clitics in definite simple RRCs/ OGen	70
Use of clitics in definite simple RRCs/ OPGen	60
Violation of wh-island constraint /- clitic /O	94
Violation of wh-island constraint /+ clitic /O	62
Violation of CNP constraint /- clitic /O	60
Violation of CNP constraint /+ clitic /O	47
Violation of adjunct island constraint /- clitic /O	70
Violation of adjunct island constraint /+ clitic /O	70
indefinite simple RRCs /+ clitic/S	76
indefinite simple RRCs /+ clitic /O	80
indefinite simple RRCs /+ clitic /OP	58
indefinite simple RRCs /+ clitic /SGen	95
indefinite simple RRCs /+ clitic /OPGen	70
indefinite simple RRCs /-clitic/SGen	88.4
indefinite simple RRCs /-clitic /OGen	70
indefinite simple RRCs /-clitic//OPGen	64
Definite complex RRCs /-clitic//O	88
Definite complex RRCs /-clitic//OP	82
Indefinite complex RRCs /-clitic//S	47

Indefinite complex RRCs /-clitic/O	80
Definite complex RRCs /+ clitic /S	60
Definite complex RRCs /+ clitic /O	91
Definite complex RRCs /+ clitic /OP	60
Indefinite complex RRCs /+ clitic /S	11.7
Indefinite complex RRCs /+ clitic /O	70

Reliability results (11b)

Grammaticality Judgement Task

Tested items	Reliability result/%
Grammatical definite simple RRCs using relative pronoun/S	72
Grammatical definite simple RRCs using relative pronoun/O	59
Grammatical definite simple RRCs using relative pronoun/OO	49
Grammatical definite simple RRCs using relative pronoun/SGen	77
Grammatical definite simple RRCs using relative pronoun/OGen	45
Grammatical definite simple RRCs using relative pronoun/OOGen	44
Grammatical definite simple RCs using C/S	53
Grammatical definite simple RRCs using C/O	57
Grammatical definite simple RRCs using C/OO	55
Ungrammatical definite simple RRCs using Ø/S	57
Grammatical definite simple RRCs using Ø/O	60
Grammatical definite simple RRCs using Ø/OO	50
Ungrammatical definite simple RRCs using relative pronoun +C/S	72
Ungrammatical definite simple RRCs using relative pronoun + C/O	63
Ungrammatical definite simple RRCs using relative pronoun + C/OO	50
Ungrammatical indefinite simple RRCs using relative pronoun/S	60
Grammatical indefinite simple RRCs using relative pronoun/O	62
Grammatical indefinite simple RRCs using relative pronoun/OO	50
Grammatical indefinite simple RRCs using C/S	58
Grammatical indefinite simple RRCs using C/OO	54
Ungrammatical indefinite simple RRCs using Ø/S	37
Grammatical indefinite simple RRCs using Ø/O	39
Grammatical indefinite simple RRCs using Ø/OO	51
Ungrammatical use of RPs in definite simple RRCs/O	26.5
Ungrammatical use of RPs in definite simple RRCs/OO	27.6
Ungrammatical use of RPs+that in definite simple RRCs/SGen	24.7
Ungrammatical use of RPs +whose in definite simple RRCs/SGen	71
Ungrammatical use of RPs+that in definite simple RRCs/OGen	50
Ungrammatical use of RPs+whose in definite simple RRCs/OGen	55

Ungrammatical use of RPs+that in definite simple RRCs/OOGen	63
Ungrammatical use of RPs+whose in definite simple RRCs/OOGen	50
Grammatical use of complex RRCs/O	27.3
Ungrammatical use of RPs in complex RRCs/O	25.2
Violation of wh-island constraint /-RP /O	34
Violation of wh-island constraint /+ RP /O	33.1
Violation of CNP constraint /-RP /O	47
Violation of CNP constraint /+RP /O	50
Violation of adjunct island constraint /-RP /O	45
Violation of adjunct island constraint /+RP /O	45

Reliability results (11c)**Guided Gap Filling Task**

Tested items	Reliability result/%
Grammatical definite simple RRCs using relative pronoun/S	70
Grammatical definite simple RRCs using relative pronoun/O	58
Grammatical definite simple RRCs using relative pronoun/OP	62
Grammatical definite simple RRCs using relative pronoun/SGen	79
Grammatical definite simple RRCs using relative pronoun/OGen	76
Grammatical definite simple RRCs using relative pronoun/ OPGen	72
Grammatical definite simple RRCs using C/S	62
Grammatical definite simple RRCs using C/O	64
Grammatical definite simple RRCs using C/OP	74
Ungrammatical definite simple RRCs using Ø /S	94
Grammatical definite simple RRCs using Ø /O	83
Grammatical definite simple RRCs using Ø /OP	81
Ungrammatical definite simple RRCs using relative pronoun +C/S	96
Ungrammatical definite simple RRCs using relative pronoun + C/ O	96
Ungrammatical definite simple RRCs using relative pronoun + C/ OP	94
Grammatical indefinite simple RRCs using relative pronoun/S	73
Grammatical indefinite simple RRCs using relative pronoun/O	70
Grammatical indefinite simple RRCs using relative pronoun/OP	65
Grammatical indefinite simple RRCs using C/S	75
Grammatical indefinite simple RRCs using C/O	68
Grammatical indefinite simple RRCs using C/OO	73
Ungrammatical indefinite simple RRCs using Ø/S	90
Grammatical indefinite simple RRCs using Ø/O	80
Grammatical indefinite simple RRCs using Ø/OO	72
Ungrammatical use of RPs in definite simple RRCs/S	92
Ungrammatical use of RPs in definite simple RRCs/O	62
Ungrammatical use of RPs in definite simple RRCs/OP	70
Ungrammatical use of RPs+that in definite simple RRCs/SGen	87
Ungrammatical use of RPs +whose in definite simple RRCs/SGen	75

Ungrammatical use of RPs+that in definite simple RRCs/OGen	77
Ungrammatical use of RPs+whose in definite simple RRCs/OGen	82
Ungrammatical use of RPs+that in definite simple RRCs/OPGen	86
Ungrammatical use of RPs+whose in definite simple RRCs/OPGen	86
Grammatical use of complex RRCs/O	59.2
Ungrammatical use of RPs in complex RRCs/O	56.1
Violation of wh-island constraint /-RP/O	49.4
Violation of wh-island constraint /+RP/O	37.8
Violation of CNP constraint /-RP/ O	73.8
Violation of CNP constraint /+RP /O	34.1
Violation of adjunct island constraint /-RP/O	57
Violation of adjunct island constraint /+RP/O	62

Reliability results (11d)**Translation Task**

Tested items	Reliability result/%
Grammatical definite simple RRCs/S	86
Grammatical definite simple RRCs/O	76
Grammatical definite simple RRCs/OP	78
Grammatical definite simple RRCs/SGen	71
Grammatical definite simple RRCs/OGen	72
Grammatical definite simple RRCs/OPGen	84
Grammatical definite simple RRCs using relative pronoun/S	70
Grammatical definite simple RRCs using relative pronoun/O	70
Grammatical definite simple RRCs using relative pronoun/OP	68
Grammatical definite simple RRCs using relative pronoun/SGen	83
Grammatical definite simple RRCs using relative pronoun/OGen	86
Grammatical definite simple RRCs using relative pronoun/OPGen	73
Grammatical definite simple RRCs using C/S	75
Grammatical definite simple RRCs using C/O	73
Grammatical definite simple RRCs using C/OP	72
Grammatical definite simple RRCs using C/SGen	96
Grammatical definite simple RRCs using C/OGen	92
Grammatical definite simple RRCs using C/OPGen	84
Ungrammatical definite simple RRCs using Ø /S	99
Grammatical definite simple RRCs using Ø /O	88
Grammatical definite simple RRCs using Ø /OP	97
Ungrammatical definite simple RRCs using Ø /SGen	99
Grammatical definite simple RRCs using Ø /OGen	93
Grammatical definite simple RRCs using Ø /OPGen	96
Definite simple RRCs/ wrong linking word/S	98
Definite simple RRCs/ wrong linking word/O	97
Definite simple RRCs/ wrong linking word/OP	93
Definite simple RRCs/ wrong linking word/SGen	83
Definite simple RRCs/ wrong linking word/OGen	70

Definite simple RRCs/ wrong linking word/OPGen	69
Definite simple RRCs, sentence is not an RRC/S	96
Definite simple RRCs/ sentence is not an RRC/O	96
Definite simple RRCs/ sentence is not an RRC/OP	94
Definite simple RRCs/ sentence is not an RRC/SGen	90
Definite simple RRCs/ sentence is not an RRC/OGen	99
Definite simple RRCs/ sentence is not an RRC/OPGen	90
Definite simple RRCs/ there is a change in the structure of the RRC/S	98
Definite simple RRCs/ there is a change in the structure of the RRC/O	83
Definite simple RRCs/ there is a change in the structure of the RRC/OP	59
Definite simple RRCs/ there is a change in the structure of the RRC/SGen	91
Definite simple RRCs/ there is a change in the structure of the RRC/OGen	92
Definite simple RRCs/ there is a change in the structure of the RRC/OPGen	90
Definite simple RRCs/ sentence is not complete/S	100
Definite simple RRCs/ sentence is not complete/O	100
Definite simple RRCs/ sentence is not complete/OP	98
Definite simple RRCs/ sentence is not complete/SGen	98
Definite simple RRCs/ sentence is not complete/OGen	100
Definite simple RRCs/ sentence is not complete/OPGen	96
Definite simple RRC using indefinite head/S	94
Definite simple RRC using indefinite head/O	93
Definite simple RRC using indefinite head/OP	96
Definite simple RRC using indefinite head/SGen	97
Definite simple RRC using indefinite head/OGen	96
Definite simple RRC using indefinite head/OPGen	98
Grammatical indefinite simple RRCs/S	64
Grammatical indefinite simple RRCs/O	66
Grammatical indefinite simple RRCs/OP	56
Grammatical indefinite RRC with a relative pronoun/S	49
Grammatical indefinite RRC with a relative pronoun/O	49
Grammatical indefinite RRC with a relative pronoun/OP	53
Grammatical indefinite RRC with C/S	60
Grammatical indefinite RRC with C/O	78

Grammatical indefinite RRC with C/OP	77
Ungrammatical indefinite RRC with Ø/S	98
Grammatical indefinite RRC with Ø/O	70
Grammatical indefinite RRC with Ø/OP	71
Indefinite simple RRCs/ wrong linking word/S	93
Indefinite simple RRCs/ wrong linking word/O	95
Indefinite simple RRCs/wrong linking word/OP	96
Indefinite simple RRCs/ sentence is not an RRC/S	86
Indefinite simple RRCs/ sentence is not an RRC/O	95
Indefinite simple RRCs/ sentence is not an RRC/OP	49
Indefinite simple RRCs/ there is a change in the structure of the RRC/S	100
Indefinite simple RRCs/ there is a change in the structure of the RRC/O	78
Indefinite simple RRCs/ there is a change in the structure of the RRC/OP	96
Indefinite simple RRCs/ sentence is not complete/S	100
Indefinite simple RRCs/ sentence is not complete/O	100
Indefinite simple RRCs/ sentence is not complete/OP	100
Indefinite simple RRCs with indefinite head/S	71
Indefinite simple RRCs with indefinite head/O	74
Indefinite simple RRCs with indefinite head/OP	56
Ungrammatical use of RPs in definite simple RRCs/S	92
Ungrammatical use of RPs in definite simple RRCs/O	80
Ungrammatical use of RPs in definite simple RRCs/OP	78
Ungrammatical use of RPs in definite simple RRCs/SGen	83
Ungrammatical use of RPs in definite simple RRCs/OGen	70
Ungrammatical use of RPs in definite simple RRCs/OPGen	72
Grammatical definite complex clauses in RRCs/O	76
Ungrammatical use of RPs in definite complex RRCs/O	78
Definite complex RRCs/ wrong linking word/O	98
Definite complex RRCs/ sentence is not an RRC/O	99
Definite complex RRCs/ there is a change in the structure of the RRC/O	93
Definite complex RRCs/ sentence is not complete/O	90
Definite complex RRCs using relative pronoun/O	70
Definite complex RRCs using C/O	73

Definite complex RRCs using Ø /S	92
Definite complex RRC using indefinite head/O	98
Violation of the wh-island constraint/O	72
Violation of the wh-island constraint/+RP/O	71
Violation of the wh-island constraint/ wrong linking word/O	100
Violation of the wh-island constraint/ sentence is not an RRC/O	95
Violation of the wh-island constraint/ there is a change in the structure of the RRC/O	28
Violation of the wh-island constraint/sentence is not complete/O	97
Violation of the wh-island constraint using relative pronoun/O	67
Violation of the wh-island constraint using C/O	71
Violation of the wh-island constraint using Ø /S	97
Violation of the wh-island constraint using indefinite head/O	89
Violation of the Adjunct island constraint/O	79
Violation of the Adjunct island constraint/+ RP/O	59
Violation of the Adjunct island constraint/ wrong linking word/O	96
Violation of the Adjunct island constraint/sentence is not an RRC/O	82
Violation of the Adjunct island constraint/there is a change in the structure of the RRC/O	71
Violation of the Adjunct island constraint/ sentence is not complete/O	95
Violation of the Adjunct island constraint using relative pronoun/O	58
Violation of the Adjunct island constraint using C/O	77
Violation of the Adjunct island constraint using Ø /S	98
Violation of the Adjunct island constraint using indefinite head/O	93

Appendix 12

Results of Guided Gap Filling Task

SRRCs

Table1. Mean choice/1 of RRC linking forms: SRRCs with a definite head N

Linker	wh-		that		Ø	
	M	sd	M	sd	M	sd
Elementary (n=37)	.68	.31	.27	.32	.05	.15
Lower Interm (n=56)	.68	.37	.33	.37	.01	.09
Upper Interm (n=28)	.89	.24	.30	.36	.01	.09
Advanced (n=25)	.94	.16	.70	.35	.06	.21
Native speakers (n=16)	.87	.22	.65	.39	.00	.00

Table 2. Summary of ANOVA output – SRRCs with a definite head N

	df	F	Sig
proficiency	4	16.847	<.001
relativizer type	2	226.085	<.001
interaction	8	3.812	<.001

Table 3. No. of participants accepting the linking words in definite SRRCs

Linker	wh-	that	Ø
Participants			
Elementary (n=37)	17	3	0
Lower Interm (n=58)	30	9	0
Upper Interm (n=28)	23	4	0
Advanced (n=25)	22	13	1
Native speakers (n=16)	12	8	0

ORRCs

Table 4. Mean choice/1 of RRC linking forms: ORRC with a definite head N

Linker	wh-		that		Ø	
Participants	M	sd	M	sd	M	sd
Elementary (n=36)	.54	.38	.16	.26	.02	.11
Lower Interm (n=58)	.51	.39	.25	.32	.09	.25
Upper Interm (n=28)	.55	.36	.48	.34	.19	.31
Advanced (n=25)	.70	.28	.68	.40	.52	.42
Native speakers (n=16)	.90	.27	.68	.40	.43	.44

Table 5. Summary of ANOVA output – ORRC with a definite head N

	df	F	Sig
proficiency	4	24.951	<.001
relativizer type	2	48.458	<.001
interaction	8	1.906	.058

Table 6. No. of participants accepting the linking words in definite ORRCs

Linker	wh-	that	Ø
Participants			
Elementary (n=37)	12	1	0
Lower Interm (n=58)	19	5	3
Upper Interm (n=28)	9	6	2
Advanced (n=25)	11	14	9
Native speakers (n=16)	14	9	5

OPRRCs

Table 7. Mean choice/1 of RRC linking forms: OPRRC with a definite head N

Linker	wh-		that		Ø	
	M	sd	M	sd	M	sd
Elementary (n=36)	.19	.24	.11	.21	.02	.11
Lower Interm (n=58)	.40	.40	.16	.30	.05	.20
Upper Interm (n=28)	.64	.32	.28	.37	.05	.15
Advanced (n=25)	.82	.28	.54	.40	.46	.32
Native speakers (n=16)	.81	.30	.81	.30	.31	.35

Table 8. Summary of ANOVA output – OPRRCs with a definite head N

	df	F	Sig
proficiency	4	36.931	<.001
relativizer type	2	76.043	<.001
interaction	8	4.605	<.001

Table 9. No. of participants accepting the linking words in definite OPRRCs

Linker	wh-	that	Ø
Participants			
Elementary (n=37)	0	0	0
Lower Interm (n=58)	14	4	2
Upper Interm (n=28)	11	4	0
Advanced (n=25)	17	9	4
Native speakers (n=16)	11	11	2

Gen RRCs

Table 10. Mean choice/1 of Gen RRCs: SGen, OGen, OPGen RRCs

Gen	SGen		OGen		OPGen	
	M	sd	M	sd	M	sd
Elementary (n=36)	.29	.34	.06	.17	.09	.20
Lower Interm (n=57)	.51	.43	.14	.26	.22	.34
Upper Interm (n=28)	.80	.36	.28	.34	.50	.38
Advanced (n=25)	.92	.27	.74	.35	.68	.37
Native speakers (n=16)	1.00	.00	.96	.12	.96	.12

Table 11. Summary of ANOVA output – Gen RRCs

	df	F	Sig
proficiency	4	64.149	<.001
relativized Gen position	2	32.679	<.001
interaction	8	2.811	<.005

Table 12. No. of participants accepting GEN RRCs

Linker	SGEN	OGEN	OPGEN
Participants			
Elementary (n=37)	4	0	0
Lower Interm (n=58)	22	2	6
Upper Interm (n=28)	21	3	8
Advanced (n=25)	23	15	13
Native speakers (n=16)	16	15	15

Indefinite relative clauses with *wh*-word, *that*, zero form results

SRRCs

Table 13. Mean choice/1 of RRC linking forms: SRRCs with an indefinite head N

Linker	wh-		that		Ø	
Participants	M	sd	M	sd	M	sd
Elementary (n=36)	.76	.30	.15	.28	.08	.22
Lower Interm (n=58)	.75	.34	.14	.28	.06	.19
Upper Interm (n=28)	.87	.22	.26	.31	.07	.17
Advanced (n=25)	.94	.21	.62	.43	.06	.21
Native speakers (n=16)	.90	.20	.62	.42	.00	.00

Table 14. Summary of ANOVA output – SRRCs

	df	F	Sig
proficiency	4	15.720	<.001
relativizer type	2	248.178	<.001
interaction	8	5.545	<.001

Table 15. No. of participants accepting the linking words in indefinite SRRCs

Linker	wh-	that	Ø
Participants			
Elementary (n=37)	21	2	1
Lower Interm (n=58)	36	3	1
Upper Interm (n=28)	21	2	1
Advanced (n=25)	23	15	1
Native speakers (n=16)	13	8	0

ORRCs

Table 16. Mean choice/1 of RRC linking forms: ORRCs with an indefinite head N

Linker	wh-		that		Ø	
	M	sd	M	sd	M	sd
Elementary (n=35)	.20	.34	.24	.30	.11	.27
Lower Interm (n=57)	.36	.39	.24	.35	.05	.18
Upper Interm (n=28)	.53	.40	.33	.38	.12	.22
Advanced (n=25)	.72	.32	.62	.38	.52	.39
Native speakers (n=16)	.84	.35	.71	.40	.53	.42

Table 17. Summary of ANOVA output – ORRCs

	df	F	Sig
proficiency	4	31.934	<.001
relativizer type	2	22.498	<.001
interaction	8	1.271	.258

Table 18. No. of participants accepting the linking words in definite ORRCs

Linker	wh-	that	Ø
Participants			
Elementary (n=37)	4	2	2
Lower Interm (n=58)	12	7	1
Upper Interm (n=28)	10	6	3
Advanced (n=25)	13	10	6
Native speakers (n=16)	13	10	6

OPRRCs

Table 19. Mean choice/1 of RRC linking forms: OPRRCs with an indefinite head N

Linker	wh-		that		Ø	
Participants	M	sd	M	sd	M	sd
Elementary (n=37)	.18	.34	.10	.23	.06	.17
Lower Interm (n=58)	.19	.29	.18	.30	.15	.32
Upper Interm (n=27)	.40	.39	.29	.37	.25	.32
Advanced (n=25)	.66	.34	.54	.45	.48	.36
Native speakers (n=16)	.68	.30	.62	.34	.40	.32

Table 20. Summary of ANOVA output – OPRRCs

	df	F	Sig
proficiency	4	25.019	<.001
relativizer type	2	9.639	<.001
interaction	8	.807	.596

Table 21. No. of participants accepting the linking words in definite OPRRCs

Linker	wh-	that	Ø
Participants			
Elementary (n=37)	4	1	0
Lower Interm (n=58)	3	4	6
Upper Interm (n=28)	6	4	2
Advanced (n=25)	11	11	6
Native speakers (n=16)	7	6	2

RP in relativized S, O, OP positions

Table 22. Mean choice/1 of simple RRC with a RP: SRRCs, ORRCs, OPRRCs

RP	S		O		OP	
Participants	M	sd	M	sd	M	sd
Elementary (n=35)	.04	.14	.35	.25	.62	.28
Lower Interim (n=56)	.07	.17	.34	.34	.61	.42
Upper Interim (n=28)	.01	.09	.12	.22	.41	.40
Advanced (n=25)	.00	.00	.04	.13	.02	.10
Native speakers (n=16)	.00	.00	.00	.00	.00	.00

Table 23. Summary of ANOVA output – a RP: SRRCs, ORRCs, OPRRCs

	df	F	Sig
proficiency	4	25.783	<.001
relativized position	2	61.807	<.001
interaction	8	10.634	<.001

Table 24. No. of participants rejecting RP in simple S, O, OP RRCs

RP	S	O	OP
Participants			
Elementary (n=36)	34	12	2
Lower Interim (n=58)	48	25	16
Upper Interim (n=28)	27	21	12
Advanced (n=25)	25	21	24
Native speakers (n=16)	16	16	16

RP in SGen, OGen, OPGen RRCs

Table 25. Mean choice/1 of simple Gen RRCs with a RP: SGen, OGen, OPGen RRCs

Gen	SGen		OGen		OPGen	
Participants	M	sd	M	sd	M	sd
Elementary (n=36)	.13	.28	.11	.27	.13	.30
Lower Interm (n=57)	.09	.22	.16	.28	.14	.27
Upper Interm (n=28)	.16	.27	.33	.36	.28	.41
Advanced (n=25)	.18	.35	.36	.42	.34	.45
Native speakers (n=16)	.00	.00	.00	.00	.00	.00

Table 26. Summary of ANOVA output – a RP: Gen RRCs

	df	F	Sig
proficiency	4	6.980	<.001
relativized Gen type	2	3.492	.032
interaction	8	1.015	.425

Table 27. No. of participants rejecting RP in simple S, O, OP GEN RRCs

RP	S	O	OP
Participants			
Elementary (n=36)	29	30	29
Lower Interm (n=58)	49	41	44
Upper Interm (n=28)	20	14	18
Advanced (n=25)	19	12	15
Native speakers (n=16)	16	16	16

CO ORRCs

Table 28. Mean choice/1 of CO RRCs: with a RP vs. no RP

CO	-RP		+RP	
	M	sd	M	sd
Participants				
Elementary (n=35)	.17	.25	.54	.38
Lower Interm (n=57)	.29	.34	.50	.34
Upper Interm (n=27)	.39	.33	.35	.34
Advanced (n=25)	.77	.30	.06	.16
Native speakers (n=16)	.89	.26	.02	.08

Table 29. Summary of ANOVA output – a RP in CO RRCs

	df	F	Sig
proficiency	4	1.047	.385
presence of RP	1	22.177	<.001
interaction	4	29.577	<.001

Table 30. No. of participants rejecting RP in CO RRCs

RP	O
Participants	
Elementary (n=36)	7
Lower Interm (n=58)	12
Upper Interm (n=28)	9
Advanced (n=25)	21
Native speakers (n=16)	15

Wh-island Constraint

Table 31. Mean choice/1 of wh-island constraint violation: with RP vs. no RP

Wh-island	+RP		-RP	
Participants	M	sd	M	sd
Elementary (n=37)	.25	.25	.19	.24
Lower Interm (n=58)	.17	.19	.35	.32
Upper Interm (n=28)	.16	.14	.42	.38
Advanced (n=25)	.04	.09	.57	.32
Native speakers (n=16)	.01	.06	.17	.19

Table 32. Summary of ANOVA output: wh-island constraint violation: with RP vs. no RP

	df	F	Sig
proficiency	4	6.340	<.001
presence of RP	1	36.880	<.001
interaction	4	8.033	<.001

Table 33. No. of participants rejecting *wh*-island constraint violation: with RP vs. no RP

RP	+RP	-RP
Participants		
Elementary (n=36)	14	19
Lower Interm (n=58)	25	9
Upper Interm (n=28)	11	9
Advanced (n=25)	21	3
Native speakers (n=16)	15	8

CNP constraint

Table 34. Mean choice/1 of CNP constraint violation: with RP vs. no RP

CNP island	+RP		-RP	
	M	sd	M	sd
Participants				
Elementary (n=37)	.23	.26	.26	.26
Lower Interm (n=58)	.12	.19	.41	.31
Upper Interm (n=28)	.04	.09	.44	.29
Advanced (n=25)	.00	.00	.59	.32
Native speakers (n=16)	.00	.00	.17	.23

Table 35. Summary of ANOVA output: CNP constraint violation: with RP vs. no RP

	df	F	Sig
proficiency	4	4.843	.001
presence of RP	1	91.336	<.001
interaction	4	9.960	<.001

Table 36. No. of participants rejecting CNP constraint violation: with RP vs. no RP

RP	+RP	-RP
Participants		
Elementary (n=36)	16	15
Lower Interm (n=58)	39	11
Upper Interm (n=28)	23	5
Advanced (n=25)	25	3
Native speakers (n=16)	16	9

Adjunct-island Constraint

Table 37. Mean choice/1 of Adjunct island constraint violation: with RP vs. no RP

Adjunct island	+RP		-RP	
Participants	M	sd	M	sd
Elementary (n=37)	.63	.36	.11	.25
Lower Interm (n=58)	.58	.34	.22	.30
Upper Interm (n=28)	.51	.39	.25	.28
Advanced (n=25)	.16	.29	.42	.32
Native speakers (n=16)	.00	.00	.04	.11

Table 38. Summary of ANOVA output: Adjunct island constraint violation: with RP vs. no RP

	df	F	Sig
Proficiency	4	16.215	<.001
presence of RP	1	14.698	<.001
Interaction	4	11.057	<.001

Table 39. No. of participants rejecting Adjunct constraint violation: with RP vs. no RP

RP	+RP	-RP
Participants		
Elementary (n=36)	6	29
Lower Interm (n=58)	8	34
Upper Interm (n=28)	8	13
Advanced (n=25)	17	5
Native speakers (n=16)	16	14

Appendix 13

Results of Translation Task

S, O, OP RRCs

Table 1. Mean translation accuracy/1 of S, O, OP RRCs with a definite head N

RRC type	S		O		OP	
	M	sd	M	sd	M	sd
Elementary (n=37)	.85	.28	.48	.41	.24	.34
Lower Interm (n=57)	.89	.22	.57	.39	.40	.42
Upper Interm (n=28)	.96	.13	.94	.15	.73	.39
Advanced (n=25)	.98	.10	1.00	.00	.94	.16

Table 2. Summary of ANOVA output – S, O, OP RRCs

	df	F	Sig
proficiency	3	32.922	<.001
relativized position	2	47.535	<.001
interaction	6	7.108	<.001

Table 3. Definite simple RRC- wrong linking words/1

Wrong linker	S		O		OP	
	M	sd	M	sd	M	sd
Elementary (n=37)	.01	.08	.00	.00	.02	.11
Lower Interm (n=57)	.01	.09	.03	.12	.05	.15
Upper Interm (n=28)	.00	.00	.00	.00	.01	.09
Advanced (n=25)	.00	.00	.00	.00	.00	.00

Table 4. Definite simple RRC-sentence is not an RRC/1

Not complete	S		O		OP	
Participants	M	sd	M	sd	M	sd
Elementary (n=37)	.02	.16	.01	.08	.02	.11
Lower Interm (n=57)	.03	.12	.04	.17	.02	.11
Upper Interm (n=28)	.00	.00	.01	.09	.01	.09
Advanced (n=25)	.02	.10	.00	.00	.04	.13

Table 5. Definite simple RRC- a change in the structure of the RRC/1

Change in structure	S		O		OP	
Participants	M	sd	M	sd	M	sd
Elementary (n=37)	.00	.00	.10	.23	.21	.30
Lower Interm (n=57)	.02	.11	.09	.23	.21	.29
Upper Interm (n=28)	.00	.00	.10	.20	.33	.27
Advanced (n=25)	.00	.00	.12	.21	.24	.25

Table 6. Definite simple RC- use of indefinite head/1

Indefinite head	S		O		OP	
Participants	M	sd	M	sd	M	sd
Elementary (n=37)	.08	.18	.08	.22	.01	.08
Lower Interm (n=58)	.01	.09	.02	.11	.01	.09
Upper Interm (n=28)	.00	.00	.03	.13	.01	.09
Advanced (n=25)	.00	.00	.02	.10	.02	.10

Different relativizers in SRRCs

Table 7. Mean use/1 of linking forms in definite SRRCs

Linker	wh-		that		Ø	
	M	sd	M	sd	M	sd
Elementary (n=37)	.82	.29	.12	.21	.00	.00
Lower Interm (n=58)	.81	.24	.13	.22	.00	.06
Upper Interm (n=28)	.85	.26	.14	.26	.00	.00
Advanced (n=25)	.86	.22	.12	.21	.00	.00

Table 8. Summary of ANOVA output – definite SRRC

	df	F	Sig
proficiency	3	.835	.477
relativizer type	2	470.566	<.001
interaction	6	.183	.981

Table 9. No. of participants accepting the linking words in definite SRRCs

Linker	wh-	that	Ø
Participants			
Elementary (n=37)	26	0	0
Lower Interm (n=58)	36	0	0
Upper Interm (n=28)	21	1	0
Advanced (n=25)	18	0	0

Different relativizers in ORRCs

Table 10. Mean use/1 of linking forms in definite ORRCs

Linker	wh-		that		Ø	
	M	sd	M	sd	M	sd
Elementary (n=37)	.74	.36	.18	.31	.02	.11
Lower Interm (n=58)	.62	.38	.25	.32	.06	.18
Upper Interm (n=28)	.62	.39	.25	.34	.10	.24
Advanced (n=25)	.54	.45	.14	.27	.32	.40

Table 11. Summary of ANOVA output – definite ORRCs

	df	F	Sig
proficiency	3	.926	.430
relativizer type	2	64.675	<.001
interaction	6	2.617	.017

Table 12. No. of participants accepting the linking words in definite ORRCs

Linker	wh-	that	Ø
Participants			
Elementary (n=37)	23	3	0
Lower Interm (n=58)	26	5	1
Upper Interm (n=28)	13	4	1
Advanced (n=25)	11	0	5

Different relativizers in in OPRRCs

Table 13. Mean use/1 of linking forms in definite OPRRCs

Linker	wh-		that		Ø	
Participants	M	sd	M	sd	M	sd
Elementary (n=37)	.66	.33	.22	.25	.02	.11
Lower Interm (n=58)	.77	.28	.18	.27	.00	.00
Upper Interm (n=28)	.85	.26	.12	.25	.00	.00
Advanced (n=25)	.88	.29	.04	.13	.04	.13

Table 14. Summary of ANOVA output – definite OPRRCs

	df	F	Sig
proficiency	3	1.072	.363
relativizer type	2	310.083	<.001
interaction	6	3.512	.002

Table 15. No. of participants accepting the linking words in definite OPRRCs

Linker	wh-	that	Ø
Participants			
Elementary (n=37)	16	0	0
Lower Interm (n=58)	34	1	0
Upper Interm (n=28)	21	0	0
Advanced (n=25)	21	0	0

Different relativizers in Gen RRCs

Table 16. Mean use/1 of wh-relativizer in definite SGen, OGen, and OPGen

Linker (wh-)	SGen		OGen		OPGen	
Participants	M	sd	M	sd	M	sd
Elementary (n=37)	.90	.23	.90	.23	.85	.28
Lower Interm (n=58)	.86	.24	.84	.29	.77	.29
Upper Interm (n=28)	.91	.27	.92	.17	.82	.31
Advanced (n=25)	.86	.27	.90	.28	.78	.32

Table 17. No. of participants accepting GEN RRCs

Linker	SGEN	OGEN	OPGEN
Participants			
Elementary (n=37)	31	31	28
Lower Interm (n=58)	43	44	35
Upper Interm (n=28)	25	25	20
Advanced (n=25)	19	22	16

Indefinite RRCs

S, O and OP RRCs

Different relativizers in SRRCs

Table 18. Mean use/1 of linking forms in indefinite SRRCs

Linker	Wh-		that		Ø	
Participants	M	sd	M	sd	M	sd
Elementary (n=37)	.59	.30	.14	.23	.00	.00
Lower Interm (n=58)	.53	.34	.22	.25	.00	.06
Upper Interm (n=28)	.53	.35	.17	.24	.00	.00
Advanced (n=25)	.50	.38	.32	.31	.02	.10

Table 19. Summary of ANOVA output – SRRCs

	df	F	Sig
proficiency	3	.850	.469
relativizer type	2	120.642	<.001
interaction	6	1.169	.323

Table 20. No. of participants accepting the linking words in indefinite SRRCs

Linker	wh-	that	Ø
Participants			
Elementary (n=37)	11	0	0
Lower Interm (n=58)	16	0	0
Upper Interm (n=28)	8	0	0
Advanced (n=25)	7	2	0

Different relativizers in ORRCs

Table 21. Mean use/1 of linking forms in indefinite ORRCs

Linker	Wh-		that		Ø	
Participants	M	sd	M	sd	M	sd
Elementary (n=37)	.60	.41	.13	.25	.20	.29
Lower Interm (n=58)	.59	.33	.15	.25	.20	.28
Upper Interm (n=28)	.66	.27	.17	.24	.12	.25
Advanced (n=25)	.62	.33	.08	.18	.28	.32

Table 22. Summary of ANOVA output – ORRCs

	df	F	Sig
proficiency	3	.272	.846
relativizer type	2	72.619	<.001
interaction	6	.717	.636

Table 23. No. of participants accepting the linking words in definite ORRCs

Linker	wh-	that	Ø
Participants			
Elementary (n=37)	17	1	2
Lower Interm (n=58)	19	1	2
Upper Interm (n=28)	10	0	1
Advanced (n=25)	8	0	2

Different relativizers in OPRRCs

Table 24. Mean use/1 of linking forms in indefinite OPRRCs

Linker	wh-		that		Ø	
Participants	M	sd	M	sd	M	sd
Elementary (n=37)	.47	.35	.08	.18	.10	.20
Lower Interm (n=58)	.39	.34	.14	.26	.11	.23
Upper Interm (n=28)	.50	.38	.17	.24	.08	.19
Advanced (n=25)	.46	.37	.10	.20	.32	.31

Table 25. Summary of ANOVA output – indefinite OPRRCs

	df	F	Sig
proficiency	3	5.128	.002
relativizer type	2	40.854	<.001
interaction	6	1.614	.143

Table 26. No. of participants accepting the linking words in definite OPRRCs

Linker	wh-	that	Ø
Participants			
Elementary (n=37)	8	0	0
Lower Interm (n=58)	9	2	1
Upper Interm (n=28)	8	0	0
Advanced (n=25)	6	0	2

RPs in relativized S, O, OP positions

Table 27. Mean use/1 of RPs in simple RRCs: relativized S, O, OP positions

RP	S		O		OP	
	M	sd	M	sd	M	sd
Elementary (n=37)	.10	.23	.50	.40	.62	.39
Lower Interm (n=57)	.05	.18	.35	.40	.53	.43
Upper Interm (n=28)	.03	.13	.03	.13	.25	.39
Advanced (n=25)	.00	.00	.00	.00	.02	.10

Table 28. Summary of ANOVA output – RPs in relativized S, O, OP positions

	df	F	Sig
proficiency	3	24.633	<.001
Presence of RP	2	41.130	<.001
interaction	6	7.145	<.001

Table 29. No. of participants rejecting RP in simple S, O, OP RRCs

RP	S	O	OP
Participants			
Elementary (n=36)	30	12	8
Lower Interm (n=58)	53	29	19
Upper Interm (n=28)	26	23	19
Advanced (n=25)	25	25	24

RPs in relativized SGen, OGen, OPGen positions

Table 30. Mean use/1 of RPs in simple RRCs: relativized SGen, OGen, OPGen positions

Gen type	SGen		OGen		OPGen	
	M	sd	M	sd	M	sd
Elementary (n=37)	.45	.43	.94	.15	.81	.27
Lower Interm (n=58)	.29	.40	.90	.23	.81	.30
Upper Interm (n=28)	.10	.28	.82	.24	.80	.28
Advanced (n=25)	.08	.23	.56	.16	.54	.43

Table 31. Summary of ANOVA output – RPs in relativized Gen RRCs

	df	F	Sig
proficiency	3	15.927	<.001
Presence of RP	2	165.702	<.001
interaction	6	2.400	.028

Table 32. No. of participants rejecting RP in simple S, O, OP GEN RRCs

RP	S	O	OP
Participants			
Elementary (n=36)	15	0	1
Lower Interm (n=58)	36	2	4
Upper Interm (n=28)	24	0	1
Advanced (n=25)	22	0	8

CO ORRCs

Table 33. Mean translation accuracy/1 of CO RRCs: with a RP vs. no RP

CO	-RP		+RP	
	M	sd	M	sd
Participants				
Elementary (n=37)	.27	.31	.65	.33
Lower Interm (n=58)	.50	.36	.42	.36
Upper Interm (n=28)	.79	.24	.13	.20
Advanced (n=25)	.96	.11	.01	.06

Table 34. Summary of ANOVA output – RPs in CO RRCs

	df	F	Sig
proficiency	3	.672	.570
presence of resumptive	1	41.212	<.001
interaction	3	32.001	<.001

Table 35. No. of participants rejecting RP in CO RRCs

RP	O
Participants	
Elementary (n=36)	4
Lower Interm (n=58)	18
Upper Interm (n=28)	19
Advanced (n=25)	24

Wh-island constraint

Table 36. Mean translation inaccuracy/1 of wh-island constraint violation: with RP vs. no RP

Wh-island	+RP		violation	
	M	sd	M	sd
Participants				
Elementary (n=36)	.58	.50	.88	.31
Lower Interm (n=58)	.41	.49	.84	.36
Upper Interm (n=28)	.25	.44	.96	.18
Advanced (n=25)	.12	.33	.92	.27

Table 37. Summary of ANOVA output: *wh*-island constraint violation: with RP vs. no RP

	df	F	Sig
proficiency	3	2.467	.065
presence of resumptive	1	178.717	<.001
interaction	3	7.283	<.001

Table 38. No. of participants rejecting *wh*-island constraint violation: with RP vs. no RP

RP	+RP	-RP
Participants		
Elementary (n=36)	15	5
Lower Interm (n=58)	34	9
Upper Interm (n=28)	21	1
Advanced (n=25)	22	2

CNP constraint

Table 39. Mean translation inaccuracy/1 of CNP violation: with RP vs. no RP

CNP island	+RP		violation	
Participants	M	sd	M	sd
Elementary (n=37)	.82	.29	.45	.13
Lower Interm (n=58)	.69	.38	.40	.21
Upper Interm (n=28)	.48	.39	.42	.22
Advanced (n=25)	.32	.37	.38	.21

Table 40. Summary of ANOVA output: CNP constraint violation: with RP vs. no RP

	df	F	Sig
proficiency	3	8.771	<.001
presence of resumptive	1	27.287	<.001
interaction	3	9.752	<.001

Table 41. Violation of CNP- sentence is not an RRC/1, a change in the structure of the RRC/1, RRC is not complete/1

changes	Not RC		Change in structure		Not complete	
Participants	M	sd	M	sd	M	sd
Elementary (n=37)	.00	.00	.47	.20	.06	.20
Lower Interm (n=58)	.05	.15	.56	.25	.00	.00
Upper Interm (n=28)	.01	.09	.62	.25	.00	.00
Advanced (n=25)	.00	.00	.62	.29	.00	.00

Table 42. No. of participants rejecting CNP constraint violation: with RP vs. no RP

RP	+RP	-RP
Participants		
Elementary (n=36)	15	5
Lower Interm (n=58)	34	9
Upper Interm (n=28)	21	3
Advanced (n=25)	22	0

Adjunct island constraint

Table 43. Mean translation inaccuracy/1 of Adjunct island violation: with RP vs. no RP

Adjunct island	+RP		violation	
Participants	M	sd	M	sd
Elementary (n=36)	.68	.36	.81	.29
Lower Interm (n=58)	.68	.37	.68	.30
Upper Interm (n=28)	.66	.36	.69	.31
Advanced (n=25)	.46	.32	.60	.28

Table 44. Summary of ANOVA output: Adjunct island constraint violation: with RP vs. no RP

	df	F	Sig
proficiency	3	2.624	.053
presence of resumptive	1	11.688	.001
interaction	3	2.881	.038

Table 45. Violation of Adjunct island constraint- sentence is not an RRC/1, a change in the structure of the RRC/1, RRC is not complete/1

changes	Not RC		Change in structure		Not complete	
Participants	M	sd	M	sd	M	sd
Elementary (n=36)	.11	.24	.06	.17	.04	.14
Lower Interm (n=58)	.12	.23	.15	.25	.05	.20
Upper Interm (n=28)	.12	.25	.14	.26	.01	.09
Advanced (n=25)	.04	.13	.36	.30	.00	.00

Table 46. No. of participants rejecting Adjunct constraint violation: with RP vs. no RP

RP	+RP	-RP
Participants		
Elementary (n=36)	2	3
Lower Interm (n=58)	10	12
Upper Interm (n=28)	9	5
Advanced (n=25)	13	6