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Agreement in relative clauses and the theory of phrase structure : a study of Standard Arabic

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"... and if you count the Blessings of Allah, never you will be able to count them".
(From the Holy Qur'an, Surah: 14, Ibrahim, Verse: 34.)



Agreement in Relative Clauses and The Theory of Phrase Structure

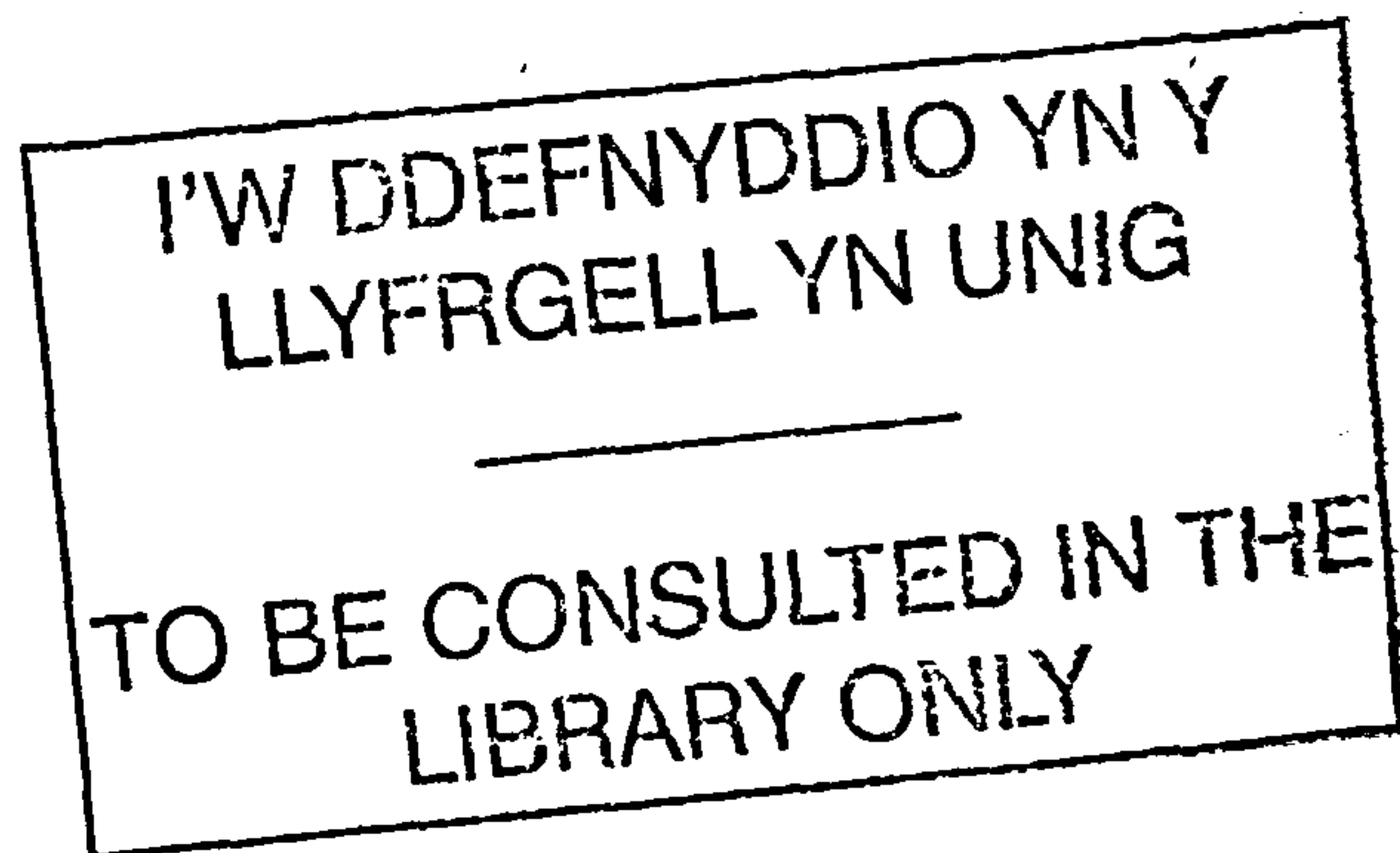
A Study of Standard Arabic

By

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of Philosophy in Theoretical Linguistics

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Summary

This dissertation is primarily concerned with the structure of relative clauses in Standard Arabic (SA) within the framework of phrase structure proposed in Kayne (1994). According to Kayne, relative clauses are assigned the structure [D CP] where D is base-generated externally and takes CP as complement.

This study emphasises that D in SA originates within the relative clause and moves with its NP complement to SpecCP. The moved DP enters into Spec-head agreement with the complementizer since both the head and Spec carry the same [Φ]-features, in addition to [+def] and, sometimes, [+Case]. The subject trace in main clauses, which I assume to be a null resumptive pronoun, is properly governed by the complementizer which agrees both with the antecedent and the verb. Object extraction, in some cases, requires an overt resumptive pronoun. In such cases, we adopt the analysis that treats resumptive pronouns as spell-out traces. We have proposed that in cases where a resumptive pronoun appears, the “head” moves to SpecCP but its [Φ]-features remain in the extraction site. When a gap appears, the “head” and its features move together to SpecCP.

Subject relativization from ?*an*-embedded clauses is different from subject relativization from ?*anna*-embedded clauses. The former takes place from the postverbal position to avoid the Empty Category Principle (ECP). We adopt the Split-CP hypothesis (Rizzi 1997) and assume that subject extraction in ?*anna*-embedded clauses takes place from SpecTop. The extraction site is obligatorily filled with a resumptive pronoun. The object, too, can be extracted from SpecTop or from its base-position. In both cases, an obligatory resumptive pronoun occupies the extraction site. We have shown that the intermediate CP is not a proper landing site for the extracted subject or object. The reason is that the head of the intermediate CP does not bear the features of the antecedent and therefore movement to the Spec of the intermediate CP is not legitimate.

We have proposed that free relatives also involve movement to SpecCP. This proposal is based on the fact that *lladhii* can be overt only if DP occupies its Spec position. We therefore have proposed that features of a null DP must occupy the Spec position in this type of relatives. Thus Spec-head agreement in these relatives is also realised.

Reduced (participial) relatives are analysed as full relatives and therefore are assigned the same structure apart from the fact that they contain a functional head which I call partA⁰ (Participle Affix). We have proposed that the morpheme preceding the participle is a reduced form of the complementizer *lladhii*. This assumption is supported by the fact that it can only be preceded by a DP whether overt or null. Here again we have Spec-head agreement as in full relative clauses.

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The list of abbreviations used in this thesis

Acc	=	Accusative	MH	=	Modern Hebrew
Agr	=	Agreement	N	=	Noun
AgrP	=	Agreement Projection	Neg	=	Negation/Neg. marker
AgrO	=	Object Agreement	Nom	=	Nominative/Nominal
AgrS	=	Subject Agreement	NOM	=	Nominal
arb.	=	arbitrary	NP	=	Noun Phrase
AP	=	Adjective Phrase	NPAH	=	NP Access. Hypothesis
Aux	=	Auxiliary	Num	=	Number
C ⁰	=	Complementizer	Nump	=	Number Projection
CFC	=	Complete Functional Complex	O	=	Object
CL	=	Clitic	Op	=	Operator
CNPC	=	Complex Noun Phrase Constraint	P	=	Preposition/plural
Comp	=	Complementizer	PASS	=	Passive
CS	=	Construct State	Part.	=	particle
CP	=	Complementizer Phrase	PartAP	=	Participle Affix Projection
D	=	Determiner	p.c.	=	Personal communication
Dat	=	Dative	PERS	=	Person
def.	=	Definite	PF	=	Phonetic Form
D _{REL}	=	Relative Determiner	PL/pl	=	Plural
Da	=	adjectival Determiner	Poss.	=	Possessive
DFCF	=	Doubly Filled Comp Filter	PRED	=	Predicate/predicative
DHRs	=	Definite Headed Relatives	PRES	=	Present Tense
Dn	=	nominal Determiner	PROG	=	Progressive
DP	=	Determiner Phrase	PP	=	Prepositional Phrase
DRs	=	Definite Relatives	Q	=	Quantifier
ECM	=	Exceptional Case Marking	QP	=	Quantifier Phrase
ECP	=	Empty Category Principle	QR	=	Quantifier Raising
EmphP	=	Emphatic Projection	RCs	=	Relative Clauses
f.	=	feminine	RELF	=	Reflexive
ForceP	=	Force Projection	RM	=	Relative Marker
FP	=	Functional Projection	RRCs	=	Restrictive Relative Clauses
FRs	=	Free Relatives	S	=	Sentence/ Subject
Gen	=	Genitive	SA	=	Standard Arabic
HMC	=	Head Movement Constraint	Sg.	=	Singular
I	=	Inflection	Spec	=	Specifier
IRs	=	Indefinite Relatives	S-s	=	Surface structure
Ind.	=	Indicative Mood	Subj.	=	Subjunctive
Infl	=	Inflection	SVO	=	Subject Verb Object
IP	=	Inflection Phrase	TENS	=	Tense
LCA	=	Linear Correspondence Axiom	TNS	=	Tense
LF	=	Logical Form	TNSP	=	Tense Projection
m.	=	masculine	TOPP	=	Topic Projection

TP = Tense Projection
UG = Universal Grammar
V = Verb
VOS = Verb Object Subject
VP = Verbal Phrase
VSO = Verb Subject Object

Phonetic symbols used in this thesis

The phonetic transcription symbols used in this thesis are those of IPA. Where IPA notation is not used, due to some technical reason, the following symbols are used.

Consonants Description

ʔ	glottal stop
ʕ	voiced pharyngeal fricative
ɖ	voiced velarized plosive
ɣ	palatal glide
dh	voiced dental fricative
ɣ̣	voiceless velarized alveolar fricative
th	voiceless dental fricative
x	voiceless uvular fricative
ħ	voiceless pharyngeal fricative
t̪	voiceless palato-alveolar stop
gh	voiced velar fricative
sh	voiceless post-alveolar fricative

A sequence of the same consonant indicates that the consonant is geminated as in *ʔumm* “mother”.

The following vowels are used:

Short vowels	Description	Long vowels
a	front open	aa
i	front close spread	ii
u	back close round	uu

Introduction

This dissertation is concerned with the structure of relative clauses in Standard Arabic(SA) within the head-raising analysis proposed in Kayne (1994) and relevant work based on Kayne's account (e.g Borsley 1997, Bianchi 1999/2000, Aoun and Choueri 1997, Aoun and Li 2003, De Vries 2002, Ouhalla 2004, among others.)¹

The head-raising analysis, also known as the promotion analysis (Schachter 1973), of relative clauses assumes that the "head" of the relative clause originates within CP and that relative clauses are derived by moving the "head" to SpecCP². In this sense the head raising analysis is radically different from the traditional analysis according to which the "head" of the relative clause originates externally and that what moves to SpecCP is an operator which might be null or overt.

According to Kayne's analysis, all relative clauses have the same structure. That is, they are all complements of the external D and that the antecedent moves to SpecCP³. As far as English is concerned, Kayne differentiates between *that*-relatives and *wh*-relatives. They both involve movement to SpecCP but the former involve NP raising whereas the latter involve DP raising.

The analysis I propose for SA also involves movement from the relative clause but differs from Kayne's in some respects. I assume that the external D is not base-generated in the highest D position. Rather, it originates within the relative clause where it heads the DP in the argument position then moves along with its NP

¹ Kayne is not the first to propose the head-raising analysis. His work is essentially based on Vergnaud (1974).

² Despite the fact that these terms are used interchangeably, there is an important difference with respect to the landing site of the raised/promoted constituent.

³ This thesis does not make any reference to head-final relatives which, according to Kayne, involve IP movement to SpecDP, nor does it discuss non-restrictive relatives which, according to Kayne, involve a LF movement of IP to SpecDP.

Introduction

complement to SpecCP. This DP will enter into Spec-head agreement with the complementizer in the C^0 position.

The analysis I propose also assumes that SA does not have wh-relatives⁴. The consequence of this claim is that there are no relative determiners in SA. Consequently, there is no DP headed by a relative D in SA. This in turn leads to the conclusion that there is no DP movement to SpecCP. This also leads to a further consequence: NP movement to Spec-Wh (i.e SpecDP) is excluded in SA.

We also claim that relatives with a null C^0 involve DP movement to SpecCP. However, since the complementizer in this type of relatives is obligatorily null the D must also be null. We attribute the reason to the fact that an overt D cannot enter into Spec-head agreement with a null C^0 .

The “head” of the relative clause may not be overtly expressed but the complementizer may be present. This seems to be a problem given that C^0 can only appear if there is DP headed by an overt D in the specifier position. I discuss these cases and propose that SpecCP is occupied by a null DP whose features must be identical to the features of the complementizer. The consequence of this analysis is that even if the head is not overtly expressed, its features must be present and enter into Spec-head agreement with an overt complementizer.

The resumption issue is one of the problems for the head-raising analysis. It is a problem because if there is movement of an argument to SpecCP, there should be no lexical trace in the extraction site. SA is a language which uses the resumptive strategy. To deal with the resumption problem, I follow some proposals made in the literature that resumptive pronouns are spelled-out traces.

⁴ This claim is based on the fact that SA, like many languages, does not have relative pronouns.

Chapter One

Salient Grammatical Features and Relative Clauses

1.0. Introduction

Standard Arabic is the language spoken by educated people in all Arab countries. It is also the language of education and the media. There is no syntactic difference between SA and Classical Arabic. The difference between the two languages is only in vocabulary and stylistic features (Fischer 1997:189).

The aim of this chapter is to give the reader a basic idea about the grammatical features and a description of relative clauses in SA. The material presented will hopefully help the reader understand the data in subsequent chapters.

I have divided the chapter into two parts. Part One focuses on salient grammatical features of the language. These include sentence types (1.1.1), agreement (1.1.2) and agreement and word order (1.1.3). We also introduce the construct state (1.1.4), a type of construction found in Semitic languages. Part Two is concerned with relative clauses. Here we present four types of relative clauses: headed relatives both definite and indefinite derived from simple clauses (1.2.1) and those derived from embedded clauses (1.2.2); free relatives (1.2.3); reduced relatives (1.2.4) and extraposed relatives (1.2.5).

Part One: Sentence types, word order variation and agreement

1.1.1 Sentence types

Traditional Arab grammarians classify Arabic sentences into two types. One type is known as *verbal sentences*. The other type is known as *nominal sentences*. In the former type, the sentence is introduced by a verb. In the latter type, the sentence begins with a noun. Yet a third sentence type can be identified in Arabic. This third type is known as *topic-comment sentences*. The following subsections deal with these types of sentences in Arabic.

1.1.1.1 Verbal Sentences

The word order in this type of sentences patterns with the suffixal inflection in which the pronominal subject marker immediately follows the inflectional base. Thus (1) is similar to (2)

(1) raʔa zayd-un ʔasad-an
 saw.3ms zayd Nom lion-Acc
 “Zayd saw a lion”

(2) raʔay-tu ʔasad-an
 saw.3ms I lion-Acc
 “I saw a lion”

The subject in (1) is a noun whereas in (2) it is a pronoun suffix¹. This is the most common order SA has in matrix clauses i.e VSO. In embedded clauses the word

¹ In a later discussion I will consider these verbal inflections agreement markers rather than subject pronouns.

order can be both VS and SV, depending on the type of the complementizer introducing the embedded clause. When the embedded clause is introduced by the complementizer *?an* “that”, the word order should be VS. If the embedded clause is introduced by the complementizer *?anna* “that”, the only possible word order is SV as shown in (3a) and (4a)².

- (3) (a) *?ara:da badr-un ?an ya-drib-a zayd-un hind-an*
 wanted.3ms badar Nom that3ms hit Subj. zayd Nom hind Acc
 “Badar wanted Zayd to hit Hind”
 (b) **?arada badr-un ?an zayd-un ya-drib-a hind-an*
- (4) (a) *?alima badr-un ?anna zayd-an daraba hind-an*
 knew3ms badar Nom that zayd Acc hit hind Acc
 “Badar knew that Zayd hit Hind”
 (b) **?alima badr-un ?anna daraba zayd-un hind-an*

In section (1.2.2), we will discuss the differences between *?anna* and *?an* in more detail.

1.1.1.2. Nominal Sentences

A nominal sentence in SA contains no copula in the present tense. The predicate can be an adjective phrase, a noun phrase or a prepositional phrase, as exemplified below.

² The complementizer *?anna* takes the form *?inna* when introduces nominal clauses or when it follows the verb *say*:

- (i) *?inna/*?anna l-walad-a daraba l-bint-a*
 that the-boy Acc hit.3ms the-girl-Acc
 “The boy hit the girl”
 (ii) *qul-tu ?inna/*?anna l-walad-a daraba l-bint-a*
 said I that the-boy-Acc hit.3ms the-girl-Acc
 “I said that the boy hit the girl”

- (5) badr-un kariim-un (Noun + Adjective)
 badar Nom generous Nom
 “Badar is general”
- (6) zayd-un mu9alim-un (Noun + Noun)
 zayd Nom teacher Nom
 “Zayd is a teacher”
- (7) hind-un fi l-qitaar-i (Noun + Prepositional Phrase)
 hind Nom in the train
 “Hind is in the train”

In order to achieve the past tense reference, the copula *kaana* “was” must introduce the nominal sentence. Thus the nominal sentences in (5-6-7) above will have the following past tense structures.

- (8) kaana badr-un kariim-an
 was 3ms badr Nom generous Acc
 “Badar was generous”
- (9) kaana zayd-un mu9alim-an
 was 3ms zayd Nom teacher Acc
 “Zayd was a teacher”
- (10) kaanat hind-un fi l-qitaar-i
 was 3fs hind Nom in the train-Gen
 “Hind was in the train”

The copula *kaana* may occur in the second position following the subject in a nominal sentence.

- (11) l-mu9alim-u kaana dhakiyy-an
 the teacher Nom was 3ms intelligent Acc
 “The teacher was intelligent”

- (12) r-rajulu kaana muhandis-an
the man Nom was 3ms engineer Acc
“The man was an engineer”
- (13) l-mudrib-una kaan-uu fi sh-shaari9-i
the strikers Nom was 3mpl in the street Gen
“The strikers were in the street”

1.1.1.3. Topic-comment sentences

The examples in (11-12-13) involve another type of sentences in Arabic which we may call topic-comment sentences. These sentences consist of a subject in the initial position and a predicative verbal or nominal clause in the second position. The predicative clause must contain a pronoun linking the predicate with the subject. The pronoun might be embedded in the verb or in any part of the predicative clause. In the examples given in (11-12-13) above, the pronoun that links the predicate with the subject is implicit. Thus these sentences will have the interpretation given in (14), (15) and (16), respectively.

- (14) The teacher, he was intelligent
(15) The man, he was an engineer
(16) The strikers, they were in the street

Additional examples include (17) and (18) below.

- (17) l-kitaab-u shtra-t-hu hind-un
the book Nom bought 3fs 3ms hind Nom
“The book, Hind bought it”
- (18) l-walad-u maryam-u daraba-t-hu
the boy Nom maryam Nom hit 3fs 3ms
“The boy, Maryam hit him”

In (17) and (18) above there are two verbal suffixes cliticized onto the verb: a verbal suffix (-t-) agreeing with the subject NP in gender, number and person and a pronoun suffix (-hu) agreeing with the object NP in gender, number and person (Abdul-Raof (2001)). We find the same situation in non-verbal predicates i.e sentences whose predicates are nominal clauses. The predicate in these sentences must contain an overt pronoun, as in (19).

(19) *l-walad-u sha9ru-hu ṭawiil-un*
 the boy Nom hair Nom his long Nom
 “The boy, his hair is long”

(20) **l-waladu sha9ru ṭawiil-un*

The ill-formedness of (20) is due to the fact that the nominal clause predicate does not contain a pronoun that links it to *l-walad* “the boy”, the subject of the sentence.

1.1.2 Agreement

In this section, I will discuss some salient grammatical features in SA. The aim here is to give the reader some basic idea of how agreement works in SA. First we discuss agreement in noun phrases (1.1.2.1) then, in section (1.1.2.2), we try to discuss agreement in both VS and SV clauses.

1.1.2.1 Agreement in noun phrases

Nouns in Arabic inflect for case, definiteness and gender. Postnominal modifiers must have the same inflection as the head noun. This is not the case with prenominal modifiers. In the following subsections I will discuss very briefly noun-modifier agreement in SA.

1.1.2.1.1 Agreement in Case

A noun in SA can have three cases depending on its function in the clause. The suffix /-u/ marks nominative, /-i/ genitive and /-a/ accusative. Below are three examples to illustrate the three cases. Importantly, the modifier inflects for the same case of the preceding head noun.

- (20) ja?a rajul-un kariim-un/ *kariim-an
came 3ms man Nom generous Nom/ *generous Acc
“A generous man came”
- (21) ra?ay-tu rajul-an kariim-an/ *kariim-in
saw I man Acc generous Acc/ *generous Gen
“I saw a generous man”
- (22) saafar-tu ma9a rajul-in kariim-in/ *kariim-un
traveled I with man Gen generous Gen/ *generous Nom
“I traveled with a generous man”

Agreement in case between the noun and its modifier is obligatory. Where this agreement does not hold, the structure is ill-formed as shown by the star.

1.1.2.1.2 Agreement in definiteness/ indefiniteness

Indefiniteness is marked by a nunation following the case marker as in the examples above. A noun is made definite when it is preceded by the definite determiner //l-/. Postnominal modifiers, regardless of their number, have to agree in definiteness with the head noun³.

³ The definite determiner in Arabic, unlike languages such as French, does not inflect for gender and number (See Haegeman 1991). It does not inflect for Case either as in German and Icelandic (See Platzack 2000).

- (23) ?ista9ar-tu l-kitaab-a l-jadiid-a
borrowed I the book Acc the new Acc
min l-maktabat-i l-qadiimat-i
from the library (f) Gen the old(f)Gen
“I borrowed the new book from the old library”

Note that nunation does not cooccur with the definite determiner. This may support the idea that /-n/ is equivalent to the English indefinite marker *a*⁴.

1.1.2.1.3 Agreement in gender

In addition to case and definiteness, postnominal adjectives must inflect for gender. Thus if the head noun is masculine, the adjective must be masculine and if feminine, the adjective must also be feminine.

- (24) ?askunu fi l-bayt-i l-qadiim-i
live 1st in the house (m)Gen the old (m)Gen
“I live in the old house”

The noun *bayt* “house” is masculine and therefore the adjective *qadiim* “old” must also be masculine. In the example given in (23) above, the noun *maktabat* “library” is feminine and consequently the modifying adjective is also feminine as shown by the gender marker /-at/.

1.1.2.2 Agreement in clauses

In section (1.1.1) above, we have shown that Arabic has three types of clauses: verbal, nominal and topic-comment. Verbal sentences are introduced by a verb followed by the subject which could be a lexical NP or a pronominal subject marker immediately following the verb. In section (1.1.2.2.1), we will discuss agreement in verbal clauses where the subject is a lexical NP. In section (1.1.2.2.2), we will

⁴ I think this is unlikely since there are cases where *l* and *n* cooccur as in the dual and sound plural forms of a noun (cf. *l-kitabaa-*(n)* “the two books”, *l-mu9alimuu *(n)* “the teachers”). See Fassi-Fehri (1993).

describe agreement in SV clauses and see how different it is from agreement in VS clauses. First conjunct agreement in both VS and SV is outlined in (1.1.2.2.1.2) and (1.1.2.2.2.2), respectively. The facts about subject-verb agreement in Arabic are well-known and have received considerable attention in the literature (Mohammad (1990/1998), Fassi-Fehri (1993), Shlonsky (1989), Aoun, Benmamoun & Sportiche (1994), Bolotin (1995), Roberts & Shlonsky (1996), Benmamoun (1998/2000), Munn (1999), LeTourneau (2003, among many others)).

1.1.2.2.1 VS Clauses

1.1.2.2.1.1 Subject-verb agreement

As far as subject-verb agreement in VS clauses is concerned, there is only agreement in gender between the verb and the subject which, in certain cases, may be absent. The examples in (25 -31) illustrate.

- (25) ja?-a r-rijaal-u
 came 3ms the men-Nom
 “The men came”
- (26) *ja?auu r-rijaal-u
 came 3m pl the men Nom
- (27) ja?-a r-rajul-aani
 came 3ms the men dual Nom
 “The two men came”
- (28) *ja?aa r-rajul-aani
 came dual the men dual Nom
- (29) ja?-at l-bint-u
 came 3fs the girl Nom
 “The girl came”

(30) ja?-at l-banaat-u
 came 3fs the girls Nom
 “The girls came”

(31) *ji?-na l-banaat-u
 came 3fpl the girls Nom

The agreement shown in the grammatical examples above is agreement in gender. There is no agreement in number in VS clauses and when it appears, we get ungrammatical structures, as shown in (26), (28) and (31). In fact what VS order exhibits is just partial agreement because it is only agreement in gender (Benmamoun 2000). However, this generalization is not correct. SA shows agreement in number with postverbal pronominal subjects (Fassi-Fehri 1993, Benmamoun 2000)).

(32) (a) ja?a-uu hum laa ?ixwatu-hum
 came 3mp they 3mp Neg brothers Nom their
 “They came, not their brothers”
 (b) *ja?a hum laa ?ixuatu-hum
 came.3ms they Neg brothers-their

The example in (32a) is well-formed. The verb agrees in number with the postverbal subject pronoun *hum* “they”. Where number agreement is absent, the structure is ill-formed as in (32b).

Some languages have the same agreement pattern found in SA. Welsh, for example, exhibits full agreement with postverbal subjects when they are pronominal but when they are lexical DPs, there is no number agreement (Sadler 1988).

(33) (a) maent huy yn canu
 are 3pl they PROG sing
 “They are singing” (Sadler 1988:50, Ex.1) (cf. 32a))

- (b) mae y plant yn canu
is 3ms the children PROG sing
“The children are singing” (Sadler 1988:50, Ex. 2) (cf. 25))
- (c) Agorodd y dynion / y dyn y drws
opened 3ms the men / the man the door
“The men/man opened the door” (Sadler 1988:51, Ex.4) (cf. 25))
- (d) *Agoron y dynion y drws
opened 3mpl the men the door
“The men opened the door” (Sadler 1988:51, Ex.5) (cf. 26))

Thus in both both SA and Welsh the verb exhibits default third person singular agreement when the postverbal subject is a lexical DP but shows number agreement when the postverbal subject is a pronominal.

In modern Arab dialects this agreement asymmetry does not show up. The verb must agree with the following subject. Libyan Arabic and Moroccan Arabic are similar in this respect, as shown in (34) and (36), respectively.

(34) j-aw l-wlaad
arrived 3mpl the boys
“The boys arrived”

(35) *ja l-wlaad

(36) kla-w l-wlaad
ate 3mpl the boys
“The boys ate”

(37) *kla l-wlaad

We have indicated that VS clauses in SA show partial agreement, i.e agreement in gender, which appears as a suffix on the verb in the past tense. In the present tense agreement markers precede and follow the verb as in (39).

- (38) *daras-at zaynab-u fi lqaahirat-i*
 studied 3fs zanab Nom fi cairo-Gen
 “Zaynab studied in Cairo”
- (39) *ṭ-ṭaalibaat-u ya-drus-na fi l-jaami9at-i*
 the students (f) Nom 3ms study 3fp in the university Gen
 “The female students study in the university”

The following two tables show agreement affixes in the past and present tenses.

Table (1) *the past tense subject clitics (Fassi-Fehri 1993:107)*

Person	Gender	Singular	Dual	Plural
<i>First</i>	.	-tu	-	-naa
<i>Second</i>	Masc.	-ta	-tumaa	-tum
	Fem.	-ti	-tumaa	-tunna
<i>Third</i>	Masc.	-a	-aa	-uu
	Fem.	-at	ataa	-na

Table (2) *the present tense subject clitics (Fassi-Fehri 1993:107)*

Person	Gender	Singular	Dual	Plural
<i>First</i>		?-	n-	n-
<i>Second</i>	Masc.	t-	t-aa	t-uu
	Fem.	t-ii	t-aa	t-na
<i>Third</i>	Masc.	y-	y-aa	y-uu
	Fem.	t-	t-aa	y-na

In Classical Arabic the verb may not show any agreement in gender with the following subject. In the Holy Qurʾan such cases are not impossible to come across.

- (40) *qaal-a niswat-un fi lmadiinat-i.....*
 said 3ms women in the town Gen
 “Women in the town said....”

In SA the verb must agree in gender if the following subject has the features [+fem] and [+human]. However, agreement in gender is optional if three conditions are met. It is optional when (i) some constituent intervenes between the verb and the subject (ii) the subject is feminine non-human, and (iii) the subject is broken plural⁵. These options are shown in (41-42), (43-44) and (45-46), respectively.

(41) saafar-at l-yawm-a zaynab-u
 traveled 3fs the today-Acc zaynab Nom
 “Zaynab traveled today”

(42) saafir-a l-yawm-a zaynab-u
 traveled 3ms the today Acc zaynab Nom
 “Zaynab traveled today”

(43) ṭala9-ati sh-shams-u
 came out 3fs the sun (f) Nom
 “The sun rose”

(44) ṭala9-a sh-shams-u
 came out 3ms the sun (f) Nom
 “The sun rose

(45) ja?-at l-junud-u
 came 3fs the soldiers (m) Nom
 “The soldiers came”

(46) ja?-a l-junud-u
 came 3ms the soldiers (m) Nom

In (41-42) agreement is optional since the adverb *l-yawm* intervenes between the verb and the subject. In (43-44) the subject is feminine non-human and, finally, in (45-46) the subject is broken plural. This is also true with verbs in the imperfective

⁵ Any Arab traditional grammar textbook would mention these conditions. See for example Hasan (1975).

tense. The only difference, however, is that gender agreement in imperfective tenses appears as a prefix⁶. For illustrative purposes, the examples in (43-44), repeated here under (47-48), will have the following structure in the imperfective tense.

(47) ta-tlu9-u sh-shams-u
3fs come out Ind. the sun Nom
“The sun rises”

(48) ya-tlu9-u sh-shams-u
3ms come out Ind. the sun Nom
“The sun rises”

1.1.2.2.1.2 First conjunct agreement

Aoun, Benmamoun and Sportiche (1994), Munn (1999) and Benmamoun (2000) studied first conjunct agreement in both VS and SV clauses. As far as VS clauses are concerned, the verb shows variation in gender with the conjoined noun phrases. Instead of taking its gender feature from the feature complex associated with the matrix subject, i.e the matrix NP dominating all members of the conjoined NP, it takes it from the leftmost member of a conjoined subject NP as illustrated in (49-50). (51) is ungrammatical.

(49) nam-a l-walad-u wa l-bint-u
slept 3ms the boy Nom and the girl Nom
“The boy and the girl slept”

(50) nam-at l-bint-u wa l-walad-u
slept 3fs the girl Nom and the boy Nom
“The girl and the boy slept”

⁶ These imperfective tense agreement affixes are given in Table (2) above.

- (51) *nama l-bint-u wa l-walad-u
slept 3ms the girl Nom and the boy Nom

In (49) the verb is third singular masculine whereas the matrix NP is dual. In (50) the verb agrees in gender with the first conjunct not with the matrix NP. When agreement in gender is absent, as shown in (51), the structure is ill-formed. In general terms, agreement in VS clauses is said to be poor agreement. This is not the case in SV clauses. In these clauses there is agreement in gender as well as number and person. Full subject-verb agreement is the main concern of the next subsection.

1.1.2.2.2. Agreement in SV clauses

1.1.2.2.2.1 Subject-verb agreement

We have pointed out that SA is a VSO language but the word order SVO can be used as well. The relevant point here is that the order SV is different from VS as far as subject-verb agreement is concerned. We have seen in the previous section that VS clauses do not show subject-verb agreement when the subject is a lexical NP. This is not the case in SV clauses, as the following examples show:

- (52) l-walad-aani nam-aa
the boys dual Nom slept dual m
“The two boys slept”
- (53) *l-walad-aani nam-a
the boys dual slept 3ms
- (54) l-awlaad-u nam-uu
the boys Nom slept 3mpl
“The boys slept”
- (55) *l-awlaad-u nam-a
the boys Nom slept 3ms

- (56) l-bintaani namat-aa
the girls dual Nom slept dual f
“The two girls slept”
- (57) *l-bintaani nam-at
the girls dual Nom slept 3fs
- (58) l-banaat-u nim-na
the girls Nom slept 3f pl
“The girls slept”
- (59) *l-banaat-u nam-at
the girls-Nom slept 3fs

The verb in the grammatical examples above fully agrees with the pre-verbal subject. Where this agreement fails to manifest on the verb, the ungrammaticality results as shown by the examples with a star. Agreement in SV clauses might be said to be rich agreement. This also applies to extracted interrogative subjects, as shown below.

- (60) ?ayy-u awlaad-in nam-uu ?
which Nom boys-Gen slept 3m pl
“Which boys slept?”

Agreement in (60) shows all features because the interrogative construction puts the subject in a pre-verbal position⁷. Thus agreement in person and number is obligatory. In addition, in null subject clauses number agreement is obligatory

⁷ Note that the wh-phrase carries Nominative indicating that the extracted constituent is the subject rather than the object in which case the wh-phrase must carry Accusative, as in (i):

- (i) ?ayy-a kitaab-in qar?a-ta ?
which-Acc book-Gen read 2ms
“Which book did you read?”

See Farghal (1986) for some discussion.

(61) kaan-uu ya-drus-uuna l-kimyaa?-a
was 3mp 3ms study 3mp the chemistry Acc
“They were studying chemistry”

(62) *kaan-a ya-drus-uuna l-kimyaa?-a
was 3ms 3ms study 3mp the chemistry Acc

1.1.2.2.2 First Conjunct Agreement in SV clauses

Now let us turn to agreement in instances where two conjoined NPs function as the subject of a SV clause. The relevant examples are given in (63) and (65) below.

(63) l-mar?at-u wa r-rajul-u safr-aa
the woman Nom and the man Nom travelled dual m
“The woman and the man traveled”

(64) *l-mar?at-u wa r-rajul-u safr-a
the woman Nom and the man Nom traveled 3ms

(65) r-rajul-u wa l-mar?at-u safr-aa
the man Nom and the woman Nom traveled dual m
“The man and the woman traveled”

(66) *r-rajul-u wa l-mar?at-u safr-at
the man Nom and the woman Nom traveled 3fs

In section (1.1.2.2) we have seen that in VS clauses the verb agrees in gender with the leftmost conjoined NP not with the matrix NP, the mother NP dominating the two conjoined NPs. In SV clauses we see a different situation: the verb does not agree with any of the conjoined NPs; rather, it agrees with the matrix NP. For this reason, both (64) and (66) are not grammatical. The features appearing on the verb can only match the features of the mother NP i.e neither of the conjoined NPs agrees with the verb. Benmamoun (2000:10) argues that “number agreement must be realized by an affix on the verb if the latter is not followed by an overt subject”. In

(65), for example, the number agreement affix (dual) appears on the verb since there is no overt subject following the verb.

In the following section we will demonstrate how VSO and SVO clauses are derived.

1.1.3 Agreement Variation and Word Order

We have pointed out that the word order in Standard Arabic can be both VSO and SVO⁸. The purpose of this section is to look at these two possible word orders and see how they are derived. Based on the proposals made in the literature that the subject of a clause is in the SpecVP position (Speas (1986), Kuroda (1988), Koopman & Sportiche (1991), among others), most studies on Arabic conclude that there is movement involved for the derivation of VSO surface word order and that agreement asymmetry in the language is due to the difference in the derivation between VS and SV clauses. The two word order possibilities that we are concerned with are illustrated in (67) and (68).

(67) qatala ljunud-u l-mutamaridiina
killed 3ms the-soldiers Nom the-rebels Acc
“The soldiers killed the rebels”

(68) l-junud-u qatal-uu l-mutamaridiina
the-soldiers Nom killed 3mp the rebels Acc
“The soldiers killed the rebels”

Fassi-Fehri (1989) and Mohammad (1989) argue that the derivation of (67) above involves verb movement to Infl and that the derivation of (68) involves subject raising to a Specifier position i.e SpecIP. Emonds (1980) and Abd El-Moneim (1989) propose that the surface order in (67) is derived by verb movement to a

⁸ Some researchers e.g Agius (1991) and Majdi (1992) propose a VOS order for Standard Arabic.

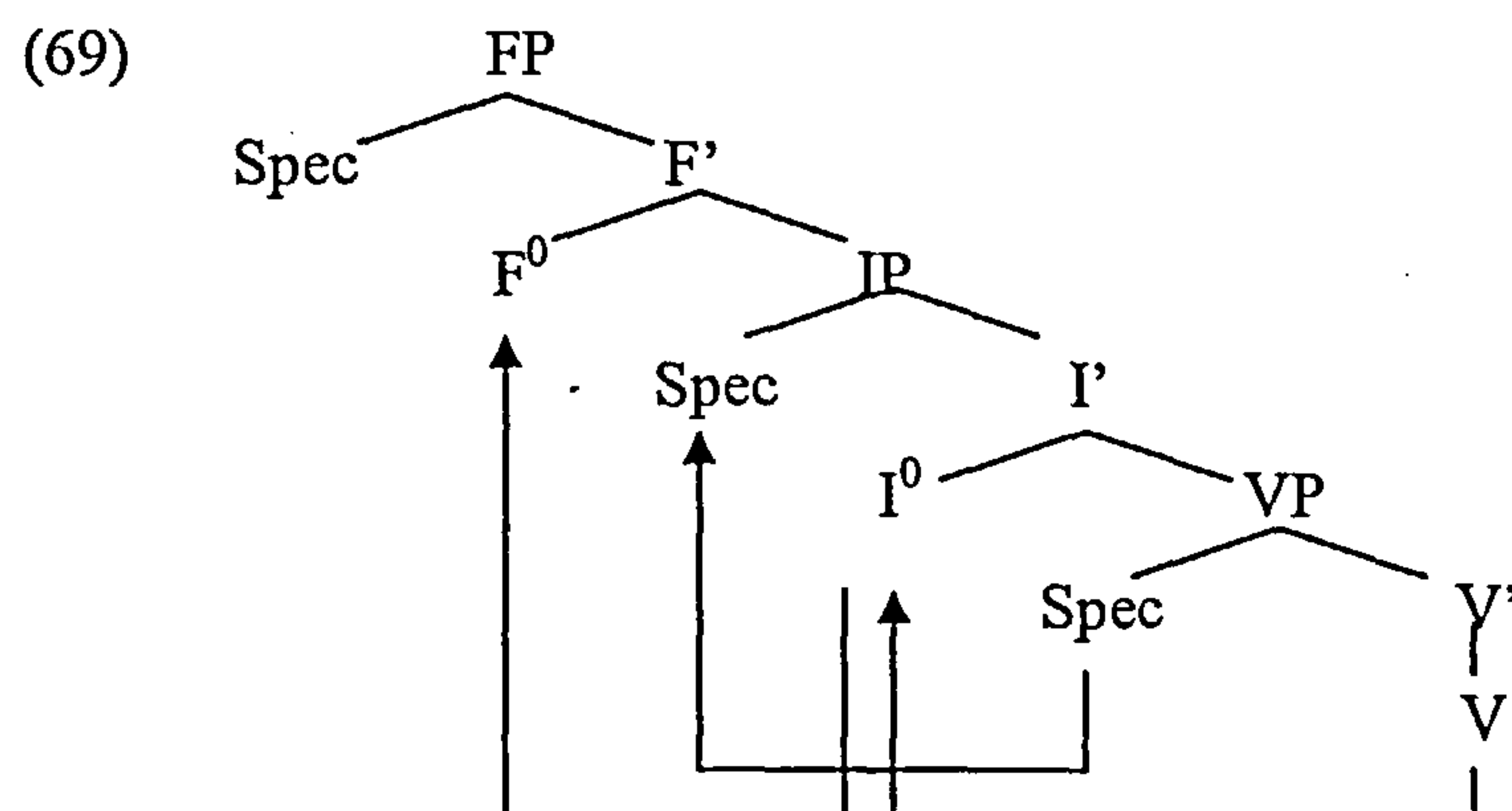
presentential position presumably C^0 position. This proposal has also been made for Welsh (See Sadler 1988 and Sproat 1989) and Murasugi (1992) for Celtic languages.

As far as V-to-C movement in Arabic is concerned, Rahili & Souali (1997) argue that the verb can move to C^0 only in positive imperative constructions.

The SVO order in (68) is derived by two movements. The verb moves to Infl and the subject moves to the specIP. Agreement variation in Arabic is determined by these two orders as will be explained in the following subsection.

1.1.3.1 Interaction between Agreement and word order

An analysis of agreement facts in SA as well as other varieties of Arabic has been proposed by Aoun et al (1994). Aoun et al argue that agreement in Arabic is best accounted for if the verb moves to a functional head higher than Infl and that the subject is in SpecIP, as shown by the following diagram:



In VSO clauses such as (67) above, the verb moves to Infl then to a higher functional head, F^0 , leaving the subject in Spec IP. The number information gathered in Infl is lost because, according to Aoun et al, agreement information on heads may be lost when they move further to another head position. In this case the head (i.e the verb) cannot be in a Spec-head relation and thus only inherent agreement features are retained. Accordingly, the verb can agree with the subject

only in gender. In SVO clauses, the verb moves to Infl and the subject moves to SpecIP. All information is gathered in Infl and thus the subject-verb agreement obtains.

In order to account for the fact that Arabic varieties show full agreement in both VS and SV orders, as shown in example (70) from Lebanese Arabic (LA) and example (71) from Moroccan Arabic (MA), Aoun et al (1994) propose that the verb moves to F^0 with all information gathered in Infl and thus subject-verb agreement obtains⁹.

- (70) (a) l-wlaad neem-o
the-boys slept 3mpl
(b) neem-o l-wlaad
slept 3mpl the-boys
“The boys slept” (cf. Aoun et al 1994:196, Ex.4b,c)
- (71) (a) l-wlaad na9s-u
the boys slept 3mpl
(b) na9s-u l-wlaad
slept 3mp the boys
“The boys slept” (cf. Aoun et al 1994:196, Ex.3b,c)

The analysis Aoun et al propose for agreement variation between SA and other Arabic varieties is not very satisfactory. It is not clear why the verb does not preserve agreement features when it raises to F^0 in the case of SA but retains this information in other varieties of Arabic.

Benmamoun (2000) argues that partial agreement in SA, i.e agreement in gender, is only a manifestation of agreement relation between the verb and the subject. To account for the absence of full agreement in VSO clauses, Benmamoun suggests that there is an expletive argument chain with the postverbal subject. The expletive acquires gender features through a chain relation with the lexical subject. In SVO

⁹ Full agreement in both VS and SV clauses is also found in the Berber dialect of Tuareg. See Mohammed Ali (1992).

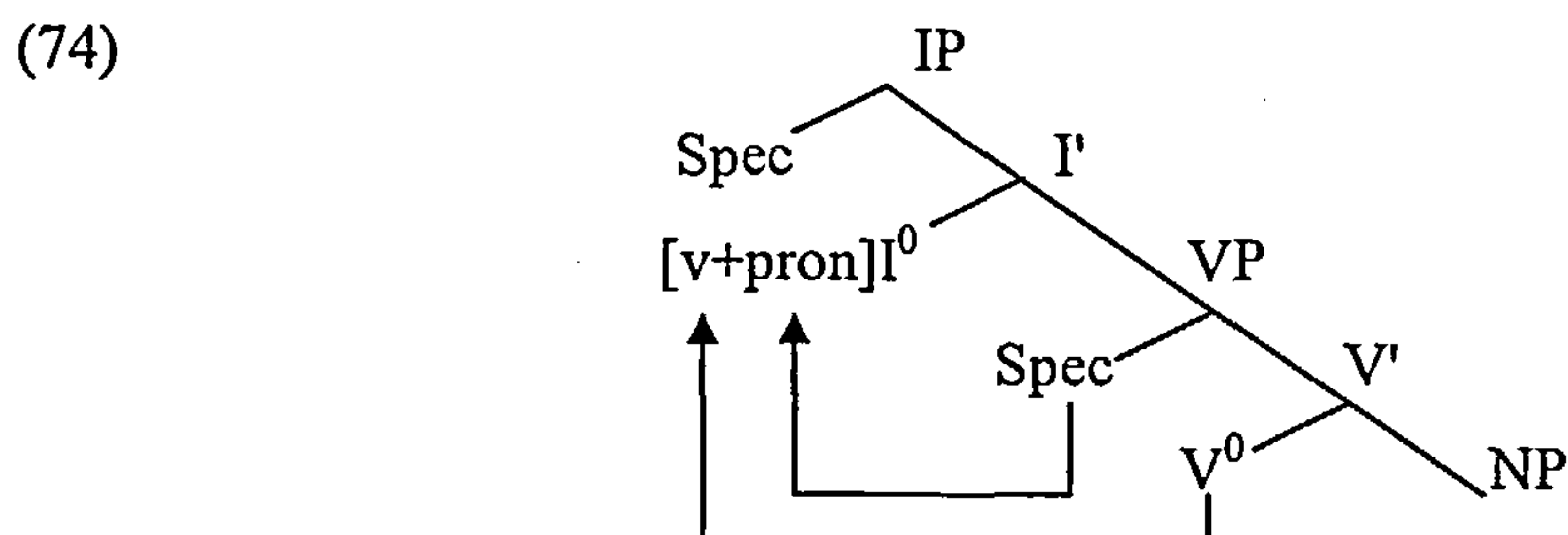
clauses there is full agreement because there is an argument trace chain. To account for full agreement in other Arabic varieties, Benmamoun suggests that the expletive would be specified for all features. This analysis suffers from a serious problem. As Benmamoun himself notes, SA and non-standard varieties do not appear to be very much different with respect to the expletive. In both standard and non-standard Arabic, the expletive appears to be the same as in (72) for SA and (73) for MA.

(72) yajibu ?an yanaam-uu
 3ms must that 3ms sleep 3mp
 “They must sleep”

(73) ta-ydher belli kanu hna
 asp-3m-seems that be.past.3mp. here
 “It seems that they were here” (cf. Benmamoun 2000:125, Exs.19a,b)

1.1.3.2 The Incorporation Hypothesis

Incorporation requires that for an element to be incorporated it must be governed by the host (Baker 1988). The host is the head into which an element is incorporated. According to this approach, number agreement appears when the subject incorporates into the verb. A preverbal subject cannot incorporate in SA because it is not governed by the verb. In VSO clauses, the verb is in Infl and the subject is in SpecVP. The subject, if a pronominal, will incorporate into the verb as illustrated in (74). (cf. ?akala l-awlaad-u “the boys ate” and ?akal-uu “they ate”)



According to this analysis, the preverbal subject is a topic or a left-dislocated NP.

1.1.3.2.1 Fassi-Fehri (1993)

Fassi-Fehri (1993:108) argues that lexically expressed subjects cannot cooccur with postverbal subject bound pronouns because the latter are not inflections; rather, they are pronouns incorporated into the verb. According to Fassi-Fehri, this explains why a lexical subject cannot cooccur with a subject pronoun as shown by the ungrammatical example of (75b) below.

- (75) (a) ?istaqaala l-wuzraa?-u
resigned 3ms the ministers Nom
“The ministers resigned”
(b) *?istaqaal-uu l-wuzraa?u (cf. Fassi-Fehri 1993:108, Ex.30)

Furthermore, as Fassi-Fehri (1993:108) points out, incorporation is only obligatory under government. If some governor intervenes between the verb and the pronoun, incorporation cannot take place. Thus while (76a) is grammatical, (76b) is not.

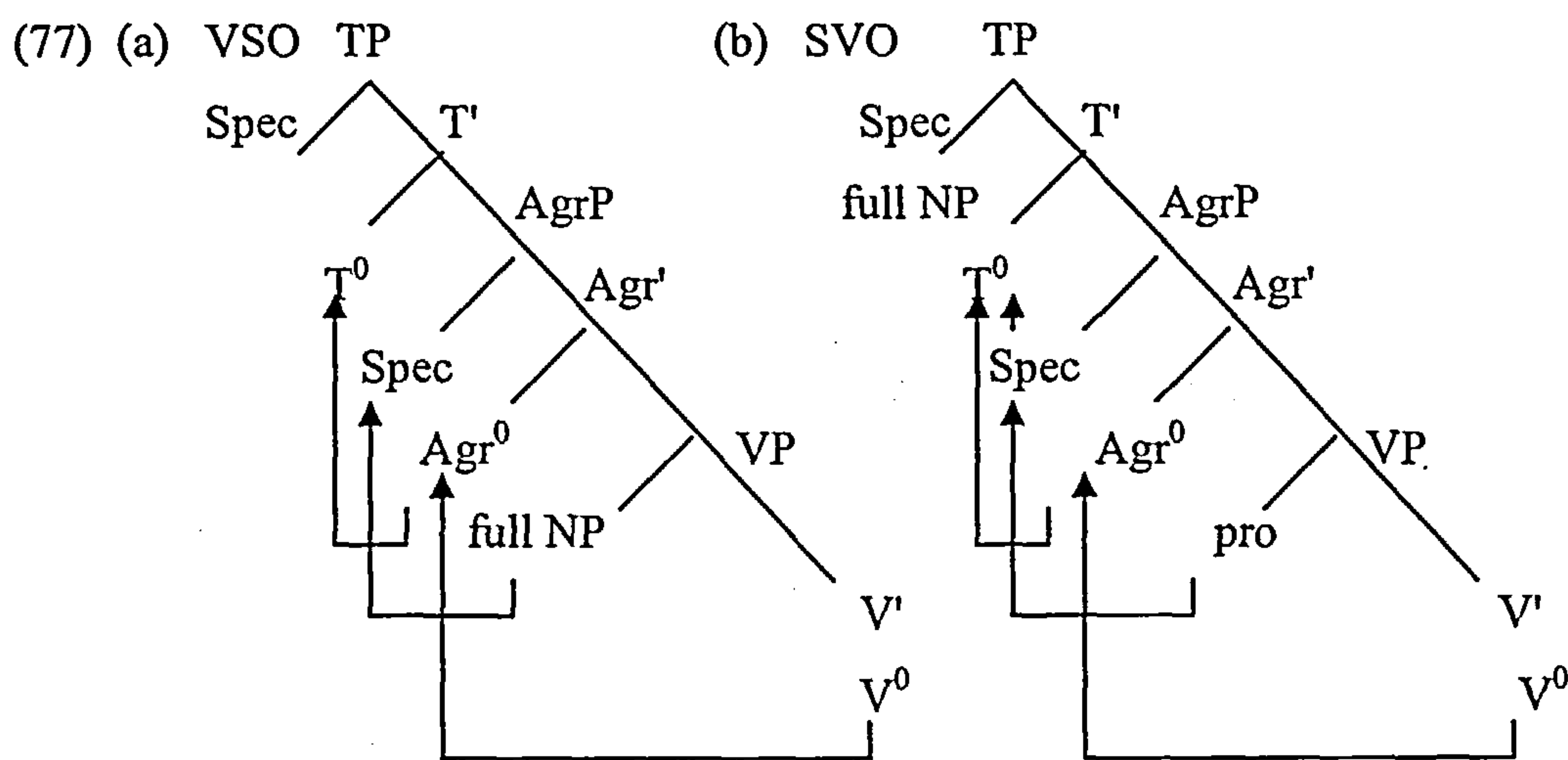
- (76) (a) maa akrama-nii ?illa hum
not honoured 3ms me except they
“Only they honoured me”
(b) *maa akram-uu-nii ?illa
not honoured they me except (cf. Fassi-Fehri 1993:108, Exs 32a,b)

The pronoun *hum* “they” is governed by *?illa* “except” and hence cannot incorporate into the verb as shown in (76b).

1.1.3.2.2 Demirdache (1991)

Demirdache (1991, cited in Bolotin (1996)) also adopts a version of incorporation analysis. In her account, the nominative subject is base-generated in SpecTP. The subject is linked to a resumptive pronoun in SpecVP. The resumptive pronoun moves to SpecAgr in order to have case. To account for agreement variation in

Arabic, Demirdache assumes that Arabic has two agreement affixes: one for number and the other one for person and gender. The former is attached to the subject noun phrase and is incorporated into the verb when the subject is null or in a Topic position. The latter, the person and gender affix, is in Agr. The verb before it moves to T^0 , it adjoins this affix in Agr. This explains why VSO clauses in Arabic only show partial agreement. Demirdache provides the following trees (cited in Bolotin 1996:13) to demonstrate her approach.



(Adpoted from Bolotin 1996:13)

The incorporation analysis, however, is not without problems. First, there is a problem with agreement, as the following example illustrates.

- (78) kaanat l-banaat-u yakul-na
 was 3fs the girls Nom eat-3fpl
 “The girls were eating”

The auxiliary *kaana* “was” in (78) agrees in gender with the lexical subject *l-banaat* “the girls”. The lexical verb shows full agreement indicating that a subject pronominal has incorporated into the verb. The second problem, as Benmamoun (2000:26) points out, is that if the subject is in SpecVP and thus governed by the

verb in Infl as in Fassi-Fehri's analysis then (78) is a problem because the subject is not in SpecVP. A more serious problem raised by this hypothesis is illustrated in (79).

- (79) kun-na yadħak-na
 be. PAST 3fpl laugh-3fpl
 "They were laughing" (cf. Benmamoun 2000:127, Ex. 23a)

In (79) the subject is a pronominal; full agreement must appear on both the auxiliary and the lexical verb. This leads to the fact that the incorporation-based analysis for (79), as Benmamoun argues, involves two pronominals.

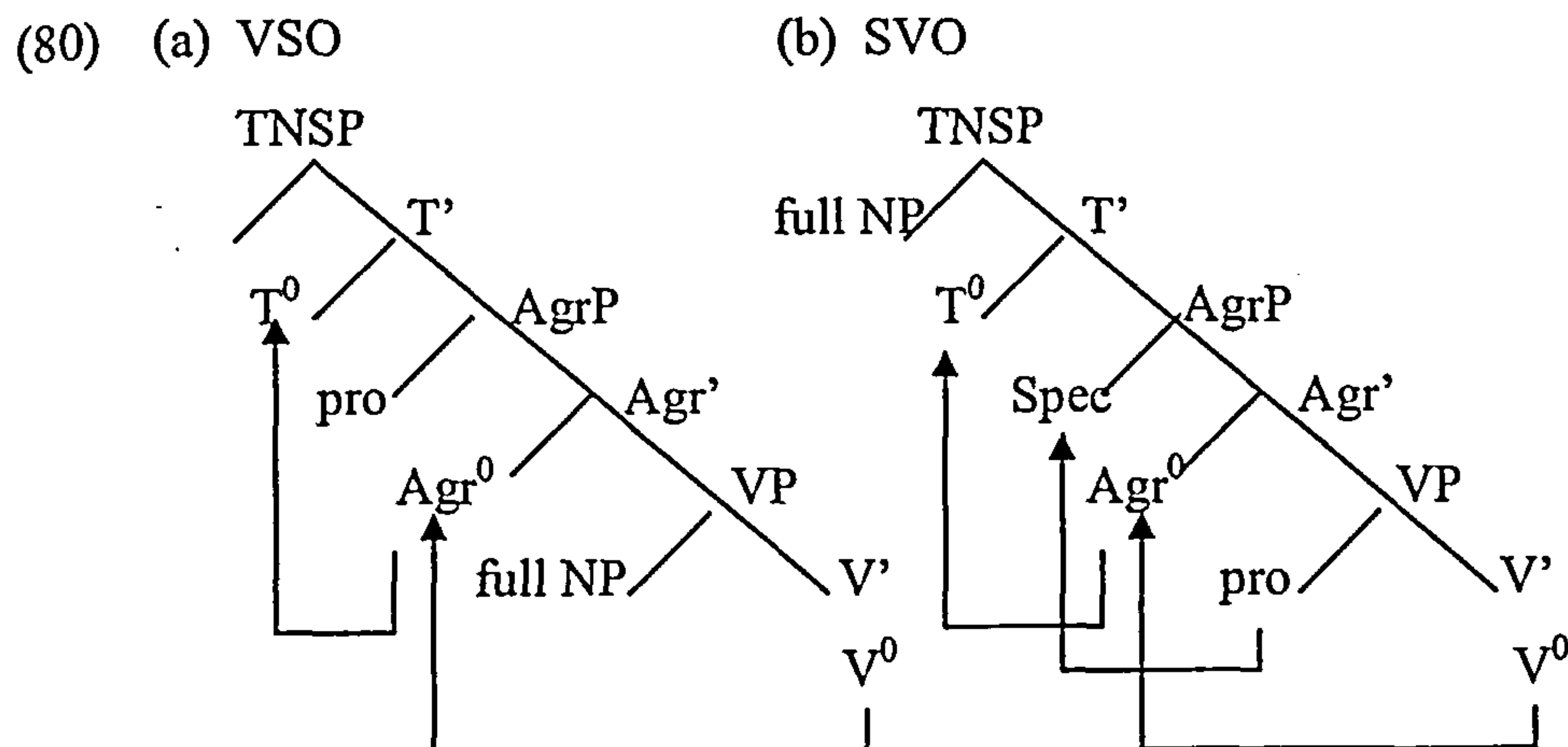
The incorporation analysis proposed to account for agreement asymmetry cannot carry over to the other varieties of Arabic. As indicated, modern Arabic dialects exhibit full agreement regardless of the position of subject in relation to the verb (See Benmamoun (2000) and Aoun et al (1994).

In addition to the Spec-head and the incorporation hypotheses to account for agreement in SA, there is another approach based on parametric variation of functional categories. This approach is advocated in Ouhalla (1991/1994). We look at this approach in the following subsection.

1.1.3.3 Parametric variation and agreement

Ouhalla (1991/1994) argues that languages differ crosslinguistically with respect to the ordering of functional categories (TNS, AGR, NEG...etc.). He assumes that TNS in Arabic dominates AGR. This parametric variation accounts for agreement facts in Arabic. Following Mohammad (1989), Ouhalla (1994: 46-47) argues that the thematic subject in VSO clauses in Arabic is in SpecVP and that the expletive occupies SpecAgr. The verb moves to AGR then to TNS. In SVO clauses, the subject is base-generated in SpecTNSP and is coindexed with a resumptive pro which raises from SpecVP to SpecAgrP. Full agreement obtains because SpecTNSP

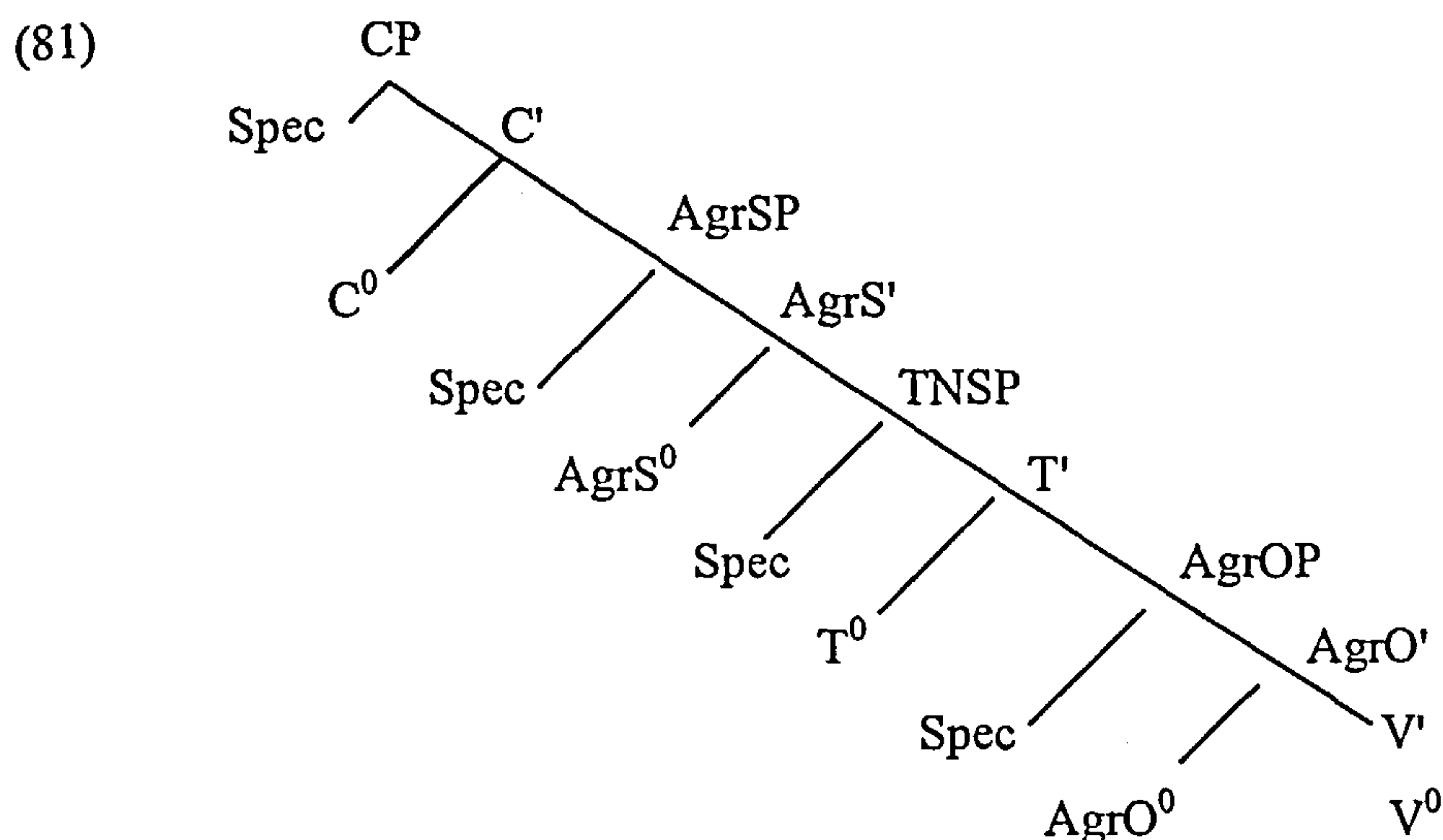
and Agr are coindexed. The structure Ouhalla proposes for VSO and SVO clauses in Arabic is given in (80a) and (80b), respectively.



1.1.3.4 Minimalist approach to word order and agreement

Chomsky (1992/1995) proposes that language is associated with two components: lexical component and computational (syntactic) component. All properties of lexical items are determined in the lexicon. This assumption amounts to the fact that lexical items do not acquire their properties e.g., number and gender inflections via a syntactic process but they enter the syntax with all their lexical properties. The computational component's main role is to check morphological features of lexical items. Thus there is no deep structure in this model because lexical items can enter a structure directly and freely from the lexicon. All this model has is just two levels of representation: the Spell-Out level for an overt movement and the L(ogical) F(orm) level for a covert movement.

Within this model, clauses have two agreement projections: one for subject and object agreement and the other for TNS, as represented in (81).



TNS and AGR projections have each two features- nominal and verbal. So there are nominal and verbal features checked in TNS and nominal and verbal features checked in AGR. These features may be strong or weak. The former are checked before Spell-Out and the latter at LF i.e after Spell-Out. Put differently, strong features are checked overtly whereas weak features are checked covertly (Chomsky 1995). With this in mind, agreement facts can be explained straightforwardly. In VSO clauses, AGR is weak. The verb can move to AgrS only at LF. Partial agreement in these clauses is specified in the lexicon.

As for SVO clauses, AGR has strong features. The verb must move to AgrS in order to check verbal features. The subject must move to SpecAgrSP to check nominal features¹⁰.

This approach is also inadequate for describing agreement variation in Arabic. Plural agreement in Arabic does not necessarily have to be licensed by a lexical subject. A null pronominal and traces of wh subjects can also license number

¹⁰ Roberts and Shlonsky (1996:173) account for word order variation in terms of features associated with N. They argue that in VSO system the N feature associated with Nominative is weak therefore the subject does not raise overtly. In SVO system the N feature is strong and thus the subject moves overtly.

agreement (Benmamoun 1996:29). The example in (82a) involves a null pronominal and the one in (82b) involves a subject wh trace.

- (82) (a) kun-na yarquṣ-na
 be.PAST 3fp dance-3fp
 ‘‘They were dancing’’
- (b) ?istaqbal-tu r-rijaal-a lladhiina faaz-uu
 received I the-men-Acc who 3mp won-3mpl
 ‘‘I received the men who won’’

The interesting point about (82a) and (82b), as pointed out in Benmamoun (1996/2000) is to know whether variables and null arguments have features to check in Agr; and if so, why empty pronominals and wh traces have these strong features. The solution to this problem is proposed in Benmamoun (1996). He argues that number agreement affix is spelled out in PF. In PF an element whether it has a phonological realization or not is able to interact with other elements (Benmamoun 1996:29).

Having outlined previous analyses of agreement variation in Arabic, we will try to explain it in terms of Linear Correspondence Axiom introduced by Kayne (1994).

1.1.3.5 Agreement in Antisymmetry (Kayne 1994)

Kayne’s primary aim is to derive the major property of X¹-bar theory from the LCA. The LCA is a hypothesis about UG which stipulates that asymmetric c-command between nonterminal nodes maps onto a linear order of the terminal nodes. It follows from this hypothesis that a well-formed tree cannot have two nonterminal nodes asymmetrically c-commanding each other unless one of these nonterminal nodes contains another terminal node (Kayne 1994)¹¹. The crucial point relevant to

¹¹ Nor can two terminal nodes c-command each other. Assuming that X and Y are nonterminal nodes asymmetrically c-commanding each other, the terminal nodes they dominate, x and y, will have both <x,y> and <y,x> order in violation of the Linear Correspondence Axiom (LCA). See Kayne (1994).

our discussion of agreement in Arabic is concerned with the notion asymmetric c-command. Kayne's definition of asymmetric c-command is given in (83).

(83) *Asymmetric c-command*

A asymmetrically c-commands B iff A c-commands
B and B does not c-command A. (Kayne 1994: 4)

Number agreement is sensitive as to whether or not the subject asymmetrically c-commands the verb. In order to have number agreement, the subject must raise to a higher position from which it can asymmetrically c-command the verb. On the assumption that the subject originates in SpecVP and that the SVO surface order results from subject moving from its base-generated position to some higher position in the hierarchy, agreement in number can be easily explained : full agreement is only possible if the subject c-commands the verb. In VSO clauses the subject is base-generated in SpecVP but the verb moves to Infl in order to asymmetrically c-command the subject. According to this analysis, agreement in number and gender is realized if the subject asymmetrically c-commands the verb in the former case and the verb asymmetrically c-commands the subject in the latter case.

1.1.4 The Construct State (*Idaafa*)¹²

Beeston (1970:46) points out that “in order to understand the construct state (CS) construction in Arabic, it is best to regard it as a parallel to the English form in which two nouns are juxtaposed, as in “ steam train”, “village doctor”, “orange peel”. The only difference between English and Arabic, as Beeston explains, is in the relative placing of the two nouns. In Arabic the possessor follows the possessed noun whereas in English the possessor comes first.

In recent years, the construct state in Semitic has been extensively studied (e.g. Ritter (1989); Hazout (1988); Siloni (1996); Fassi-Fehri (1993); Benmamoun

¹² The term *Annexation* is sometimes used to refer to this type of construction. See Beeston (1970).

(2000), among others). In the following subsections, we will look at two of the properties of this construction.

1.1.4.1 Some properties of the construct state

1.1.4.1.1 Definiteness

For the construct state to be well-formed, only the last part of the construction should carry the definite article:

(84) baab-u l-bayt-i
 door Nom the house Gen
 “The door of the house”

(85) *l-baab-u l-bayt-i
 the door Nom the house Gen

The ill-formedness of (85) is due to the fact that the first member of the CS cannot carry the definite article. It is assumed that the first part inherits definiteness from the second part and is therefore definite (Fassi-Fehri (1993), Benmamoun (2000)). To show that this is the case, a modifying adjective must also be definite as in (86) below.

(86) baab-u l-bayt-i l-jadiid-u
 door Nom the house Gen the new Nom
 “The new door of the house”

(87) *baab-u l-bayt-i jadiid-u
 door Nom the house Gen new Nom

(88) *baab-un l-bayt-i l-jadiid-u

In (86) the adjective is both definite and Nominative. The Case on the adjective is straightforward: it must have the Case of the noun it modifies. The fact that the adjective is definite can be accounted for if we assume that the head noun gets its

definiteness interpretation from its complement which is definite. When there is no agreement in definiteness, the structure becomes ungrammatical as in (87)¹³.

Note that the *tanwiin* “nunation” must not show up otherwise the structure will be bad, as in (88). We can take this fact as further evidence to indicate that the head noun in (86) is indeed definite since the nunation and the definite determiner cannot cooccur (cf. *kitaab-un* “a book” vs *l-kitaab-u* “the book”)¹⁴.

1.1.4.1.2 Adjacency

The second property of the members of the CS is that they should be adjacent. No other constituent is allowed to interpose.

(89) *kitaab-u ṭ-ṭaalib-i l-jadiid-u*
book Nom the student Gen the new-Nom
“The new student’s book”

(90) **kitaab-u l-jadiid-u ṭ-ṭaalib-i*
book Nom the new-Nom the student Gen

The example in (90) is ungrammatical because the two members are separated by an adjective.

¹³ It is interesting to note that an adjective heading a construct state phrase can be definite, unlike the situation when the head is a noun. Compare (85) with (i) below:

(i) *r-rajul-u l-jamiil-u l-xuluq-i*
the-man Nom the-beautiful-Nom the-manner-Gen
“The man of good manners”

It might be that the determiner that appears with the adjective marks agreement in definiteness with the preceding definite noun or it could be a reduced relative marker. Under the second assumption, (i) would be interpreted as “The man whose manners are good”. See Fassi-Fehri (1999).

¹⁴ But see footnote (4) above.

Part Two: Relative Clauses

SA has different types of relative clauses (RCs). Some of the RCs in SA have properties which do not exist in many languages. One RC type in Arabic, for example, requires an obligatory presence of the relative pronoun. In other types, this pronoun must be absent. Also there are cases where the relativized position must be filled with a pronoun whereas in some other positions the pronoun is optional and in some impossible. The relative clause types we are concerned with in this part of the chapter include definite and indefinite headed restrictive relatives derived from both simple and embedded clauses. These are discussed in sections (1.2.1) and (1.2.2), respectively; free relative clauses whose head noun is not lexically realized. This type includes *lladhii-free relatives*, *man-free relatives* and *maa-free relatives*. These are discussed in section (1.2.3); participial relatives are introduced in section (1.2.4). Still there is another relative clause construction in which a relative clause, from the traditional viewpoint, does not immediately follow the antecedent. This type is briefly introduced in section (1.2.5). This part of the present chapter is purely descriptive and therefore I am not concerned with any type of analysis of how these relatives are derived.

1.2.1. Relative Clauses formed from main clauses

In this section we will look at restrictive headed relatives which are divided into two: definite headed relatives (1.2.1.1.1) and indefinite headed relatives (1.2.1.1.2). Section (1.2.2) focuses on definite and indefinite restrictive relatives formed from embedded clauses.

1.2.1.1. Headed Relatives

SA has two types of headed relative clauses. The first type is *definite* where the head noun is definite. In this type the relative marker *lladhii* is obligatorily present. The second type is *indefinite* where the head is not definite. There is no relative

marker in this type of relative clauses. In the following subsections, we look at each type in some detail.

1.2.1.1.1. Definite headed relatives (DHRs)

Definite Headed Relatives (DHRs) are characterized by having a definite “head”. Nouns in Arabic can be made definite by the use of the definite article *l-* placed in front of an indefinite noun. Another way is to attach a pronoun to an indefinite noun. A third way is by using the CS¹⁵.

Proper names do not need any of these strategies because they are inherently definite. The RC is said to be definite if the “head” i.e. the antecedent, is definite. One of the most important characteristics of DHRs is that they are introduced by the relative marker *lladhii* which agrees in number, gender, definiteness and sometimes in case with the head noun. We are going to look at different relativized argument positions in DHRs and see what differences and similarities these positions have. Before doing so, the following table showing the relative marker paradigm is relevant.

Table (3) *the relative marker paradigm*

Number	Gender		Nom.		Acc.		Gen.	
	Masc.	Fem.	Masc	Fem	Masc	Fem	Masc	Fem.
<i>Sing</i>	lladhii	llatii	-	-	-	-	-	-
<i>Dual</i>	lladhaani	llataani	lladhaani	llataani	lladhayni	llatayni	lladhayni	llatayni
<i>Plural</i>	lladhiina	llwaati	-	-	-	-	-	-

¹⁵ In SA pronouns are definite and that any indefinite noun to which a pronoun is suffixed is therefore definite and any indefinite noun that takes a definite NP complement is also definite. Compare:

- (i) *kitaab-u-hu *(l)-jadiid-u*
book Nom his *(the) new Nom
“His new book”
- (ii) *kitaab-u t-taalib-i *(l)-jadiid-u*
book Nom the-student *(the)-new Nom
“The student’s new book”

1.2.1.1.1 Subject Relatives

We have seen that when the subject precedes the verb there must be full agreement. The same scenario takes place in subject relatives. The following examples illustrate.

- (91) mat-a r-rijaal-u lladhiina katab-uu t-taarix-a
died 3ms the men Nom that mpl wrote 3mpl the history-Acc
“The men who wrote history died”
- (92) *mata r-rijaal-u lladhiina kataba t-taarix-a
died 3ms the men Nom that mpl wrote 3ms the history-Acc
- (93) qaabal-tu t-taalib-ay-ni lladh-ay-ni faz-aa bi l-jaa?aizat-i
met I the students dual Acc that dual Acc won dual m with the prize Gen
“I met the two students who won the prize”
- (94) qaabal-tu t-taalib-ay-ni lladh-ay-ni daraba badr-un
met I the students dual Acc that dual Acc hit 3ms badar Nom
“I met the two students whom Badar hit”

The verb in both (91) and (93) agrees in number with the antecedent of the relative clause. When agreement in number is absent we get ungrammatical sentences as in (92). This agreement can be accounted for by the fact that the subject NP precedes the verb or it could be because the relative was SV to start with i.e subject relative clauses derive from nominal sentences. There is no number agreement when the object position is relativized, as in (94)¹⁶. The example in (93) shows one important feature in SA relatives which does not exist in European languages such as German, Latin and English. The feature concerned is the case of the relative marker. In the European languages the case of the relative marker is determined by the case of the NP it replaces inside the relative clause. In SA the case of the relative marker is

¹⁶ Agreement in number and gender with a relativized object must appear on the pronoun, if there is any, in the relativized position. See (1.2.1.1.2) below.

determined by the head noun i.e the antecedent of the relative clause. Case distinctions on the relative marker only show up in the dual forms since the singular and plural have one common form for all cases. The head noun in (93) carries the accusative case assigned to it by the matrix verb¹⁷. The relative marker is expected to carry the nominative case because it originates in the subject position of the embedded clause. Rather, we see that it agrees with the antecedent in all features including Case. The fact that the relative marker cannot have the nominative is shown by the following ungrammatical example in (95).

- (95) * qaabal-tu ʔ-ʔaalib-ay-ni lladh-aan-i
met I the students dual Acc that dual Nom
fazaa bi l-jaaʔaizat-i
won dual m with the prize Gen

Back to subject relativization. Subject relatives do not involve any pronouns in the relativized argument position. The affixes which appear on the verb are merely agreement markers which also appear in SV clauses as already indicated in section (1.1.2.2.2) above.

I have mentioned that DHRs require an obligatory presence of the relative marker *lladhii*. The examples given in (91) and (93) are not possible without the relative marker, as their ungrammatical counterparts given in (96) and (97) show.

- (96) *mata r-rijaal-u katab-uu t-taarix-a
died the men Nom wrote 3mpl the history Acc
(97) *qaabal-tu ʔ-ʔaalib-ay-ni faz-aa
met I the students dual Acc won dual m

¹⁷ In case there is no matrix Case-assigner, a default Nominative is assigned to the head noun.

1.2.1.1.1.2. Direct object relatives

Definite direct object relatives can have two possibilities as far as the relativized argument position is concerned. One possibility is that the site of the relativized position is filled with a pronoun. The other possibility is that it is left empty. These possibilities are illustrated in (98-101).

(98) l-qaṣar-u lladhii zurtu-hu
the palace Nom that visited I it
“The palace which I visited”

(99) l-qaṣar-u lladhii zur-tu
the palace Nom that visited I
“The palace which I visited”

(100) r-rijaal-u lladhiina qaabal-tu-hum
the men Nom that 3mpl met I them 3mpl
“The men who I met”

(101) r-rijaal-u lladhiina qaabal-tu
the men Nom that3mpl met I

Note that the resumptive pronoun agrees in gender and number with the antecedent but does not show Case since Case does not have morphological manifestation on clitic pronouns (Roberts and Shlonsky (1996))¹⁸.

¹⁸ But note the contrast in (i) and (ii):

(i) jalas-tu ma9-h-u/*i
sat-I with-him-Nom/ *Gen
“I sat with him”

(ii) tahadath-tu ?ilay-h-i/*u
talked-I to him-Gen/*Nom
“I spoke to him”

The pronoun in (i) appears in the Nominative whereas in (ii) it appears in the Gen. I have no idea to account for this difference in Case but (ii) provides some evidence that Case, contrary to Roberts and Shlonsky (1996), does have morphological manifestation on clitics. We may propose that cases such as (i) involve abstract genitive Case.

1.2.1.1.1.3. Indirect Object relatives

Indirect object relatives involve a construction in which the inner object in a double object construction of the form [V NP NP] is relativized. We have seen that direct object relativized argument positions can either be filled with a pronoun or left empty. In indirect object positions there is only one possibility: the relativized argument position must be filled with a pronoun, hence the ungrammaticality of (103).

(102) ja?a r-rajul-u lladhii ?a9taa-hu zayd-un l-hadiyyat-a
came the man Nom that gave him zayd Nom the present Acc
“The man whom Zayd gave the present came”

(103) *ja?a r-rajul-u lladhii ?a9taa zayd-un l-hadiyyat-a

1.2.1.1.1.4. Prepositional object relatives

The situation here is similar to that in indirect object positions. A pronoun is obligatory when the object of a preposition is relativized as (104) illustrates.

(104) ?u9tuqila r-rajul-u lladhii ?axbar-ta-ni 9an-hu
arrested PASS the man Nom that told 2ms me about him
“The man that you told me about was arrested”

(105) *?u9tuqila r-rajulu lladhii ?axbar-ta-ni 9an
arrested PASS the man Nom that told 2ms me about

1.2.1.1.1.5. Possessive NP

It is not impossible to have relatives derived from the construct state possessives exemplified in (106).

- (106) ?b-u l-fataat-i
father-Nom the-girl-Gen
“The girl’s father”

Possessor relativization requires a pronoun in the extraction position. This pronoun is obligatory and agrees in gender and number with the antecedent:

- (107) ahan-uu l-fataat-a llatii haraba ?bu-haa
insulted 3m pl the girl Acc that 3fs escaped 3ms father Nom her
“They insulted the girl whose father escaped”

- (108) *ahan-uu l-fataat-a llatii haraba ?bu
insulted 3m pl the girl Acc that 3fs escaped 3ms father Nom

1.2.1.1.2. Indefinite Relatives (IR)

1.2.1.1.2.1 Indefinite headed relatives formed from main clauses

Indefinite Relatives (IRs), as opposed to DRs, are annexed to immediately preceding indefinite noun without the aid of the relative marker. In the following subsections, we will describe how this type of relatives is different from the one we have seen above.

1.2.1.1.2.1.1 Indefinite subject relatives

The difference between DRs and IRs is that the former, as mentioned above, contain a relative marker; the latter do not.

In simple clauses the relativized subject positions are empty¹⁹. In embedded clauses the relativized subject position depends on whether the complementizer is *?an* or *?anna*. To begin with simple subjects relatives, we consider the following examples.

¹⁹ In Chapter Four Section (4.1) I will assume that the relativized subject position is occupied by a null resumptive pronoun identified by agreement morphology on the verb.

(109) qaabal-tu rajul-a-n zaara miṣr-a
met I man Acc visited 3ms Egypt Acc
“I met a man who visited Egypt”

(110) raʔay-tu awlaad-a-n yal9ab-uu-na
saw I boys Acc play 3m pl
“I saw boys who were playing”

It is not possible to have the relative marker in this type of relatives. Thus (109) and (110), repeated in (111) and (112) are ungrammatical when they contain the relative marker *lladhii*.

(111) *qaabal-tu rajul-a-n lladhii zaara miṣr-a
met I man Acc that visited misr Acc

(112) *raʔay-tu awlaad-a-n lladhiina yal9ab-uu-na
saw I boys Acc that 3m pl play 3m pl

As in DRs, agreement in number and gender between the antecedent and the verb must be realized as shown in the grammatical example in (110) above.

1.2.1.1.2.1.2 Indefinite direct object relatives

Indefinite direct object relatives are only possible if the relativized argument position is filled with a pronoun. We have seen that in definite direct object relatives a gap and a pronoun can freely alternate. An example of an indefinite object relative clause is given in (113). The example in (114) is ill-formed because it contains no resumptive pronoun in the object position.

(113) qaraʔ-tu kitaab-a-n ʔaḥdara-hu sayf-u-n
read I book Acc brought it sayf Nom
“I read a book that Sayf brought”

- (114) *qara?-tu kitaab-a-n ?ahdara sayf-u-n
read I book Acc brought sayf Nom

1.2.2 Relatives formed from embedded clauses

Embedded clauses in Arabic are introduced by the complement sentential complementizers *?an* and *?anna*. Before we proceed our discussion of relative clauses derived from embedded clauses, we give a brief outline of these two major complementizers in an attempt to distinguish them from the relative complementizer *lladhii*.

In dealing with relative clauses, we have seen that SA uses the complementizer *lladhii* which carries the features of the antecedent²⁰. Beside the relative complementizer, Arabic has two major complementizers *?an* and *?anna* used in embedded clauses. The point is that the relative and sentential complementizers are in complementary distribution. The relative complementizer (including *man* and *maa*) introduces relative clauses; subordinating complementizers introduce other embedded sentences. In addition, the relative complementizer *lladhii* inflects for number, gender, Case (as in the dual forms) and definiteness whereas subordinating complementizers do not.

The complementizer *?anna* is a Case assigner. It assigns accusative to a lexical NP or a pronominal²¹. It can thus introduce a nominal clause where it means “indeed”, “verily” as in (115).

- (115) ?inna r-rajul-a kariim-u-n
verily the man Acc generous Nom
“Verily, the man is generous”

²⁰ It must be emphasised that only relative clauses with a definite antecedent require overt *lladhii*.

²¹ Again, being a clitic, morphological Case does not appear. See footnote (18).

Since *?anna* cannot introduce a verb, the subject of the embedded clause must precede the verb so that *?anna/?inna* can assign accusative to the subject.

(116) zanan-tu ?anna badr-a-n saafara
thought I that badar Acc traveled 3ms
“I thought that Badar has traveled”

(117) zanan-tu ?anna-hu saafara
thought I that him traveled
“I thought that he traveled”

(118) *zanan-tu ?anna saafara
thought I that traveled

When there is no lexical NP or a pronominal, the structure becomes ungrammatical, as in (118). This complementizer forces embedded clauses in SA to have a fixed SV order.

The second major subordinating complementizer is *?an*. Unlike *?anna/?inna*, the complementizer *?an* does not introduce nominal clauses.

(119) *?an r-rajul-u kariim-u-n

Neither can a pronominal attach to it as a suffix:

(120) *?an-hu kariim-u-n

Both (119) and (120) are ruled out since *?an* does not assign Case to noun phrases. This complementizer can only introduce verbs to which it assigns the subjunctive mood.

(121) laa ?uriid-u ?an yadhab-a zayd-u-n
not want I Ind that 3ms go Subj zayd Nom
“I do not want Zayd to go”

The subject of the embedded clause must not precede the verb as in the following example.

- (122) **laa* *?uriidu* *?an zayd-u-n yadhhab-a*
not want I Ind that zayd Nom 3ms go Subj

Word order in embedded clauses, then, is determined by the type of the complementizer introducing an embedded clause. However, extraction from embedded clauses introduced by *?an* and *?anna* is possible despite the variation in word order. We will look at this issue in the following section.

1.2.2.1. Definite headed embedded relatives

1.2.2.1.1 The Subject position

As far as subject relativization in embedded clauses is concerned, it is not impossible to have a relative clause whose head noun is related to the subject argument position in the embedded clause as the following examples show.

- (123) *r-rajul-u* *lladhii* *?uriidu* *?an yaḍrib-a badr-a-n*
the man Nom that 3ms want I that hit Subj badar Acc
“The man who I want to hit Badar”

- (124) *l-bin-t-u* *llatii* *tuhibu* *?an tusaafir-a* *fi l-qīṭaar-i*
the girl Nom that 3fs like3f that travel 3f Subj. in the train Acc
“The girl who likes to travel in the train”

Clearly the antecedent in (123) and (124) originates in the subject position of the embedded clause. The crucial point here is that it is quite permissible to have such clauses despite the presence of the complementizer.

Subject relativization in embedded clauses introduced by the complementizer *?anna* has a different structure from clauses introduced by *?an* in the sense that *?anna* is followed by a pronoun whereas *?an* is not. The following examples are ill-formed.

- (125) *l-walad-u lladhii zanan-tu ?anna saafara
 the boy Nom that 3ms thought I that traveled 3ms
 *“The boy who I thought that traveled”
- (126) *l-bint-u llatii zanan-tu ?anna harabat
 the girl that3fs thought I that escaped 3f
 *“The girl who I thought that escaped”

The ungrammaticality of the above examples does not have to do with *that*-trace as the English translation might suggest²². If subject extraction in embedded clauses has to do with *that*-trace, (123) and (124) above will be ruled out. Thus it is possible to move the subject out of *?an* or *?anna*-embedded clauses. The crucial difference is that the complementizer *?an* can only be followed by a gap whereas *?anna* must be followed by a lexical trace in the form of a resumptive pronoun. The examples in (125) and (126) above can only be fine if *?anna* is followed by a pronominal as in (127) and (128). Importantly, this pronoun must have number and gender features of the extracted subject. Thus (125) and (126) will have the following grammatical counterparts.

- (127) l-walad-u lladhii zanan-tu ?nna-hu saafara
 the boy Nom that 3ms thought I that [3ms] traveled 3ms
- (128) l-bint-u llatii zanan-tu ?nna-haa harabat 3fs
 the girl Nom that 3fs thought I that [3fs] escaped

²² *That*-trace effect prevents the subject of the embedded clause from being moved out if the complementizer is overt. SA allows such extraction as in (125-126). Also see Chapter Five, Section (5.1). For a discussion of other languages such as Italian, see Rizzi (1990).

1.2.2.1.2 The direct object position

Direct object positions in embedded clauses can be relativized. Just as in DHRs, a resumptive pronoun can freely alternate with the gap in the relativized argument position.

- (129) l-kitaab-u lladhii zanantu ?anna badr-a-n qar?a-hu
 the book Nom that 3ms thought I that badar Acc read 3ms
 “The book that I thought Badar has read”

- (130) l-kitaab-u lladhii zanantu ?anna badr-a-n qar?a
 the book Nom that thought I that badar Acc read

As in main clauses, the resumptive pronoun must agree with the antecedent in number and gender as shown in (129).

1.2.2.1.3 The Indirect object position

Embedded indirect objects also use the resumptive pronoun strategy. The lexical NP following *?anna* is in the accusative case because *?anna* is an accusative Case assigner.

- (131) ja?a r-rajul-u lladhii zanan-tu ?anna badr-a-n
 came3ms the man Nom that thought I that badar Acc
 ?a9taa-hu l-hadiyyat-a
 gave3ms him the present Acc
 “The man that I thought Badar gave the present to has come”

- (132) *ja?a r-rajul-u lladhii zanantu ?anna badr-a-n
 came3ms the man Nom that thought I that badar Acc
 ?a9taa l-hadiyyat-a
 gave3ms the present Acc

1.2.2.1.4 The prepositional Complement position

The same applies to prepositional object position in embedded clauses. The obligatory pronoun following the preposition can be accounted for by the fact that Arabic does not allow preposition stranding as English does. I presume this is why (134) is ill-formed.

- (133) raʔay-tu l-bint-a llatii ʔazunnu ʔanna badr-a-n
saw I the girl Acc that think I that badar Acc
ʔaxbara-ka 9an-haa
told 3ms you about her
“I saw the girl that I think Badar has told you about”

- (134) *raʔay-tu l-bint-a llatii ʔazunnu ʔanna badr-a-n ʔxbara-ka 9an
saw I the girl Acc that think I that badar Acc told you about

1.2.2.1.5 The Possessive NP

The same pronoun strategy holds for relativizing the possessive NP from an embedded clause. Thus while (135) is ruled in, (136) is ruled out.

- (135) r-rajul-u lladhii qaal-at sh-shurṭat-u ʔinna
the man Nom that 3ms said 3f the police Nom that
bayt-a-hu nuhiba
house Acc3ms robbed 3ms PASS
“The man whose house the police said was robbed”

- (136) *r-rajul-u lladhii qaal-at sh-shurṭat-u ʔinna
the man Nom that 3ms said 3f the police Nom that
bayt-a nuhiba
house-Acc robbed 3ms PASS

1.2.2.2 Indefinite headed embedded relatives

1.2.2.2.1 The subject position

There is no problem in relativizing the indefinite subject from an embedded clause introduced by the complementizer *?an*. The complementizer *?anna*, however, must be followed by a pronominal as in definite embedded subject relatives. The relevant examples are given in (137) and (138).

- (137) qaabal-tu fataat-a-n turiid-u ?an tazur-a mişr-a
 met I girl Acc 3f-want Ind that 3f-visit Subj Egypt-Acc
 “I met a girl who wants to visit Egypt”

- (138) qaabal-tu fataat-a-n qaalat ?inna-haa laa ta9rif-u badr-a-n
 met I girl Acc said 3f that [3fs] Neg 3f-know Ind. badar Acc
 “I met a girl who said that she does not know Badar”

- (139) *qaabal-tu fataat-a-n qaalat ?inna laa ta9rif-u badar-a-n
 met I girl Acc said 3f that not 3f-know Ind badar Acc

The difference between *?anna* and *?inna*, as stated earlier, is that the former can only introduce embedded clauses whereas the latter can introduce a nominal clause as well as an embedded one in the complement position of the verb *say* as in (138). They both assign the accusative case to the following DP.

1.2.2.2.2 The direct object position

Indefinite object positions in embedded clauses must be filled by a pronoun. The gap is not possible as shown by the ungrammaticality of (141).

- (140) ja?a rajul-u-n ?arada badr-u-n ?an yuqaabil-a-hu
 came 3ms man Nom wanted 3ms badar Nom that 3m-meet subj him
 “A man that Badar wanted to meet has arrived”

- (141) *ja?a rajul-u-n ?arada badr-u-n ?an yuqaabil-a
 came 3ms man Nom wanted 3ms badar Nom that meet-Subj

To sum up, it is shown that definite relatives in SA have two possibilities with respect to the relativized argument position. Some relativized argument positions require an obligatory presence of a pronoun which agrees in number and gender with the antecedent. These positions include indirect object, prepositional object and possessive NP. The other possibility is related to the direct object position. Here a pronoun and a gap alternate freely. The gap strategy is the only option available for relativized the subject position except when embedded under the complementizer *?anna*. We have also seen that DHRs must contain the relativizer *lladhii* which agrees in gender, number, definiteness and Case (in dual forms) with the antecedent. We have seen that what characterizes indefinite relatives from the definite ones is that in the former the resumptive pronoun is obligatory in all relativized argument positions including the direct object position whereas in the latter the pronoun is optional but only in direct object position. Furthermore, indefinite relatives do not have an overt relative marker.

It has also been shown that it is possible to derive a grammatical subject relative clause from an embedded clause introduced by the complementizer, a derivation which is not possible in languages such as English if the complementizer is overtly expressed.

1.2.3 Free Relatives (FRs)²³

Free relatives (FRs) are a type of relative clause in which the head noun is not lexically realized. We will give a description of three types of FRs: *lladhii*-free relatives (2.2.3.1), *man*-free relatives (2.2.3.2) and *maa*-free relatives (2.2.3.3). We will look at different relativized argument positions in each type of these relatives.

²³ Also known as *headless* relatives.

1.2.3.1 *Lladhii*-free relatives

These relatives are introduced by *lladhii* which is also used to form definite headed relative clauses as we have seen. We have seen that *lladhii* can inflect for number, gender, definiteness and, in some cases, for case. These features must appear on both the antecedent and the relative complementizer. There is no overt antecedent in *lladhii*-free relatives. The features can only appear on the relative complementizer. In the following subsections we will focus on different relativized argument positions in *lladhii*-free relatives.

1.2.3.1.1 The subject position

Subject relativization in *lladhii*-free relatives is similar to subject relativization in headed relatives in the sense that the verb and the relative complementizer must agree in number and gender, as illustrated below.

- (142) da9aw-tu lladhii faza
invited I that 3ms won 3ms
“I invited the one (masc.) who won”
- (143) da9aw-tu llatii faz-at
invited I that 3fs won 3fs
“I invited (the female person) who won”
- (144) da9aw-tu lladhiina faaz-uu
invited I that 3m pl won 3m pl
“I invited (the male persons) who won”
- (145) da9aw-tu lladhayni fazaa
invited I that dual m Acc won dual m
“I invited (the two male persons) who won”

(146) da9aw-tu llatayni fazataa
 invited I that dual f Acc won dual f
 “I invited (the two female persons) who won”

(147) da9aw-tu llawaati fuzna
 invited I that 3f pl won 3f pl
 “I invited (the female persons) who won”

All the examples above involve subject relativization in main clauses. It is shown that there is agreement in gender and number between the relative complementizer and the verb. This is similar to the situation in SV clauses in which subject-verb agreement must be realized. When there is no agreement, the structure becomes ungrammatical. For example, (144) will be ill-formed if it appears with agreement markers other than third masculine plural, as in (148).

(148) * da9aw-tu lladhiina faza/ fazaa/ fazat/ fuzna
 invited I that 3m pl won 3ms/ won dual m/ won 3fs/ won 3f pl

It is also possible to relativize the subject of an embedded clause in *lladhii*-free relatives, as shown in the following example.

(149) saafra lladhiina zanan-tu ?an yaḥḍuruu l-hafl-a
 traveled that 3m pl thought I that 3s attend 3m pl the party Acc
 “(the male persons) who I thought would attend the party have traveled”

1.2.3.1.2 The direct object position

Internally, direct object free relatives are identical to lexically headed direct object relatives in the sense that the relativized argument position may or may not be filled with a pronoun. The examples in (150) and (151) are both well-formed.

(150) qaabal-tu lladhii ahan-ta-hu
 met I that insulted you ms him
 “I met (the one) who you insulted”

(151) qaabal-tu lladhii ahan-ta
 met I that insulted you ms
 “I met the one (male) who you insulted.”

It is also possible to relativize the object of an embedded clause in *lladhii*-free relatives, as in (152).

(152) raʔay-tu lladhayni ʔrada badr-u-n ʔan yukrima-humaa
 saw I that dual m Acc wanted 3ms badar Nom that honour them dual m
 “I saw (the two male persons) who Badar wanted to honour”

1.2.3.2 *Man*-free relatives

Man carries the feature [+human] and is used to introduce a free relative. Unlike *lladhii*, *man* does not inflect for number or gender. It always carries the feature third person masculine singular. There is the *interrogative man* which is different from the *relative man*. When interrogative *man* is used, the verb is always third masculine singular, as shown in (153-155):

(153) man ɖaraba zayd-a-n ʔ
 who hit 3ms zayd Acc
 “Who hit Zayd?”

(154) *man ɖarabat zayd-an ʔ
 who hit 3fs zayd-Acc

(155) *man ɖarabuu zayd-a-n ʔ
 who hit 3m pl zayd-Acc

The examples above are ungrammatical, apart from (153). This is the situation with interrogative *man*. As for relative *man*, the verb inflects for number and gender.

This will be shown in the following subsections involving the relativization of different argument positions.

1.2.3.2.1 The subject position

One of important features of subject relativization in *man-free relatives* is that the complementizer *man* and the verb do not have the same number and gender agreement. As said earlier, relative *man* is always third masculine singular. The verb, however, inflects for number and gender as the following examples show.

- (156) raʔay-tu man ahaana badr-a-n
saw I who insulted 3ms badar Acc
“I saw (the male person) who insulted Badar”
- (157) raʔay-tu man ahaanuu badr-a-n
saw I who insulted 3m pl badar Acc
“I saw (the male persons) who insulted Badar”
- (158) raʔay-tu man ahanna badr-a-n
saw I who insulted 3f pl badar Acc
“I saw (the female persons) who insulted Badar”

The crucial point here is that relative *man* can cooccur with a verb that has features other than third person singular. There is no restriction on the type of agreement that the verb following *man* can have as far as the subject relativization is concerned. Semantically, *man* can only get its interpretation from the number and gender inflections on the verb as shown by the translation.

1.2.3.2.2 The direct object position

The direct object argument position in *man-free relatives* can be filled with a resumptive pronoun or a gap. This is similar to what we have seen in *lladhii-free* relatives involving the direct object argument position.

- (159) ahtarimu man tahtarimu
1s respect who 2ms respect
“I respect whoever / * who you respect”
- (160) ahtarimu man tahtarimu-hu
1s respect who 2ms respect him
“I respect who/ *whoever you respect”

Semantically, *man* in (159) and (160) does not have the same interpretation. This is due to the presence and absence of the resumptive pronoun in the relativized argument position. With a gap, as in (159), *man* can only have a non-specific reference. With a pronoun, as in (160), *man* can only have a specific interpretation.

1.2.3.2.3 Other object positions

All other object argument positions i.e. indirect object, prepositional object and possessive NP require an obligatory pronoun when relativized. Below is an example of each type of these argument positions. (161) is an example of indirect object and its ungrammatical counterpart in (162). (163) illustrates prepositional object argument and (165) shows the possessor NP relativized position.

- (161) ja?a man ?a9taa-hu badr-u-n hadiyyat-a-n
came 3ms who gave him badar Nom present Acc
“The one to whom Badar gave a present has arrived”
- (162) *ja?a man ?a9taa badr-u-n hadiyyat-a-n
came that gave badar Nom present Acc
- (163) qaabal-tu man saafar-ta ma9a-haa
met I who traveled you with her
“I met the one (f) you traveled with”
- (164) *qaabal-tu man saafar-ta ma9a
met I who traveled you with

- (165) zur-tu man mat-at ?ummu-hum
visited I who died 3fs mother Nom their
“I visited the ones whose mother died”
- (166) *zur-tu man matat ?ummu
visited I who died 3fs mother Nom

The direct object position is the only relativized position that a pronoun can alternate with a gap as in (159) and (160) above. The ungrammaticality of (162) has to do with the fact that the dative clitic does not show up on the verb. Thus (161) is well-formed whereas (162) is not. The ill-formedness of (164) is related to the unavailability of preposition stranding in SA. The resumptive pronoun is also obligatory in instances where a possessive NP is relativized. The absence of the pronoun yields ungrammatical structures such as (166).

We have seen that *lladhii* can be used in free relatives. Unlike *man*, *lladhii* must always have a specific reference regardless of the features it carries. *Lladhii* in free relatives must always be interpreted as “The male person/persons or the female person/persons who” but cannot be interpreted as “any male/female persons who”. This specific interpretation of *lladhii* is due to the fact that it is always definite and has rich agreement morphology. The idea that the interpretation of *man* depends on the presence or absence of the pronoun does not generalize to *maa*-relatives, which we will look at in the following subsection.

1.2.3.3 *Maa*-free relatives

These relatives are introduced by *maa* which is also used to introduce interrogatives. So there are two types of *maa*. One type is used in relative clauses, the other type is used in interrogatives. Both types are inanimate in reference and always have the third person singular feature.

1.2.3.3.1 The subject position

Maa-free relatives are not the same as *man*-relatives. We have seen that in *man*-relatives the verb inflects for number and gender. This is not so in *maa*-relatives. There is no number or gender morphology on the verb.

(167) smi9-tu maa hadatha
heard I that 3ms happened 3ms
“I heard what happened”

(168) *smi9-tu maa hadathat
happened 3fs

Compared with (156-158) above, the example in (168) is more restricted in the sense that the verb can only have one feature –third masculine singular as shown in (167).

The agreement pattern in *maa*-relatives is the same as the agreement pattern in *maa*-interrogatives. All the examples below, apart from (169), are ill-formed.

(169) maa hadatha li zayd-i-n ?
what 3ms happened 3ms to zayd Gen
“what happened to Zayd?”

(170) *maa hadathat li zayd-i-n
happened 3fs to zayd Gen

(171) *maa hadathuu li zayd-i-n
happened 3m pl to zayd Gen

The point here is that *maa* is different from *lladhii* in the sense that the latter cannot be used to introduce interrogative clauses. The only way that *lladhii* can be used in interrogative clauses is when it is preceded by *maa* or *man*.

(172) maa lladhii hadatha li badr-i-n ?
what that happened 3ms to badar Gen
“What happened to Badar?”

(173) *lladhii hadatha li badr-i-n ?

lladhii can also be introduced by the interrogative *man* to form questions, but can never be used alone to form questions as the ungrammaticality of (176) shows.

(174) man ahaana badr-a-n ?
who insulted badar Acc
“Who insulted Badar?”

(175) man (i) lladhii ahaana badr-a-n ?
“Who insulted Badar?”

(176) *lladhii ahaana badr-a-n ?

The examples in (169) and (174) are not the same as (172) and (175). The relative pronoun in (172) and (175) seem to appear in Wh-questions that derive from relative clauses. A deletion rule takes place where both the copula and the relative head are deleted (Farghal 1986:83). The example in (177), for instance, has the following structure before deletion rule applies:

(177) man (yakunu) (sh-shaxsu) lladhii ahaana badr-a-n ?
who is 3ms the person that insulted badar

1.2.3.3.2 The direct object position

As in *man*-relatives, relativized direct object argument positions in *maa*-relatives can involve either a gap or a resumptive pronoun.

(178) hadatha 3ms maa ?atamanaa-hu
happened that hoped I it
“What I hoped has happened”

- (179) hadatha 3ms maa ?atamanaa
 happened what hoped I

The pronoun in the relativized argument position can only be third masculine singular. We have seen that this is not the case in *man* direct object positions where the resumptive pronoun can have plural features as well. The relative *maa* and the resumptive pronoun must have the same number features- both must be third person singular. Apart from (180), (181) and (182) are ungrammatical.

- (180) ?az9aja-ni maa smi9-tu-hu
 annoyed 3ms me that heard I it
 “What I heard annoyed me”
- (181) *?az9aja-ni maa smi9-tu-hum
 annoyed 3ms me that heard I them 3m pl
- (182) *?az9aja-ni maa smi9-tu-haa
 annoyed 3ms me that heard I her 3fs

1.2.3.3.3 Indirect object/ Possessive NP and Prepositional complement

All these positions must be filled with a pronoun. The gap is not permissible. Furthermore, the pronoun can only have the third person singular masculine features, marking the features in *maa*. The following examples illustrate *maa*-relatives involving indirect object, possessor NP and prepositional object, respectively. The ungrammatical examples are indicated by a star.

- (183) wajaad-tu maa ?a9tay-tu hu kull-a juhd-ii
 found I that gave I it 3ms all Acc effort my
 “I found what I devoted all my efforts to”
- (184) *wajaad-tu maa ?a9tay-tu kull-a juhdii
 found I that gave I all Acc effort my

- (185) *wajad-tu maa ?a9tay-tu-hum kull-a juhd-ii
 found I that gave I them 3m pl all Acc effort my
- (186) fhim-tu maa ?arad-ta qawl-a-hu
 understood I that wanted you saying Acc it 3ms
 “I understood what you wanted to say”
- (187) *fhim-tu maa ?arad-ta qawl-a
 understood I that wanted you saying-Acc
- (188) *fhim-tu maa ?arad-ta qawl-a-haa
 understood I that wanted you saying Acc it 3fs
- (189) smi9-tu maa ?axbar-ta-ni bi-h-i
 heard I that told you me with-it 3ms-Gen
 “I heard what you told me”
- (190) *smi9-tu maa ?axbar-ta-ni bi
 heard I that told you me with
- (191) *smi9-tu maa ?axbar-ta-ni bi-himaa
 heard I that told you me with them dual

All the ungrammatical examples show that neither a gap nor a feature other than third masculine singular is possible in these positions in *maa*-relatives. However, it is possible for relative *maa* to have both specific and non-specific reference. When associated with a gap, *maa* could mean “whatever”- a non-specific reference. When the relativized argument position is filled with a pronoun, the only possible interpretation that *maa* can have is “what” -a specific reference.

- (192) qul-tu maa ?uriid-u
 said I that 1sg want Indic.
 “I have said whatever I want”

- (193) qul-tu maa ?uriid-u-hu
said I that 1sg want Indi. 3ms
“I have said what I want”

With the resumptive pronoun, as in (193), *maa* could only mean “the thing that”. This reading is not available in (192). Semantically, then, *maa* is similar to *man* in the sense that they can both have specific and non-specific reference but different from *lladhii* for which only specific interpretation is possible. Having looked at free relatives, now we turn to another type of relative clauses – *reduced relatives*, also known as *participial relatives*.

1.2.4 Reduced Relatives

Reduced Relatives involve the use of active or passive participle²⁴. Their function is to modify a noun. They may then be considered to be similar to standard relative clauses. The participle is introduced by the particle *l-* which might be considered as a reduced form of *lladhii* and consequently can be a complementizer (Berman (1978)). The following subsection looks at reduced relatives involving the active participle.

1.2.4.1 Active Reduced Relatives

Active reduced relatives are assumed to have the sequence given in (194).

- (194) Noun + (l) + participle verb + (XP)

The determiner-like element, *l-*, is followed by a participle verb which may or may not be followed by some constituent. The participle has an adjectival function in the sense that it modifies the preceding noun. It must agree with the noun it modifies in

²⁴ Active and passive participial relatives are derived from active and passive verbs, respectively.

definiteness and Case, but they may not agree in number and gender²⁵. The following examples illustrate.

- (195) l-ḥiṣaan-u l-waaqif-u taḥt-a sh-shajarat-i
the horse Nom the standing Nom under Acc the tree Gen
“The horse standing under the tree”
- (196) l-ḥiṣan-aani l-waaqif-aani taḥt-a sh-shajarat-i
the horses dual Nom the standing dual Nom under Acc the tree Gen
“The two horses standing under the tree”
- (197) *l-ḥiṣan-aani waqif-u-n taḥt-a sh-shajarat-i
the horses dual Nom standing 3ms Nom under Acc the tree Gen
- (198) (a) l-bintu l-jaalis-at-u qurb-a l-ḥiṣaan-i
the girl Nom the sitting 3f Nom near Acc the horse Gen
“The girl sitting near the horse”
- (b) l-bint-u l-jaalis-u ?bu-haa qurb-a l-ḥiṣaan-i
the-girl Nom the-sitting 3ms Nom father Nom her near Acc the-horse Gen
“The girl whose father is sitting near the horse”
- (c)*l-bint-u l-jaalis-at-u ?bu-haa qurb-a l-ḥiṣaani
the-girl Nom the-sitting.3f Nom father Nom her near Acc the-horse Gen
- (199) l-bint-aani l-jaalisat-aani qurb-a l-ḥiṣaan-i
the girls dual Nom the sitting dual Nom near Acc the horse Gen
“The two girls sitting near the horse”
- (200) *bint-aani l-waqifayni qurb-a l-ḥiṣaan-i
girls dual Nom the sitting dual Acc near-Acc the horse Gen

All the examples above, apart from (197), (198c) and (200), are well-formed. There is agreement in number, gender, Case and “definiteness”. The problem with (197) is

²⁵ As will be shown in Chapter Seven, agreement in number and gender between the “head” and the participle is excluded if the participial relative contains an overt subject.

that it shows no agreement in number. It also lacks the element *l* - the head noun is definite and dual but the participle is “indefinite” and singular. In (198b) the participle agrees with the head noun in definiteness and Case but not in number and gender as shown by the ungrammatical (198c). The example in (200), as I see it, has three problems – “definiteness”, Case and gender. The head is indefinite, nominative and feminine whereas the participle is “indefinite”, accusative and masculine.

The examples (195-200) show that there is a parallelism between standard relatives and reduced relatives. However, there is one difference regarding the tense of these two constructions. In reduced relatives, the participle can have both perfective and imperfective aspect whereas in standard relatives the finite verb can only have one aspect either perfective or imperfective. Thus any of the grammatical examples (or the ungrammatical ones, because the ungrammaticality here is not related to aspect) can have a past or a present time reference.

Further evidence for the claim that reduced and standard relatives are parallel is that reduced relatives can also be headless, as illustrated in (201).

- (201) raʔay-tu l-jaalis-iina fi l-maktabat-i
saw I the sitting 3m pl Acc in the library Gen
“I saw (the male ones) who are/were sitting in the library”

The participle is preceded by *l*- despite the fact that there is no lexical head noun. This example is similar to *lladhii*-free relatives we have already seen in section (1.2.3.1). Thus the example in (202) is similar to the one in (201) above.

- (202) raʔay-tu lladhiina yajlis-uuna fi l-maktabat-i
saw I that 3mpl sit 3m pl in the library
“I saw (the male ones) who are sitting in the library”

The point I want to emphasize here is that the particle preceding the active participle is parallel to the relative complementizer *lladhii*. Therefore these constructions can be regarded as clauses. In Chapter Seven we will look at reduced relatives and show that they have the same structure assigned to standard relatives.

1.2.5. Extraposed Relatives

An extraposed relative clause is illustrated by the following English example:

(203) someone came to see you [who said he was a linguist]

The relative clause *who said he was a linguist* is not adjacent to head noun *someone*. The constituent *came to see you* intervenes.

Arabic also has extraposed relatives. The difference, however, between English and Arabic is that the latter does not use the relative marker in its extraposed relatives. Thus SA does not have the equivalent of (203) above, as shown in (204).

(204) *rajul-u-n ja?a min mişra lladhii qaala ?inna-hu ra?a n-niil-a
man Nom came from Egypt that said that [3ms] saw the Nile Acc
“A man came from Egypt who said that he saw the Nile”

(204) is permissible in English as shown by the translation, but it is ill-formed in Arabic; it is only possible when the relative marker is absent, as in (205).

(205) rajul-u-n ja?a min mişra qaala ?inna-hu ra?a n-niil-a
man Nom came from Egypt said that [3ms] saw the Nile Acc
“A man came from Egypt who said he saw the Nile”

The impossibility of the occurrence of the relative marker in extraposed relatives in Arabic, as shown in (204), may be related to the fact that the head noun is indefinite.

But this is a wrong judgement. Even if the head noun in (204) is made definite, the structure will still remain ungrammatical, as illustrated in (206).

- (206) *r-rajul-u ja?a min miṣra lladhii qaala ?inna-hu ra?a n-niil-a
the man Nom came from Egypt that said that [3ms] saw the Nile Acc
“The man came from Egypt who said that he saw the Nile”

A plausible explanation to account for the ungrammatical (206) is that the antecedent and the relative clause are not adjacent. A relative clause with an overt relative marker must immediately follow the definite antecedent. An indefinite relative clause may or may not immediately follow its antecedent. For example, in (205) the relative clause does not immediately follow the antecedent. The first VP is the predicate of the main clause and the other as the relative clause (Agameya (1981)). I am not going to discuss extraposed relatives in SA in this thesis. I leave it for future research.

Conclusion

We have tried in this chapter to demonstrate some basic features of the grammar of SA from a descriptive point of view. We have shown that SA is a VSO language but it also allows the SVO order as an alternative. The difference between the two orders is that the former shows partial subject-verb agreement whereas the latter exhibits full agreement. We have also mentioned that first conjunct agreement shows up only in VS clauses. In SV clauses the verb must agree with the topmost NP. Agreement in Case, definiteness and gender is also required between the head noun and the postnominal modifier.

In connection to relative clauses, we have seen that some relativized argument positions are filled with a resumptive pronoun and some others with a gap. Relativized subject positions are always empty in simple clauses. In embedded clauses introduced by *?anna*, a resumptive pronoun is obligatory in the subject position. In definite direct object positions either a pronoun or a gap is possible but

in indefinite direct object positions only a pronoun is possible. We have seen that the difference between definite and indefinite relatives is the obligatory presence of the relative marker in the former and its absence in the latter. The relative marker must have the case assigned to the head noun in the matrix clause and not the case of the relativized position in the embedded clause.

Chapter Two

Literature Review and the Theoretical Background

2.0 Introduction

There has been extensive study of the structure of relative clauses in the transformational literature: Lees (1968), Chomsky (1965/ 1977), Kuroda (1968), Schachter (1973), Vergnaud (1974), Carlson (1977), McCloskey (1979/ 1990), Shlonsky (1992), Zwart (1994/2000), Åfarli (1994), Kayne (1994), Sauerland (1998/ 1999), Borsley (1997), Sharvit (1999) Bianchi (1999/ 2000), among others. All transformational work assumes that movement is involved in RCs. The main question is whether the “head” is moved or not.

The Chapter is divided into two parts. The first part is devoted to three different approaches proposed for the derivation of relative clauses. In section (2.1.1) we examine the head-external approach according to which the antecedent is base-generated outside the relative clause (Chomsky and Lasnik 1977 and Jackendoff (1977)). In section (2.1.2) we concentrate on the matching approach which assumes that the internal head noun is deleted under identity of the external head which, as in the head-external approach, is base-generated externally (Schachter (1973) and Sauerland (1998)). The third approach, the promotion analysis, assumes that the head noun originates within the relative clause then it moves leftward to a dummy nominal position (Schachter (1973)) or SpecCP (Kayne (1994)). We will discuss these two versions of the promotion analysis in (2.1.3.1) and (2.1.3.2), respectively.

In the second part, I will outline previous studies of relative clauses in Arabic. It has been argued that relative clauses in Standard Arabic are derived from focus construction (Ansheon & Schreiber (1968)). We investigate this approach in section (2.2.1.1). In section (2.2.1.2.), we look at the Topic-Comment analysis for relative

clause formation proposed in Lewkowicks (1971). According to this approach, a relative clause is derived from a topic-comment construction consisting of a definite noun phrase in the topic and a comment clause containing a resumptive coreferential pronoun. Section (2.2.1.3) outlines the Copy analysis proposed in Awwad (1973) according to which the relative pronoun introducing the relative clause in Arabic originates as an NP in the embedded sentence. A different approach, the relative pronoun movement analysis, is outlined in section (2.2.1.4). This analysis is proposed in Obeidat (1984). In section (2.2.1.5) we will briefly look at the Agreement-based analysis proposed in Kremers (2003). In section (2.2.2) we look at some more recent analyses for the derivation of relative clauses in Arabic.

Part One: Competing Analyses of Relative Clauses

2.1.1 The Head-External Analysis

It is assumed that the head-external analysis was first proposed in Quine (1960)¹. It can also be found in Montague (1974), Partee (1975), Chomsky (1977), Chomsky and Lasnik (1977) and Jackendoff (1977).

According to this approach, the “head” of a restrictive clause is base-generated outside CP. The relative clause is derived by A'-movement of a wh-phrase, overt or null, to SpecCP i.e it is not the NP/DP that moves to SpecCP but an operator. We first discuss the derivation of relative clauses with an overt wh-phrase in subsection (2.1.1.1) then in subsection (2.1.1.2) we discuss the structure of relative clauses derived by movement of a null wh-phrase. The terms “overt wh-phrase” and “null wh-phrase” refer to an “overt” and a “null” operator, respectively.

¹ This piece of information is cited in Bhatt (2002:44). Quine was a philosopher and logician. It is doubtful whether he proposed a syntactic analysis (Borsley, p.c).

Chapter Two: Literature Review and the Theoretical Background

After Chomsky's (1977) article, *On Wh-movement*, wh-constructions were no longer described in terms of single, construction-specific rules. Question-formation, relative clause formation and topicalization adopted a general abstract rule: move a constituent carrying the feature wh into COMP². A number of properties of any operation that involves movement to COMP was identified. In Chomsky's terms these inherent properties are called wh-diagnostics. According to these diagnostics, relative clause construction must have the following properties: there must be COMP, wh-movement leaves a gap, and it is subject to subjacency. In Chomsky's analysis if a specific construction displays these wh-properties, it may be understood as a syntactic construct whose derivation involves displacement of a wh-element.

As far as English is concerned, relative clauses have the following properties:

- A relative clause contains a relative pronoun such as *who(m)*, *which*, *where*, *who*³.
- The relative pronoun is co-referential with the head NP.
- The relative pronoun must serve some grammatical function (subject, object, direct object, ...) within the relative clause.
- The relative pronoun is positioned at the beginning (left) of the relative clause.

The external-head analysis right-adjoins the relative clause to the head NP and involves a wh-phrase movement to SpecCP. In cases where wh-phrase is not phonologically realized there is still movement to SpecCP but it is movement of a null operator. We will discuss these two derivations in the following two subsections.

² A complication here is that different sorts of constituents appear in different constructions. Compare (i) and (ii) below:

(i) What / ? Which did you read?
(ii) the book [which/*what you read]

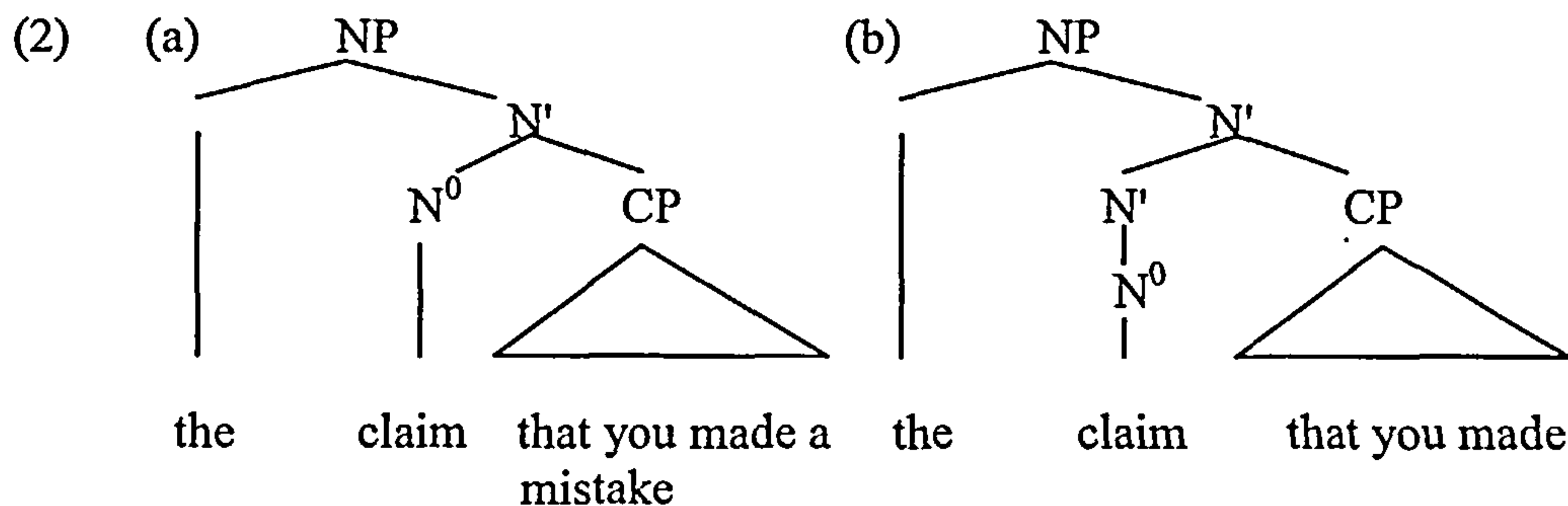
³ This is not necessarily. A relative clause may not contain an overt wh-phrase. See (2.1.1.2) below.

2.1.1.1 Relatives derived with overt wh-phrase (overt operator)

To understand the derivation of relatives with an overt wh-phrase, we need first to look at the contrast between (1a) and (1b).

- (1) (a) The claim [that /*which you made a mistake]
 (b) The claim [that you made t]

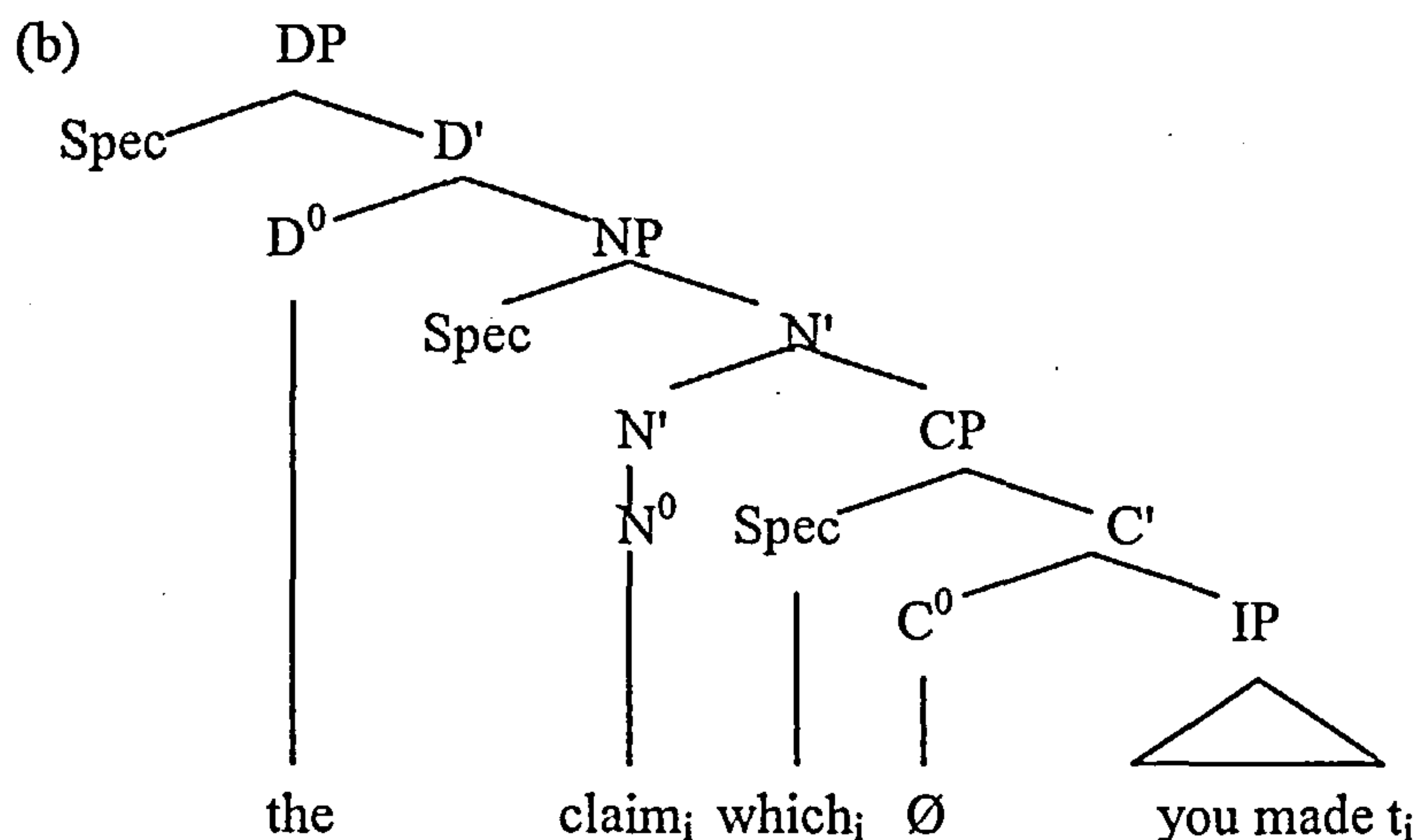
The grammatical counterpart of (1a) and the example in (1b) contain a subordinate clause introduced by *that* but each clause has a different function. In (1a), the clause functions as a complement of the noun *claim*; in (1b), the clause modifies the noun *claim* and thus has an adjective-like function. It involves a restrictive relative clause. The two types of clauses in (1) have different structural properties in that Noun Complement Clauses (NCCs) are complements whereas Restrictive Relative Clauses (RRCs) are adjuncts. This structural difference is shown in the following trees:



In (2a) the head N^0 combines with its complement CP to form N' . Thus the *that*-clause in (2a) is a kind of object of the abstract noun *claim*. In (2b) the clause is not a complement of the head N^0 and hence cannot combine with it since the clause is an adjunct. Adjuncts combine with X' to form another X' . Complements combine with X^0 to form X' . Put another way, the head and its complement are both dominated by X' whereas the head in adjunct structures is not immediately dominated by X' dominating the adjunct but it is dominated by its own X' .

Another difference between the complement clause and relative clause is that in the former the object appears in its canonical position whereas in the latter the object is missing. In (1a) above, the verb *make* is followed by the object whereas the same position in (1b) is left empty. In the latter case the object can be an overt wh-phrase which moves to SpecCP (in 1b it is null). The presence of wh-phrase in SpecCP position amounts to the fact that relative clauses are derived by wh-movement. Wh-phrases are maximal projections so they can only occupy a Spec position. They cannot land in C^0 position since this position is only for heads. The example in (3a), whose representation is given in (3b), has an overt wh-phrase in SpecCP.

(3) (a) The claim which you made



The moved wh-phrase is coindexed with its trace in the object position. In order to capture the fact that the wh-phrase has the same reference as the head N^0 , both the wh-phrase and the antecedent must be coindexed in deep structure as well as the surface structure. Despite the fact that the head noun *claim* in (3) is the antecedent of the wh-phrase *which*, the two are not linked by movement transformation. The head noun is base-generated externally. What moves in relative clauses containing an overt wh-phrase is the wh-phrase itself, not the antecedent. Suppose that it is the head noun that undergoes movement. This is problematic since the presence of the

wh-phrase would be hard to explain for one reason: both the head noun and wh-phrase would be in the object position in deep structure.

The discussion above is concerned with restrictive relatives. In restrictive relative clauses specific reference to the antecedent is made. Non-restrictive relatives lack any specific reference to the antecedent but they also involve wh-movement to SpecCP in a similar way. The example in (4) illustrates:

(4) The book, [CP which_i [C' [C⁰ Ø] [IP you could not get t_i]]], is out of order

Having outlined the structure of relatives with an overt wh-phrase, now we turn to the structure of relatives with a null wh-phrase in the following subsection.

2.1.1.2 Relatives derived with a null wh-phrase (null operator)

Relative clauses with a non-overt wh-phrase also involve wh-movement to SpecCP despite the fact that there is no overt wh-phrase. We need to look at the following examples:

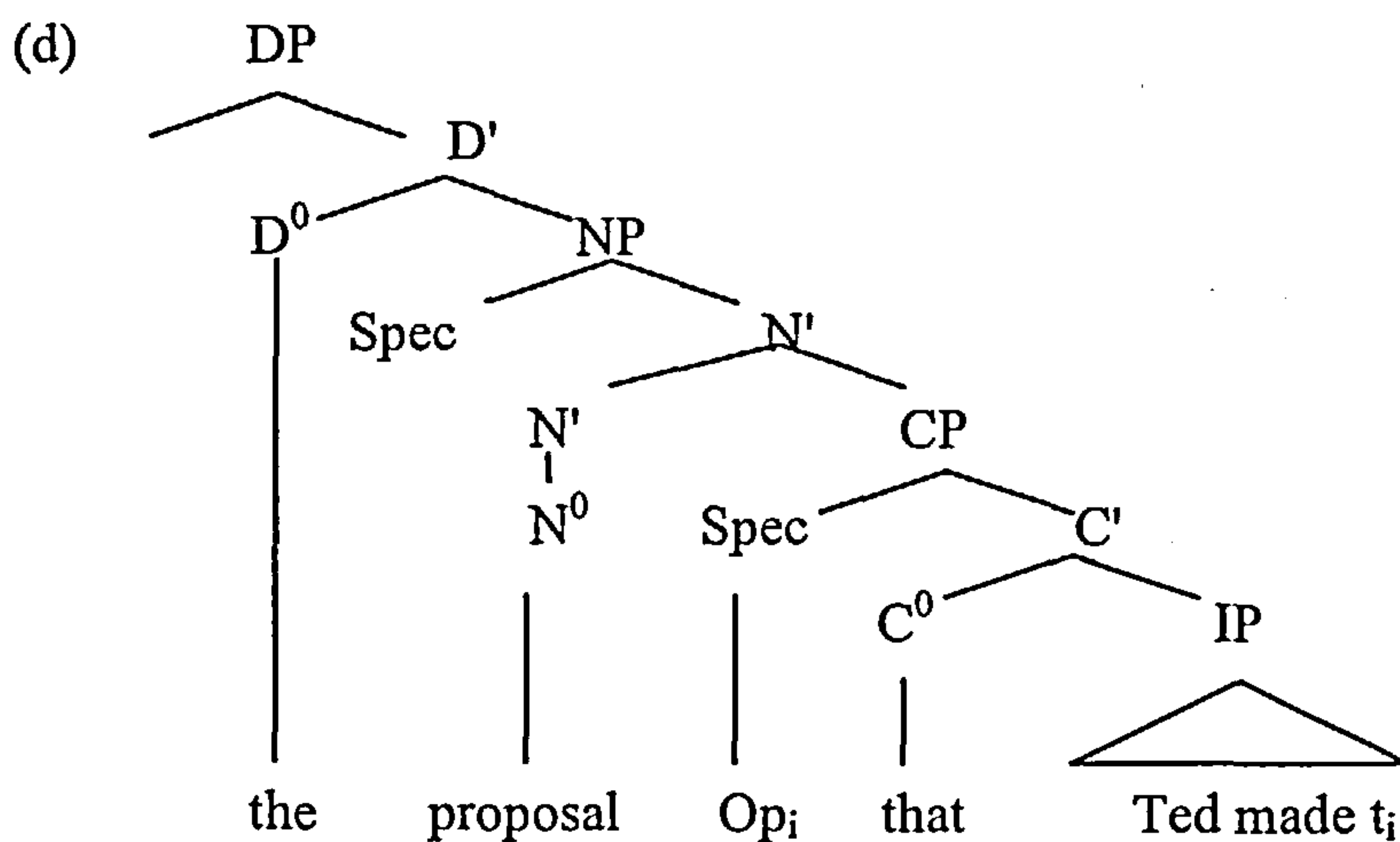
- (5) (a) Bill accepted the proposal which Ted made.
(b) Bill accepted the proposal that Ted made.
(c) Bill accepted the proposal Ted made.

The example in (5a) involves an overt wh-movement to the Specifier position as we have seen in the previous section. (5b) does not contain a wh-phrase but it contains the complementizer *that*. In (5c) neither a wh-phrase nor a complementizer appears. However, both (5b) and (5c) have the same interpretation as (5a)⁴. Put differently, both (5b) and (5c) must have the same structure as (5a). If this is correct then relative clauses with a null wh-phrase as in (5b-c) must involve movement from the

⁴ There is evidence from island constraints, as indicated below, that (5a) and (5b) involve movement.

object position and that the moved element must be coindexed with the antecedent at deep structure. The consequence of this analysis is that transitive verbs such as *make* must satisfy subcategorization requirement. The grammatical examples in (5b-c) show that this requirement is satisfied: the object is a null wh-phrase base-generated in this argument position and moved to SpecCP position.

Then both (5b) and (5c) are assigned the same structure. The only difference is that in the former the C^0 position is filled by the complementizer whereas in the latter it is not. The representation of (5b) is given in (5d) below (irrelevant details omitted).



So far, we have seen that relative clauses in English can be derived by movement of an overt wh-phrase or by a null wh-phrase to SpecCP. We have also seen that wh-movement leaves a gap in the relativization site and that this gap is filled with the wh trace coindexed with the moved wh-phrase in the Specifier position.

Since relative clauses are derived by wh-movement, overt or null, they must be subject to the subjacency condition (i.e Complex NP and wh-Islands, Chomsky (1973)). Subjacency condition simply states that it is not possible to move across more than one bounding node. Bounding nodes are NP and IP. Consider for instance the following example.

- (6) * The book which_i [_{IP} John made [_{NP} the claim that Bill will read t_i
#

In (6), the wh-phrase originates in the object position of the verb *read* then moves to Spec position. However this movement violates subjacency since it crosses two bounding nodes, namely NP and IP. This also applies to relatives with a null wh-phrase, as in the following example:

- (7) * The book that John made the claim that Bill would read.

Thus subjacency must be obeyed regardless of whether the moved wh-phrase is overt or null.

2.1.1.3 Relatives and Recoverability

In the previous subsections we have seen that the antecedent in a restrictive relative clause can be coindexed with both an overt or a null wh-phrase⁵. Thus the null operator in the argument position can be identified by means of coindexation with the head noun.

The difference between relative clauses and wh-interrogatives can be attributed to the presence of a null operator in the former and its absence in the latter. The null operator in relative clauses can be identified via coindexation with the antecedent. Since there is no antecedent in wh-questions, no coindexation can take place. Consider for instance the following ungrammatical example:

- (8) * Did John see Op? (meaning *who/what did John see?*)
[Op_i [C' [C⁰ did] [_{IP} John see t_i]]]

⁵ The antecedent may be coindexed with part of the wh-phrase. Consider:

- (i) the man whose brother I met

where *the man* is coindexed with *whose* not *whose brother*.

The example contains a null operator in the object position but this operator cannot be identified since there is no antecedent that it can be coindexed with. For this reason, the example in (8) is excluded. However, the example does not show any subcategorization problem since the object position is filled with a null wh-phrase operator.

The occurrence of null categories is subject to a general condition called *Recoverability Condition*, defined in (9):

(9) *Recoverability Condition*

The content of a null category must be recoverable

Thus null categories in relative clauses can be recoverable via coindexation with the antecedent. This requirement, as we have seen, is not available in (8) above. In other words, (8) is ungrammatical because it violates the recoverability condition⁶. Now it has become clear why a wh-phrase in SpecCP can be deleted. One important point is that the deleted wh-phrase must have a feature composition that matches the antecedent.

Another question in connection to null operators in relatives is concerned with the cooccurrence of the complementizer with a null operator. The question is: why an overt wh-phrase cannot cooccur with the complementizer? We will answer this question in the following subsection.

⁶ It is not clear, as Borsley (p.c) has indicated to me, if recoverability condition is the only constraint. For example (i) below is excluded with a null category after *to*:

(i) * the man to I talked

2.1.1.4 Doubly Filled Comp⁷

It must be understood that Comp refers to the head C^0 and its Specifier. In languages such as English, the C^0 and its Specifier cannot be both lexically filled. It is necessary to formulate a condition explaining cooccurrence possibilities in Comp position. This condition must not allow examples with an overt wh-phrase and a complementizer. The condition we need for this purpose is formulated in (10):

(10) *Doubly Filled Comp Filter*

Comp does not allow two lexical elements

This condition, introduced by Chomsky and Lasnik (1977), explicitly explains facts in (Modern) English.

As it stands, the Comp filter is located in the PF component. It filters out any Comp containing two elements⁸.

Thus ungrammatical representations can be excluded by conditions such as the recoverability condition and filters such as Doubly Filled Comp Filter. As this is true for English, there are many languages which exhibit different behaviour in what seems a violation of the Comp filter. This is the focus of the following section.

⁷ This term goes back to early analyses in which wh-phrases were assumed to be in COMP and not in SpecCP.

⁸ The Doubly Filled Comp Filter is not exactly right. We do get an overt wh-phrase followed by an auxiliary in Comp, as in (i)

(i) What did you have for breakfast?

According to the DFCE (i) is out since both *what* and *did* are in Comp position.

2.1.1.5 Relative NP Deletion

In this section we will look at different languages which do not seem to follow the English pattern. First we discuss the following Italian examples taken from Bianchi (1999).

- (11) (a) *il libro che ho letto*
the book that I read
“The book that I read”
- (b) **il libro il quale ho letto*
the book which I read
“The book which I read”
- (c) **il libro ho letto*
the book I read
“The book I read”
- (d) *il modo in cui agiva*
the way in which acted 3ms
“The way in which he acted” (Bianchi 1999:155, Exs.2a-d)

In (11a) the DFCF is preserved since only C^0 position is filled by a complementizer. (11d) does not violate the filter either: only SpecCP is lexically filled by a moved wh-phrase containing a pied-piped preposition. Given the filter condition, (11b) should not raise any problem as in (11d). The contrast however shows that the filter condition is satisfied when SpecCP is occupied by a pied-piped wh-phrase. (11b) does not involve pied-piping. The example in (11c) might be attributed to the fact that Modern Italian, unlike English, does not have an optional rule of complementizer deletion. This might be the case as the following examples show (again taken from Bianchi (1999):

Chapter Two: Literature Review and the Theoretical Background

- (12) Pro penso che hai ragione
*pro penso Ø hai ragione
“I think (that) you are right” (Bianchi 1999:157, Exs.6a,b)

The examples in (11) and (12) draw a distinction between English and Italian: English, but not Italian, has optional C⁰ deletion and that Italian but not English has the rule of relative NP deletion. The rule of relative NP deletion applies only for wh-phrases which are not pied piped.

The relative NP deletion rule also works in French as the following examples show (Taken from Kayne 1976):

- (13) (a) *la table laquelle Paul a cassée est celle-là
the table which Paul has broken is there
“The table which Paul has broken is there”
(b) *le garçon lequel Marie préfère s’appelle Georges
the boy who Marie prefers is called George
“The boy whom Mary admires is called George”
(c) la table sur laquelle Paul s’est assis est celle-là
the table on which Paul be seated is there
“The table on which Paul sits is there”
(d) le garçon auquel Marie pense s’appelle Georges
the boy of whom Marie thinks is called George
“The boy of whom Marie thinks is called George”
(Kayne1976:258, Exs.17,18)

According to Kayne (1976) the distribution of *lequel* can be seen as evidence of a rule which deletes *lequel* in restrictive relatives when this wh-phrase is not preceded by a preposition. In other words, the examples in (13a-b) are ungrammatical since *lequel* has not been deleted in violation of the deletion rule. Once *lequel* is deleted,

the complementizer *que* will be able to appear, as in the following examples (cf. (13a,b) with (14) and (15):

(14) la table que Paul a cassée est celle-là

(15) le garçon que Marie préfère s'appelle Georges

In (14) and (15) the NP moved by wh-movement, which is spelled out as a relative pronoun, has been deleted. The relative is introduced in surface structure by a complementizer *que* rather than a relative pronoun.

Thus the DFCF holds in French as well as in Italian and English but Italian and French are different from English in the sense that they have a relative NP deletion rule which is obligatory.

It is interesting that in many languages an overt wh-phrase can cooccur with an overt complementizer in what seems to be a violation of the Comp Filter. We discuss this phenomenon in the following section.

2.1.1.6 Comp Filter and Adjunction

We have seen that the Comp Filter holds in English, Italian and French. Dutch and Polish seem to be different from English, Italian and French in the sense that the former allow a sequence of a complementizer and a wh-phrase. The North Dutch example (16) is cited in Zwart (2000:359) (taken from Hoekstra 1994:316); the Polish example (17) is cited in Haegeman (1994):

(16) de vrouw of die ik gezien heb
the woman if Rel I seen have

“The woman I saw”

(Zwart 2000:359, Ex. 31)

(17) Maria myśli że co Janek kupił
Maria thinks that what Janek bought

“What does Maria think that Janek bought?” (Haegeman 1994:388)

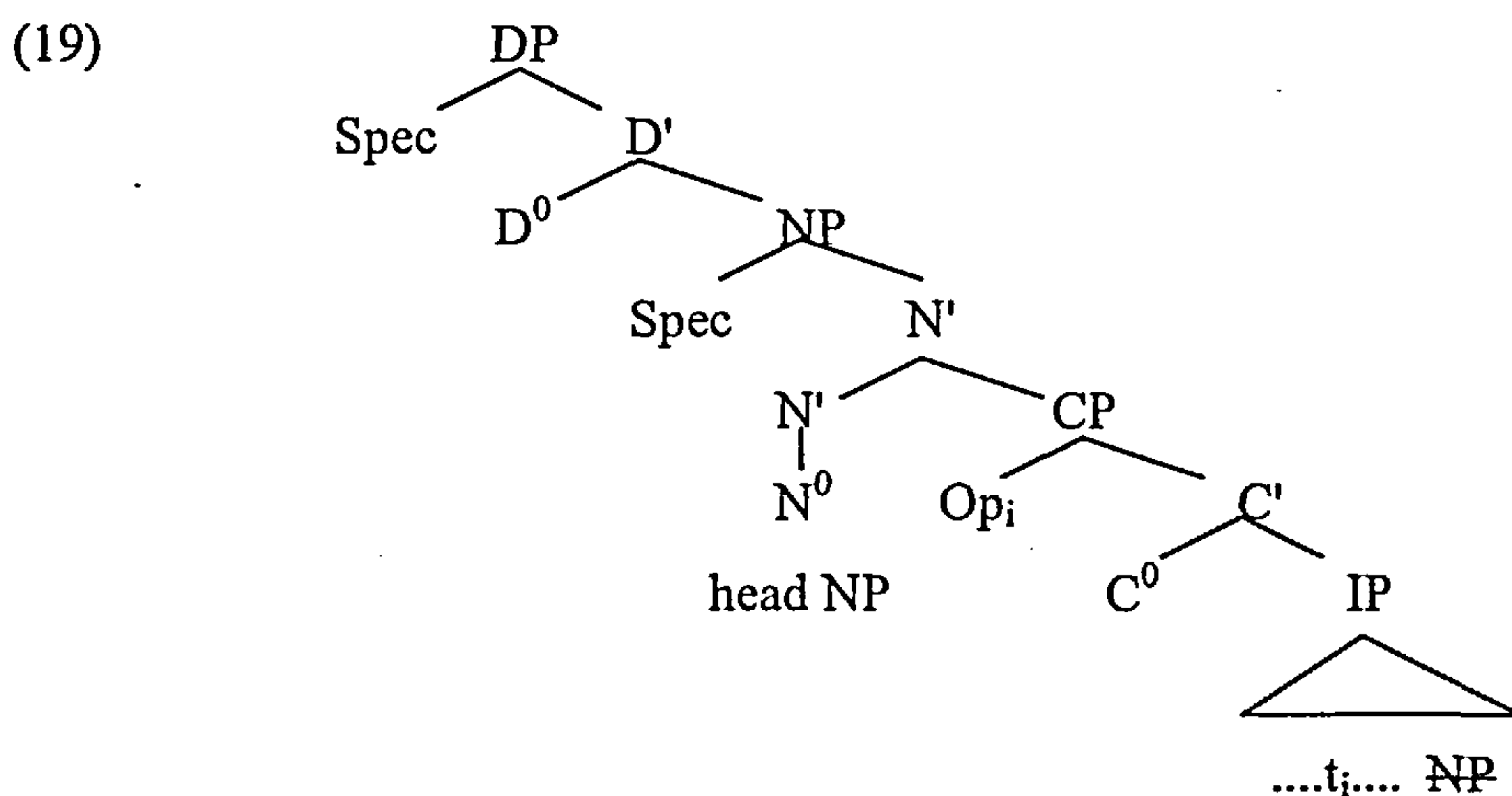
A plausible analysis for the examples in (16) and (17) is to adopt the adjunction analysis in order to avoid the filter violation. The *wh*-phrase would be adjoined to IP. The complementizer is in C⁰ position and SpecCP is empty. Thus (16) and (17) would have the same structure given in (18):

(18) [CP Ø [C' [C⁰ of/ze] [IP die/co[IP ik gezien heb/ Janek kupił]]]]

2.1.2 The Matching Analysis

Bhatt (2002) reports that this analysis was originally proposed in Lees (1960-1963). It can also be found in Chomsky (1965) and Schachter (1973). In recent years, the matching analysis has been investigated more extensively as in Sauerland (1998).

The matching analysis assumes that the derivation of a relative clause involves the deletion of a nominal expression inside the relative clause under identity with the base-generated head. The external head and the internal head are not related by any movement process because movement is not involved in this approach. Sauerland (1998) proposes that the lexical material of the internal head does not necessarily have to be identical to the lexical material of the external head. The lexical material of both heads needs only to be similar enough to the head NP for the purposes of deletion. A restrictive relative clause in English, according to the matching analysis, has the structure in (19)



Under this analysis, there is not any relationship between the internal structure of the CP and the head NP because there is no movement involved. In other words, there is no transformational relationship between the “head” of the relative clause and the internal trace (Carlson 1977). The trace in the relative clause is the trace of an operator. However, the fact that the internal NP has undergone deletion under identity with the external NP requires, as Sauerland (1998) argues, that the deleted NP and the external one to be similar. In Aoun and Li (2003:242) the term *matching* refers to agreement between the head NP and the wh-operator in all interpretive features, including substantive features. Thus when the “head” carries the feature [+human], the wh-operator must be *who* and cannot be for example *where*, *which* or *why*.

2.1.2.1 Problems with the Matching Analysis

Schachter (1973) has noticed that this analysis is not without problems. Empirical evidence suggests that this analysis is not correct. The first problem is related to idiom chunks which, as Schachter (1973) reports, was first discussed in Brame (1968). The second problem has to do with pronominalization. We first look at idiom chunks then we turn to the pronominalization problem.

2.1.2.1.1 Idiom chunks

An idiom chunk has no independent meaning, but rather acquires its idiomatic meaning as part of the overall idiom. Radford (1988) classifies idiom chunks into *subject idiom chunks* and *object idiom chunks*. Subject idiom chunks occur in the subject positions of clauses as illustrated in (20a-b):

- (20) (a) *The chips are down*
(b) *The cat is out of the bag* (Radford 1988:319, Exs.103a,b)

Object idiom chunks are restricted to the complement position of particular verbs. Some relevant examples are given in (21a-c):

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- (21) (a) They will *pay heed* to her proposal
(b) She will *take advantage* of the situation
(c) The prime minister *paid homage* to the dead (cf. Radford 1988:422)

The restriction to the object position of a particular licensing verb is shown by the contrast between the nearly synonymous *attention* and *heed*.

- (22) (a) You can't expect to have my attention / * heed at all times
(b) I try to give him all the attention / * heed he wants (Radford 1988: 423)

Object idiom chunks are generally also impossible in subject positions. Here again, as Radford points out, we see the contrast between *attention* and *heed*.

- (23) (a) A little attention / * heed would make them feel important
(b) attention / * heed is an important precondition of learning

Despite the distributional restrictions just mentioned, there is one environment in which object idiom chunks are able to occur in a position other than the object position. The object can occur as the head of a relative clause. Consider the contrast in (24).

- (24) (a) We made headway
(b)* headway was satisfactory
(c) the [headway]_i (that) we made t_i was satisfactory

The contrast in (24) shows that *headway* can only occur as the object of *make* (24a)⁹. This distributional restriction explains why (24b) is ungrammatical. (24c) involves a relative clause; the object idiom chunk is not restricted to occurrence as object of

⁹ An example such as

(i) we made the headway that we expected

suggests that the head must be present in D-structure, contrary to the promotion analysis.

make. It may occur in other positions provided that it is the antecedent of a relative clause whose verb is *make* and whose object has been relativized. The problem here, as Schachter (1973) argues, is that relativization involves matching of a nominal in a matrix sentence with one in an embedded sentence. The problem here is to allow (24c) while excluding (24b). Similar problems for the matching analysis involve the following examples:

- (25) (a) She is keeping careful track of her expenses
(b)* (the) careful track pleases me
(c) The careful track that she's keeping of her expenses pleases me
(Schachter (1973:32, Exs 35a-c)

It is only when the NP *track* occurs in the object position of *keep* or functions as an antecedent can the sentences be grammatical as in (25a) and (25c), respectively. But note that the object *track* does not immediately follow the licensing verb *keep* as the adjective *careful* intervenes between the verb and the object. The adjective *careful* cannot be derived from an underlying predicate adjective position, as shown by the following ungrammatical example:

- (26) * The track is careful (Schachter 1973: 37, Ex. 51)

Given the ungrammaticality of (26), the adjective *careful* in (25a) must be generated in an attributive position and this shows that *keep careful track* in (25a) should be generated as an idiom (Schachter 1973:37).

2.1.2.1.2 Pronominalization

A second type of evidence against the matching analysis involves the direction of pronominalization- personal pronouns, reflexives and reciprocals in non-relative and relative constructions. In non-relative constructions, a pronoun, a reflexive or a reciprocal can not precede its antecedent as illustrated (27b), (27d) and (27f), respectively.

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- (27) (a) John_i thinks that Mary likes him_i
(b)* He_i thinks that Mary likes John_i
(c) John_i blamed himself_i
(d)* himself_i blamed John_i
(e) [John and Mary]_i showed interest in [each other]_i
(f) * [each other]_i showed interest in [John and Mary]_i

In relative constructions, the pronoun must appear in the antecedent rather than in the embedded clause. Unlike the grammatical examples in (27), pronominalization in relatives obligatorily operates *backward* and *upward*, as illustrated in (28):

- (28) (a) The opinion of him_i that John_i thinks that Mary has is unfavorable.
(b)* The opinion of John_i that he_i thinks that Mary has is unfavorable.
(c) The portrait of himself_i that John_i painted is extremely flattering.
(d)* The portrait of John that himself /he painted is extremely flattering.
(e) The interest in [each other]_i that [John and Mary]_i showed was fleeting.
(f) * The interest in John and Mary that each other showed was fleeting.

(Schachter 1973: 32-33, Exs. 41-43)

According to the matching analysis of relatives presented in Schachter (1973), (28a,c,e) above will have the underlying structure in (29a-c).

- (29) (a) The opinion of John [John thinks Mary has an opinion of John] is unfavourable]
(b) The portrait of John [John painted the portrait of John] is extremely flattering]
(c) The interest in John and Mary [John and Mary showed interest in John and Mary] was fleeting].

Given the matching analysis, the constituent within the embedded sentence cannot be pronominalized (because it is deleted). However, the examples in (28) show that

the pronominalized constituent is the one within the embedded clause. Thus this is a problem for the matching analysis.

In the following section, we will look at the raising analysis. In (2.1.3.1) we investigate the raising analysis proposed by Schachter (1973) where it is known as the promotion analysis.

In (2.1.3.2) we will look at Kayne's (1994) version of the promotion analysis. As we will see, there are objections to Kayne's analysis as in Borsley (1997) and attempts to refine it as in Bianchi (1999).

2.1.3 The head-raising analysis

Contrary to the head-external analysis, the head-raising/ promotion analysis assumes that the head of a restrictive relative clause originates from within the relative clause (Brame 1968, Schachter 1973, Vergnaud 1974, Kayne 1994). In what follows, I will discuss two versions of the head-raising analysis: Schachter (1973) and Kayne (1994). First we look at Schachter's version.

2.1.3.1. Schachter's (1973) version

Schachter's (1973) work focuses on the derivation of two types of construction in four languages: English, Akan, Hausa and Ilonggo. The constructions Schachter discusses are focus and relative clauses. Schachter argues that these constructions are similar in a number of respects. I am not going into details of his work, but suffice it to mention some of these similarities then turn to the promotion analysis he proposes.


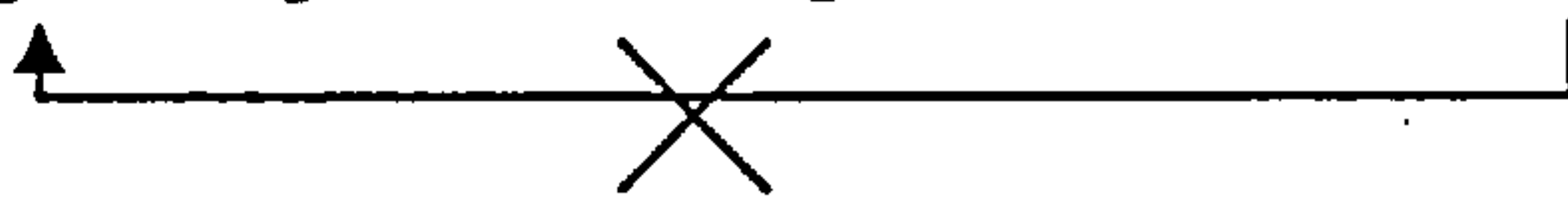
One of the similarities between focus and relative clauses Schachter notices is that in English both constructions use the same relative pronouns, as in (30-32) :

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- (30) (a) It's John who(m)/ that Mary admires
 (b) The man who(m)/ that Mary admires
- (31) (a) It's the library which/ that John goes to
 (b) The library which/ that John goes to
- (32) (a) It's Mary whose mother died
 (b) The girl whose mother died (cf. Schachter 1973:20 Exs 4,5 and 6)

It is worthy of noting that the relative pronoun used in both constructions involves human vs non-human distinction and the same case as shown in (30), (31) and (32), respectively. In (30) the relative pronoun *whom* is used in both focus and relative constructions. It is used for humans. Note also that it has the same objective case in both examples. In (31), a non-human relative pronoun, *which*, is used in both constructions and finally in (32) the genitive relative pronoun *whose* is found in both constructions. As Pam (p.c) has suggested to me, *that* is strongly preferred in cleft constructions since the cleft construction lacks the restrictive semantics.

Another similarity between these constructions is that the relative pronoun introduces the clause in both of them. Furthermore, neither construction allows extraction of an element contained in a complex noun phrase

- (33) (a) * [the car] that I know [the man that stole t]

 (b) * it's [the car] that I know [the man that stole t]

- (cf. Schachter1973:21 Exs.7 & 8)

The ungrammaticality of (33a-b) is due to violation of the complex noun phrase constraint (Ross 1967) according to which no element contained in a sentence dominated by a noun phrase with a lexical head noun may be moved out of that noun phrase by transformation. In both constructions in (33) *the car* has been extracted from a sentence dominated by a lexical noun phrase *the man*.

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Crucially, Schachter reaches the conclusion that despite surface similarities between focus (cleft) and relative constructions, neither can be transformationally derived from the other. One piece of evidence that the two constructions involve different transformational rules in their derivation comes from the antecedent in both structures: the antecedent in a relative clause is categorially *restricted*. It can only be NP/DP. The antecedent in a cleft sentence is *not restricted*: it can be both NP/DP and PP but not an adjective phrase (cf. Schachter 1973:27 Exs.21a,b & 22a,b).

- (34) (a) It was the tree that the horse stood by.
(b) It was by the tree that the horse stood
- (35) (a) The tree that the horse stood by
(b) *By the tree that the horse stood

Schachter (1973) argues that the cleft sentences in (34a-b) are derived from equative sentences whose subjects are relative clauses headed by nouns of general meaning such as *place, thing, time...etc.* (34a), for example, is derived from (36a) and (34b) is derived from (36b)

- (36) (a) [The thing that stood by the tree] was the horse.
(b) [The place that the horse stood] was by the tree.

(cf. Schachter 1973:27 Exs.23a,b)

However, this does not mean that cleft constructions are derived from relative clauses. There are cases where equative sentences are not possible with relative clauses. A relevant example is given in (37d)

- (37) (a) It was Jed that I sent the book to
(b) It was to Jed that I sent the book
(c) The person that I sent the book to was Jed
(d) *The person that I sent the book was to Jed

(cf. Schachter 1973:28 Exs. 25a,b & 26a,b)

Thus the ungrammaticality of (37d), as Schachter argues, shows that the hypothesis that cleft sentences are transformationally derived from relative clauses is not correct. There is evidence then that cleft sentences are not derived from relative clauses. It seems that relative clauses cannot be derived from cleft sentences either. Schachter (1973: 28) has noticed that nominals occurring as antecedents in relative clauses may not occur in cleft constructions

(38) (a) (You look like) somebody / someone that I used to know.

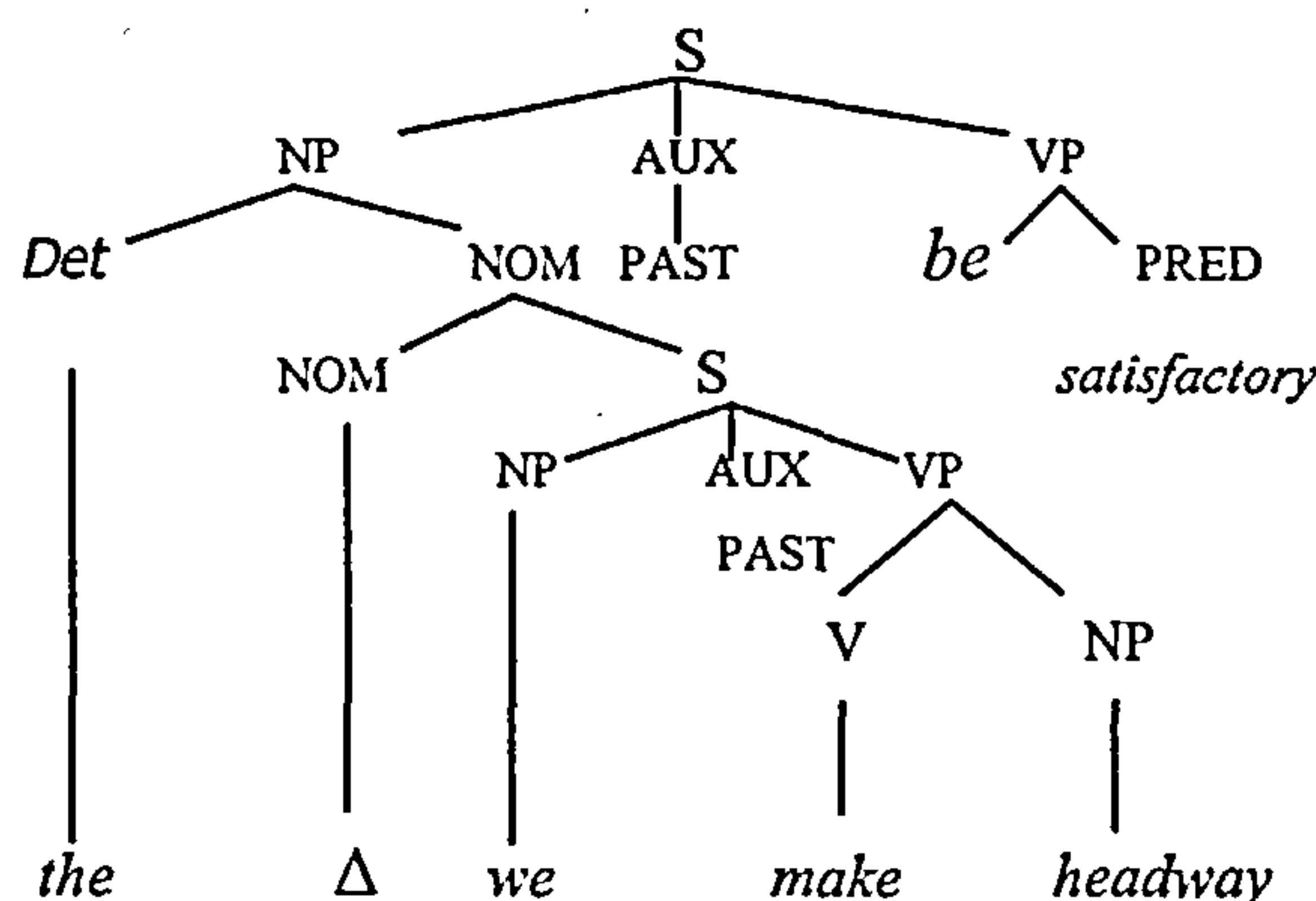
(b) *It's somebody / someone that I used to know.

(cf. Schachter 1973:28 Ex. 28a,b)

It seems that neither of the construction types can be derived from the other. Schachter proposes, following Lees (1963), that the two constructions involve an empty slot in deep structure. The empty slot is filled by a constituent from the embedded sentence which appears in the antecedent position in surface structure. We leave aside focus constructions at this point and just concentrate on relative clauses. The derivation of a restrictive clause, according to Schachter, involves the promotion of a nominal from an embedded into a matrix clause. Accordingly, the relative clause in (39) is derived from the underlying structure given in (40).

(39) The headway that we made was satisfactory

(40)



(Schachter1973:33 Fig. 2)

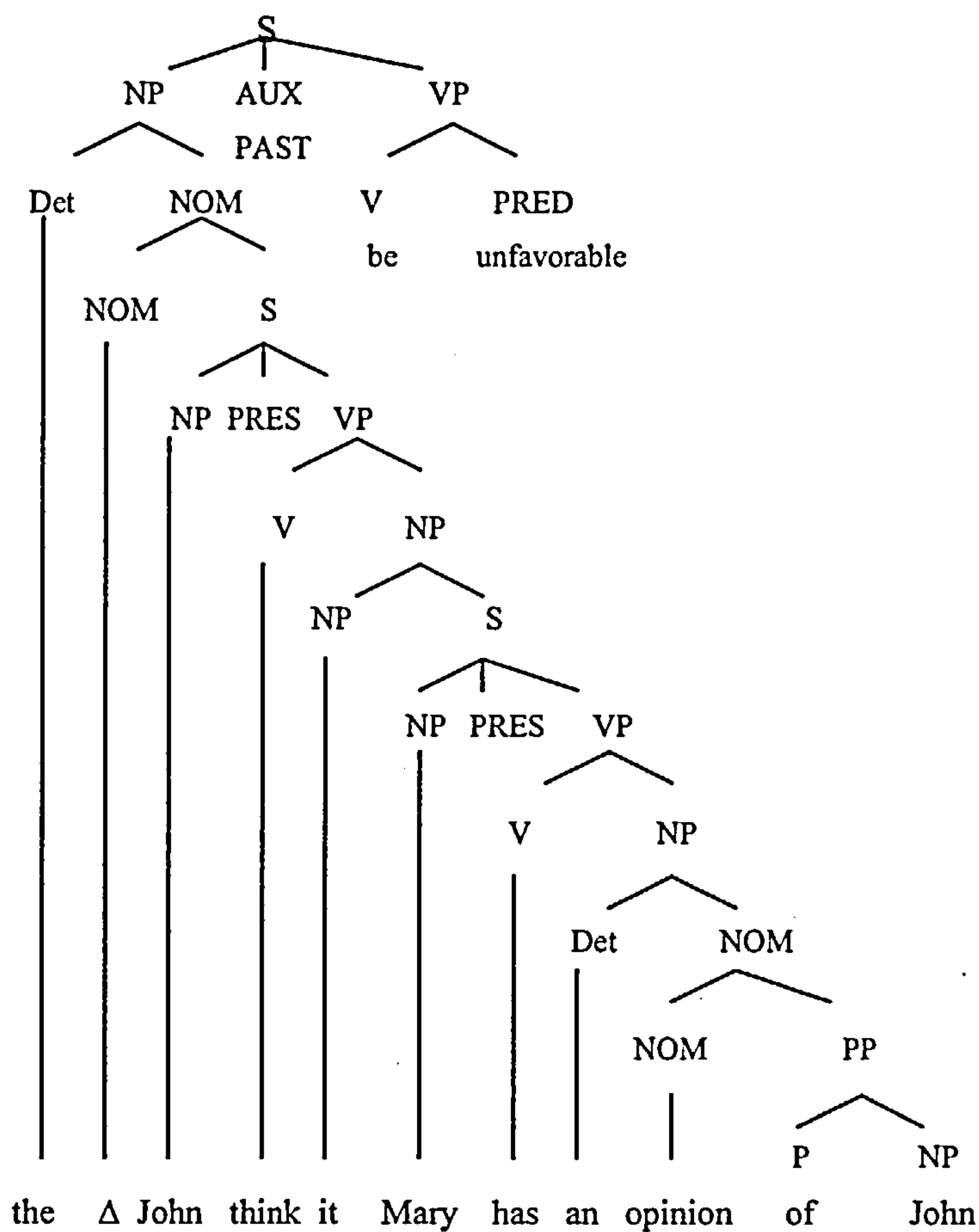
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In surface structure, the object of the embedded clause will appear in the position of the dummy nominal indicated by the symbol Δ in the matrix sentence. In the underlying structure *headway* occupies the object position of the verb *make*. Note that the problems posed by the matching analysis we saw in (2.1.2) with respect to idiom chunks do not arise here. *Headway* can only occur as the object of *make*. This assumption, as McCloskey (1979) points out, is incompatible with the head-external analysis because *headway* is never adjacent to the verb *make* since it is base-generated outside the relative clause.

As far as pronominalization is concerned, there is no problem under the promotion analysis. Pronominalization would apply *forward* and *downward*. The pronominalized constituent would then be promoted into the matrix sentence in order to replace the underlying dummy nominal Δ . Being in this position, the promoted constituent would serve as the antecedent of the relative clause. To see how this process works, let us look at example (28a), repeated in (41) below, whose underlying structure is given in (42) (Schachter 1973:32 Example (41a)).

(41) the opinion of him that John thinks that Mary has is unfavourable.

(42)



(Schachter 1973:34, Fig 3)

In (42) the nominal *opinion of John* is transformed into *opinion of him*. The nominal containing the pronoun *him* is then promoted to the main clause where it replaces the underlying dummy nominal [Δ]. Cleft sentences are derived by the same process. But the promoted constituent replaces a dummy symbol occupying the predicate position in deep structure. The lower sentence is then extraposed to a position following the predicate (See Schachter (1973) for a detailed analysis).

Just like the matching analysis, the promotion analysis also raises a number of problems. The following subsection sketches these problems as outlined in Schachter (1973) and Ihalainen (1981).

2.1.3.1.1 Some problematic areas

2.1.3.1.1.1 Problems outlined in Schachter (1973)

2.1.3.1.1.1.1 The antecedent problem

Some languages seem to have no antecedent in the surface structure of their relative clauses. Bambra is the case in point. Schachter points out that in this language the promotion analysis is not motivated. The noun corresponding to the antecedent in other languages appears in the relative clause itself in Bambra where it retains the position appropriate to its function. The following example is from Schachter (1973: 35).

- (43) *tyε* ` *be* [*n ye so mìn ye*] *dyo*
man the IMPER I PERF house REL see build
“The man is building the house that I saw” (Schachter 1973:35, Ex. 47c)

The bracketed relative clause in (43) is identical to the independent sentence in (44) apart from the fact that the relative clause contains a relative marker *mìn*.

- (44) *n ye so* ` *ye*
I PERF. house the see
“I saw the house” (Schachter 1973:35, Ex 47a)

If the promotion analysis applies to derive relative clauses in Bambra it would involve movement of the whole clause in the object position to a dummy nominal in the matrix clause. Schachter argues that languages like Bambra pose a semantic problem in addition to the syntactic one outlined above. The fact that a relative clause in Bambra occupies the canonical subject or the object position suggests that it is identical to a nominalized sentence such as subject and object *that*-clauses in English (e.g. *That John hates Mary* surprises everyone. Only few know *that John*

hates Mary). Accordingly, movement to the dummy nominal may in fact trigger two distinct surface constructions, namely relatives and nominalized sentences.

Bambra is not the only language exhibiting the type of the relative clause given in (43). We can find the same situation in Quechua (Cole (1987) and Cole and Herman (1987) and Lakhota (Williamson (1987))).

- (45) [nuna bestya-ta ranti-shqa-n] alli bestya-m ka-rqo-n
man horse-Acc buy-PERF-3 good horse-EVIDENTIAL be-PAST-3
“The horse the man bought was a good horse”
(Cole 1987:279, Ex.1)

- (46) [wambra wagra-ta randishka] ali wagra-mi
boy cow-Acc bought good cow-EVIDENTIAL
“The cow that the boy bought is a good cow”
(Cole and Herman 1994:248, Ex. 22a)

- (47) [[Mary owiža wa kaže] ki] he ophewathu
Mary quilt a make the Dem I-bought
“I bought the quilt that Mary made”
(Williamson (1987), cited in Cole 1987:277, Ex.2))

What the examples (43) and (45-47) show is that the nominal head of the relative clause is contained within the relative clause. That is, the nominal head is base-generated internally.

Under the external-head hypothesis, internally-headed relatives seem to pose a problem. However, one can assume that head-external and head-internal relatives can be viewed as instances of the same construction. More precisely, both types can be related via an overt/covert movement parameter, an idea which is essentially based on Huang's (1982) analysis of covert movement of wh-phrases in interrogative constructions in languages such as Chinese where wh-phrases apparently do not move in overt syntax.

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Within the theory of phrase structure proposed by Kayne (1994), the examples given in (43/45-47) receive a straightforward analysis. Along the lines suggested in this theory, the nominal head raises to SpecCP.

2.1.3.1.1.1.2. Attributive adjectives

The point here is that the object idiom chunk may be modified by an adjective. In this case the object NP/DP is not adjacent to the verb. The question is why do these adjectives appear in a prenominal position in these constructions? The widespread view is that attributive adjectives in relative clauses are derived from predicate adjectives via adjective reduction rules and adjective preposing. To have a concrete example, (48a) is assumed to derive from (48b).

- (48) (a) An interesting book
(b) A book which is interesting

Now consider the following examples containing idiom chunks:

- (49) (a) She is *keeping* careful *track* of her expenses.
(b) She *made* satisfactory *headway*. (Schachter 1973:37 Exs 49 & 50)

In (49a-b) the parts constituting idiom chunks are in italics with an adjective interposed. Given the assumption that attributive adjectives are derived from predicate adjectives, both examples of (49) are derived from the ungrammatical strings in (50)

- (50) (a) *The track is careful
(b) *The headway is satisfactory (Schachter 1973:37 Exs. 51 & 52)

We have seen in (2.1.3.1) that the promotion analysis is supported by the fact that nouns such as *headway* must occur immediately after the verb *make*. However, it seems that this assumption is not correct as shown by the well-formed examples in

(49) which are presumably derived from (50a-b). It is not likely that attributive adjectives in relative clauses are derived from predicate adjectives:

- (51) (a) *She is keeping track which is careful.
(b) ? We made headway which is satisfactory.

(Schachter 1973:37 Exs. 53 & 54)

The possible solution Schachter proposes for this problem is to consider attributive adjectives as part of the idiom chunk. That is, attributive adjectives in (49), for instance, must be generated as idioms. Following Pam (p.c.), we might assume that the contrast in (51) is due to independent differences between the adjectives.

2.1.3.1.1.3 The number of promotable nominals

An embedded sentence may contain more than one promotable nominal that can be derived from the same underlying structure. The example in (52) has three nominals that can be promoted, all of which are derived from the underlying structure in (53):

(52) A girl gave a flower to a woman

(53) NP [the Nom [_{Nom} [Δ] s[a girl gave a flower to a woman]]]

(cf. Schachter 1973:38, Ex 55)

The structure in (53) can derive three semantically distinct sentences. Any of the nominals in the embedded sentence can be promoted to occupy the dummy nominal [Δ] in the matrix clause yielding the following three sentences:

- (54) (a) I saw the girl that gave a flower to a woman.
(b) I saw the flower that a girl gave to a woman.
(c) I saw the woman that a girl gave a flower to.

(cf. Schachter 1973:38 Exs. 57a-c)

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The three sentences in (54) do not have the same meaning. The semantics of each one of the sentences is determined by the categorial relations between the verb *see* and its object (cf. Schachter 1973:38). However, the interpretation of relations depending on surface structure cannot explain cases where categorial differences are not clear. For instance notice the contrast in the following examples:

- (55) (a) The girl that gave a flower to a woman is said to be eager to please.
(b) [The girl that gave a flower to a woman]_i is said to be easy to please t_i

The relativized NP is interpreted as subject of *please* in (55a) and object in (55b), indicating that categorial relations in this construction cannot be determined at surface structure.

The examples in (55) involve tough-movement construction, an area that has been the focus of theoretical linguistics (e.g Chomsky (1964), Rosenbaum (1967), Postal (1971), Lasnik and Fiengo (1974)). The primary debate is whether tough constructions involve deletion or derived by movement.

Chomsky (1964), Rosenbaum (1967), Ross (1967) and Postal (1971) argue that this construction is derived by movement. Others argue that it involves a normal rule of Equi NP Deletion, a rule which deletes the subject and object NP (Lasnik and Fiengo 1974). I am not going into details of the two analyses but suffice it to mention some syntactic and semantic properties related to tough-movement construction.

Syntactically, the construction contains an adjective followed by an optional *for*-phrase and an obligatory *to*-infinitive clause as in the following example:

- (56) John is easy (for me) to please

The *to*-infinitive clause contains an object which is coreferential with the subject of the matrix clause. Thus *John* in (56) is an underlying object of *please*.

The matrix subject and the deep object gap show a long-distance dependency relationship. The complex NP in (55b) above must have the same index assigned to the gap in the object position.

Semantically, the tough-movement construction allows us to know the inherent property of the matrix subject. The subject in this construction can only have a definite or generic interpretation (Lasnik and Fiengo 1974). The construction does not allow one-self controllable verbs to occur in the *to*-infinitive as in the following example (taken from Aniya 1998):

(57) * My brother_i is hard for me to resemble t_i

More evidence against the promotion analysis comes from the syntactic behaviour of relative pronouns, cooccurrence restrictions between verb forms and their object and dialectal relatives (Ihalainen 1981).

2.1.3.1.1.2 Problems outlined in Ihalainen (1981)

2.1.3.1.1.2.1 The behaviour of relative pronouns

Ihalainen (1981:372-373) has argued that the relative pronoun in (58b) patterns like the definite noun in (58a) as illustrated in (58c).

- (58) (a) The book belongs to John.
(b) I found a book that / which belongs to John.
(c) I found a book. The book belongs to John.

As far as the matching analysis is concerned (see 2.1), the definiteness of the relative pronoun is straightforwardly accounted for: since relativization involves a structure with two referential nouns, the second mention of the noun would automatically be definite. A definite noun then can be replaced by a pronoun. The definite noun in

(58c) is converted into *that/which* as in (58b). This relationship between definite nouns and relative pronouns cannot be explained by the promotion analysis.

I do not think that the definite determiner is a major problem. It is argued in Carlson (1977:251) that the determiner associated with the relativized NP is a constant definite (or at least 'specific') determiner symbolized as *that*. The relativization process will change that into *who* or *which*.

As a matter of fact, the example in (58b) receives a straightforward analysis in Kayne (1994). *That* and *which* are not syntactically the same and hence do not occupy the same syntactic position. The former is a complementizer whereas the latter is a relative determiner.

It is hard to see why the following example should be grammatical if *that* indeed originates as *the*, as claimed in Ihalainen (1981). English grammar does not allow two determiners preceding a noun as in (59b):

- (59) (a) I know that/ the argument
(b) * I know that the argument

The analysis proposed in Ihalainen also fails to account for the ungrammatical example in (60b) with a relative clause interpretation.

- (60) (a) The president who won the elections
(b) *The president won the elections

2.1.3.1.1.2.2 Verb-object restrictions

Ihalainen (1981:373) has also noticed that certain verbs in English can only take an unspecified object. A case in point is the verb *like*. The verb *like* is different from the verb *buy* in the sense that the former cannot take a specific object as shown in the following two examples (unspecifity is marked by the weakly stressed *some*)

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- (61) (a) John bought s'm butter.
(b) *John liked s'm butter (Ihalainen 1981:373, Exs. 13 & 14)

The promotion analysis, as mentioned earlier, argues that the “head” of the relative clause is formed by movement of NP from the embedded clause into the matrix sentence where it replaces a dummy nominal. Now consider the relative clause in (62a) whose underlying structure is given in (62b).

- (62) (a) John bought s'm butter that Mary likes.
(b) John bought [NP [Δ] s[Mary likes s'm butter]]
(Ihalainen 1981: Exs. 15 & 16)

The embedded sentence in (62a) violates the cooccurrence restriction explained in (61) and therefore the object *s'm butter* cannot be promoted to the matrix clause. As far as the matching analysis is concerned, the grammaticality of (62a) poses no problem since “the cooccurrence relations in the embedded sentence are independent of those in the matrix clause” (Ihalainen 1981:374).

2.1.3.1.1.2.3 Dialectal difference

There are some dialectal forms of relative clauses not in support of the promotion analysis, as illustrated in (63):

- (63) That's the chap that his uncle was drowned.
(i.e. that's the chap whose uncle was drowned) (Ihalainen 1981: 374, Ex.17)

This type of relative construction according to Ihalainen (1981: 374 fn 6) is still used in the South-West of England. It is not clear how the promotion analysis can handle dialectal examples such as (63). The promotion account assumes that there is only one noun in the embedded clause which is promoted to the matrix clause. However, this is not a serious problem since the pronoun might be a copy left behind by the moved noun phrase.

2.1.3.1.2 Reconstruction Effects

Despite the problems we have outlined above, the promotion analysis is assumed to involve reconstruction whereby the moved NP/DP can be reconstructed to its original position. Thus this process applies only to elements derived by movement. Neither the head-external analysis or the matching analysis can be said to display the reconstruction process. The reason is that the head NP/DP of the relative clause in these two approaches originates outside not inside the relative clause.

Chomsky (1981) proposes that wh-movement construction displays a number of properties. For example the wh-moved element leaves a gap in the original position and it observes island constraints. Reconstruction is an additional diagnostic of movement and was only proposed in the Principles and Parameters framework. Taking reconstruction as a diagnostic of movement, it has become possible to deal with wh-constructions in which a resumptive pronoun fills the original position of the relativized NP/DP. The explanation that has been given within the standard theory is that the antecedent-resumptive pronoun relation is well-formed across an island to conclude that it is never generated by movement (Aoun and Li 2003:2). But there are languages where a resumptive pronoun occurs in constructions not involving islands and, as will be clear, movement is assumed to have taken place. If reconstruction is a diagnostic of movement, the appearance of a resumptive pronoun in the relativization site will show that movement is not available and therefore reconstruction is impossible. Relativization in English does not allow a resumptive pronoun in the relativized argument position. Thus if the promotion analysis is correct, the raised NP/DP must be able to reconstruct. There is evidence that this is indeed the case. Idiom chunks, binding facts and scope properties all show that the head NP/DP originates in the relative clause. We will look at these reconstruction effects in the following subsections.

2.1.3.1.2.1 Idioms

It has already been shown that one of the arguments in favour of the promotion analysis is the behaviour of idiom chunks in relative clauses. The fact that [V+O] idioms form one unit, constructions in which the O(bject) part of the idiom appears as the “head” of a relative clause indicate that movement has taken place and consequently reconstruction of the O part must be available.

- (64) (a) We made headway on the project
(b) The [headway]_i that we made t_i on the project

However, McCawley (1981) observed that the “head” can be an idiom chunk related to the main verb rather than being related to the embedded verb as in the following example:

- (65) John *pulled the strings* that got Bill the job

The DP *the strings* is part of the main verb *pull* not part of *get*. If this is true then the head NP/DP of the relative clause in (65) must be base-generated in the external position and no movement involved in the derivation of (65)¹⁰. Thus this example supports the head-external analysis rather than the promotion analysis. Consequently reconstruction is not possible in (65) for the lack of the head-raising.

2.1.3.1.2.2 Anaphors and pronouns

Reconstruction effects are also available in instances involving binding possibilities. We will examine examples involving anaphors and pronouns. In (2.1.3.1.2.3) we will discuss another type of DP which is related to binding phenomenon: r-expressions.

¹⁰ A similar explanation applies to the example given in footnote (9) above.

An anaphor is usually c-commanded by its antecedent, as illustrated in the following examples¹¹:

- (66) (a) Bill expected Mary_i to buy pictures of herself_i
(b) *Bill expected pictures of herself_i to be bought by Mary_i

Anaphors are subject to principle A of the Binding theory (Chomsky1981). Principle A of the Binding theory is formulated below:

Principle A

An anaphor must be bound in its governing category

The governing category in (66) is the lower IP which contains the anaphor *herself* and its antecedent, *Mary*, the subject of the infinitive clause.

The distribution of anaphors in relative clauses (and in interrogatives) is different from the pattern given in (66). (66b) is bad since the anaphor is not c-commanded by its antecedent *Mary*. In relative clauses an anaphor can appear embedded in the “head” and yet the structure can still be grammatical, as in (67):

- (67) The [pictures of herself_i]_j that Tom expected Mary_i to buy t_j

As the example shows, the anaphor is not c-commanded by its antecedent *Mary*, in violation of Principle A. To get the right representation, the raised NP is lowered back (since reconstruction is a lowering process) to the argument position at LF. Now *Mary*, the antecedent, is in a position to c-command the reconstructed NP. Let us consider another more interesting example which, superficially, seems to pose a problem for anaphors.

¹¹ Pollard and Sag (1992) argue that an anaphor may not be c-commanded by its antecedent.

(68) The [pictures of himself]_i that John thinks that Mary will burn t_i

The grammatical (68) indicates that the anaphor must be bound. The puzzle here is that the position from which the anaphor originates is c-commanded by *Mary* not by *John*. The fact that the anaphor has the feature [+masculine] means that its antecedent must also have the feature [+masculine], which in (68) must be *John* rather than *Mary*. We need a mechanism that will enable *John* to be the antecedent of the anaphor. Placing back the NP in the base-position does not help since the anaphor will be bound by *Mary*, an undesirable result.

A solution to the problem is to assume that the NP *pictures of himself* moves first to the Spec of the lower CP before it can move on to the higher SpecCP position. This movement will create an intermediate trace (indicated by *t'*). Now the NP in the higher SpecCP can be reconstructed back to the intermediate trace position and thus c-commanded by *John*. The S-s of (68) is given in (69) with all the relevant traces.

(69) The [picture of himself]_i that [IP John thinks [CP t'_i that [IP Mary burnt t_i]]]]

Now consider the example in (70) where the anaphor seems to be bound by *John* or *Bill*.

(70) The [picture of himself]_i that John thought t'_i that Bill would burn t_i

The example in (70) is ambiguous: both *John* and *Bill* can be the antecedent of the anaphor. This shows that the reconstruction site is freely chosen. That is, the NP containing the anaphor can be reconstructed back to the intermediate trace in the lower SpecCP or to the lower trace in the base-position. The first choice will enable *John* to be the antecedent of the anaphor; the latter option, where the NP is placed back in the base-position, will allow *Bill* to be the antecedent of the anaphor. Importantly, reconstruction is not possible in the base-position when *John* is the antecedent for the reasons already specified.

Chapter Two: Literature Review and the Theoretical Background

Reconstruction also applies for pronouns. Within the Binding theory, pronouns are subject to principle B, formulated below.

Principle B

A pronoun must be free in its governing category

The governing category is the minimal domain containing the pronoun, its governor and an accessible SUBJECT.

(71) Everyone_i likes pictures of his_i parents

The pronoun *his* is c-commanded by the antecedent quantifier phrase *everyone*. When this c-command is absent, we will have the ungrammatical (72):

(72) * Pictures of his_i parents are liked by everyone_i

The pronoun *his* in (72) cannot have *everyone* as its antecedent since the latter does not c-command the former.

The distribution of pronouns in relative clauses does not follow this pattern. Reconstruction will derive an LF representation when the pronoun is c-commanded by *everyone* with the consequence that co-indexation between *everyone* and *his* will give no rise to Principle B violation.

(73) The [pictures of his_j parents]_i that everyone_j likes t_i

Thus reconstruction in (73) will make it possible for *everyone* to c-command the raised NP and have the same index with the pronoun. In the remaining part of this section we will look at the interaction of reconstruction and Principle C.

2.1.3.1.2.3 R-expressions

R-expressions are subject to Principle C of the Binding theory formulated as follows

Principle C

An r-expression must be free

R-expressions, like anaphors and pronouns, are DPs. They include the great mass of DPs that do not require antecedents of any type and they have their own semantic content (Roberts 1997:140). R-expressions cannot be c-commanded by a pronoun and when this happens, a violation of Principle C arises.

(74) John_i said that he_i likes linguistics

(75) *He_i said that John_i likes linguistics

Now we consider more complex cases illustrated in (76).

(76) (a) ?? The [picture of John_i] he_i thinks [_{CP} t'_j that [_{IP} Mary likes t_j]]]

(b) ? The [picture of John_i] you think [_{CP} t'_j that [_{IP} he_i likes t_j]]]

The example in (76a) is less acceptable than (76b). This follows from the fact that in (76a) there are two reconstruction sites available: the base-position and the intermediate trace position. Both positions are ruled out since the reconstructed material will be c-commanded and bound by the pronoun, in violation of Principle C. More precisely, the r-expression *John* contained in the antecedent will be c-commanded by the pronoun *he*, an undesirable result.

By contrast, (76b) is not as bad as (76a) despite the fact it too has two reconstruction sites as (76a). There will be a violation of Principle C only when the NP containing the r-expression reconstructs in the base-position since the pronoun *he* will c-command and bind the r-expression. This problem does not arise when the raised NP is reconstructed back to the intermediate trace position. In this case, the pronoun *he* cannot c-command the r-expression.

One of the ways to understand reconstruction phenomenon is to adopt the copy theory of movement (Chomsky 1993/ 1995). We briefly discuss this approach in the following section.

2.1.3.1.2.4 The copy theory of movement & reconstruction

Chomsky (1993/1995) proposes that instead of the trace left by wh-movement, a copy of the moved category is left behind. The copy of the moved category has the same properties as the antecedent then one of the copies is deleted at LF.

Assuming that movement leaves copies of the moved element, overt movement is interpreted as movement which carries the phonological features of the moved element to the head of the movement chain. The whole syntactic category undergoes movement. The primary aim of the copy theory of movement is to propose that reconstruction can be eliminated.

In English-type languages, relative clauses are formed in the same way as wh-interrogatives. According to the copy theory, the trace in both constructions is replaced by the moved element which is deleted at PF.

As it stands, the copy approach, I think, is more consistent with the promotion analysis than with the head-external analysis. In the former, as we have seen, the head NP/DP originates within the relative clause whereas in the latter the head originates externally¹².

Summarizing, we have seen that the promotion analysis and the matching analysis are not the same. The head of the relative clause is derived by movement under the promotion analysis and reconstruction is therefore possible. Under the matching analysis, the head is base-generated outside the relative clause. A wh-operator

¹² However, it should be emphasised that the copy theory of movement appears to predict that whenever there is a gap of some kind there is an overt constituent of that kind. The following show that this is false

- (i) What he may do is go home
- (ii) *He may do go home

I am grateful to Borsley (p.c) for this comment.

moves from the embedded clause to a position close to the head. Since there is no head NP movement in this analysis, the head cannot be reconstructed. The similarity between the two approaches is that both adopt an adjunction structure. In the matching analysis, the relative CP is adjoined to the head NP. Given the head initial word order in English for example, the relative CP is right-adjoined to the head. We will see that right adjunction is not allowed in Kayne's (1994) analysis. The adjunction structure in Schachter's (1973) version of the promotion analysis involves moving a relativized nominal from within the relative clause to the head position outside the relative clause where it is adjoined. Thus this version of the promotion analysis does not involve a complementation structure: the determiner does not take CP as its complement. In addition, the head of the relative clause does not move to SpecCP. The differences between the matching and the promotion (Schachter's version) analyses can be summarized in the following table:

Table 1 *Promotion and Matching analyses : differences and similarities*

Analysis	Structure	Derivation
<i>Promotion analysis</i>	adjunction	Head derived by movement
<i>Matching analysis</i>	adjunction	Operator movement with a base-generated head

2.1.3.2 Antisymmetry and movement in relative clauses

2.1.3.2.0 Preliminaries

According to Kayne (1994), U(niversal) G(rammar) requires spec-head complement order and requires that movement in a phrase is upward to a c-commanding position. In other words, UG assumes that movement can only be leftward. This assumption

leads to the claim that all word order variations are a result of leftward movement. Kayne (1994: 47) argues that

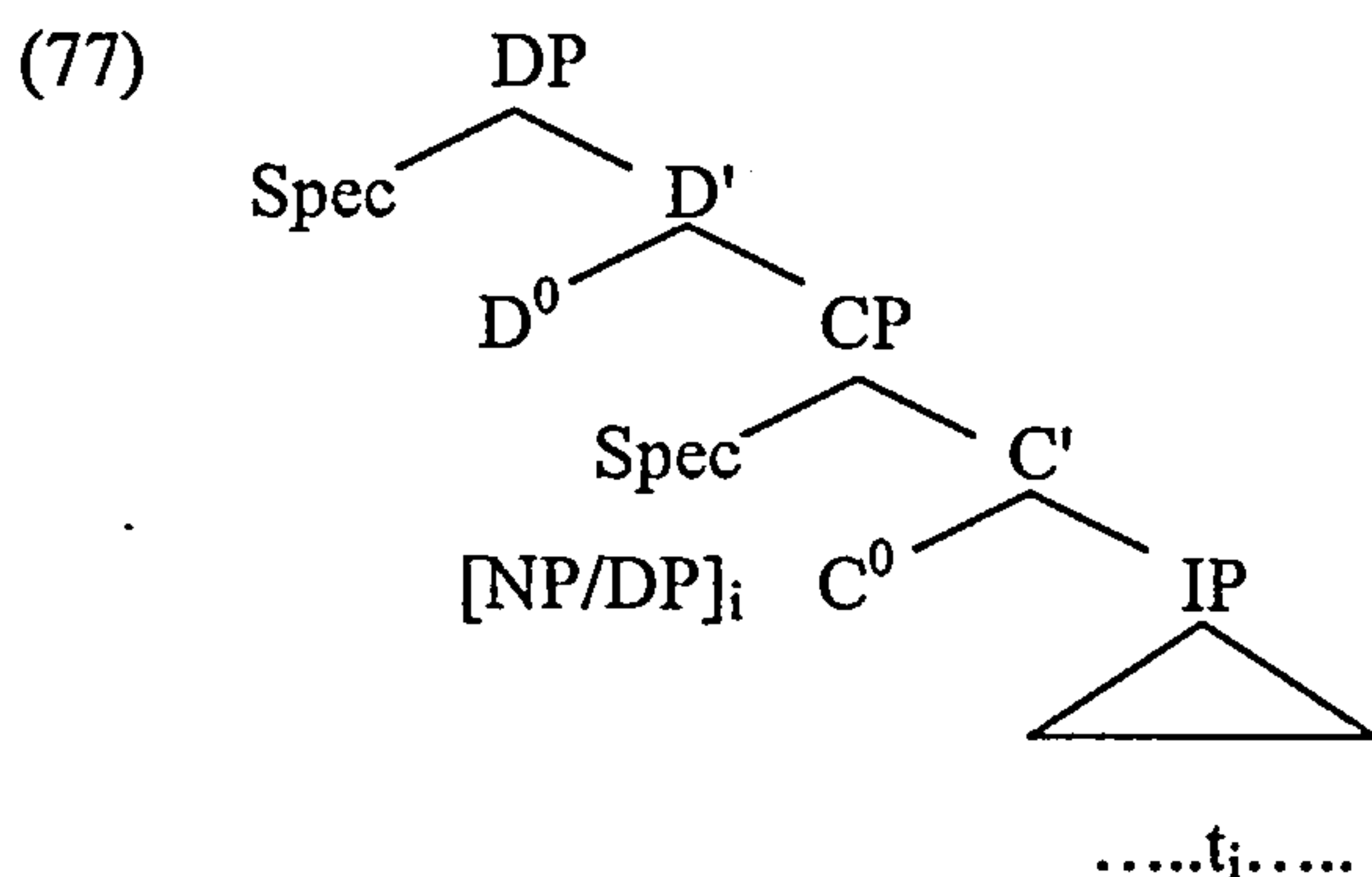
we must think of word order variation in terms of different combinations of movementsany movement of a phrase upward to a c-commanding position must be leftward. This is so, for the simple reason that asymmetric c-command implies precedence.

The reason that UG must have a strict S(pec) H(ead) C(omplement) order, in addition to word order variations, is due to the fact that leftward movement leads to a UG without the directionality parameter. Kayne (1994: 47) confirms this fact:

languages in which some complement precedes the associated head must necessarily have moved the complement leftward past the head into some specifier position.

2.1.3.2.1 The [D CP] structure and movement to SpecCP

Kayne (1994) has proposed that a restrictive relative clause can only have the representation shown in (77):



In (77), D takes a CP complement. D and CP form a constituent. There is difference between *that*-relatives and *wh*-relatives with respect to the constituent which raises to SpecCP. In *that*-relatives, it is NP that moves to SpecCP whereas in *wh*-relatives

it is DP that moves to SpecCP. In both types of relative clauses the highest D (*external D* in Kayne's terms) is base-generated in the highest D position. The moved NP/DP does not form a constituent with the external D. It is clear that this analysis differs from the adjunction analysis in which the relative clause is right-adjoined to the "head". The external D in (77) c-commands CP and takes it as its complement. We will return to the analysis of *that*-relatives and *wh*-relatives within Kayne's account in 2.1.3.2.3.

Bianchi (1999:39) points out that one of the reasons for assigning D a functional category in Abney (1987) is "the occurrence of nominal specifiers, like determiners and possessives, within verbal projections." The following example illustrates:

(78) John's building a spaceship (Bianchi 1999:39, Ex.17)

In (78), D selects a verbal projection rather than a nominal one. The determiner can select a CP complement as in Spanish and Modern Greek¹³. Bianchi (1999 borrows the following examples from Roussou (1992) and Donati 1994:23), respectively.

- (79) (a) me stenohori [to oti efije]
me makes sorry the that he left
"it makes me sorry that he left"
- (b) No me gusta [el que tu actues asi]
not to me please the that you behave like that
"I don't like your behaving like that" (Bianchi 1999:39-40, Exs 18a,b)

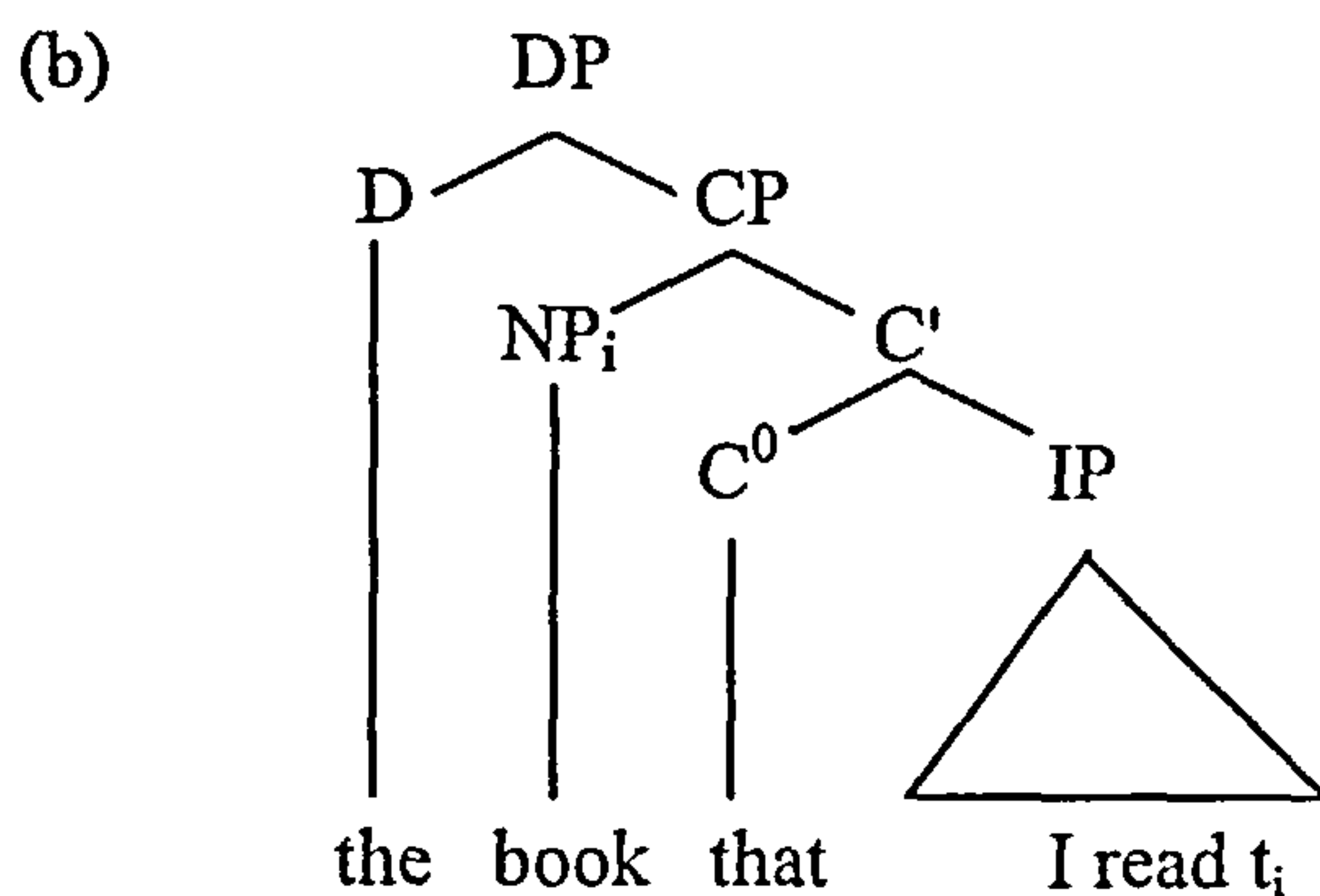
Attributing the idea to Zaring (1992), Bianchi points out that *ce* in French is a clausal determiner, as (80) shows.

¹³ Borsley and Kornfilt (2000) discuss various situations where a D combines with a CP.

- (80) je veillerai [PP á [DP ce [CP qu'il se couche de bonne heure]]]
 I shall see to that that he goes to bed early
 "I shall make him go to bed early" (Bianchi 1999:40, Ex19)

Kayne proposes that the external determiner is not involved in selecting the "head" of a relative clause. Consequently, they do not form a constituent. Instead, the determiner selects CP which functions as its complement, as shown in (77) above. This analysis explicitly states that the "head" originates inside CP as first proposed in Brame (1968) and developed in Schachter (1973), as we have already pointed out. If the "head" originates inside CP and moves out to a position next to the determiner, it makes sense then that the determiner and the head cannot be thought to form a constituent. Given that D does not originate inside CP, the head NP is accordingly in a position between external D and C⁰, the head of CP. It follows that the NP is asymmetrically c-commanded by the external determiner and the NP, in turn, will asymmetrically c-command the head C⁰. This is important in order to have the correct linear order of the terminals. English *that*-relatives such as (81a) will have the structure in (81b) below.

- (81) (a) The book that I read



As there are arguments about the head NP whether it is external or generated inside CP, there is also disagreement on the status of the determiner. In Kayne's analysis, the highest determiner does not form a constituent with the NP in SpecCP. Contrary

to this view is Cinque’s proposal. Cinque, as cited in Bianchi (1999), assumes that the external determiner originates within the relative clause. Evidence to support this claim comes from Venetian dialect where the whole PP in (82) is assumed to be originated within the relative clause.

- (82) nea situassion che semo
 in-the situation that (we) are
 ‘In the situation in which we are’ (Bianchi 1999:49, Ex.37)

There is a strong correlation between the definite determiner and a relative clause. This correlation explains the contrast in (83a, a’) and (83b, b’)

- (83) (a) The man that I met
 (a’)*man that I met
 (b) The three books that I bought
 (b’)*three books that I bought

In the following sections we will discuss the behaviour of the determiner in connection to proper names, genitive structures and idiom chunks.

2.1.3.2.2 Evidence for the highest (External) Determiner

As indicated earlier, Kayne uses the term ‘external D’ to refer to the determiner that occupies the highest D position in the DP structure. According to Kayne, the highest D is base-generated in that position. The purpose of this section is to put forward a range of arguments in support of the idea that the highest D is base-generated external to the relative clause.

2.1.3.2.2.1 Proper names

Longobardi (2001:589) assumes that proper names i.e. nouns intrinsically referring to single individual objects may occur without a determiner. What this hypothesis

amounts to is that proper names can be generated in N and raise to D position when they have a unique reference. The D position must be empty because the N will move to that position.

(84) The Paris * (I love) (Bianchi 1999:42, Ex.21a)

In (84) N cannot raise to D because it does not have a unique reference. It cannot have a unique reference because it is modified by a relative clause. The determiner is obviously licensed by the relative clause. The definite determiner in (84) does not select the NP headed by the proper name; rather, it selects the whole restrictive CP *Paris that I love*.

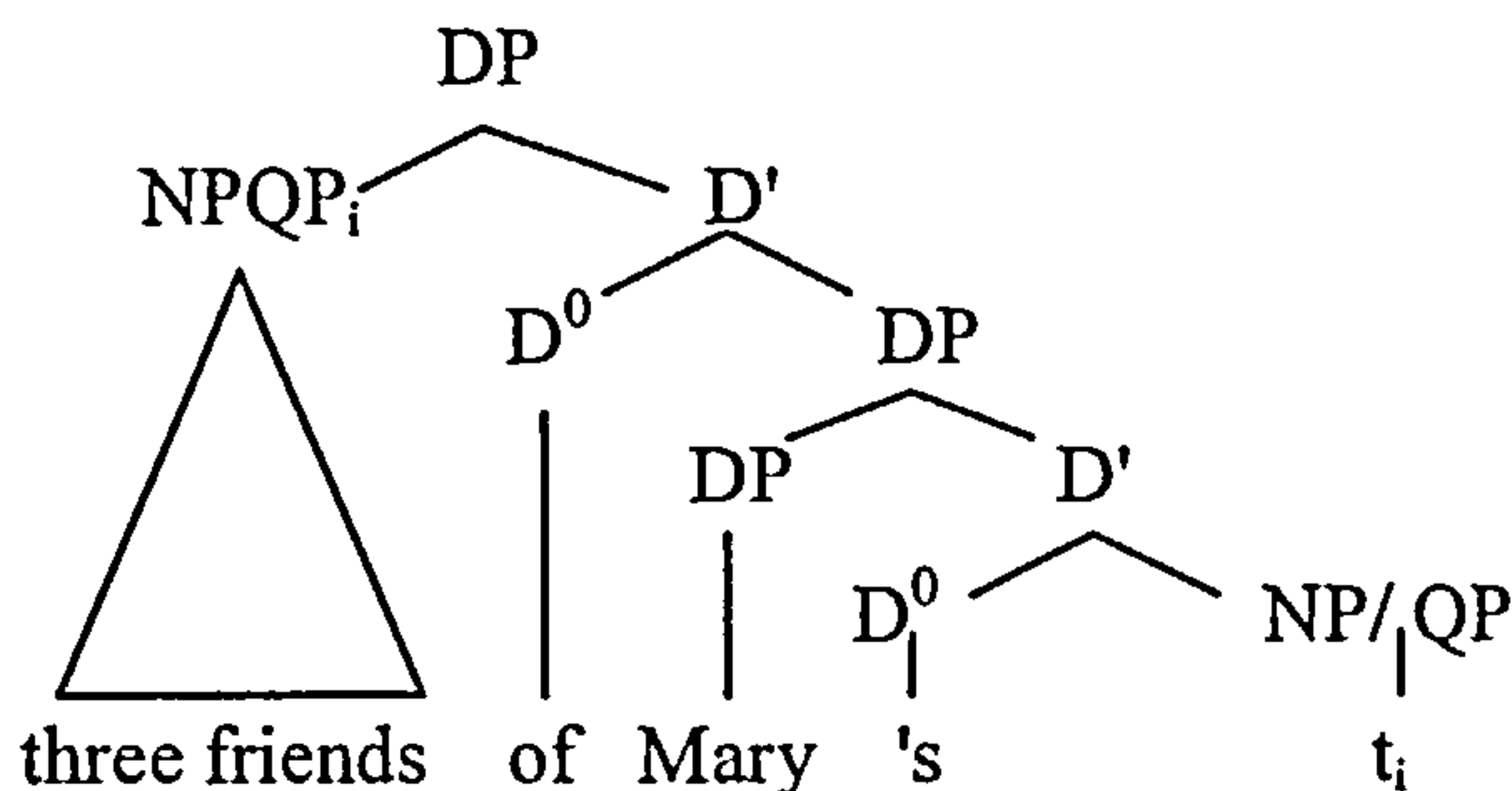
2.1.3.2.2.2 Genitive Constructions

Kayne (1994: 85-87) argues that in genitive structures, such as (85), the occurrence of the definite determiner is impossible since in these structures D is realized by *of*.

(85) The three friends of Mary's * (that I met)

The inflectional head “s” assigns genitive case to the possessor in its Spec. It is selected by D i.e. *of*. Kayne argues that the obligatory movement of the N *three friends* to SpecDP can be explained in terms of case. Attributing the idea to Szabolsci (1994), Kayne points out that in Hungarian a possessor may be preceded by an indefinite D. The possessor obligatorily moves to the Specifier of D where it can be assigned dative Case it then moves out of the DP. According to Kayne, movement of the possessor to SpecDP is related to case. Since indefinite D in Hungarian is not a Case assigner, the possessor must move to a higher position. SpecDP in English is not a dative Case position. However, some mechanism is used in English: the insertion of the preposition *of* in D. D will then become a Case licenser. Thus (85) is represented in (86).

(86)



Since the genitive preposition is in D, no other determiner can be introduced. Thus the example in (87a) is ungrammatical.

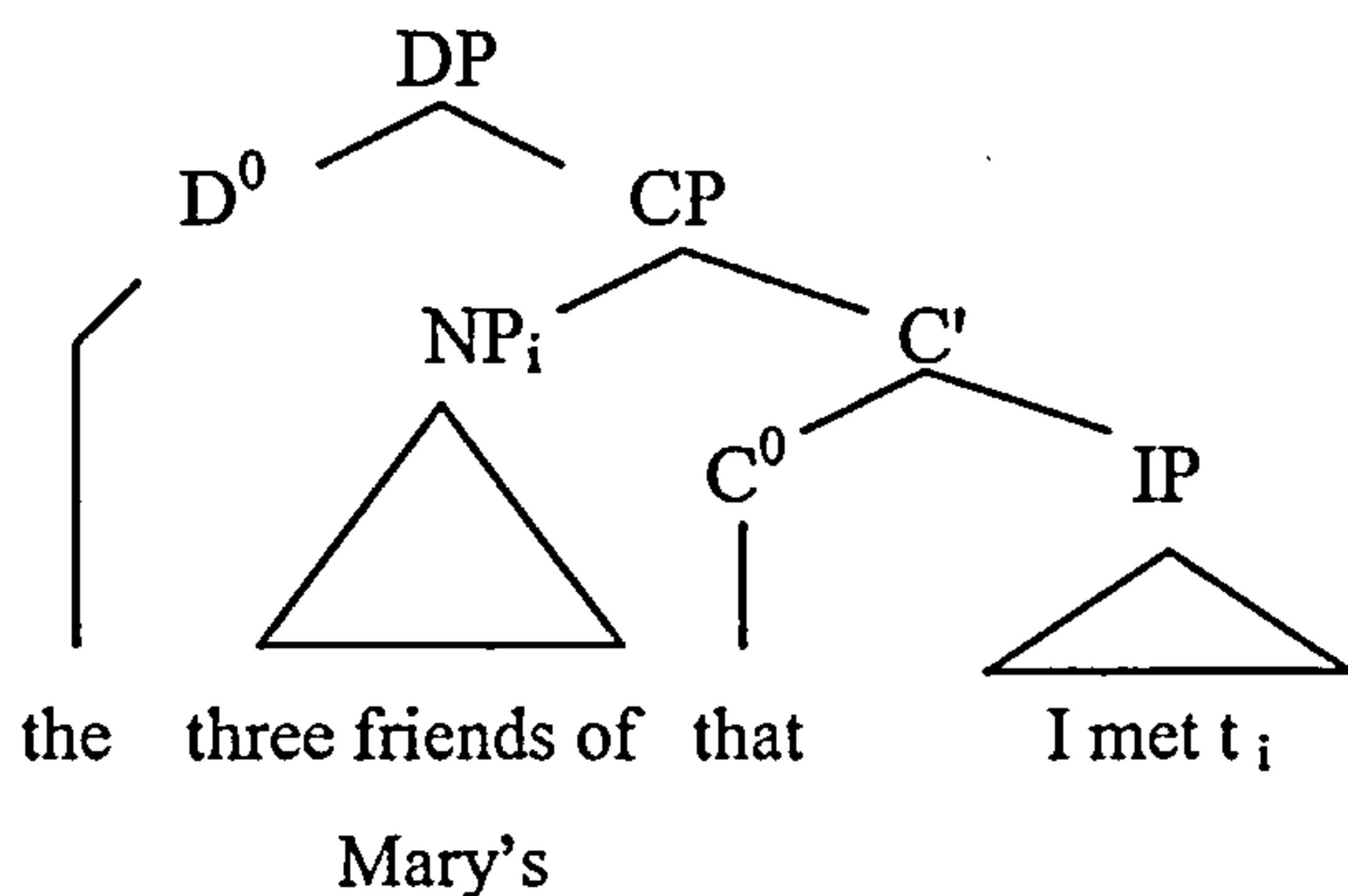
(87) (a)*the two friends of John's

It seems that the ungrammaticality of (87a) is not related to the assumption that D is occupied by *of*. It will remain ungrammatical even if *of* is not realized, as in (87b)¹⁴.

(b) *The two friend's John's

A different structure other than (86) above must be proposed when the definite determiner selects CP. Kayne proposes that the NP must then raise to SpecCP. (85), accordingly, will have the structure shown in (88).

(88)



¹⁴ Borsley (p.c) has pointed out to me that the example in (87a) is well-formed with a following PP as in (i):

(i) the two friends of John's in France

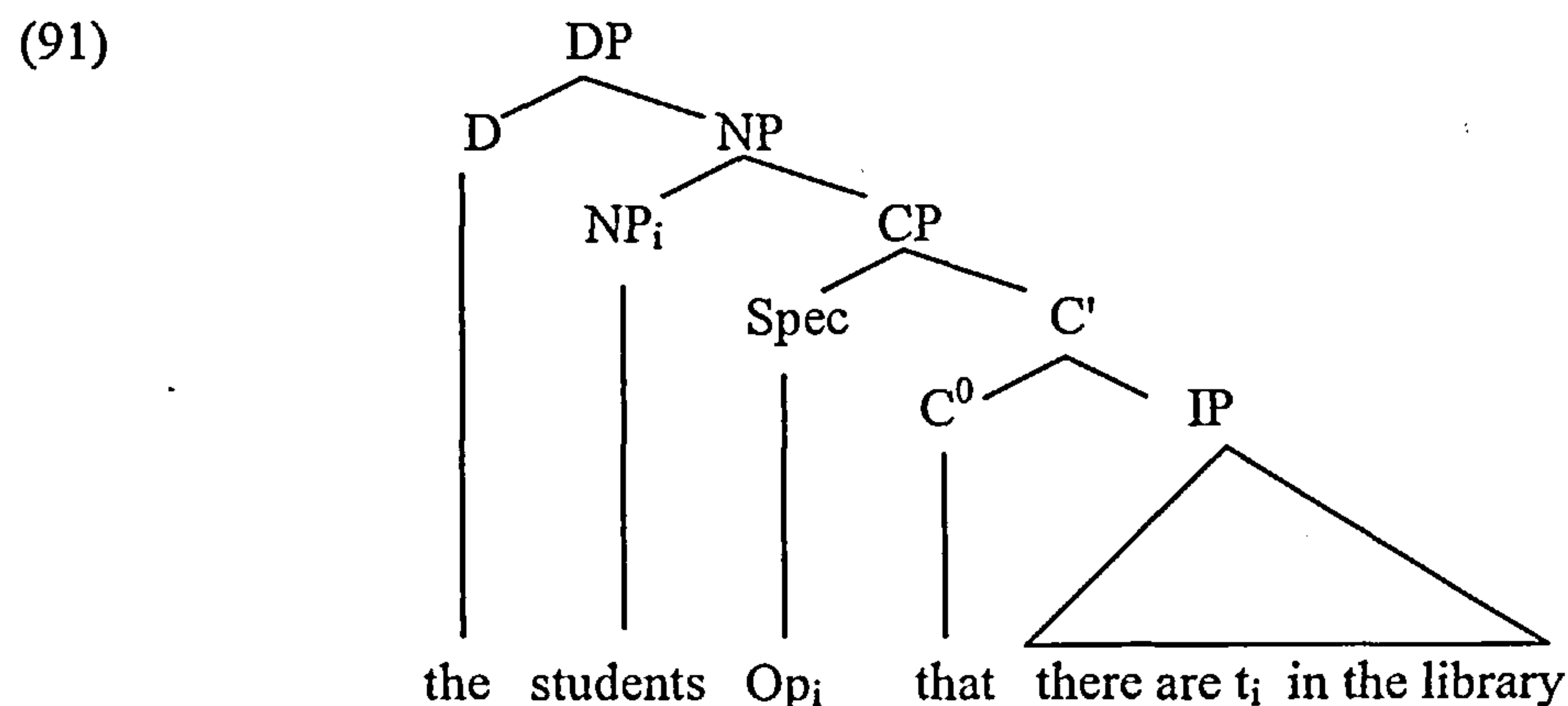
Kayne assumes that partitive constructions can be analysed in the same way. The partitive in (89), for example, can have the same structure shown in (88).

(89) The two of the boys *(that I met)

The QP/NP *two of the boys* moves from CP internal position to SpecCP. All these examples show is that the external determiner is licensed by the relative clause. Some more evidence that the external determiner is not generated within CP comes from traces found in existential sentences. This idea is attributed to Browning (1987). She notes that the trace in (90b) cannot be a DP trace as shown by the ungrammatical example in (90a). The trace is indefinite even when the modified NP is introduced by a definite determiner as in (90b):

- (90) (a) *There are the students in the library.
 (b) The [students]_i that there are t_i in the library are all linguists

Browning assumes that the relative clause is adjoined to the NP which functions as the antecedent of the relative Operator. Since the NP category is not definite, the Operator does not inherit a definiteness feature. The representation of (90b) is given in (91)¹⁵.



¹⁵ The structure represented in (91) does not assume a promotion analysis. The point is merely to show that the determiner does not originate in the relative clause.

The analysis represented in (91) shows that the external determiner is not contained in the head that has raised from the postcopula position.

2.1.3.2.2.3 Idiom Chunks

In dealing with Schachter's version of the promotion analysis in section (2.1) above, we saw that idiom chunks provide concrete evidence for movement from the embedded clause to a position outside the relative clause¹⁶. Kayne's version of the head-raising analysis is similar to the earlier version of the promotion analysis with regard to idiom chunks. The idea in both versions is that the object of the verb is obligatory indefinite but can be definite when relativized as illustrated in (92a-c).

- (92) (a) He has taken advantage.
(b) *He has taken the advantage
(c) The advantage that he has taken

The example in (92a) is grammatical since the idiom *take advantage* does not contain the definite determiner preceding the object. When the determiner occurs in the structure as in (92b), the ungrammaticality results. The definite determiner in (92c) cannot be said to originate in the complement position given (92a,b). Rather, it should be considered to be linked with the relative clause. Then it makes sense to conclude that the definite determiner is licensed by the relative clause.

2.1.3.2.2.3.1 Variable D vs frozen D

Bianchi (1999:44) makes a distinction between idiom chunks. She assumes that idiom chunks are associated with two different determiners: a *variable determiner* and a *frozen determiner*. She argues that idiom chunks with a frozen determiner cannot be modified. She further argues that the frozen determiner has no semantic

¹⁶ But there is a counterexample showing that idiom chunks do not provide convincing evidence for the promotion analysis. See for example MaCawley's example given in (65) and footnote (9) above.

content and that its NP complement is not bound by the determiner because it has no variable position. The examples in (93) illustrate these two types of determiner.

- (93) (a) *il tempo che posso dedicarti oggi è ben poco*
the time that (I) can devote to-you today is but little
“The time that I can devote to you today is little”
(b) **la corda che ha tagliato*
the rope that (he) has cut (Bianchi 1999:44-45, Exs.28a & 29a)

Bianchi explains that (93a) is well-formed because the determiner selects a relative clause as its complement. D in (93a) is a variable determiner i.e. the NP can be bound by the determiner. The ungrammatical example in (93b) is due to the fact that the determiner is frozen and therefore NP cannot have a variable position. Bianchi assumes that the contrast between a variable and a frozen determiner can be explained straightforwardly within Kayne’s approach: a variable determiner can have a restrictive clause in its complement position whereas a frozen determiner cannot.

2.1.3.2.2.4 Determiner transparency

Schmitt (2000:310) assumes *Determiner Transparency* (DT) principle to explain grammatical and ungrammatical constructions with nominals associated with the definite determiner:

- (94) (a) John made headway
(b)*John made the headway
(c) John made the headway Bill made (Schmitt 2000:310, Exs. 2a-c)

The idea is that the definite determiner in (94c) appears as if it were not there (hence transparent) given that (94c) or possibly (94a) must be indefinite. Therefore the definite determiner in (94c) is transparent (Schmitt 2000:310).

2.1.3.2.2.5 More evidence for external D

In addition to proper names and idiom chunks, Schmitt argues that other constructions such as *type of expressions* and *measure constructions* can be introduced by the definite determiner only if a relative clause were added as in (95a,c).

- (95) (a) I bought one type of bread
(b)*I bought the type of bread
(c) I bought the type of bread you like (Schmitt 2000:311, Exs 4a-c)

Measure constructions behave in the same way as in (96a,c)

- (96) (a) Maria weighs forty five kilos
(b)* Maria weighs the forty-five kilos
(c) Maria weighs the forty-five kilos Swana would ...
(Schmitt 2000:311, Exs.5a-c)

Schmitt proposes that the same analysis can carry over to other constructions such as *resultative* and *with constructions* as shown in (97a,c) and (98a,c), respectively.

- (97) (a) John painted the house a nice colour
(b)*John painted the house the nice colour
(c) John painted the house the colour his girlfriend liked

- (98) (a) Mary bought a house with windows
(b)* Mary bought the house with the windows
(c) Mary bought the house with the windows that she liked
(Schmitt 2000:311-312, Exs. 6a-c &7a-c)

Based on the data above, Schmitt concludes that all NPs under her analysis are inherently indefinite. She suggests that the 'indefinite' behaviour of the definite relative can be dealt with in two ways. One way is to assume that the odd behaviour

of the definite determiner is related to some pragmatic reason. The other way is to assume along with Bianchi (1994) that the definite that occurs with relative clauses is not really a definite but a 'disguised indefinite'.

2.1.3.2.3 The derivation of restrictive relatives

In this section we will look at how relative clauses are derived within the framework proposed in Kayne. We will consider two types of restrictive relatives, namely, *that*-relatives (2.1.3.2.3.1) and *wh*-relatives (2.1.3.2.3.2).

2.1.3.2.3.1 *That*-relatives

In this subsection, I will make an attempt to summarize different analyses of relative clauses within the head-raising approach. It will be shown that some of the analyses presented are modifications of Kayne's analysis and some are merely objections to what Kayne has proposed. We first begin with *that*-relatives as analysed in Kayne (1994) followed by a review of proposed analyses for this type of relative clause.

2.1.3.2.3.1.1 The derivation of *that*-relatives

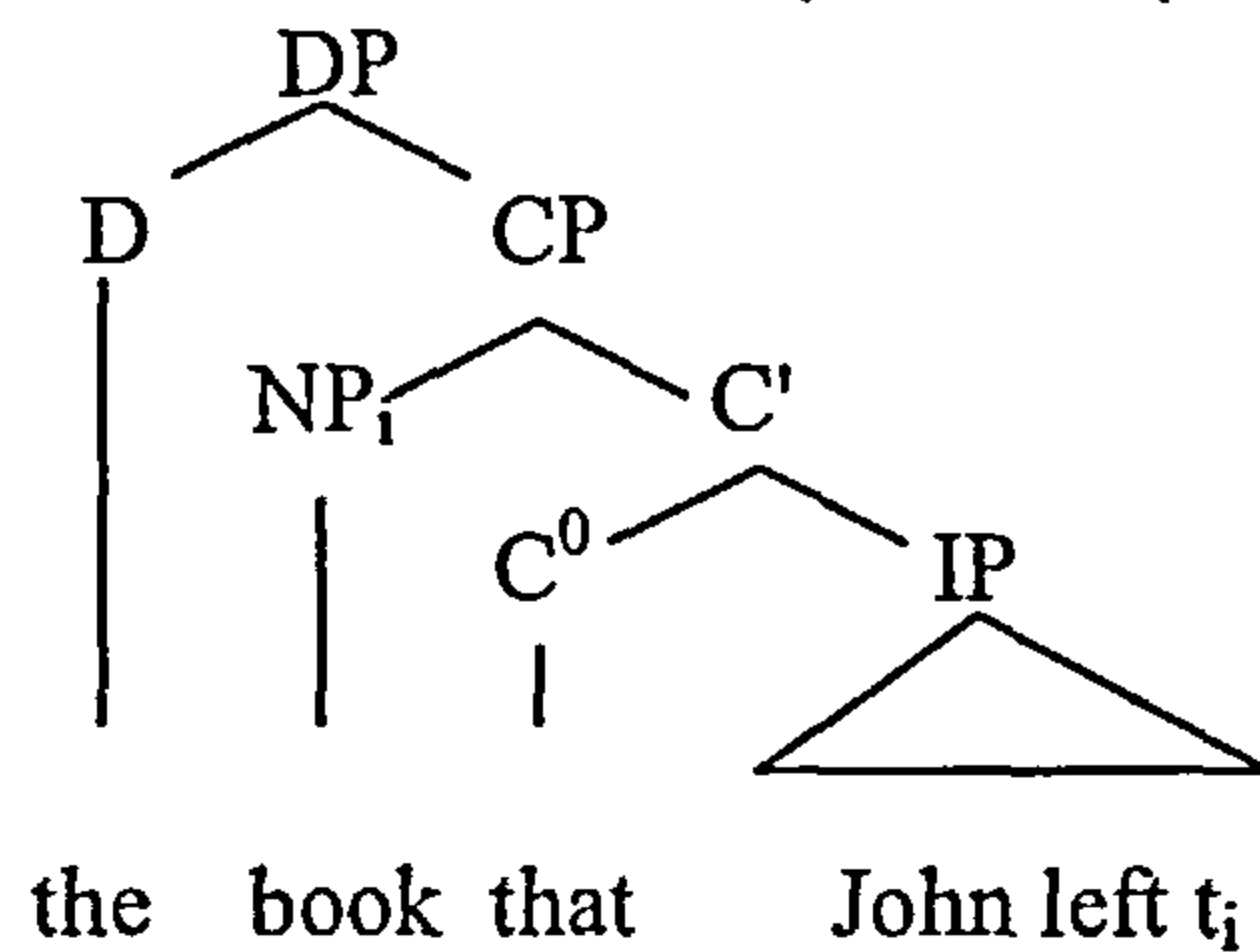
2.1.3.2.3.1.1.1 Kayne (1994)

Kayne rejects the idea that a restrictive relative clause is adjoined to the head NP and proposes instead a structure where a relative clause is a complement of D as we have already seen. The head NP/DP, as in the earlier version of the promotion analysis that we saw, originates in the relative clause. The crucial difference between the two analyses is concerned with the landing site of the raised NP/DP. We have seen that in Schachter's version the raised head lands in an empty nominal position outside the relative clause. Thus the relative clause in this analysis is adjoined to the head NP as in the head external analysis (Chomsky 1977). In Kayne's version, the moved head NP/DP ends up in SpecCP asymmetrically c-commanded by the highest

determiner. *That*-relatives in Kayne's analysis are different from *wh*-relatives. They will have the structure given in (81b) above which is the same as (99b) below.

(99) (a) The book that John read (same as (81a))

(b) (same as (81b))



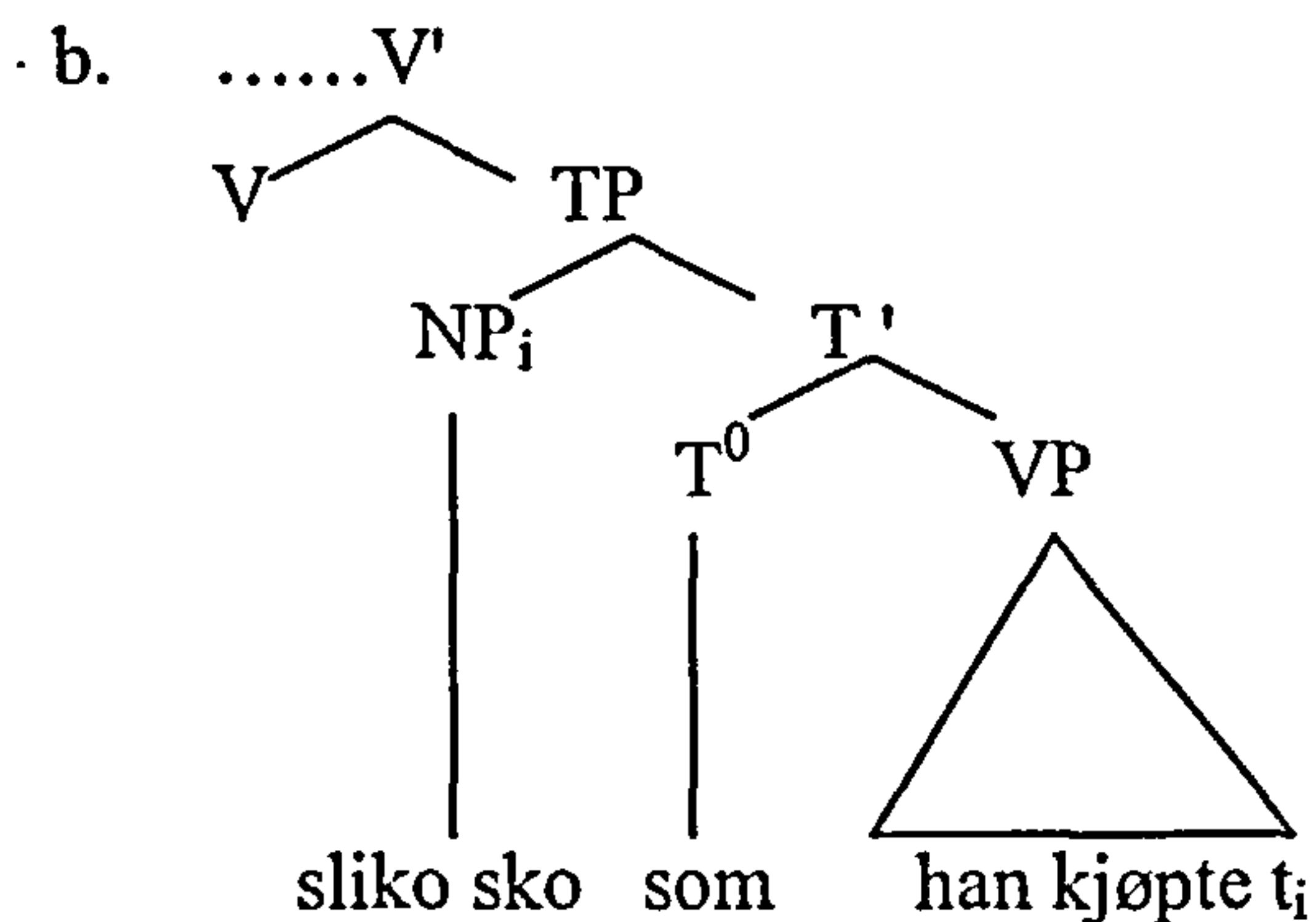
According to Kayne (1994) the material occupying SpecCP in *that*-relatives as in (99b) is an NP that has moved from the relative clause. The head D takes a CP constituent as its complement. Crucially, *the book that John read* is not a constituent; only *book that John read* is. The reason is that what has moved from CP is not a DP but an NP. The highest D is base-generated externally and thus does not form a constituent with the NP in SpecCP. It will be shown that this analysis, as noted by Borsley (1997) and Bianchi (2000), has some problems.

We have seen that the traditional analysis of relative clauses right-adjoins the relative clause to the head noun. This derivation is not possible in Kayne's analysis.

2.1.3.2.3.1.1.2 Åfarli (1994)

Åfarli (1994) argues that the head-raising analysis for Norwegian relative clauses with an overt *wh* pronoun cannot be maintained. In his account the head-raising analysis can only be used to derive the structure of *som*-relatives (i.e. *that*-relatives). He further assumes that the relative clause is a clausal projection, TP rather than DP. According to Åfarli, the relative clause in (100a) is assigned the structure in (100b).

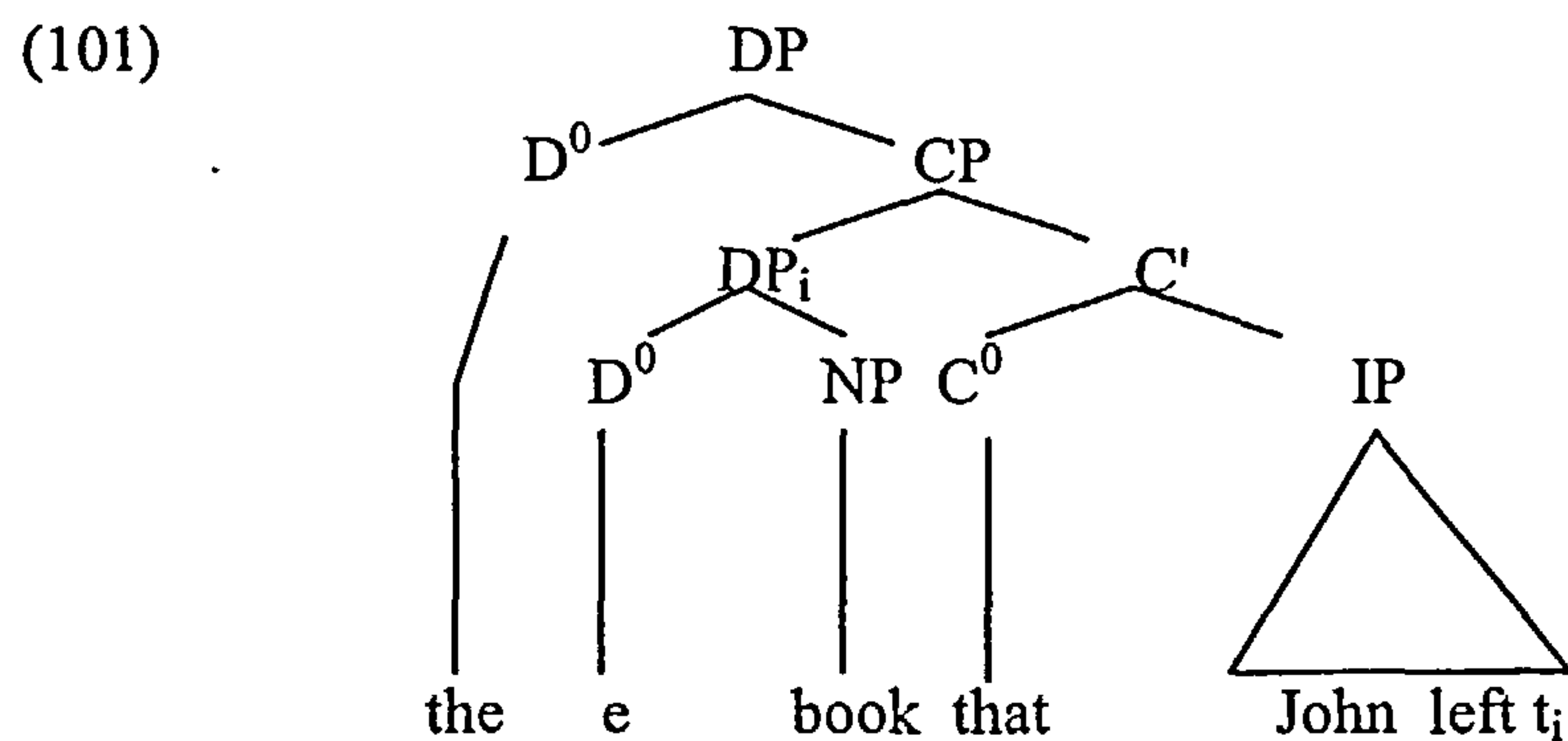
- (100) (a) slike sko (som) han kjøpte
 such shoes som he bought (Áfarli 1994:84, Ex.12b)



The matrix verb selects not only TP in its complement position but also the NP which, in Áfarli's terms, includes a determiner. This NP moves to SpecTP in order to satisfy the subcategorization requirements of the matrix verb. The complementizer occupies T⁰ position. The raising analysis represented in (100b) is based on idioms, anaphors and pronominal binding we have already seen earlier.

2.1.3.2.3.1.1.3 Borsley (1997)

Contra Kayne, Borsley (1997) argues that *that*-relatives in English are derived by DP movement from the embedded IP to SpecCP. Thus the structure given in (99b) should be as shown in (101) below.



Bianchi (1999:124) also adopts the same analysis for *that*-relatives. Thus both Borsley and Bianchi agree that the constituent that moves to SpecCP in *that*-relatives is DP with an empty D, as shown in (101).

2.1.3.2.3.1.1.4 Platzack (2000)

For reasons having to do with reconstruction unavailability, Platzack proposes that the head-raising analysis is not possible in Swedish. Below I cite Platzack's (2000:267) example showing that the possessive reflexive *sin* in Swedish cannot be bound by the subject of the relative clause.

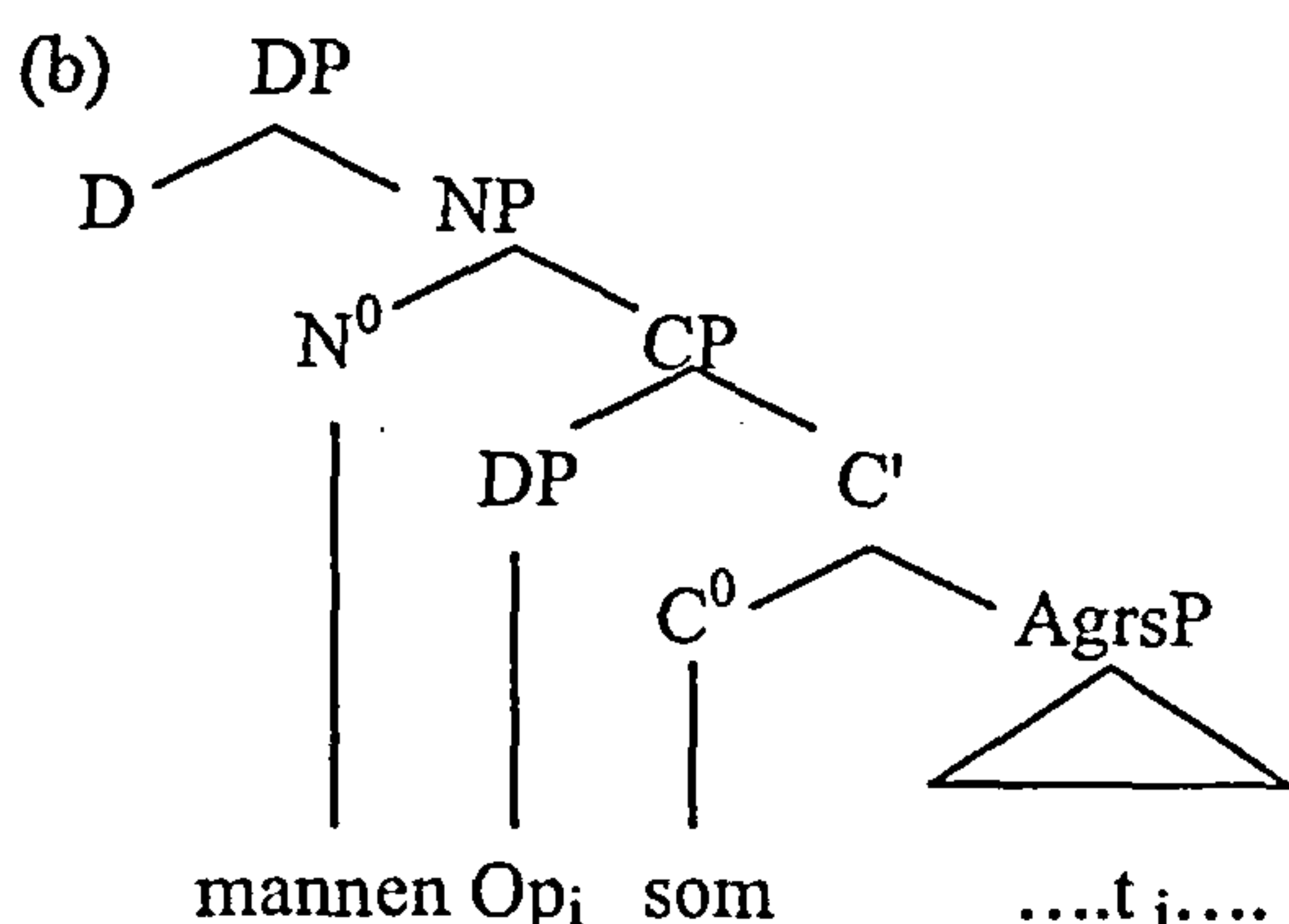
(102) *Var la du brevet från sin lärare som Sara fick igår?
where put you letter-the from her-REFL teacher that Sara got yesterday
“Where did you put the letter from her teacher that Sara got yesterday?”

(Platzack 2000:267, Ex. 4a)

The example above shows that the reconstruction effects which are valid for head-raising analysis fail to hold in Swedish.

In his analysis, Platzack shows that a restrictive CP is not a sister of D as proposed in Kayne but rather it is a sister of N^0 . The complementizer *som* ‘that’ is base-generated in C^0 . The SpecCP contains an operator which has raised from within the clause. The operator and the antecedent are linked via the complementizer since the relative complementizer in C^0 shares Φ -features with the operator via Spec-head relation (Platzack 2000:269). Thus according to Platzack, the restrictive relative clause in (103a) would have the structure in (103b).

(103) (a) mannen som kom igår har försvunnit
man-the that came yesterday has disappeared
“The man that came yesterday has disappeared”



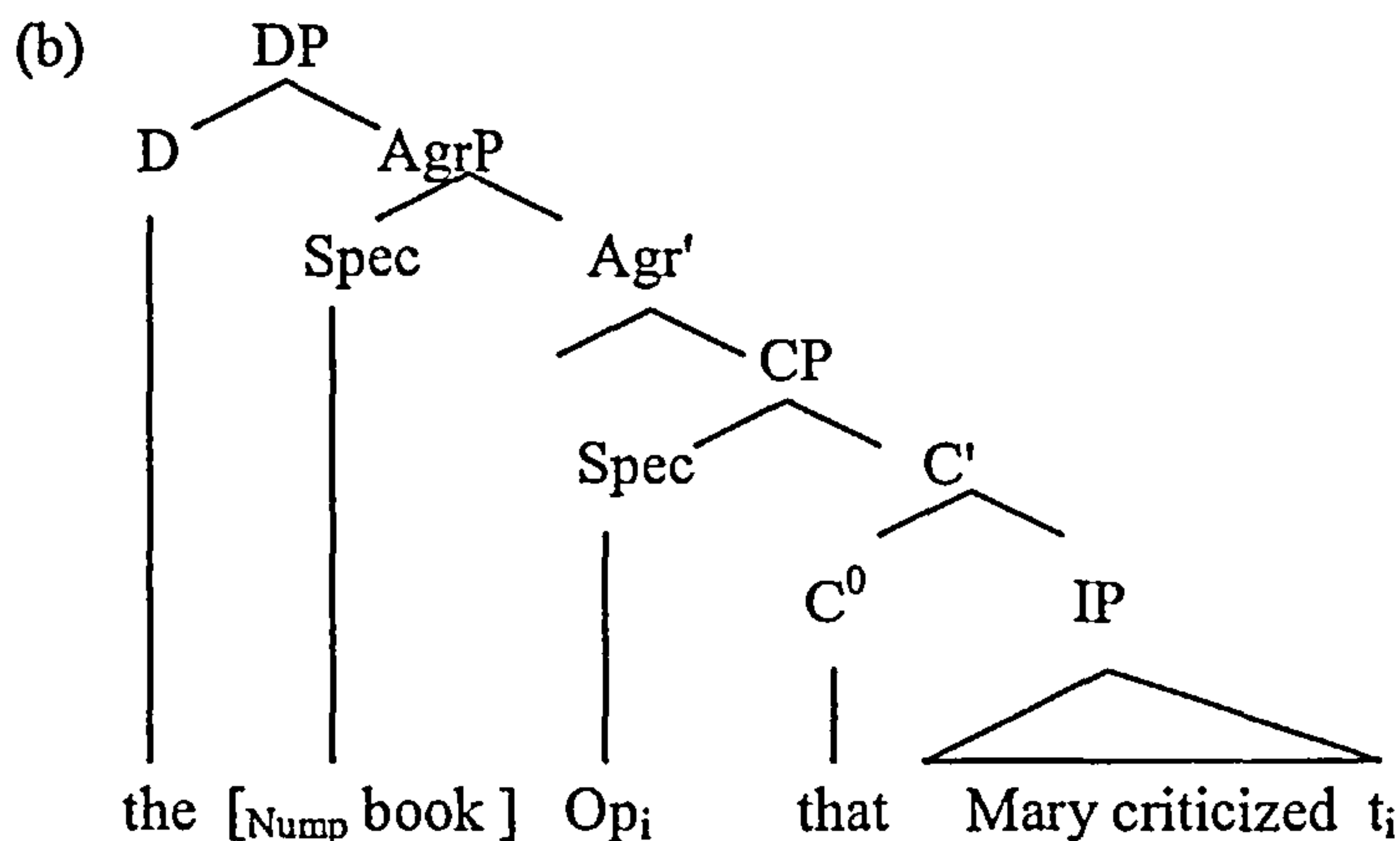
2.1.3.2.3.1.1.5 Schmitt (2000)

Schmitt proposes that the head NP (which she calls NumP head) of the relative clause is base-generated in the Specifier of Agr, the extended projection of the CP. Following Higginbotham (1985), Schmitt assumes that there is a theta-binding relation holding between the definite determiner and the specifier of AgrP not with the head NP. The lack of theta-binding between the definite determiner and the head NP allows the definite/indefinite behaviour. When a definite is required, the external condition is satisfied by the head D and when an indefinite is required, the indefiniteness requirement is satisfied by the head NP (Schmitt 2000:315).

Schmitt also assumes that the definite/indefinite behaviour does not exist in a simple DP (such as *the book*) since D enters into a theta-binding relation with the NP and the whole phrase will become definite. The NP in this case, unlike the NP in relatives, is not free from the definite determiner.

The analysis Schmitt proposes is not based on the raising analysis but it only preserves Kayne's antisymmetry hypothesis since the head NP is base-generated in AgrP specifier position, a functional projection of CP (Schmitt 2000:331). The structure Schmitt proposes for the relative clause in (104 a) is represented in (104b).

(104) (a) The book that Mary criticized



Having summarized some of the alternative analyses that have been proposed to refine or dispense with Kayne's head-raising analysis we now move to look at the problems that have been identified in the derivation of *that*-relatives.

2.1.3.2.3.1.2 Borsley's (1997) critique

Borsley (1997) has criticized Kayne's (1994) head-raising analysis for *that*-relatives. We have seen that in Kayne's analysis *that*-relatives involve NP movement from the relative clause to SpecCP and that D and NP do not form a constituent. Borsley raises the following arguments to refute Kayne's analysis. The first problem is related to the general [D CP] hypothesis for relative clauses.

2.1.3.2.3.1.2.1 Determiner Complement

First Borsley questions the grounds on which Kayne has based his analysis of relative clauses. That is, why does a D take a CP complement? In Kayne, it is pointed out that it is possible in Italian for a clause to follow a determiner as in (105).

- (105) l'aver lui affermato
 the to-have him affirmed (Kayne 1994:154, fn 7)

In Polish a D can have a finite CP complement as in (106):

Chapter Two: Literature Review and the Theoretical Background

- (106) To, że Maria jest tutaj jest tajemnica
That Comp Maria is here is secret
“That Maria is here is a secret” (Borsley 1997: 631, Ex 7)

Borsley notes that these examples have different interpretations from a nominal phrase with a relative clause, as (107) illustrates.

- (107) The man who you met

Borsley argues that the different interpretations between the English examples in (99) and (107) above and the Italian and the Polish examples in (105) and (106) above are due to the possibility of movement to SpecCP in English but its absence in Italian and Polish. However even in instances where movement takes place there is still a different interpretation from a nominal containing a CP. Borsley gives the following example from Polish in which a *wh*-phrase has moved to SpecCP.

- (108) to kogo maria widziała jest tajemnica
that-Nom who-Acc Maria saw is secret
“Who Maria saw is a secret” (Borsley 1997:631, Ex.8)

Based on these observations, Borsley concludes that there is no support the above examples could provide for Kayne’s analysis.

2.1.3.2.3.1.2.2 The trace of the raised “head”

Borsley (1997) has argued, as we have mentioned before, that movement to SpecCP in *that*-relatives involves a DP not an NP. If what moves is an NP, then there is no reason why (109) should be ungrammatical.

- (109) * Bill liked picture (Borsley 1997:631, Ex.9)

Borsley points out that there is evidence that what moves is DP rather than NP. In (110) the DP trace can be coindexed with a pronoun:

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(110) The girl that t_i thought she_i was intelligent

The DP trace can control PRO as in (111):

(111) The girl that t tried PRO to appear intelligent

The DP trace can license parasitic gaps as in (112):

(112) The book that the girl bought t without reading pg

And, finally, the DP trace can occupy a Case position as in (113a-b).

- (113) (a) *The girl that it was admitted t
(b) *The girl that it seemed to like chocolate
(c) The girl that t' was admitted t
(d) The girl that t' seemed t to like chocolate

The ungrammatical examples in (113) show that the intermediate trace cannot be occupied by a DP hence the contrast between (113a/c) and (113b/d).

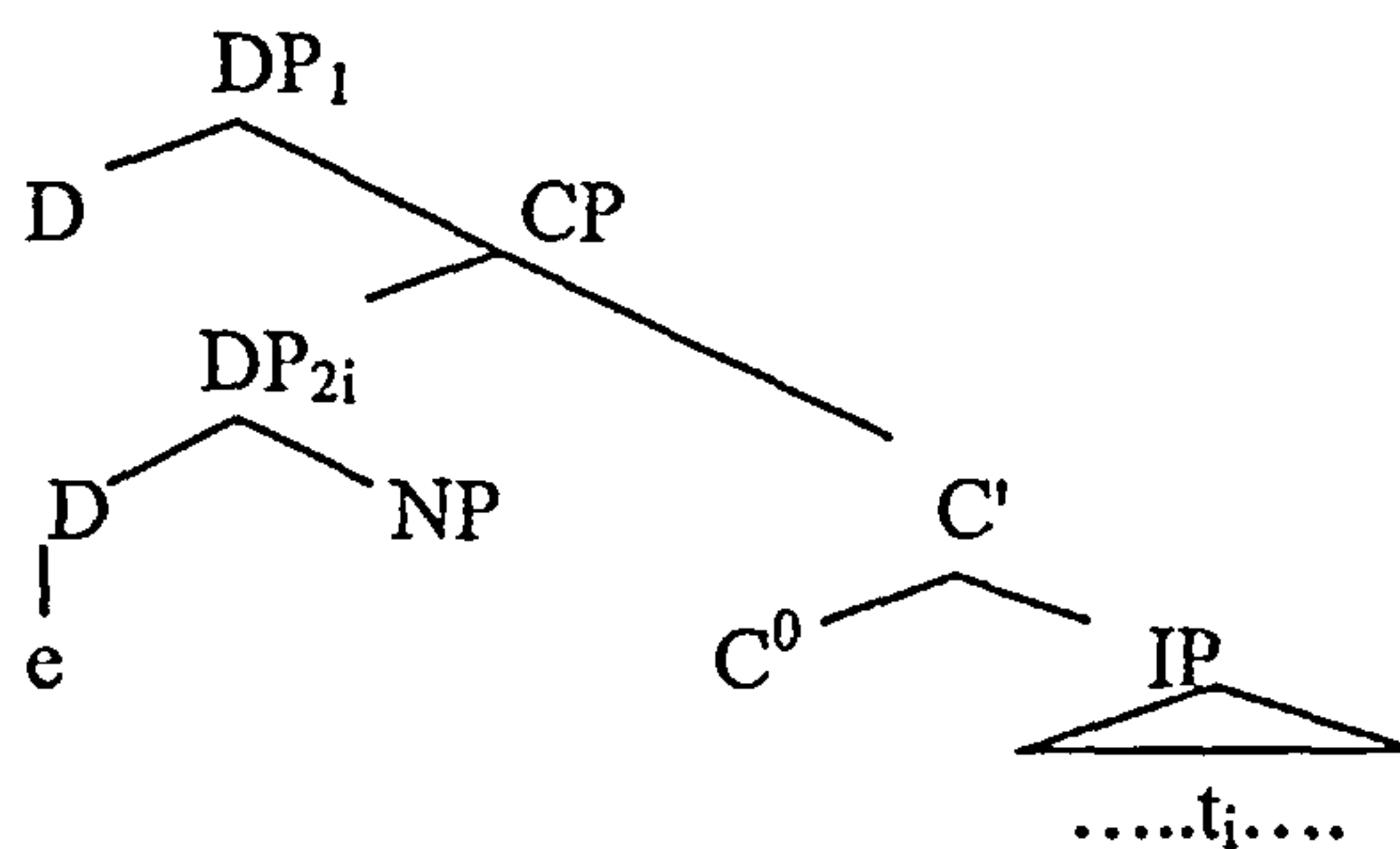
Furthermore Borsley notes that infinitival wh-complements involve a DP movement as (114) illustrates. The crucial point is that one would not expect to be able to extract an NP from a wh-clause but one would expect to be able to extract a DP.

(114) the situation that we wondered t' how to understand t

2.1.3.2.3.1.2.3 The empty D problem

Based on the evidence given (110-113), Borsley suggests that *that*-relatives involve the structure given in (101) above, repeated in (115) below.

(115)



DP₂ which occupies SpecCP has an empty head. The question here is why an empty D is possible in (115) but impossible in (116a-b).

- (116) (a) * John liked [_{DP} [D e [NP film]]]
 (b) * [_{DP} [D e [NP problem]]] annoyed Bill

(cf. Borsley 1997: 633, Exs. 25, 26)

In reply to Borsley, Bianchi (2000:125) assumes that an empty D in *that*-relatives, as in (115), does not pose a problem. She assumes that the empty D is c-commanded by the external D. Following an idea originally suggested in Pesetsky (1995), Bianchi argues that empty morphemes can be licensed through abstract incorporation. The empty determiner is subsequently deleted provided that the two determiners have the same value. The examples in (116) are ruled out since the empty D is locally related to a lexical head.

Kayne assumes that NP in (115) is governed by the higher D. Borsley rejects this analysis on the basis of the relativized minimality condition (Rizzi 1990a). The idea is that a head X⁰ cannot govern YP if a node Z intervenes and that Z is a head that c-commands YP but does not c-command X⁰. Given the Minimality condition, the highest D cannot govern the complement of the empty D in (115). But this is not a serious problem if government is a relation that must be eliminated (Chomsky 1995). Accordingly, the structure in (115) should raise no problem regarding relativized minimality. But there is further problem with empty D. In Borsley's terms, it is not clear whether D in SpecCP is empty or not. That is, how can examples such as (117) be ruled out?

(117) * The the film John saw

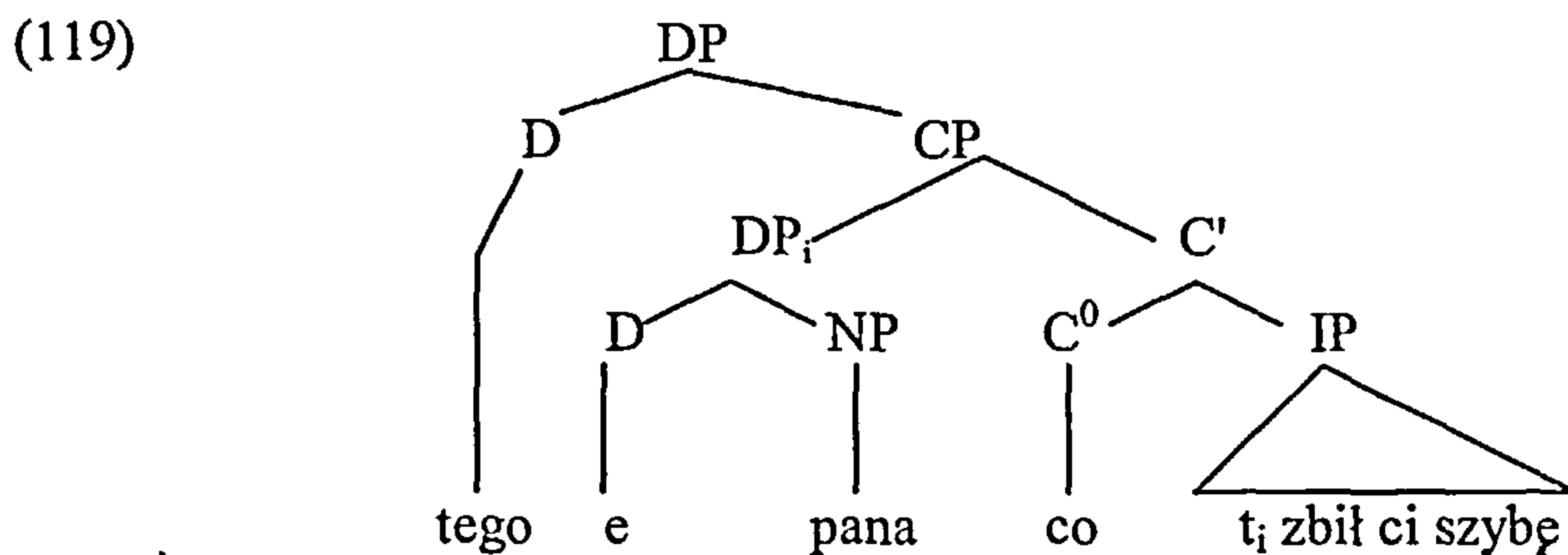
A filter, as Borsley notes, cannot rule out these examples because some category, such as an adjective, may intervene between D and SpecCP.

2.1.3.2.3.1.2.4 Case problem

Case problem arises from the following example cited in Borsley (1997).

(118) widziałem tego pana, co zbił ci szybę
 saw 1sg the-Acc man-Acc what broke your glass-Acc
 "I saw the man who broke your glass" (Borsley 1997:635, Ex.33)

In (118) the head *pana* is in the accusative just like the highest D. Since the head DP originates in the subject position, it is assumed to bear Nominative as Borsley argues. In Bianchi's terms there is abstract incorporation taking place and the head NP is therefore governed by D and assigns it Case. According to Bianchi, (118) will have the structure in (119).



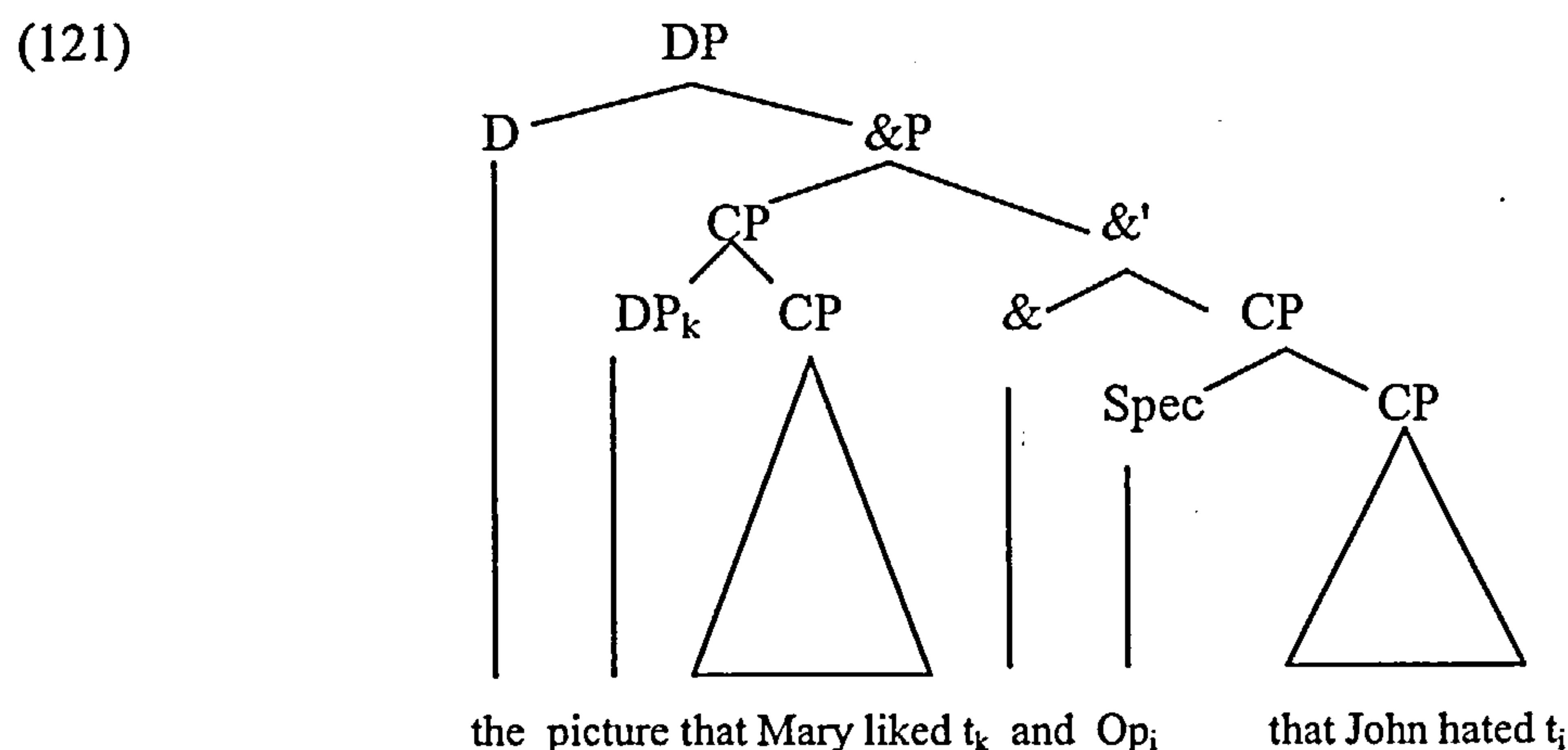
2.1.3.2.3.1.2.5 Coordination problem

The raising analysis in both *that*-relative clauses and *wh*-relatives is problematic as far as coordination is concerned. Given Kayne's analysis, Borsley argues that the coordinated strings are not constituents as shown in (120a-b).

- (120) (a) The picture [which Mary liked] and [which John hated]
 (b) The picture [that Mary liked] and [that John hated]

Under Kayne's analysis, the relative D, *which*, must have the NP in its Spec. In *that*-relatives, C^0 must have an NP in its Spec.

As for *that*-relatives, Bianchi assumes that a null Operator (Munn 1992) occupies the Spec of the second conjunct. The first CP is in the SpecCoordP and the second CP is in its complement position. Bianchi assumes that (120b) above involves coordination of two CPs which are both complements of the external D. The Spec of the first conjunct contains DP and the Spec of the second conjunct contains a null operator, as shown in (121)¹⁷.



¹⁷ If the null operator assumption is on the right track it still remains unclear why an empty operator in a simple complement of D, as in (i) below, is excluded.

- (i) *the Op that John hated (Borsley (p.c))

2.1.3.2.3.2 *Wh*-Relatives

2.1.3.2.3.2.1 The derivation of *wh*-relatives

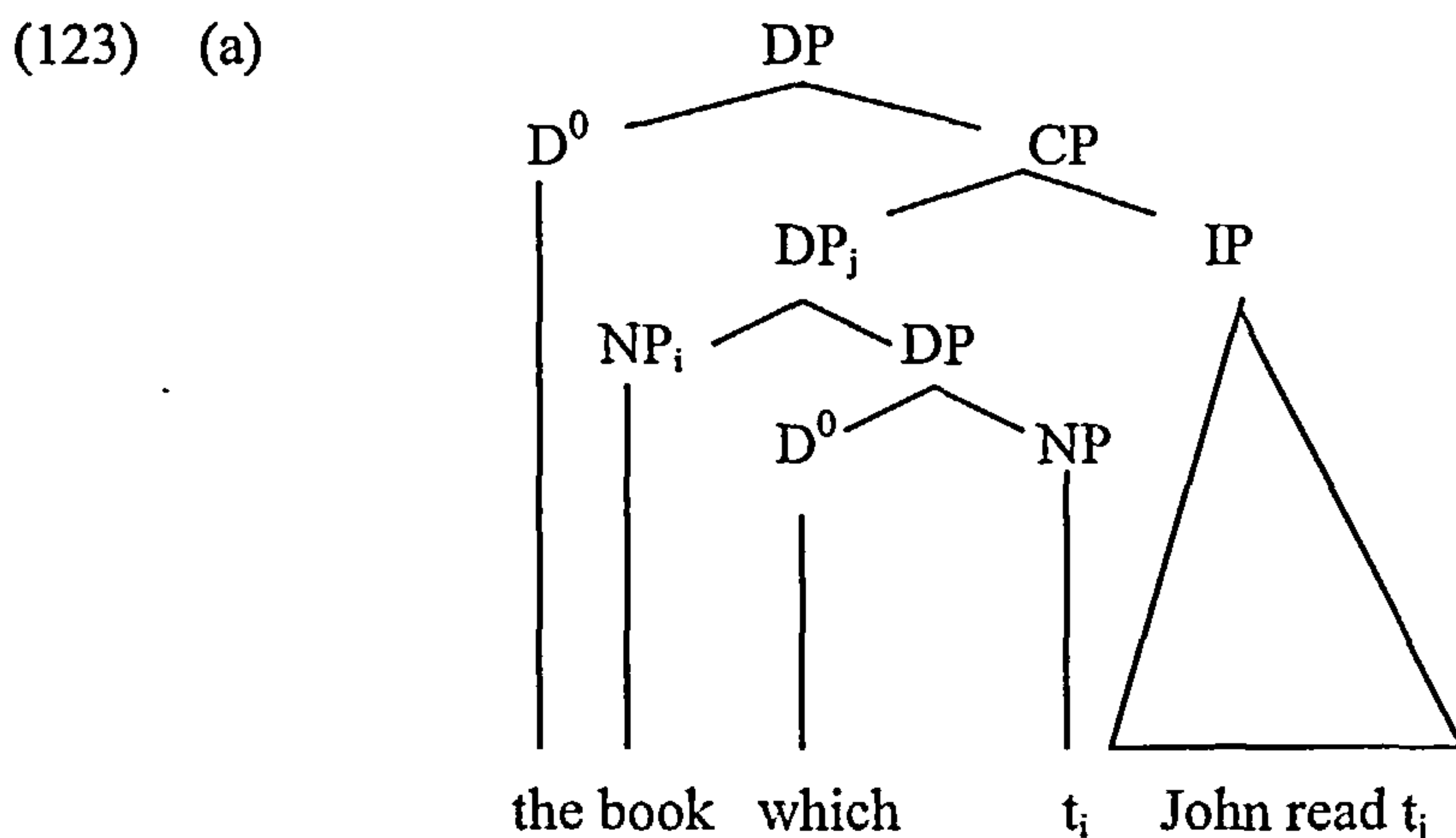
According to Kayne (1994), restrictive *wh*-relatives are similar to *that*-relatives in the sense that both are complement of the external determiner. But unlike *that*-relatives, the constituent that moves to Spec CP in *wh*-relatives is DP, not NP.

In this section we will discuss Kayne's analysis and some other analyses that have been proposed for *wh*-relatives within Kayne's theory of antisymmetry.

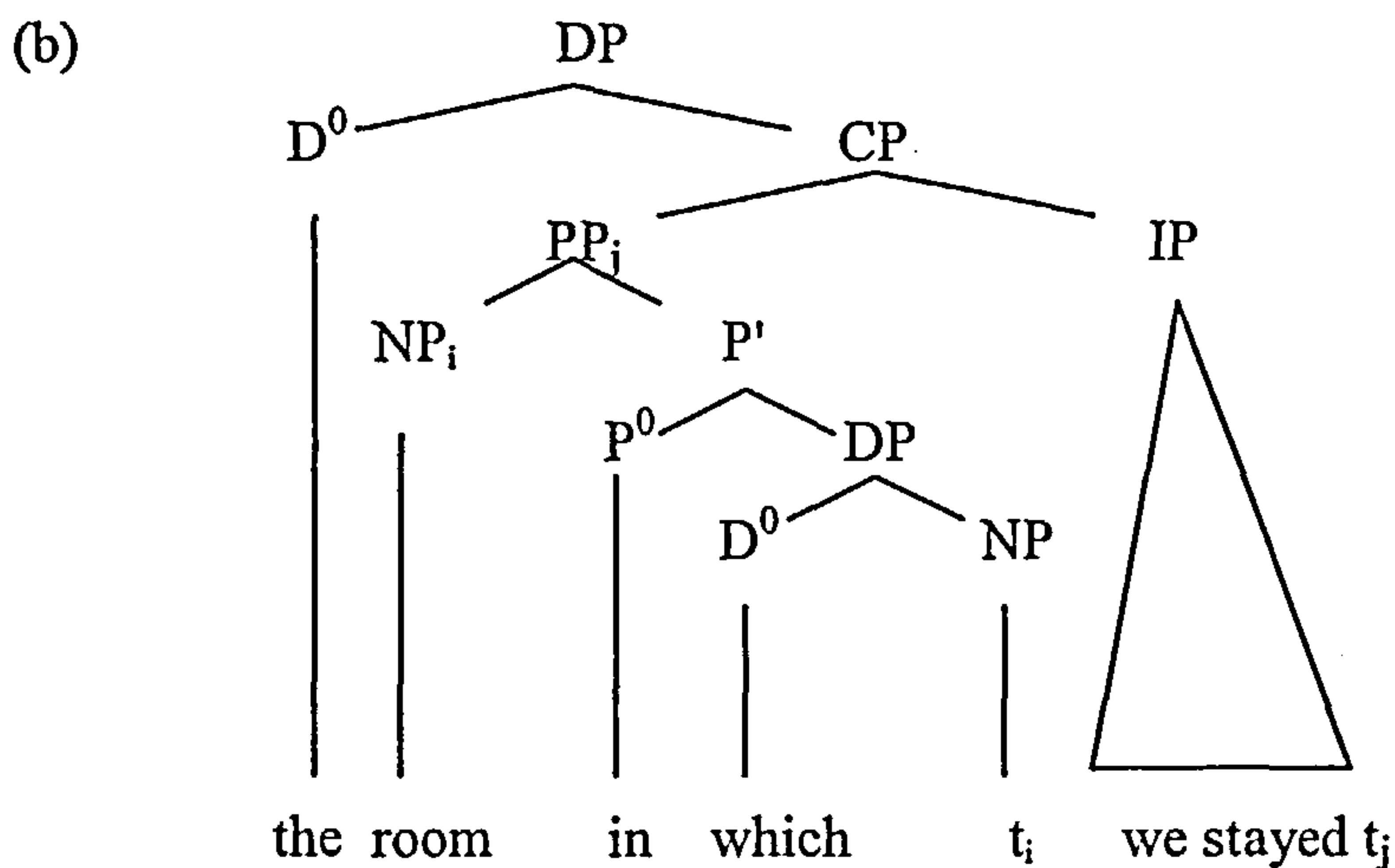
2.1.3.2.3.2.1.1 Kayne (1994)

Kayne claims that *wh*-relative clauses have a structure different from *that*-relatives in the sense that movement to SpecCP involves DP or PP followed by movement of an NP to either SpecDP or SpecPP (Kayne 1994: 89-90). The definite determiner takes a CP complement as in *that*-relatives. For illustration, the relative clauses in (122a-b) will have the representation shown in (123a) and (123b), respectively.

- (122) (a) The book which John read
 (b) The room in which we stayed



The structure in (123a) involves movement of DP *which book* to SpecCP. Further movement takes place within DP *which book* yielding *book which[e]*.



In (123b) *in which room* moves to SpecCP. Further movement then takes place to SpecPP yielding *room in which[e]*. Kayne assumes that the lack of the Specifier in the following Italian and French examples is responsible for the ungrammaticality of the relative clauses in (124):

- (124) (a) **la persona cui Bill ha visto*
the person who Bill has visited
- (b) **la personne qui Bill a vue*
the person who Bill has seen
- (c) **l'homme la femme de qui tu a insulté*
the man the wife of who you have insulted
"The man whose wife you have insulted"

(Kayne 1994: 88-89, Exs.13,15,17)

Kayne proposes that an insertion of a preposition will make the above examples grammatical. The inserted preposition will provide a Spec position which an NP will be able to move to, as in (125).

- (125) (a) la persona con cui Bill ha visto
(b) la personne avec qui Bill a parlé
(c) l'homme avec la femme de qui tu as insulté

The SpecPP makes the NP obligatorily reach the position where it can be governed by the external D (Kayne 1994: 90).

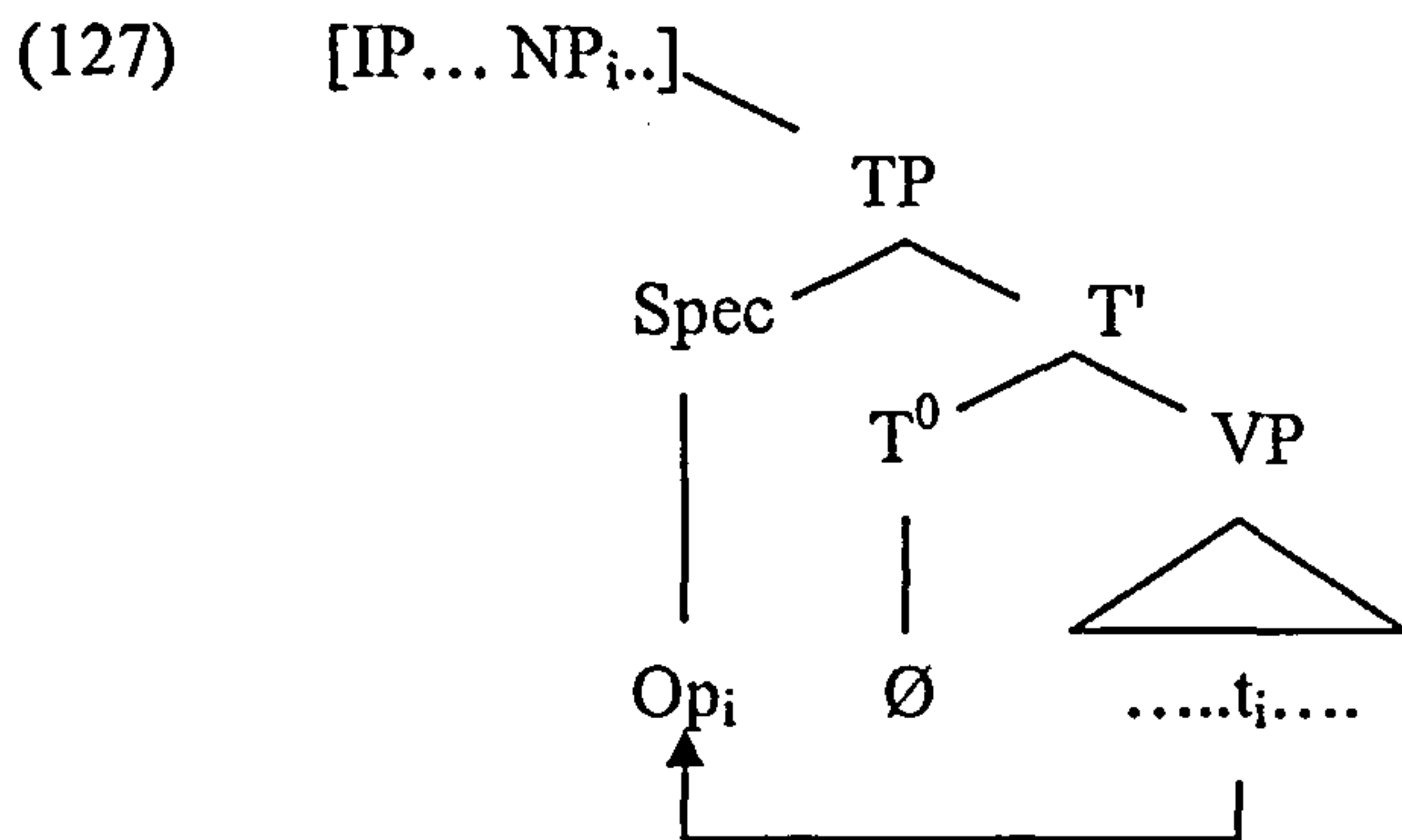
To explain the contrast between English and Italian or French, Kayne suggests that English makes the Spec available as a landing site whereas Italian and French do not have the Spec position available, as in (126).

- (126) (a) The [which picture[C⁰.....
(a') The [_{CP} [_{DP} picture_i [which [t_i]]] [C⁰....
(b) *la [qui personne [C⁰.....
(b') *la [_{CP} [_{DP} personne [qui [t_i]]] [C⁰....

(Kayne 1994:88-90, Exs.28(=a),29(=a') and 25(=b),15(=b'))

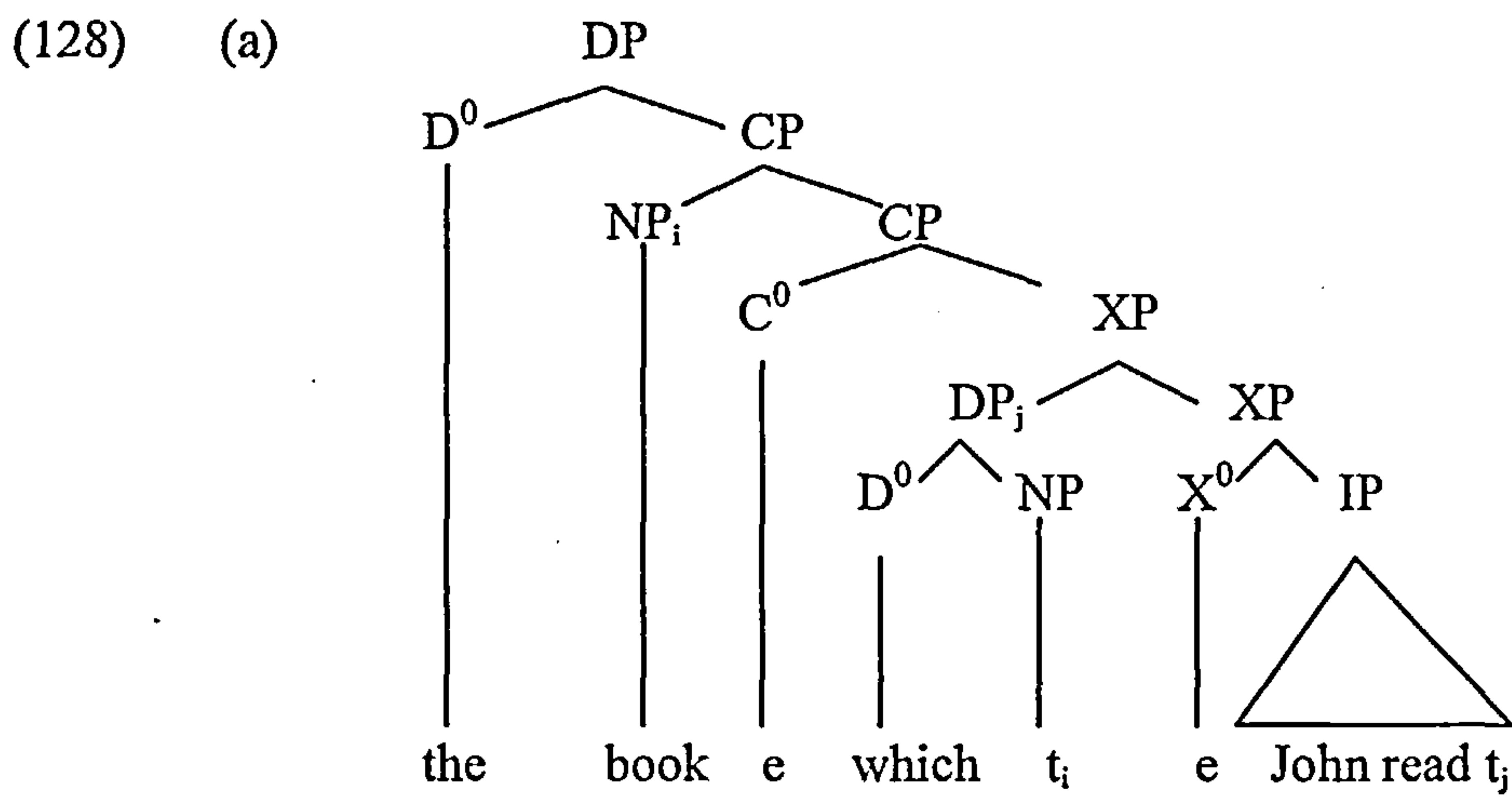
2.1.3.2.3.2.1.2 Åfarli (1994)

Recall that Åfarli proposes a TP projection for relative clauses. He proposes, as we have seen, that the head NP in *that*-relatives originates within the relative clause and raises to SpecTP. The analysis Åfarli suggests for *wh*-relatives is not in line with Kayne's theory. According to Åfarli (1994:90), the head NP/DP is base-generated in the matrix clause and is coindexed with the operator which moves from within the relative clause to SpecTP. The structure Åfarli proposes for *wh*-relatives in Norwegian is shown in (127).

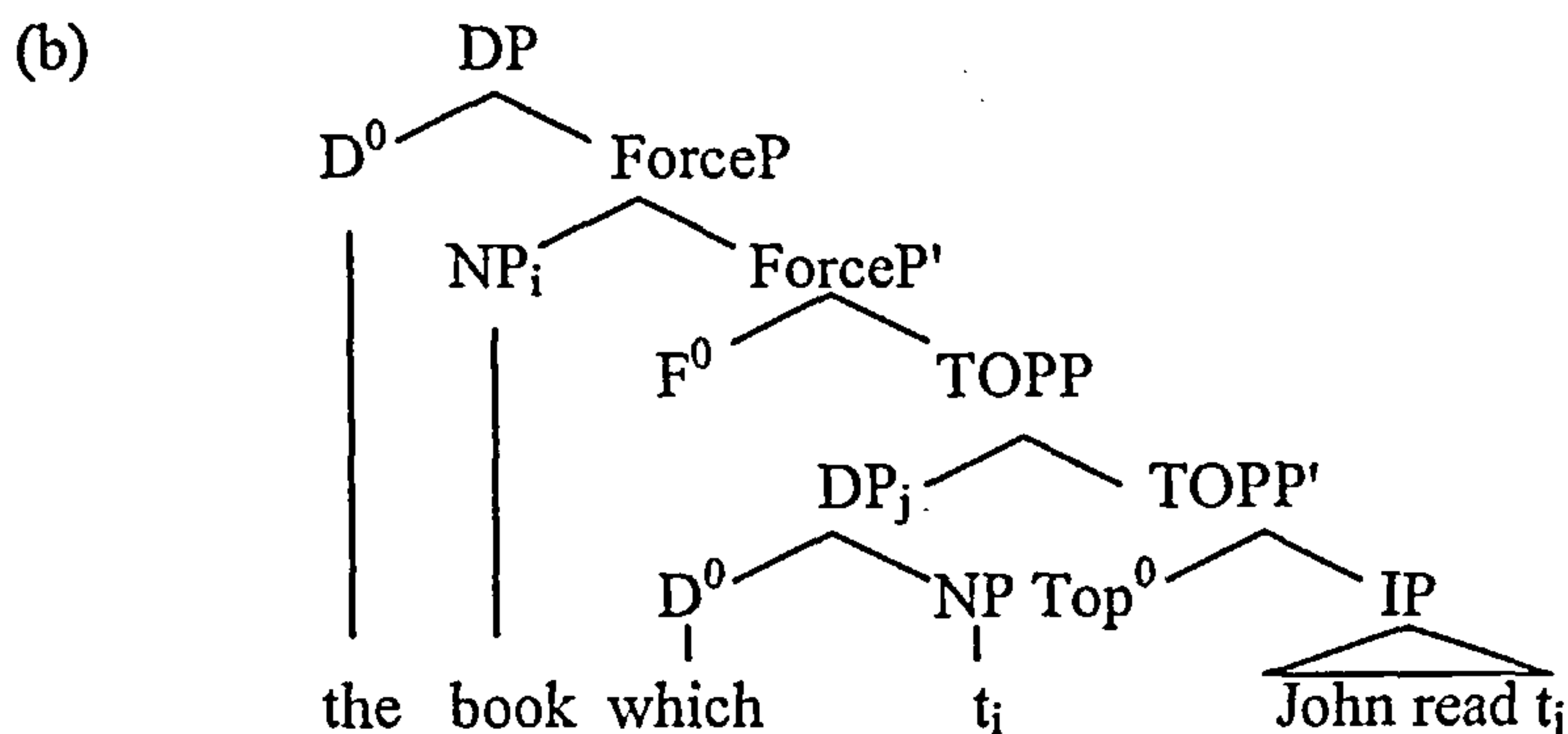


2.1.3.2.3.2.1.3 Bianchi (1999/2000)

Bianchi (2000:132) presents an analysis for *wh*-relatives different from Kayne's approach. She proposes that *wh*-relatives involve movement of DP to the Spec position of a functional projection between CP and IP. The complement of the relative determiner then moves to SpecCP. Recall that under Kayne's analysis, the NP moves to SpecDP. Thus the representation given under (123a) above will be as in (128) in Bianchi's analysis.



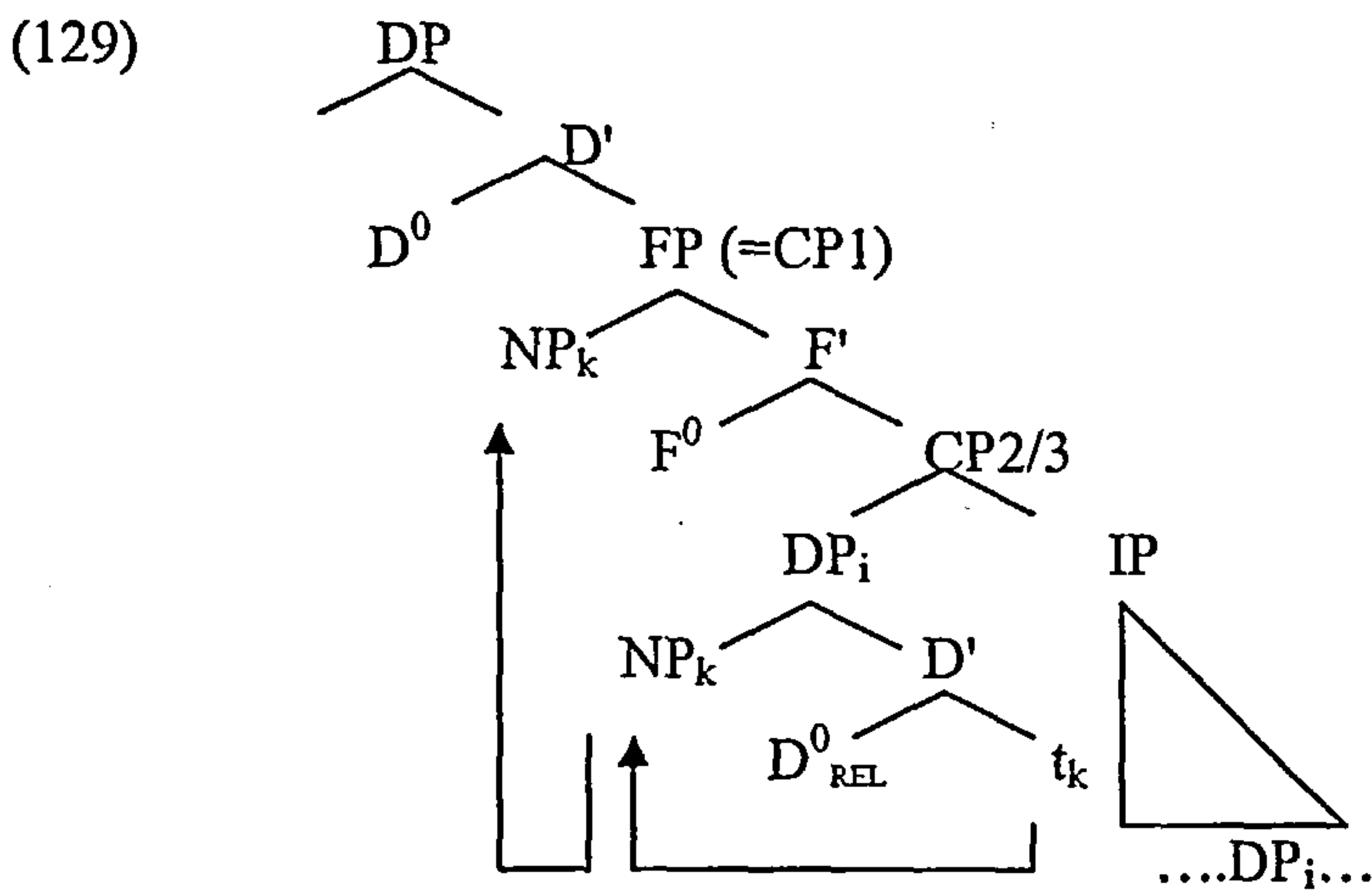
Adopting the split-CP hypothesis (Rizzi1997), (128a) would be as in (128b).



This analysis solves the problem of coordination in *wh*-relatives raised in Borsley (1997). The material following the head is now a constituent assuming that *and* occupies X^0 position in (128). See subsection (2.1.3.2.3.2.2.3) below.

2.1.3.2.3.2.1.4 Zwart (2000)

Adopting the head-raising analysis (Kayne 1994) and the split-CP hypothesis (Rizzi 1997), Zwart (2000) proposes that the relative construction (in Dutch) has three CP layers. Following the analysis suggested in Bianchi (1999/2000) for relative clauses, Zwart proposes that the head NP, the complement of the relative D, moves out of CP2 or CP3 to CP1 leaving the relative determiner behind. The higher CP layer may be regarded as a functional projection (in Zwart's terms it is called Restriction Phrase). This functional projection expresses the restriction property of relative clauses (Zwart 2000:378). Below is the structure Zwart proposes (following Bianchi 1999) for restrictive *wh*-relative clause (I have labelled the highest CP1 *FP*).



(cf Zwart 2000:367, diagram 51)

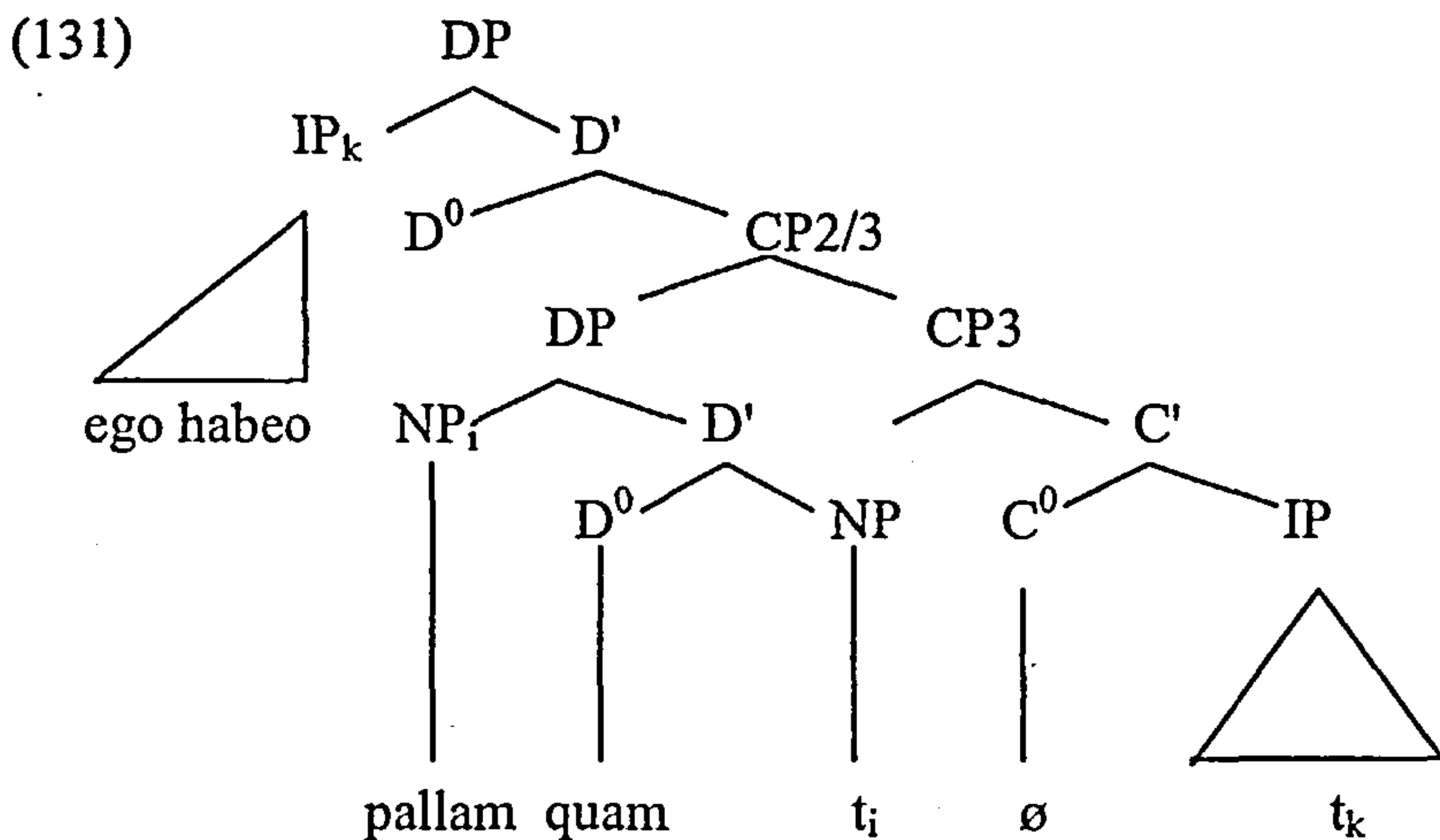
The syntactic evidence Zwart gives to justify NP movement to the Spec position of a functional head is based on the head-final relative clauses in Latin (Bianchi 1999).

In Bianchi (1999/2000b), it is argued that Latin allows both head-initial and head-final relative clauses as in (130 a-b),

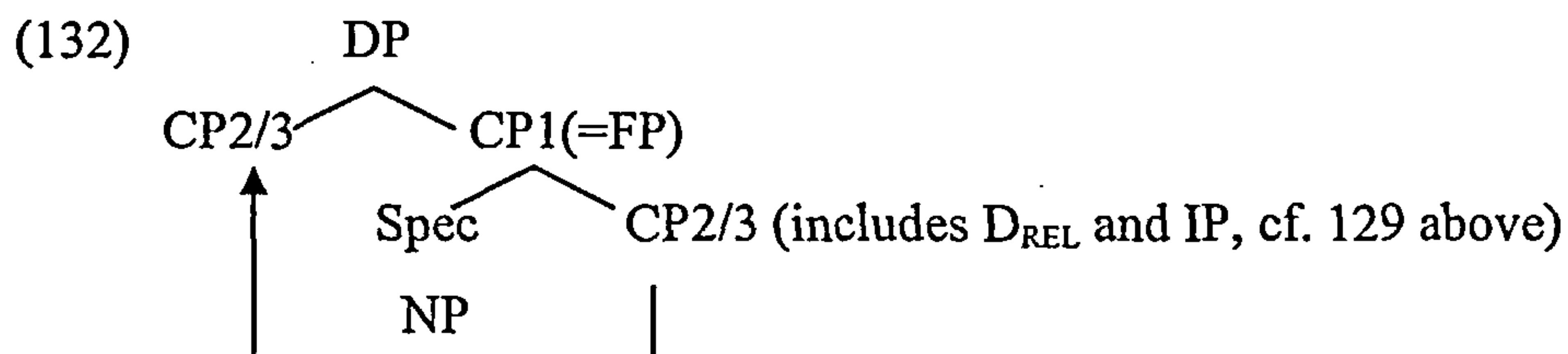
(130) (a) adorare hanc pallam quam ego habeo
 smell-IMP this-Acc mantle-Acc which-Acc I hold
 “smell this mantle which I am holding here”

(b) adorare hanc quam ego habeo pallam
 smell-IMP this Acc which Acc I hold mantle-Acc
 “Smell this mantle which I am holding here” (Zwart 2000:369, Ex.56a.b)

Within Kayne’s analysis (130b) is derived from (130a) by moving IP to SpecDP and stranding the head NP in SpecCP, as shown by the following structure:



The structure given in (131) fails to represent the correct word order in (130b). The wrong word order is due to the fact that the relative *quam* is not included in the moved IP. This is plausible since *quam* does not form a constituent with IP. To solve this problem, Zwart proposes, following an analysis advocated in Bianchi (1999), that the head NP moves to a higher Spec position. This movement would yield a head-initial relative as in (130a). The example in (130b) is derived by moving the material in CP2/3 (i.e. the relative D and IP) to SpecDP to yield the head-final construction, as represented in (132)



2.1.3.2.3.2.1.5 Aoun & Li (2003)

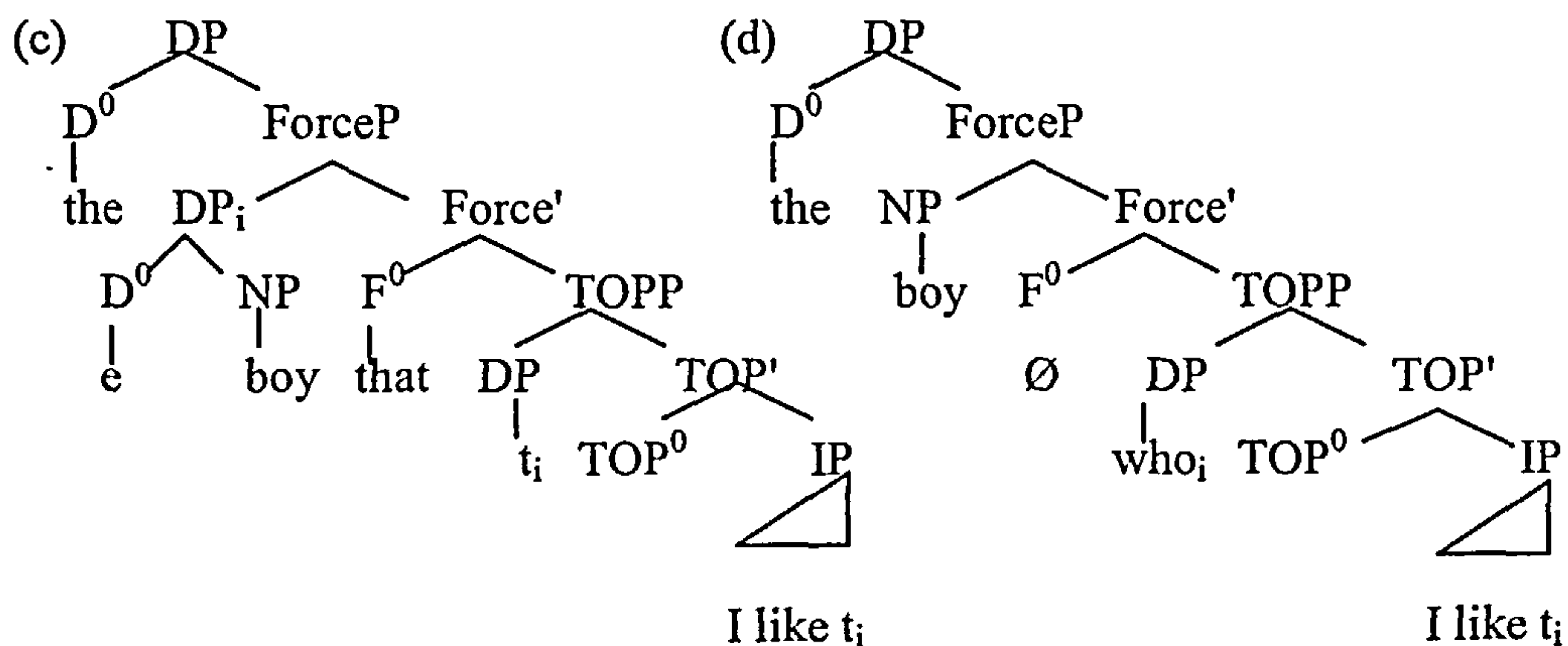
Aoun & Li (2003) reject Bianchi's analysis for *Wh*-relatives given in (128) above. They argue that her structure needs to assume that phrases such as [*who* NP], [*why* NP], [*when* NP] and [*where* NP] are base-generated because they are not found in other contexts such as interrogative patterns. In their analysis, [Wh-NP] is out.

Aoun & Li (2003:120) argue that Bianchi's analysis would allow ungrammatical structures because if NP moves from SpecDP which occupies the Spec of TOPP in a grammatical string such as *the book which I read*, there is nothing that prevents NP movement to the same Spec in the ungrammatical string such as **the boy which I like*. Moreover, Aoun & Li argue that it is not clear how the adverb *why* can be represented as a DP structure that has an NP complement in Bianchi's account.

To eliminate these problems, Aoun & Li propose that these Wh-words are XPs occupying SpecTOP (Aoun and Li 2003:121). Thus in these authors' analysis, a Wh-word is an Operator and the head NP is base-generated in SpecForce. This amounts to the fact that NP in the Specifier position of ForceP has not moved from the SpecTOP; rather it is base-generated in SpecForce position. This analysis is different from Bianchi's structure in (128) in two respects. First, there is no movement from the SpecTOP to SpecForce in *wh*-relatives; second, the SpecTOP is occupied by a Wh Operator that has moved from the relative clause. This analysis also captures a generalization between *that*-relatives and *wh*-relatives: NP movement to SpecForce is only possible in *that*-relatives. Thus the structures Aoun & Li (2003:122) propose for relatives in (129a) and (129b) is given in (129c) and (129d), respectively

(129) (a) The boy that I like

(b) The boy who I like



Since the head noun in *that*-relatives is related to the gap in the relative IP via movement, the head noun can be reconstructed. In *wh*-relatives exemplified in (129d) reconstruction effects are not possible since these relatives are not derived by head raising (Aoun & Li 2003). Note that both types of relatives have the structure [D CP] which is compatible with Kayne's (1994) analysis.

Aoun & Li, following Carlson (1977), propose that *that*-relatives (Amount relatives in Carlson's terms) can only be associated with certain determiners- determiners that can be followed by a number expression. Furthermore, *that*-relatives do not allow a *wh*-pronoun. The choice of a determiner on the one hand, and the choice of *wh* or *that* on the other, can affect the availability of head-raising, as illustrated below:

- (130) (a) {the/all/}headway John made was outstanding
(b)* {Some/little/Ø}headway John made was outstanding
- (131) (a) The portrait of himself_i that John_i painted is extremely flattering
(b) The portrait of Mary which John painted is extremely flattering
(c) Some portraits of Mary that John painted were extremely flattering

In (130b) the non-amount determiner prevents the head-raising analysis with respect to idiom chunks.

In (131b,c) reconstruction is not possible because of the use of *wh* (131b) and non-amount determiner *some* in (131c). The grammaticality of the examples however indicates that movement properties are still available. The movement involved is an operator movement with a base-generated head (Aoun & Li 2003:109).

Further contrast between *wh*-relatives and *that*-relatives can also be noticed with respect to scope interpretation, as the following examples show:

- (132) (a) I saw the two patients that every doctor will examine
(b) I saw the two patients who every doctor will examine
(cf. Aoun & Li 2003:114, Ex. 55a,b)

The difference between (132a) and (132b) is that the former allows a reading according to which each doctor examines two different patients. The latter does not have this distributive reading because of the relative *who*.

In addition to what has been said, when a gap occurs, island conditions must be obeyed:

- (133) (a) The book which_i the boy read t_i
(b) *The book [which_i I have seen [the boy [who_j e_j read t_i]]]

The crucial point of these generalizations is that the use of *wh*-pronouns makes a distinction: reconstruction is not available when a *wh*-pronoun is used but available when a *wh*-pronoun is not used.

Given the differences between the two types of relatives, Aoun and Li give the following generalizations:

- (134) (a) *That*-relatives are derived by head-raising
(b) *Wh*-relatives are derived by operator movement

(cf. Aoun & Li 2003:114, 58)

2.1.3.2.3.2.2 *Wh*-relatives: Problems raised against Kayne's approach

This subsection is concerned with some of the problems that arise from Kayne's analysis of *wh*-relatives as noted in Borsley (1997).

Borsley points out that *wh*-relatives raise many problems for the promotion analysis. I will summarize these problems in the following sub-sections.

2.1.3.2.3.2.2.1 Unmotivated NP Movement

Borsley argues that movement of an NP to SpecDP, as in (123a) above, in order to be governed by the higher D is not motivated. Given that *wh*-words are determiners, such movement becomes unmotivated.

2.1.3.2.3.2.2.2 Case problem

In many languages Case is morphologically marked. It is generally agreed that moved constituents get their Case from their traces. If this is the right assumption then Kayne's analysis, as Borsley argues, does not seem to be very satisfactory.

D and the constituent in SpecCP may have different Cases in an uncontroversial D+CP structure. The Polish example in (135) illustrates

- (135) To, kogo Maria widziała jest tajemnica
that-Nom who-Acc Maria saw is secret
"Who Maria saw is a secret" (Borsley 1997:631, Ex.8)

The moved constituent is already Case-marked by the *wh*-determiner therefore there is no reason why it should not get Case from its trace.

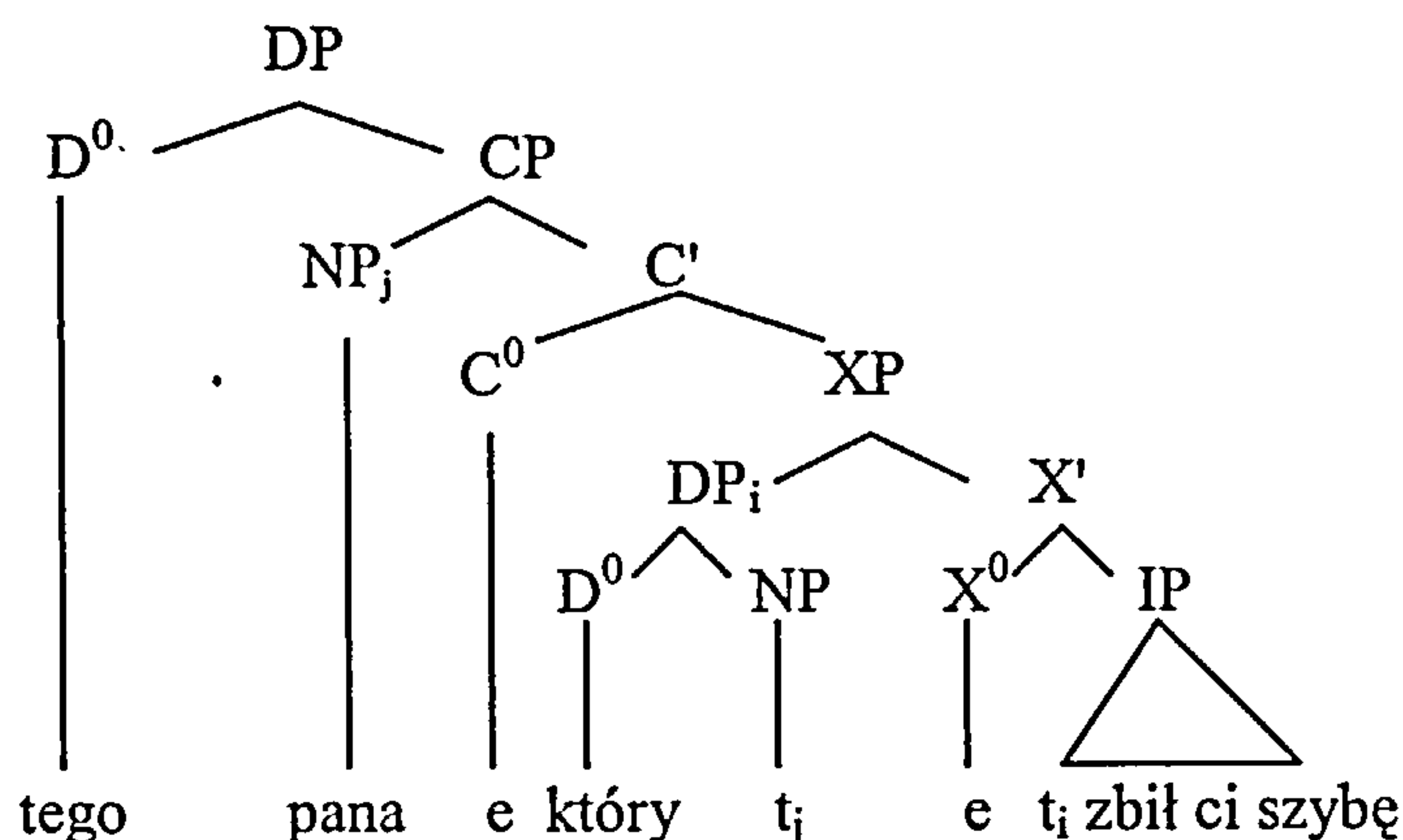
In *wh*-relatives the external D and SpecCP may bear the same Case:

- (136) widziałem tego pana, który zbił
saw1sg the-Acc man-Acc who-Nom broke
ci szbyę
your sg. glass-Acc
"I saw the man who broke your glass" (Borsley 1997:638, Ex. 48)

Borsley argues that there is Case conflict between D and SpecCP. The constituent in SpecCP in (136) has moved from a complement position where it has been assigned Nominative. Borsley argues that there is no reason why the constituent in SpecCP must have Accusative.

Bianchi (2000) suggests that examples such as (136) above pose no problem for Case. She assumes that (136) will have the representation in (137).

(137)



Bianchi's explanation of Case conflict is that the NP *pana* is case-marked by the highest D, *tego*, because it is in its nominal domain and there is morphological agreement between them. Furthermore, Bianchi assumes that the "head" cannot have Nominative because this Case is eliminated by the time it reaches SpecCP.

Against Bianchi, Borsley has argued more recently (ms) that the structural Case assigned by relative D cannot be eliminated before it reaches SpecCP as Bianchi proposes. His evidence is supported by the example in (138):

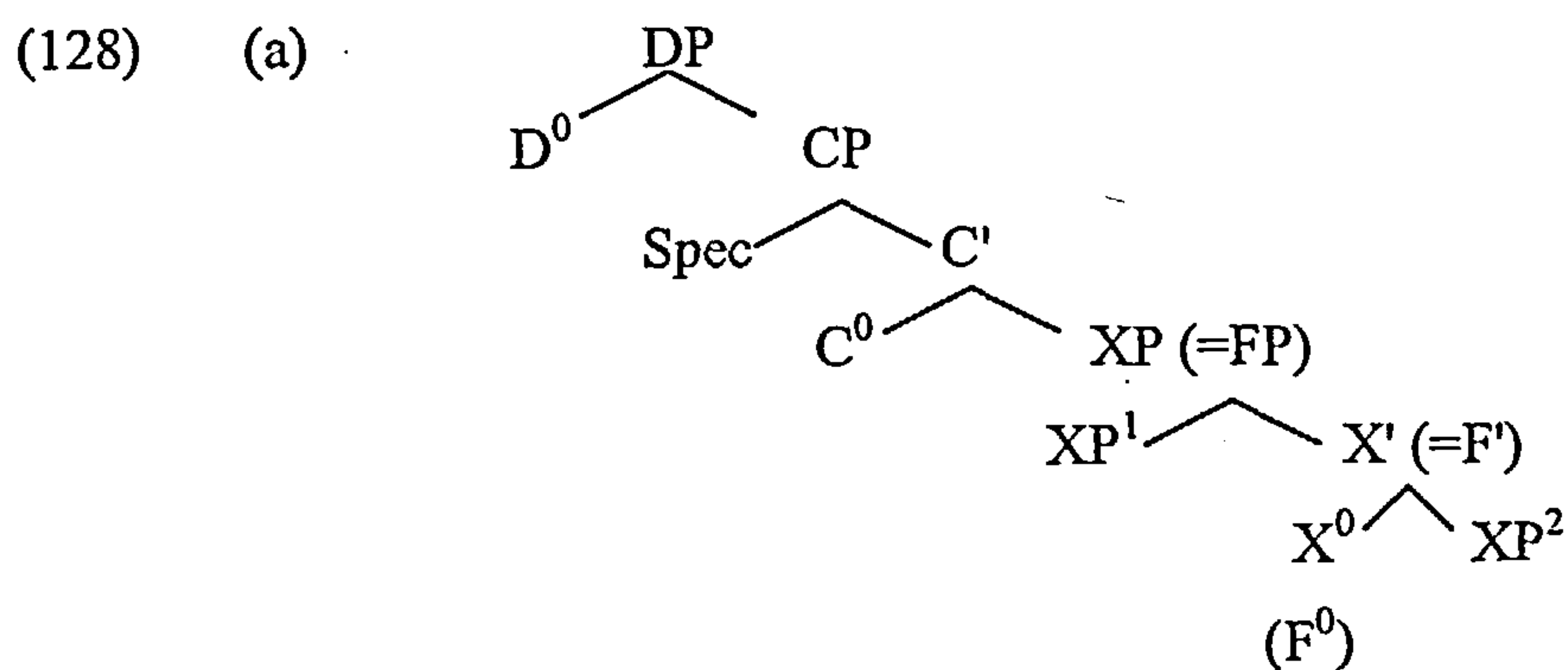
- (138) *który* *pana* *zbił* *ci* *szybę?*
 which-Nom man-Nom broke your-sg glass-Acc
 "Which man broke your glass?" (Borsley (ms), Ex.14)

2.1.3.2.3.2.2.3 Coordination problem

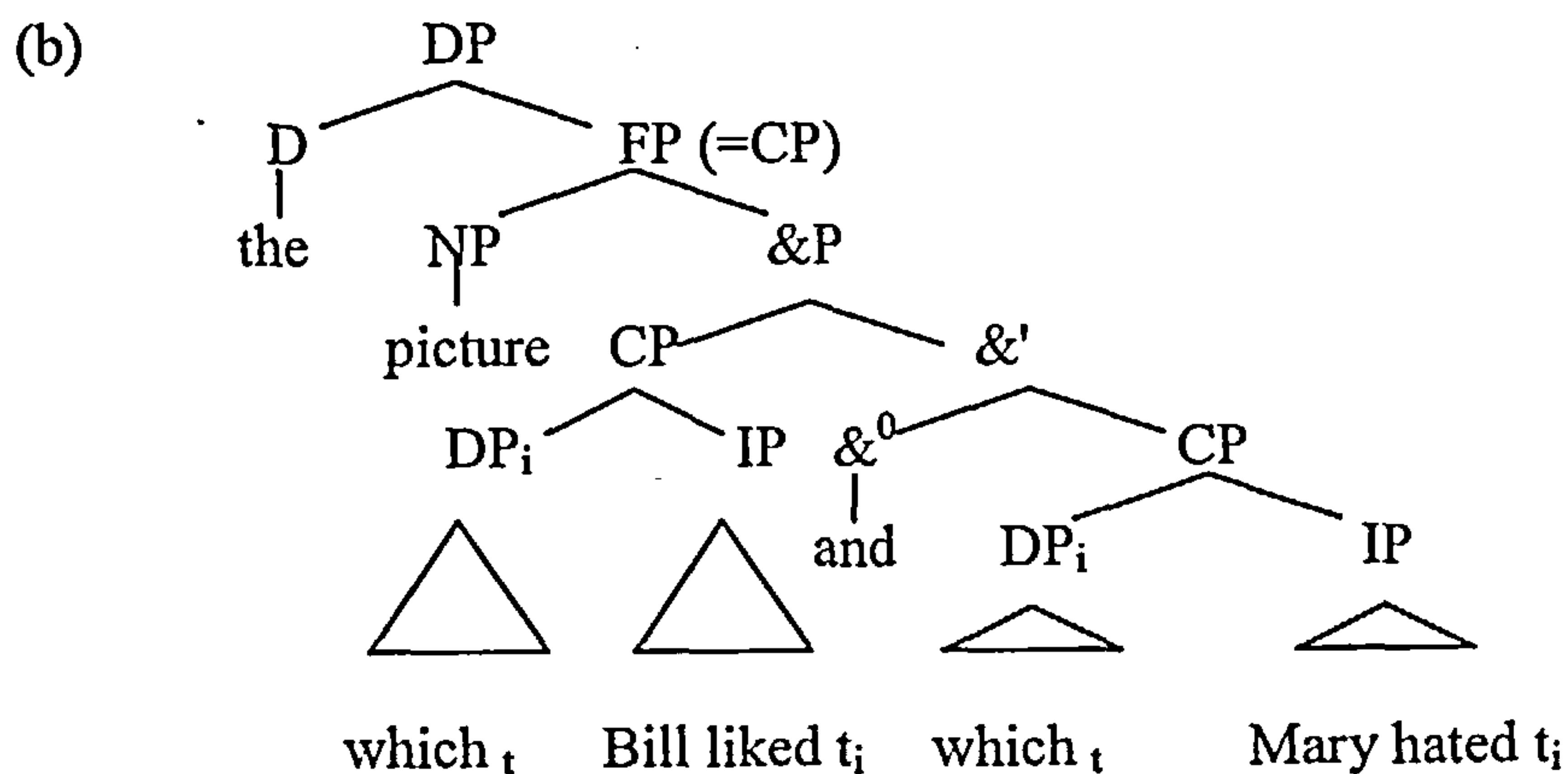
Any standard analysis of coordination will show that only identical constituents can be coordinated. Kayne assumes that *wh*-phrase and the following clause do not form a constituent. Borsley argues that this conclusion poses a problem for *wh*-relatives. Thus examples such as (139) are problematic:

- (139) (a) The picture which Bill liked and which Mary hated
 (Borsley 1997:638, Ex. 49)

Within the head-raising analysis, the example given in (139) would involve an across-the-board extraction. That is, the NP/DP head would be extracted from the coordinated relative clauses. The problem here is that in Kayne's analysis the coordinated items are not constituents. Thus in order to make the coordinated strings constituents, the relative determiner *which* must have an NP in its Spec. The coordination problem can be solved if Bianchi's analysis of *wh*-relatives is adopted. We repeat Bianchi's diagram in (128) for convenience.



There should not be any problem if we assume along with Bianchi that these relatives involve a functional head between C^0 and Infl, as already mentioned. The coordination will then involve two XPs. XP^1 , *which Bill liked*, is in SpecFP (= &P) and XP^2 , *which Mary hated*, in its head complement position; X^0 is occupied by the head *and*. Thus (139a) involves the coordination of two CPs with across-the-board extraction of the antecedent from SpecCP, as in (139b) (cf. Bianchi 1999:263)



Part Two: Literature Summary on Arabic Relative Clauses

2.2.0 Introduction

The study of relative clauses of Arabic within the transformational generative grammar began a long time ago and it is still going on. The earliest studies go back to the late 1960s and the early 1970s. In 1984 a different approach to account for Arabic relative clause formation was proposed. More recent analyses were proposed in the early and late 1990s. The most recent analysis has appeared in 2004. The aim of this section is to look briefly at these approaches pointing out their strengths and weaknesses.

2.2.1 Earlier analyses

2.2.1.1 The Focus Transformational Analyses

This is the earliest analysis dealing with relative clause formation in Standard Arabic. It was proposed by Ansheon and Schreiber (1968). Ansheon and Schreiber (1968) argue that Arabic is a SVO language and that any NP, except the first member of the construct phrase can occur sentence-initially. They propose the focus transformational rule in (140) below to account for this process.

(140) X - NP - Y \Longrightarrow NP' - X - NP - Y

· where NP' = NP and NP is not the first member of the construct phrase.

(Ansheon and Schreiber 1968: 795, 16)

Applying the focus rule in (140), the structure in (142) is derived from (141).

(141) daraba l-walad-a r-rajul-u
hit 3ms the boy Acc the man Nom
“The man hit the boy”

The object *l-walad* “the boy” moves to a focus position to yield (142):

- (142) *l-walad-u* *ḍaraba-hu* *r-rajul-u*
the boy Nom hit 3ms him the man Nom
(Litt. The boy- the man hit him)

The topicalised NP, *l-walad*, in (142) has a different Case from the Case it is assigned in (141), as shown in the glosses. There are differences between topicalisation and left-dislocation despite the fact that both contain a major constituent to the left periphery of the verbal constituent (Chomsky 1977)¹⁸.

Following Souali (1986), I will propose that topicalisation and left-dislocation in SA have the following distinct properties: A topicalised NP retains its Case whereas a left-dislocated NP is always Nominative. In addition, topicalization, unlike left-dislocation, does not involve a resumptive pronoun. Furthermore, a topicalised NP is always indefinite whereas a left-dislocated one is always definite; and, finally, topicalisation, but not left-dislocation, observes subjacency. We provide the following examples to explain the above differences.

- (143) (a) *shtray-tu* *kitaab-an*
bought -sg book-Acc
“I bought a book”
(b) *kitaab-an* *shtray-tu*
book-Acc bought-1sg
“A book I bought”
(c) **kitaab-an* *shtray-tu-hu*
book-Acc bought-1sg-3ms
“A book I bought it”

¹⁸ Topicalisation and left-dislocation should not be confusing terms. Both involve a topicalised NP but each displays different properties.

- (d) *l-kitaab-a shtray-tu
the-book-Acc bought 1sg
“The book I bought”
- (e) *kitaab-an_i ra?ay-tu l-walad-a lladhii zanan-tu ?anna-hu shtra t_i
book-Acc saw 1sg the boy-Acc who thought I that-3ms bought 3ms
“A book I saw the boy whom I thought has bought”
- (f) *kitaab-an ra?ay-tu l-walad-a lladhii zanan-tu ?anna-hu shtraa-hu
book-Acc saw 1sg the-boy-Acc who thought 1sg that-3ms bought-3ms
“A book I saw the boy whom I thought has bought it”

The example in (143b) shows that the NP is assigned Accusative as in (143a). (143c), however, violates one of the properties which is not associated with topicalisation, namely, the appearance of a resumptive pronoun. The example in (143d) is excluded since the NP is definite therefore it cannot be a topicalised constituent. The ungrammaticality of (143e) is not related to the ECP as the trace in the object position is properly governed by the verb. Rather, the ungrammaticality of (143e) has to do with subjacency which also accounts for the ill-formedness of (143f): the NP *kitaab* crosses over two bounding nodes, CP and NP.

Now we consider the following examples which have quite different properties from the examples in (143a-f) above.

- (144) (a) shtraa badr-un l-kitaab-a
bought 3ms badar Nom the book-Acc
“Badar bought the book”
- (b) l-kitaab-u shtraa-hu badr-un
the-book-Nom bought 3ms-it badar-Nom
“The book, Badar bought it”
- (c) *l-kitaab-a badr-un shtraa-hu
the-book-Acc badar-Nom bought-it

- (d) *l-kitaab-u badr-un shtraa
the-book-Nom badar-Nom bought
- (e) l-kitaab-u ra?ay-tu l-walad-a lladhii zanan-tu ?anna-hu shtraa-hu
the-book saw-1sg the-boy-Acc who thought-1sg that-3ms bought-it
“The book, I saw the boy whom I thought to have bought (it)”

The example in (144b) is fine; all the conditions are met: the NP is definite, in the Nominative Case and there is a resumptive pronoun agreeing in phi-features with the NP. The problem with (144c) is that it violates the Case condition; (144d) is also excluded since there is no coreferential resumptive pronoun.

The well-formedness of (144e) is mysterious given that subjacency is a condition on movement rules. (144e), like (143e-f), involves two binding nodes. To use Chomsky's (1986b) terminology, there are two barriers in (144e) namely NP and CP. The question is why (144e) is grammatical? One possible answer is that it is a fairly standard assumption that there is no movement involved when there is a resumptive pronoun, unlike (143e-f) above where subjacency is observed because movement is involved. If there is no movement in (144e), then the NP must be base-generated in some topic position.

To account for the appearance of the resumptive pronoun in (144e), Souali (1986) proposes that it is a base-generated clitic.

Returning to the Focus analysis. The authors argue that Arabic does not have number agreement on the verb. What appears on the verb is a form of a pronoun in the nominative case. This pronominalization of subject nouns makes the analysis of relative clauses a simple one (Ansheon and Schreiber 1968: 795). This analysis, they argue, explains both nominal sentences and number inflection in Arabic.

Relative clause formation according to this approach requires that the N inside the relative clause and N which is generated outside it be identical. Non-subject

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positions in the embedded sentence are pronominalized as the following example shows.

- (145) r-rajul-u zaarat-hu (?a) l-bint-u
the man Nom visited 3fs him the girl Nom
(Litt. The man, the girl visited him)¹⁹

In case the subject of the embedded clause is identical to the N outside the relative clause, the verb of the relative clause agrees with the noun in number, gender and person²⁰. (cf. Ansheon and Schreiber (1968: 795).

- (146) ṭaalibaatun daras-na n-naḥw-a
students (f) studied 3fp the grammar Acc
“Female students who studied/have studied grammar”

The verb of the relative clause exhibits number agreement in the same form as in nominal non-equative sentences as shown in (147) below.

- (147) ṭ-taalibaat-u daras-na n-naḥw-a
the students (f) Nom studied 3fp the grammar-Acc
“The female students studied grammar”

¹⁹ This structure is a left-dislocation and not an NP containing a relative clause. A relative clause with a definite NP requires an obligatory relative complementizer. Compare (145) with (i) below.

- (i) r-rajul-u l-ladhi zaarat-hu l-bint-u
the-man Nom that.3ms visited 3f-him the-girl Nom
“the man who the girl visited”

See Part Two of Chapter One section (1.2.1.1) for a detailed description of definite relatives. Also see Chapter Four sections (4.1.1) and (4.2.1) for the analysis of these constructions.

²⁰ I take these inflections to represent agreement markers rather than pronoun attaching to the verb.

Because number agreement is a form of the pronoun in the nominative case, Ansheon & Schreiber (1968: 796) conclude that “relative clauses must satisfy the noun identity condition”.

2.2.1.2 The Topic-Comment Analysis

The Topic-Comment analysis of relative clause formation was proposed by Lewkowics (1971). According to this approach, a relative clause is derived from a Topic-Comment construction consisting of a definite noun phrase as the topic and a comment clause containing a resumptive pronoun which is coreferential with the topic NP (Lewkowics 1971: 810)²¹. For illustrative purposes, Lewkowics gives the following example.

- (148) ?alwaladu [maata ?abu-hu]
the boy Nom died 3ms father Nom his
(Lit. The boy, his father died)

?alwalad “the boy” is the topic and the bracketed string is the comment. Note that the comment contains a pronoun referring back to the topic.

According to Lewkowics, a relative clause is derived from an underlying comment. To see how this is so, Lewkowics proposes that (149) below has the deep structure in (150).

- (149) rajul-un [saafarat zawjat-u-hu]
man Nom travelled 3fs wife Nom his
“A man whose wife travelled”
- (150) r-rajul-u saafarat zawjat-u r-rajul-i
the man Nom traveled 3fs wife Nom the man Gen
(Lit. The man- the man’s wife travelled)

²¹ The description refers to a topicalised left-dislocated NP we have seen before.

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The NP *r-rajul* “the man” in the comment position in (150) is identical to the NP in the Topic. There is one difference however. The two NPs carry different Cases: Nominative and Genitive, respectively. (150) undergoes a relativization process yielding (151):

(151) *r-rajul-u* [*lladhii saafarat* *zawjat-u-hu*]
the man Nom that travelled 3fs wife Nom his
“The man whose wife travelled”

The transformational rule involved in producing (151) inserts a relative pronoun *lladhii*, which Lewkowics claims to be better regarded as a form of the definite article, before a relative clause modifying a definite head noun and converts the duplicate NP into a replacive (resumptive) pronoun (Lewkowics 1971: 819).

Although the analysis presented here is similar to the Focus analysis we have seen earlier in section (2.2.1), the two approaches are not exactly the same. The Topic-Comment analysis assumes a copying deletion rule according to which relative clauses are formed by deleting a co-referential NP and inserting a form of the relative pronoun. The copying deletion rule Lewkowics proposes is given in (152).

(152) [NP s[NP - X - VP - Y]]
1 2 3 4 5
1 wh Ø 3 4 5

The rule deletes NP2 because it is identical to NP1 and inserts a relative pronoun.

2.2.1.2.1 Problems with Focus & Topic analyses

The two analyses outlined above run into some problems as Obeidat (1984) argues. First, consider VSO order in Arabic. According to the Topic/Focus analysis only the first NP, which is not the first member of the construct phrase, can move to the initial position. This leads to the assumption that the object cannot move to the

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initial position because it is not the first member of the construct phrase and accordingly cannot be straightforwardly relativized.

The second argument Obeidat raises against the Topic/Focus analysis is concerned with relativizing positions in Arabic other than the subject and the object position. The Topic/Focus analysis fails to account for relativization from oblique positions in Arabic because the relativized NP here is a part of a prepositional phrase.

Third, the Topic/Focus analysis does not explain the exact source of the relative pronoun. Furthermore, Obeidat argues that the assumption that the relative pronoun in Arabic is a special form of the definite article is not correct for the simple reason that it cannot be replaced by the definite article as the ungrammaticality of (154) shows (cf. Lewkowics 1971: 819)

(153) jaa?a r-rajul-u l-kariim-u
 came 3ms the man Nom the generous Nom
 “The generous man has come”

(154) *jaa?a r-rajul-u lladhii kariim-u

In the grammatical example (153), */l-/* is not a reduced form of *lladhii* but a marker of definiteness.

Fourth, the Topic/Focus approach derives relative clauses from ungrammatical sentences. If the grammar of a language does not allow a construction, that construction cannot be regarded as an underlying structure to generate other constructions. Arabic does not allow a new topic to be generated from an embedded topic. Thus (155) is excluded in Arabic.

(155) *malik-un l-malik-u tazawwajat ?ibnat-u-hu
 king Nom the kingNom married 3ms daughter Nom his
 (Lit. A king the king –his daughter got married)

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If the embedded comment *l-maliku tazawwajat ?ibnatu-hu* in (155) is the source of relativization as argued in Lewkowics, then we will have two topics produced, the first of which is deleted by some rule. The resultant structure will be as in (156)

- (156) *l-malik-u lladhii tazawwajat ?ibnat-u-hu*
 the king Nom ·that married 3fs daughter Nom his
 “The king whose daughter got married”

This analysis is undesirable because it makes the grammar so complicated.

2.2.1.3 The Copy Analysis

We have pointed out that one of the problems facing the Topic-Comment analysis is its failure to account for the source of the relative pronoun *lladhii* in Arabic. An analysis to deal with this problem is proposed in Awwad (1973). Awwad proposes that the relative pronoun in Arabic is an NP in the embedded sentence copied to the front position of the relative clause. The reason why it appears as a resumptive pronoun is that because the resumptive pronoun is coreferential with the head noun. To account for these facts, Awwad proposes a modified rule for relative clause formation represented in (157) below.

- (157) X - [NP NP [s X - NP - Y s] NP]- Z
 1 2 3 4 5 6 → obligatory
 1 2 4 # 3 4 5 # 6

$$\left[\begin{array}{l} +rel \\ +pro \end{array} \right]$$

Despite the fact that the copying deletion theory, proposed in Lewkowics (1971) and modified in Awwad (1973), characterizes *lladhii* as a relative pronoun, it cannot explain Case agreement between the relative pronoun and the preceding head noun. To solve this problem, Obeidat (1984) proposes a movement analysis outlined in the following section.

2.2.1.4 The relative pronoun movement analysis

Obeidat (1984) proposes that relative clause formation in SA involves movement of the relative pronoun. This approach, he argues, will solve the problems such as the source of the relative pronoun and case agreement in relative constructions.

As far as relativization is concerned, Obeidat (1984) assumes that three properties should be taken into account: the unmarked word order, case agreement and the role of the head noun with respect to agreement government.

According to this approach, relative clause formation in SA involves movement of the relative pronoun to the front position of the higher clause. To see how this process takes place, Obeidat (1984: 86) gives the following examples.

- (158) (a) ḥaḍarat ?albintaani allataani ḍaraba-humaa alwalad-u
 came 3ms the girls (two) who Nom hit them the boy-Nom
 “The girls who(m) the boy hit came”

- (b) $\left(\begin{array}{l} \text{ḥaḍarat } ?\text{albintaani} \\ \text{came } \text{the girl- two} \\ \text{(Nom)} \end{array} \left(\begin{array}{l} \text{ḍaraba alwaladu } ?\text{albintayni} \\ \text{hit } \text{the boy } \text{the girl-two} \\ \text{(Acc)} \end{array} \right) \right)$

The relative clause in (158a) consists of two clauses: the main clause and the embedded one, as shown in (158b). The NP *?albintaani* “the two girls” is marked for the Accusative in the embedded clause but has a Nominative in the main clause. After the application of relativization to the structure in (158c), we get the structure in (158d)

- (c) $\left(\begin{array}{l} \text{ḥaḍarat} \\ \text{?albint} \\ \left(\begin{array}{l} +\text{Nom} \\ +\text{dual} \end{array} \right) \end{array} \left(\begin{array}{l} \text{ḍaraba alwaladu allat} \\ \left(\begin{array}{l} +\text{Acc} \\ +\text{dual} \end{array} \right) \end{array} \right) \right)$

(d) $\left(\begin{array}{ccccc} \text{ḥaḍarat} & \text{ʔalbint} & \text{allat} & \text{ḍaraba} & \text{alwaladu humaa} \\ & \left(\begin{array}{c} +\text{Nom} \\ +\text{dual} \end{array} \right) & \left(\begin{array}{c} +\text{Nom} \\ +\text{dual} \end{array} \right) & & \end{array} \right)$

The relative pronominal carries different Case: Accusative in (158c) and Nominative in (158d). Obeidat (1984: 86) proposes that these morphological changes can be accounted for if relative clause formation involves a movement rule. The movement rule will move the relative pronoun from the embedded clause to the main clause. Case assignment comes after such a movement has taken place. The relative pronoun is now governed by the head noun (the antecedent) and will have the same Case assigned to the head noun. The Case of the antecedent is determined by the structural position it occupies in the matrix clause. In (158a), for example, the head noun occupies the subject position and is therefore assigned Nominative. Thus according to this approach, relative clause formation involves two steps: (i) relativization of NP in the embedded clause which is realized as a relative pronominal, as in (158c), and (ii) movement of the relative pronominal from the embedded clause to the matrix one as in (158d). Case cannot be applied as a cyclic rule²². If case is cyclic, we would expect the relativized NP in (158c) above to carry its accusative marker but this is not possible as shown by the ungrammaticality of (159).

(159) *ḥaḍar-at ʔal-bint-aani allat-ayni
 came 3fs the girl (two) Nom who (two) Acc
 ḍaraba-humaa al-walad-u
 hit them dual the boy Nom
 “The two girls who(m) the boy hit came” (cf. Obeidat 1984:89, Ex. 30)

²² What this means is that Case cannot be assigned before movement

2.2.2 Recent Analyses

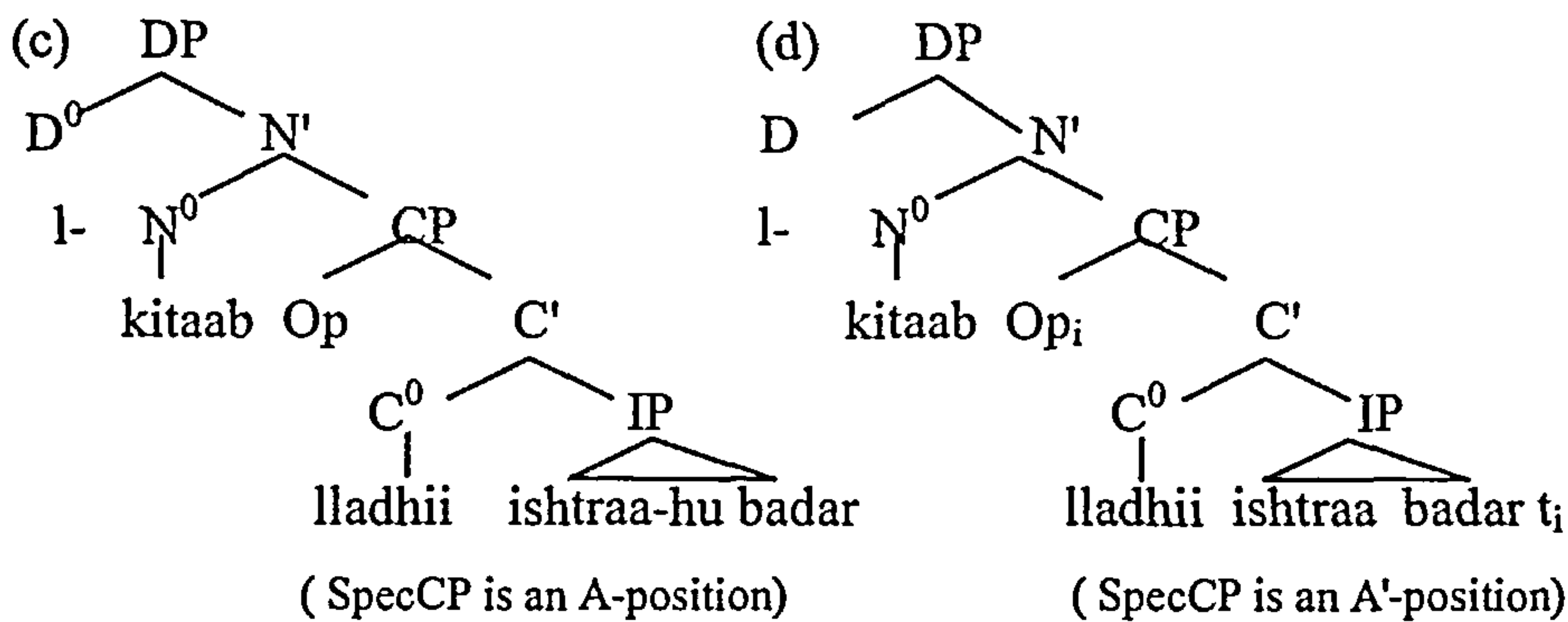
A number of analyses have been suggested to account for relativization in SA within the generative grammar developed in Chomsky (1981) and subsequent work. The first analysis I am going to consider is presented in Shlonsky (1992); the second is proposed in Al-Sayed (1998); and the third is argued for in Homeidi (2002). I will also look at two more recent analyses: Kremers (2003) and Ouhalla (2004) to account for relativization in Arabic.

2.2.2.1 Shlonsky (1992)

Shlonsky (1992) argues that relative clause formation involves two types of movement, depending on whether the relativized site is filled by a resumptive pronoun or not. His analysis is essentially proposed for Modern Hebrew (MH) but he argues that it can carry over to SA as well. He claims that MH has two complementizers, [še A] and [še A']. šeA heads a Specifier to which only A-movement is possible and šeA' heads a Specifier to which only A'-movement is possible. The explanation Shlonsky gives is that a relative clause does not involve wh-movement when a resumptive pronoun appears in the relativized position because this movement will violate the Specified Subject Condition (Chomsky1973) according to which movement across the subject of a clause is illegitimate. However, a relative clause can also be formed by A'-movement. In this case, there is no violation of the Specified Subject Condition because it is a movement to an A'-position and therefore a trace, rather than a pronoun, appears in the extraction site. Consider the following relative clause with a pronoun (160a) and with a gap (160b) whose representations are given in (160c) and (160d), respectively.

- (160) (a) l-kitaab-u lladhii ishtraa-hu badr-un
the book Nom that bought 3ms it badat Nom
“The book which Badar bought”

- (b) l-kitaab-u lladhii ishtraa badr-un
 the book Nom that bought 3ms badar Nom
 "The book which Badar bought"



According to this analysis, a relative clause in SA can either be generated by moving operator to SpecCP or base-generating it in that position. Shlonsky's analysis, as Al-Sayed (1998) points out, has serious problems. If SpecCP is an A-position as shown in (160c), the Operator in this position will not be able to A'-bind the pronoun in the relativized position. Accordingly, the pronoun in (160c) will only be bound in LF. This analysis also predicts that parasitic gaps cannot be licensed because the licensing of parasitic gaps can only take place at Surface Structure. Furthermore Shlonsky's analysis is unable to account for the fact that the empty category in (160d) is sensitive to other constraints on movement such as the Complex Noun Phrase Constraint (161b) and wh-islands (161d):

- (161) (a) l-kitaab-u lladhii ?a9rifu [t_?taalib-a lladhii ishtraa-hu]
 the book Nom that know I [the student Acc that bought 3ms it]
 "The book that I know the student who bought it"
- (b) *l-kitaab-u lladhii ?a9rifu [t_?taalib-a lladhii ishtraa t]
- (c) l-kitaab-u lladhii ?uriid-u ?an ?a9rif-a [man ishtraa-hu]
 the book Nom that want I that know I [who bought it]
 "The book that I want to know who bought it"

(d) *l-kitaab-u lladhii ?uriidu ?an ?a9rifa [man ishtraa t]

Another problem with Shlonsky's analysis has to do with A'-binding. If SpecCP in SA is regarded as an A-position, the pronoun in the relativized site cannot be A'-bound because the operator in this case is in an A-position.

2.2.2.2 Al-Sayed (1998)

Al-Sayed (1998) proposes an analysis for the movement and resumptive strategies in SA. The movement strategy leaves a gap and the resumptive strategy involves a pronoun in the relativized position. The empty category in the relativized position in (160d) above is not PRO because PRO does not occur in a governed position. Since it cannot be identified (presumably it is the object), it therefore cannot be pro. It is possible that it is a wh-trace. Wh-traces are sensitive to movement constraints, as in the example in (162b).

(162) (a) l-malik-u lladhii sajana l-mr?at-a llatii ?ahaanat-hu
the king Nom that imprisoned 3ms the woman that insulted him
“The king that imprisoned the woman who insulted him”

(b)*l-malik-u lladhii sajana l-mr?at-a llatii ?ahaanat
the king that imprisoned the woman that insulted

According to Al-Sayed (1998), both the null operator and the resumptive pro in the resumptive strategy are base-generated. What this means is that movement is not involved here. A piece of evidence Al-Sayed cites is that this strategy is not sensitive to wh-islands such as the Complex Noun Phrase Constraint as (162a) above shows.

One advantage of this analysis is that SpecCP is regarded as an A'-position, contra Shlonsky (1992). The importance of SpecCP being an A'-position, as Al-Sayed points out, is that the empty category bound by this position can license

constructions involving parasitic gaps. This is not possible under Shlonsky's analysis given that SpecCP is an A-position. The example in (163) illustrates.

- (163) l-kitaab-u Op_i lladhii ?intaqadta -hu_i duna ?an taqra?a [pg]
the-book-Nom that criticized 2ms it without that read 2ms
“The book that you criticized without reading”

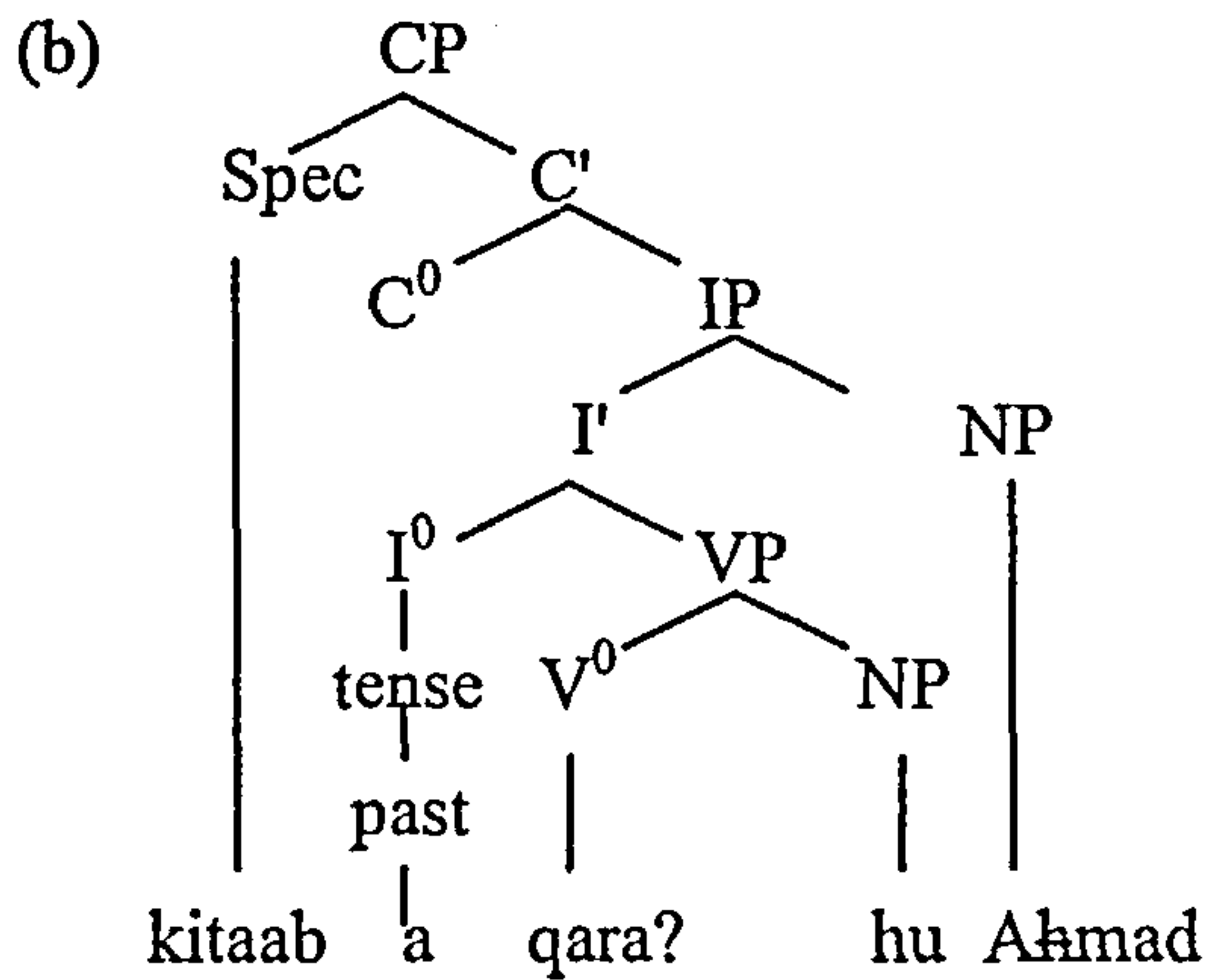
The parasitic gap in (163) is licensed by the resumptive pronoun (lexical trace) which is A'-bound by the null operator in SpecCP. If we adopt Shlonsky's analysis the parasitic gap cannot be licensed because SpecCP is an A-position and consequently cannot A'-bind the lexical trace. The analysis presented in Shlonsky may work well for Hebrew because in this language, as Shlonsky argues, empty categories do not license parasitic gaps. As far as SA is concerned, it is perhaps right to argue that the analysis proposed in Al-Sayed (1998) is more preferable than the analysis proposed in Shlonsky (1992).

2.2.2.3 Homeidi (2000)

Homeidi (2000:95) argues that the basic word order in SA is VOS rather than VSO as widely assumed. The crucial point Homeidi makes is that Arabic can have relative clauses only when the head is definite (2000:99). According to the author, Arabic does not have indefinite relative clauses. Despite the fact that the indefinite head in (164a) is coindexed with the pronoun in the embedded IP, the structure in (164b) does not involve a relative clause (Homeidi 2000:98).

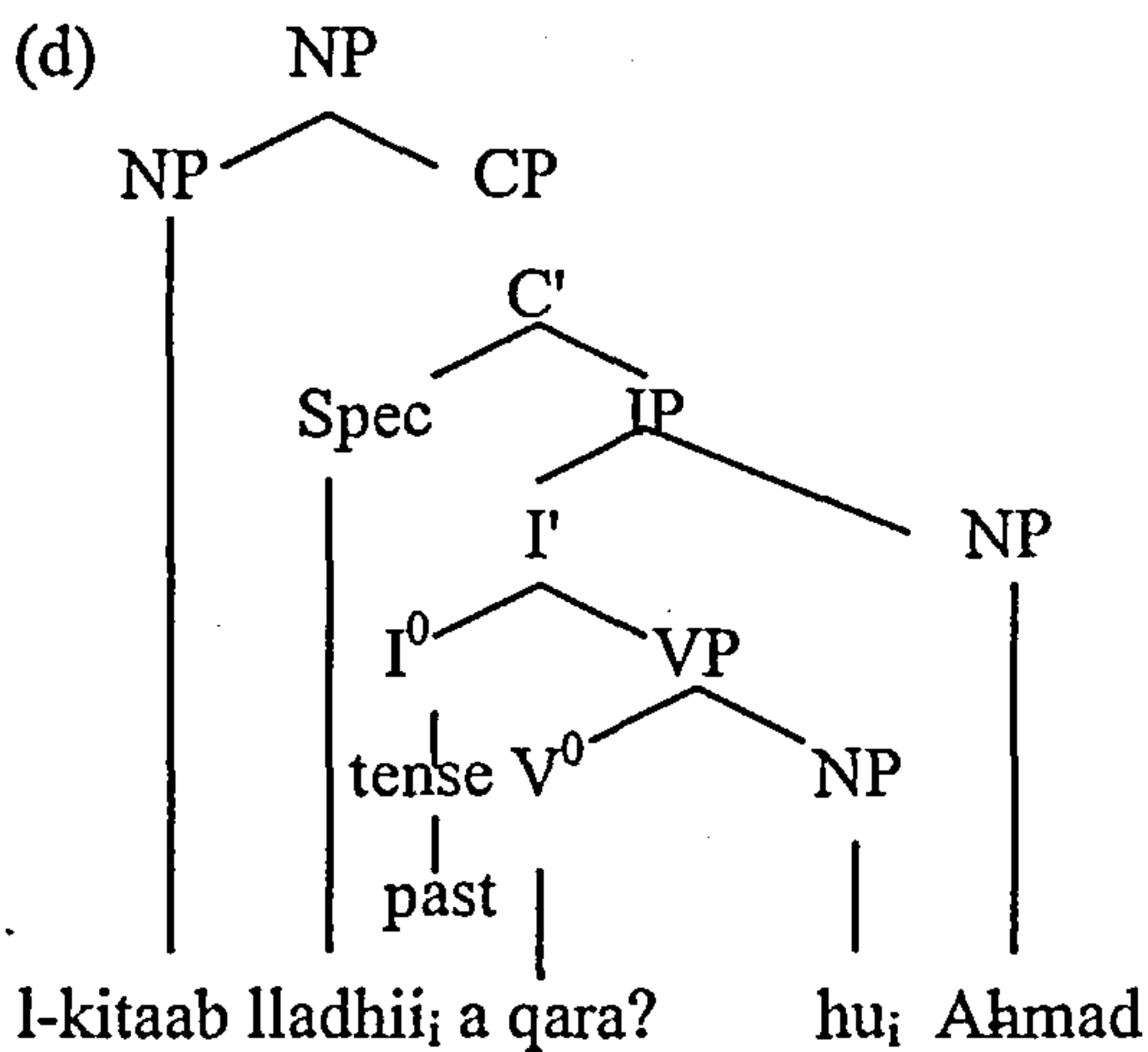
- (164) (a) kitaab-un qara?a-hu aħmadu
book Nom read 3ms it aħmad Nom
“A book, Ahmad read it”

The example in (164a), according to Homeidi, illustrates a left-dislocation structure rather than a relative clause construction and is assigned the representation in (164b).



According to Homeidi (2000:99), a relative clause is only possible with a definite head. Thus (164c) will have the representation in (164d).

- (c) l-kitaab-u lladhii qara?a-hu aħmadu
 the book Nom that read 3ms it aħmad Nom
 “The book that Ahmad read”

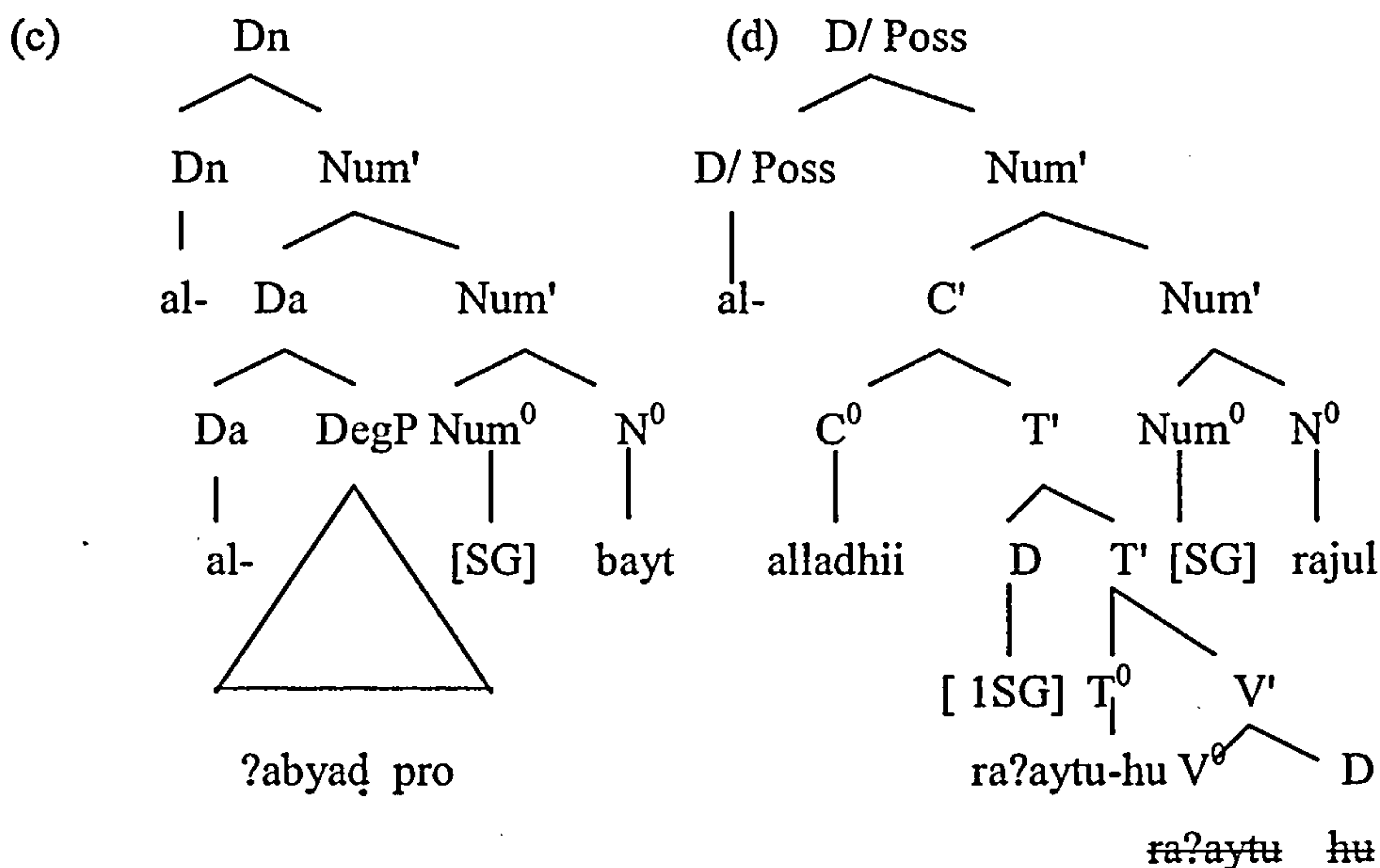


One crucial property of this analysis is that *lladhii* is coindexed with the relativized position which is the direct object in (164d). I cannot see any reason why (164a) above should not be considered as a relative clause with a null operator in SpecCP.

2.2.2.4 Kremers (2003)

One of the most recent analyses proposed for relative clauses in SA is found in Kremers (2003). The analysis is based on the parallelism between agreement in modifying adjectives and relative clauses. Kremers (2003:10) argues that relative clauses in Arabic use the same mechanisms that modifying adjectives use. He assumes that relative clauses, like adjectives, are adjoined to Num⁰. The structure he proposes for modifying adjectives and relative clauses such as (165a-b) is given in (165c-d).

- (165) (a) al-bayt-u l-ʔabyad-u
the house-Nom the-white
“The white house”
- (b) al-rajul-u alladhii raʔay-tu-hu
the man-Nom REL saw-I-him
“The man that I saw”



(cf. Kremers 2003)

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Dn and Da refer to nominal D(eterminer) and adjectival D(eterminer), respectively. The resumptive pronoun (pro) in DegP is c-commanded by the nominal D and therefore binds it. Because the resumptive pronoun needs to be licensed locally, i.e. inside the adjective phrase, a D head is added to the adjective phrase (Kremers 2003:8). The same mechanism is used in the relative clause in (165d). The matrix nominal D binds the head C⁰ and in turn C⁰ receives the features from D. The resumptive pronoun is bound by the relative marker in C⁰ in the same way that the adjectival D binds the resumptive pro in the adjective phrase.

The idea that a relative clause in SA has to agree with the head NP is an uncontroversial one. It is true that a definite NP, the antecedent, can only be modified by a relative clause introduced by *lladhii* and that an indefinite antecedent can only be modified by a relative clause with a non overt *lladhii*. So there is some correlation between definiteness/indefiniteness of the antecedent and the postnominal relative clause (See Chapters Four and Five for a discussion). The problem emerges if *lladhii* is analysed as a determiner. If it is indeed a determiner, it is not clear why it does not alternate with the determiner *l*: *l-malik-u l-kariim-u* “the generous king” vs **l-malik-u lladhii kariim-u*. Furthermore, the relativizer inflects for gender, number and Case whereas *l* does not. Moreover, a relative clause introduced by *lladhii* may not have an overt antecedent as in *lladhii free relatives* (See Chapter Six, Section 6.3.1, for a discussion). In this case, what does the relative clause agree with?

It is not clear to me how the complementizer binds the resumptive pronoun in (165b). The standard assumption is that only an operator in SpecCP can bind the trace, be it a gap or a resumptive pronoun, in the relativization position. C⁰ is a head position not an A'-bar position.

The assumption that the C⁰ head is bound by the nominal D and receives its features might be correct. However, consider for example the construct state construction where the head noun is not associated with the determiner *l* at all. In this construction the head is assumed to inherit definiteness from the second member of the construct state which is definite:

- (166) (a) qaṣr-u l-malik-i lladhii zaara-hu zayd-un
palace-Nom the-king-Gen that visited-it zayd-Nom
“The king’s palace that Zayd visited”
(b) *l-qaṣr-u malik-i lladhii zaara-hu zayd-un

Another problem for the analysis represented in (165d) appears when an adjective occurs in a position immediately preceding the relative clause. The question that immediately arises is which D binds C^0 ? Is it the nominal D or the adjectival one? The relevant example is the one in (167)

- (167) l-qaṣr-u l-jamiil-u lladhii zaara-hu zayd-un
the-palace-Nom the-beautiful-Nom that visited-it zayd-Nom
“The beautiful palace that Zayd visited”

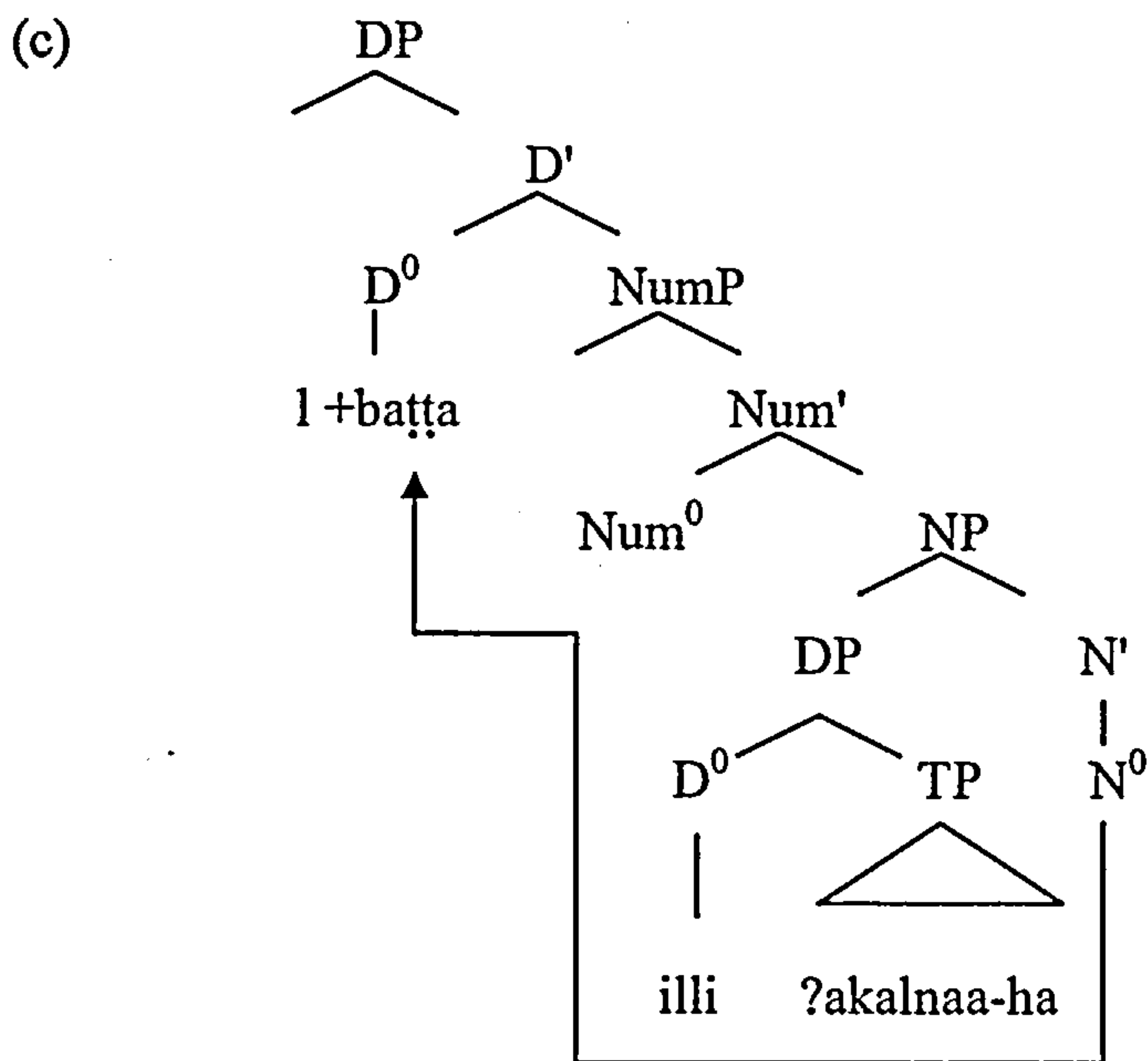
It is not clear how the nominal D can bind C^0 given that the adjectival D intervenes between the nominal D and C^0 . One possible way is to propose that the adjectival D incorporates into the nominal D since they have the same features (See Bianchi 1999). Alternatively, the adjectival D might be the copy of the nominal D.

2.2.2.5 Ouhalla (2004)

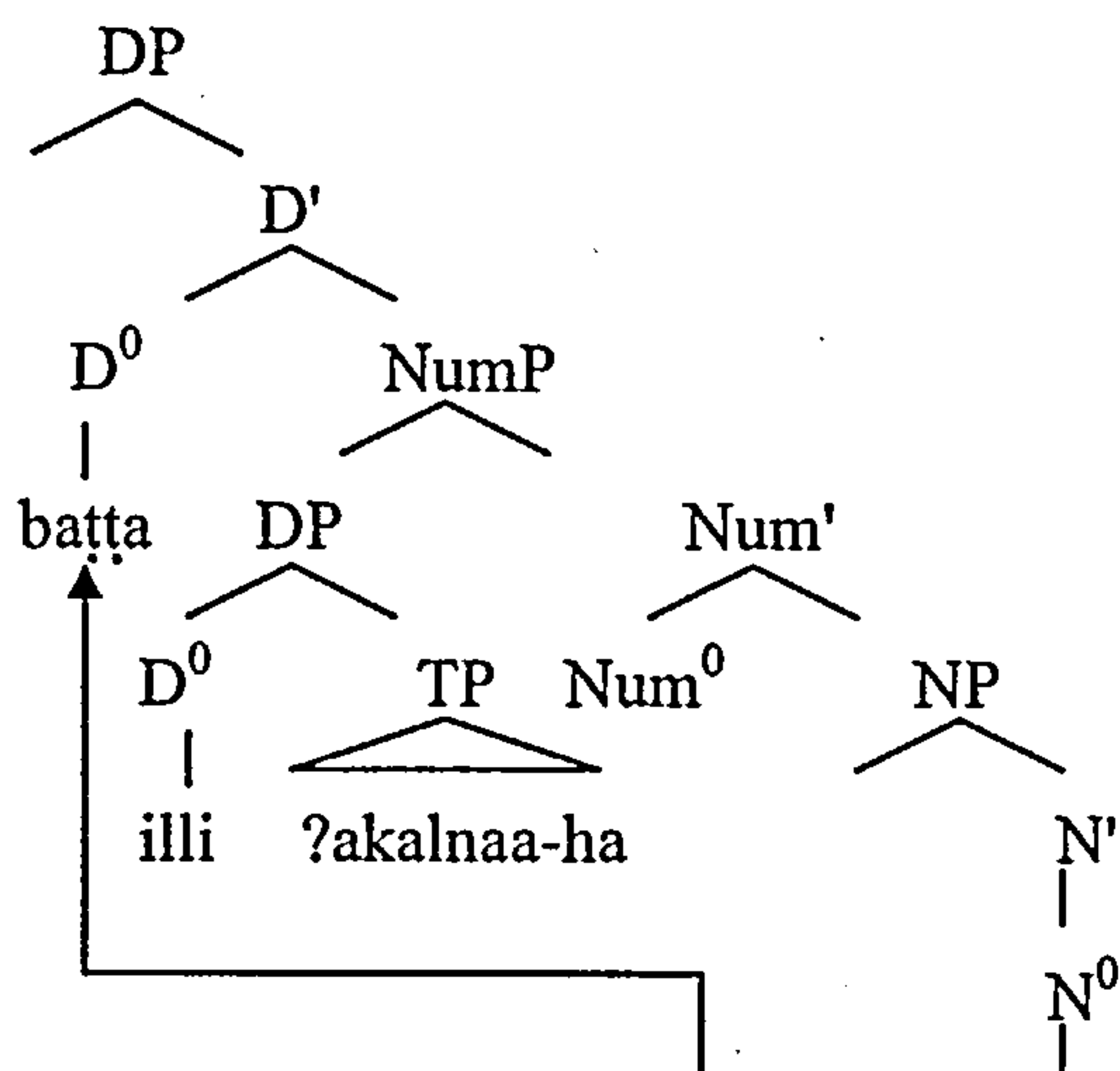
Ouhalla’s analysis is based on the head-raising approach of relative clauses but different from it in many respects. First Ouhalla does not consider relative clauses in Arabic as CPs. Rather, he assumes that relative clauses are DPs. His claim is based on the status of the relative marker in Arabic and other languages such as Hebrew. He assumes that the relative marker in Arabic is a determiner whereas in Hebrew the relative marker is a complementizer. The distinction between Arabic and Hebrew relative markers leads to the fact that relative clauses in Arabic are DPs whereas in Hebrew they are CPs. The analysis Ouhalla suggests takes relative clauses in Arabic to be parallel to *Idaafa* (the construct state) constructions in Semitic. The analysis attempts to draw the difference between (168a) and (168b).

- (168) (a) l-baṭṭa illi ?akalnaa-haa
 he-duck RM we.ate-it
 “The duck we ate”
 (b) baṭṭit illi ?akalnaa-haa
 duck(f) the+Agr we.ate-it

The derivation of both examples will involve N-to-D raising, widely assumed to derive the construct state structures in Semitic. The only difference between (168a) and (168b) is that the DP *illi ?akalnaa-haa* “the we ate it” does not move from SpecN⁰ whereas the DP in (168b) moves to the Spec position of a functional head, presumably SpecNumP. The derivation of (168a) and (168b) is parallel to the derivation of free construct state and the construct state DPs, respectively. Accordingly, the example in (168a) will have the representation in (168c) and the example in (168b) will have the representation in (168d), respectively.



(d)



The structure assigned to relative clauses in (168) is exactly similar to the structure that has been proposed to derive the construct DPs (See, for example, Ritter 1991; Benmamoun 2000). I will show in Chapter Four and Chapter Six that Ouhalla's analysis fails to solve some issues concerning the syntax of relative clauses in Arabic. In my view, no problem arises if the relative marker is analysed as a complementizer as I have proposed.

Conclusion

We have tried in this chapter to outline different approaches to derive relative clauses. In Part One, we discussed the competing analyses found in the literature. The head-external analysis involves operator movement to SpecCP. The "head" is base-generated outside CP. The Matching analysis is somehow similar to the head-external analysis in the sense that the antecedent is base-generated externally but different from it in the sense that it assumes an internal head that deletes under identity with the externally base-generated head. We have also discussed problems that arise from the Matching analysis. The third competing analysis is the head-raising approach according to which the "head" is not base-generated externally but raises to an empty nominal slot, as in Schachter's (1973) version, or to SpecCP, as

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in Kayne's (1994) version. Each one of these versions has problems. We have discussed these problems in detail.

Part Two of the chapter has dealt with previous studies on Arabic relativization. We have seen that different analyses have been proposed to account for relative clause formation. The Focus analysis (Ansheon and Schreiber (1968)) assumes that only the first NP of the construct phrase can be relativized. The Topic-comment analysis (Lewkowicks 1971) assumes that a relative clause in Arabic is derived from a construction consisting of a definite NP and a comment clause. We have seen that these approaches suffer from some problems. Awwad (1973) proposes an analysis according to which the relative pronoun moves to the front position leaving a copy pronoun behind. We have seen that this analysis fails to account for the Case of the relative pronoun. Obeidat (1984) proposes an alternative analysis that solves the relative pronoun Case problem. We have seen that according to this analysis the relative pronoun moves to the front position where it gets its Case in a later stage.

We have also included some recent analyses. In Shlonsky's (1992) analysis the gap strategy and the resumptive strategy are not derived in the same way. We have seen that each strategy depends on whether the complementizer allows A- or A'-movement to its Specifier. The most recent analysis of relative clauses in Arabic is Ouhalla's (2004). We have seen that Ouhalla analyses Arabic relative clauses as DPs rather than CPs on the basis that the relative marker in Arabic is a definite determiner rather than a complementizer. We have not discussed the problems that this analysis has in this chapter. We prefer to come back to this matter in Chapter Four where we discuss it in detail.

Chapter Three

The Categorical Status of *lladhii*

3.0 Introduction

This chapter is concerned with the syntactic status of the relative marker *lladhii*. We claim that this element is best analysed as a complementizer despite the fact that it may sometimes have the features of a relative pronoun. We also make an attempt to identify the features of the factive complementizer that make it distinct from the relative one. Before we determine the categorical status of *lladhii*, a word about its elements is in order.

3.1 (A)lladhii: A compound element¹

It is assumed that *lladhii* consists of *-dh*, the article *(a)l-* and the infix *-la-* (Moscati 1964). The element *(a)l-* in *(a)lladhii* is identical to the definite article *(a)l-* in Arabic as in *(a)l-kitaab* “the book”.

Quite similar to the previously mentioned view, Barth and Landberg, cited in Bravmann (1977:185), assume that *lladhii* consists of a demonstrative *-dh*, a determiner article *(a)l* and an infix *-la-*. Fischer (1997:201) has the same view (Also see Gray 1934:65-66 and Wright 1966:116-117). According to this approach, *lladhii* is a compound consisting of three demonstratives secondarily used as a relative pronoun.

¹ The forms *alladhii*, *lladhii* and *?alladhii* are all used in the literature.

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Bravmann rejects the idea that *lladhii* is a demonstrative pronoun, unlike *hallāzē* which is used as a demonstrative in Hebrew, and proposes that it is used in attributive clauses i.e relative clauses which qualify definite nouns (Bravmann 1977:185). He attributes the presence of *(a)l* in *(a)lladhii* to agreement with the preceding noun which is definite. According to this view, this is the origin of *(a)l* in the Arabic relative pronoun². According to Bravmann, *dhi(i)* is a demonstrative used as a relative pronoun. This view is supported by the fact that in Aramic the demonstrative *dhi(i)* is used as a relative pronoun. Some Arab dialects used the element *dhu*, which is invariable in gender and number, as a relative pronoun (See Fischer (1997:201) and Hassan (1975:357, fn3).)

Now we know that *(a)l-* is a definite marker and that *dhi(i)* is historically a demonstrative pronoun used as a relative pronoun. It remains to know where the infix *-al-* comes from. I will report the view that some phonetic alteration responsible for the present *(a)lladhii* has taken place in the course of its history.

Bravmann assumes that *(a)lladhii* is the result of a phonetic change of certain composite expressions used historically to characterize relative clauses. The present *(a)lladhii* originally comes from *(a)l-hādhā-dhii*. The old form was contracted to the new one. In its development to *(a)lladhii*, *(a)l-hādhā-dhii* underwent considerable phonetic alteration resulting in the disappearance of the demonstrative *dhā*. However the deictic element *hā* prefixed to *dhā* remained. It assimilated to the preceding *(a)l* resulting in a geminated *l*: *(a)lladhii* (Bravmann 1977:188)³. The assimilation of the sound *h* or of the glottal stop to a preceding sound which later

² In other words, Bravmann assumes that *al* in *alladhii* is a definite marker inserted to mark agreement with the definite noun. This view is different from the assumption made in Lewkowics (1971) that *alladhii*, not only *al*, is a determiner marker.

³ The element *ha* can still be found in modern Arab dialects. It is invariable in gender and number and precedes only a definite noun:

(i) *ha-*(l)-wld/* *ha-*(l)- bnaat*
Dem-the-boy /Dem-the-girls
“This boy /these girls”

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results in gemination is common in Semitic (cf Hebrew: g^cmālathū > g^cmālattū; Ethiopic ‘ab’asa > ‘abbasa) (Bravmann 1977:188).

The conclusion is that the Arabic relative pronoun (*a*)*lladhii* is developed from the demonstrative pronoun *dhii* which once itself had the function of a relative pronoun and this function of *dhii* as a relative pronoun was developed from the original use of *dhii* as a demonstrative pronoun (For details, see Bravmann 1977:185-191).

3.2 Determining the categorical status of *lladhii*

The main issue concerning the relativizer *lladhii* is to determine whether it is a relative pronoun or a complementizer. In order to do this, we need to look at the properties that distinguish between relative pronouns and complementizers. In this respect, we will look at Radford’s (1988) arguments (3.2.1). In Section (3.2.2) we will discuss Rizzi’s (1990) feature system which provides a partial specification of the different kinds of C⁰; and, finally, in (3.2.3) we will focus on a typology for the category complementizer of languages as proposed in Roberts (1992).

3.2.1. Relative pronouns vs Complementizers

3.2.1.1 Radford’s (1988) criteria

Radford’s arguments are mainly proposed for English, but can apply to other languages as well, including SA. In essence, Radford proposes five criteria to differentiate between the complementizer *that* and relative pronouns such as *who* and *which* in English.

First, Radford (1988:482) argues that the complementizer *that* in English cannot occur as a complement of a preposition whereas relative pronouns can. Thus while (1a) is fine, (1b) is not:

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- (1) (a) The boy with *whom* she danced.
(b) *The boy with *that* she danced.

According to Radford *that*, but not *whom*, should be analysed as a complementizer for it cannot be preceded by a preposition as the ungrammatical (1b) shows.

However, we have to emphasize the fact that the ungrammatical (1b) does not follow from the assumption that *that* is not a relative pronoun *in all cases*. It may only mean that *that* is not a relative pronoun in all respects (Van der Auwera:1985). Furthermore, it has been argued that pied-piping is not allowed in independent relatives whereas preposition stranding is:

- (2) (a) They liked whatever they went to
(b) *They liked to whatever they went (Van der Auwera 1985:152, Ex. 9)

The point is that if preposition stranding is the only strategy available as in (2a), then one may say, following Van der Auwera, that pied-piping is not the right criteria for identifying relative pronouns since if it were, (2b) would be grammatical.

Second, there is difference between complementizers and relative pronouns with respect to the genitive case. A complementizer cannot have a genitive form whereas a relative pronoun can. For example *whose* is a possible genitive form for *who* and *which* but *that* cannot have a genitive form such as *that's* (Radford 1988: 483). Thus it is ungrammatical in English to have an example such as (3b):

- (3) a. The man *whose* help was invaluable.
b.* The man *that's* help was invaluable.

The idea that relative pronouns have Case whereas *that* does not is not exactly correct. For example *which* in English does not have oblique Case but this does not exclude it from being a relative pronoun. Of course *which* has no morphological genitive but it can be said that it has *whose* as a suppletive genitive. This opens the

possibility that *that*, too, may be said to have a suppletive genitive Case since *whose* can mean both “of whom” and “of which” (Van der Auwera 1985). Moreover, the Scots dialect of English has a genitive *that* (Romaine 1980:277, cited in Van der Auwera 1985:155)

(4) The dog *that*'s leg has been broken

Third, the complementizer *that* in English, unlike *who* for example, is neutral in the sense that it does not carry any semantic properties. That is, it is not marked for gender or animacy, unlike relative pronouns, as in (5d).

- (5) (a) The boy *that* I met.
(b) The boy *who* I met.
(c) The book *that* I read.
(d) *The book *who* I read. (cf. Radford 1988:483, Ex.82)

The argument that *that* is not sensitive to gender is weak because relative pronouns such as *whose* are not sensitive to gender either, as shown in (6)

- (6) (a) This is the man *whose* house I like
(b) This is the house *whose* roof I hate

Fourth, according to Radford complementizers and relative pronouns are different in terms of the tense of the clause that follows. The complementizer *that* is always followed by a finite clause; a relative pronoun can be followed by both a finite and occasionally a non-finite clause.

- (7) (a) The man *with whom* we discussed the problem.
(b) The man *with whom* to discuss the problem.
(c) The man *that* we discussed the problem *with*.
(d) *The man *that* to discuss the problem.

Radford's argument that a relative pronoun can be followed by a nonfinite clause is not a valid one. Consider the following examples where *wh*-forms are used for the relativization of the subject and the object, respectively.

- (8) (a) *I am looking for someone who to guide me
(b) *I am looking for someone whom to help

It seems that infinitival relativization with overt *wh* pronouns is only possible for prepositional objects. In this case, only pied-piping is allowed as (7b) above shows.

Fifth, relative pronouns undergo *wh*-movement. When such movement takes place, the relativization site is left empty. The complementizer *that* does not undergo *wh*-movement and hence a gap is not possible.

- (9) (a) I know the man whom she likes t
(b) I know that she likes him
(c) *I know that she likes
(d) He is someone that you never know whether to trust *him* or not.
(e) He is someone whom you never know the woman who likes him

The absence of a pronoun in the extraction site in (9a) shows that movement has taken place as indicated by the trace. The appearance of a pronoun in the object position in (9b) indicates that *that* is not a relative pronoun for if it were, a gap rather than a pronoun would appear in the object position. The examples in (9d,e) are grammatical despite the fact they contain a pronoun in the object position. The sentences in (9d,e) illustrate extraction from a *wh*-island (9d) and a complex noun phrase (9e). In English, pronouns appear if extraction takes place within an island (the so-called *intrusive pronouns* (See Sells 1987).

There is some further evidence for distinguishing a relative pronoun from a complementizer. It is possible to use *wh*-words in English to introduce both relative clauses, as we have seen, and *wh*-interrogative constructions whether direct or

indirect. This is not possible with the complementizer *that* (Bresnan 1977:175). This is shown in (10e) and (10f), respectively.

- (10) (a) The book which you read (restrictive relative clause)
(b) Which book did you read? (direct wh-interrogative)
(c) I wonder which book she read (indirect wh-interrogative)

(d) The book that she read (similar to 10a).
(e) *That the book she read? (intended to be as (10b)).
(f) *I wonder that book she read (intended to be as 10c).

(10a) and (10d) are equivalent in the sense that *that* in (10d) is used as a relative pronoun and therefore does not contradict with (10a). However (10e-f) are not well-formed as (10b-c).

The assumption that only wh-forms can have the interrogative use is not universal. Some languages possess pronominal relativizers which have no interrogative use. For example Dutch uses *die* and *dat* and German uses *der*, *die* and *das*. These are not used in interrogatives but this does not mean that they are not relative pronouns (Van der Auwera 1985).

There are some more criteria cited in Van der Auwera (1985) which are relevant to the current discussion.

It is noted that *that*, unlike wh-relativizers, does not occur with reflexives.

- (11) (a) I heard it from the lady who herself was present
(b) *I heard it from the lady that herself was present

(cf. Van der Auwera 1985:156, ex.26)

The ungrammatical (11b) may be accounted for by the fact that the reflexive cannot immediately follow *that*. For example (11c) where the reflexive is far from *that* is fine.

- (c) This is the man that has written the book himself

It may also be that the reflexive in (11a) patterns better with [+human] *who* than with [-human] *that*.

The other argument Van der Auwera cites to differentiate between *that* and *wh*-forms is related to cleft prepositional phrases. It is possible to find *that* but not *wh*-forms in cleft prepositional phrases, as in (12a) and (12b), respectively.

- (12) (a) It's with John that I was sitting with
 (b) *It's with John who(m) I was sitting with

The argument here is that if *that* is a relative pronoun (12a) should be ungrammatical as (12b). This argument however is not right since *whom* is different from *that* in the sense that it cannot incorporate the meaning of the preposition. There are other factors that contribute to the ungrammatical (12b) including the repetition of the preposition and the type of the antecedent (See Van der Auwera 1985:168).

3.2.1.1.1 Applying Radford's criteria to SA

As mentioned in the previous section, Radford's criteria are mainly designed for English and therefore it may not be applicable to other languages. However, I will show that most of Radford's criteria do not raise any problems for treating *lladhii* in SA a complementizer rather than a relative pronoun.

The fact that *lladhii* cannot function as an object of a preposition is shown (13b):

- (13) (a) haadha r- rajul-u lladhii takadath-tu ma9a-hu
 this.3ms the-man-Nom Rel 3ms talked-I with-3ms
 "This is the man that I talked to"

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- (b) *haadha r-rajul-u ma9a lladhii taḥadath-tu
this the-man-Nom with Rel.3ms talked-I

In the ungrammatical example of (13b), *lladhii* behaves just like the complementizer *that* in English in the sense that neither can occur as a complement of a preposition. This may indicate that *lladhii* is a complementizer. Recall that the equivalent of (13b) poses no problem in English because, as we have seen, relative pronouns in English can be preceded by a preposition. If (13b) is not possible then the following example, which is grammatical, is mysterious:

- (14) saafar-tu ma9a lladhii maata ab-u-hu
traveled I with who died 3ms father Nom 3ms
“I traveled with the one (male) whose father died”

The example in (14) illustrates a headless relative. It will be shown in Chapter Six that *lladhii* in (14) is not in fact the complement of the preposition. The complement of the preposition is a null DP that has the same features associated with the complementizer. This briefly explains why (14) is grammatical.

As for the genitive Case, the relativizer *lladhii* does not have a genitive form. The fact that *lladhii* does not have a genitive form is due to independent differences between SA and English⁴. The following examples illustrate:

- (15) (a) qaabal-tu l-walad-a lladhii maatat ?umm-u-hu
met I the-boy Acc that died f mother Nom 3ms
“I met the boy whose mother died”
(b) *qaabal-tu l-walad-a ?umm-u lladhii maatat

The relativizer *lladhii* cannot occur in the genitive as in (15b). This supports the view that SA is different from English and that *lladhii* might be a complementizer. But the

⁴ I am grateful to Pam for explaining this difference to me.

following example, in which the relativizer occurs in what looks like a genitive construction, seems to pose a problem for the argument raised here.

- (16) zurt-u bayt-a lladhii shatama hind-an
 visited I house Acc that insulted hind Acc
 “I visited the house of the one (male) who insulted Hind”

The NP *bayt* “house” is not the “head” of the relative clause since *lladhii* cannot have an indefinite NP in its specifier position. The “head” must be a null DP whose features are identical to the features of *lladhii*. We will deal with this type of relatives in Chapter Six.

Just like the complementizer *that* in English, the SA *lladhii* is not marked for animacy (17a-b). However, unlike English *that*, it is marked for gender (18a-b) and number (19). It can also be marked for Case (19b).

- (17) (a) hadha huwa r-rajul-u lladhii ḍaraba badr-an
 this.3ms he the-man Nom that 3ms hit 3ms badar Acc
 “This is the man who hit Badar”
 (b) hadha huwa l-bayt-u lladhii shtraa-hu badr-un
 this.3ms he the-house-Nom that 3ms bought-it badar-Nom
- (18) (a) hadhihi hiyya l-fataat-u llatii ahaanat badr-an
 this.3fs she the-girl-Nom that 3fs insulted.3fs badar-Acc
 “This is the girl who insulted Badar”
 (b) hadhihii hiyya s-sayyaarat-u llatii shtraa-haa badr-un
 this.3fs she the-car-Nom that 3fs bought-it badar-Nom
 “This is the car that Badar bought”
- (19) (a) raʔay-tu r-rijaal-a lladhiina zaar-uu miṣr-a
 saw-I the men-Acc that.3mpl visited.3mpl Egypt Acc
 “I saw the men who visited Egypt”

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- (b) raʔay-tu r-rajulayni lladhayni zaaraa miṣr-a
 saw-I the-men Acc dual that Acc dual visited dual m Egypt-Acc
 “I saw the two men who visited Egypt”

The fact that SA relative marker is marked [\pm human] suggests that it is a complementizer. But we have to acknowledge the fact that it is also marked for gender and number. This indicates that the relative marker is not a complementizer. However, the fact that it does not have the Case of the trace provides evidence that it is a complementizer.

As for finiteness/non-finiteness, the relativizer *lladhii* can only be followed by a finite clause as shown in (17-19) above. A non-finite clause is not possible, as in (20).

- (20) * hadha huwa r-rajul-u lladhii ʔan yaḍriba badr-an
 this 3ms is 3ms the-man Nom that 3ms to hit badar Acc

As for the relativization of the direct object, a gap can freely alternate with a resumptive pronoun. The resumptive and the gap strategies are illustrated in (21a) and (21b), respectively.

- (21) (a) smi9-tu l-ʔughnayt-a llatii ʔuhibu-haa
 heard I the-song-Acc that like 1sg it
 “I heard the song that I like”
 (b) smi9-tu l-ʔughnayt-a llatii ʔuhibu
 heard I the-song-Acc that like 1sg
 “I heard the song that I like”

Both (21a) and (21b) are derived by movement and that both of them contain a complementizer. The only difference is that (21a) has a resumptive pronoun in the extraction site whereas (21b) contains a gap. Contrary to the assumption made in Shlonsky (1992) that relative clauses involving resumptive pronouns are not derived by movement, I assume that both (21a) and (21b) involve movement and that the

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resumptive pronoun in (21a) is a spelled-out trace (See Chapter Four, Sections (4.2) and (4.4)).

The final argument is concerned with both direct and indirect (embedded) questions. Arabic has *wh*-words (e.g. *?iyy* “which”; *man* “who”; *maa* “what”) which are morphologically distinct from *lladhii*. In English, relative pronouns and interrogative pronouns are homophonous. Thus while (22a) is fine, (22b) must be excluded.

- (22) (a) *man shatama badr-an?*
 who insulted 3ms badar-Acc
 “Who insulted Badar?”
 (b) **lladhii shtama badr-an?*
 (intended to be as (22a))

Embedded questions, too, cannot be introduced by *lladhii*⁵ :

- (23) (a) *s?ala-ni man dhhaba ma9a zayd-in ?ila s-suuq-i*
 asked 3ms me who went 3ms with Zayd-Gen to the-market-Gen
 “He asked me who went to the market with Zayd”
 (b) **s?ala-ni lladhii dhhaba ma9a zayd-in ?ila s-suuq-i*

The discussion given above can be summarized in the following table.

Table1: differences and similarities between *that*, *lladhii* and *Wh* pronouns

	Prep. comp.	Genitive	Animacy	Φ-features	Finiteness	Gap	Resumptive	Case
<i>That</i>	No	No	No	No	Yes	Yes	Marginal	No
<i>lladhii</i>	No	No	No	Yes	Yes	Yes	Yes	No
+ <i>wh</i>	Yes	Yes	Yes	Yes	Yes	Yes	Marginal	yes

⁵ But it is permissible to have an overt complementizer in embedded questions. Compare (i) and (23)above

(i) *s?alani man(i) lladhii dhhaba ma9a zayd-in ?ila s-suuq-i*

3.2.1.2 Rizzi's (1990) approach to Complementizers

Rizzi (1990:65-71) proposes a classification of the complementizer system based on the features $[\pm \text{wh}]$ and $[\pm \text{predicative}]$. The feature $[+ \text{predicative}]$ characterizes relative clauses. Interrogative and declarative constructions do not have the feature $[+ \text{predicative}]$. We can say that $[\pm \text{predicative}]$ is a semantic feature. The following examples are from English. The symbol $[\emptyset]$ indicates a null complementizer as in (24a,b); where the complementizer is overt, as in (24c,d), $[\emptyset]$ cannot be used.

- (24) (a) $[+ \text{wh} - \text{pred}] \rightarrow \emptyset$ I wonder $[_{CP} \text{ what } [_{C'} [C^0 \emptyset] [_{IP} \text{ she said } t]]]]$
 (b) $[+ \text{wh} + \text{pred}] \rightarrow \emptyset$ the book $[_{CP} \text{ which}_i [_{C'} [C^0 \emptyset] [_{IP} \text{ you bought } t_i]]]]$
 (c) $[- \text{wh} + \text{pred}] \rightarrow \text{that}$ the thing $[_{CP} \text{ Op}_i [_{C'} [C^0 \text{ that}] [_{IP} \text{ you said } t_i]]]]$
 (d) $[- \text{wh} - \text{pred}] \rightarrow \text{that}$ I know $[_{CP} [_{C'} [C^0 \text{ that}] [_{IP} \text{ you said it}]]]]$

Since the complementizer *that* is intrinsically specified as $[- \text{wh}]$, it appears in declarative complement clauses where SpecCP is empty (24d). It also appears in predicative CPs whose Spec contains a null operator (24c). This is of course if we adopt the operator movement analysis. Modern English does not allow the sequence $*\langle \text{wh-that} \rangle$ because the feature $[+ \text{wh}]$ cannot occupy the Spec of the $[- \text{wh}] C^0$ *that*. This of course has to do with the Doubly Filled Comp Filter (DFCF) which states that SpecCP and C^0 cannot be both lexically filled at the same time (Chomsky 1977)⁶.

Returning to SA, we can identify two types of complementizer: the declarative or factive complementizer and the relative one, which we have already seen. The factive complementizer includes *?anna/?inna* and *?an*. Both *?anna* and *?an* occur in complement clauses. The only difference is that *?anna* must be followed by a noun as in (25a) or a pronoun as in (25b) both of which characterize SV order. Note that *?anna* assigns Accusative to the subject NP. The complementizer *?an* is a mood assigner therefore it can only be followed by a VS order as in (25c).

⁶ See more discussion on (DFCF) in Chapter Two, Subsection (2.1.1.4).

- (25) (a) ?axbara-ni badr-un ?anna hind-an tazawwajat zayd-an
told-me badar-Nom that hind-Acc married 3fs zayd-Acc
“Badar told me that Hind married Zayd”
- (b) ?axbara-ni badr-un ?anna-haa tazawwajat zayd-an
told-me badar-Nom that-3fs married 3fs zayd-Acc
“Badar told me that she married Zayd”
- (c) yuridu badr-un ?an t-tazwwaj-a hind-un zayd-an
3ms wants badar-Nom that 3fs marry-Subj hind-Nom zayd-Acc
“Badar wants Hind to marry Zayd”

Following Rizzi’s (1990) classification, we can say that the declarative complementizer in SA is assigned the feature [-wh –pred]. Furthermore, the declarative complementizer carries the feature [+Case]⁷. In (25a), for instance, the complementizer *?anna* assigns Accusative to the following DP and in (25c) the complementizer *?an* is followed by a verb in the subjunctive mood.

The word order in embedded clauses introduced by *?anna* is obligatorily SVO unlike the word order in main clauses which is VSO. The reason is that the complementizer *?anna* must discharge the Accusative Case to the following NP or to the following pronominal as in (25a) and (25b), respectively. For this reason, VSO order is excluded in embedded clauses introduced by *?anna*. Thus, the example in (25a) would be ungrammatical if the word order is VSO, as in (26).

- (26) * ?axbara-ni badr-un ?anna tazawwajat hind-un zayd-an.
told-me badar-Nom that married 3fs hind-Nom zayd-Acc

(25c), too, would be ungrammatical if the complementizer *?an* is immediately followed by the subject, as in (27) below.

⁷ The feature [+Case] is only carried by *?anna*. The Complementizer *?an* carries the feature [+Mood].

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- (27) * yuriidu badr-un ?an hind-un t-tazwwaj-u zayd-an
 3ms-wants badar-Nom that hind-Nom 3fs marries-Indic zayd-Acc

As for relative clauses, we can identify two types of complementizer. The first type, *lladhii*, is used in definite headed relatives as we have seen. It can also be used in headless relatives as will be shown in Chapter Six. The second type, namely *man* (for humans) *maa* (for non-humans), is only used in headless relatives (28a & 29a). Moreover, *Man/ Maa*, unlike *lladhii*, can function as wh-words and therefore can be used to form direct questions (28b & 29b).

- (28) (a) ?uhib-u man yuhib-u zayd-un
 like 1s Indic who like 3ms Indic zayd Nom
 “I like whoever Zayd likes”
- (b) man qaala ?inna hind-an laa tuhibb-u zayd-an?
 who said.3ms that hind-Acc not like-Indic.3fs zayd-Acc
 “Who said that Hind does not like Zayd?”
- (29) (a) smi9-tu maa qaala zayd-un
 heard-I what said.3ms zayd-Nom
 “I heard what Zayd said”
- (b) maa fa9ala zayd-un bi n-nquud-i ?
 what did.3ms zayd-Nom with the-money
 “What did Zayd do with the money?”

SA does not have the equivalent of the English example in (29c) below where the complementizer *maa* is overt as shown by the ill-formedness of (29e)

- (c) I heard every thing that he said

- (d) smi9-tu kull-a shay?-in qaala-hu
 heard-I all-Acc thing-Gen said 3ms-it
 “I heard every thing he said”
- (e) *smi9-tu kull-a shay?-in maa qaala-hu
 heard-I all-Acc thing-Gen that said.3ms-it

The same applies to the complementizer *man*.

- (f) qaabal-tu kulla-waahid-in haḍara l-?ijtimaa9-a
 met-I all-Acc one-Gen attended.3ms the meeting-Acc
 “I met everyone that attended the meeting”
- (g) *qaabal-tu kull-a waahid-in man haḍara l-?ijtimaa9-a

The reason why *man/maa* should be excluded in relative clauses such as (29e) and (29g) is that these relatives are not headless. A headed relative clause cannot have *man/maa* in C⁰ position.

The discussion above leads us to classify the complementizer in terms of features into three types: the declarative complementizer *?anna* and *?an* carries the feature [-wh, –pred]; the definite relative complementizer, *lladhii*, carries the feature [-wh, +pred]; the free relative complementizer, *man/ maa*, carries the feature [+wh, +pred]. The feature specification correctly predicts that the relative complementizer, *lladhii*, and the declarative one are in complementary distribution.

Thus the relative complementizer cannot introduce a sentential complement clause nor can the declarative complementizer introduce a relative clause, as the ungrammatical (30a) and (30b) illustrate, respectively.

- (30) (a) *?a9rif-u lladhii hind-un shatamat zayd-an
 know-Indic.1sg that hind-Nom insulted.3fs zayd-Acc
 intended (I know that Hind insulted Zayd)⁸

⁸ However, structures such as the following are well-formed:

Chapter Three: The Categorical Status of *lladhii*

- (b) *raʔay-tu r-rajul-a ʔanna ɖaraba zayd-an
 saw I the-man-Acc that hit 3ms zayd-Acc
 (Intended: (I saw the man who hit Zayd))

We summarize the discussion above in the following table:

Table 2: Feature Specification of Relative and Factive Complementizers

Complementizer	Feature specification	Type of clause in which it occurs
<i>lladhii</i>	[-wh +pred]	headed & headless relatives
<i>man/maa</i>	[+wh +pred]	free relative and interrogative
<i>ʔinna/ʔanna</i>	[-wh -pred]	root/complement cls with SV order
<i>ʔan</i>	[-wh -pred]	complement cls with VS order

-
- (i) ʔa9rifu llatii shatamat zayd-an
 know I that (f) insulted fs zayd-Acc
 “I know (the female)who insulted Zayd”

The relative clause in (i) is the complement of the matrix verb. The reason why (30a) is excluded is that the complement clause does not involve extraction and consequently cannot be introduced by *lladhii*. This also applies to clauses introduced by *man* and *maa* as shown in (ii) and (iii), respectively.

- (ii) (a) ʔa9rifu man saa9ada zayd-un
 know I that helped.3ms zayd-Nom
 “I know who Zayd helped”
 (b) *ʔa9rifu man saa9ada zayd-un l-walad-a
 know I that helped.3ms zayd-Nom the-boy-Acc
 *I know who Zayd helped the boy
- (iii) (a) ʔuhibu maa ʔakala zayd-un
 like I that ate.3ms zayd-Nom
 “I like what Zayd ate/has eaten”
 (b) *ʔuhibu maa ʔakala zayd-un t-tufaahat-a
 like I that ate.3ms zayd-Nom the-apple-Acc
 *I like what Zayd ate/has eaten he apple

3.2.1.3 Roberts' (1992) approach to complementizers⁹

Roberts (1992) looks at the complementizer category in a number of languages and identifies three types: phonologically null, affixal and morphological complementizers. Null complementizers can be divided into empty C^0 , empty C^0 [+features] and empty C^0 [-features].

3.2.1.3.1 Phonologically null C^0

It is not hard to find phonologically empty complementizers in both main and embedded clauses in SA. According to the standard analysis of English *wh*-questions, the *wh*-phrase moves to SpecCP. The head of CP is assumed to be empty. The example in (29b) above, repeated below for convenience, and (31) are assigned the structure given in (32a) and (32b), respectively. The only difference is that the trace in (29b) is in the object position whereas in (31) the trace is in the subject position.

(29) (b) *maa fa9ala zayd-un bi n-nuquud-i?*
what did.3ms zayd-Nom with the-money
“What did Zayd do with the money?”

(31) *man kataba hadha l-jwaab-a?*
who wrote 3ms this the-letter-Acc
“Who wrote this letter?”

(32) (a) [_{CP} *maa*_i [_{C'} [_{C⁰} \emptyset] [_{IP} *fa9ala zayd t_i bi n-nuquud*]]]]
(b) [_{CP} *man*_i [_{C'} [_{C⁰} \emptyset] [_{IP} *t_i kataba hadha l-jawaab*]]]]

⁹ I could not get access to Roberts' original paper. The discussion in this section is based on Al-Saghayar's (1997) work where Robert's paper is cited.

Phonologically null complementizers in embedded clauses can be found both in embedded complement clauses and in indefinite headed relatives, as in (33a) and (33b), respectively.

- (33) (a) *ħasib-tu* (?anna) *hind-an* *laa* *ta9rif-u* *zayd-an*
 thought-I (that) hind-Acc Neg know-Indic.3fs zayd-Acc
 “I thought (that) Hind does not know Zayd”
- (b) *rajul-un* *řarafa* *kull-a* *maali-hi*
 man-Nom spent.3ms all-Acc money-his
 “A man who spent all his money”

(33a) is different from (33b) in that the absence of complementizer in the former is optional whereas in the latter its absence is obligatory. This is intended to prove that the complementizer *?anna* is like English *that* in the sense that, unlike *lladhii*, it can be optional¹⁰. The subject of the embedded clause in (33a) is assigned Accusative Case by the matrix verb when the complementizer *?anna* is not overt in an Exceptional Case Marking (ECM) context. Thus the subject of the embedded clause in (33a) is assigned Case by the matrix verb *ħasiba* “think” (Fassi-Fehri 1993:32). It seems that SA is different from English in the sense that ECM in the latter is assigned to the subject of an infinitive clause (cf. I believe **he / him* to be on holiday)¹¹.

3.2.1.3.2 Null C⁰ with [+feature]

A null complementizer [+feature] can be found in *wh*-interrogatives whether main or embedded, as illustrated in the following examples.

- (34) (a) *madħaa* *?axbara* *badr-un* *zayd-an*
 what told.3ms badar-Nom zayd-Acc
 “What did Badar tell Zayd?”

¹⁰ The complementizer in (33a) is optionally deleted. See Chapter Five, Section (5.3.1) for discussion.

¹¹ I thank Pam (p.c) for clarifying this difference to me.

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- (b) ?axbara-nii badr-un limaadha saafara zayd-un
told 3ms-me badar-Nom why traveled.3ms zayd-Nom
“Badar told me why Zayd traveled”

The null complementizer in the main interrogative clause (34a) and in the embedded one (34b) is associated with the feature [+wh]. The example in (31) above is similar to the examples in (34) in the sense that the null C^0 in both examples carries [+wh] feature.

The complementizer ?inna introduces SVO root clauses as in (35c). When it appears in root clauses, it has the force of a strong affirmation or assertion (Shlonsky 1996:336) Recall that in our treatment of declarative complementizers, we concluded that the complementizer ?anna has the feature [-wh]. This feature is responsible for the impossibility of wh-movement in (35d) despite the fact that the Specifier position is empty.

- (35) (a) badr-un tazawwaja hind-an
badar-Nom married.3ms hind-Acc
“Badar married Hind”
- (b) man tazwwaja hind-an?
who married.3ms hind-Acc
“Who married Hind?”
- (c) ?inna badr-an tazwwaja hind-an
that badar-Acc married.3ms hind-Acc
“Badar married Hind”
- (d) *man ?inna tazawwaja hind-an?

The ungrammaticality of (35d) can be attributed to the feature clash between the complementizer and the wh-phrase in its Spec. Alternatively, we may assume that it

violates the DFCF according to which either the SpecCP or C⁰ must be lexically empty (Chomsky and Lasnik 1977). It is interesting that the Doubly Filled Comp Filter does not arise when the complementizer *lladhii* occupies the C⁰ position, as in (36a) below.

- (36) man *lladhii* taẓwwaja hind-an?
 who that married.3ms hind-Acc
 “Who married Hind?”

The grammaticality of (36) does not pose any problem as far as the head-raising analysis is concerned since both C⁰ and its Spec can be lexically filled. The structure in (36) provides strong evidence that *lladhii* is a complementizer. It is not difficult to find similar facts in non-standard dialects. Farghal (1986:83) gives the following examples from the Jordanian and Lebanese varieties of Arabic.

- (37) (a) mīn-illī ḍarabu-h zēd
 who-who beat-him zayd
 “Who is it whom Zayd beat?”
- (b) min yalli ḍarabu-h zayd?
 who who beat-him zayd
 “Who is it whom Zayd beat?” (Farghal 1986:83, Exs 57&58)

Shlonsky (2002:143) also shows that *?illi* in Palestinian Arabic is a C⁰ element. That is, it heads CP in relative clauses. He also makes use of the feature system developed by Rizzi to classify complementizers in Palestinian Arabic. Thus *?innu* “that” is a [-PREDICATIONAL] C⁰ while *?illi* is [+PREDICATIONAL]. The classification of complementizers in terms of feature system is also correct for SA, as we have already demonstrated in (3.1.2) above.

One possible analysis to account for (36) is to assume that it involves some deletion rule. We might assume, following Farghal (1986), that both the copula and the

antecedent have undergone deletion in (36). In other words, the structure in (36) is derived from a relative clause whose head has been deleted. Thus (36) is assumed to be derived from (38).

- (38) man (yakun-u sh-shaxs-u) lladhii tazawwaja hind-an
who be-Indic.3ms the-person-Nom that.3ms married.3ms hind-Acc
“Who is the person who married Hind?”

3.2.1.3.3 Null C^0 with [-feature]

SA has a type of clause called by the traditional Arab grammarians as *jumlat l-kaal* “circumstantial clause”. The complementizer which introduces this type of clause is not inflected for number or gender features. It does not have the $[\pm wh]$ feature either. The complementizer can be overt or null as in the following examples.

- (39) (a) ja?a-nii zayd-un wa huwa yabtasim-u
came 3ms-me zayd-Nom while he 3ms-smile-Indic
“Zayd came to me smiling”
(b) ja?a-nii zayd-un yabtasim-u
came 3ms-me zayd-Nom 3ms-smile-Indic
“Zayd came to me smiling”

(39) has an adverbial complementizer *wa* (because it introduces an adverbial clause) that can be overt (39a) or null (39b). This complementizer does not have the features associated with the relative one. It is therefore assumed to be [-feature].

Having outlined the properties of the complementizer in SA, we are now in a position to discuss the structure of relative clauses in SA. This is the main concern of the following chapters.

Conclusion

We have tried in this chapter to determine the syntactic status of the relative marker *lladhii* in SA. Based on the theoretical assumptions made in the literature, we have proposed that *lladhii* is best analysed as a relative complementizer rather than a relative pronoun. We have shown that the features associated with this complementizer are [-wh] and [+pred] on the basis of Rizzi's classification of complementizers. We have also seen that the complementizers *man* and *maa* have the features [+wh] and [+pred]. *?anna* and *?an* introduce sentential complement clauses and are classified as [-wh] and [-pred]. We have also shown on the basis of Robert's (1992) work that complementizers in Arabic can be phonologically null, null with [+feature] or null with [-feature]. The consequence of this classification is that only the complementizers bearing the feature [+pred] can head a relative CP and that only the complementizers bearing the feature [+wh] and wh-interrogative words can be said to be homophonous.

Chapter Four

Relativization in Matrix Clauses

4.0 Introduction

The main purpose of this chapter is to discuss the relativization of different arguments in main clauses. Section (4.1) will discuss the relativization of subject positions in main clauses. It will be shown that the verb of the relative clause is associated with rich morphology. In other words, the verb agrees with the extracted subject in $[\Phi]$ -features—number, person and gender. This amounts to the fact that SA is different from languages such as Berber and Celtic with respect to verb-subject agreement when the subject is extracted (See subsection 4.1.1.4). It will also be shown that the trace left behind is properly governed by the relative complementizer which agrees with the antecedent in gender and number. Thus there is no ECP violation. That is, the trace of the relativized subject is properly governed by the complementizer. These relatives, as all relatives with a definite antecedent, have an overt C^0 and involve DP movement headed by the determiner *l*. We argue that the moved DP lands in SpecCP. It is also argued that the highest D is empty and that the lower D does not necessarily have to move to the higher D position (See 4.1.1).

Section (4.2) focuses on object relatives. In these relatives a gap and a resumptive pronoun may alternate. It will be shown that the resumptive pronoun in the object position can be regarded as a trace. Section (4.3) will concentrate on relativization from the complement of a preposition. The defining properties of these relatives is that they do not allow preposition stranding or pied-piping. Section (4.4) discusses resumption in object positions in more detail. I will discuss two approaches with

respect to resumptive pronouns: the non-transformational approach according to which movement is not involved (McCloskey 1979/1990, Shlonsky 1992); and the transformational approach according to which movement is involved in the derivation of relative constructions and consequently resumptive pronouns are bound traces (Zaenen et al (1981); Sells (1984/1987) and De Vries 2002)). Section (4.5) focuses on cliticization. We discuss two approaches found in the literature to account for cliticization in Semitic: the Incorporation Hypothesis (Fassi-Fehri 1993) and the Base-generation Hypothesis (Roberts & Shlonsky 1996). Section (4.6) discusses Ouhalla's (2004) analysis of relative clauses in Semitic. It will be shown that the analysis Ouhalla proposes has serious weaknesses and fails to account for a number of facts found in the syntax of relative clauses in Arabic.

4.1 Subject Relativization

4.1.1 Definite subject relatives

Keenan and Comrie (1977) propose the Noun Phrase Accessibility Hypothesis (NPAH) which stipulates that there is a universal set of grammatical categories out of which relativization can take place. They suggest that the NPAH takes the following order:

- (1) SUBJECT > DIRECT OBJECT > INDIRECT OBJECT > OBLIQUE >
GENITIVE > OBJECT OF COMPARISON
(>= more accessible than)

What the NPAH states is that the higher levels in the hierarchy are more accessible to relativization than lower levels. Thus, it is easier to relativize the subject than the direct object which, in turn, is easier to relativize than the indirect object and so on. The lower level, the object of a comparative, is the most difficult level to relativize in all natural languages.

In main clauses, the relativization position of the subject is left empty¹. If the relativization position is the definite direct object, a gap or a resumptive pronoun may be used. For all more embedded positions on the hierarchy, the resumptive pronoun must be used. Relativization in SA seems to follow the NPAH as the following examples show:

Subject position

- (2) (a) raʔay-tu l-fataat-a llatii saafarat ma9a zayd-in
 saw I the-girl-Acc that 3fs traveled 3fs with zayd-Gen
 “I saw the girl who traveled with Zayd”
- (b) *raʔay-tu l-fataat-a llatii saafarat hiyya ma9a zayd-in
 saw I the-girl-Acc that 3fs traveled 3fs she with zayd-Gen

Direct object position

- (3) (a) maatat l-fataat-u llatii raʔay-tu
 died 3fs the-girl-Nom that 3fs saw-I
 “The girl who I saw died”
- (b) maatat l-fataat-u llatii raʔay-tu-haa
 died 3fs the-girl-Nom that saw-I her
 “The girl who I saw (her) died”

Both a gap and a resumptive pronoun are possible in definite direct object positions as shown by the grammaticality of (3a) and (3b), respectively.

Prepositional object position

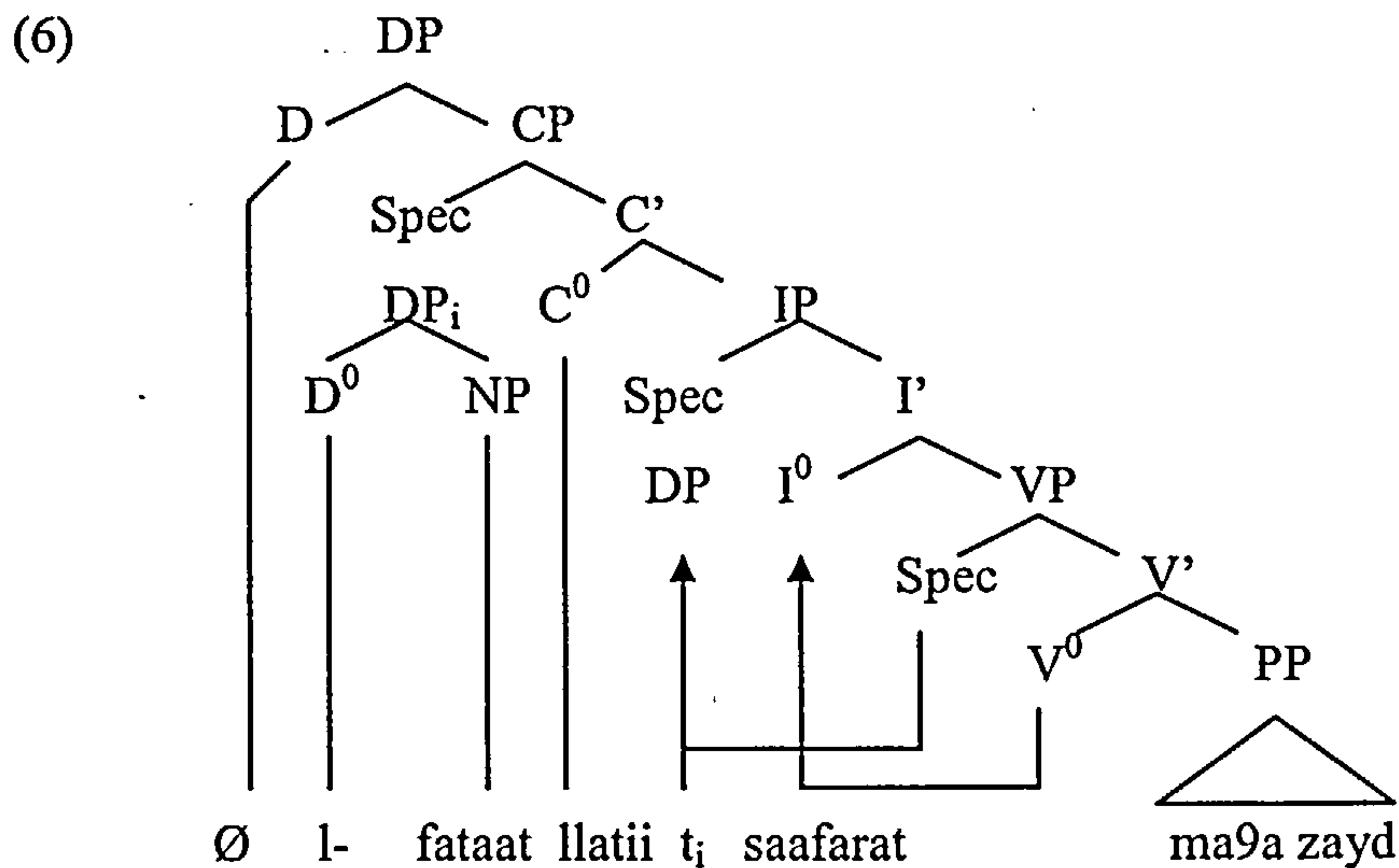
- (4) (a) najaha t-talabat-u lladhiina ʔadrus-u ma9a-hum
 succeeded 3ms the-students that 3mp study 1sg-Indic with-them 3mp
 “The students who I study with succeeded”
- (b) *najaha t-talabat-u; lladhiina ʔadrus-u ma9a [e_i]
 succeeded 3ms the-students-Nom that 3mp study 1sg-Indic with

¹ Evidence from some languages shows that this assumption is false. See (4.1.1.3).

Possessive NP position

- (5) (a) zur-tu r-rajul-a lladhii suriqat sayyarat-u-hu
 visited I the-man-Acc that stole PASS 3fs car-Nom-3ms
 "I visited the man whose car was stolen"
- (b) *zur-tu r-rajul-a_i lladhii suriqat sayyarat-u [e_i]
 visited I the-man-Acc that stole PASS 3fs car-Nom

Within the traditional analysis of relative clauses, subject relatives are derived by operator movement to SpecCP. This approach has been made in Chomsky (1981/1982), Pesetsky (1982), Rizzi (1990), among many others. The head noun is base-generated outside the relative clause. Kayne (1994) proposes that what moves to SpecCP is not an operator but a lexical NP or DP that originates in the argument position of the relative clause. We are going to follow Kayne in our analysis of relativization in SA. We start first with subject relatives exemplified in (2a) above. Following the head-raising analysis, I propose that a restrictive relative clause in SA is in the complement position of the determiner and that the antecedent originates in the embedded IP (Vergnaud 1974) then moves to SpecCP (Kayne 1994). According to this analysis, the relative clause in (2a) will have the representation given in (6).



Following Aoun et al (1994), Benmamoun (1992) and Fassi-Fehri (1993), I will assume that the SVO order in Arabic is derived by moving the subject which originates in SpecVP to SpecIP. I therefore propose that the antecedent of the relative clause moves from SpecIP to SpecCP. Given that *lladhii* (feminine *llatii*) is not a relative determiner, I propose, following Shlonsky (1997) and Al-Sayed (1998), that *lladhii* is a complementizer base-generated in the C⁰ position. Furthermore, the external D is empty. The determiner occupies the D position of the lower DP. I also propose, contra Kayne (1994), that XP movement to the specifier of the internal DP is not necessary. Thus while English allows NP movement to SpecXP, SA does not. This difference is attributed to the status of the relativizer in both languages. In English the relativizer is analysed as a relative determiner and thus can take an NP complement in deep structure, as proposed in Kayne². For example, the English relative clause in (7a) is derived from its deep structure in (7b).

(7) (a) The man who ruled the country.

(b) [DP [D the]_{CP} [C'⁰] [_{IP} [DP [D who]_{NP} man] [_{VP} [V' ruled the country]]]]]]

(7a) is derived by moving the DP in the subject position to SpecCP (7c) followed by NP movement to SpecDP (7d).

(c) [DP [D the]_{CP} [_{DP} who man]_i [C'⁰] [_{IP} t_i]]]]

(d) [DP [D the]_{CP} [_{DP} man]_i [_{DP} [D who]_{NP} t_i]]_k [C'⁰] [_{IP} t_k]]]]]]

The analysis that definite subject relatives involve DP movement from the embedded IP in SA can also carry over to other relativization positions such as direct object and prepositional object NP, as will be shown in (4.2) and (4.3), respectively.

One of the problems that subject relatives pose is how to treat the extraction site. That is, how to explain the grammatical example in (8).

² Following Kayne (1994), Bianchi (1999/2000) also analyses wh-words in English as determiners. Aoun and Li (2003) reject this analysis. See Chapter Two (2.1.3.2.3.2.1.5).

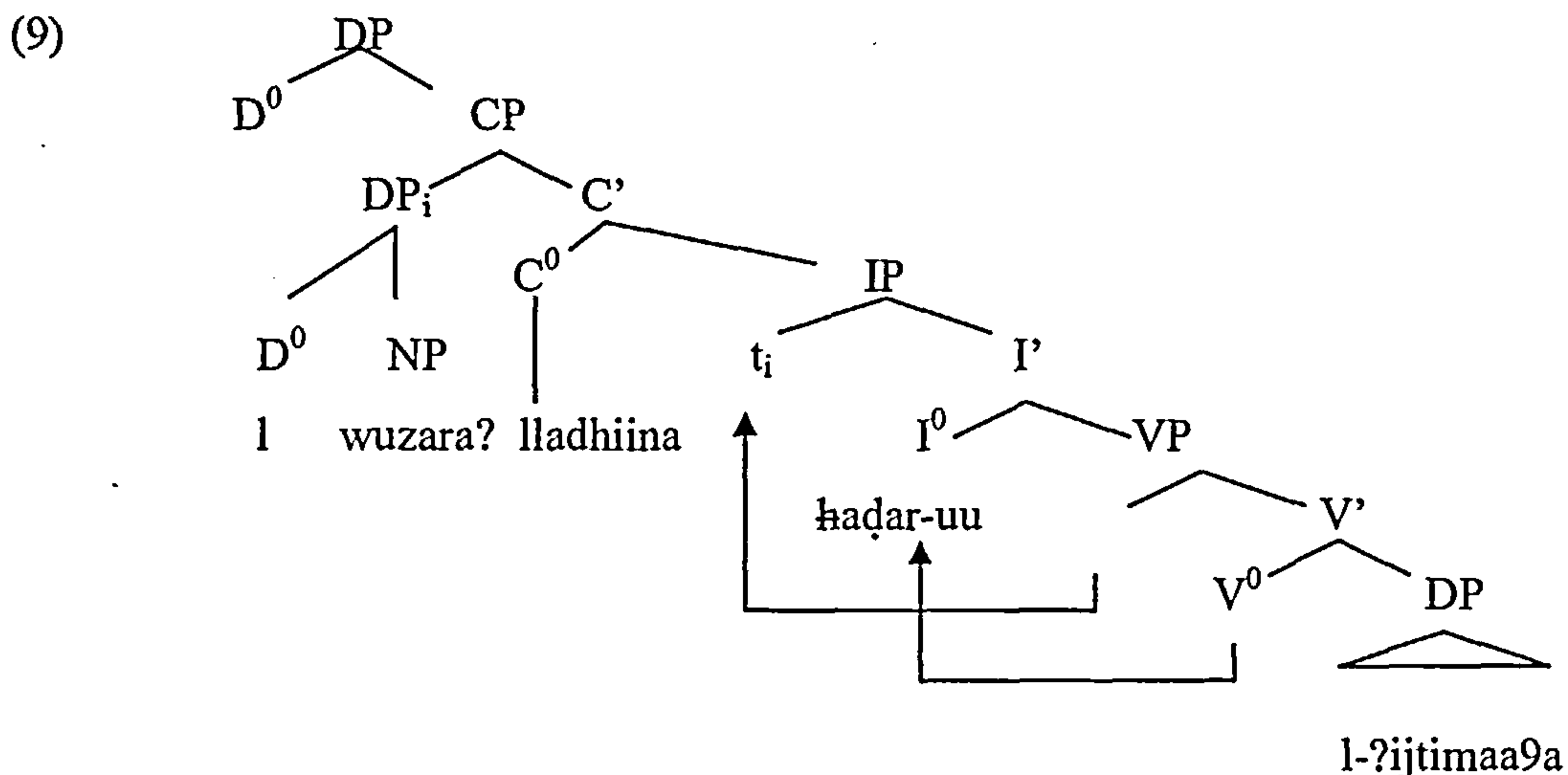
- (8) qaabal-tu l-wuzra?-a lladhiina ḥadar-uu l-?ijtima9-a
 met I the-ministers-Acc that 3mp attended 3mp the meeting-Acc
 “I met the ministers who attended the meeting”

I will argue in this section that the relativized subject position can be filled with a gap or with a null resumptive pronoun. The assumption that the subject position may be filled with a null resumptive pronoun is based on the rich verb morphology. We start first with the gap strategy.

4.1.1.1 The gap strategy

It is pointed out in Chapter One that the SVO order in SA shows full subject-verb agreement whereas the VSO order shows only agreement in gender. It is interesting that number agreement also appears in subject relativization exactly as in SVO clauses, as in (8), where the plural agreement appears on the verb.

The example in (8) will be assigned the structure in (9) which is similar to the structure given in (6) above.



The verb in (8) carries number and gender agreement features. One possible explanation is to analyse these features as agreement markers that signal agreement between the head of the relative clause and the verb. Recall that the verb in SA

shows full agreement when the subject moves to a preverbal position (See (1.1.2.2.2) for details).

Given that rich agreement is only possible with preverbal subjects, we propose that the head of the relative clause in (8) is extracted from SpecIP, as shown in (9). Thus these markers are not the result of subject relativization but they are due to the SVO order from which subject relatives are derived.

4.1.1.1.1 The complementizer as a proper governor

At first sight, the structure in (9) looks problematic. The trace in SpecIP must be governed in order to avoid violation of the ECP. The trace in SpecIP seems to pose a problem since the complementizer intervenes between the head (an operator in the traditional analysis) in SpecCP and its trace in SpecIP.

There are two possible solutions to deal with this problem. One solution, following Rizzi (1990), is to assume that the trace in the subject position can be properly governed if there is an agreeing complementizer. Fortunately, SA has this property. Subject relatives in SA provide a body of evidence required by Rizzi's approach. The complementizer *ladhii* agrees both with the antecedent and the verb of the relative clause (See 8 above, for cexample). The trace left behind in SpecIP is thus properly governed by the complementizer.

The second solution is based on the traditional analysis of relative clauses. The operator moves to SpecCP and serves as an antecedent of the trace in the subject position (Chomsky1977). Thus, if we assume that the operator moves to SpecCP in (9), this null operator and the adjacent complementizer, by virtue of coindexation mechanism, will become, in the sense of Pesetsky (1982), one constituent bearing all the features of the operator. According to this analysis, (8) will have the structure in (10).

(10)l-wuzara?-a [CP lladhiina_i [IP t_i haɖar-uu l-?ijtima9-a]]

By virtue of the contraction with operator, the complementizer *lladhii* will be able to govern the trace in the subject position. The operator contraction analysis is not in line with the head-raising analysis since the latter does not involve operator movement to SpecCP.

The crucial point is that the trace of the relativized subject is not problematic with respect to government despite the widespread view that subject extraction is constrained in a way that extraction from any other position is not (Chomsky and Lasnik (1977) and Lasnik and Uriagerika (1988)). The explanation of this idea is that the trace in other relativized argument positions such as the object position and the complement of a preposition is properly governed by the verb and the preposition, respectively.

4.1.1.1.2 The complementizer as a proper governor: A cross-linguistic evidence

The fact that the complementizer serves as a proper governor for the trace in the subject position is also possible in other languages. It has been suggested that the complementizer *that* in English carries *abstract* agreement features and it agrees with its antecedent i.e the Operator in SpecCP (Rizzi 1990). The complementizer *that* is therefore an agreeing complementizer and can properly govern the subject trace. This analysis is a straightforward explanation for the following English example:

(11) (a) The letters that will arrive tomorrow
(b) [NP the letters [CP Op_i [C' [C⁰ that_i] [IP t will arrive tomorrow]]]]

In (11b) the complementizer agrees with the null operator in the specifier position. This agreement turns the complementizer into a proper governor.

Rizzi (1990) argues that his approach can carry over to other languages. We have seen that this is true with respect to SA: the complementizer agrees with the antecedent in the specifier position i.e. the raised DP.

Following Rizzi (1990), Toribio (1992) argues that *que* in Spanish is used in subject relativization. According to Toribio, *que* is an agreeing complementizer because it agrees with the relative head NP and therefore can properly govern the subject trace in the following example:

- (12) (a) El dueño que vende la casa es un viejo avaro
the owner that is selling the house is an old man stingy
“The owner that is selling the house is a stingy old man”

The same analysis can carry over to the French *qui*, which can only be used in subject relativization. For this reason (13b) is ill-formed:

- (13) (a) l’homme qui chante est mon ami
the man who sings is my friend
(b) *l’homme que chante est mon ami

In Irish the complementizer *aL* is used to relativize the subject argument where a resumptive strategy is not allowed whereas *aN* is used to relativize other positions involving resumptive pronouns (McCloskey 1979/1990). The complementizer *aL* may then be taken as an agreeing complementizer that can license the subject trace.

McCloskey (1979:10) proposes that Irish subject and non-subject relatives can be represented in (14a) and (14b). He uses the term *direct* to refer to the former and the term *indirect* to refer to the latter.

- (14) (a) Direct [(Det) Nom [s aL.....s]]
(b) Indirect [(Det) Nom [s aN.....pro.....s]]

Direct relatives involve the use of a gap and are used “when the relativization site is the subject of a clause” (McCloskey 1979:5). Indirect relatives use the resumptive strategy.

(15) (a) an scribhneoir a(L) mholann na mic léinn
the writer PART praise the students
“The students who praise the writer”

(b) an scribhneoir a(N) molann na mic léinn é
the writer PART praise the students him

(McCloskey 1979:6, Exs. 6&5)

West Flemish exhibits the same phenomenon. It differentiates between *da* and *die*.

(16) Den vent da Pol peirst [_{CP} t_i Die [_{IP} t_i gekomen ist]]
the man that Pol thinks DIE come is

“The man that Pol thinks has come” (Roberts 1997:240, Ex.140b)

Just like the Irish *aL*, west Flemish *die* is an agreeing complementizer. The features associated with these complementizers allow subject relativization.

Thus there is cross-linguistic evidence in favour of the claim that a complementizer agrees with the antecedent and hence can govern the trace in the subject position. This is what we find in SA. *Lladhii* is an agreeing complementizer and therefore can govern the trace³. There is no E(mpty) C(ategory) P(rinciple) violation as required.

4.1.1.2 The null resumptive Strategy

Souali (1992), cited in Al-Sayed (1998), argues that subject relatives in SA are not derived by wh-movement. He assumes that these relatives involve a base-generated

³ It should be mentioned that the complementizer *lladhii* agrees with any relativized argument that moves to SpCP. Agreement also holds between the complementizer and object positions in the form of a pronoun but these positions, unlike the subject position, have their own proper governors.

pro in the relativized subject position. According to this analysis resumptive pronouns are obligatory because of the rich agreement morphology these relatives show.

Another argument Souali puts forward is that INFL in SA cannot govern the trace in SpecVP⁴. For this reason a trace is excluded by the ECP. Hence a null resumptive pronoun occupies the extraction site.

However, the base-generation analysis, as Al-Sayed (1998) points out, is problematic. First, the analysis fails to explain how SVO order is derived in SA if we assume that the subject is not generated VP-internally. Second, it is hard to know how the trace of the raised subject can avoid violation of the ECP. Third, Souali's analysis suggests that subject relatives are not possible because the antecedent cannot move from SpecVP to SpecCP.

Despite the fact that many studies reject the idea that subject relativization in main clauses involve a resumptive pronoun, this is not the case in SA. But before discussing the resumptive pronoun possibility in SA, we will try to look at one of the studies that bar the resumptive option in the subject position.

4.1.1.2.1 McCloskey's account on resumptive pronouns in the subject position

Aoun and Li (1989) and McCloskey (1990) have made attempts to bar resumptive pronouns in the subject position. I will outline McCloskey's (1990) proposal which is essentially based on Aoun and Li's (1989) A'-disjointness principle proposed to bar resumptive pronouns in Chinese.

⁴ This might be correct given that Infl in SA cannot protect the subject from receiving Case from an outside governor:

- (i) (a) *ħasib-tu badr-an yuħib-u l-qiraa?at-a*
believed I badar-Acc like 3ms.Ind the-reading-Acc
"I thought Badar likes reading"
(b) **ħasib-tu badr-un yuħib-u l-qiraa?at-a*

The subject of the embedded clause in (i) is governed and E(xceptionally) C(ase) M(arked) by the matrix verb. Fassi-Fehri (1993) assumes that Agr in Arabic, unlike English, is nomina..

McCloskey's study is based on Irish. He proposes that resumptive pronouns must be excluded in the higher subject position and formulates the following requirement:

The Highest Subject Restriction

A pronoun must be A'-free in the least Complete Functional Complex (CFC) containing the pronoun and a subject distinct from the pronoun. (McCloskey 1990:215, 44)

McCloskey uses the term Complete Functional Complex to refer to "the minimal domain containing the pronoun, the governor of the pronoun and the subject" (cf. Chomsky 1986b:169). The following examples from Irish illustrate:

- (17) (a) *an fear a raibh sé breoite
the man Comp_{pro} was he ill
"The man that (he) was ill"
- (b) *na daoine a rabhadar pro breoite
the people Comp_{pro} be-PAST-3PL ill
"The people that (they) were ill" (McCloskey 1990:214, Exs.40a,b)

The examples in (17) are ungrammatical: the phonetically realized resumptive pronoun *sé* in (17a) and the null one in (17b) in the subject position are not A'-free, in violation of the Higher Subject Requirement. Furthermore, the CFC that contains the resumptive pronoun is the matrix IP which also contains the governor of the pronoun (i.e INFL) and a subject distinct from the pronoun. Whether the antecedent is the head NP or a null operator, this antecedent will be in the higher IP.

However, the idea that resumptive pronouns do not exist in the subject position is not exactly correct. We can find resumptive pronouns even in languages that do not use the resumptive strategy to derive their relative clauses. For example, relativization of the subject inside a wh-island or a Complex NP in English requires a resumptive pronoun, not a gap, to occupy that position. As argued in Jaeggli and

Safir (1989), it is not difficult to find structures such as (18) where a resumptive pronoun appears in the subject position:

(18) That is the guy who Mary knows [the woman who *he* married]⁵

There is some evidence in support of the resumptive strategy in SA. One piece of evidence comes from rich verbal morphology. We have already mentioned that preverbal subjects require the verb to carry full agreement⁶. But the verb must also carry full agreement when the postverbal subject is a pronominal (Bahloul & Herbert (1992), Fassi-Fehri (1993), Aoun et al (1994), Roberts & Shlonsky (1996) and Benmamoun (2000)).

(19) (a) naam-uu hum
slept.3mpl they
“They slept”
(b) *naama hum
slept.3ms they

The fact that the verb must have full agreement with a postverbal pronominal subject is taken as evidence that subject relativization uses the resumptive strategy.

Further evidence in support of the resumptive strategy is that subject relativization is not sensitive to islands such as *wh*-islands and the Complex NP, as shown in (20a) and (20b), respectively.

(20) (a) l-fataat-u llatii ?a9rif-u limaadha tadrus-u
the-girl-Nom that know-Indic 1sg why study-Indic 3fs
“The girl that I know why she studies”

⁵ The reason why a resumptive pronoun appears in the subject position in this example is that it involves an island, a complex NP, where *wh*-movement is barred.

⁶ See Chapter One (1.1.2.2.2).

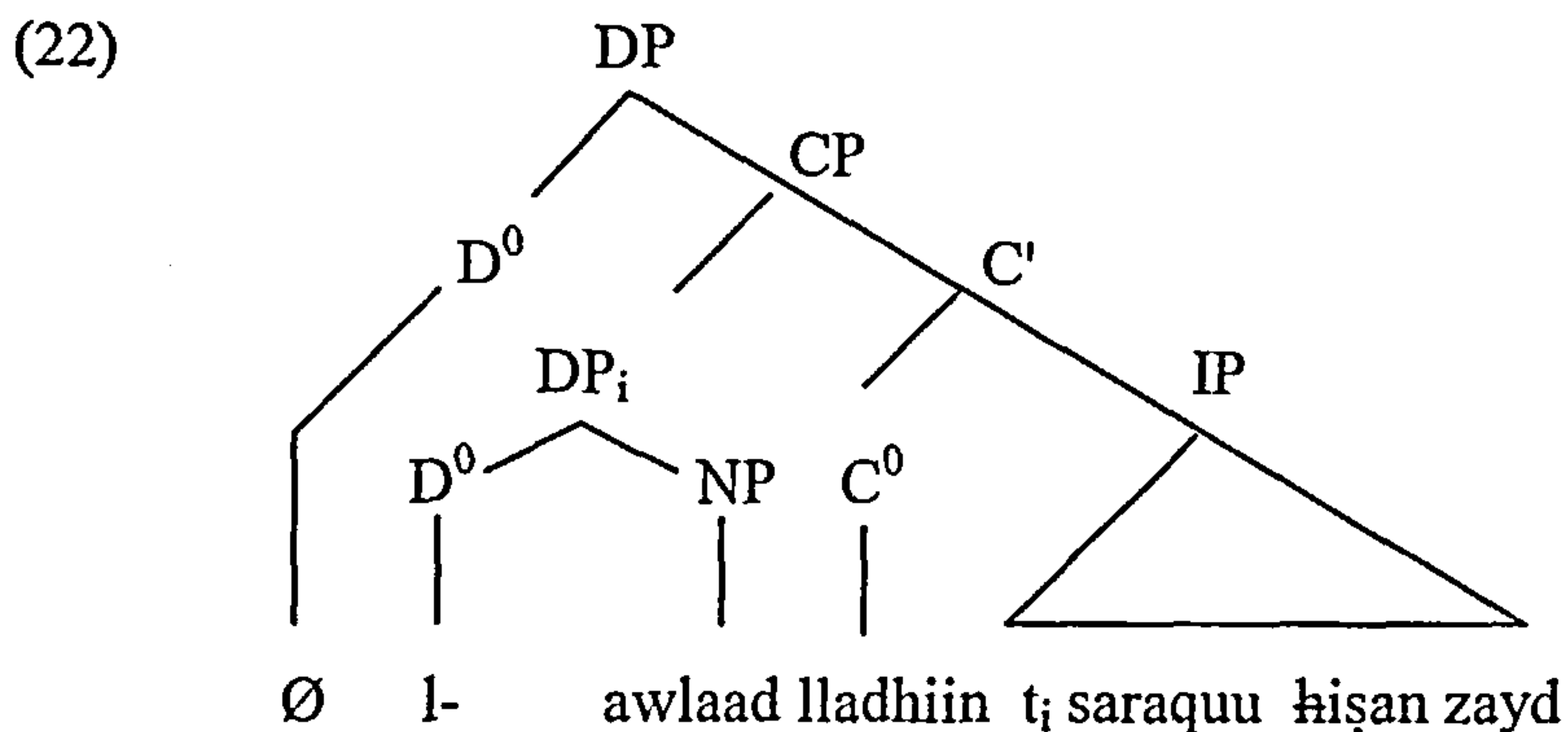
- (b) r-rajul-u lladhii ntaqada l-kitaab-a
the-man-Nom that criticized.3ms the-book-Acc
lladhii lam yaqra?-hu
that Neg 3ms.read-it
“The man that criticized the book that he did not read”

In (20a) subject extraction takes place from a *wh*-island *limaadha tadrusu* “why she studies” and in (20b) the subject is extracted from a complex NP *l-kitaab-u lladhii lam yaqr?-hu* “the book that he did not read”. Due to the rich verb morphology, we assume that a resumptive *pro* occupies the extracted subject position in both examples.

It is worth mentioning that the resumptive pronoun that occurs in subject relatives has no phonological realization. The subject moves first to SpecIP to derive the SVO order. The extraction takes place from SpecIP. The extracted subject lands in SpecCP.

The *pro* in the extraction site is seen as a trace which is properly governed by the relative complementizer. The complementizer agrees with the head noun and the embedded verb. Furthermore, it c-commands the subject trace. Thus the relative clause in (21) will have the representation in (22):

- (21) l-awlaad-u lladhiina saraq-uu hiṣaan-a zayd-in
the-boys-Nom that.3mpl stole.3mpl horse-Acc zayd-Gen
“The boys who stole Zayd’s horse”



The external D is assumed to be empty. The empty D takes CP as its complement. This amounts to the fact that the determiner *l* originates in the relative clause. Here I am not taking up the view that the external determiner is base-generated in the highest D position as Kayne (1994) proposes⁷. However, the determiner may move from the lower D to the higher D position. We will see why the lower D might move to the higher D position shortly. The diagram in (22) shows that *lladhiin* is in the C⁰ position. The structure in (22) is parallel to English *that*-relatives, not *wh*-relatives. *That*-relatives in English, within the head-raising analysis, are different from *wh*-relatives (See Chapter Two (2.1.3.2.3.1)).

I have argued that Arabic relatives involve DP movement whereas English (that) relatives, according to Kayne, involve NP movement. The moved DP in (22) lands in SpecCP and agrees with the complementizer in [Φ]-features, number and gender, in addition to Case (dual forms) and the definite. We propose that the determiner can move to the empty highest D position in order to have scope over both NP and the relative clause. In this case, Spec-head agreement must take place prior to movement of *l* to the external D position. One reason why NP cannot be in the Spec of the lower DP is directly related to the H(ead) M(ovement) C(onstraint) (Travis 1984). To explain this, suppose that the NP *awlaad* “boys” moves to SpecDP.

⁷ This is based on the fact that the example in (i), often cited as evidence for the external D, is excluded in SA, as in (ii) :

- (i) the Paris that I love
- (ii) *l-pariis llatii ?uhib
the-paris that love I

Suppose further that the determiner moves to the external D position. This movement of the determiner will violate HMC because it will move over the head N in SpecDP. The head *I* is separated from its trace by an intervening head N. This is the reason why NP cannot move to SpecDP.

4.1.1.3 Overt resumptive pronouns in the subject position

It seems that the Highest Subject Condition that prevents resumptive pronouns from appearing in the relativized subject position does not work cross-linguistically. Seiter (1980) reports that in Niuean, a subgroup of Polynesian languages, a resumptive pronoun in the extracted subject position is obligatory.

- (23) (a) e tama [ne hau *(a) ia i Makefu]
Def child come ABS he LOC Makefu
“The child who(he) comes from Makefu”
- (b) ke he tama [ka kai (*e ia) e tau pateta
to Def child FUT eat ERG he ABS PL potato
“To the child who is going to eat potato” (Seiter 1980:94)

Koopman (1983) reports that in Vata, a language spoken by the Kru family in the Ivory Coast, wh-movement from the subject position of a tensed clause requires the insertion of an obligatory resumptive pronoun as shown in (24a-b).

- (24) (a) ālo *(ō) mlī lā
who *(he) left wh
“who left?”
- (b) yī n gūgū nā *(ī) bli lá
what you think that it fell wh
“What do you think happened?” (Koopman 1983:142, Exs. 9a,b)

According to Koopman (1983) and Koopman and Sportiche (1986), the insertion of a resumptive pronoun has to do with the ECP: the subject position in Vata in tensed

clauses is not properly governed by the material in SpecCP unlike English or French. The insertion of a resumptive pronoun is obligatory and must take place in some point of the derivation before Spell-Out to avoid an ECP violation.

Carstens (1987) and Lawal (1987) report that Yoruba behaves in a similar way.

- (25) Tani *(ó) n kòrin
who he ASP sing
“Who is singing?” (Carstens 1987:62)

One way to explain this phenomenon is in terms of chains. In these languages both the positions in the chain are pronounced, one as a wh-phrase and another as a resumptive pronoun (Richards 2001:165).

4.1.1.3.1 Overt subject resumptive pronouns in Hebrew

According to Borer (1984), Hebrew does not allow a resumptive pronoun in the matrix subject position. Resumptive pronouns may appear in configurations where movement is blocked i.e in constructions involving wh-islands.

- (26) (a) ha-?arie she-/?asher taraf ?et ha-yeled barax
the-lion that devoured Acc the-boy escaped
“The lion that devoured the boy escaped”
(b) *ha-?arie_i she-/?asher hu_i taraf ?et ha-yeled barax
the-lion that he devoured Acc the-boy escaped
(Borer 1984:244, Exs.50a,b)

- (27) (a) ha-ʔisha she-raʔiti ʔet ha-namer she-hi gidla....
the-woman that-saw-I Acc the-tiger that-she raised
(b) ha-ʔisha she-raʔiti ʔet ha-namer she-gidla.....
the-woman that-saw-I Acc the-tiger that-raised-f.....
“The woman that I saw the tiger that (she) raised”

(Borer 1984:246, Exs.57&58)

Borer’s analysis is based on principle B of the binding theory (Chomsky (1981):

(28) Binding Theory

- (A) An anaphor is bound in its governing category
(B) A pronominal is free in its governing category
(C) An R-expression is free (Chomsky 1981:188 (12))

Borer modifies principle (B) and gives the following revised formulation:

- (29) (B) pronouns must be X-free in their governing category
(X = A, A')

According to Borer, a governing category has the definition in (30):

- (30) A is a governing category for B iff A is the maximal projection containing B,
all governors of B and AGR (INFL) which c-commands B.

Central to Borer’s definition of governing category is the assumption that both INFL and Comp are governors of the subject. This is based in essence on Stowell’s (1981) proposal that Comp, the head of S’ (i.e CP), can govern the SpecIP across IP boundary.

According to Borer, the subject relative operator in Hebrew is abstract. In the grammatical example in (26) above, Borer assumes that abstract operator has moved to SpecCP leaving behind a trace which is not a pronominal. Since the trace is not a pronominal, the binding condition given above is irrelevant (Borer 1984: 254).

The ungrammatical (26b) contains a resumptive pronoun which is A'-bound by the abstract operator. This means that the pronoun is not free and therefore the example is ruled out.

Summarizing, we have proposed that the subject DP moves to SpecCP. We have also proposed that the determiner, contra Kayne (1994), is in a lower D position. We have also shown that NP does not necessarily have to move to SpecDP and that if this movement takes place it will block the lower D to raise to the external D position. We have also suggested that the determiner and its NP complement have to be in SpecCP. The reason, we have argued, is that the antecedent DP and the complementizer carry the same features in addition to the feature definite and Case. This agreement is only possible in a Spec-head configuration.

As far as the relativized position is concerned, we have proposed that either a gap or a null resumptive pronoun may occupy the extracted site. The first option is in line with the assumption that the relativized position in matrix clauses is always empty (The Highest Subject Condition); the second option is based on the fact that SA has rich verb morphology and that a null resumptive pronoun is licensed by this morphology.

The trace in the subject position does not pose a problem for the ECP. We have proposed, following Rizzi 1990, that the trace in the subject position can be properly governed by an agreeing complementizer. Given that *lladhii* agrees with the antecedent and the verb of the relative clause, it serves as a proper governor for the trace in the subject position.

4.1.1.4 The anti-agreement effect and subject extraction

Languages do not follow the same pattern when local extraction of the subject is involved. Berber, Celtic and Turkish are different from SA. These languages show no agreement when the local subject is extracted. The following examples are from Berber and Celtic (Breton) cited in Ouhalla (1993):

Berber

- (31) (a) tamghart nni yzrin mohand
woman Comp saw (PART) Mohand
“The woman who saw Mohand”
(b) *tamghart a ay t-zra mohand
woman this Comp 3fs-saw

Celtic (Breton)

- (32) (a) Ar vugale a lenne al levrioù
the children Comp read the books
“The children who read the books”
(b) *Ar vugale a lennent al levrioù
read 3pl

Roberts and Shlonsky (1996:190) demonstrate that the Celtic verb has two forms of agreement: synthetic and analytic. They argue that this is also true for other VSO languages. In VSO languages non-pronominal DP subject requires analytic agreement i.e. the verb must be third person singular (33b). Synthetic agreement is only possible when the subject is a pronominal, as in (33a)

- (33) (a) (pro) *canodd/canòn (pro) [synthetic]
sang.3s/sang.3pl
“They sang”
(b) canodd/*canon y plant [analytic]
sang.3m/sang.3pl the children
“The children sang” (Roberts and Shlonsky 1996:190, Exs.35a,b)

Roberts and Shlonsky explain the difference between synthetic and analytic agreement in terms of features. Analytic Agr has weak features which are checked by DP raising at LF. *Pro* has no N features to check and therefore it is the only type of DP compatible with synthetic Agr.

We find the same situation in SA. Analytic Agr is compatible only with a non-pronominal subject whereas synthetic Agr is only compatible with a pro DP.

- (34) (a) naama /*naam-uu l-awlaad-u
slept.3ms slept.3mpl the-boys
“The boys slept”
(b) (hum) *naama/naam-uu (hum)
(they) slept.3ms/ slept.3mpl (they)
“They slept”

The question we need to answer is: Is there any relationship between analytic/synthetic Agr and subject extraction?

Local extraction of the subject in Celtic, as shown in (32), requires the verb to appear in the analytic form i.e. with third person singular. There are other languages that behave in a similar way. Turkish is an example, as shown in (35):

- (35) (a) hoca -yi gör -en öğrenciler
lecturer -Acc see PART students
“the students who saw the lecturer”
(b) *hoca -yi gör -en ler öğrenciler
lecturer -Acc see PART pl students

(Ouhalla (1993:484, Exs. 11a &12a)

The absence of the subject agreement morphology with an overtly extracted subject is commonly referred to as “Anti-agreement effect”. SA is different from Celtic and Turkish in the sense that local subject extraction, as we have seen, forces the use of strong subject agreement morphology.

One possible way to explain anti-agreement effect phenomenon is to assume, along the lines suggested in Richards (2001:151), that the subject does not raise to the external subject position in Celtic and Turkish. SA, as we have seen, permits the subject to precede the verb. Once this SV order is established, full agreement must

take place. This argument implies that subject extraction in SA, unlike Celtic and Turkish, takes place from a preverbal position i.e presumably from SpecIP.

Another possible way to explain anti-agreement effect in local subject extraction, as proposed in Jaeggli (1984) and Brondi & Cordin (1989), is based on the assumption that there is an obligatory empty category in the subject position in null-subject languages and that this empty category must be a *pro*.

Poor Agr in local subject extraction in Celtic and Turkish has one important consequence: subject extraction takes place from a postverbal position. This is due to the fact that postverbal subjects in Celtic, as mentioned earlier, require poor agreement. So there seems to be some possible interaction between anti-agreement and the subject inversion construction with neutral agreement (Ouhalla 1993:487).

Rizzi (1982) proposes that languages in which the subject can be extracted, this extraction must take place from a postverbal position. Subject extraction from the postverbal position forces use of the default third person singular verb.

Despite the fact that SA is a null-subject language, it does not show anti-agreement effect when the subject is extracted. One possible explanation of rich Agr in SA is that the relativization site, as proposed, contains a resumptive *pro*. This is because the presence of Agr implies the presence of a *pro*⁸. If this turns out to be correct, the assumption that the extracted subject position in null-subject languages with poor Agr is filled with a *pro* cannot be maintained since the presence of a *pro* is related to the presence of Agr. It is possible to propose that these languages use a default third person singular to prevent a resumptive *pro* from occurring in the relativized subject site.

⁸ This view is essentially based on the assumption made in Souali (1992).

4.1.2 Indefinite Subject Relatives

Indefinite subject relatives have two defining properties: one is that the antecedent is a bare noun i.e not preceded by the determiner *I* and the other one is that the complementizer is obligatorily null. The absence of a complementizer is the property of all relative clauses whose antecedent is indefinite.

Bearing these two properties in mind, the contrast in (36a) and (36b) is straightforward.

- (36) (a) rajul-un kataba qaṣiīdat-an
man.Nom wrote.3ms poem.Acc
“A man that wrote a poem”
(b) * rajul-un lladhii kataba qaṣiīdat-an
man.Nom that.3ms wrote.3ms poem.Acc

In some languages, such as English, the complementizer is obligatory in short distance movement. Thus an equivalent of (36a) is excluded in English as in (37)

- (37) * A man wrote a poem

(37) does not have a relative clause reading. However in long distance movement, the complementizer *that* in English must be omitted when the subject is extracted:

- (38) (a) the conference that Mary thought [Ø [IP t would take place]]
(b) * the conference that Mary thought [that [IP t would take place]]

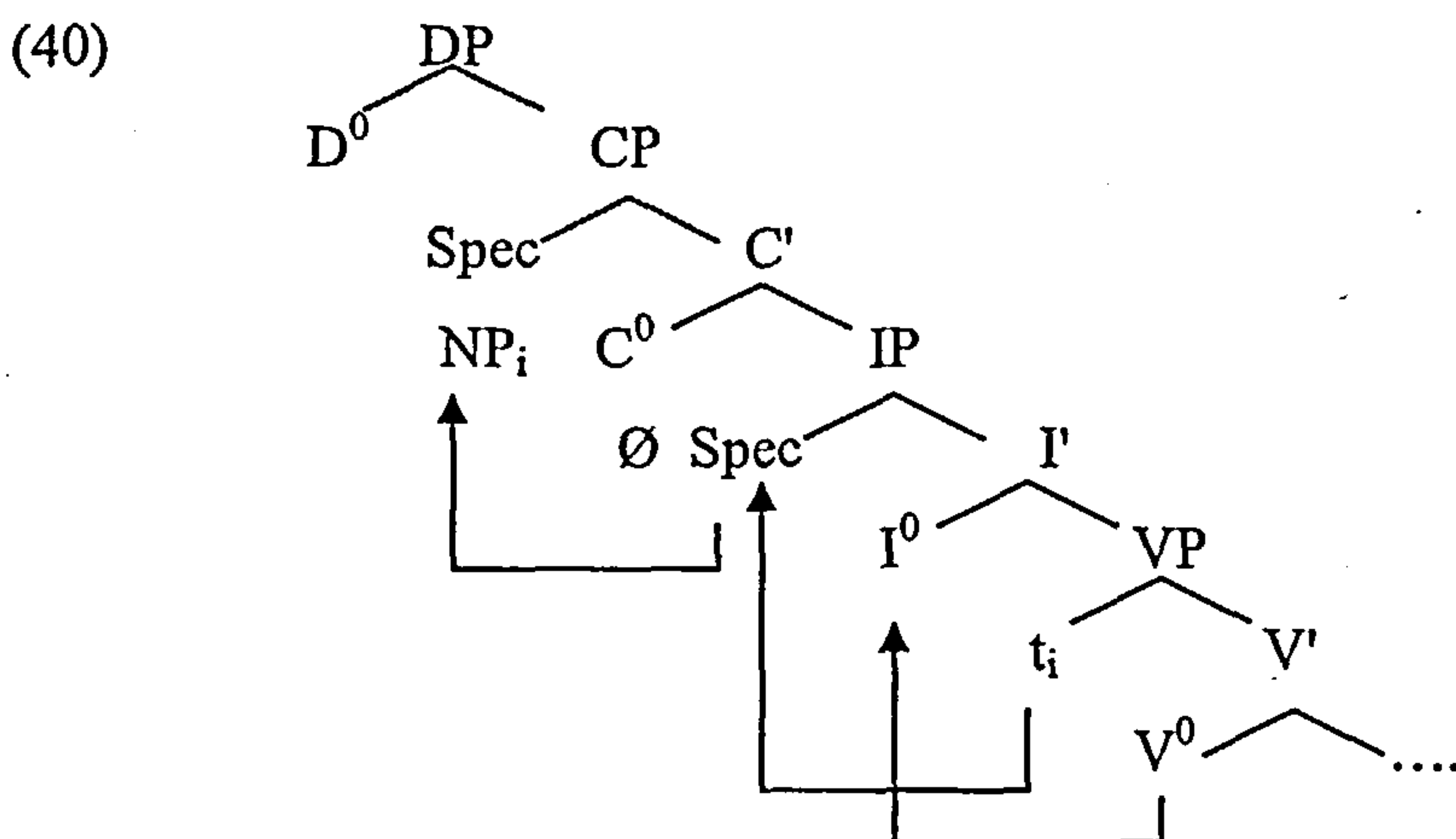
The so-called *that*-trace effect exemplified in (38) above does not hold in non-subject relatives. The example in (39), where the direct object of the embedded clause is relativized, is grammatical regardless of whether the complementizer is null or overt:

- (39) The book that I thought [CP[C' [C⁰ Ø/ that [IP Mary read t]]

Returning to the examples in (36) and (37). We need to know why SA does not allow an overt complementizer in indefinite relatives and why it is obligatorily overt in English.

To begin with the English ungrammatical (37), we assume that the problem has to do with the ECP. The subject trace is not properly governed. Thus an overt complementizer is needed in order to govern the subject trace, along the lines suggested in Rizzi (1990).

Before explaining the SA examples in (36), we propose that an indefinite subject relative clause involves NP movement to SpecCP and that C^0 is a null complementizer. The structure is similar to the one proposed for definite subject relatives apart from the fact that definite relatives involve DP movement to SpecCP.



The structure in (40) shows that these relatives involve NP rather than DP movement to SpecCP. This is due to the fact a null C^0 can only allow a bare NP in its Spec position⁹.

The problem which immediately emerges is that subject extraction in indefinite relatives seems to violate the ECP since the trace is not properly governed. A null complementizer cannot govern the subject trace in SpecIP since, as Rizzi (1990)

⁹ In (4.2.2.1) below, I will propose that indefinite relatives involve DP movement whose D is null.

proposes, a null complementizer is not a proper governor. However the grammaticality of (36a) shows that some mechanism is in play. One proposal is that the subject moves from SpecVP to SpecIP then moves on to SpecCP. Thus the subject trace is in SpecVP. The verb moves to Infl to asymmetrically c-command and hence govern the trace.

Another possible way to account for the well-formedness of (36a) is to assume that there is no trace in the extracted subject position. If there is no trace, there should be no violation of the ECP. But the assumption that there is no trace implies that no movement has taken place in violation of the head-raising analysis. We propose that the verb morphology allows the resumptive pronoun to fill the relativized position. Indefinite subject extraction violates islands which means that movement, in the traditional sense, is excluded in these relatives. Thus, the *wh*-island in (41a) and the complex NP in (41b) are both violated but the construction is still well-formed.

- (41) (a) raʔay-tu fataat-an ʔaraada badr-un ʔan ya9rif-a
 saw I girl.Acc wanted.3ms badar.Nom that 3ms.know.Subj
 limaadha tadħak-u
 why 3fs.laugh.Indic
 “I saw a girl who Badar wants to know why she laughs”
- (b) qaabal-tu rajul-an laa ʔa9rif-u l-fataat-a llatii
 met I man.Acc Neg know.PRES 1sg Indic the-girl.Acc that
 yukhib-u-haa
 3ms love PRES. Indic. her
 “I met a man who I do not the girl that he loves”

The idea that movement is excluded in (41) is not in line with the analysis adopted in this thesis. I therefore assume that the null resumptive pronoun in the extracted site, as we have proposed for definite subject relatives, can be analysed as a trace.

4.2 Object relativization

4.2.1 Definite object relatives

The purpose of this section is to investigate the derivation of definite direct object relatives. Definite direct object relatives, like definite subject relatives, require an obligatory presence of the complementizer. But what makes them distinct from subject relatives is that the relativization position can be filled by a phonologically realized resumptive pronoun. This pronoun may alternate with a gap in the extraction site. A definite direct object relative involving a gap and another involving a resumptive pronoun are illustrated in (42a) and (42b), respectively.

- (42) (a) r-rajul-u lladhii shakar-tu
 the-man- Nom that thanked I
 “The man whom I thanked”
- (b) r-rajul-u lladhii shakar-tu-hu
 the-man-Nom that thanked-I him
 “The man whom I thanked (him)”

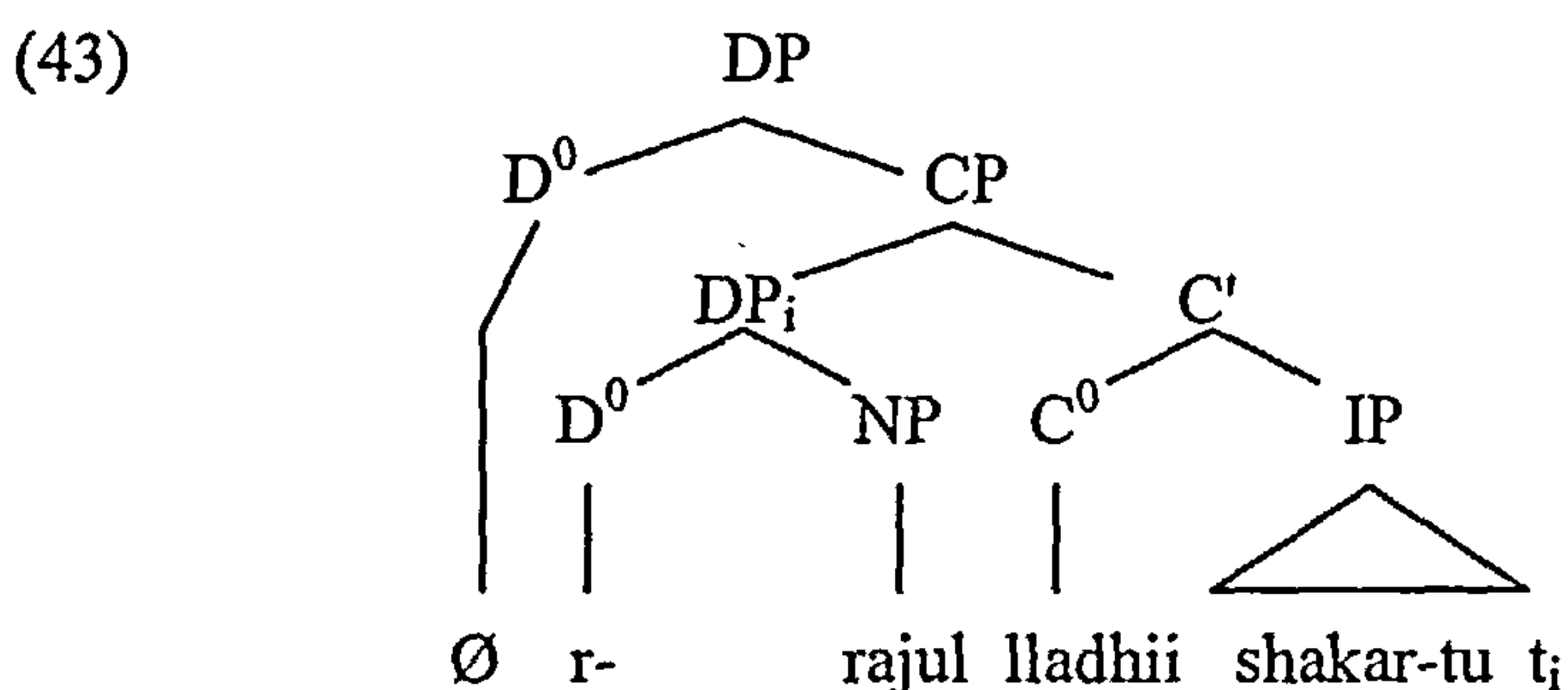
The examples given in (42) illustrate the two strategies used to derive a definite direct object relative clause. The resumptive pronoun must agree with the complementizer in person, number and gender but not in Case. In (42b), for example, the complementizer and the resumptive pronoun in the object position are both third person singular masculine.

4.2.1.1 The structure of the definite object relatives

Within the traditional analysis of relative clauses, the derivation of (42a) would involve operator movement to SpecCP leaving behind a trace with which the operator is coindexed. The SpecCP is filled with a null operator and *lladhii* is in the C^0 position.

The resumptive strategy does not involve operator movement for there is no gap in the relativization site; rather the operator is assumed to be base-generated in SpecCP (See Chapter Two (2.1.1)). The main concern of this section is to demonstrate how definite direct object relatives can be analysed within the head-raising analysis.

The analysis we outlined for definite subject relatives can carry over to definite direct object relatives. Thus (42a) can have the structure given in (43):



We assume that there are three candidates for the trace in the object position; it may be PRO, a pro or a wh-trace. We notice that the trace is in a governed position, a position that is both governed and theta-marked by the verb. Given that the trace is in a governed position, PRO must be excluded since this category does not occur in a governed position. *Pro* is also excluded because this is not a subject position. Thus the only option available is that the trace is a wh trace. There is evidence to support this assumption. Island constraints show that wh-movement is not possible out of a Complex NP or a wh-island, as shown in (44a) and (44b), respectively.

- (44) (a) *l-kitaab-u lladhii qaabal-tu r-rajul-a lladhii shtraa t
the-book-Nom that met I the-man-Acc that bought
“*The book that I met the man who bought”
- (b) *l-kitaab-u lladhii qaabal-tu man shtraa t
the-book-Nom that met I who bought
“*The book that I met who bought”

As the examples show, the trace in the object position is sensitive to island constraints. This provides evidence that the empty category in the ungrammatical examples in (44) is a wh-trace.

The crucial point we notice in the structure given in (43) above is that SpecCP is occupied by DP that has moved from the object position. This DP agrees with the complementizer in [Φ]-features via Spec-head agreement. They must also agree in Case as we will demonstrate in (4.2.1.2) below.

It is possible for the determiner in the lower D to move to the highest D position on the basis that such a movement is permitted since it is head-to-head movement. But this movement should not take place prior to the Spec-head agreement. Spec-head agreement is not possible if the determiner *I* is base-generated in the external D position. Movement of the lower D to the highest D position will allow the relative clause to be in the scope of the determiner. Being in the scope of the determiner, the relative clause will have a restrictive rather than a non-restrictive interpretation. But movement of the determiner to the highest D position will also explain how the determiner and the antecedent get Case from the main clause. The Case of the antecedent and the complementizer must be the same. The Case mechanism in relative clauses is the main concern of the next section.

4.2.1.2 The Case conflict

One of the interesting properties of relative clauses in SA is related to Case. The standard assumption is that the moved element must have the Case of its trace. In SA the moved constituent must have the Case assigned to it by the verb of the matrix clause. The relevant example is given in (45) below.

- (45) (a) qaabal-tu r-rajul-ayni lladh-ayni katabaa l-maqaal-a
met I the-man-Acc dual that-Acc dual wrote-dual the-article-Acc
“I met the two men who wrote the article”

- (b) *jaa?a* *r-rajul-aani* *lladh-aani* *daraba* *zayd-un*
 came 3ms the-man Nom dual that Nom dual hit 3ms zayd Nom
 “The two men whom Zayd hit have come”

The antecedent in (45a) is Accusative and in (45b) Nominative. In (45a) the antecedent is assigned Accusative by the matrix verb *qaabala* “met” and in (45b) the antecedent is assigned Nominative by the matrix *jaa?a* “came”. The crucial point here is that the relative marker has the Case of the antecedent not the Case of the relativization position. It is worth noting that Case does not appear on the singular and plural forms of the complementizer, as shown in (46a,b):

- (46) (a) *qaabal-tu* *r-rajul-a* *lladhii* *zaara* *l-maktabat-a*
 met I the-man-Acc that 3ms visited 3ms the-library-Acc
 “I met the man who visited the library”
 (b) *qaabal-tu* *ṭ-ṭulaab-a* *lladhiina* *faaz-uu* *bi-l-jaa?izat-i*
 met I the-students-Acc that 3mpl won 3mpl with the-prize-Gen
 “I met the students who won the prize”

Despite the fact that the singular and the plural forms of the complementizer do not show a morphological reflex of Case, we can still maintain the view that the singular and the plural forms have abstract Case.

Returning to the examples in (45), Case should raise no problem in SA on the basis of the analysis that treats *lladhii* as a complementizer rather than a relative pronoun. The latter assumption, if we adopt the traditional analysis of relative clauses, would suggest that *lladhii* is an overt operator in SpecCP and the relative head (the antecedent) is base-generated outside CP. If *lladhii* is to be analysed as an overt operator, it must appear in the Nominative in (45a) and in the Accusative in (45b) but this assumption is not correct as shown by the ungrammaticality of (47a,b):

- (47) (a) *qaabal-tu r-rajul-ayni lladh-aani katabaa l-maqaal-a
met I the-man-Acc dual that-Nom dual wrote dual the-article-Acc
(b) *jaa?a r-rajul-aani lladh-ayni daraba zayd-un
came 3ms the-men Nom dual that Acc dual hit.3ms zayd-Nom

One way to explain the Case contrast is to assume, following Obeidat (1984), that Case assignment is not a cyclic rule; rather it is a final stage process. This assumption seems to be correct. If Case is a cyclic rule, the examples in (47) would be grammatical.

Our analysis of SA relative clauses within the promotion theory is that *lladhii* is a complementizer base-generated in the C^0 position. This means that relative clauses in SA are similar to *that*-relatives in English as stated before. I am inclined to say that SA does not have *wh*-relatives at all and that *lladhii* cannot be identical to the English *wh*-words. English *wh*-words can introduce a relative clause as well as an interrogative one. This is not the case with *lladhii*. *Wh* interrogative sentences cannot be introduced by *lladhii* in SA. For this purpose, SA uses other *wh*-words which are morphologically different from *lladhii*.

The following examples show the contrast between English and SA.

- (48) (a) the man *who* I saw. (relative)
(b) *who* did John see? (interrogative)
- (49) (a) r-rajul-u lladhii hazama badr-un (relative)
the-man.Nom that defeated 3ms badar.Nom
(b) *lladhii hazama badr-un? (Intended to be as (48b))

The example in (49b) is excluded in SA unlike the English example in (48) where the same *wh*-word is used as a relativizer and as an interrogative word. SA uses a morphologically different word to form a *wh*-question, as in (50):

- (50) man hazama badr-un?
 who defeated.3ms badar-Nom
 “Who did Badar defeat?”

If the analysis of *lladhii* as a complementizer is on the right track, then a null operator in SpecCP will bind the object trace in (49a). Within the head-raising analysis the DP *r-rajul*, rather than an operator, occupies SpecCP. The trace in the object position is coindexed with the antecedent in SpecCP.

4.2.2 Indefinite direct object relatives

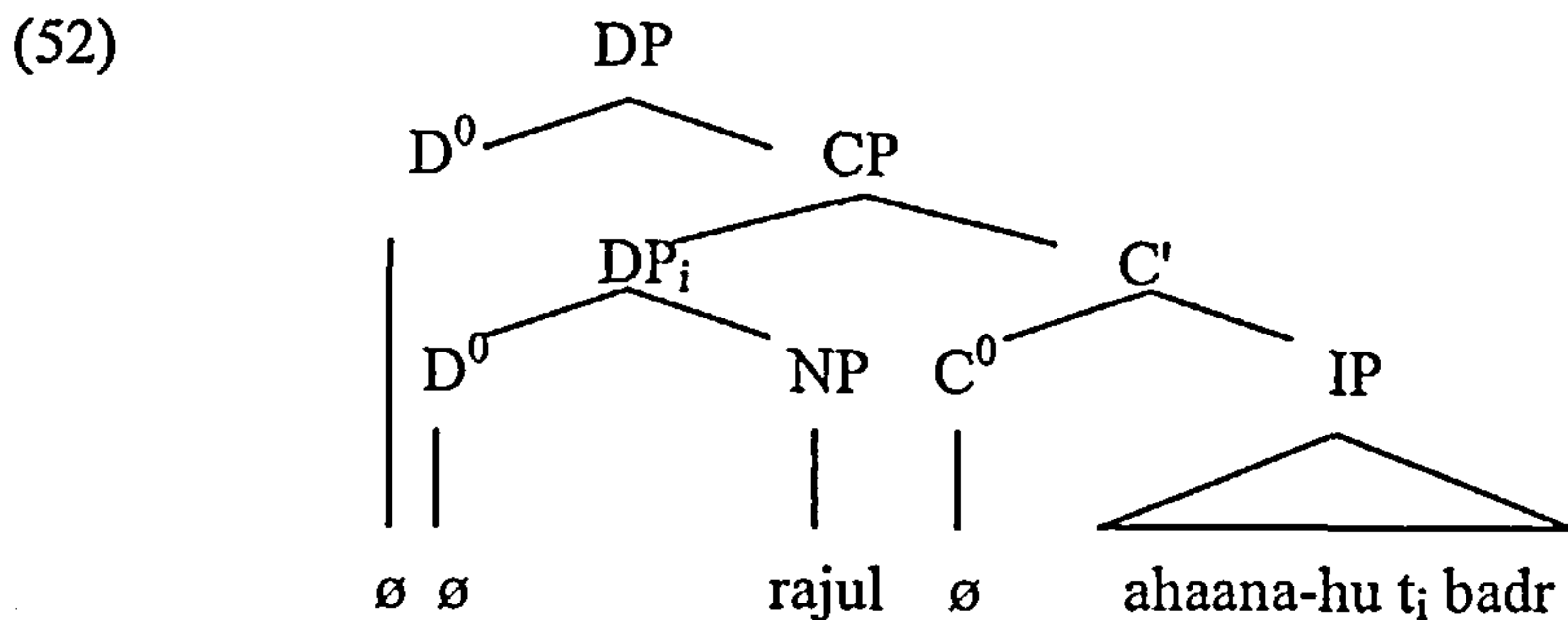
Indefinite direct object relatives are different from their definite counterparts in three respects. First, the “head”, i.e. the antecedent, is a bare NP; second, the complementizer is obligatorily null; and third, the resumptive pronoun is obligatory. We address these three properties in turn.

4.2.2.1 The antecedent

The fact that the antecedent is indefinite in these relatives excludes the presence of a phonetically realized D in SpecCP. This is based on the assumption that there is no movement of a lexical D from the argument position in indefinite relatives. The DP that moves from the argument position is headed by a null D. This is shown by the following examples.

- (51) (a) qaabal-tu rajul-an ahaana-hu badr-un
 met I man.Acc insulted.3ms-him badar.Nom
 “I met a man whom Badar insulted”
 (b) *qaabal-tu r-rajul-a ahaana.3ms-hu badr-un
 met I the-man.Acc insulted-him badar.Nom

Given the ungrammaticality of (51b), we conclude that a DP with a null D moves to SpecCP. Thus (51a) will have the representation in (52) (irrelevant details omitted).



We assume that the higher D is also empty as we have proposed for definite relatives. The appearance of two empty Ds is not a problem. Bianchi (1999) proposes that two functional heads bearing the same features undergo an operation of unification to combine them into a single functional head. According to this proposal, the two empty Ds are combined into a single D. This analysis does not apply to relatives whose antecedent is definite since the two Ds are not identical and therefore cannot undergo unification. The antecedent in (52) gets its Case from the matrix clause by covertly moving and incorporating into D¹⁰.

4.2.2.2 The Null C⁰

The fact that C⁰ is null follows from the assumption that the “head” is a complement of a null D. Thus there is a strong correlation between C⁰ and null D. We have seen that when D in SpecCP has a phonological realization, there must be an obligatory complementizer. Since there is no overt D in SpecCP in (52), there should not be an overt C⁰. The ungrammaticality of (51b) can be accounted for by the fact that Spec-head agreement is not possible: the DP in SpecCP is headed by the determiner *r* (a morphological variant of *l*) but the head of CP i.e the complementizer is null.

It has been assumed that a null C⁰ can occur in a relative clause only if it is adjacent to the head noun (Bošković and Lasnik 2003:535). It is also assumed that relative clauses and complement clauses are not headed by the same C⁰ (Rizzi(1990), Lasnik

¹⁰ The same mechanism can be proposed for definite relatives. The lower D moves to the external D position. The noun moves covertly and gets incorporated into the highest D.

and Saito (1992)). The assumption that a null C^0 can occur only in relative clauses if it is only adjacent to the head noun is not exactly correct. Indefinite relatives in SA can have a structure in which the null C^0 is not adjacent to the head NP. But definite relatives, as we have seen, do not allow a null C^0 even if it is adjacent to the head noun. A head NP, given the stranded analysis of relative clauses (Kayne 1994), is not adjacent to the null C^0 . In the structure where a null C^0 is adjacent to the head NP we may propose, following the assumption made in Bošković and Lasnik (2003:535), that the null C^0 in indefinite relatives can be hosted by an indefinite head noun.. The assumption is that the null complementizer is a PF affix and can merge with the head noun of the relative clause (Pesetsky 1992).

4.2.2.3 The extraction site

One of the major properties of indefinite direct object relatives is that they contain an obligatory resumptive pronoun in the extraction site. We have seen that the gap is another option in definite direct object relatives. It seems that the appearance of the resumptive category in indefinite object relatives has nothing to do with the ECP. That is, its appearance does not indicate that the trace is not properly governed. A close examination of the examples in (53) and (54) will show that this assumption is correct.

- (53) (a) l-kitaab-u_i lladhii ?intaqada t_i badr-un
 the-book.Nom that criticized.3ms badar.Nom
 “The book that Badar criticized”
- (b) l-kitaab-u lladhii intaqada-hu badr-un
 the-book Nom that criticized.3ms (it) badar-Nom
- (54) (a) *kitaab-un_i ?intaqada t_i badr-un
 book-Nom criticized.3ms badar.Nom
- (b) kitaab-un_i ?intaqada.3ms-hu t_i badr-un
 book.Nom criticized-it badar.Nom

The trace in (53a) is properly governed by the verb. But this assumption appears to be false given the ungrammatical (54a). The question is why (54a) a problem? One may propose that the observed problem has nothing to do with the ECP. The object trace in (53a) and (54a) is governed by the lexical verb *?intaqadq* “criticized”. If this is the case then there must be other mechanism involved.

One possibility to account for differences between (53) and (54) is to assume that both contain a null relative pronoun. This proposal is made in Suñer (1998) for Spanish. Following this view, the null relative pronoun can optionally appear as an empty category or as a resumptive pronoun as in (53a) and (53b), respectively. This option is not available in indefinite direct object relatives¹¹. The trace in indefinite object relatives is always spelled out as a resumptive pronoun. This pronoun must have the features of the antecedent but does not necessarily carry its Case (The same is true with definite object relatives with respect to Case). The following examples illustrate:

- (55) (a) qaabal-tu fataat-an ahaana*(-ha) ?x-u-ka
met I girl.Acc insulted.3ms-her brother.Nom-your
“I met a girl whom your brother insulted”
- (b) maata rajul-un ?ħabba*(-hu) badr-un
died.3ms man.Nom liked.3ms-him badar.Nom
“A man whom Badar liked died”

The resumptive in (55a) is third person feminine singular and so is the antecedent. In (55b), the resumptive is third person masculine singular so is the antecedent. But the Case of the spelled-out trace differs from the Case of the antecedent. In (55b), for instance, the trace is assigned Accusative by the verb of the relative clause whereas the antecedent is assigned Nominative by the verb of matrix clause.

¹¹ If the null relative pronoun assumption is on the right track, the obligatory presence of the resumptive pronoun indicates an obligatory presence of a null relative pronoun.

4.3 Prepositional object relatives

One important fact about SA is that it does not allow preposition stranding in relative clauses (Demirdache 1997, Al Sayed 1998, Hamdalla and Tusheyh 1998). Thus a resumptive pronoun in prepositional relatives is always obligatory.

Traditionally, the presence of the resumptive pronoun can be explained in terms of the absence of *wh*-movement in these constructions. The ECP plays an essential role: the trace left behind by movement is not properly governed. This may amount to the fact that the category P is not a proper governor in Arabic. As a result, a resumptive pronoun must appear in the relativized argument position. Since movement is not involved, the resumptive pronoun is assumed to be base-generated and is coindexed with a base-generated null operator in SpecCP. We will consider the following examples in our discussion.

- (56) (a) l-ḥaqiibat-u llatii waḍa9-tu fi-haa kutub-ii
the-bag.Nom that put I in-it books-my
“The bag in which I put my books”
(b) *l-ḥaqiibat-u llatii wada9-tu fi kutub-ii
the-bag.Nom that put-I in books-my
(c) *l-ḥaqiibat-u fi llatii waḍa9-tu kutub-ii

(56a) is fine. The relativized position contains a resumptive pronoun whose features are identical to the features of the antecedent. A gap is not possible as shown in (56b). Pied-piping is also excluded as the ungrammatical (56c) shows. The ungrammaticality of (56c) is attributed to the fact that SA does not have relative pronouns and hence pied-piping is not permissible.

These resumptive relatives tend to violate subjacency as in the following example:

- (57) (a) qaabal-tu r-rajul-a lladhii ?a9rifu NP[l-bint-a
 met I the-man.Acc that know PRES 1s the-girl.Acc
 llatii saafarat ma9a-hu]
 that traveled 3fs with-him
 “I met the man who I know the girl who traveled with him”
- (b) qaabal-tu l-walad-a lladhii turiidu hind-un ?an
 met I the-boy.Acc that want PRES 3fs hind.Nom that
 ta9rif-a man taḥadatha 9an-hu
 know PRES 3fs who talked about-him
 “I met the boy who Hind wants to know who talked about him”

(57a) violates the CNPC and (57b) violates a wh-island indicating that movement is not involved in these constructions.

Some languages have the same resumptive strategy in prepositional relatives. Welsh (Tallerman (1990a)) and Hebrew (Shlonsky (1992)) belong to these languages.

- (58) (a) yr eneth y siaradsoch chi ā hi
 the girl COMP talked.2PL you with her
 “The girl that you spoke to”
- (b) *yr eneth y siaradsoch chi ā
 the girl COMP talked.2PL you with
 “The girl that you spoke to”

(Tallerman 1990a:305, Ex. 28/ 306, Ex. 31)

- (59) ha-?iš še xašavti ʔal *(av)
 the man that- (I) thought about- (him)
 “The man that I thought about” (Shlonsky 1992: 445, Ex.3)

Just like SA, these languages also violate islands. The example in (60) is from Hebrew (Borer (1984:221)).

- (60) ra?iti ?et ha-yeled; she/asher dalya makira ?et
 saw I Acc the-boy that Dalya knows Acc
 ha-isha she- [e]_k xashva ?alav [e]_i
 the woman that thought about-him
 “I saw the boy that Dalya knows the woman that thought about him”

Borer (1984) attributes the obligatory presence of the resumptive pronoun to the assumption that prepositions are not proper governors. Therefore wh-extraction from these positions will violate the ECP. McCloskey (1990) assumes the same analysis for Irish prepositional relatives.

SA does not allow preposition stranding in wh-interrogatives either. This property provides more evidence that prepositions cannot govern the trace in the extracted argument position.

- (61) (a) man ?akal-ta ma9a-hu
 who ate 2ms with-him
 “Who did you eat with?”
 (b) *man ?akal-ta ma9a –

Some researchers (e.g Demirdache (1991), Wahba (1984 (cited in Al-Sayed (1998))) assume that the resumptive in (61a) is redundant. To derive a grammatical output of (61b) the entire PP is pied-piped, as in (61c).

- (c) ma9a man ?akal-ta?
 with who ate.2ms
 “With whom did you eat ?”

We have mentioned earlier that SA does not allow pied-piping. But this is only true in relative constructions. The reason why pied-piping is allowed in (61c) and banned in prepositional relatives is that that the complement of the preposition in (61c) is an interrogative wh-word. Wh-pronouns in SA are not homophonous with

the relative marker *lladhii*. Thus pied-piping is only possible with *wh*-interrogative pronouns. Below are more examples taken from Farghal (1986):

- (62) (a) *bi-maadha qata9a zayd-un ?al-habl-a ?*
with-what cut.3ms zayd.Nom def-rope.Acc
“With what did Zayd cut the rope?”
- (b) *fi ?ayy-i jaami 9at-in darasa saalim-un?*
in which.Gen university.Gen studied.3ms salim.Nom
“At which university did Salim study?” (Farghal 1986:93, Ex. 91a, 93a)

Back to the resumptive issue. Souali (1986) and Al-Sayed (1998) propose that since clitics are not arguments, the resumptive pronoun will identify *pro* in the prepositional relatives. The resumptive *pro* is A'-bound by the null operator in SpecCP. They further assume that *pro* is governed and assigned Case by the preposition. In brief, there is no *wh*-movement involved in these relatives.

Now the question that arises is why pied-piping is ruled out in SA and how can we account for resumptive pronouns in prepositional relatives within the head-raising analysis?

Kayne (1994) proposes, as we have seen in Chapter Two, that (in *wh*-relatives) the SpecCP serves as the landing site of DP or PP. Consider the example in (63).

- (63) The man with whom Mary spoke

The PP containing DP moves to SpecCP. The NP *man* moves to SpecPP, leaving *whom* behind. This is possible if we assume that SpecPP is available in English but not in SA. Pied-piping is available in relative clauses in languages that have relative pronouns (or *relative determiners* in the sense of Kayne (1994)).

We propose that in SA the complement of the preposition is raised to SpecCP. We further propose that the moved constituent is DP, not NP. The DP in SpecCP will enter into Spec-head agreement with the complementizer which must be overt (given

that the DP in SpecCP has an overt D). The pronoun that appears in the relativization site is considered a spelled-out trace.

The idea is that structures with gaps and those with resumptive pronouns are both derived by movement to SpecCP. They both exhibit similar syntactic properties. For example, both traces and resumptive pronouns can license parasitic gaps. In (64a) below the parasitic gap is licensed by a trace; in (64b) it is licensed by a resumptive pronoun.

- (64) (a) l-kitaab-u lladhii ?intaqad-tu t qabla ?an ?aqra?-a [pg]
the-book.Nom that criticized I before that read-Subj
“The book that I criticized before reading”
- (b) l-kitaab-u lladhii ?intaqad-tu-hu qabla ?an ?aqra?-a
the-book.Nom that criticized I it before that read-Subj
“The book that I criticized before reading”

In the following section we will look at resumptive pronouns in more detail.

4.4 Resumptive pronouns in Relative Clauses

4.4.1 The non-movement account

4.4.1.1 McCloskey (1979/1990)

McCloskey (1979/1990) assumes that the derivation of relatives involving resumptive pronouns is not a transformational process. The pronouns may be simply generated at the relativization site and the complementizer would be generated in COMP position. The piece of evidence McCloskey gives for his analysis of Irish *aN* and *aL* as Complementizers rather than relative pronouns is that they contain no indication of Case, animateness, number or gender. In addition, their form is determined by tense and the presence or absence of negation in the relative clause. Furthermore, these elements can introduce many other clause types,

such as clefts, questions and comparative clauses, which all involve extraction (McCloskey 1979:11-13).

It is possible to propose that the SA complementizer *lladhii* is syntactically similar to *aN* but different from *aL* in the sense that both *lladhii* and *aN* allow resumptive pronouns in the relativized position. The complementizer *aL* can only be associated with a gap in the relativization site, whereas the complementizer *aN* is used in relatives containing a resumptive pronoun.

- (65) an fear a dhiol an domhan
the man sold the world
“The man who sold the world” (McCloskey 1979: 5, Ex.1)

- (66) an fear a dtabharann tú an t-airgead dó
the man give you the money to-him
“The man to him you give the money” (McCloskey 1979: 6, Ex.3)

- (67) an fear a bhfuil a mháthair san otharlann
the man is his mother in-the hospital
“The man whose mother is in hospital”

- (68) (a) an scríbhneoir a molann na mic léinn é
the writer praise the students him
“The writer whom the students praise”
(b) an scríbhneoir a mholann na mic léinn –
the writer praises the students
“The writer whom the students praise” (McCloskey 1979: 6, Exs.4,5,6)

McCloskey (1990) points out that resumptive pronouns in direct object positions can alternate with gaps. This process, however, depends on the type of the complementizer used.

Welsh Complementizers show the same asymmetry: *a* occurs with a gap and *y* occurs with a resumptive pronoun, as shown in (69a-c):

- (69) (a) yr olygfa *a* welai o ben y mynydd
the view C-REL saw-IMPF from top the mountain
“The view that he had from the top of the mountain
- (b) *yr car *a* werthodd Gareth ef
the car C-REL saw-IMPF Gareth it
“The car that Gareth saw (it)”
- (c) Y dyn *y* siaradasoch chwi ag *(ef)
the man C-RES talked you with him
“The man that you talked with”

(Adger & Ramchand 2001: 10, Exs. 40, 41,42)

4.4.1.2 Shlonsky (1992)

Thus the choice of the complementizer determines the presence or absence of a resumptive pronoun. This is in line with Shlonsky’s (1992) analysis of resumptive pronouns. Shlonsky assumes that the presence of a gap or a resumptive pronoun in Hebrew is determined by the choice of the complementizer. The Complementizer [še A] has an A-position Spec. It follows that wh-movement to this specifier is not possible. A-movement is subject to the Specified Subject Constraint. Therefore, movement from the direct object position is banned, because it crosses the subject. In this case a resumptive pronoun is obligatory. When the complementizer [še A'] is selected, movement is possible because it targets an A'-position, which is not subject to Specified Subject Constraint. This movement will leave a gap in the relativized object position. The general result is that a resumptive pronoun in DO position is optional.

Shlonsky (1992) assumes that the same analysis can be extended to DO relatives in SA. He assumes that when the relative complementizer *lladhii* has an A-position Spec, there is no movement and a resumptive appears in the object position. When *lladhii* has an A'-position Spec, a gap appears in the relativized object position.

Note that according to Shlonsky's analysis indefinite object relatives can only be derived by a non-movement analysis because the resumptive pronoun in these relatives is always obligatory. The same can be said about other relativized positions such as the object of a preposition and the NP complement. The analysis adopted in this thesis does not follow either McCloskey's or Shlonsky's approach. Their analyses suggest that there is no movement if a resumptive pronoun appears in the extraction site. Within head-raising analysis, the NP/DP movement is obligatory regardless of whether a resumptive appears in the extraction site or not, as will be seen in the following section.

4.4.2 The movement account

4.4.2.1 Zaenen et al (1981) & Sells (1984a/1987)

In this section, I will analyse resumptive pronouns in SA as bound variables (i.e traces). The assumption that resumptive pronouns are bound variables was made in Zaenen et al (1981), Georgopoulos (1985), Sells (1984a/1987) and, more recently, De Vries (2002).

According to Sells (1984a/1987) resumptive pronouns are pronouns bound by wh operator, therefore they are analysed as bound variables. Resumptive pronouns are different from intrusive pronouns. The latter are not bound variables. They only occur in an island where wh-movement is not permitted. The following example illustrates use of an intrusive pronoun:

(70) I am looking for my glasses which I do not know where I put *(them).

The use of a pronoun in contexts that are not an island is not allowed in English as in the following Example:

(71) The book that I read (*it).

Another reason to distinguish resumptive pronouns (bound variables) and intrusive pronouns (repair strategy) is that the combination of a relative pronoun and a resumptive pronoun is not possible in the resumptive strategy¹².

In English, as in many languages, the use of resumptive pronouns is marginal and arise in positions where a gap is far from the antecedent, as shown in (70) above. The ungrammatical English example in (71) above is quite permissible in many languages (For SA see Hasan (1975), Shlonsky(1992), Al-Sayed (1998); for Irish see McCloskey (1979/1990); for Hebrew see Borer (1984), Sells (1987) and Shlonsky (1992); for Palauan see Georgopoulos (1985), for Swedish see Zaenen et al (1981); for Old Egyptian see Reitings (2000)). In these languages it can be argued that resumptive pronouns are syntactic traces. For example, Zaenen et al (1981) propose that both resumptive pronouns and gaps in Swedish are bound. Coordination in Swedish, for instance, allows clauses containing resumptive pronouns to freely coordinate with clauses containing wh traces. This is a good piece of evidence for claiming that resumptive pronouns can be a lexical realization of a wh trace. According to this approach, resumptive pronouns are left behind by movement.

- (72) Där borta går en man_i som jag ofta träffar
there goes a man that I often meet
men inte minns vad han_i heter
but don't remember what he is called (Zaenen et al (1981:681, Ex.9)

One of the possibilities to explain the grammatical (72) is to assume that wh movement has applied to both conjuncts and that the trace that is left behind is spelled out as a resumptive pronoun. Thus both the gap in the first conjunct and the resumptive pronoun in the second conjunct must be regarded as a syntactic trace.

The same facts found in Palauan support the claim that both gap and resumptive pronouns are syntactically derived by movement, as shown in (73):

¹² It is generally assumed that resumptive pronouns and relative pronouns do not cooccur.

- (73) [ng-ngerai [mirruul er ngiii a Sie] e [a ?o?od -al a me?er -ar -i]]
CL what R-IM-make P it and sister 3s R-PF-buy 3s
“What did Sie make and her sister buy?” (Georgopoulos 1985:88, Ex. 28)

Thus the coordination facts in Palauan, as in Swedish, support the claim that both gap and the resumptive pronoun are syntactic variables. The two types of variable cooccur in a single structure and bound by the same antecedent at S-structure. However, this is not in line with the assumption made in Chomsky (1982)¹³.

One might ask the following question raised in De Vries (2002): if a resumptive pronoun is a spelled-out trace, why is there no cooccurrence of a relative pronoun and a spelled-out trace?

According to De Vries, a resumptive pronoun is a lexical trace of an empty relative pronoun. De Vries (2002:168) argues that this is just a partial answer and does not explain why the relative pronoun must be empty. He suggests that a resumptive pronoun appears when there is feature movement. When feature movement is involved the trace can still have lexical content. Lexical movement, as opposed to feature movement, moves the whole head and therefore there is no material left in situ.

This analysis, as De Vries demonstrates, has the advantage that a relative pronoun appears only if there is overt movement; a resumptive pronoun appears only if there is feature (covert) movement (De Vries 2002:168). Lexical movement is assumed to be overt whereas feature movement is assumed to be covert.

However, the feature (covert)/ lexical (overt) movement analysis has problems. For example, the analysis does not explain why the complement of D_{rel} moves overtly. Also, the analysis does not explain why only part of a constituent is spelled-out/left behind (De Vries 2002:168).

¹³ The assumption made in Chomsky (1982) is that only gaps are bound at S-structure. Pronouns are assumed to be bound in LF.

To deal with these problems, De Vries proposes that relative D does not move. Movement only involves NP. This means that the feature needed to construct a relative clause is associated with NP not with its determiner D. If wh feature is not associated with D, then D cannot be a relative D. This D can only be a resumptive pronoun.

The analysis I have proposed for relative clauses in SA involves DP movement to SpecCP. The head of this DP also originates in the relative clause. There is no D in situ since the whole DP moves to SpecCP. All it says is that the DP trace in the extraction site is spelled-out as a resumptive pronoun. If the resumptive pronoun is a spelled-out trace then it must have the same base position.

The question that arises is: Since a trace is coindexed with the antecedent why can the resumptive pronoun get Case from the subordinate verb which differs from the Case of the antecedent? The answer is that the resumptive pronoun in the subordinate clause must get Case from the subordinate verb. Resumptive pronouns are lexically overt elements and occupy argument positions therefore they are assigned Case by some Case assigner such as verb or preposition¹⁴. The antecedent occupies an argument position in the matrix clause and is assigned Case by the matrix verb. The following example illustrates:

- (74) raḥala r-rajul-u lladhii ḍaraba-hu badr-un
 left.3ms the-man-Nom that hit.3ms-him badar-Nom
 “The man that Badar hit has left”

The DP *r-rajul* “the man” has moved from object position of the embedded verb where it is assigned accusative. But in the matrix clause the moved DP is assigned nominative since it is the subject of the matrix clause.

¹⁴ As stated before, Case does not have morphological manifestation on clitic pronouns but see Chapter One footnote (18)

We have seen that the direct object position can be filled with a gap, indicating that movement has taken place, or lexically filled with a pronoun whose phi-features must be identical to the features of the antecedent. The point we would like to clarify is whether or not the head-raising account is compatible with resumptive relatives. If resumptive relatives are also derived by movement of the head NP/DP to SpecCP, is the resumptive pronoun a bound variable as is the gap in non-resumptive relatives? We seek the answer in the following subsection.

4.4.2.2 Suñer and De Vries analyses :The null relative pronoun/ D account

One possibility to account for resumptive pronouns in direct object position in SA is to assume that the complementizer comes in two disguises: one appears with a gap and the other appears with a resumptive pronoun. This analysis was proposed in Shlonsky (1992) for Hebrew and SA and in Suñer (1998) for Spanish and Yiddish.

When the gap strategy is used, the strong features of the complementizer will force the operator to move to Spec-CP leaving a gap behind. In the resumptive case, the complementizer is associated with weak features. Operator movement is not possible in this case and therefore a resumptive pronoun appears in the relativization site.

The analysis sketched above is not in line with Kayne's approach. What moves to Spec-CP is the "head" of the relative clause, not an operator¹⁵.

The analysis adopted here stresses that *lladhii* is a complementizer rather than a relative pronoun. Thus SA relatives are parallel to English *that*-relatives. The assumption I want to make is that there are no overt relative pronouns in SA. This is not surprising because other languages appear to lack overt relative pronouns too.

¹⁵ But similarly we can assume that the strong features of the complementizer trigger movement of the antecedent along with its phi-features whereas the weak features of the complementizer trigger movement of the antecedent without moving its features. In the former case, a gap appears because no features have been left behind. In the latter case, the features have been left behind and appear in the form of a pronoun.

Such languages include Hebrew (Borer 1984, Shlonsky 1992, Sharvit 1999), Irish (McCloskey 1979/1990) Yiddish (Suñer 1998).

Let us just assume that SA has null relative pronouns. Furthermore, let us assume that the null relative pronoun is in situ. In the resumptive strategy, the null relative pronoun becomes a resumptive pronoun in surface structure. Relative pronouns, whether they are overt or null, are associated with interpretable features (gender and number). Since they cannot be bound as variables, the grammar turns them into a resumptive pronoun, an element that has the same Φ -features as the relative pronoun and which can have a variable function (McCloskey (1990), Shlonsky (1992), Suñer (1998)).

According to this analysis, direct object relatives with resumptive pronouns have the structure as schematized in (75) below.

(75) [DP D [NP N_k [CP Op_k [C⁰_{-pron}] [TP...relpro_k]]]] (cf. Suñer 1998:348, 58c)

Suñer (1998) reports that in Spanish speakers tend to use the resumptive and the gap strategy in restrictive relative clauses. She attributes these possibilities to the feature composition of the complementizer and pied-piping. If there is no pied-piping, a resumptive pronoun is inserted in the complement position of a preposition, as in (76a). If pied-piping takes place, only a gap appears behind, as in (76b).

(76) (a) es un país que hablan tanto de ÉL
 it.is a country that talk.3PL a.lot about IT
 “It is a country about which they talk a lot”
 (b) es un país {del que/ del cual}hablan tanto
 it.is a country about which talk.3PL a lot
 “It is a country about which they talk a lot” (Suñer 1998:336, Ex.5)

In resumptive relatives such as (76a), the complementizer *que* “that” is used, the preposition stays in situ and a pronoun appears as its object. In (76b) there is no

relative pronoun in situ and therefore only a gap appears. The feature composition of C^0 in the resumptive example (76a) is weak ([-pronominal]). The (null) relative pronoun cannot be attracted to SpecCP. Rather it stays in situ because it does not have to raise in covert syntax when C^0 is pronominally weak (Suñer 1998:344-345). In contrast to (76a), C^0 in (76b) has the feature [+pronominal], consequently, the relative pronoun moves overtly to SpecCP to check this strong feature. As I have said, this analysis is incompatible with the head-raising approach because it assumes that the “head” is base-generated externally.

The analysis schematized in (75) turns the null relative pronoun into a resumptive pronoun whose features must be identical to those of the antecedent. Though this analysis is attractive, it suffers from some problems. First it is incompatible with languages lacking relative pronouns as we have argued for SA. A piece of evidence that SA lacks relative pronouns comes from the fact that pied-piping in relative clauses is not possible. So (77a) is fine while (77b) is not.

- (77) (a) raʔy-tu r-rajul-a lladhii saafar-ta ma9a-hu
 saw I the-man.Acc that travelled 2ms with-him
 “I saw the man whom you travelled with”
- ... (b) *raʔy-tu r-rajul-a .. ma9a lladhii saafar-ta
 saw I the-man.Acc with that travelled 2ms

The ill-formedness of (77b) is an indicative that pied-piping is excluded in SA. This assumption leads to the fact that this language has no relative pronouns. If pied-piping is a process that leaves a gap behind, the resumptive pronoun in (77a) cannot be a lexical realization of the null relative pronoun in situ. Another important reason is that the analysis suggests that the head does not originate inside the relative clause, in an apparent contrast to the promotion analysis. Therefore, we should exclude it.

Another analysis to account for resumptive relatives is sketched in Bianchi (1999) and De Vries (2002). Following these authors, we may assume that the structure to account for the resumptive pronoun in the object position is as in (78)

(78) $[_{DP} [D' [D^0 [_{CP} DP_i [C' [C^0] [IP \dots [_{DP} [D' [D_{res} \emptyset [e_i]]]]]]]]]$
 1 kitaab lladhii hu

The lower DP has a null D. The NP, the complement of the null D, moves to SpecCP. De Vries (2002), as mentioned earlier, proposes that the *wh* feature to build a relative clause is associated with the antecedent NP, not with its determiner. The consequence of this analysis is that D, the head of the lower DP, cannot be a relative D neither can it be a determiner because it is disconnected from NP. Thus it can only be a resumptive D. The Case of the relative clause is assigned to the resumptive D. The antecedent gets its Case from the matrix clause. The complementizer must have the Case of the antecedent because they are in a Spec-head relation. To capture the difference between the gap and the resumptive relatives, the null D lexicalizes as a resumptive pronoun only optionally. This analysis also fails to account for the structure of relative clauses in SA.

First, NP movement to SpecCP with an overt C^0 is excluded as we have argued. Second, it is not clear why it is only part of the constituent that undergoes movement to SpecCP.

The analysis I have proposed for definite subject relatives carries over to definite direct object relatives. That is, the raised constituent in these relatives is DP headed by the definite determiner. This DP moves to SpecCP and enters into Spec-head agreement with the complementizer in the C^0 position. Spec-head agreement must take place before D of the lower DP moves to the higher D position.

To sum up this section, we have proposed that the resumptive strategy used in the relativization of definite direct object position is based on the assumption that the trace is optionally spelled out as a resumptive pronoun. We have rejected the

analysis that turns a non-overt relative pronoun into a resumptive pronoun in the relativized object position. We have also rejected the analysis proposed in Bianchi (1999) and De Vries (2002), that the resumptive pronoun is a lexical realization of a null stranded D whose complement has moved to SpecCP.

There is one issue that should be highlighted with respect to resumptive pronouns. We want to know if the lexical trace “the resumptive pronoun” undergoes further movement(s) on its own. We will discuss two approaches dealing with cliticization. In one view, clitics are base-generated elements (Roberts and Shlonsky 1996 and Shlonsky 1997). In some other view, clitics are analysed as heads which incorporate into the closest c-commanding head (Fassi-Fehri 1993).

4.5 On clitics and cliticization

What we are going to do now is try to answer the following question: does the lexical trace (resumptive pronoun) undergo movement on its own? In other words, does the resumptive pronoun cliticize onto V/P or is it just a matter of morphology?

Typologically, pronouns are divided into two groups: weak and strong. Weak pronouns are bound elements and as such cannot stand by themselves. These include clitic pronouns and the null pronoun *pro*. The strong class includes strong pronouns. They are independent and as such they can stand by themselves. An example of the former class is a pronoun attached to a lexical or/and some functional category by means of a suffix. The latter can be exemplified by subject pronouns¹⁶. The two classes are illustrated in the following examples:

- (79) *ḍaraba-hu badr-un*
 hit 3ms-3s badar-Nom
 “Badar hit him”

¹⁶ Independent subject pronouns are different from enclitic subject pronouns. I consider the latter agreement markers.

- (80) huwa rajul-un kariim-un
 he man-Non generous-Nom
 “He is a generous man”

What is relevant to the present discussion is the first type which is illustrated in (79). According to Chomsky, clitics are Ds but they can also be DPs. In the example in (79), the clitic occupies a theta position. In this case, it is an XP. The fact that it is attached to the head indicates that it is an X^0 category. Thus clitics appear to have both XP and X^0 properties (Chomsky 1995:249).

The reason why clitics are ambiguous, i.e., both XPs and X^0 , is that they have a nonbranching structure, as shown in (81) (Taken from Ouhalla 2001)

- (81) D/DP
 |
 CL/pro

The ambiguous status of clitics has the consequence that they can move either as XPs to some specifier position or as X^0 to some head position.

As far as cliticization phenomenon is concerned, two approaches can be identified. In one view, clitics are analysed as affixes attached to some lexical head such as V, P, N...,etc¹⁷. According to this approach, clitics are base-generated elements (Borer 1983, Jaeggli 1984). The other view assumes that clitics are full arguments and that cliticization is an instance of move-alpha. This is the movement analysis (Kayne 1975/1987/1994, Rizzi 1986).

4.5.1 Object clitics vs subject clitics

Accusative/object clitics in SA *follow* the verb, as we have already seen. This is a property of Semitic languages. In Romance languages, illustrated by the French example in (82), direct object clitic pronouns *precede* the verb.

¹⁷ A clitic can also appear on a functional head such as a complementizer, as will be shown below.

- (82) (a) *il me connaît*
he me knows
“He knows me”
(b) **il connaît me*

However, non-clitic direct objects can only follow the verb in French:

- (83) *Je parle le français*
I speak the French
“I speak French”

The contrast shown by the French examples in (82) and (83), namely that between object clitics and non-clitic objects in relation to word order can be accounted for by the fact that CL-V order is derived by a leftward movement of the clitic to some position, presumably AgrO.

CL-V order in the above example occurs in a finite clause. The same order is found in non-finite clauses, as in (84b):

- (84) (a) *Je veux écrire les lettres*
I want write-to the lettres
“I want to write the letters”
(b) *Je veux les écrire*
I want them write-to
“I want to write them”

Italian has the French pattern in finite clauses: an object clitic precedes a finite verb. In non-finite clauses, however, the clitic follows the non-finite verb. This is shown in (85) and (86), respectively.

- (85) (a) *Maria los ha visto*
Maria them has seen
(b) **Maria ha visto los* (Ouhalla 1994:363, Ex 7a,b)

- (86) (a) Maria quiere verlos
Maria wants to see them
(b) *Maria quiere los ver (Ouhalla 1994:363, Ex 8a,b)

Accusative clitics correspond to the direct object while dative clitics correspond to the indirect object. It is clear that accusative clitics correspond to DP. The situation with dative clitics is unclear. There is no Case distinction between accusative and dative clitics in SA. Morphologically, they are all similar as in the following examples:

- (87) (a) raʔay-tu-hum yal9ab-una
saw I them play.3mp
“I saw them playing”
(b) ʔa9ʔay-tu-hum l-kitaab-a
gave I them the book-Acc
“I gave them the book”

The clitic *hum* “them” in both examples has the same morphology. The fact that a non-clitic indirect object is realized as a PP is shown in (88).

- (88) aʔ9ʔay-tu l-kitaab-a li r-rajul-i
gave I the-book-Acc to the man-Gen
“I gave the book to the man”

In Romance accusative and dative clitics have Case distinction. The following examples are from French:

- (89) (a) Elle regarde la television cheque jour
she watches the television every day
“She watches TV every day”

- (b) Elle la regarde chaque jour
 she it watches every day
 "She watches it every day"
- (90) (a) Je donnerai le livre à Jean
 I give FUT the book to John
 "I will give the book to John"
- (b) Je lui donnerai le livre
 I him Dat give FUT 1s the book
 "I will give him the book"

A cluster of clitics may occur in Romance. In this case the accusative precedes the dative, as in (91)

- (91) Je vous le donnerai
 I you_{DAT} it will-give
 "I will give it to you" (cf. Kayne 1994:20, Ex.9)

The sequence CL_{ACC} CL_{DAT} shown in the French example is not allowed in SA¹⁸. Only the order CL_{DAT} CL_{ACC} is permissible, as in the following example:

- (92) (a) ?a9ṭay-tu-ka- hu
 gave I you it
 Lit."I gave you it"
 "I gave it to you"
- (b) *?a9ṭay-tu-hu-ka
 gave I it you

¹⁸ Within Antisymmetry, the clitic_{ACC} in (91) is adjoined to the verb and the clitic_{DAT} has in turn adjoined to the clitic_{ACC}. In the Arabic example (92) clitics appear postverbally. They might be assumed to be base-generated in Agr and the verb moves leftward to adjoin the clitic. See (4.5.2) below.

According to Fassi-Fehri (1993) the ungrammatical (92b) is attributed to the fact that it violates the Person Constraint which simply states that “if two non-nominative pronouns x and y are incorporated onto a governor then PERS x < PERS y (where 1<2<3) (1,2,3 stand for first, second and third person, respectively). In the ungrammatical example of (92b), the non-nominative pronoun (3) precedes another non-nominative (2), in violation of the Person Constraint. The well-formedness of (92a) provides evidence against an argument made in Roberts and Shlonsky (1996) that clitic cluster does not occur in Semitic.

In addition to the verb category, clitics in SA can be attached to nouns, prepositions as well as the complementizer *?inna* “that”, as in (93) (cf. Shlonsky 1997:179):

(93) (a) Noun + possessor:	kitaab-u ṭ-ṭaalib-i	kitaab-u -hu
	book-Nom the-student-Gen	book-Nom 3s
	“The student’s book”	“his book”
(b) Preposition +Object:	ma9a l-waziir-i	ma9a-hu
	with the-minister-Gen	with-3s
	“with the minister”	“with him”
(c) C + Subject	?inna l-fataat-a	?inna-haa
	that the-girl-Acc	that-3f
	“that the girl	“that she”

In Romance possessive clitics occupy a prenominal position, as in the following French example:

(94)	sa	voiture	est	rapide
	his.fs	car	is	fast
	“His car is fast”			

Unlike the case in Romance, clitics in SA occupy the same position in compound tenses. That is, they appear on the main verb. The examples in (95) and (96) show this contrast.

- (95) kaana yadribu-hum kull-a yawm-in
was.3ms hit PRES 3ms-them all-Acc day-Gen
“He used to beat them all day”
- (96) Je les ai lues
I them have read
“I have read them”

The difference between Semitic, represented by SA, and Romance, represented by French, with respect to clitic placement is that in Semitic clitics are attached to the main verb whereas in Romance the clitics are attached to the highest verbal head in the clause. In other words, clitics in SA appear on the c-commanding head, the closest host.

The reason for which clitics appear on the closest host, as Roberts and Shlonsky (1996) argue, has to do with the HMC. The object clitic appears on the main verb rather than on the auxiliary in Semitic because the contents of AgrO in compound tenses must appear on the main verb, not on the auxiliary. The reason is that AgrO in Semitic c-commands the main verb not the auxiliary (Roberts & Shlonsky 1996:178).

The difference between Romance and Semitic clitics is that they are XPs rather than X^0 in the former but X^0 and not XPs in the latter (Roberts & Shlonsky (1996) and Shlonsky (1997)).

However, the following example seems to pose a problem for the assumption that clitics in Semitic are attached to the c-commanding head. In the following example, the verb seems to c-command the subject rather than the object clitic.

- (97) ʔaxbar-tu- hum bi- maa fa9ala badr-un
told- I them with what did 3ms badar-Nom
“I told them what Badar has done”

The subject agreement in the perfect form appears on the verb by means of a suffix and not as a prefix as in the imperfect form of the verb illustrated in the following example.

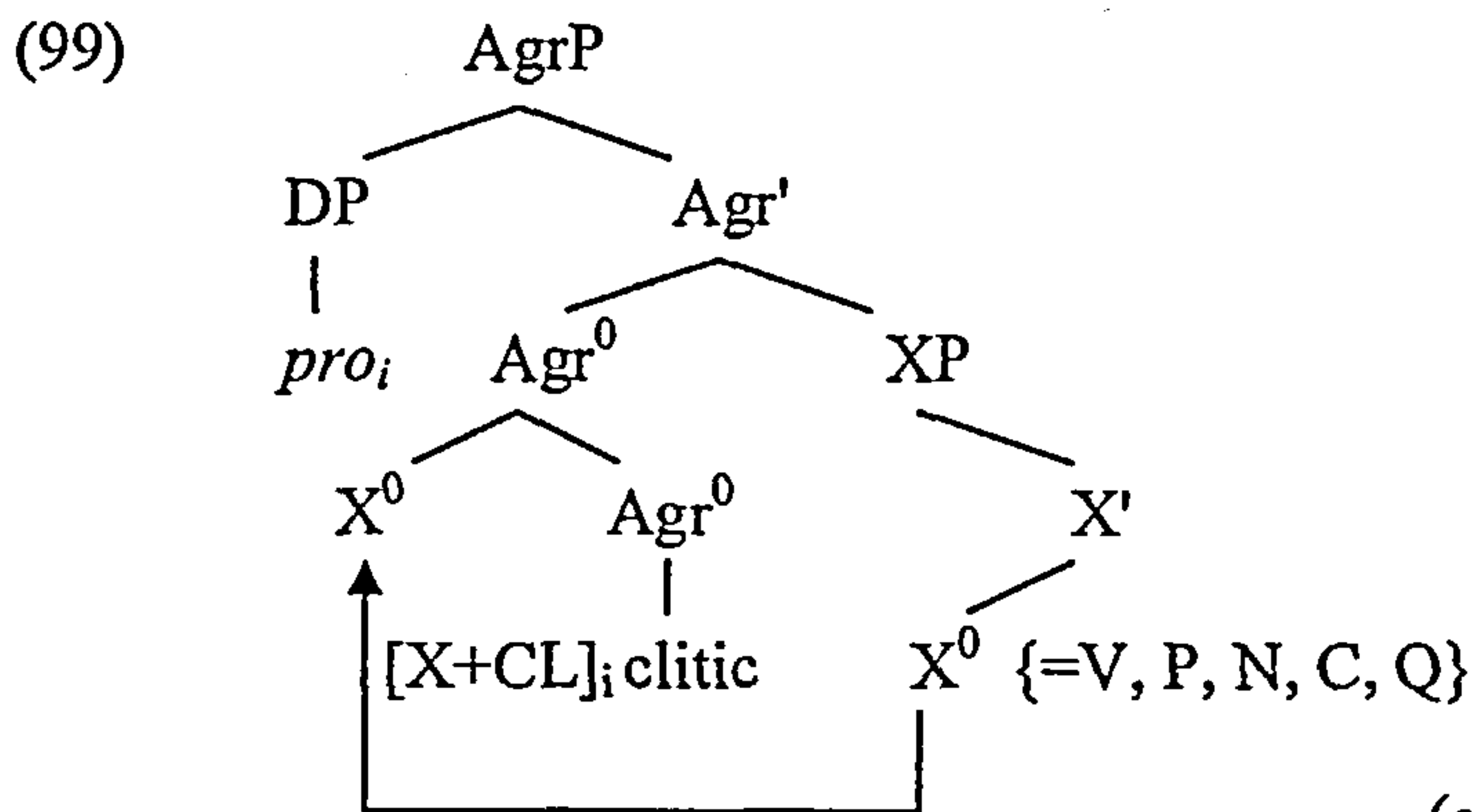
- (98) sa yuxbir-u -hum bi- maa qaala l-malik-u
 will 3ms tell-Indic them with what said 3ms the-king-Nom
 “He will tell them what the king has said”

There are two possibilities to account for the subject marker and the object clitic in (97). In one view, the subject marker is an agreement marker therefore not a clitic. This assumption is made in Roberts and Shlonsky (1996) and Shlonsky (1997). According to this analysis, AgrS in Semitic is not a syntactic affix. It is agreement morphology base-generated on the verb. These agreement markers are not independent of the verbal stem. A verb is selected from the lexicon bearing subject agreement (Shlonsky 1997:188). With this view in mind, the V-AgrS should be treated as a single head. The other view is that the subject pronoun is generated within the position of the subject and is incorporated into the verb (Fassi-Fehri (1993), Benmamoun (2000); also see Akkal & Gonegai (1996) for an analysis that treats subject pronouns as resumptive pronouns). The derivation of (97) is now straightforward. Since clitics are object Agr elements in Semitic, they are base-generated in that position. That is, object clitics are base-generated heads.

4.5.2. Cliticization in Semitic

4.5.2.1 The base-generation analysis (Roberts & Shlonsky 1996 and Shlonsky 1997))

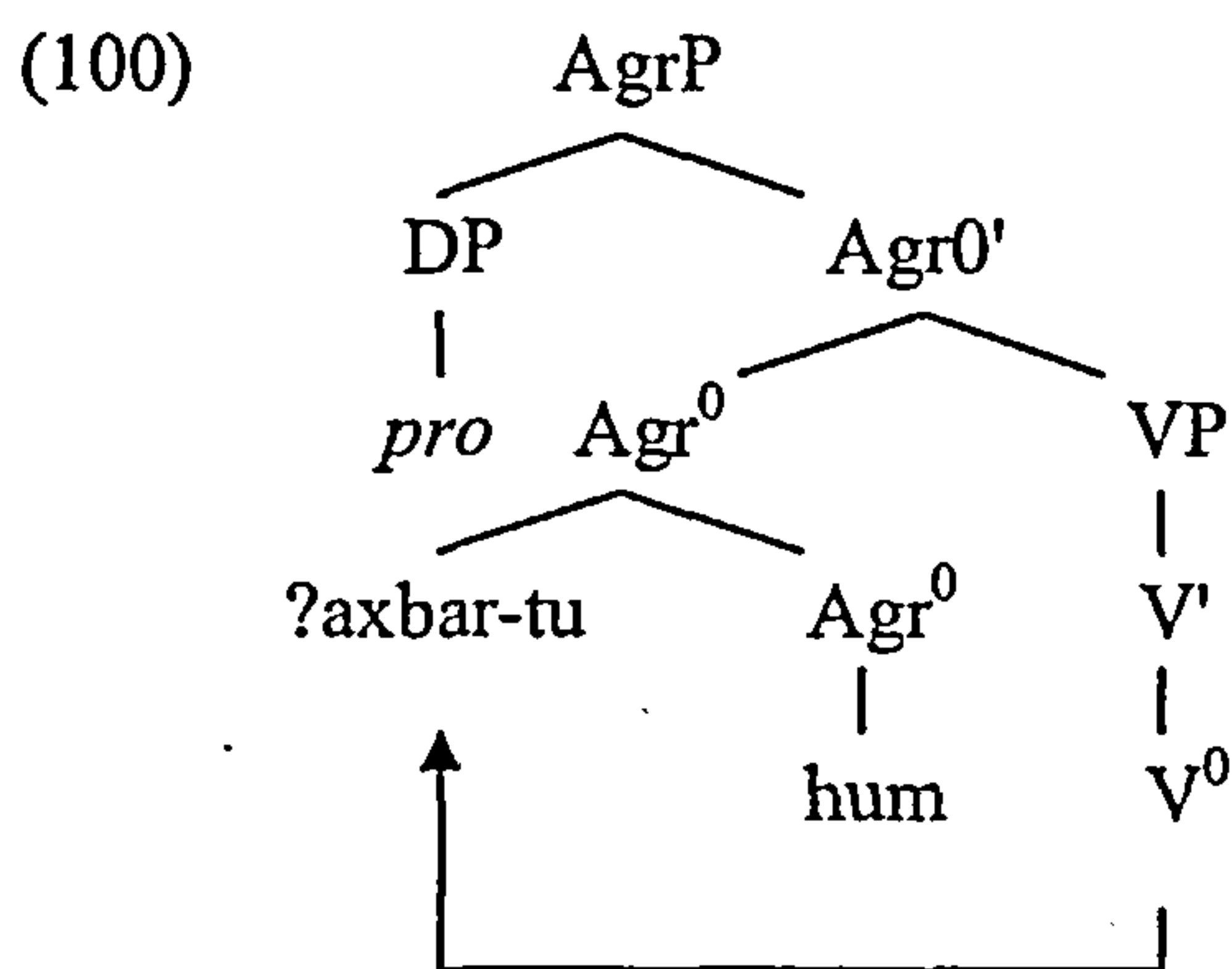
As stated above, Roberts and Shlonsky propose that clitics in Semitic are base-generated heads. The structure they propose is given in (99):



(cf. Roberts and Shlonsky 1996)

Clitic pronouns, according to the structure in (99), are base generated in Agr whose Spec is occupied by a *pro* identified by the Agr element. X^0 can be filled by any lexical category such as V, P, N or some other functional category such as a complementizer or a quantifier (See 96a-c above). $X+CL$ is coindexed with *pro* in the argument position. Thus according to the analysis represented in (99), object affixes are base-generated as independent heads.

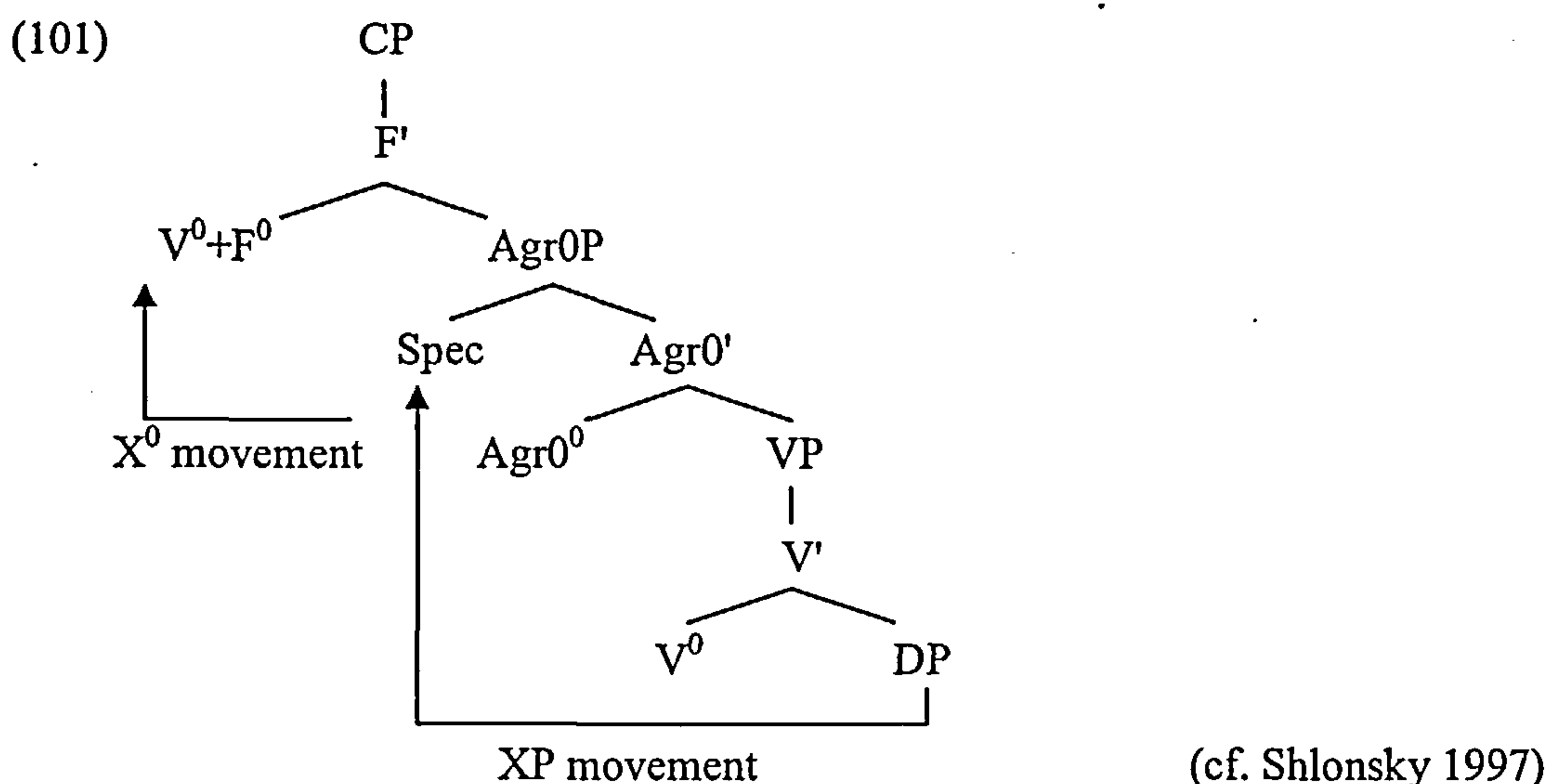
The surface structure of (97) is derived by V movement out of VP to adjoin the object clitic, as shown in (100). (Irrelevant details omitted)



The advantages of the movement and adjunction analysis is that it is compatible with the LCA which allows leftward movement. Thus the verb in (100) undergoes leftward movement and adjoins to the left of the clitic. The analysis also explains why clitics in SA have no Case distinction. We have seen that direct and indirect

object clitics in SA, unlike French, have the same morphology. There is no Case distinction in Semitic clitics since AgrOP does not refer to different categories but to different instantiations of Agr¹⁹.

Clitics in Romance are generated as XPs and accordingly they move as XPs. First they move to an intermediate Spec position. The head X⁰ moves from that Spec to a higher head position. In compound tenses, X⁰ moves to adjoin the auxiliary in the highest head position; in simple tenses, X⁰ moves and adjoins the main verb. The derivation is shown by the following diagram (taken from Shlonsky (1997)).



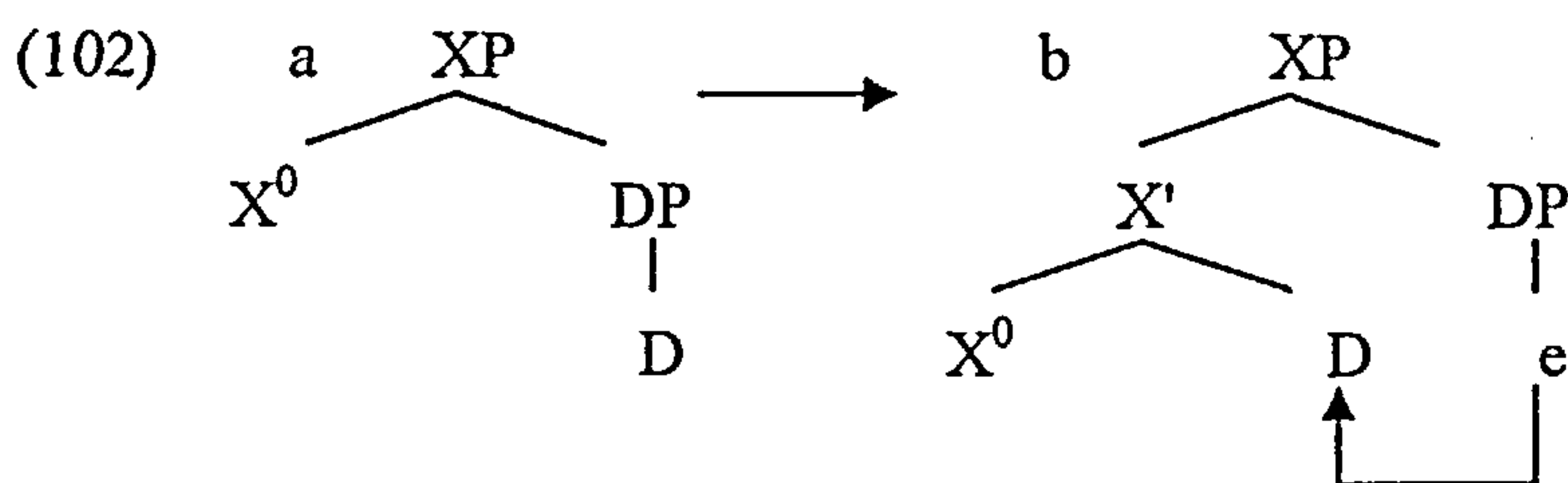
Since clitics in Semitic do not appear in higher positions the structure shown in (101) is incompatible for Semitic languages.

There is yet another analysis that has been proposed to account for clitic placement in SA. This is the Incorporation analysis, sketched in the following subsection.

¹⁹ However, see some counter examples to this assumption cited in Chapter One, footnote (18).

4.5.2.2 The Incorporation analysis (Fassi-Fehri 1993)

The analysis assumes that enclitic pronouns are heads affixed to their governor under linear adjacency. Fassi-Fehri (1993) argues that the clitic is right adjoined to its host. Crucial to this analysis is the assumption that a pronoun originates as a D head of a noun phrase (Hale 1988)²⁰. The pronoun then undergoes head movement to adjoin to its lexical governor. The structure is schematized as in (102):



X⁰ is occupied by a lexical head category such as V, P, N and C, D is the position where a clitic originates. Let us see how the example in (103) below is derived.

- (103) xaraj-tu ma9a-hu
 went out I with-him
 “I went out with him”

Let us just focus on the relevant part of (103), the PP *ma9a-hu* “with him”. The clitic *hu* “him” is the head of DP in (102a); the lexical head *ma9a* is in X⁰. The clitic moves to adjoin the preposition, leaving behind a trace, as shown in (102b).

As I can see it, the base-generation analysis is more preferable than the Incorporation analysis. First the Incorporation analysis is incompatible with Antisymmetry. Right-adjunction is not allowed in the theory. This problem does not arise in the base-generation analysis since a lexical/functional head undergoes a leftward movement and left-adjoints a base-generated clitic as required by the LCA.

²⁰ A similar view is found in Aoun and Choueiri (1997) but the difference is that clitics are assumed to be DPs whose Spec is occupied by pro-DP.

To conclude this section, we mention one more difference between Semitic and Romance clitics. It happens that some Romance clitics have the same morphological affinity with definite determiner. An example is the French *la* which can be third person accusative feminine pronoun as well as definite determiner. In SA *l* can only be used as a definite determiner.

The discussion above shows that Semitic clitics have the following properties (cited in Roberts and Shlonsky (1996):

- They occur to the right of the c-commanding head, not to the left.
- They always appear on the closest head by means of a suffix.
- They appear on lexical categories as well as the functional ones.
- They do not show any Case distinction²¹.
- They do not appear as a cluster²².
- They are different from nominal determiners.

Before I conclude this chapter, I would like to mention an analysis proposed in Ouhalla (2004) for Semitic relatives. It is a promotion-based analysis but different from Kayne's (1994) in some important respects.

4.6 Ouhalla's analysis of Semitic relatives

Ouhalla (2004) proposes that N-initial relatives with two determiners such as in (104) and those with one determiner such as in (105) are assigned the structures in (106) and (107), respectively.

²¹ As indicated in Chapter One, footnote (18), this is a problematic area.

²² Again, this is not correct as shown in example (92a) above.

- (104) l-baṭṭa illi ʔakalnaa-ha....
 the-duck (f) RM we.ate-it
 “The duck we ate....”
 (Ouhalla 2004:288, Ex.1 (cf.Haddad &Kenstowics 1980:145, Ex.12))

- (105) baṭṭit illi ʔakalnaa-ha....
 duck(f) the+Agr we.ate-it
 “The duck we ate....”
 (Ouhalla 2004:291, Ex 10 (cf.Haddad & Kenstowics 1980:144, Ex 11))

Following Aoun and Choueiri (1997), Ouhalla assumes that the relative marker in Arabic is a determiner. Furthermore, this determiner bears number and gender inflections²³. Thus the example given in (104) has two determiners *l* and *illi*, and the example in (105) has only one determiner *illi*. According to Ouhalla’s analysis, the example in (104) is parallel to free construct relatives and the one in (105) is parallel to construct relatives²⁴. The relative clause, due to the syntactic category of the relative marker, is assumed to be a DP rather than CP. Relatives with two determiners, such as (104), will have the representation in (106) and those with one determiner, such as (105), will have the representation in (107), respectively.

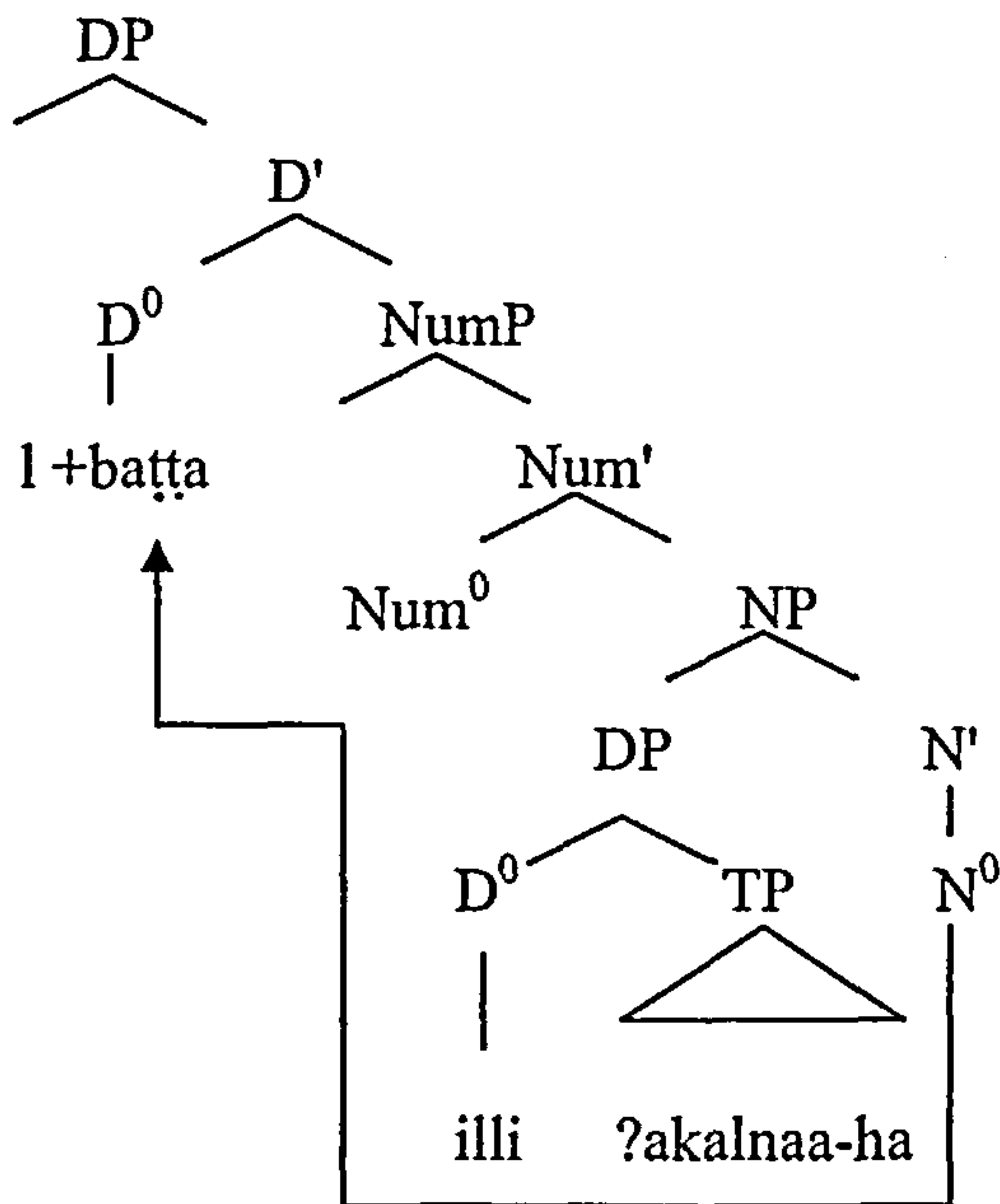
²³ In our view *lladhii* is a complementizer which inflects for number and gender in addition to definiteness and Case.

²⁴ Free construct relatives are parallel to non-construct Nps shown by the Hebrew in (i a) and Moroccan Arabic in (ib); construct relatives are parallel to construct NPs shown by the Moroccan dialect of Arabic in (ii):

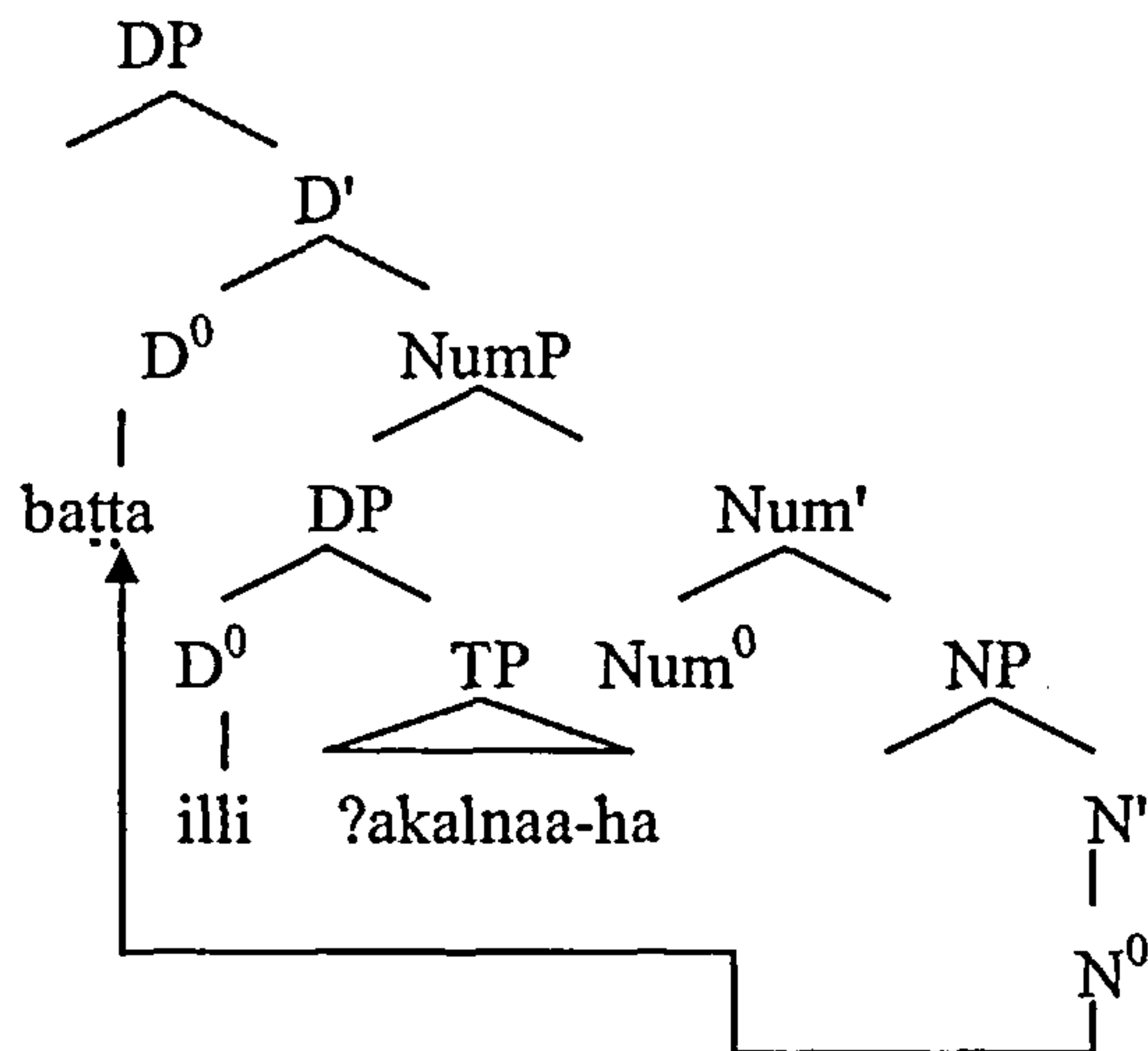
- (i) (a) bayit šel mora
 house of teacher
 “A teacher’s house” (cf. Borer (1996))
 (b) l-ktab dya l-wald
 the-book of the boy
 “The boy’s book” (cf. Benmamoun (2000))
 (ii) ktab l-wald
 book the-boy
 “The boy’s book” (cf. Benmamoun (2000))

NPs in CS, as opposed to non-construct NPs, display syntactic properties such as adjacency and the use of (in)definiteness. See Borer (1996), Roberts and Shlonsky (1996), Ouhalla (1994) and Benmamoun (2000)

(106)



(107)

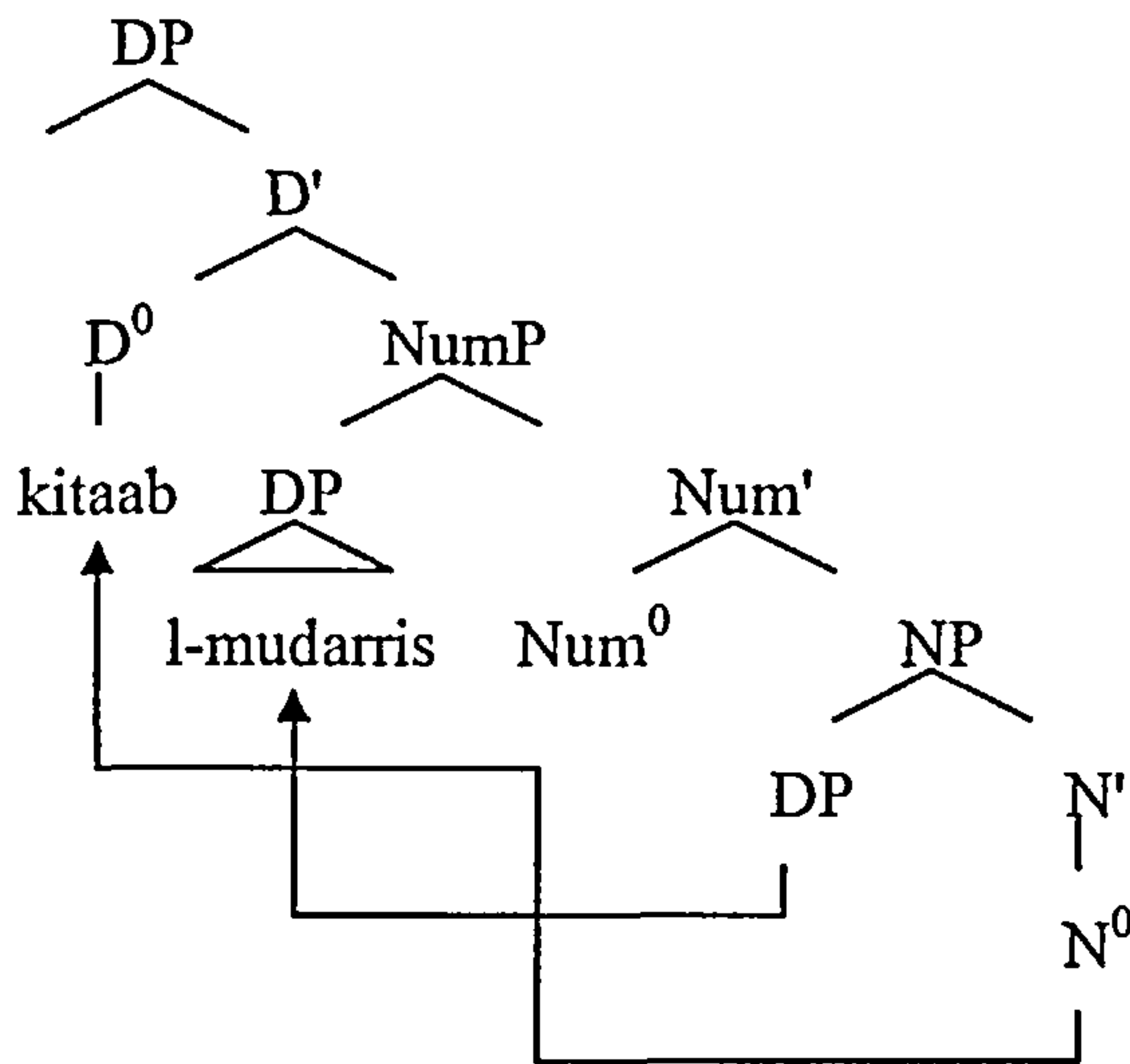


The structure assigned to the relative clauses in (106) and (107) is similar to the structure that has been proposed for the construct state in Semitic²⁵. Thus the DP in (108) will have the representation in (109).

- (108) kitaab-u l-mudarris-i
 book-Nom the-teacher-Gen
 “The teacher’s book”

²⁵ But only (107) is exactly derived as (108). See footnote (23) why this is so.

(109)



(cf. Benmamoun 2000:143)

Note that both relative clauses in (106) and (107) and the DP in (109) are derived in a similar way. They all involve N-to-D movement.

A closer look at Ouhalla's analysis will show that it runs into a number of problems. The analysis assumes the following:

- The relative marker is a definite determiner
- No movement takes place from an argument position
- The analysis allows right adjunction

I will discuss these assumptions in turn, pointing out their weaknesses.

4.6.1 Problems with Ouhalla's analysis

4.6.1.1 The definiteness of the relative marker

The assumption that the relative marker is a definite determiner is not new. It has long been proposed that relativization in Arabic is a matter of definiteness. This claim was made in Abubakr (1970), Lewkowics (1971), Haddad and Kenstowics (1980). These analyses, including Ouhalla's (2004), do not explain why the examples in (110 b-d) are out.

- (110) (a) l-kitaab-u l-jadiid-u
the-book-Nom the-new-Nom
“The new book”
(b) *l-kitaabu lladhii jadiid-u
(c) *lladhii kitaab-u l-jadiid-u
(d) *lladhii l-kitaab-u lladhii jadiid-u

As shown, the relative marker cannot replace the determiner. If *lladhii* is a determiner, (110b-d) should be grammatical.

It is also worth mentioning that the Arabic determiner *l* does not inflect for number or gender. The relative marker, as we have seen, inflects for number, gender and sometimes for Case (Hasan (1975), Haddad & Kenstowics (1980)).

Moreover, the relative marker can only be followed by a clause or a prepositional phrase. The fact that *l* cannot replace *lladhii* in these contexts, as in (111c-d), is an indicative that it cannot be a determiner:

- (111) (a) r-risaalat-u llatii ?aktubu
the-letter-Nom RM (f) write 1s
“The letter I write/ am writing”
(b) r-risaalat-u llatii fi l-ḥaqiibat-i
the-letter-Nom RM in the-bag-Gen
“The letter in the bag”
(c) *r-risaalat-u l-?aktub-u
the-letter-Nom the- write 1s
(d) *r-risaalat-u l-fi l-ḥaqiibat-i
the-letter-Nom the-in the-bag-Gen

The ungrammatical examples of (111) show that the determiner in Arabic, unlike *lladhii*, cannot take a sentential or a prepositional phrase complement.

Some further evidence that *lladhii* cannot be a determiner comes from the Algerian dialect of Arabic. Belcacemi (1999) points out that it is possible to reduce the relative marker *elli* to *el* when it is followed by an adjective but not when it is followed by a verb. Thus (112b) is a reduced form of (112a).

- (112) (a) ʔl-wʔld ʔlli kbir ʔa
 Dm boy who big-3ms arrived-3ms
 “The boy who is big has arrived”
 (b) ʔl-wʔld l-kbir (ʔa) (cf. Belcacemi 1999:6, Exs.15&20)

Belcacemi shows that this symmetry holds true for adjectives²⁶. If it were extended to verbs, it will not work as shown in (113).

- (113) *ʔl-wʔld l-kʕn kbir
 Dm boy Dm be (past) big
 *The boy the was big (Belcacemi 1999:5, Ex. 11)

Thus relative reduction is only possible in certain contexts. Therefore the claim that the relative marker is a determiner is not tenable.

4.6.1.2 The gap and the resumptive problem

Another problem with Ouhalla’s analysis is concerned with the extraction site. As we have seen, movement does not take place from an argument position. Rather, the head noun undergoes N-raising to D, presumably via Num⁰. The point is that if the

²⁶ This fact is further supported by adjectival construct state where the sequence {D-Adj} can have a relative clause interpretation:

- (i) l-walad-u t-tawiil-u sh-sha9r-i
 the boy-Nom the-long-Nom the-hair-Gen
 “The boy whose hair is long”

moved constituent is not from an argument position then the resumptive pronoun within TP, the complement of D, must be accounted for. Ouhalla assumes, following Aoun and Choueiri (1997), that the pronominal element attached to the verb of the relative clause does not exclude cooccurrence with an (extracted/null) DP object (Ouhalla 2004:388).

Furthermore, the analysis assumes that all relative clauses are derived by N-raising to D. But this is not movement from an argument position. If we assume that the pronominal element attached to the verb satisfies the subcategorization requirements of the relative verb, the situation with subject relatives is not the same since, as widely believed, the relativized subject position (in main clauses) does not allow an overt pronominal element²⁷. The subject trace needs to be governed so that the ECP is not violated. Ouhalla's analysis, as I see it, does not account for this problem.

4.6.1.3 N-to-D adjunction problem

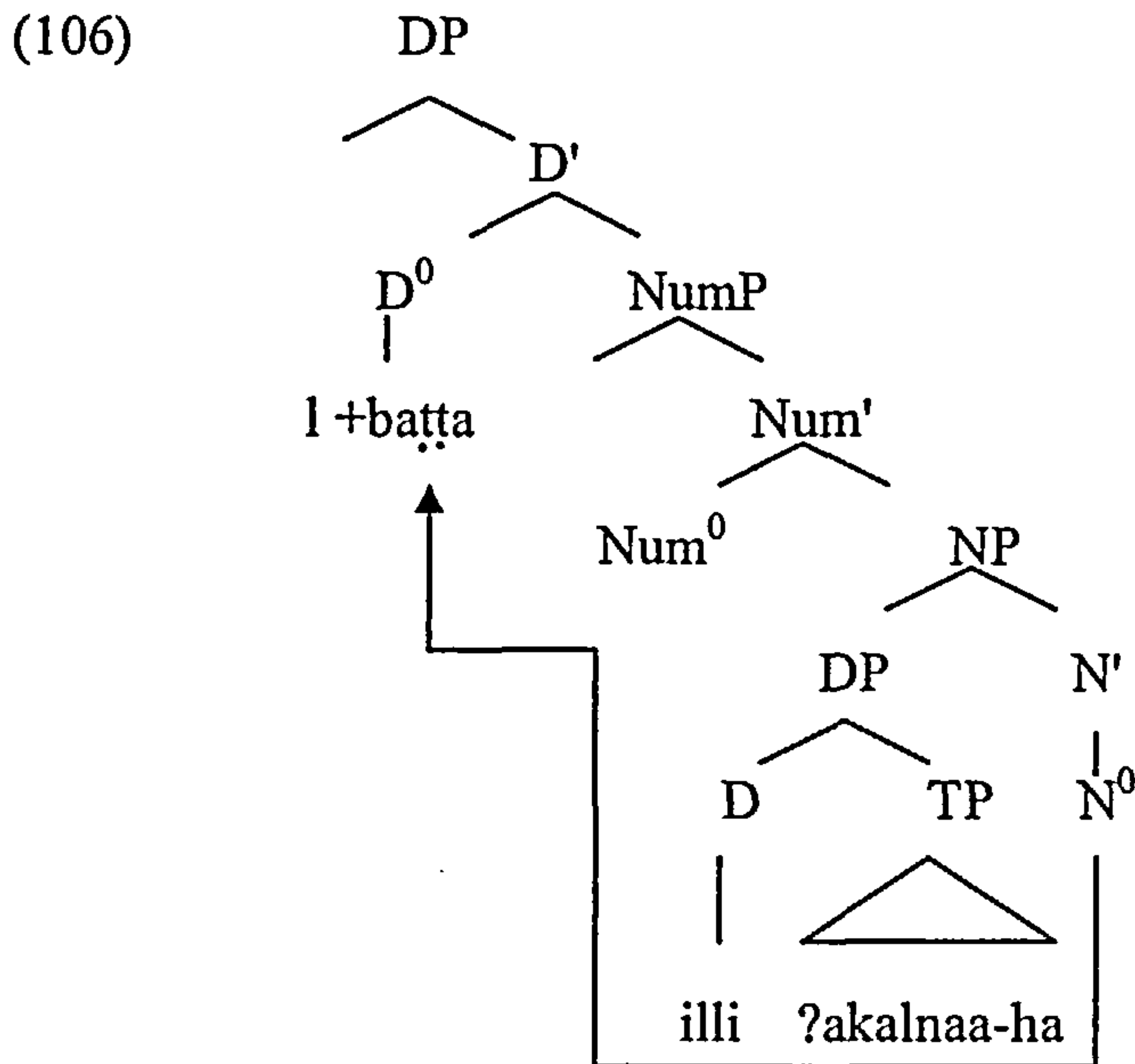
One of the properties of Semitic languages is that N can move to D since D position in these languages is assumed to be empty. The fact that the first member of the construct state must be indefinite provides evidence that such movement exists in Semitic. If the first member is definite, the structure will be ungrammatical because in this case both the determiner and the noun compete for the same position i.e D²⁸. For this reason (114b) below is out.

- (114) (a) ?umm-u l-walad-i
mother-Nom the-boy-Gen
"The boy's mother"
- (b) *l-?umm-u l-walad-i
the-mother-Nom the-boy-Gen

²⁷ But this is not a generalization as seen in Chapter Four (4.1.1.3).

²⁸ If this assumption is on the right track then it is not clear why an adjective heading a construct state, as in footnote (26), can be definite. See Fassi-Fehri (1999) for some discussion.

Ouhalla's analysis wrongly predicts that (114b) is grammatical because N moves to D which is already occupied. I repeat his analysis given in (106) above.



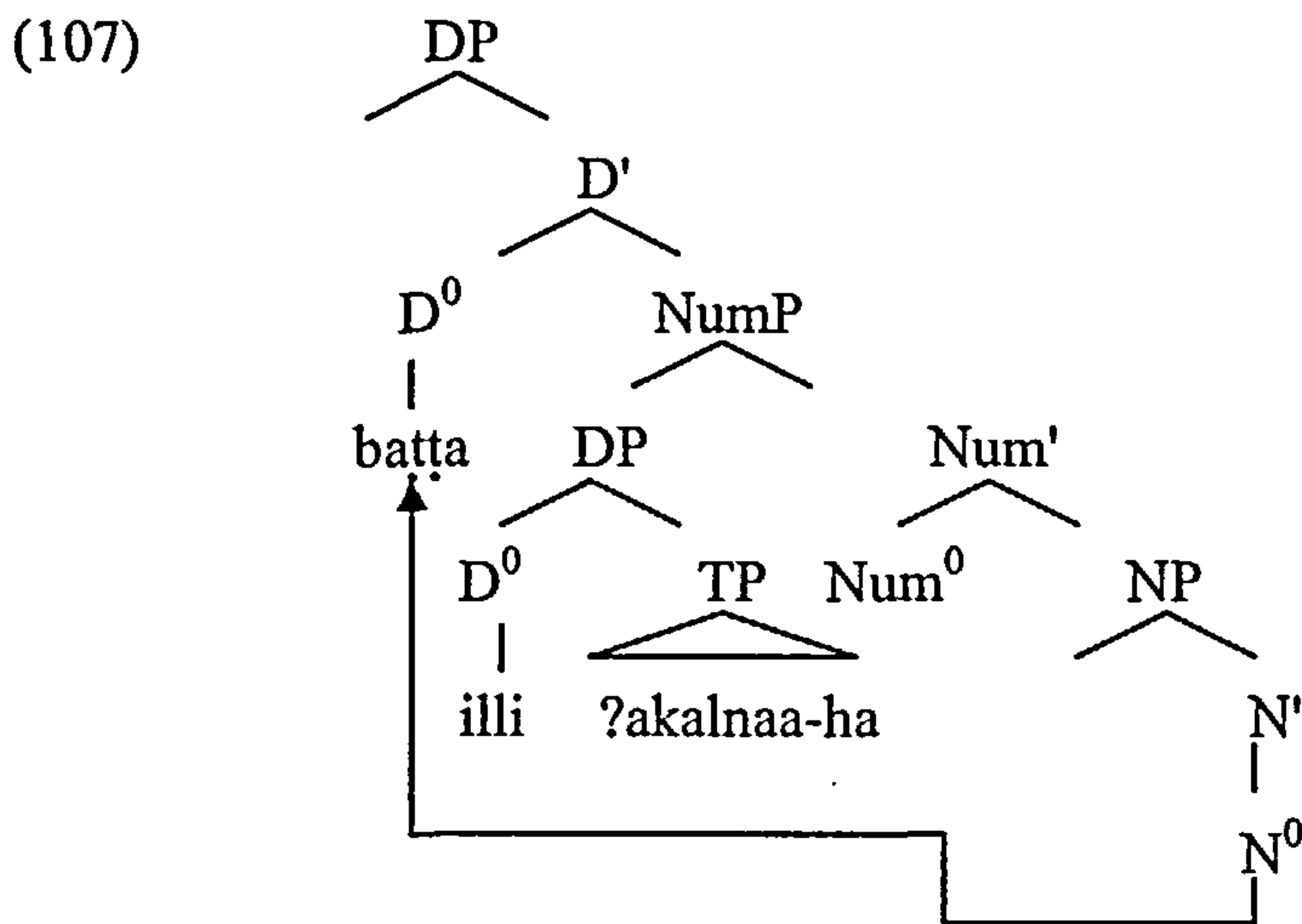
The ungrammatical example in (114b) is similar to (104) whose structure is given in (106) yet only (104) is grammatical. According to Ouhalla's analysis (114) must be grammatical and have the same structure as (104). The fact that (114b) is ruled out makes Ouhalla's analysis questionable. However, Ouhalla argues that the analysis in (106) is only possible for free construct relatives (i.e. relatives parallel to non-construct NPs). But even if this is the case, N movement to an already occupied D is not possible, as shown by (114b). Moreover, N, according to Ouhalla's analysis, is right-adjoined to D. This type of adjunction is not permitted in the head-raising analysis since all types of movement must be leftward (Kayne 1994:50-53).

Ouhalla's analysis cannot account for examples such as (115) either.

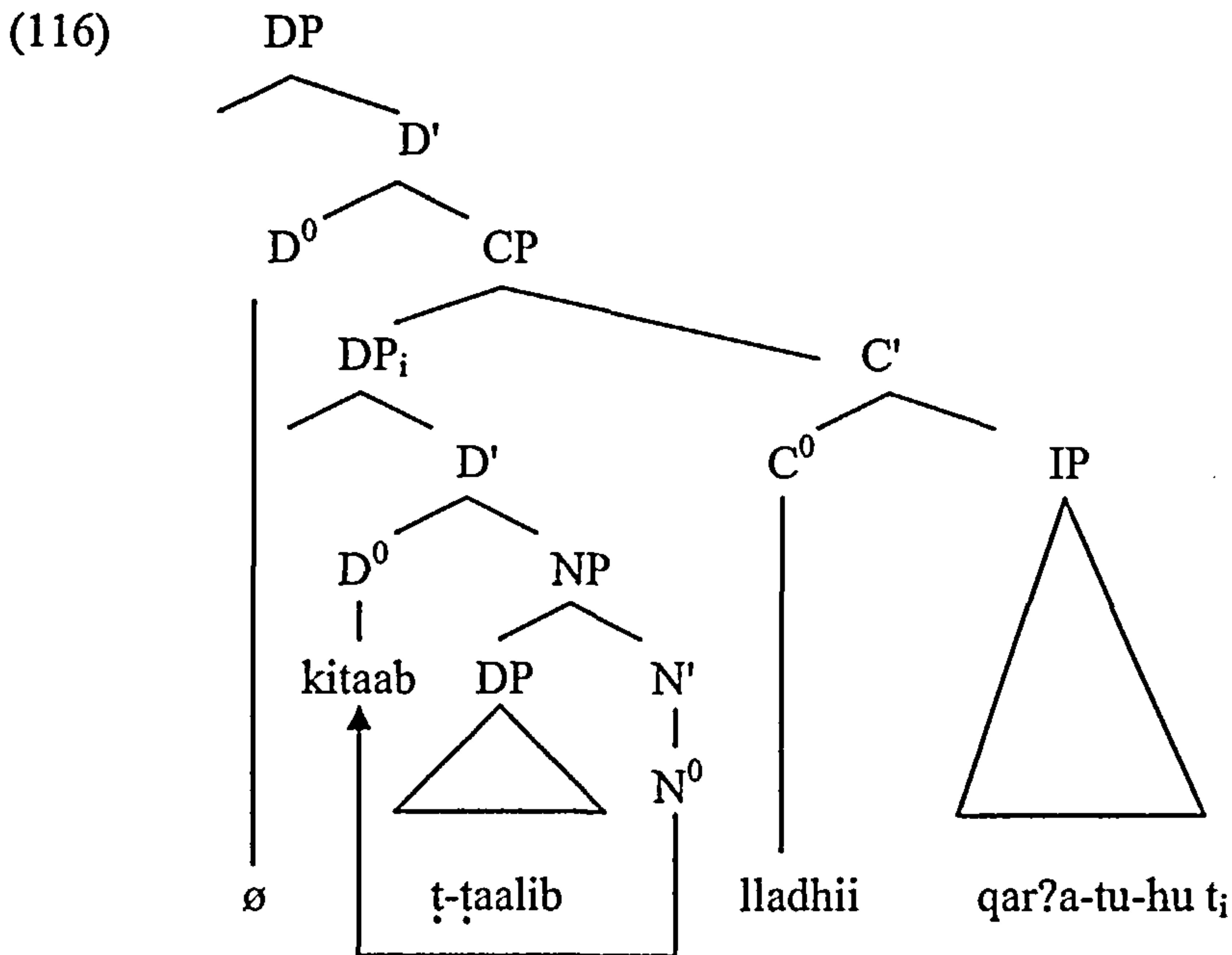
- (115) kitaab-u ʔ-ʔaalib-i lladhii qaraʔa-tu-hu
 book-Nom the-student the+Agr read I it
 "The student's book that I read"

The noun *kitaab* “book” raises to D, which is empty, so that it can assign genitive to the possessor DP *t-taalib* “the student”

According to Ouhalla’s analysis, the example in (115) should have the structure assigned to construct relatives (i.e relatives parallel to construct NPs) given in (107) above, repeated below for convenience.



Now if the possessor in (115) occupies SpecNumP, where is the DP *lladhií wajaḍ-tu-hu* “that I found” going to be? It is clear that it cannot be in SpecNumP since this position is already occupied. This seems to me to be a major problem for the analysis that takes a relative clause a DP rather than a CP. This sort of problems appear only if the relative marker is analysed as a determiner. By contrast, the problem does not occur if *lladhii* is analysed as a complementizer, as I have proposed. In this case, *kitaab t-taalib* “the student’s book” is raised to SpecCP and will serve as the antecedent of the relative clause. The DP in the specifier position of CP is derived by N raising to D in order to have a construct state structure. The structure will have the representation in (116). (I have omitted the Number projection in the DP in SpecCP position).



The structure given in (116) handles the facts straightforwardly for (115), unlike the structure in (107). We will see in dealing with free relatives (Chapter Six) that the analysis under which *lladhii* is a complementizer has superiority over the analysis that regards *lladhii* a determiner.

Conclusion

We have looked at different relativized positions in main clauses in this chapter. We have proposed that, due to the rich verbal morphology, the position of the extracted subject may contain a null resumptive pronoun. We referred to this type as the null resumptive strategy. This null resumptive is a trace properly governed by the agreeing complementizer *lladhii*. We have shown that the fact that the subject trace is governed by a complementizer is a cross-linguistic phenomenon.

Definite direct object relatives are different from indefinite direct object relatives in the sense that the extraction site of the former can be filled with a gap or a resumptive pronoun whereas in the latter only a resumptive pronoun is possible. We attributed this difference to the assumption that in definite direct object relatives the

“head” optionally undergoes movement along with its features whereas in indefinite direct object relatives the features do not move along with the “head”. As far as cliticization is concerned, we presented two different approaches. We argued that the base-generation analysis is more preferable than the incorporation analysis because it does not involve right-djunction.

We also looked at Ouhlla’s (2004) analysis of Arabic relatives and concluded that the analysis fails to account for some issues concerning the syntax of relative clauses in Arabic.

Chapter Five

Relativization from Embedded Clauses

5.0 Introduction

Standard Arabic has two types of the complementizer that can introduce an embedded clause. One is *?anna*, the other is *?an*. The two complementizers are in complementary distribution. The former introduces SV clauses; the latter introduces VS clauses (See Chapter Three (3.2.1.2)).

Embedded Relativization is different from simple relativization. Extraction from an embedded clause requires two complementizers. The higher complementizer is realized by *lladhii*; the lower (embedded) one is realized by either *?anna* or *?an*, depending on whether the embedded clause is a SV or a VS¹.

This chapter is concerned with the structure of embedded relative clauses. In Section (5.1) we will discuss subject extraction from the two types of embedded clauses mentioned above. It will be shown that in *?an*-embedded clauses the subject is raised from a postverbal position presumably SpecVP whereas in *?anna*-embedded clauses the subject is raised from SpecIP and undergoes successive cyclic movement to SpecCP. Section (5.2) will focus on the extraction of the embedded object. Section (5.3) discusses complementizer deletion in embedded relative clauses.

¹ The complementizer of the matrix clause cannot be overt if the relativized argument is indefinite. The embedded complementizer *?anna* but not *?an* can be optional as will be shown in (5.3.1).

5.1 The relativization of the embedded subject

This section will be concerned with the examples given in (1) and (2) below.

- (1) r-rajul-u lladhii ?araada badr-un ?an yaktub-a l-maqaal-a
the-man-Nom that wanted.3ms badar-Nom that write-Subj the-article-Acc
“The man that Badar wanted to write the article”

- (2) r-rajul-u lladhii zanna badr-un ?anna-hu kataba l-maqaal-a
the-man-Nom that thought 3ms badar that-him wrote 3ms the-article-Acc
“The man that Badar thought wrote the article”

The examples illustrated in (1) and (2) exhibit important differences between the embedded clauses with respect to word order which in turn determines whether the NP/DP has moved from SpecVP or SpecIP. We proceed with subject extraction from *?an*-embedded clauses as exemplified in (1).

5.1.1 Subject extraction from *?an*-embedded clauses

In Chapter Three, we pointed out that the complementizer *?an* is immediately followed by the verb in the subjunctive mood. The fact that no category can intervene between the complementizer and the verb is an indicative that the subject is excluded from SpecIP in this type of clauses, as in (3b):

- (3) (a) ?uriid-u ?an yaktub-a r-rajul-u l-maqaal-a
want 1s-Indic that 3m write-Subj the-man-Nom the-article-Acc
“I want that the man to write the article”
(b) * ?uriid-u ?an r-rajul-u yaktub-a l-maqaal-a
want 1s-Indic that the-man-Nom 3s write-Subj the-article-Acc

The ungrammaticality of (3b) is due to the fact that the verb is not adjacent to the complementizer². The complementizer *?an* has the feature subjunctive which it must assign to the verb as in (3a). With the subject in SpecIP, as in (3b), the complementizer cannot assign the subjunctive mood to the verb.

Another defining property of the complementizer *?an* is that it cannot introduce a relative clause. The relative complementizer *lladhii* cannot occur as the head of a complement clause. The sentential complementizer and the relative one are in complementary distribution. This is not what we find in some languages. In English, for example, the sentential complementizer *that* can also be used in relative clauses³. We find the same situation for the sentential complementizer *she* in Hebrew (Borer 1984). The examples in (4a,b) involve the English complementizer *that* and those in (5a,b) involve the Hebrew complementizer *she*.

- (4) (a) I know that John is a millionaire
 (b) I criticized the book that John read
- (5) (a) david ?mar she-rina ba?a ?etmol
 David said that-Rina came yesterday
 "David said that Rina came yesterday" (Borer 1984:235 (ex 28))
- (b) ze ha-?ish she-?oto ra?iti
 this is the-man that-him saw I
 "This is the man that I saw" (Borer 1984:234 (ex 25))

The complementizer *she* represents the standard [-wh] complementizer in Hebrew. It can be used in sentential as well as in relative clauses. In this respect, it is similar to the English *that*, as illustrated in (4) and (5), but different from the SA *?an* (or *?anna*). Hebrew has another relative complementizer which can only occur in

² SpecIP of *?an*-embedded clauses cannot be occupied by a lexical subject but can be occupied by a null subject, a *pro*.

³ See Van der Auwera (1985).

relative clauses, namely the complementizer *?asher*. The SA *lladhii* is similar to this complementizer in the sense that it can only introduce relative clauses. But they are different in the sense that *lladhii* inflects for number and gender whereas *?asher* does not.

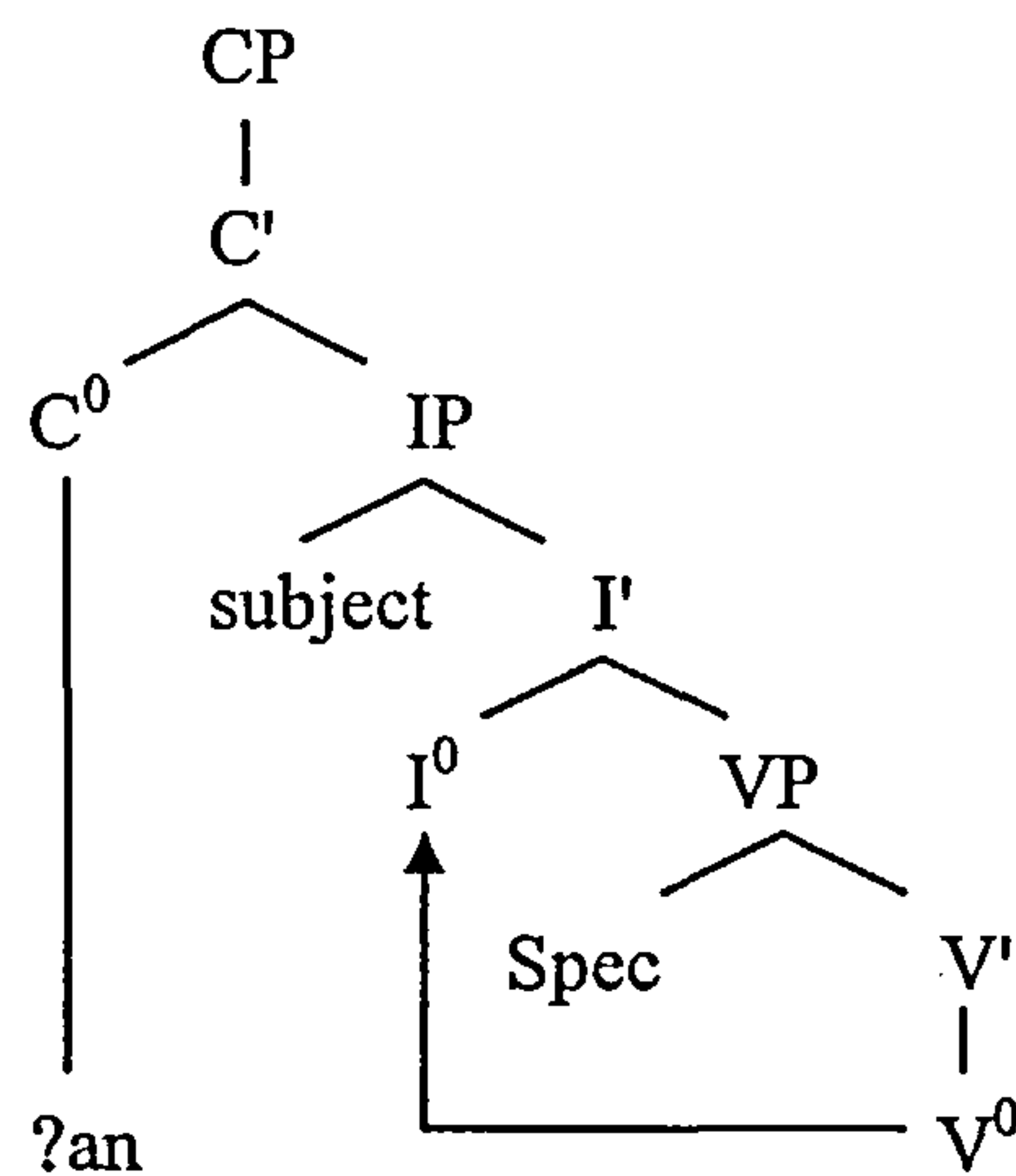
According to Borer (1984), *?asher* appears as a complementizer in relative clauses that do not involve movement. That is, it appears in relatives with a resumptive pronoun on the basis that the resumptive strategy excludes movement.

- (6) ze ha-mixtav ?asher pagashti ?et ha-?ish ?asher katav ?oto
 this is the-letter that met I Acc the man that wrote it
 “This is the letter that I met the man that wrote” (Borer 1984:235 (ex 30))

We have mentioned that *?an* is a subjunctive mood assigner. For this reason, no XP can intervene between the complementizer and the verb as in (3) above. The question is why the subject cannot appear in SpecIP of the embedded clause introduced by *?an*? That is, why the structure given in (7) is illegitimate in SA.

(7)

(7)



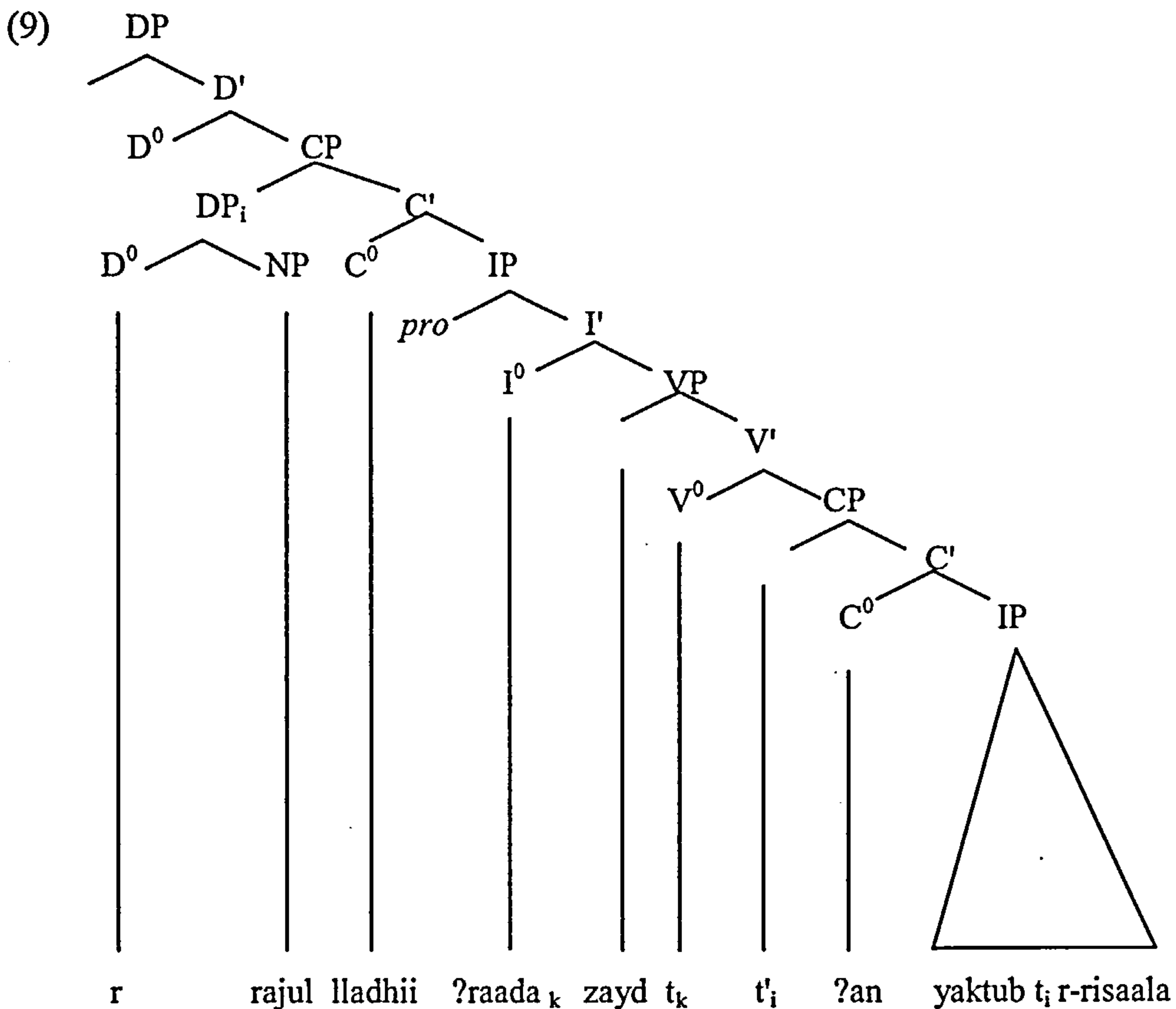
One proposal that has been made to exclude the structure in (7) is that nominative cannot be assigned to the subject in SpecIP via Spec-head agreement (Souali 1992 and Al-Sayed 1998). According to this view, the subject can only be assigned nominative through government. This suggests that the subject is in the thematic

position, SpecVP, and is assigned nominative by Infl under government. Given that the subject trace in SpecIP cannot be governed, it is plausible that the antecedent in subject relatives in embedded clauses introduced by *?an* is extracted from SpecVP. The structure in (7) is illegitimate since it violates the ECP: the trace in SpecIP cannot be properly governed when the subject is relativized from that position.

Recall that in dealing with relativization in simple clauses we proposed that the subject trace in SpecIP does not violate the ECP since *lladhii* is an agreeing complementizer and therefore it properly governs the subject trace. In contrast, the complementizer *?an* cannot govern the trace in the subject position if extraction takes place from SpecIP. The reason is that *?an*, unlike *lladhii*, is not an agreeing complementizer.

Rizzi (1982/1990) proposes that the subject can be extracted from a postverbal position and that the trace left behind does not lead to the ECP violation since it is properly governed by Infl. On the basis of this view, we can propose that subject extraction from *?an*-embedded clauses takes place from the specifier of VP. The example in (8), which is similar to (1) above, will have the structure in (9).

- (8) r-rajul-u lladhii ?araada zayd-un
the-man-Nom that wanted 3ms zayd-Nom
?an yaktub-a r-risaalat-a
that 3m write-Subj the letter-Acc
“The man that Zayd wanted to write the letter”



Note that the intermediate trace in SpecCP cannot antecedent-govern the subject trace if extraction takes place from SpecIP. The reason is that the complementizer *?an* intervenes between the intermediate trace and SpecIP. In other words, antecedent-government seems to be excluded. Furthermore, the complementizer *?an* cannot govern the subject trace in SpecIP since it is not an agreeing complementizer. One of the striking facts about the well-formedness of (9) is that the subject can freely be extracted out of a clause introduced by the complementizer. This amounts to the fact that SA does not show *that*-trace effects. In this respect, SA is similar to Italian which also permits subject extraction out of a clause introduced by a complementizer (Rizzi 1982/1990). According to this assumption, the subject in these languages is assumed to be extracted from the postverbal position. In this case, the trace will be properly governed by the verb and there will be no violation of the ECP. Subject extraction from the postverbal

position is fine according to Rizzi's analysis since the subject trace in Italian is properly governed by Infl.

Despite the fact that SA seems to behave like Italian as far as subject extraction is concerned, it is argued in Souali (1992) and Al-Sayed (1998) that Infl is not a proper governor for the subject trace in SA. The evidence they cite is that the subject can be assigned Case by an outside governor, as in the following examples:

- (10) (a) ?inna zayd-an ḡaraba badr-an
that zayd-Acc hit.3ms badar-Acc
"Verily, Zayd hit Badar"
(b) ḡasib-tu zayd-an ḡaraba badr-an
thought I zayd-Acc hit.3ms badar-Acc
"I thought Zayd hit Badar"

If we follow Al-Sayed and Souali, the DP *Zayd* must be in SpecIP in both (10a) and (10b) and that nominative is excluded since Infl cannot prevent the complementizer (10a) or the matrix verb (10b) from assigning accusative to the subject in SpecIP.

Another proposal was made in Fassi-Fehri (1993:33) to account for Case assignment in (10). He suggests that nominative is the last resort Case for preverbal subjects and that when some case is available, the subject must take it. According to this view, preverbal subjects have a nominative default Case but when there is an external governor, they must be assigned Case by this external governor whether it is C, as in (10a), or V, as in (10b). This line of reasoning suggests that the proposal made in Souali and Al-Sayed that Infl is not a proper governor in SA is not correct.

The proposal that the clauses in (10) have the word order SVO where the subject is in SpecIP is questionable given that SA is a VSO language. If the examples in (10) exhibit a SVO, it is not clear why the subject cannot occupy SpecIP in (3b) above, repeated in (11) below:

- (11) * ?uriidu ?an r-rajul-u yaktub-a l-maqaal-a
 want 1s Indic that the-man 3m.write-Subj the-article-Acc

It is more plausible to propose that the DP following the complementizer and the matrix verb in (10) above is a topic rather than a subject. This claim was made in Farghal (1986) and Shlonsky (1997). The fact that the subject is assigned nominative by Infl explains why the examples in (12) below are impossible:

- (12) (a) * ?inna daraba zayd-an badr-an
 that hit.3ms zayd-Acc badar-Acc
 “Verily, Zayd hit Badar”
 (b) * ?asib-tu tazawwaja zayd-an hind-an
 thought I married Zayd-Acc Hind-Acc
 “I thought Zayd married Hind”

Neither the complementizer nor the matrix verb in (12) can assign accusative to the subject in SpecVP. The reason is that Infl prevents an outside governor from assigning Case to the subject in SpecVP.

Having mentioned some evidence that Infl in SA is a proper governor, we conclude that the antecedent of the relative clause in (8) is extracted from SpecVP as schematized in (9). We have not however explained how this movement takes place. Does the antecedent move to the higher CP directly or via the Spec of the intermediate CP? The standard view is that long distance movement is a successive cyclic process. Accordingly, the antecedent moves first to the specifier position of the lower CP via which it moves to the specifier of the higher CP. Though this analysis looks attractive, it has a problem that we will mention shortly.

Recall that in our discussion of the derivation relatives from simple clauses, we have proposed that movement from the relative clause to SpecCP involves DP when the complementizer is phonetically overt. We have also pointed out that the relative complementizer is inflected for gender and number in addition to Case and the definite and that it agrees with its Spec in these features. The complementizer *?an*

does not have any of these features. To borrow Rizzi's terminology, *?an* is not an agreeing complementizer. This property has some important consequence. Given that the complementizer *?an* has no phi-features, the antecedent DP cannot land in the intermediate spec position. We have seen that DP movement to SpecCP is fine as far as *lladhii* is overt. Since *?an* is not a relative complementizer and that it does not agree with the antecedent in gender and number, there is no movement to its spec position⁴. The antecedent then moves directly from SpecVP to the spec position of the higher CP.

The fact that the specifier of *?an* cannot be a landing site for the raised antecedent indicates that it cannot A'-bind the trace in the extraction site. This is not only in long distance movement but also in short distance movement, as in (13b):

- (13) (a) r-rajul-u lladhii qaala qaṣiidat-an
the-man-Nom that said poem-Acc
"The man who said a poem"
(b) *r-rajul-u ?an qaala qaṣiidat-an

The "head" in (13b) cannot move to SpecCP on the basis that *?an* and the DP in its Spec do not agree. This problem does not show up in (13a) for the reasons we have already mentioned.

The fact that some complementizers allow movement to their spec positions and others do not is also true in other languages. McCloskey (2002) points out that the complementizer that is used for A'-binding in Irish is different from the one which is not. Only the complementizer *aL/aN* is used for A'-binding. The complementizer *go* cannot be used for wh-movement and hence its spec is unoccupied (McCloskey 2002:185-190). I propose that the Irish complementizer *go* is similar to the SA complementizer *?an* in the sense that their specs are not A'-positions and therefore

⁴ More precisely, the complementizer *?an*, unlike *lladhii*, lacks any features that may trigger movement to its specifier position.

cannot be coindexed with the trace in the extraction site. The crucial idea behind this proposal is that successive cyclicity is not possible in this type of relatives. This assumption is problematic since it excludes locality. As is well known, locality constraints bar any wh-movement that crosses a CP boundary. That is, movement should proceed from the lower spec to the next. When a moved phrase lands in SpecCP, a spec-head relation is established between the moved phrase in SpecCP and the complementizer.

If we assume that the moved phrase in SpecCP deposits a mark on C, as suggested in McCloskey (2002), successive cyclic movement is excluded in this type of relatives in SA since there is no Spec-head agreement in the lower CP. Underlying this assumption is that movement of a phrase A to position B is available unless blocked by some constraint (cf. McCloskey 2002:196). The implication of this assumption is that movement to the specifier position of the lower CP in embedded relatives is not likely since there is no movement-driving features on the complementizer *?an*. To use Chomsky's (2000) terminology there are no features at the left edge of the intermediate CP.

Despite all this, I follow a proposal made in McCloskey (2002:187) for Irish that movement to the intermediate Spec position may apply freely and that only the final step is featurally driven. This is in fact what we find in SA given the differences in feature specification between the matrix and the embedded complementizers.

We have mentioned before that the Irish complementizer *go* is not associated with A'-binding. It can only be used in sentential complement clauses that do not involve A'-movement, as in the following example:

- (14) Credim gu-r insi sé bréag
 I-believe go-[PAST] tell he lie
 "I believe that he told lie" (McCloskey 2002:189 (ex 8))

The complementizer *go* appears in the lower position when it occurs in relative clauses. A'-movement is associated with the topmost C^0 , as in the following example taken from McCloskey (2002).

- (15) An t-ór seo ar chreid corr-dhuine go rabih sé ann
the gold DEMON aN thought some-people go was it there
‘‘This gold that some people thought was there’’

(McCloskey 2002:190 (ex 17))

According to McCloskey successive cyclic movement in Irish applies in the configuration given in (16):

- (16) XP [_{CP1} aL.....[_{CP2} aL.....[_{CP3} aL.....t_i.....]]]

In the configuration shown in (16), wh-movement applies into the spec position of each CP. The reason is that the complementizer *aL*, unlike *go*, carries features that trigger movement to intermediate spec positions.

The fact that long wh-movement in relative clauses in SA requires all lower C^0 positions to be occupied by the complementizer *?an/?anna* suggests that successive cyclic movement cannot apply into intermediate spec positions; and the fact that only the topmost C^0 is occupied by *lladhii* indicates that only the higher CP can host a raised DP from the extraction site. Thus while SA allows the configuration in (17a), the one in (17b) is excluded.

- (17) (a) [_{CP1} lladhii[_{CP2} ?an/?anna....[_{CP3} ?an/?anna...t_i...]]]
(b) *[_{CP1} lladhii.....[_{CP2} lladhii..... [CP3 lladhii...t_i...]]]

In (17a) the head of the relative clause raises to the higher SpecCP position and is coindexed with the trace in the extraction site. Since there is a binding relation, not

a movement relation, the intermediate specifier is irrelevant and unoccupied⁵. This explains why *?an* appears in the intermediate C^0 position. (17b) is excluded since the lower C^0 cannot be occupied by an agreeing complementizer.

5.1.2 Subject extraction from *?anna*-embedded clauses

We have pointed out that the complementizer *?anna* is different from the complementizer *?an* in many respects. For example, *?anna* cannot be followed by a verb. It is always followed by a DP or a pronominal and that this DP is assigned an accusative Case (cf. Aoun (1981), Fassi-Fehri (1993), Shlonsky (1996)). The example in (18) illustrates all these properties of the complementizer *?anna*.

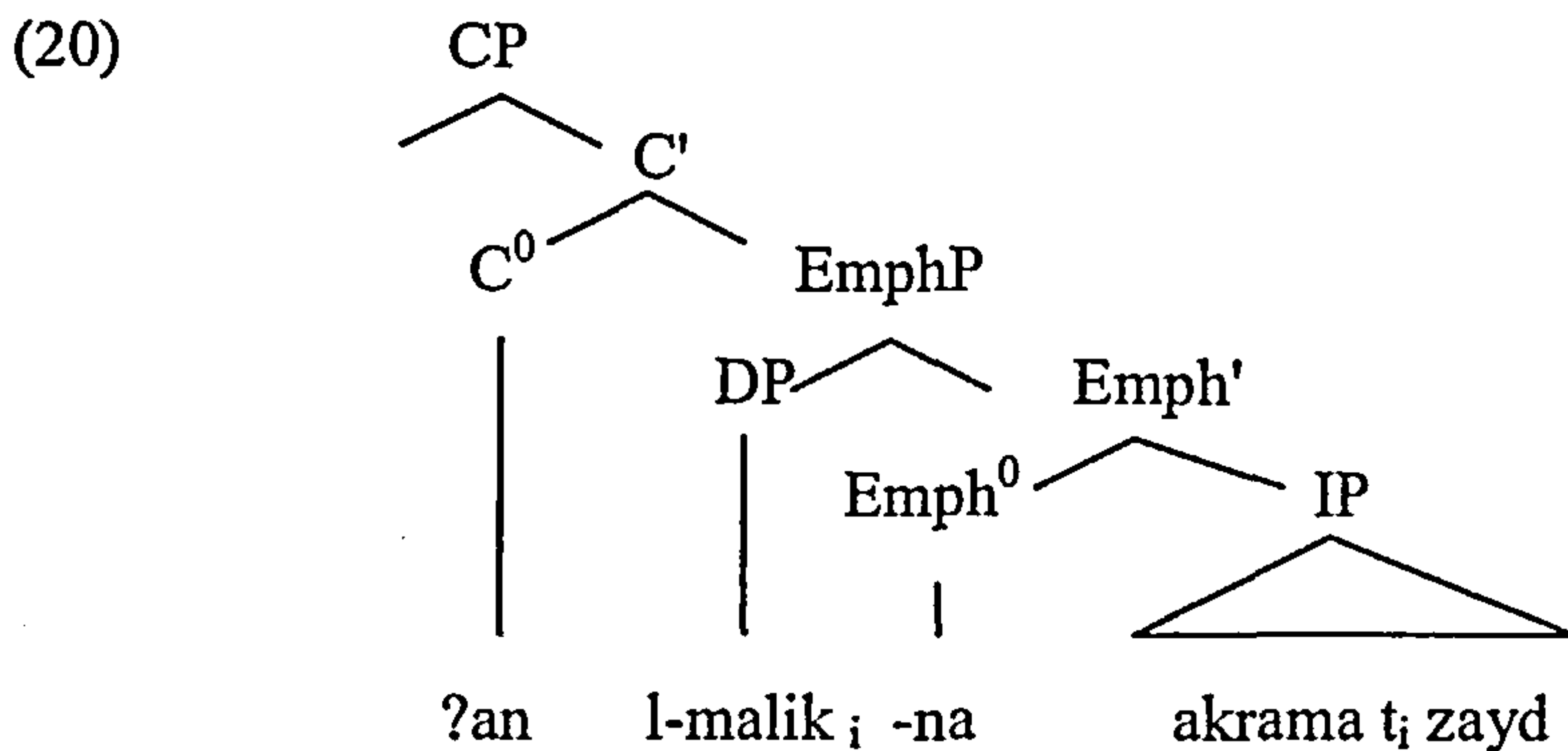
- (18) *ħasib-tu* [*?anna* *l-malikk-a* *akrama* *zayd-an*]
thought I [that the-king-Acc honoured 3ms *zayd*-Acc
“I thought that the king honoured Zayd”

The clause following *?anna* is always finite. The complementizer itself is immediately followed by a DP and that this DP is assigned accusative Case by the complementizer. The accusative Case associated with the DP is similar to Exceptional Case Marking (ECM) assigned by the matrix verb to the subject of an embedded clause as in the following English example:

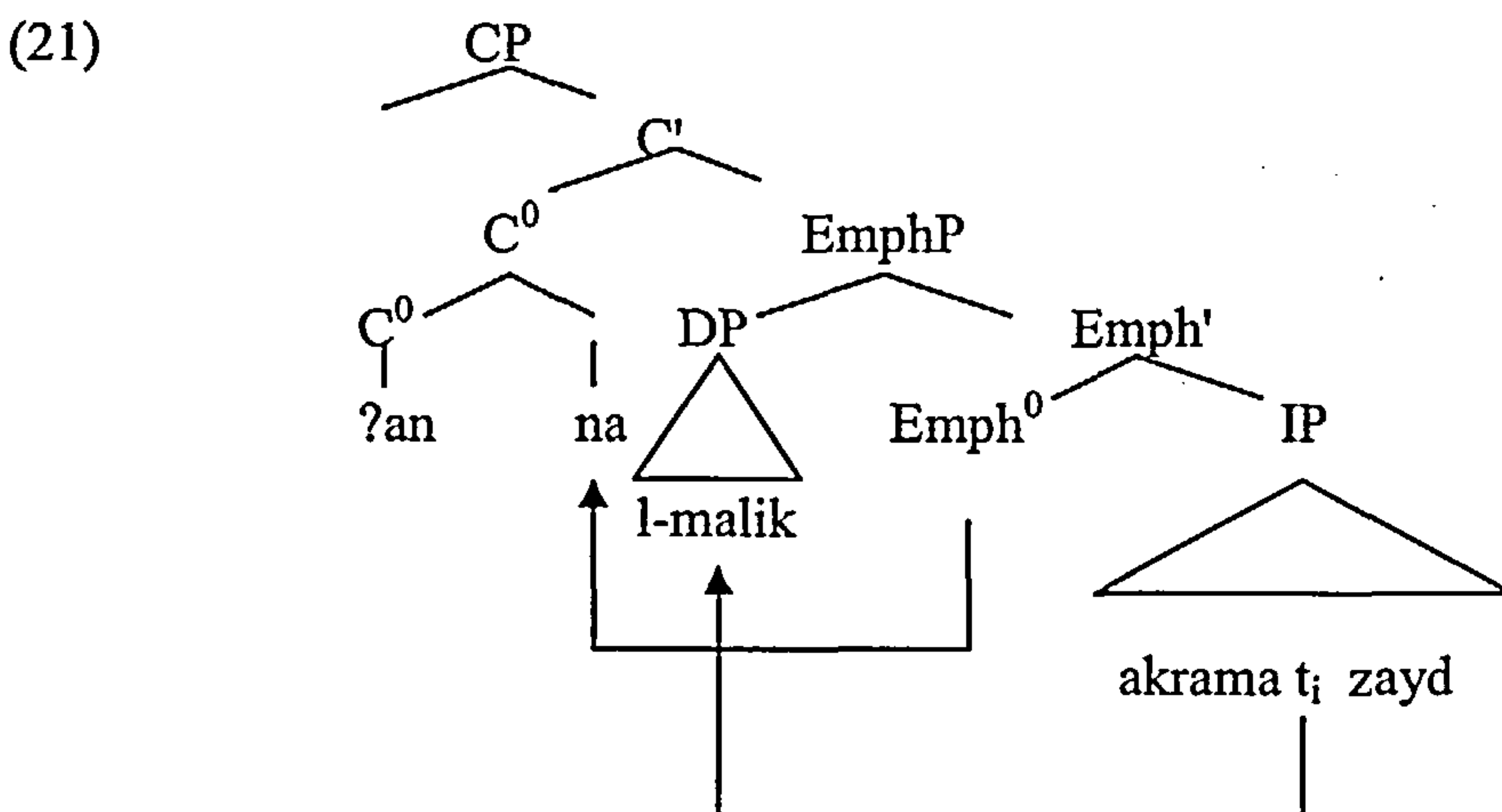
- (19) I believe [John/him/(**he*) to be a kind of mystery]

The ECM assigned to the DP in (18) is associated with the complementizer. Some authors (e.g. Khalaily 1993, cited in Akkal & Gonegai 1996) propose that *?inna/?anna* is a complex category consisting of two functional heads the complementizer *?in/?an* and the emphatic *-na*, the head of an Emphatic Phrase. The emphatic head then incorporates into the complementizer. Accordingly, the bracketed part in (18) has the representations in (21) derived from (20):

⁵ Since there is no operator movement, a binding relation should take place between the antecedent in the spec position of the higher CP and the coindexed trace.



The emphatic head then incorporates into the complementizer, as shown in the diagram in (21).



The DP movement to SpecEmph is triggered by the fact that *-na* must check its N-features. Failure to check N-features will lead the derivation to crash, as in (23b).

- (23) (a) ḥasib-tu ?anna r-rijaal-a zar-uu l-muthaf-a
 thought I that the-men-Acc visited.3mp the-museum-Acc
 “I thought that the men visited the museum”
 (b) *ḥasib-tu ?anna zar-uu r-rijaal-u l-muthaf-a

If we assume that the DP *r-rijaal* “the men” in (23a) is in SpecIP then we will have case problem: the DP will have two cases, one assigned by Infl via Spec-head

relation and the other is assigned by the complementizer⁶. According to Akkal & Gonegai (1996), the structure in (21) solves this problem: the subject DP raises to SpecEmphP in order to allow the N-feature of *-na* to disappear prior to Spell-Out.

I will not take up the idea that *?anna* is a complex category consisting of two functional heads, as illustrated in (21). Rather, I will analyse *?anna* as one functional category. I will also propose, following Farghal (1986) and Shlonsky (1996), that the DP following this complementizer occupies the specifier of the functional head Top⁰. Thus the DP in (23a) is not in SpecIP⁷. The distinction between Topic NP and subject NP is relevant. A trace left by an extracted topic is phonetically realized whereas a trace left by an extracted subject is not, as the following examples show respectively:

(24) (a) r-rajul-u lladhii zanna zayd-un ?anna-hu shtraa bayt-an
the-man-Nom that thought zayd-Nom that-3ms bought house-Acc
“The man that Zayd thought bought a house”

(b) *r-rajul-u lladhii zanna zayd-un ?anna shtraa bayt-an

(25) (a) r-rajul-u_i lladhii zanna zayd-un ?an laa yaḍrib-a t_i badr-an
the-man-Nom that thought zayd-Nom that NEG 3ms.hit-Subj badar-Acc
“The man that Zayd thought would not hit Badar”

(b) *r-rajul-u lladhii zanna zayd-un ?an laa yaḍrib-a huwa badr-un
the-man-Nom that thought zayd-Nom that NEG hit he badar-Nom

The crucial point is that in both *?an* and *?anna*-embedded clauses the subject is assumed to occupy SpecVP and that in relative constructions the subject is either raised directly to SpecCP, as in *?an* clauses, or raised to SpecTopicP via which it moves to SpecCP as in *?anna* clauses. Before discussing the relativization of the

⁶ It is only a problem if we assume, contrary to Souali (1992) and Al-Sayed (1998) that Infl does not assign Case in SA.

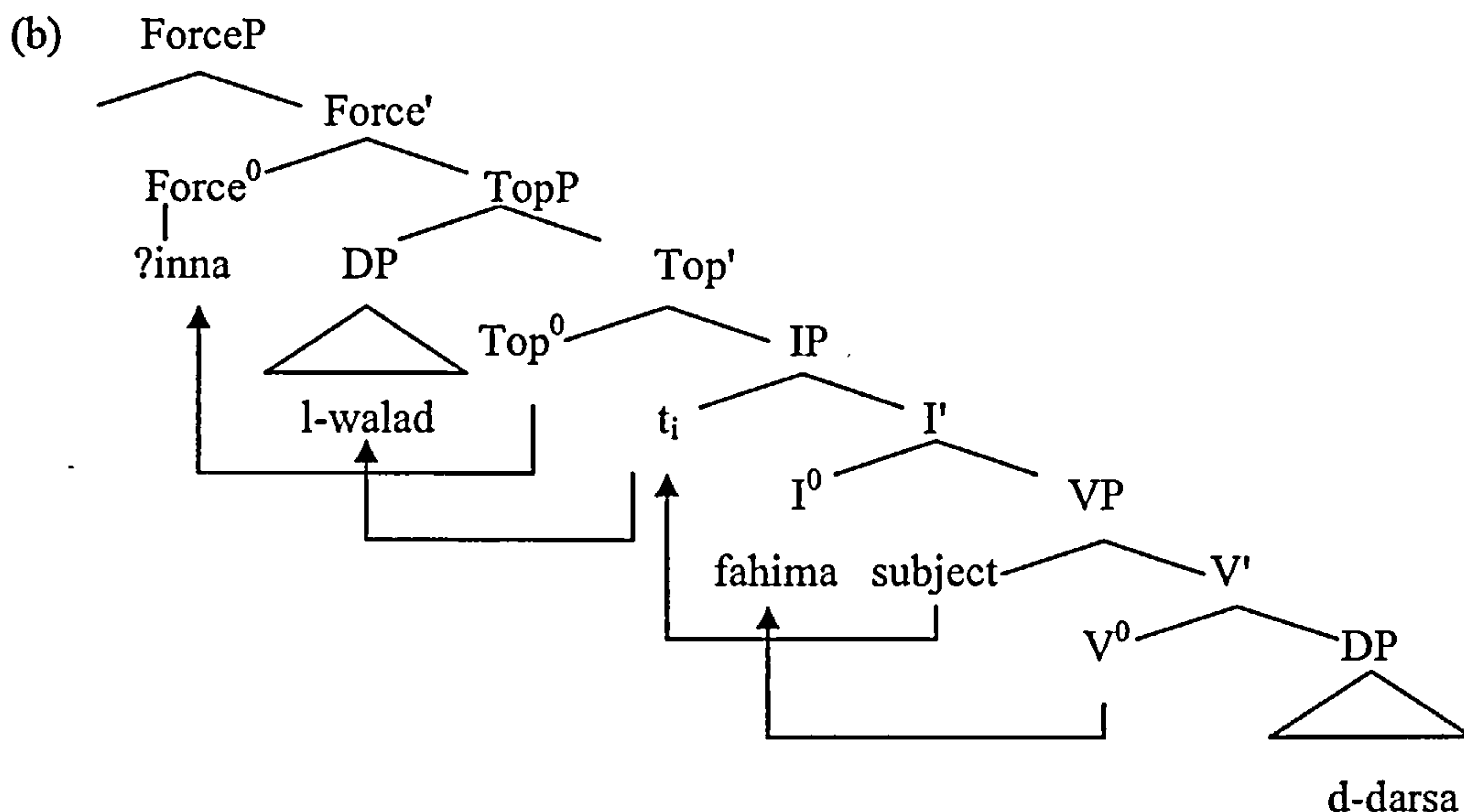
⁷ Underlying this assumption is that the DP has a default Nominative before the complementizer insertion takes place.

embedded subject from *?anna* embedded clauses, we look first at the derivation of simple clauses introduced by the complementizer *?anna*.

I leave aside the proposal made to derive clauses introduced by *?anna* illustrated in (20/21) above and propose, following Shlonsky (1996), that the complementizer *?anna/?inna* is endowed with the feature Force. This feature requires the complementizer to raise to the head Force⁰. According to this analysis, the clause in (26a) will have the structure in (26b)

- (26) (a) *?inna l-walad-a fahima d-dars-a*
 that the-boy-Acc understood.3ms the-lesson-Acc
 “Verily, the boy understood the lesson”

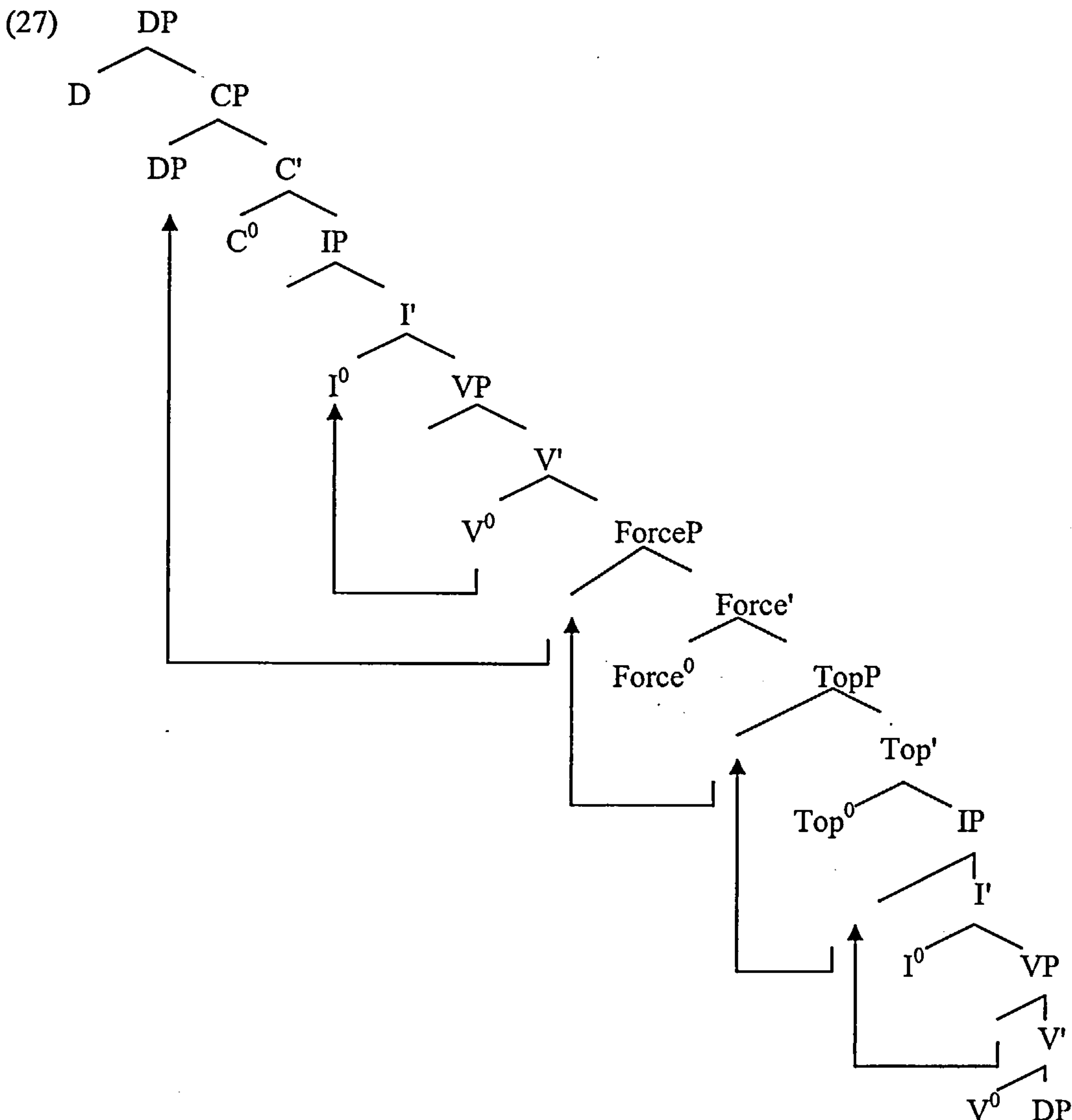
We have pointed out that the DP following the complementizer is not in SpecIP since it is not the subject; rather it is in SpecTopP. Given that the complementizer *?anna* is associated with the feature Force, the ForceP must be higher in the hierarchy than TopP, as shown in (26b) below.



The subject originates in SpecVP from which it moves to SpecIP in order to derive SVO order. The Complementizer *?anna* occupies the functional head Top position. Since the complementizer is only followed by a topic DP, this DP must be in SpecTopic. The complementizer has the feature [+Force] which makes it obligatorily move to the head Force⁰.

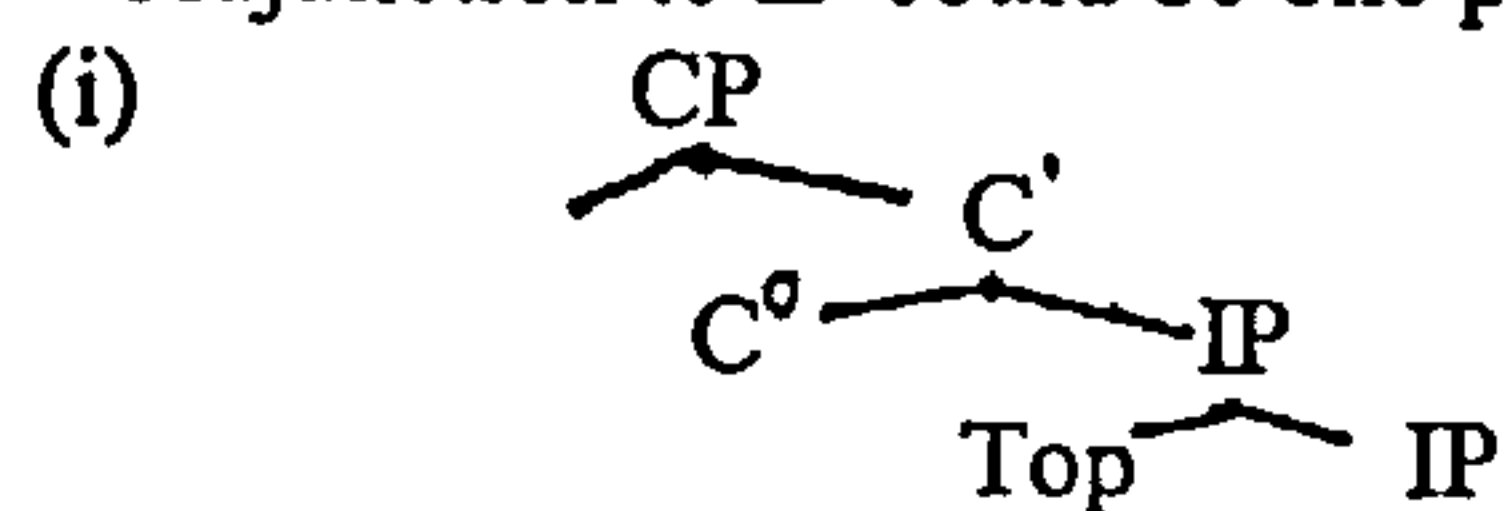
This analysis does not carry over to clauses introduced by the complementizer *?an* since, as we have seen in (5.1.1), SVO is excluded in *?an*-embedded clauses. The complementizer *?an* is a subjunctive feature assigner and apparently this feature must be assigned under subjacency (Aoun, 1981:639, Majidi 1987:130)

To account for the derivation of relative clauses such as (24a) above, I follow Rizzi's (1997) assumption that the CP can be split into different maximal projections. The split-CP hypothesis will provide a landing site for the topicalized constituent. The structure that I propose for a relative clause that contains the complementizer *?anna* is as shown in (27).



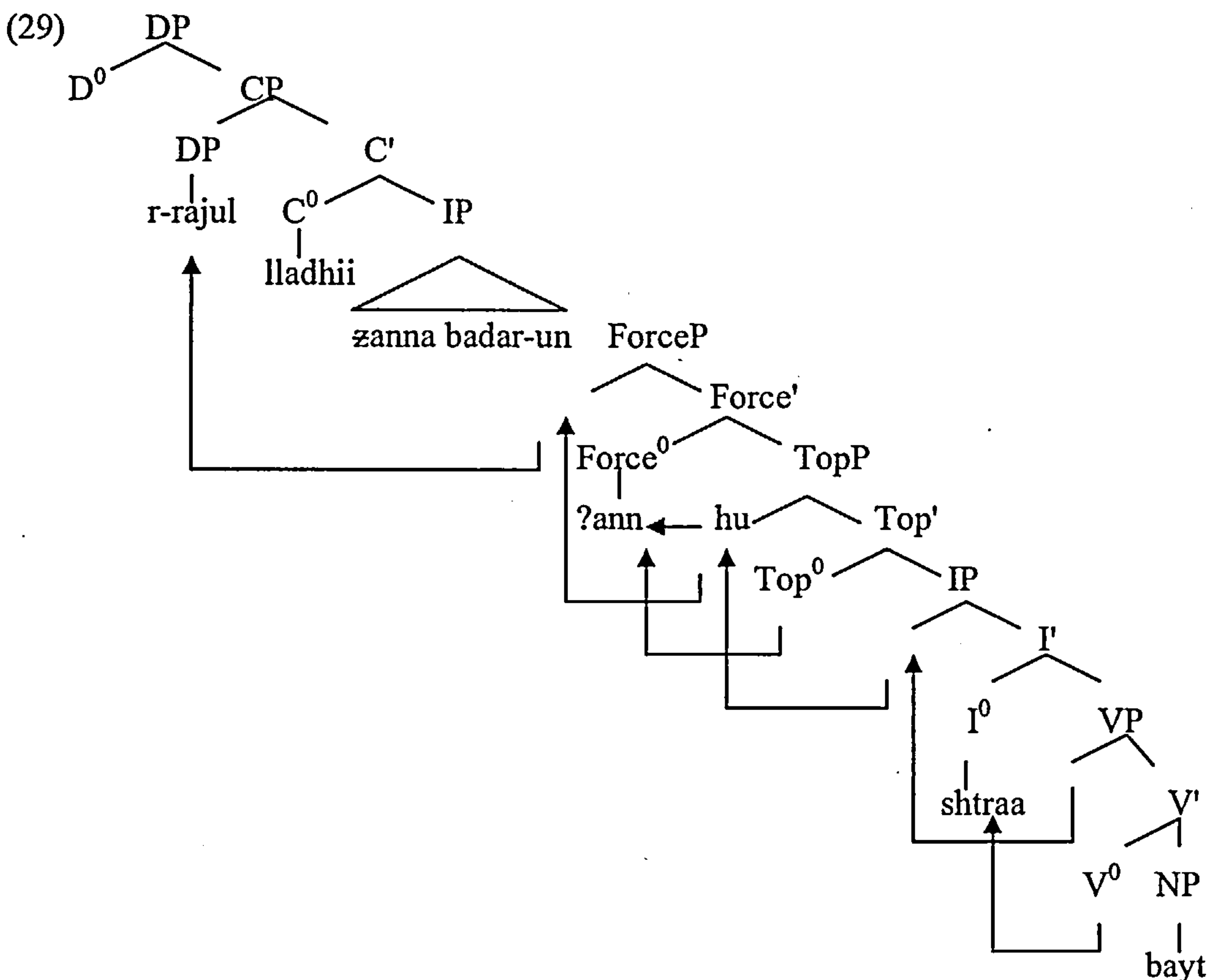
The relative clause given in (24a) cannot be derived if we adopt the classical clause structure. The reason is that the CP level contains only one functional projection headed by the complementizer. There is no landing site for the topicalized constituent⁸. So there is a need to postulate more structure in the CP layer of the

⁸ Adjunction to IP could be one possibility, as shown below.



embedded clause as illustrated in (27). The relative clause in (24a), repeated in (28), will have the structure in (29):

- (28) r-rajul-u lladhii zanna zayd-un ?anna-hu shtraa bayt-an
 the-man-Nom that thought zayd-Nom that-3ms bought house-Acc
 “The man that Zayd thought that he bought a house”



The derivation proceeds as follows. The “head” starts from SpecVP to SpecIP of the embedded clause via which it moves to SpecTopP. Since the complementizer is associated with the feature Force, it moves from Top⁰ to Force⁰. The “head” then moves from SpecTopP to SpecForceP via which it moves to SpecCP. The trace in SpecIP is not a problem since it is antecedent-governed by the intermediate trace in SpecTopP.

5.1.3 The extraction site of the embedded subject

A close look at short and long extraction of the embedded subject will reveal that, regardless of the type of the complementizer used, there is no much difference between the two as far as verb morphology is concerned. Further investigation, however, will show that the two constructions are only superficially similar. The examples in question are (30), where short extraction of the subject is involved, and (31) where long extraction of the subject is involved.

(30) r-rijaal-u lladhiina waqqa9-uu l-mu9ahadat-a
the-men-Nom that 3mp signed.3mp the-treaty
“The men who signed the treaty”

(31) r-rijaal-u lladhiina zanna zayd-un ?anna-hum
the-men-Nom that.3mp thought zayd-Nom that-3mp
waqqa9-uu l-mu9ahadat-a
signed.3mp the-treaty- Acc
“The men that Zayd thought have signed the treaty”

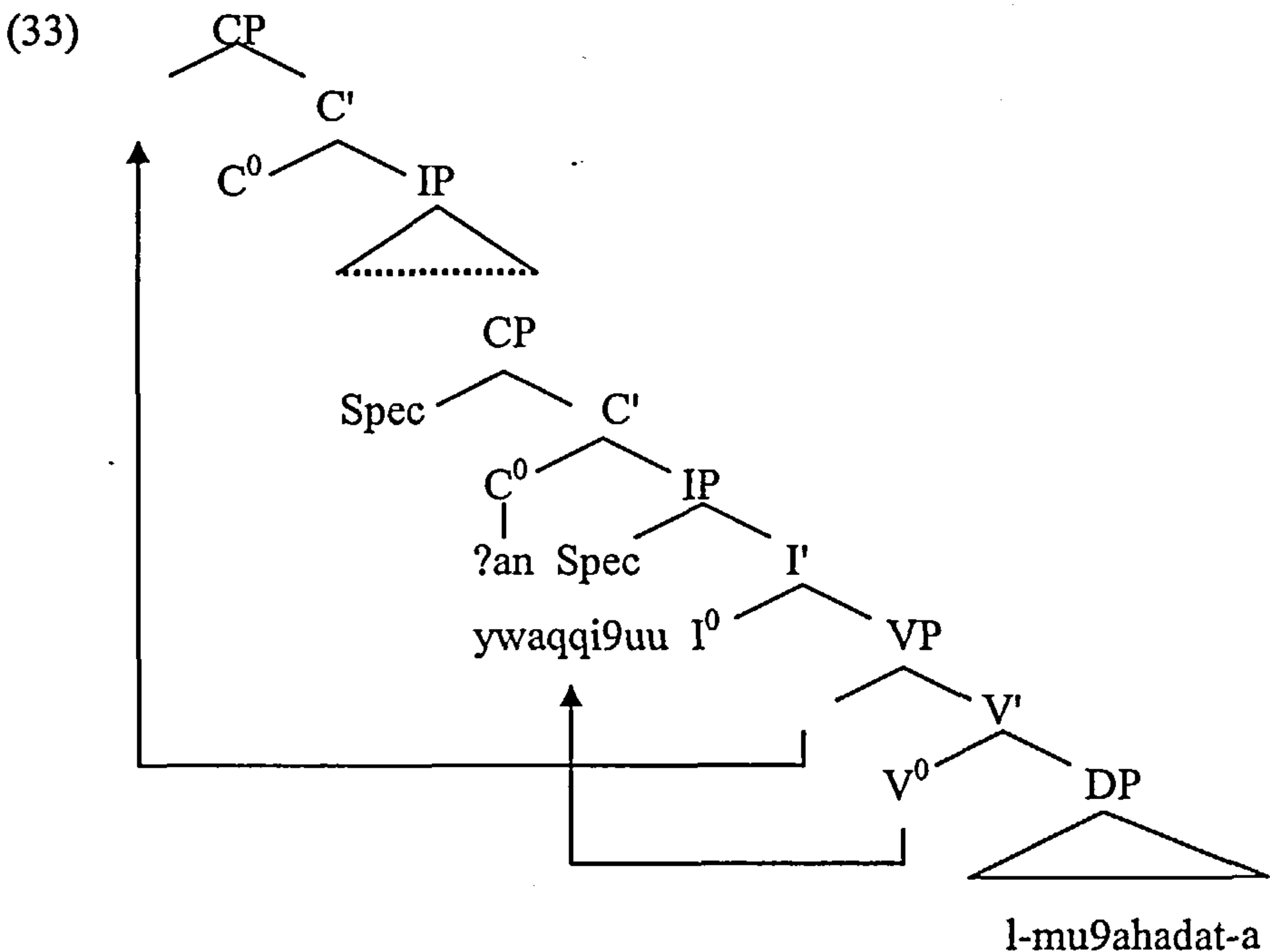
(32) r-rijaalu lladhiina ?araada zayd-un
the-men-Nom that wanted.3ms zayd-Nom
?an ywaqqi9-uu l-mu9ahadat-a
that signg.3mp the-treaty-Acc
“The men that Zayd wanted to sign the treaty”

As subject-verb agreement facts reveal, the examples in (30) and (31) show that there is no anti-agreement effect involved whether the subject undergoes short extraction, as in (30), or long extraction as in (31).

In dealing with examples such as (30), we have proposed that the subject is extracted from SpecIP. A null resumptive *pro*, licensed by the verb morphology, is properly governed by the agreeing complementizer *lladhii*.

The examples in (31) and (32) involve long subject extraction. The embedded verb in both examples agrees with the extracted subject. The subject-verb agreement may lead to the assumption that long subject extraction also uses the null resumptive pronoun strategy in the relativized subject position. The silent resumptive pronoun is a non-lexical trace. To avoid the ECP, this trace must be governed.

I argue that (31) and (32), though look similar, are in fact different. Recall that the embedded complementizer in (31) is by no means similar to the embedded one in (32). The former is an accusative Case-assigner. Consequently, it must be immediately followed by a lexical NP or a pronominal. The latter is the subjunctive mood assigner and is therefore immediately followed by a verb. The subject trace in (32) cannot be in SpecIP. Given the non-agreeing status of the complementizer *?an*, this will lead to the violation of the ECP since the trace in SpecIP will not be properly governed. For this reason the embedded subject in (32) is extracted from a postverbal position. The trace of the subject is properly governed by the V+Agr complex in Infl. The structure in (33) shows the relevant part of (32), the embedded CP.



The assumption made here, namely the subject is extracted from SpecVP, cannot carry over to the subject extraction in *?anna* embedded clauses⁹. Also, the complementizer *?anna*, like *?an*, cannot govern the subject trace if subject extraction proceeds from SpecIP since *?anna* is also a non-agreeing complementizer.

If we assume that SpecIP is occupied by a *pro* in embedded subject extraction, what is the syntactic status of the lexical pronominal associated with *?anna*-embedded clauses? In other words, why an obligatory pronoun appears in (31) but excluded in (32)? Part of the answer is that the complementizer *?anna* is a transitive verb-like element. It subcategorizes for an NP or a pronominal to which it assigns accusative. The complementizer *?an* does not have this property and therefore a clitic does not appear in its complement position. Furthermore, the NP following the complementizer *?anna* is a topic rather than a subject, as I have already proposed. The obligatory presence of the pronominal in (31) is due to the fact that a relativized topic must leave a lexical trace in the extraction site. This lexical trace is cliticized/incorporated into the complementizer in Force⁰ (See the structure in 29 above).

One relevant point is that *?anna* can be optionally deleted (For more discussion see Section (5.3.1) below). Its deletion does not alter the grammatical status of the DP following the matrix verb. Thus the first DP in the following two embedded structures must have the same grammatical status, i.e., they are both topic DPs.

- (34) (a) *ħasib-tu ?anna l-kattib-a ?intaqada l-maqaal-a*
thought I that the-writer-Acc criticized.3ms the-article-Acc
“I thought that the writer criticized the article”
- (b) *ħasib-tu l-kaatib-a ?intaqada l-maqaal-a*
thought I the-writer-Acc criticized.3ms the-article-Acc
“I thought the writer criticized the article”

⁹ This assumption is based on the fact that VSO word order is not permitted in this type of clauses.

The DP *l-kaatib* “the writer” in both (34a) and (34b) occupies SpecTopP. When relativized, a pronominal must cliticize into the complementizer or the matrix verb.

- (35) (a) *l-kaatib-u lladhii ḥasib-tu ?anna-*(hu)*
the-writer-Nom that thought I that-3ms
?intaqada l-maqaal-a
criticized.3ms the-article-Acc
“The writer that I thought criticized the article”
- (b) *l-kaatib-u lladhii ḥasib-tu *(hu) ?intaqada l-maqaal-a*
the-writer-Nom that thought-I-3ms criticized the-article-Acc
“The writer that I thought criticized the article”

The presence of an obligatory pronoun in (35) and similar examples above is to satisfy the well-formedness condition (Farghal 1986:106). The well-formedness condition requires a pronominal to appear in the relativized topic position. The claim made in Farghal (1986) is that the ungrammatical examples of (35) are not due to *that*-trace effect. They just violate the well-formedness condition.

5.1.4 The anti-agreement effect in embedded subject relatives

Ouhalla (1993) proposes that all silent-subject languages should show an anti-agreement effect when the subject is extracted. His justification is that a resumptive *pro* would violate the A'-Disjointness Requirement according to which a pronoun must be free from the most local A'-binder.

The fact that SA does not show anti-agreement effect when the subject is extracted may indicate that a violation of A'-Disjointness Requirement arises. Thus the intermediate trace of the relativized subject will serve as a local A'-binder of the resumptive *pro*.

However, the absence of anti-agreement effect in SA, according to Ouhalla, is due to the lack of movement. Since there is no movement, there is no *pro* in the subject position. In order to avoid a violation of A'-Disjointness Requirement, Ouhalla proposes that movement to SpecCP takes place at LF. The agreement features that lead to the identification of an empty category as *pro* may be considered irrelevant to LF representations (Ouhalla 1993). This is problematic since, as Chomsky (1986) proposes, agreement features may not be relevant to LF representations. Chomsky proposes that in impersonal constructions the postverbal subject may move to replace the expletive at LF. The following French example illustrates.

- (36) *il est venu trois étudiants*
it has come three students
“There have arrived three students”

If the postverbal subject moves at LF to replace the expletive, it is far from clear how agreement features are relevant to LF representations.

We may propose that agreement features in embedded subject extraction can be explained if there is no local A'-binder of the *pro*. This suggests that there should not be intermediate trace since this trace can locally A'-bind the *pro*. This proposal brings us to the possibility that *pro* can be A'-bound by the antecedent in the highest SpecCP position¹⁰.

In the next section we will look at the embedded object extraction. The examples we are going to look at illustrate the relativization of the direct object, the object of a preposition and the noun complement (possessive). First we consider the direct object.

¹⁰ In fact an intermediate trace is excluded in embedded relatives given that the complementizer does not allow movement to its spec position as we have already proposed.

5.2 The relativization of the embedded object

Object extraction from embedded clauses does not raise any problems such as the ECP which is related to the trace of the extracted constituent. The trace in the object position is lexically governed by the verb or the preposition. The fact that object extraction takes place from the complement position leads to the assumption that the embedded object, unlike the embedded subject, is not extracted from SpecTOP. The reason is that this position is occupied by the subject which has moved there in order to be assigned Accusative by the complementizer. This is true as far as *?anna* embedded clauses are concerned.

First we consider direct object extraction from embedded clauses introduced by *?an* then we look at object extraction from embedded clauses introduced by *?anna*.

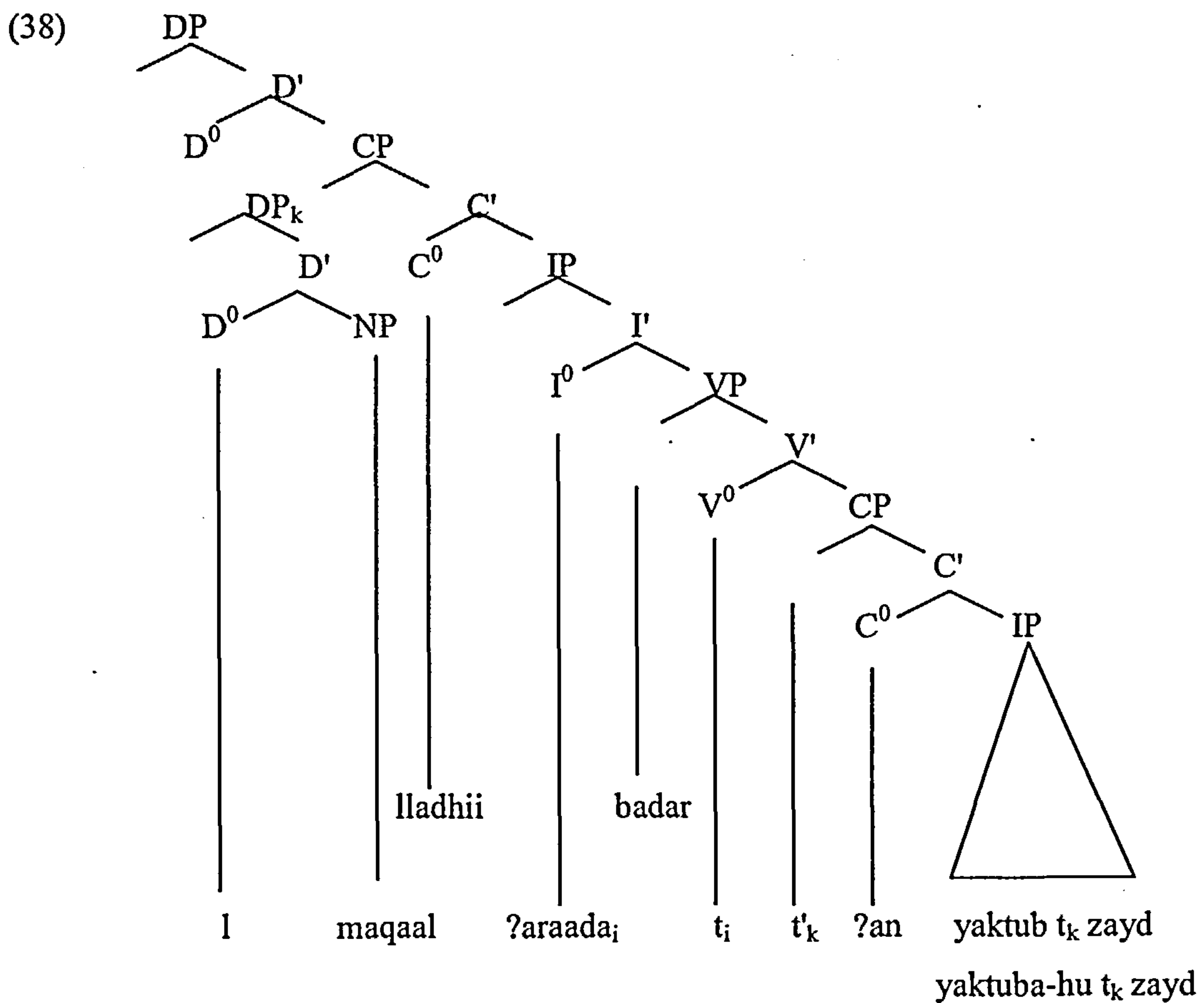
5.2.1 The direct object extraction from *?an*-embedded clauses

Object extraction from *?an*-embedded clauses is not different from object extraction from matrix clauses as far as the extraction site is concerned. It is possible to have a gap or a resumptive pronoun in the extracted site, as shown in (37a) and (37b), respectively.

- (37) (a) l-maqaal-u lladhii ?araada badr-un
the-article-Nom that wanted.3ms badar-Nom
?an yaktub-a zayd-un
that write-Subj.zayd Nom
“The article that Badar wanted Zayd to write”
- (b) l-maqaal-u lladhii ?araada badr-un
the-article-Nom that wanted.3ms badar
?an yaktub-a-hu zayd-un
that write-Subj-it zayd Nom
“The article that Badar wanted Zayd to write (it)”

The examples in (37) involve the complementizer *?an*. The verb and the complementizer must be adjacent so that the feature subjunctive can be assigned to the verb. For this reason it is unlikely that the subject is in SpecTOP. The object does not move to this position either because this movement is not motivated. The complementizer *?an* does not assign Accusative and therefore neither the subject nor the object can be in SpecTOP position. The situation is different with *?anna*-embedded clauses. In these clauses, as will be shown, any NP can follow the complementizer *?anna*.

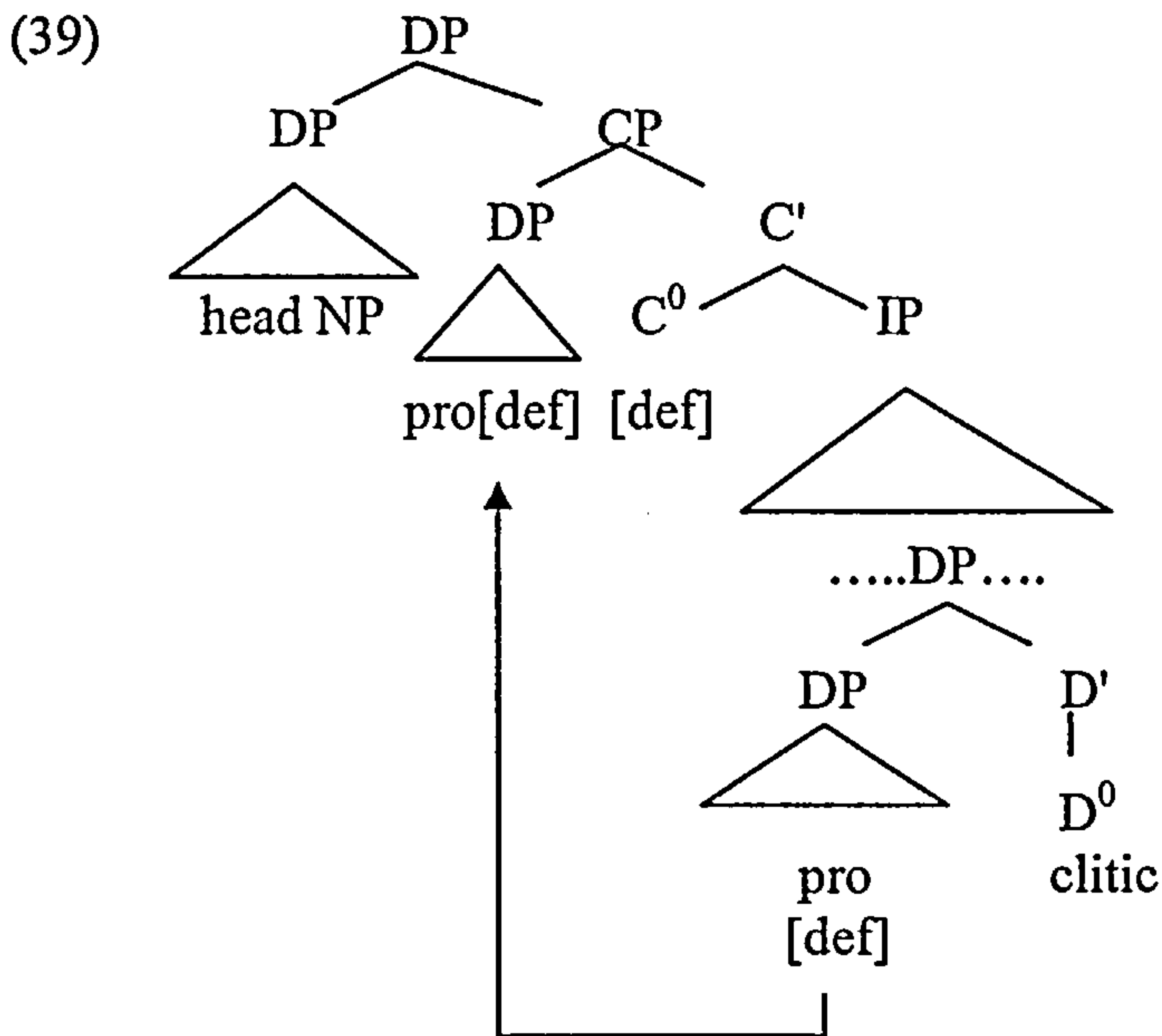
Returning to *?an*-embedded clauses. I will suggest that (37a,b) will have the structure given in (38).



The extracted object is wh-moved first to the Spec position of the lower CP then up to the highest CP. But note that movement to the spec position of the lower CP is not motivated. The reason is that, as we have proposed for embedded subject extraction, the complementizer *?an* does not bear any agreement features such as number, gender and definiteness and therefore such movement is not legitimate. But there is one reason to think that the object undergoes wh-movement to the intermediate CP before it continues to the upper CP position. Successive cyclic movement is motivated by locality requirements¹¹. The trace of the object is lexically governed by the verb *yaktub* “write”. The object trace in (37b) is spelled out as a clitic. The clitic and the DP in the higher CP position have the same number and gender features but different in Case. The clitic undergoes its own movement in the sense explained in Chapter Four.

It is relevant to mention an analysis proposed by Aoun and Choueiri (1997). The analysis is essentially proposed for Lebanese Arabic. The relevant part of it is that it assumes there is pro-DP movement to SpecCP to check a [+definite] feature on C⁰. When C⁰ is [-definite], pro-DP will not raise. The (in)definiteness of C⁰ is determined by the nominal phrase head in SpecDP. The analysis has the structure in (39).

¹¹ Majdi (1992:146) proposes that the intermediate trace is deleted by insertion of the lexical complementizer. This amounts to the fact that antecedent-government from the intermediate trace is not available.



The resumptive clitic is assumed to be a DP and the clitic occupies the D head of this DP. The specifier position is occupied by pro-DP which raises to SpecCP in order to check [+definite], [Case] and [Φ]-features. The pro-raising analysis is also assumed for relativized positions where a gap strategy appears, as in (37a).

Though the analysis is attractive it fails to account for a number of facts in Arabic relativization. First note that if the motivation of the analysis is to check features of the complementizer, then it is likely that there is no pro-raising to the lower SpecCP position since the head of this CP has no features to check. We propose that, as far as embedded relatives are concerned, the pro-DP raises directly to the specifier position of the higher CP since the head of this CP has all the features that need to be checked. Second, the analysis suggests that only argument positions can license pro. Adjuncts are not arguments and therefore may not be relativized. It is not entirely correct that adjuncts cannot be relativized. Darrow (2003:80) points out that it is possible to relativize adjuncts in Syrian Arabic, as shown in the following examples compared to the examples given in Aoun & Choueiri (1997: 14/20):

- (40) (a) * ssabab yalli rħto.....
 Def.reason (ms) C left 1s.3ms
 “The reason that/why I left...” (Aoun & Choueiri 1997: 14,Ex.38)
- (b) * sabab yalli reħto....
 reason (ms) C left 1s.3ms
 “A reason that/why I left...” (Aoun & Choueiri 1997: 20, Ex.50)
- (41) (a) ssabab yalli layla ġarabet aħmed...
 Def.reason C hit.3ms
 “The reason that Layla hit Ahmad”
- (b) sabab layla ġarabet aħmed...
 reason hit.3ms
 “A reason that Layla hit Ahmad” (Darrow 2003:80, Exs. 30a,b)

If pro-raising analysis is correct, then it must account for the grammaticality of (41a,b). It is unclear why Lebanese Arabic does not allow adjunct relativization. One might assume that the difference between Lebanese Arabic and Syrian Arabic is that resumptive pronouns are obligatory in the former but optional in the latter (Darrow 2003:80).

Third, the pro-raising analysis is excluded when the head of the relative clause is indefinite. Aoun and Choueiri (1997) assume that pro in indefinite relatives is base-generated in SpecCP¹². The base-generation analysis is excluded in Kayne’s (1994) framework. Moreover, the analysis does not involve head-raising; rather it only assumes feature-raising. The head DP is base-generated in SpecDP. This analysis, as we will show in Chapter Six, is more plausible for headless relatives than headed ones.

¹² It is for this reason that reconstruction is only available in definite relatives in Lebanese Arabic since these relatives are derived by movement.. See Aoun & Choueiri (1997).

5.2.2 The direct object extraction from ?anna-embedded clauses

What we have said about the pro-raising analysis for ?an-embedded clauses also applies for ?anna-embedded clauses¹³. ?anna-embedded clauses also contain a complementizer whose features are not identical to the features of the pro-DP. Consequently, there is no pro-raising to the specifier position of the lower CP to check [+def], [Case] and [Φ]-features. If we accept the pro-raising analysis, we will propose that pro-DP moves in one step to the spec position of the higher CP. However we are not taking up this view. The analysis we are concerned with involves a lexical DP/NP movement from the argument position to SpecCP.

In dealing with the object extraction from ?an-embedded clauses, we proposed that these clauses do not have a TOP projection. The reason is that [C^0 NP V] order is excluded in clauses introduced by ?an. This is not the case with ?anna-embedded clauses. The NP following the complementizer ?anna does not necessarily have to be the subject. It can be the object, a NP complement (possessive) or a prepositional complement, as shown in the following examples.

- (42) (a) ?azunnu ?anna zayd-an kataba l-maqaal-a
 think.1s that zayd-Acc wrote.3ms the article-Acc
 “I think that Zayd wrote the article”
- (b) ?azunnu ?anna l-maqaal-a kataba-hu zayd-un
 think.1s that the article wrote.3ms-it zayd-Nom
 (Lit. I think that the article zayd wrote it)
 “I think that Zayd has wrote the article”
- (c) ?azunnu ?anna r-rajul-a shufiat ?umm-u-hu
 think.1s that the-man-Acc recovered PASS.f mother-Nom-his
 (Lit. I think that the man his mother is recovered)
 “I think that the man’s mother is recoverd”

¹³ I am referring here to the analysis proposed in Aoun and Choueiri (1997). See the previous section.

- (d) ?azunnu ?anna r-rajul-a ?umsika bi-hi
 think.1s that the-man-Acc seized.3mp PASS with-him
 (Lit. I think that the man he was seized him)
 “I think that the man was captured”

In (42a) the NP following the complementizer has the function subject; in (42b) it has the function direct object; in (42c) it has the function genitive and, finally, in (42d) it has the function prepositional complement. All these NPs are not in their canonical positions. They all occupy the Topic position. When relativized, they must first move to that position before they can move further to the specifier position of the upper CP. The topicalized NP is linked to its original position by means of a resumptive pronoun with which it agrees in [Φ]-features but not in Case. Let us see what happens when these NPs are relativized. We first look at (42a) where the object appears in its canonical position. The relative clause derived from (42a) is given in (43) below. Following Eid (1983), Fassi-Fehri (1993:117), Shlonsky (1997:93) and Ouhalla (2002), I take the independent pronoun *huwa* “he” to have a copula interpretation.

- (43) (a) hadha huwa l-maqaal-u lladhii ?azunnu ?anna zayd-an kataba-hu
 this pron the-article-Acc that think.1s that zayd-Acc wrote.3ms-it
 “This is the article which I think Zayd has written (it)”
 (b) hadha huwa l-maqaal-u lladhii ?azunnu ?anna zayd-an kataba
 this pron the-article-Acc that think.1s that zayd-Acc wrote.3ms
 “This is the article which I think Zayd has written”

The canonical object position in (43a) is filled with a resumptive pronoun whereas in (43b) a gap appears in the extraction site. I take the example in (43a) to involve a trace spelled out as a resumptive pronoun. Thus both examples are derived by head raising to the specifier of the higher CP. The antecedent may move directly to the spec of the highest CP. This is the analysis we have proposed for the embedded subject relatives. Recall that the head of the lower CP has no agreement features and

therefore the raised head does not land in its spec position. In fact successive movement in this type of relative clause is not motivated. Furthermore, the object trace does not need to be antecedent-governed by the intermediate trace since it is lexically governed by the verb.

Now we consider the example in (44) which is more complicated than the previous one. Here again we have an instance of object relativization. The example is different from (43) in the sense that the object moves to some position from which it is extracted to the spec position of the higher CP. It is clear from (42b) above that the object has moved to a position below the complementizer and above IP. Following the split-CP hypothesis (Rizzi 1997) and proposals made in Shlonsky (1996) for the Arabic complementizer *?anna*, we assume that the position occupied by the object in (42b) above is SpecTOP.

- (44) hadha huwa l-maqaal-u lladhii ?azunnu
 this pron the-article-Nom that think.1s
 ?anna-hu kataba-hu zayd-un
 that-it wrote.3ms-it zayd-Nom
 “This is the article that I think Zayd has written (it)”

What is interesting about (44) is that both the verb of the embedded clause and the complementizer introducing the embedded clause are followed by an obligatory resumptive clitic. Thus all the examples in (45) are ungrammatical.

- (45) (a) *hadha huwa l-maqaal-u lladhii ?azunnu
 this pron the-article-Nom that think.1s
 ?anna kataba zayd-un
 that wrote.3ms zayd-Nom
 “This is the article that I think Zayd has written”

- (b) *hadha huwa l-maqaal-u lladhii ?azunnu
 this pron the-article-Nom that think.1s
 ?anna-hu kataba zayd-un
 that-it wrote.3ms zayd-Nom
 “This is the article that I think Zayd has written”
- (c) *hadha huwa l-maqaal-u lladhii ?azunnu
 this pron the-article-Nom that think.1s
 ?anna kataba-hu zayd-un
 that wrote.3ms-it zayd-Nom
 “This is the article that I think Zayd has written

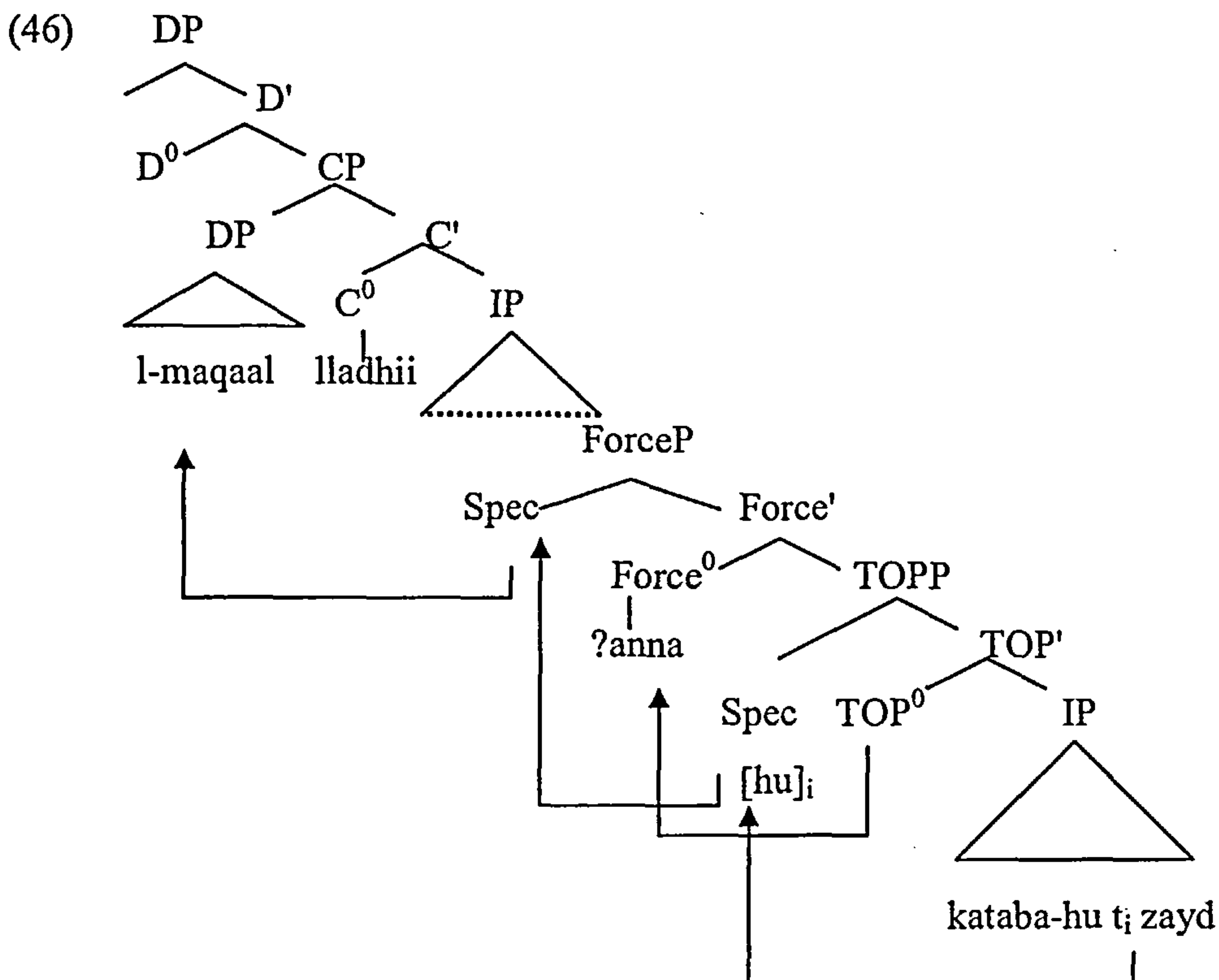
In (45a), neither the complementizer nor the embedded verb is followed by a resumptive pronoun and therefore the example is ruled out. In (45b), the resumptive appears only with the embedded complementizer and the example is ungrammatical; and, finally, in (45c), the resumptive appears in the object position but absent from the complementizer and therefore ruled out. Recall that the complementizer *?anna* is an accusative Case assigner which means that it must be followed by a lexical NP or a pronominal. This requirement is only satisfied in (45b). However (45b) is still ungrammatical since there is no resumptive pronoun in the extracted object position. Given that the extraction site of the definite direct object can be filled either by a resumptive pronoun or left empty, the examples in (45a) and (45b) are mysterious. One ready explanation why the object trace must appear in the form of a resumptive pronoun in *?anna*-embedded clauses is that the features of the resumptive pronoun cliticized to the complementizer require the trace of the extracted object to be overt. Both must have the same overt [Φ]-features. It may also be that lexical government is not sufficient for the object trace. The trace needs to be antecedent-governed as well. The clitic which appears with the complementizer serves as an antecedent of the lexical trace in the object position and hence antecedent-governs it¹⁴. According

¹⁴ Alternatively, we may propose, as indicated before, that the features of the raised argument may not move. They are left behind and are spelled out as a pronoun.

to this analysis, (45a) is ruled out since there is no antecedent-government available. In (45b) antecedent-government is available but a gap, instead of a lexical trace, appears in the relativized site, therefore it is ruled out. (45c) is also ruled out for the same reason as (45a). Having explained why (45a-c) must be ruled out, we propose that both (43a,b) and (44), repeated below, will have the structure in (46). The only difference is that the complementizer in (43) is followed by a lexical NP whereas in (44) the complementizer is followed by a resumptive clitic.

- (43) (a) hadha huwa l-maqaal-u lladhii ?azunnu
this pron the-article-Acc that think.1s
?anna zayd-an kataba-hu
that zayd-Acc wrote.3ms-it
“This is the article which I think that Zayd has written (it)”
- (b) hadha huwa l-maqaal-u lladhii ?azunnu ?anna zayd-an kataba
this pron the-article-Acc that think.1s that zayd-Acc wrote.3ms
“This is the article which I think that Zayd has written”
- (44) hadha huwa l-maqaal-u lladhii ?azunnu
this pron the-article-Nom that think.1s
?anna-hu kataba-hu zayd-un
that-it wrote.3ms-it zayd-Nom
“This is the article that I think Zayd has written(it)”

The crucial point is that both the lexical NP in (43) and the clitic in (44) occupy the same position. The clitic in (44) is a lexical trace left behind by the DP which has raised to the specifier position of the matrix CP.



The example in (44) is derived as follows. The extracted object DP moves first to SpecTOP. The complementizer *?anna* which is in TOP⁰ raises up to Force⁰ so that it can assign accusative to the raised DP and have scope over the embedded clause. The DP then moves up to SpecForce, leaving behind an obligatory lexical trace to satisfy the subcategorization requirements of the complementizer. The extracted DP cannot stay in SpecForce since its features are different from the features of the complementizer in Force⁰. It therefore obligatorily moves to SpecCP where it can enter into Spec-head agreement with the relative complementizer in C⁰. The examples in (43a,b) are derived in the same way. The only difference is that the clitic in (44) does not stay in SpecTOP. It has to cliticize into the complementizer. (See Chapter Four, section 4.5.2).

The analysis proposed for the object extraction in embedded clauses can elegantly extend to other embedded relativized positions such as the genitive and the object of the preposition. The next section examines these two embedded positions.

5.2.3 The genitive NP and object of the preposition

It is not hard to relativize the genitive NP and the object of the preposition in embedded clauses. The examples given in (42c & 42d), repeated below for convenience, illustrate two embedded positions. In (42c) the genitive NP follows the complementizer *?anna*. Its original position is occupied by a pronominal with which it agrees in [Φ]-features. In (42d) the object of the preposition follows the complementizer. The head noun in (42c) and the preposition in (42d) are obligatorily followed by a pronominal. Both the NP and the pronominal agree in [Φ]-features but not in Case.

- (42) (c) *?azunnu ?anna r-rajul-a shufiat ?umm-u-hu*
 think.1s that the-man-Acc recovered PASS.f mother-Nom-his
 (Lit. I think that the man his mother has been recovered)
 “I think that the man’s mother has recovered”
- (d) *?azunnu ?anna r-rajul-a ?umsika bi-hi*
 think.1s that the-man-Acc seized.3mp PASS with-him
 (Lit. I think that the man he was seized him)
 “I think that the man was captured”

Relative clauses derived from (42c) and (42d) are given in (47a) and (47b), respectively.

- (47) (a) *hadha huwa r-rajul-u lladhii ?azunnu*
 this pron the-man-Nom that think.1s
?anna-hu shufiat ?umm-u-hu
 that-3ms recovered (f) PASS mother-Nom-his
 “This is the man that I think his mother has recovered”

- (b) hadha huwa r-rajul-u lladhii ?azunnu
 this pron the-man-Nom that think.1s
 ?anna-hu ?umsika bi-hi
 that-3ms seized.3ms PASS with-him
 “This is the man that I think was captured”

The analysis we have proposed for embedded object extraction can be extended to the examples in (47a) and (47b). In both examples the relativized DP originates in the embedded IP (as complement of a noun and object of a preposition, respectively). It first raises to SpecTOP then to the specifier position of the matrix CP via SpecForce. The trace left in SpecTOP is obligatorily spelled out as a resumptive pronoun so that the complementizer *?anna* can discharge its accusative Case to this pronominal. Thus a non-overt trace is not permitted in SpecTOP, as shown by the following ungrammatical counterpart example of (47a).

- (48) *hadha huwa r-rajul-u lladhii ?azunnu
 this pron the-man-Nom that think.1s
 ?anna shufiat ?umm-u-hu
 that recovered (f) PASS mother-Nom-his
 “This is the man that I think his mother has recovered”

The same analysis proposed for the direct object position can carry over to (47a) and (47b)¹⁵.

Before we conclude this chapter we look at one issue concerning embedded clauses: complementizer deletion. It is possible to have embedded clauses where the complementizer *?anna* is deleted. The question we will attempt to address is whether or not these clauses are syntactically similar to the clauses discussed above.

¹⁵ Note that if extraction does take place from SpecTop the trace cannot be antecedent-governed because the complementizer intervenes. However, we may follow the assumption that the intermediate trace has been deleted and therefore antecedent-government is excluded. Alternatively, the complementizer movement to Force solves the antedecedent-government problem.

5.3 Other issues related to embedded relativization

5.3.1 Complementizer deletion

In SA it is not difficult to come across examples of relative constructions derived from embedded clauses with no overt complementizer. The example in (49a) involves subject extraction whereas the example in (49b) involves direct object extraction. In both examples, the embedded complementizer is not phonetically realised.

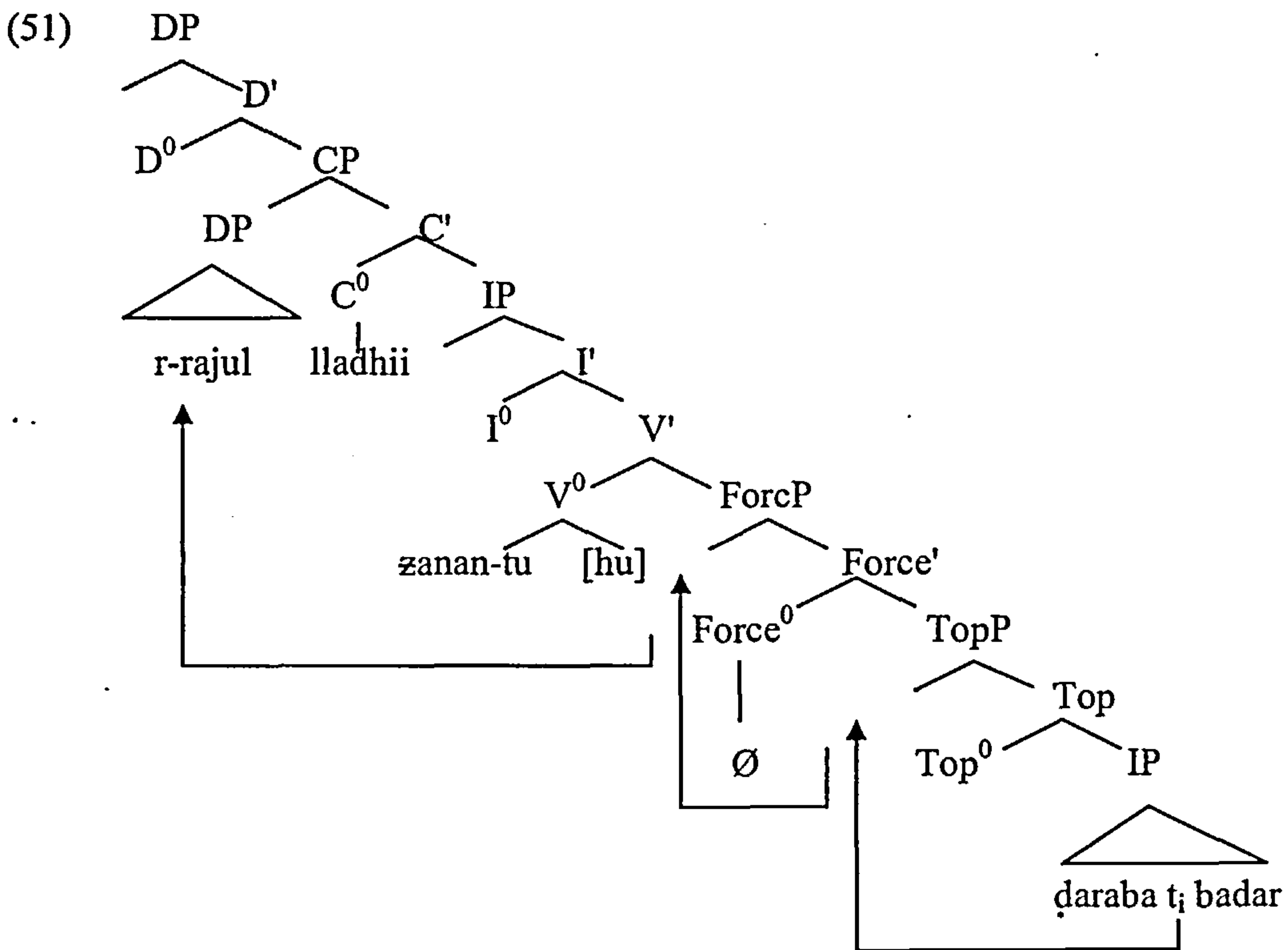
- (49) (a) hadha huwa r-rajul-u lladhii ?azunnu daraba badr-an
this pron the-man-Nom that think.1s hit.3ms badar-Acc
“This is the man that I think has hit Badar”
- (b) hadha huwa r-rajul-u lladhii ?azunnu shtama-hu badr-un
this pron the-man-Nom that think.1s insulted.3ms-him badar-Acc
“This is the man that I think Badar has insulted (him)”

What should be emphasized is that the complementizer *?anna* exists at D-structure for verbs such as *ʔanna* “think” and *ʔalima* “know”. Following Farghal (1986:105), I propose that the optional deletion of the complementizer in (49a,b) does not change the syntactic status of the NP heading the embedded clause. According to this view, both (49a) and (49b) will have the structure similar to the one given in (46) above. The relativized subject in (49a) and the relativized object in (49b) move successive cyclically. First they move to SpecTOP then to SpecForce and finally to SpecCP. The trace in SpecTOP is no longer in the form of a pronominal as in (44) since the complementizer in (49a,b) is deleted.

It is interesting to see that the trace in SpecTOP can optionally appear on the verb that subcategorize for the complementizer *?anna*, as in (50).

- (50) (a) hadha huwa r-rajul-u lladhii zanan-tu-hu ḍaraba badr-an
 this pron the-man-Nom that thought.I-him hit.3ms badar-Acc
 “This is the man that I thought has hit badar”
- (b) hadha huwa r-rajul-u lladhii zanan-tu ḍaraba badr-an
 this pron the-man-Nom that thought.I hit.3ms badar-Acc
 “This is the man that I thought has hit badar”

According to the analysis we have proposed for *?anna*-embedded clauses, the pronominal trace in (50a) must occupy the same position i.e SpecTOP and it later gets cliticized into the verb of the matrix clause. The functional head Force may be said to be occupied by a null complementizer. Thus the structure for (50a) looks something like (51):



The question is: why is the clitic optional when there is no overt complementizer but obligatory when the complementizer is overt? The answer is that a lexical trace is required to enable the complementizer to discharge its accusative Case after the

lexical DP has moved to SpecCP. Lexical heads, such as verbs, may not require a lexical trace in the extraction site as we have seen in the derivation of object relatives from main clauses (see Chapter Four for a discussion).

Conclusion

In this chapter we have dealt with relativization from embedded clauses. We have argued that subject relativization from *?an*-embedded clauses is not the same as subject relativization from *?anna*-embedded clauses. In the former, the subject is assumed to move from the postverbal position whereas in the latter the subject is assumed to move from SpecTop. As it moves, it leaves an obligatory resumptive pronoun which cliticizes into the complementizer in Force⁰. The object may also be extracted from SpecTop or from its canonical argument position. We explained that these are two different structures. When the object is extracted from its original argument position, it leaves an obligatory pronoun. The SpecTop must contain a topicalised subject. When object extraction takes place from SpecTop both the original position and SpecTop obligatorily contain a resumptive pronoun that has the same number and gender features. We proposed that movement in these relatives may not be cyclic for the reason that the head of the intermediate CP does not have features that can trigger movement to its specifier position, in what seems to be a violation of locality.

We also looked at cases where the embedded complementizer is deleted. We have pointed out that complementizer deletion does not affect the syntactic status of the relativized constituent. Whether the complementizer is deleted or not, extraction takes place from SpecTop. In both *?an* and *?anna*-embedded clauses, the “head” moves to SpecCP where it enters into Spec-head agreement with the matrix relative complementizer.

Chapter Six

Free (Headless) Relatives

6.0 Introduction

Free Relatives (FRs), also known as headless relatives, are a type of relative construction in which the head noun, i.e. the antecedent, is lexically absent. It has been assumed that free relatives are internally headed in the sense that the noun contained in the fronted *wh*-phrase is generated within the clause. Traditionally, there are two analyses of free relatives: the Head Hypothesis and the Comp Hypothesis. The Head Hypothesis is proposed in Bresnan and Grimshaw (1978). The Comp Hypothesis is proposed in Chomsky (1973), Groos and Riemsdijk (1981) and Borer (1984). We will explain the difference between these two hypotheses in (6.1.1) and (6.1.2), respectively.

Within the head-raising analysis (Kayne 1994), the structure of a free relative is not different from the structure of other relative clauses. All relative clauses are CP complements of *D* (See Chapter Two (2.1.3.2)). We will look at Kayne's analysis of FR in (6.1.3). The purpose of this chapter is to discuss the structure of free relative clauses within the head-raising approach. We will be concerned with three types of FRs found in SA: *lladhii*-free relatives (6.3.1), *man*-free relatives (6.3.2) and *maa*-free relatives (6.3.3). All these relatives are characterised by the fact that the antecedent has no phonetic realisation. Each type appears to have a different complementizer. It will be shown that these complementizers are endowed with ϕ -features, though covert in the case of *man* and *maa*, that determine the structure of FRs. The assumption we would like to make is that these relatives can have an analysis in which the antecedent appears to be a bundle of features in SpecCP position.

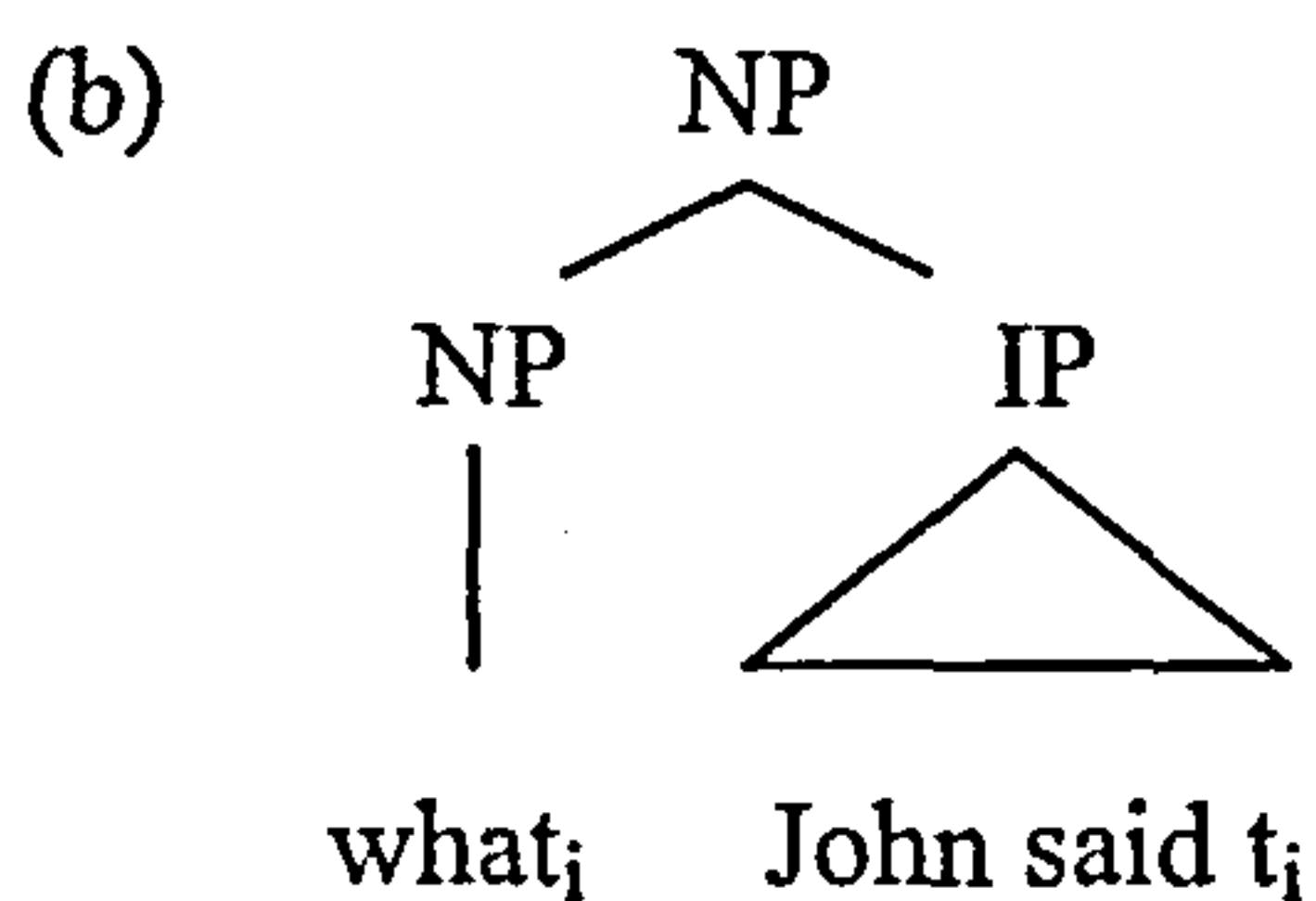
6.1 Competing analyses of free relatives

I have pointed out that traditionally there are two ways to look at the structure of FRs: the Head Hypothesis and the Comp Hypothesis. We look first at the Head hypothesis.

6.1.1 The Head Hypothesis

The head hypothesis approach to free relatives as proposed in Bresnan and Grimshaw (1978) assumes that the *wh*-phrase occupies the head NP position and is modified by IP rather than CP. Accordingly, the bracketed relative clause in (1a) has the representation in (b).

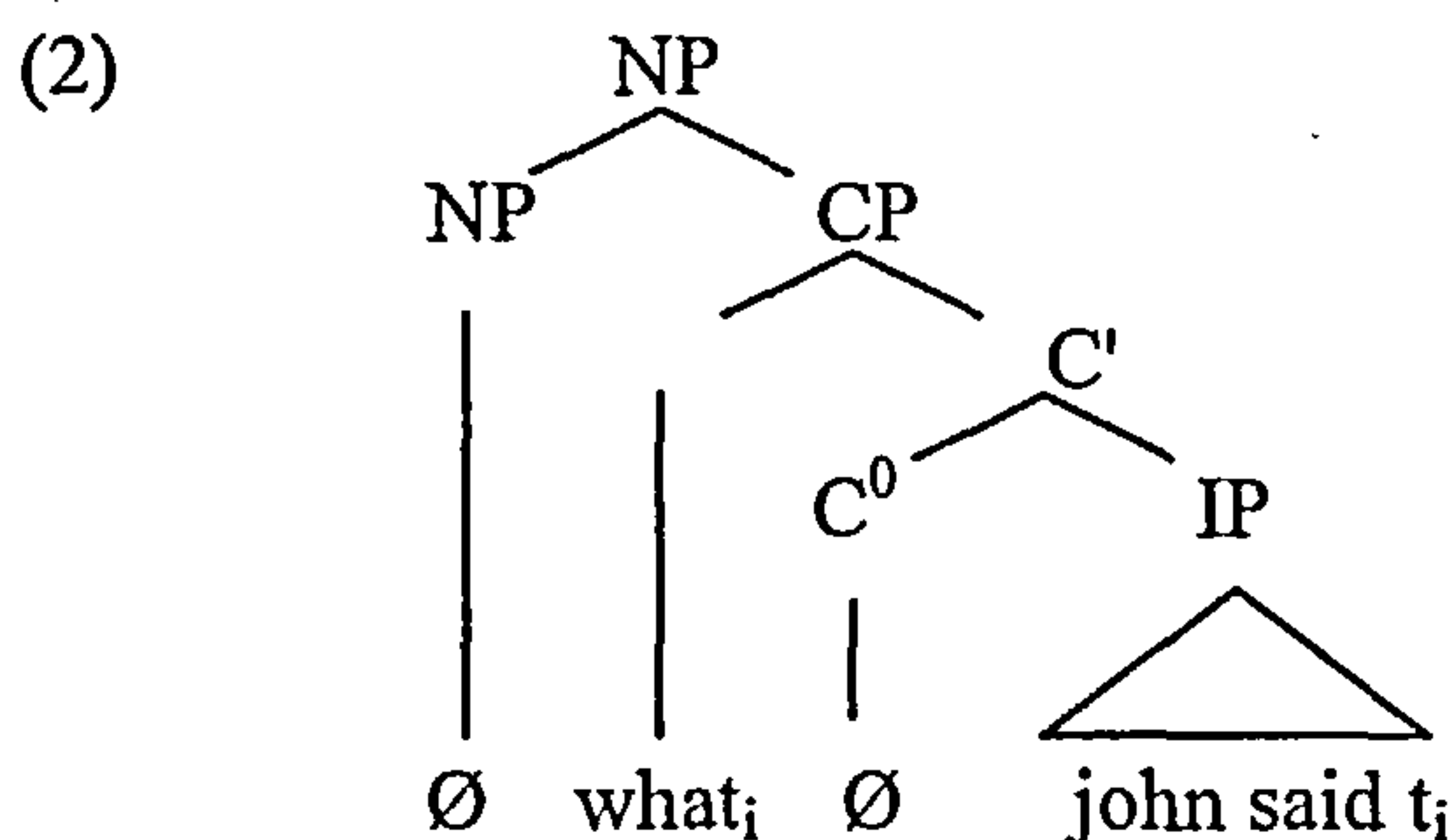
(1) (a) I did not understand [what John said]



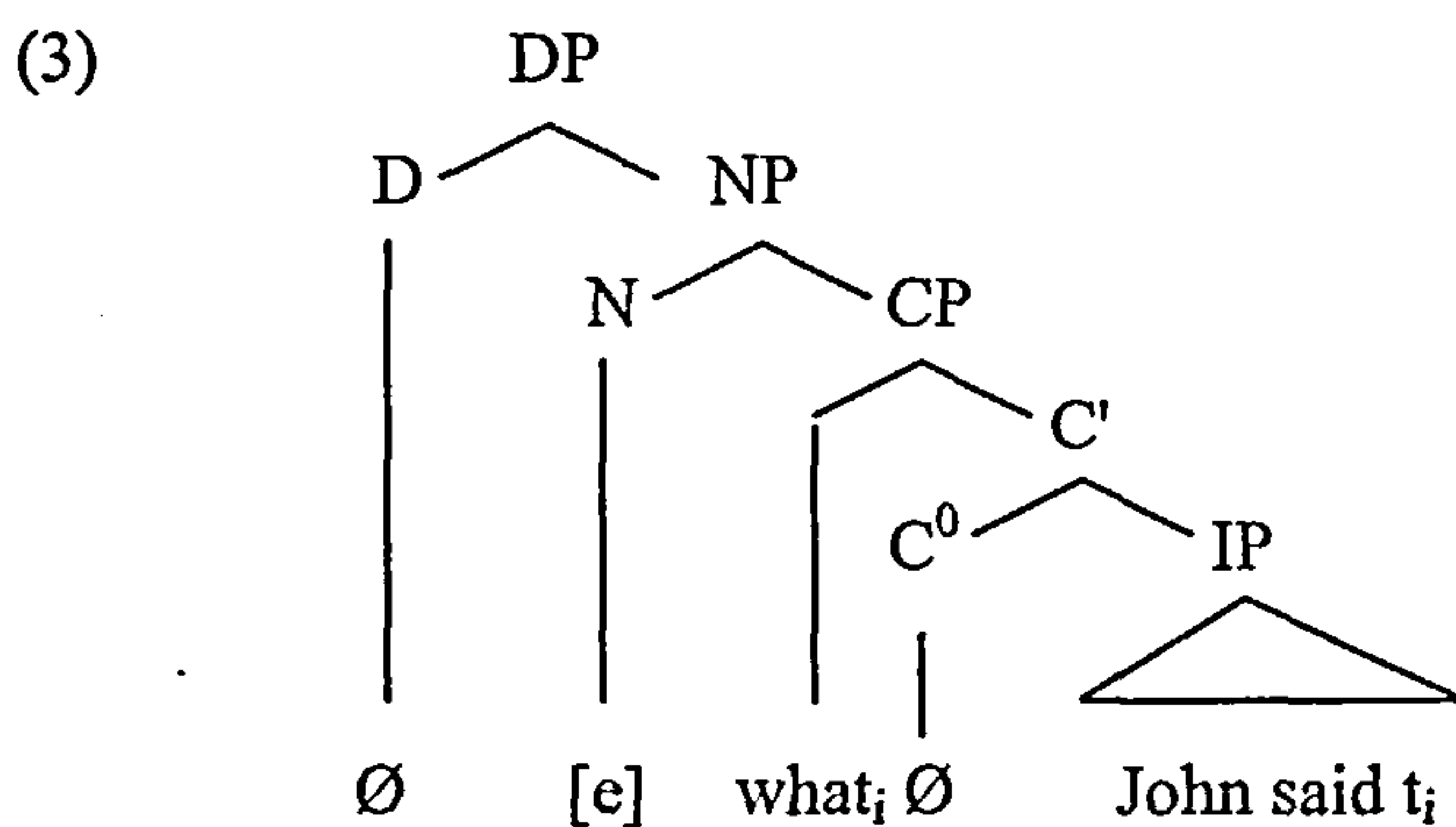
The reason why the *wh*-phrase occupies NP, according to Bresnan and Grimshaw, is that free relative clauses display matching effects. More precisely, the *wh*-phrase introducing the free relative must have the same categorial features of the head NP. According to Bresnan and Grimshaw this is only possible if the *wh*-phrase is base-generated in the NP position.

6.1.2 The Comp Hypothesis

The Comp hypothesis has been proposed in Chomsky (1973), Groos and Riemsdijk (1981) and Borer (1984), as indicated above. According to this analysis, the bracketed free relative in (1a) above is assigned the structure in (2).



The structure given in (2) is in line with the proposal made in Groos and Riemsdijk (1981) according to which a free relative clause contains an abstract head. Adopting the DP hypothesis (Abney 1987), (2) may have the structure in (3) where N is occupied by an empty element [e].



The free relative in (3) is analysed as a complement of a phonetically empty N. The structure also shows that free relatives are CPs inside a DP projection and therefore they are externally analysed as DP arguments.

Groos and Riemsdijk (1981) suggest that the matching effects indicated above can be explained under the Comp hypothesis in terms of subcategorization. In other

words, the Comp of a free relative must satisfy the subcategorization requirements of the verb of the main clause. According to this analysis, the wh-phrase, *what*, in (1a) above is a noun phrase therefore it does not violate the subcategorization requirements of the main verb *understand*. Non-matching cases arise when the subcategorization requirements of the main verb are not satisfied¹. Subcategorization requirements of the main verb are realised by the Comp Accessibility Principle. This principle requires the Comp of a free relative to be accessible to the subcategorization and Case marking requirements of the matrix verb but it does not need to assume that the wh-phrase introducing a free relative is generated in the the head NP position as suggested in Bresnan and Grimshaw (1978). This is one of the differences between the two approaches.

Another important difference between the two hypotheses is related to the extraction site. The example in (1a), repeated below for convenience, contains a gap in the object position.

(1) (a) I understand [what_i John said [e_i]]

According to the Head Hypothesis the gap is derived by deleting the relativized argument and coindexing the empty category in the object position with the wh-phrase in NP position. The Comp Hypothesis assumes that the gap in (1a) is generated by movement of the wh-phrase. The trace left by this movement is coindexed with the wh-phrase in the Comp position.

A more recent approach to the structure of free relatives is proposed in Kayne (1994). The main concern of the following subsection is to look at this approach.

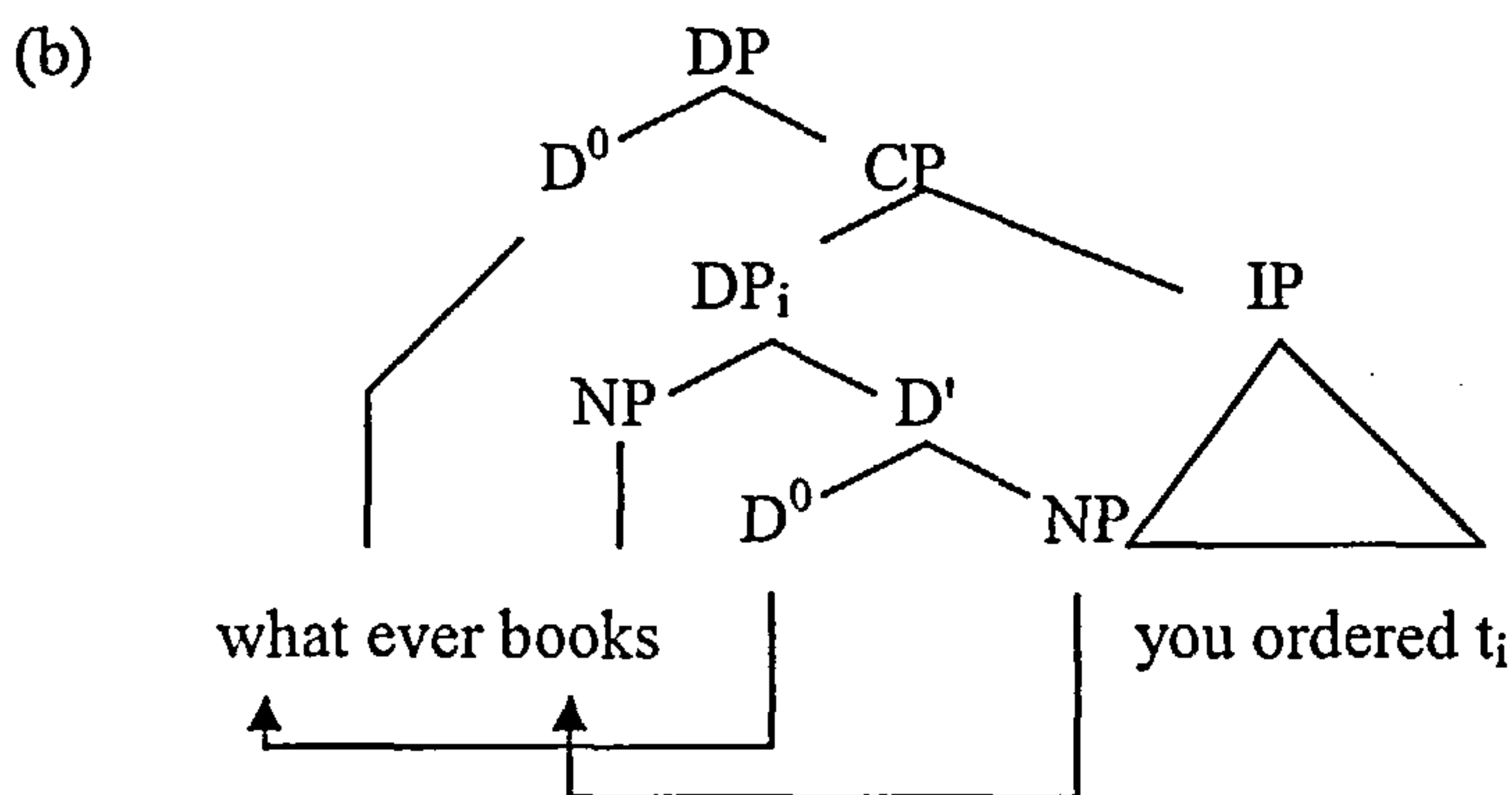
¹ The example in (i), as opposed to (ii), is not a problem since the subcategorisation requirements of the verb *buy* are satisfied and therefore does not violate matching effects, unlike the example in (ii).

(i) Ben bought what he wanted
(ii) *Be bought in what John puts his money.

6.1.3 The Complementation Hypothesis

Kayne's approach to free relatives is similar to other types of relative clauses. That is, all relative clauses are CPs, complements of the external D. In case of English free relatives, Kayne assumes that the morpheme *ever* is realised as D in the external D position to which *wh*-word incorporates (Kayne 1994:125/154). Accordingly, the example in (4a) has the representation in (4b) (irrelevant details omitted).

(4) (a) I bought [whatever books you ordered]



Thus Kayne's approach is quite different from the two hypotheses we have seen earlier. The *wh*-phrase is neither base-generated in Comp (i.e. SpecCP) as in the Comp hypothesis nor is it in the NP head position as in the Head hypothesis; rather it moves from the embedded clause then gets incorporated into the determiner.

Having outlined approaches to account for the structure of free relatives, we should mention that there is a distinction between free relatives and interrogatives. We summarize some differences in the following subsection.

6.2 Differences between free relatives and interrogatives

There is a crucial difference between interrogatives and free relatives. While the former are bare CPs, the latter are DP arguments. Interrogatives can be labelled as bare CPs functioning as clausal interrogative complements. A piece of evidence that

free relative clauses are DPs rather than bare wh-CPs comes from distributional arguments. Despite the fact that wh-CPs can occupy many positions where DPs are licensed, there are some DP positions where bare wh-CPs cannot occur. For example a bare wh-CP cannot occupy the subject position under the inverted auxiliary (Alexiadou et al (2000:22)). Thus while (5a) is fine, (5b) is not.

- (5) (a) Does what John said sound good?
(b) *Does whether she will come seem likely?

(cf. Alexiadou et al 2000:22, Exs. 58a,b)

Bare wh-CPs, unlike free relatives, cannot occur in the goal argument position either. The contrast in (6) illustrates.

- (6) (a) He gave [whoever he met] a present.
(b) *He V [whether she failed] DP

(cf. Alexiadou et al 2000:22, Exs.59a,b)

Furthermore, FRs allow antecedent contained deletion. In complement CPs, antecedent contained deletion is not possible. This fact shows that FRs are DPs but complement CPs are not (Alexiadou et al (2000:22)). The examples in (7) illustrate.

- (7) (a) John [_{VP1} likes [whatever Mary does [_{VP2} e]]]
(b) *John [_{VP1} wonders [who Mary does [_{VP2} e]]]

(cf. Alexiadou et al 2000:22, Exs.55a,c)

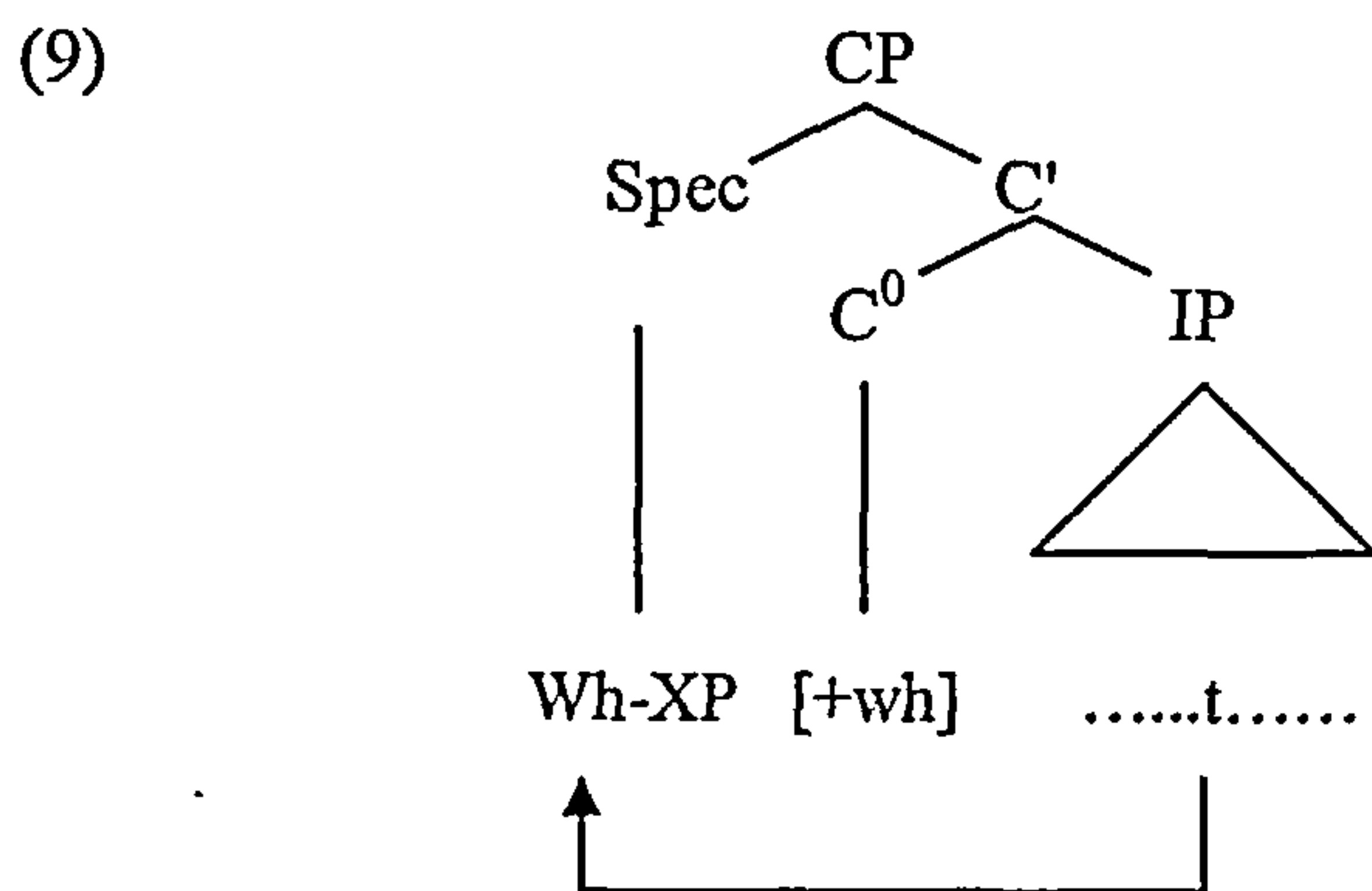
The example in (7a) is fine. VP1 antecedes VP2. The FR is assumed to have undergone Quantifier Raising (QR). The example in (7b) is not fine if VP1 antecedes VP2. This shows that complement CPs do not undergo QR.

The analyses sketched above, apart from the head-raising analysis, show that free relatives are structurally different from headed relatives. It is also relevant to point

out that FRs, headed relatives and interrogatives are semantically different. The following examples illustrate:

- (8) (a) John liked [whatever I cooked]
 (b) John liked [the things [which I had cooked]]
 (c) John wondered [what I had cooked]

Semantically, (8a) and (8b) are similar. Syntactically, however, (8a) is very much similar to (8c). What is important is that overt wh-phrases are obligatory in (8a) and (8c) but not in (8b). That is, both FRs and interrogatives must be introduced by an overt wh-phrase. The wh-phrase in (8b) can be omitted without affecting the grammaticality of the relative clause. There are further differences between FRs and interrogatives. For example, FRs in English can contain the morpheme *ever*. However, both constructions are assumed to have one feature in common i.e a CP. The head of CP then contains [+wh] feature that can trigger movement of a wh-phrase to its specifier position, as schematized in (9).



6.3 Free relatives in SA

In this section we will focus on three types of free relatives in SA. In (6.3.1), we look at *lladhii*-free relatives. In (6.3.2), we focus on *man*-free relatives and, finally

in (6.3.3), we discuss *maa*-free relatives. It will be shown that these relatives also involve some sort of movement from the relative clause to SpecCP.

6.3.1 *Lladhii*-free relatives

These relatives are introduced by *lladhii* which is also used to introduce definite relative clauses as we have already seen (See Chapters Four and Five). We have pointed out that the complementizer *lladhii* inflects for number, gender, definiteness and sometimes Case (as in the dual forms). In what follows, we will look at different relativized argument positions. We look first at the extraction site in different argument positions before we start our analysis.

6.3.1.1 Some properties of the extraction site in *lladhii*-free relatives

6.3.1.1.1 The subject position

Subject extraction from *lladhii*-free relative clauses is not different from subject extraction from headed relatives apart from the fact that the former lacks a phonetic antecedent. The relevant point is that when the subject is extracted in both constructions, there must be subject-verb agreement, as in the following examples:

- (10) (a) da9w-tu lladhi faaza fi l-musaabaqat-i
 invited-I that.3ms won.3ms in the-competition-Gen
 “I invited (the male person) who won the competition”
 (b) *da9wa-tu lladhii faaz-at fi l-musaabaqat-i
 invited-I that.3ms won.3fs in the-competition-Gen
- (11) (a) ra?y-tu llwaati haḍar-na l-?ijtimaa9-a
 saw-I that.3fp attended.3fp the-meeting-Acc
 “I saw (the female persons) who attended the meeting”
 (b) *ra?y-tu lwaati haḍar-uu l-?ijtimaa9-a
 saw-I that.3fp attended.3mp the-meeting-Acc

The examples in (10a) and (11a) are well-formed whereas those in (10b) and (11b) are not. The ungrammatical examples do not show subject-verb agreement and therefore are excluded.

The above examples illustrate local subject extraction from the main clause. Embedded subject extraction shows the same facts with respect to agreement, as in the following examples:

- (12) (a) saafara lladhiina zanan-tu ?an yaḥdur-uu l-ḥafl-a
 travelled.3ms that.3mp thought-I that attend-3mp the-party-Acc
 “(The male ones) who I thought would attend the party have travelled”
 (b) *saafara lladhiina zanan-tu ?an yaḥdar-na l-ḥafl-a
 travelled.3ms that.3mp thought-I that attend.3fp the-party-Acc

The question that arises is what do the verb and the complementizer agree with? I will assume that the verb in *lladhii*-free relatives agrees with a null DP in SpecCP as well as the complementizer. Furthermore, I will assume that the complementizer must have a null DP in its spec position whose features must be identical to the features of the complementizer².

6.3.1.1.2 The direct object position

Direct object free relatives are identical to lexically-headed direct object relatives in the sense that the extraction site may or may not be filled with a resumptive pronoun. The examples in (13a) and (13b) illustrate, respectively.

- (13) (a) qaabal-tu lladhii ra?ay-ta
 met-I that.3ms saw.2ms
 “I met (the male person) who you saw”

² This conclusion is based on the claim that the complementizer *lladhii* in headed relatives is obligatory in C⁰ whose Spec must contain a definite antecedent. See Chapter Four and Chapter Five.

- (b) qaabal-tu lladhii ra?ay-ta-hu
 met-I that.3ms saw.2ms-him
 “I met (the male one) who you saw (him)”

It is also possible to relativize the object of an embedded clause, as in (14) below.

- (14) (a) ra?ay-tu llatii zanan-tu ?anna badr-an shatama-haa
 saw-I that3fs thought-I that badar-Acc insulted.3ms-her
 “I saw (the female one) who I thought Badar has insulted (her)”
- (b) ra?ay-tu llatii zanan-tu ?anna badr-an shatama-
 saw-I that3fs thought-I that badar-Acc insulted.3ms-
 “I saw (the female one) who I thought Badar has insulted”

A resumptive pronoun and a gap can freely alternate as shown in (14a) where a resumptive is inserted and (14b) where a gap appears. Thus this type of relative clause is similar to the definite headed relative as far as the extraction site is concerned: both types allow a resumptive pronoun or a gap in the extracted object position.

6.3.1.1.3 The indirect object position

Indirect object extraction in *lladhii*-free relatives is different from the direct object extraction in the sense that the extraction site is always filled with a resumptive pronoun, as in (15a). (15b) is ungrammatical since a gap appears in the extraction site:

- (15) (a) mata lladhii ?a9taa-hu sayf-un hadyyat-an
 died.3ms that.3ms gave.3ms-him sayf-Nom present-Acc
 “The (male person) to whom Sayf gave a present has died”
- (b) *mata lladhii ?a9taa sayf-un hadyyat-an
 died.3ms that.3ms gave.3ms sayf-Nom present-Acc

6.3.1.1.4 The object of a preposition

Extraction from the complement of a preposition requires an obligatory resumptive pronoun in the extraction site. This may be attributed to the fact that SA does not allow preposition stranding. Thus while (16a) is well-formed, (16b) is not.

- (16) (a) raʔay-tu lladhayni saafar-ta ma9a-humaa
saw-I that.dual-Acc travelled.2ms with-them.dual
“I saw (the two male persons) whom you travelled with (them)”
(b) *raʔay-tu lladhayni saafar-ta ma9a
saw-I that-Acc.dual travelled.2ms with

The fact that free relatives lack an overt lexical head makes them different from the headed relatives. Radford (1988:481) points out that free relatives, semantically, are apparently antecedentless in the sense that the *wh*-expression they contain does not appear to refer back to any other constituent in the sentence containing them. He also points out that free relatives, like non-restrictives, are always introduced by an overt *wh*-phrase. More precisely, *that*-relatives and *zero relatives* are excluded as free relative clauses. Thus neither (17a) or (17b) can function as a free relative.

- (17) (a) *John did not like [that Mary said]
(b) *John did not like [Ø Mary said]

Let us assume that Radford’s first argument that free relatives are semantically antecedentless is correct. Accordingly, the relative marker does not seem to refer to any specific “overt” constituent in the Arabic examples cited in (10-16) above. However, I will argue that free relatives in SA are not exactly headless as they might appear. Moreover, the idea that free relatives are always introduced by a *wh*-word should be excluded in SA at least in *lladhii*-free relatives. The reason is that *lladhii* in SA is not a *wh*-word since it cannot introduce an interrogative clause as we have seen in Chapter Three. In the following section we will provide a head-raising analysis exemplified in (4b) above for *lladhii* free relatives in Arabic.

6.3.1.2 A proposed analysis for *lladhii*-free relatives

Recall that in dealing with headed relatives (See Chapter Four and Chapter Five) we proposed that the head DP moves to SpecCP and that the relativizer occupies the C⁰ position. We have also pointed out that the relativizer has rich morphology. The assumption we have made there is that a relative clause introduced by *lladhii* (or its morphological variants) is only possible if the antecedent has the feature [+def].

The analysis I would like to propose for this type of free relatives in SA is based on facts we know about pro-drop languages (e.g Italian, Hebrew, Spanish, etc). The assumption is that the subject in these languages may be phonetically null. The reason is that verbal number and gender inflections can identify the subject. I propose that the same analysis can carry over to free relatives in SA. Thus number and gender features in addition to definiteness which appear on the complementizer in *lladhii*-free relatives allow the head DP to be phonetically absent. But the features of this DP are never absent as indicated by the obligatory presence of the complementizer. I propose that these features enter into Spec-head agreement. We will explain this assumption in the following section.

6.3.1.2.1 A null DP and the features of C⁰

In this section we will look in detail at the validity of the assumption made above, namely the SpecCP in *lladhii*-free relative clauses must be occupied by phi-features. First we consider the following examples where a preposition takes a free relative in its complement position.

- (18) (a) askun-u maga lladhii akrama-hu l-malik-u
Isg live-Indic with that honoured-him the king-Nom
“I live with the (male) one whom the king honoured”

- (b) askun-u ma9a lladhii ta-skunu (ma9a-hu)
 1sg live-Indic with that you live (with-him)
 “I live with the (male) one whom you live with”

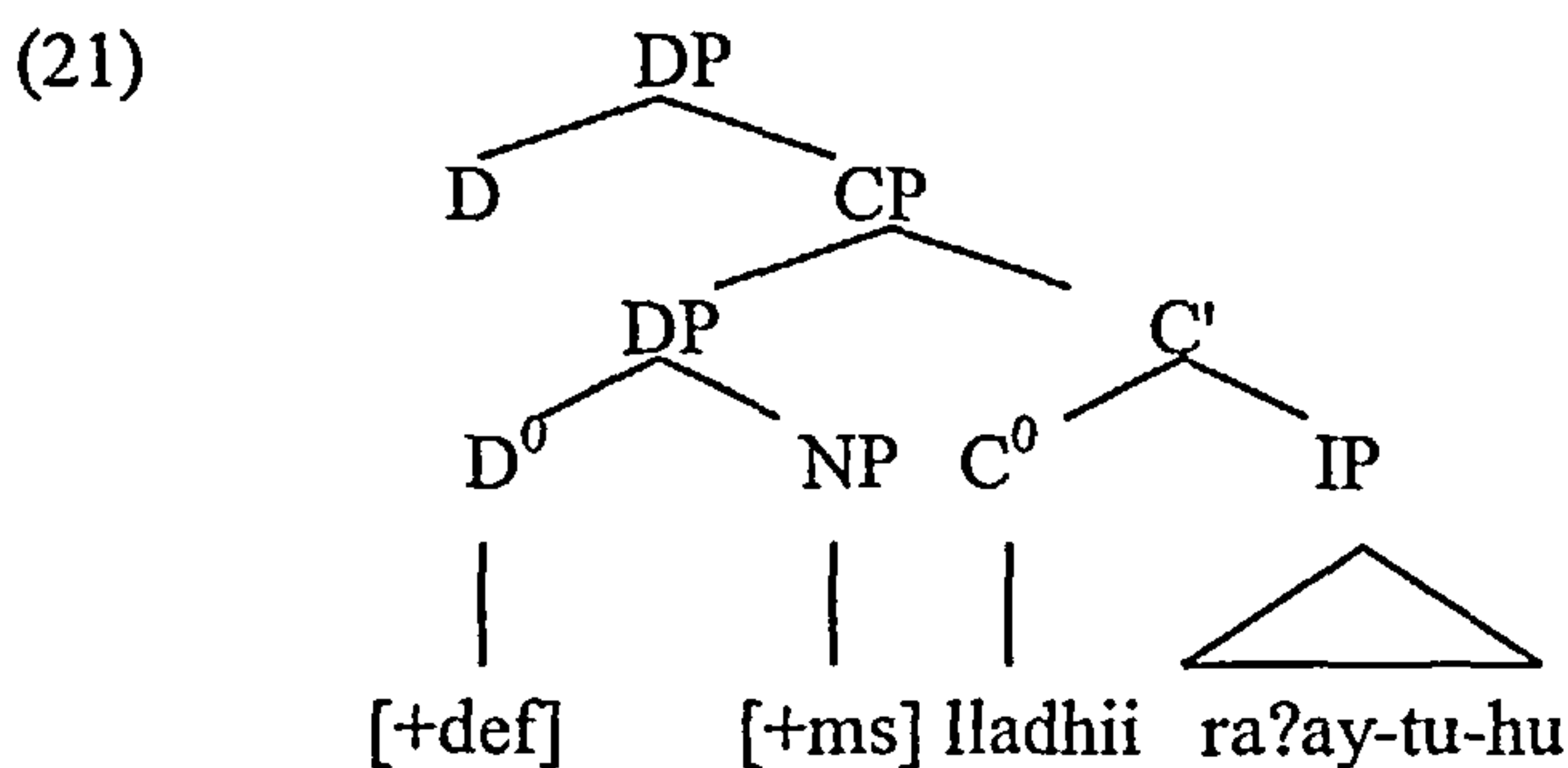
Free relatives, as already pointed out, are DPs and can therefore surface in any DP position, including the complement position of a preposition. A preposition, however, is not an inherent part of a free relative construction. In the examples that follow, it will be shown that *lladhii* in SA can be overt only if the head of the relative is a definite DP, the conclusion we reached in Chapter Four.

- (19) (a) ja?a r-rajul-u lladhii ra?ay-tu-hu
 came the-man-Nom that.3ms saw I him
 “The man who I saw has arrived”
- (b) *ja?a rajul-un lladhii ra?ay-tu-hu
 came man-Nom that saw I him
 Intended meaning “A man who I saw has arrived”
- (c) hadha rajul-un ra?ay-tu-hu
 this man-Nom saw I him
 “This is a man who I saw”
- (d) ja?a lladhii ra?ay-tu-hu
 came that 3ms saw I him
 “The one who I saw has come”

Note first that the definite marker preceding *rajul* “man” (19a) is *r*. This is a phonological process. The only difference between (19a) and (19b) is the presence of the definite article in the former (and its absence in the latter). In (19c) neither the definite marker nor the complementizer is realized. This amounts to the fact that indefinite antecedents cannot cooccur with a phonetically realized C^0 as we have already shown (See Chapters Four and Five). The absence of the Complementizer will allow (19a) to have a left-dislocation interpretation, as in (20).

- (20) r-rajul-u ra?ay-tu hu
 the man Nom saw I him
 "The man, I saw him"

A null D cannot select a CP headed by an overt C^0 as the ungrammatical example in (19b) shows. This gives a straightforward explanation for the grammatical example in (19d). It is plausible to propose that the null 'head' (i.e. the antecedent) of the relative clause in examples such as (19d) is definite (because of the obligatory presence of the head C^0). Although this DP has no phonetic content, its features must be taken to occupy the specifier position of the complementizer. Therefore, the structure I propose for *lladhii*-free relatives, such as (19d), is schematized in (21) below (irrelevant details omitted):



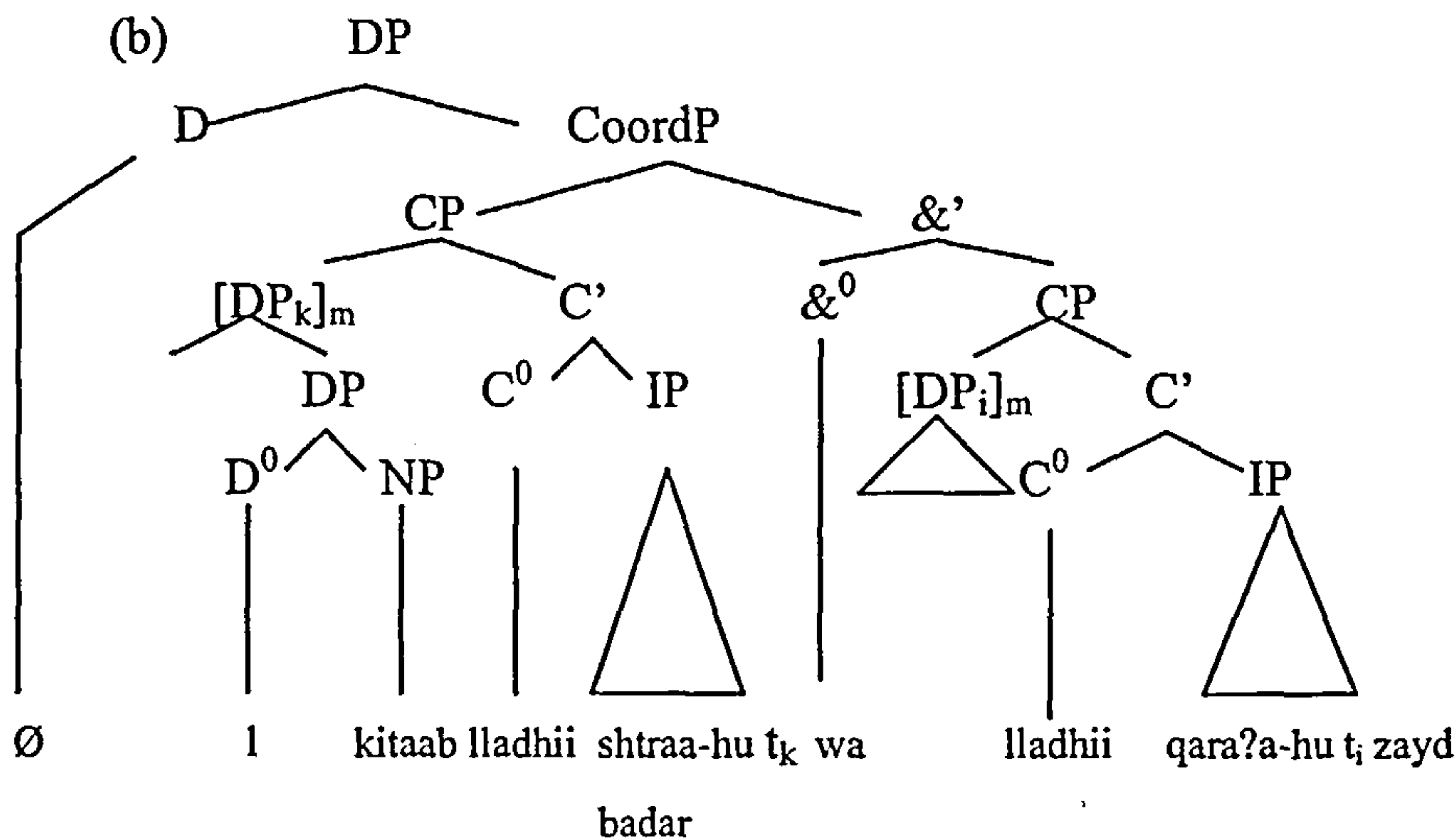
The null DP in SpecCP is endowed with the feature [+def] given the obligatory presence of the complementizer and the feature [3ms] which must also be carried by the complementizer. The feature [+def] is always present on the complementizer. Number and gender features of the complementizer must be similar to the number and gender features of the NP in SpecCP. This amounts to the fact that the features of the complementizer, apart from the feature [+def], will vary according to the features of NP in SpecCP. For example in (22a) below, the features of the null NP must be specified as [+3mp] whereas the features of the null NP in (22b) must be specified as [+dual m].

- (22) (a) a?kram-tu lladhiina shaarak-uu fi s-sibaaq-i
 honoured-I that 3mp participated.3mp in the race-Gen
 “I honoured (the male persons) who participated in the race”
 (b) a?kram-tu lladhayni katabaa l-maqaal-a
 honoured-I that.dual m Acc wrote dual m the-article-Acc
 “I honoured (the two male persons) who wrote the article”

There are reasons to assume that there is an empty DP in *lladhii* free relatives. One is the simple observation that some relative clauses require the antecedent to be overtly present, as in headed relatives. Coordination provides further evidence for a null DP analysis in free relatives, as in the following example:

- (23) (a) l-kitaabu lladhii shtraa-hu badr-un
 the book-Nom that bought-it badar-Nom
 wa lladhii qar?a-hu zayd-un
 and that read it zayd Nom
 “The book which Badar bought and Zayd read”

Within the raising approach, I assume that the first conjunct is in SpecCoordP and the second conjunct is in the complement position, as required by the LCA. Thus if *and* is the head, then the first conjunct must be in its Spec and the second conjunct must be in its complement position. Recall that Specifier-Head Complement is the only order that is compatible with the LCA (Kayne 1994). On the assumption that only identical constituents can be coordinated, the example in (23) seems problematic for the raising analysis. However, under the analysis suggested above, (23) poses no problem since SpecCP of the second conjunct is filled with a null DP. We assume that there is a null DP in SpecCP of the second conjunct. This assumption can be accounted for by the fact that the complementizer *lladhii* must have an overt or a null DP in its specifier. The example in (23a) is therefore assigned the structure in (23b).



The presence of a trace (in the form of a resumptive pronoun) in the object position in the IP of the second conjunct indicates that movement has taken place; the presence of the complementizer indicates that there must be some element in its Spec. The raised element must be a null DP whose features match the features of the complementizer. The DP in SpecCP of the first conjunct is coindexed with its trace t_k . The two DPs, the overt one and the null one, are linked by coindexation. Now we consider the example in (24).

- (24) *l-malik-u l-ladhii akrama badr-an wa ahana zayd-an*
 the-king Nom the-that honoured badar Acc and insulted zayd-Acc
 “The king who honoured Badar and insulted Zayd”

Traditionally, (24) would be analysed as VP coordination. In Wilder’s terms, (24) would be analysed as CP coordination (as in 23b). The VP and CP analyses do not assume that there is a *pro* subject in the second conjunct. I reject this hypothesis and propose that the subject position of the IP in the second conjunct must be filled with a *pro* whose antecedent is the head of the relative clause i.e. *l-malik* (the king). This is similar to (23) above in the sense that an empty DP in the second conjunct is coindexed with its antecedent in the first conjunct.

The parallelism between relative clauses and tensed verbs in pro-drop languages is interesting. I take the Complementizer *lladhii* in SA to behave exactly like a tensed verb in null-subject languages. Both the verb and the complementizer inflect for number and gender. The difference is that the relative complementizer does not inflect for tense (See McCloskey 1979 on complementizers and tense in Irish). This difference is not crucial since tense is not responsible for the absence of the subject in pro-drop languages. Thus the reason that the antecedent in relative clauses may not be overt is that it can be identified by the morphology of the complementizer.

On the basis of number and gender morphology, I propose that the analysis which explains the optional presence of a pro subject in pro-drop languages such as Italian and Spanish carries over to SA *lladhii*-free relatives. (For pro-drop phenomenon, see Rizzi (1982), Roberts (1997) and Ouhalla (1994) for Italian and Spanish. For SA as a pro-drop language, see Fassi-Fehri (1993).)

My proposal in connection to *lladhii*-free relatives in SA is that the head of the relative clause can be identified by the rich morphology of the complementizer. In (19d), repeated below for convenience, the head of the relative can easily be identified by the rich morphology of the complementizer, which bears the features masculine, singular and definite. Recall that morphological Case does not appear on the singular and plural forms.

- (19) (d) ja?a lladhii ra?ay-tu-hu
 came that 3ms saw I him
 “The (male person) who I saw has come”

SA has rich verb morphology which permits it to have a null subject as shown in the following examples.

- (25) (a) takallam-a
 spoke.3ms
 “He spoke”

- (b) takallam-at
spoke.3fs
“She spoke”
- (c) takallam-uu
spoke.3mp
“They spoke”
- (d) takallam-na
spoke.3fp
“They spoke”

The subject deletion, then, has to do with subject-related pronominal markers i.e number and gender, which appear on the Arabic verb (cf. Drozdik 1999:74). In other words, the absence of a phonetically realised subject in (25) is related to the agreement pronominal markers that appear on the verb.

These inflectional differences do not only appear on SA verbs but also on the complementizer *lladhii*, as shown above. This is the reason why *lladhii*-free relatives can be thought to have a bundle of features in SpecCP. Consider (26):

- (26) ?a9rif-u bayt-a lladhii ɖaraba badr-an
I know.Indic house-Acc that hit badar-Acc
“I know the house of the one who hit Badar”

The relative clause in (26) does not modify the NP *bayt* “house”, as it may appear. Instead, it modifies a null DP. The relevant part of (26) is a genitive construction whose complement is not overt but can be identified by the morphology of the complementizer *lladhii*. Traditional Arab grammarians assume that the sentence in (26) involves a construct state, known as *Idaafa* in Arabic. The head in construct state cannot appear with ‘nunation’ (i.e. an /-n/ sound which occurs with indefinite nouns immediately following the Case marker. /-n/ disappears in construct state NPs and when the noun is definite, as in: *bayt-un* “a house”; *bayt-u r-rajul-i* “the man’s house”, **bayt-un r-rajul-i* “the man’s house”; *l-bayt-u* **l-bayt-un* “the

house”). The complement is assigned Genitive by the head noun. Furthermore, the head cannot be definite. Only the complement can carry the definite article. This construction provides some more evidence that the features of a null DP must occupy SpecCP. Case surely cannot be assigned to the complementizer in (26). Rather, Case can be said to be assigned to the null complement. As proposed, the null DP can be identified by the rich morphology of the complementizer.

The claim that the head noun is followed by a null DP complement is endorsed by the grammaticality of (27) below, where a DP can be inserted in the complement position without violating the grammaticality of the sentence. Importantly, the inserted DP is assigned Gen by the head noun *bayt* “house”.

- (27) ?a9rifu bayt-a (r-rajul-i) lladhii ɖaraba badr-an
 I know house-Acc (the-man Gen) that hit.3ms badar-Acc
 “I know the house of the man who hit Badar”

Based on (27), the grammaticality of (26) can be accounted for by the fact that the relative clause is not syntactically related to NP *bayt* but, instead, to the null DP.

The insertion of indefinite NP is not possible if C⁰ is overt; as in (28).

- (28) *?a9rifu bayt-a rajul-in lladhii ɖaraba badr-an
 I know house-Acc man-Gen that hit.3ms badar-Acc

However, (28) is possible if the complementizer *lladhii* is not phonetically realized, as shown in (29).

- (29) ?a9rifu bayt-a rajul-in ɖaraba badr-an
 I know house-Acc man-Gen hit.3ms badar-Acc

The example in (29) illustrates an indefinite relative. This type of relative, as we have seen, does not contain an overt complementizer. This is why (28) is out.

6.3.1.2.2 More evidence for DP features in CP

The arguments raised above for the presence of phi-features of a null DP in SpecCP are further supported by some evidence from other languages. One of the assumptions made to justify the proposed analysis is that the feature definite must also be present in SpecCP. The reason is that the complementizer can be overt only if the feature definite is present in its Spec position³.

In some languages it is possible to add a determiner or a quantifier to a relative whose head is null. The following examples are from German cited in De Vries (2002: 42):

- (30) (a) der [der zu spät gekommen ist]
D3 D_{rel} too late come has
(b) alles/vieles [was du willst]
all/much what you want (De Vries 2002:42 (ex 54a/b))

Citko (2004:97) cites some relevant examples from Germanic and Romance where a free relative appears to have some head represented by a demonstrative as in German and Dutch or a determiner as in Spanish. Citko (2004) gives the following examples:

- (31) (a) Mary ißt das was (auch) John ißt
Mary eats that what also John eats
“Mary eats what John eats
(b) Marie eet dat wat Jan eet
Mary eats that which Jan eats
“Mary eats what John eats” (Citko 2004:97, Ex. 4a/b)

³ This is in line with the proposal made in Aoun and Choueiri (1997). These authors propose feature raising to SpecCP in headed relatives. The pro-DP that raises to SpecCP checks the feature [+def] with the complementizer. The analysis I propose postulates that the features number, gender and def must all raise to SpecCP so that there is Spec-head agreement with the overt complementizer.

- (32) He visto a la que me presetaste
 have-1sg seen to the that to.me introduced-2sg
 “I have the one that you have introduced to me”

(Citko 2004:97, Ex. 5b)

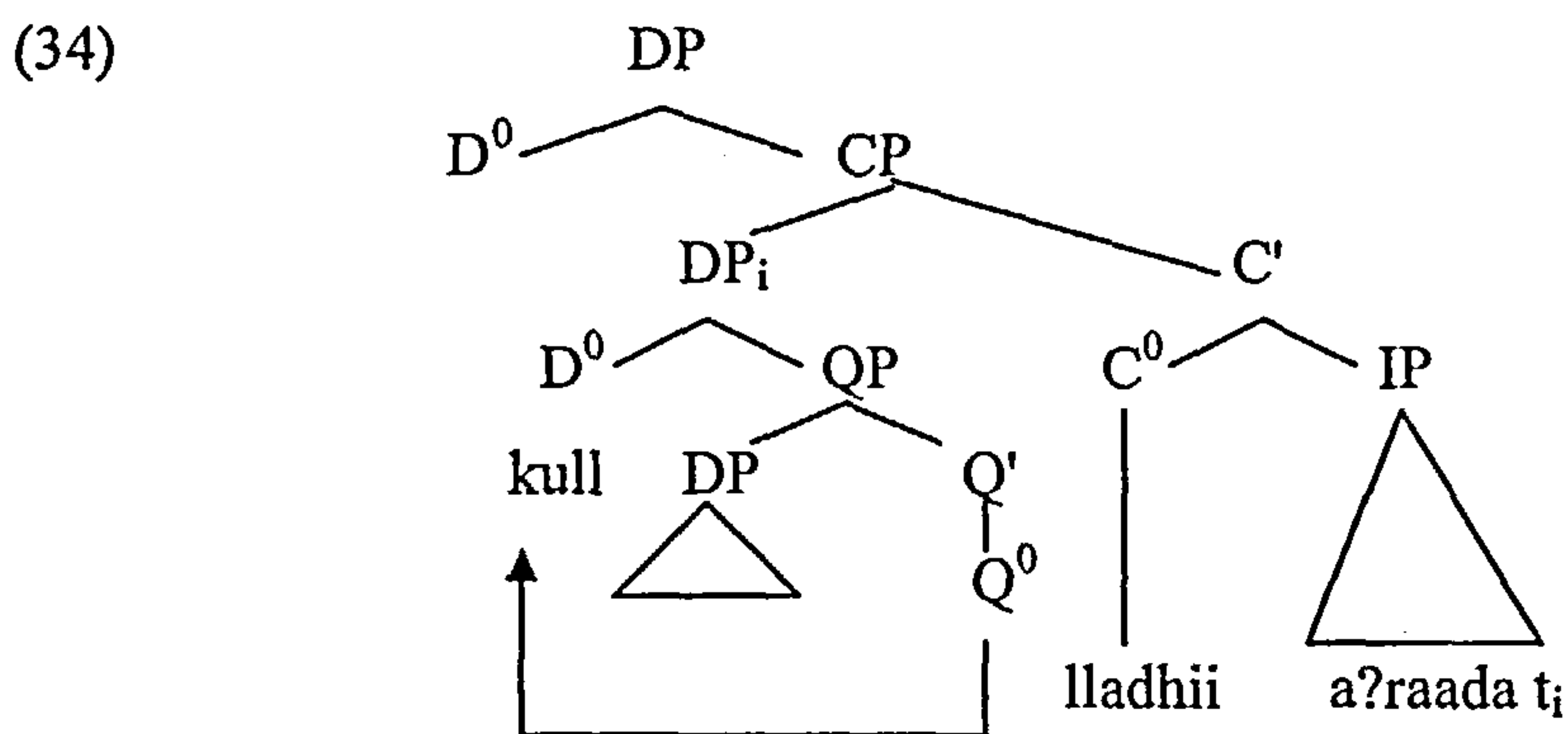
Thus both Germanic, represented by German and Dutch in (30-31), and Romance, represented by Spanish in (32), provide evidence that a free relative has a head. The difference between SA and Germanic and Romance free relatives is how the head D is realised. In Arabic D in free relatives can be identified by the morphology of the complementizer. In Germanic and Romance the situation is different. German and Dutch use a relative pronoun rather than a complementizer (Citko 2004:97). Romance languages use a complementizer rather than a relative pronoun. One might assume that complementizers in Romance do not inflect for the definite and therefore D head in Romance free relatives can be phonetically realised (as in 32).

As a matter of fact, it is not hard to find examples such as (30b) in SA. But these appear to be only superficial. Consider (33), for example.

- (33) (a) ?a9tay-tu-hu [kull-a lladhii ?araada]
 gave-I-him all-Acc that wanted.3ms
 “I gave him all that he wanted”
 (b) ?a9tay-tu-hu kulla l-maal-i lladhi ?arada
 gave-I-him all-Acc the-money-Gen that wanted.3ms
 “I gave him all the money he wanted”

Note that the quantifier in (33a) is indefinite. This is surprising because *lladhii* can never cooccur with an indefinite element in its Spec. To account for the grammaticality of (33), we assume that the quantifier inherits the feature definite from its null DP complement. This analysis supports the assumption that the complementizer is in Spec-head agreement with the features of a null DP including the feature [+def]. The example in (33) is similar to (26) above in the sense that it

also involves a construct state construction. It is possible to suggest that the quantifier in (33) undergoes head movement to D position. The quantifier *kull* and the NP that follows it display all the properties of the CS headed by nouns (Benmamoun 1999:624). The D to which the quantifier moves takes the QP as its complement whose specifier can be occupied by a null DP as in (33a) or an overt one as in (33b). Thus the structure of the bracketed string in (33a) is given in (34).



Following Benmamoun (1999), I propose that *kull* is generated as head of a QP projection. The genitive DP occupies SpecQP. The surface order in (33a) and (33b) is derived by movement of the quantifier to D. The only difference between (33a) and (33b) is that SpecQP is occupied by a null DP in the former and an overt DP in the latter. The advantage of the analysis given in (34) is that it allows both the quantifier and nominal heads of the CS to have the same derivation. It should be emphasised that the null DP, c-commanded by the quantifier, in (33a) must have the same features carried by the complementizer. These features include number, gender and definiteness.

The analysis given in (34) is different from the analysis proposed in Ouhalla (2004). Ouhalla proposes that relative clauses in Arabic are DPs rather than CPs. In his analysis *lladhii* is D+Agr. According to Ouhalla's analysis the example in (26), repeated below for convenience, will be assigned the structure in (35) (Irrelevant details omitted).

The example in (37) can be saved only if the nominal *rajul* is made definite as in (38). (the *r* preceding *rajul* is a phonological variant of *l*)

- (38) r-rajul-u lladhii da9aa zaydan
 the-man-Nom RM invited3ms zayd-Acc

There is another some alternative way where the structure in (37) can be possible: it is possible if it involves a construct state construction as illustrated in (26) and (33) given above. These facts show that *lladhii* does not have an independent determiner interpretation as Ouhalla claims.

A third problem with the analysis represented in (35) is that it allows D to have TP complement. If *lladhii* can take a TP complement, as in (35) above, the determiner *l* must also behave in the same way. This is however impossible, as in (39b) below.

- (39) (a) kitaab-u lladhii shatama badr-an
 book-Nom RM insulted.3ms badar-Acc
 “The book of the male person that insulted Badar”
 (b) *kitaab-u l-shatama badr-an

The ungrammatical (39b) clearly indicates that a determiner cannot have a TP complement. Based on this observation, *lladhii* in the grammatical (39a) cannot be a determiner but, instead, a complementizer, as our analysis proposes.

Based on the discussion above, we can conclude that *lladhii*-free relatives lack an overt N and an overt D but the features of these categories must be available in the specifier position of the complementizer.

6.3.2 *Man*-free relatives

There are crucial differences between *man* and *lladhii*. For example, *man* always carries the feature [+human] whereas *lladhii* carries both [+human] and [-human].

Another difference is that *man* can be used in both relative constructions and interrogatives whereas *lladhii*, as we have seen, is only used in relative constructions.

There is also difference between *relative man* and *interrogative man*. The latter can only have the feature [+3ms]. The former is not subject to this restriction. The examples in (40) illustrate *interrogative man* and those in (41) illustrate *relative man*.

- (40) (a) man shakara zayd-an ?
who thanked.3ms zayd-Acc
“Who thanked Zayd?”
(b) *man shakar-uu zayd-an?
who thanked.3mp zayd-Acc
- (41) (a) qaabal-tu man shakara zayd-an
met-I that thanked.3ms zayd-Acc
“I met who thanked zayd”
(b) qaabal-tu man shakar-uu zayd-an
met-I that thanked.3mp zayd-Acc
“I met who thanked Zayd”

In the following section we will look at some data on two different relativized argument positions in this type of free relatives. We look at the subject position in (6.3.2.1.1) and then the direct object position in (6.3.2.1.2). In (6.3.2.2), we present our proposed analysis.

6.3.2.1 The subject and object positions

6.3.2.1.1 The subject position

An important feature of the subject relativization in *man*-free relatives is that the complementizer *man* and the verb of the relative clause do not have the same number and gender agreement. Relative *man* is always third person masculine

singular. The verb however inflects for number and gender, as in the following examples:

- (42) (a) raʔay-tu man ɖaraba zayd-an
saw-I that3ms hit PAST.3ms zayd-Acc
“I saw who hit Zayd”
- (b) raʔay-tu man ɖarab-uu zayd-an
saw-I that3ms hit PAST.3mpl zayd-Acc
“I saw who hit Zayd”

The crucial point concerning (42a,b) is that despite the fact that both *man* and the verb carry different features, *man* can only get its interpretation from the feature specification of the verb. This is not the case with *lladhii*-free relatives (and with headed relatives) where both the complementizer and the verb must carry the same features as far as subject extraction is concerned.

6.3.2.1.2 The direct object position

Direct object extraction in *man*-free relatives is similar to the direct object extraction in *lladhii*-free relatives in the sense that a gap can alternate with a resumptive pronoun in the extraction site, as shown in (43).

- (43) (a) raʔay-tu man zur-ta
saw-I that visited 2ms
“I saw who you visited”
- (b) raʔay-tu man zur-ta-hum
saw-I that visited.2ms-them 3mpl
“I saw who you visited (them)”
- (c) raʔay-tu man zur-ta-haa
saw-I that visited.2ms-her
“I saw who you visited (her)”

Note that the resumptive pronoun appearing on the verb carries number and gender features: third masculine plural in (43b) and feminine singular in (43c). This fact supports the claim made earlier that the semantic interpretation of *man* is obtained from the number and gender inflections on the verb. In case there is no number and gender morphology on the verb, as in (43a), *man* must have an arbitrary interpretation. Thus the subject-verb agreement in (42) and the resumption option in (43) forces the relative *man* to have a specific interpretation. We will look at these matters in some detail in the following section.

6.3.2.2 A proposed analysis for *Man*-relatives

In order to determine the syntactic status of *man*-relatives, we need to draw a comparison between the following sets of examples, the first two of which we are familiar with.

- (44) (a) qaabal-tu r-rajul-a lladhii yadrusu l-?adab-a
met-I the-man-Acc that.3ms study PRES 3ms the-literature-Acc
“I met the man who studies literature”.
- (b) qaabal-tu lladhii yadrusu l-?adab-a
met-I that.3ms study PRES 3ms the-literature-Acc
“I met (the male person) who studies literature”
- (45) (a) qaabal-tu man yadrusu l-?adab-a
met-I that.3ms study PRES 3ms the-literature-Acc
“I met (*the male person) who studies literature”
- (b) *qaabal-tu r-rajul-a man yadrusu l-?adab-a
met-I the-man-Acc that.3ms study PRES 3ms the-literature-Acc
“I met the man who studies literature”

One interesting fact about (44) and (45) is the observation that the complementizer

lladhii allows the head DP to be present (44a) whereas the complementizer *man* does not (45b). Furthermore, the translation given in (44b) is possible while that given in (45a) is not.

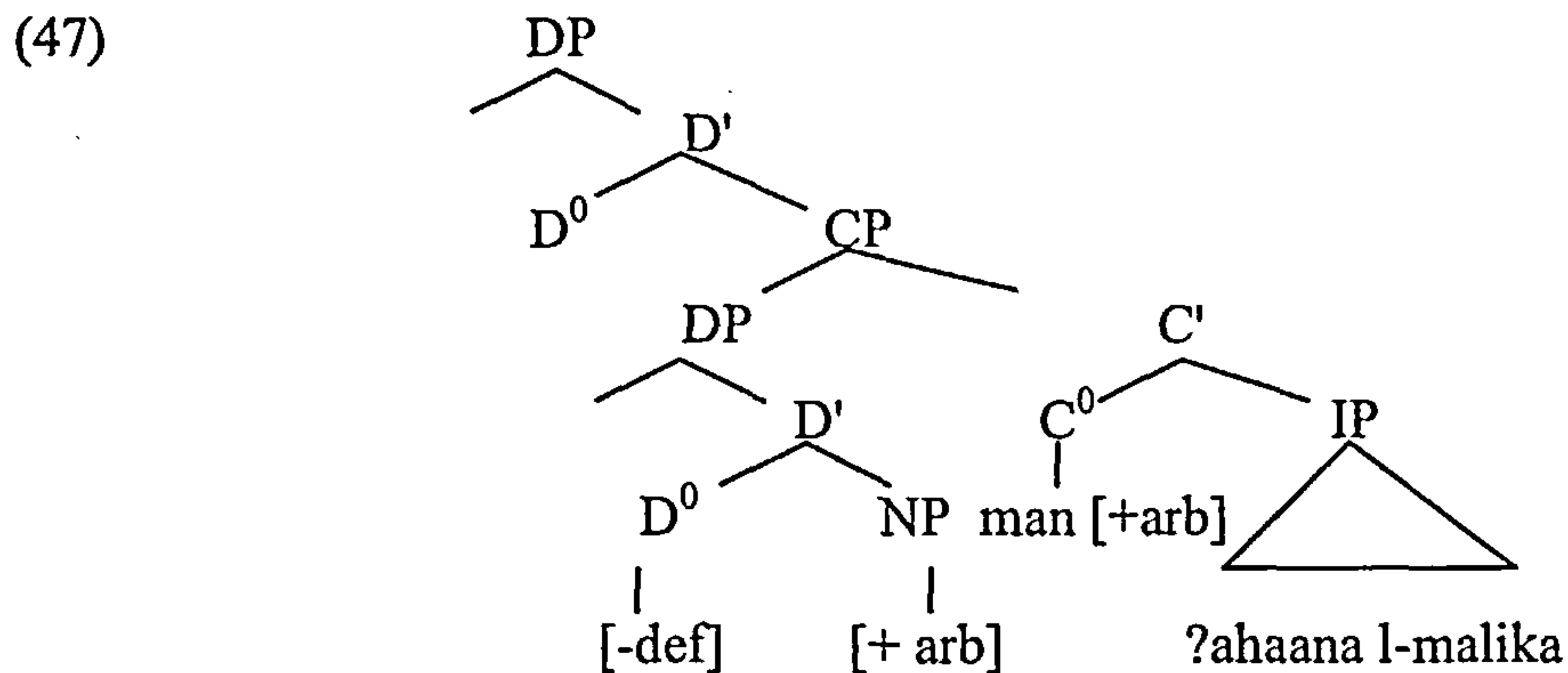
The analysis we have proposed for *lladhii* free relatives in the previous section is relevant here. Recall that we attributed the possibility of (44b) to the fact that the complementizer has rich morphology and consequently the feature specification of the head DP can be easily identified. The ungrammaticality of (45b) can be explained along the following lines. The complementizer *man* has no specific morphology. That is, it does not inflect for number and gender. It does not show definiteness or Case either. For this reason the translation in (45b) and an overt antecedent in (45b) must be excluded.

The fact that relative *man* does not have any specific reference of the antecedent leads to the assumption that it must have an arbitrary gender and person features. Moreover, we assume that these relatives lack the feature [+def] since *man*, unlike *lladhii*, does not show any sign of definiteness. However, the claim that these relatives also involve number and gender features is endorsed by the fact that the complementizer *lladhii* in free relatives can be replaced by the complementizer *man*, as in (46b).

- (46) (a) maata lladhii ?ahaana l-malik-a
died.3ms that.3ms insulted.3ms the-king-Acc
“The (male one) who insulted the king has died”
(b) maata man ?ahaana l-malik-a
died that.3ms insulted.3ms the king

The well-formedness of (46) shows that both *lladhii* and *man*-free relatives have the same structure. However, there is one crucial difference with respect to feature specification of each of them. The number and gender features of the former are specific whereas the features number and gender of the latter are not. Furthermore,

there is no feature [+def] in *man*-free relatives since the complementizer *man* does not inflect for the definite. Based on this theoretical assumption, I propose that (46b) is assigned the following structure.



The assumption that null DP features occupy the spec CP is supported by the examples given in (46) above where *lladhii* is replaced by *man* without any problems. The claim that the feature of the NP may or may not be specified is endorsed by the examples given in (41) and (43) where subject and object morphology appears on the verb; and finally the suggestion that D⁰ is [-def] is shown by the fact that *man* does not carry the feature [+def]. As stated, the specific interpretation of the null NP is determined by number and gender morphology on the verb. The example in (43), repeated below, cannot have an arbitrary interpretation.

- (43) (b) ra?ay-tu man zur-ta-hum
 saw-I that visited.2ms-them 3mpl
 “I saw who you visited (them)”

The null NP in (43b) must be assigned the feature [+3mp]. The complementizer *man*, too, must carry this feature. Note that these relatives also show Spec-head agreement. In (47) above, both the complementizer and the NP in the Spec position carry the same feature i.e [+arb]. The same holds for (43b): the complementizer and the NP in the spec position carry the feature [+3mp].

6.3.3 *Maa*-free relatives

These relatives are introduced by *maa* which can also be used to form *wh* interrogatives. Thus there are two types of *maa*: the *relative maa* and the *interrogative maa*. Both are inanimate in reference and always have third person singular feature.

6.3.3.1 The subject and object extraction

6.3.3.1.1 The subject position

Maa-relatives are not the same as *Man*-relatives as far as the subject extraction is concerned. There are no agreement inflections on the verb in *maa*-relatives, as in the following examples.

- (48) (a) *smi9-tu maa ḥadatha*
heard-I that3ms happened.3ms
“I heard what happened”
- (b) **smi9-tu maa ḥadath-at*
heard-I that.3ms happened.3fs
“I heard what happened”

Compared with (42) above, these relatives are more restricted in the sense that the verb can only inflect for third masculine singular. The example in (48b) is out since the verb and *maa* carry different features third masculine singular and third feminine singular, respectively. This is also true for the interrogative *maa*. Thus (49b) is ruled out.

- (49) (a) *maa ḥadatha li zayd-in?*
what happened.3ms to zayd-Gen
“What happened to Zayd?”

- (b) **maa* ḥadath-at li zayd-in ?
what happened.3fs to zayd-Gen

The point here is that *maa* and *man* are different from *lladhii* in the sense that the latter cannot be used to introduce a question for the fact that it is mainly a complementizer. *Man* and *maa*, as wh-words, can move to SpecCP. This movement is triggered by the feature [+wh] in the C⁰ position⁴. However the examples in (50) are possible.

- (50) (a) *maa lladhii* ḥadatha li zayd-in ?
what that happened.3ms to zayd-Gen
“What happened to Zayd?”
(b) *mani lladhii* ḍaraba zayd-an?
who that hit.3ms zayd-Acc
“Who hit Zayd?”

The examples in (50) provide evidence that *lladhii* is indeed a complementizer, as we have proposed. Some researchers propose that the interrogative words in (50) occupy the topmost SpecCP position (cf. Farghal 1986).

One possible analysis for (50a,b) is to assume that the complementizer *lladhii* is not in the C⁰ position of the topmost CP. Rather, it occupies the C⁰ position of the lower CP where it can be in Spec-head agreement along the lines we proposed in our discussion of *lladhii*-free relatives. It will be shown that the structure of the relatives in (50) is different from the structure of those in (48) and (49). Before explaining how (48-50) are derived, we first look at the extraction of the direct object in *maa*-relatives.

⁴ For some explanation, see Chapter Three (3.2.1.3).

6.3.3.1.2 The direct object position

Direct object extraction in *maa*-relatives is similar to the direct object extraction in *man*-relatives in the sense that a gap can freely alternate with a resumptive pronoun in the extraction site, as in (51).

- (51) (a) *ħadatha maa ?uriidu*
 happened.3ms that.3ms want PRES 1s
 “What I want has happened”
- (b) *ħadatha maa ?uriidu-hu*
 happened.3ms that3ms want PRES 1s it

But there is one crucial difference between *maa*-relatives and *man*-relatives with respect to the pronoun in the extraction site. The pronoun in the extraction site in *maa*-relatives is always third masculine singular. We have seen that this is not the case in *man*-free relatives. The resumptive pronoun in the extraction site in *man*-relatives can have number and gender features as well (See 6.3.2.1.2). In *maa*-relatives, the complementizer *maa* and the resumptive pronoun in the object position must have the same number features i.e both must be third person singular. The examples in (52), apart from (52a), are therefore excluded.

- (52) (a) *?az9aja-ni maa smi9-tu-hu*
 annoyed-me that heard-I-it
 “What I have heard annoyed me”
- (b) **?az9aja-ni maa smi9-tu-hum*
 annoyed-me that heard-I-them
- (c) **?az9aja-ni maa smi9-tu-haa*
 annoyed-me that heard-I-3fs

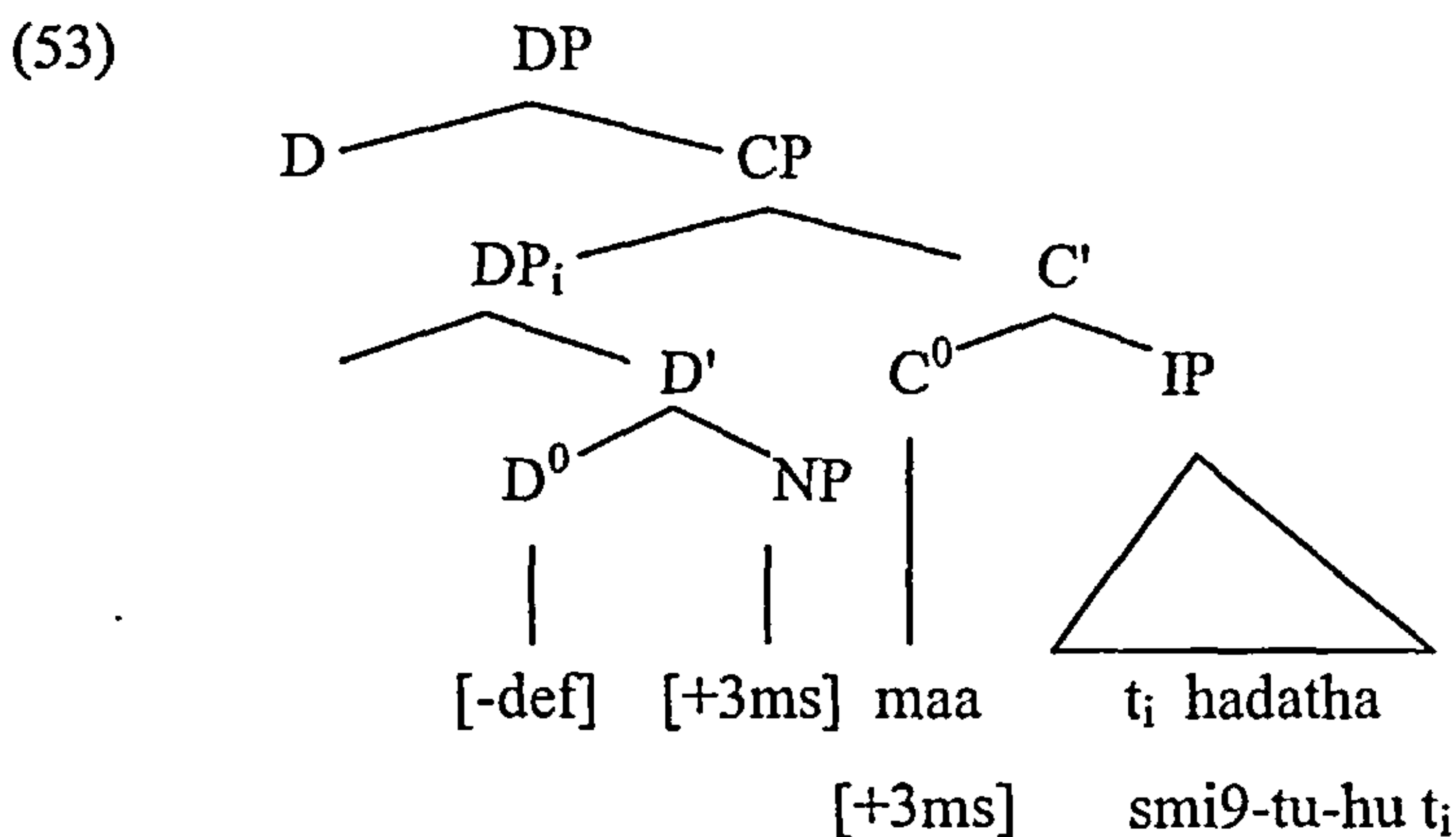
The example in (52a) is fine: both *maa* and the object resumptive carry the same feature. The object resumptive in (52b) and (52c) carries the feature third plural and

third feminine singular, respectively. The complementizer however carries the feature third masculine singular and therefore excluded.

6.3.3.2 A proposed analysis for *Maa*-relatives

Recall that the analysis we have proposed for *man*-relatives assumes the feature [+arb] on the basis that *man* has no specific reference. The feature will vary according to the agreement inflections in subject relatives and the resumptive pronoun in the extracted object position.

This is not the case in *maa*-relatives. The verb in both subject and object relatives is third person singular. This leads to the assumption that the feature of the antecedent is always [+3ms]. Thus these relatives are similar to *man*-relatives in the sense that they both involve feature raising. The only difference is the feature specification of the null DP in the specifier position. As in *man*-relatives, there is no feature [+def] because the complementizer does not bear this feature. The examples in (48a) and (52a) have the representation given in (53) below (irrelevant details omitted).



Note that the feature [+def] must be present when the complementizer is *lladhii*, as we have already seen, but it must be absent when C^0 is *man* or *maa*. Thus in *lladhii*-free relatives there is full Spec-head agreement whereas in *man* and *maa*-relatives

Spec-head agreement is only partial. This is due to the fact that neither *man* or *maa* has the feature [+def].

Now we turn to (50a/b), repeated below for convenience.

- (50) (a) *maa lladhii ḥadatha li zayd-in ?*
 what that happened.3ms to zayd-Gen
 “What is it that happened to Zayd?”
- (b) *mani lladhii ḍaraba zayd-an?*
 who that hit.3ms zayd-Acc
 “Who is it that hit Zayd?”

The examples in (50a,b) are wh-questions containing free relative clauses. We have pointed out that *maa* can be both a wh-word and a relative complementizer. The same holds for *man*. The two, however, are different. *Maa*, whether interrogative or relative, is always followed by a third singular masculine verb. Interrogative *man*, unlike relative *man*, does not require the verb to inflect for number and gender, as we have already pointed out (See (50b) above). The following examples correctly predict that this is right.

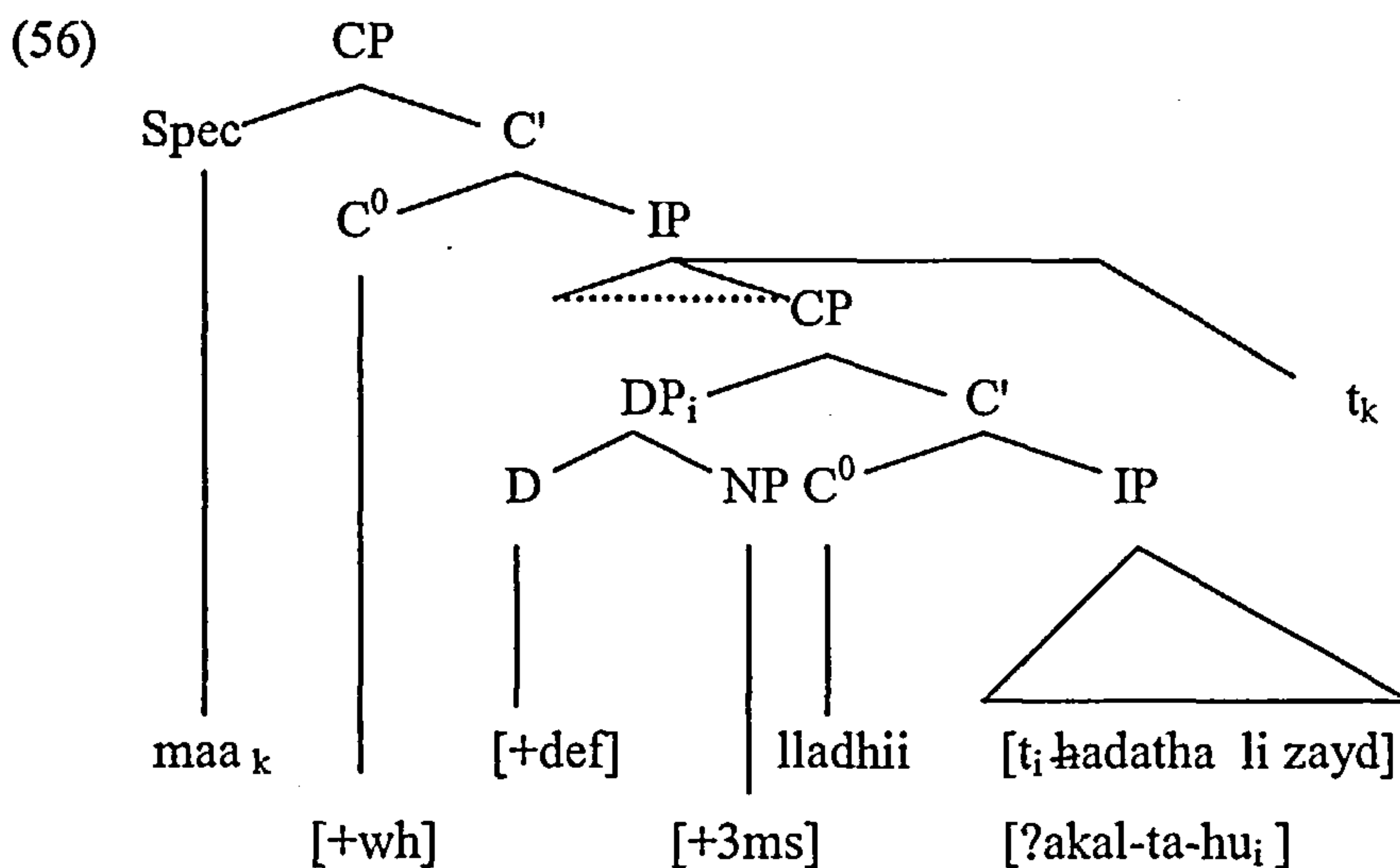
- (54) (a) **maa lladhii ḥadath-at li zayd-in*
 what that happened.3fs to zayd-Gen
- (b) **maa lladhii ḥadath-aa li zayd-in*
 what that happened.m.dual to zayd-Gen

The same holds for the object position. Only a resumptive pronoun carrying the feature third singular masculine is possible:

- (55) (a) *maa lladhii ?akal-ta-hu*
 what that ate.2ms it
 “What is it that you ate?”

- (b) **maa lladhii ?akal-ta-hum*
 what that ate.2ms-them mpl
 “What is it that you eat (them)”

The impossibility of number and gender features in (50a) and (55a) will allow the null DP in SpecCP to have the third singular feature, as in *maa*-relatives, but in a different structure. I propose that both (50a) and (55a) will involve two CPs. The spec of the topmost CP functions as the landing site of the interrogative *maa* and the spec of the lower CP is the landing site of the features that raise from the argument position. Both (50a) and (55a) will have the representation schematized in (56) below.



Note that the structure in (56), unlike (53) above, contains the feature [+def]. The reason is that the head of the lower CP requires this feature in its spec position. The feature of the NP in (56) must be only [+3ms], as shown by the ungrammatical examples in (54b) and (55b). The reason is that the interrogative in (50a) and (55a) (also (50b)) are derived from simplex sentences. The relativized wh-question is related to the simple wh-question type in meaning but the derivation is radically different (Farghal 1986:96).

To clarify what this means, we return to (50a). It is unlikely that (50a) is derived from the following sentence:

- (57) ḥadatha li zayd-in ʔamr-un
 happened.3ms to zayd-Gen matter-Nom
 “Some matter happened to Zayd”

The structure underlying (50a) (also 55a) is not (56) but rather a complex sentence involving relativization. The structure underlying (50a and 55a) is the one given in (58) below.

- (58) maa yakuunu sh-shayyʔa-u lladhii ḥadathaa li zayd-in ?
 what be-PRES the-thing-Nom that happened to zayd-Gen
 “What is the thing that happened to Zayd?”

SA has a rule which optionally deletes the copula. When this rule is applied, the output is (59):

- (59) maa sh-shayyʔa-u lladhii ḥadatha li zayd-in?
 what the-thing-Nom that happened to zayd-Gen
 “What is the thing that happened to Zayd?”

Furthermore, the head of the relative clause can be optionally deleted yielding (50a), repeated below.

- (50) (a) maa lladhii ḥadatha li zayd-in ?
 what that happened.3ms to zayd-Gen
 “What is it that happened to Zayd?”

The structure in (56) above correctly represents (50a) where the head of the relative clause is phonetically null but its features are present. Crucially, note that the null DP in (50a) must be [+def] and [+3ms]. These features must appear in order for Spec-head agreement to be realised. One more crucial consequence of this analysis

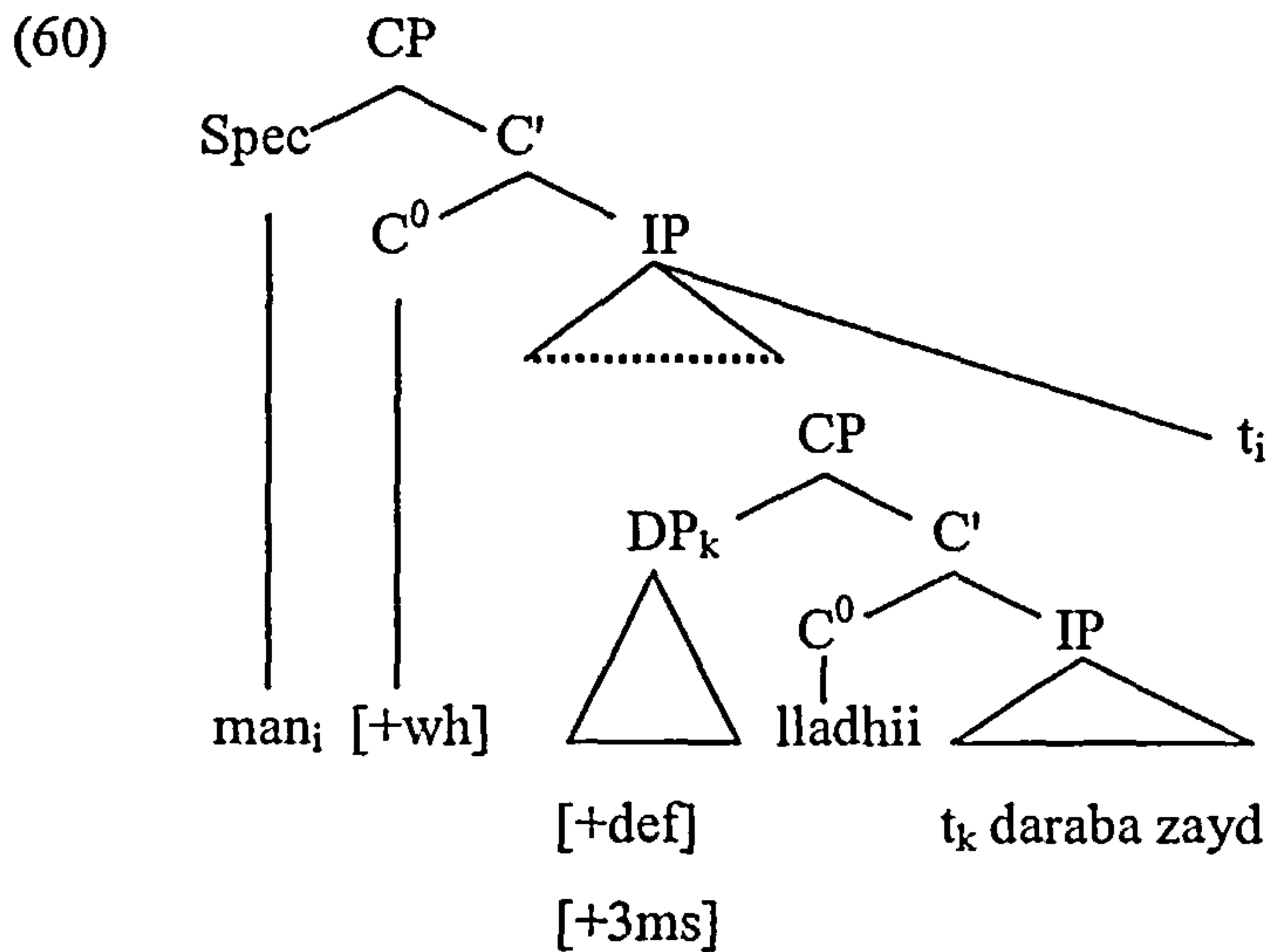
is that the derivation of (50a) and (55a) is that the *wh*-word is not extracted from the argument position. Rather, it is the antecedent of the relative clause that has been extracted and later phonetically deleted but its features remain in SpecCP and enter into Spec-head agreement with the complementizer. Thus the interrogative phrase in the topmost CP does not serve as the antecedent of the lexical trace in the object position in (55a). This lexical trace must be coindexed with the feature specification of the null DP in SpecCP as indicated. There is no ECP violation whether the trace is in the subject or the object position in (56). The subject trace is properly governed by the agreeing complementizer and the object trace is governed by the verb.

Now we turn to (50b), repeated below for convenience.

- (50) (b) mani lladhii ḍaraba zayd-an?
 who that hit.3ms zayd-Acc
 “Who is it that hit Zayd?”

The derivation of (50b) is similar to the derivation of (50a) and (55a) given above. Recall that in *man*-relatives the verb fully inflects for number and gender. The analysis we have proposed for *man*-relatives is that the number and person feature in SpecCP is determined by agreement morphology in case of subject extraction and resumptive pronoun in case of object extraction. In case there is no subject agreement morphology or a resumptive pronoun, the feature of the null antecedent must be arbitrary. These features have to be specified when subject agreement markers or resumptive pronouns appear in the extracted site. This is because *man*, despite the fact that it is always third masculine singular, can acquire plural and dual interpretation.

The example in (50b) is not a problem. It involves an interrogative relative clause and will accordingly have the representation in (60), which is similar to (56) above.



It should be made clear that the number and gender feature of the null DP are determined by the overt features of the complementizer, as in the following examples:

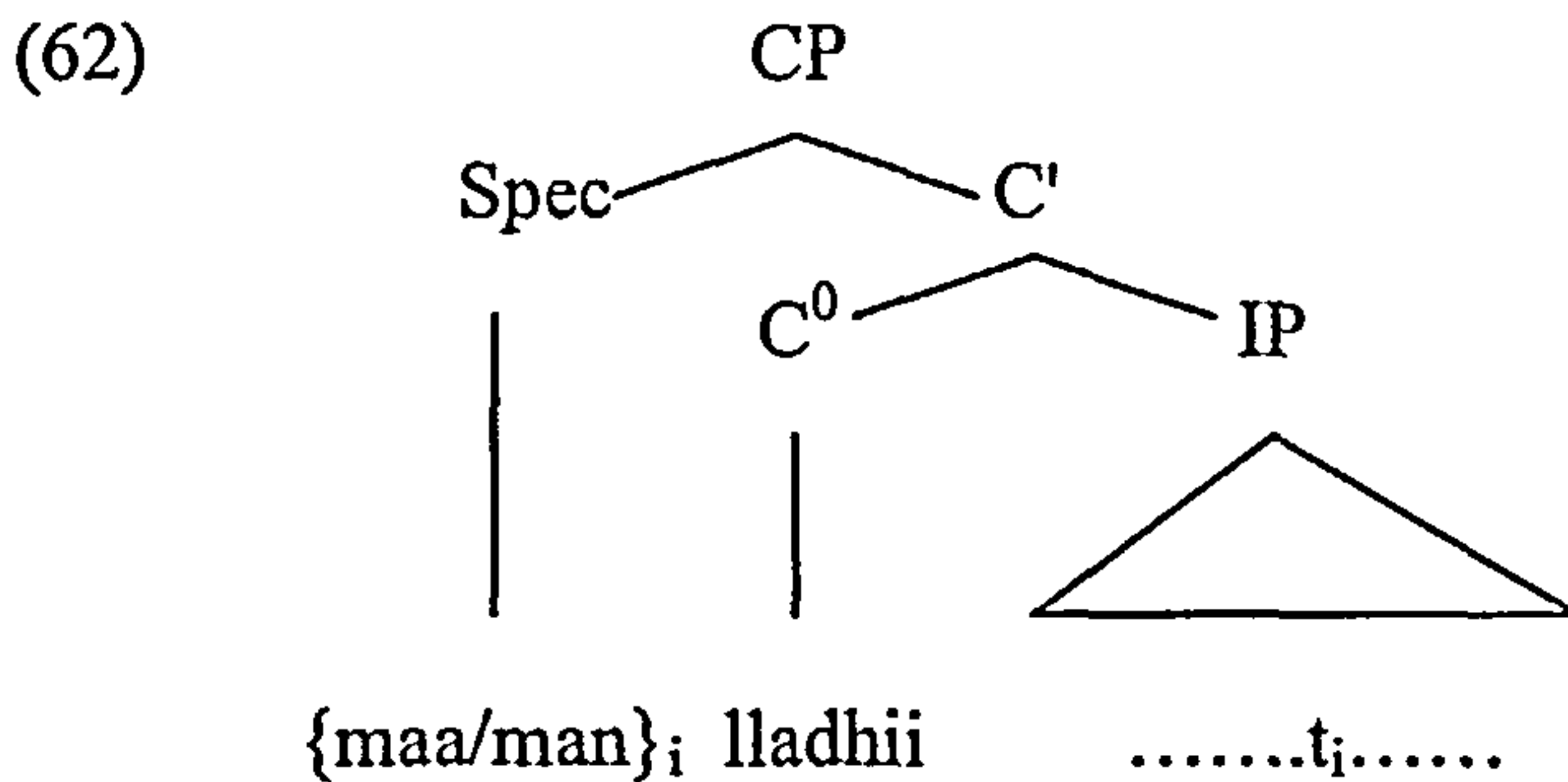
- (61) (a) mani lladhiina katab-uu l-qaṣiidat-a ?
 who that.3mp wrote.3mp the-poem-Acc
 “Who is that who wrote the poem?”
- (b) mani llatii katab-at riwaayat-an ?
 who that.3fs wrote.3fs novel-Acc
 “Who is that who wrote a novel?”

The features of the null DP in SpecCP can be easily determined since the features of the complementizer are overt. Thus the feature specification of the null DP in (61a) and (61b) are [+def, +3mp] and [+def, +3fs], respectively. This is not possible in the case of *maa* interrogatives involving relativization, as the contrast between (55a) and (55b) above shows.

According to this analysis, the wh-word *man* in (50) has not moved from the subject position. What has moved from the subject position is the antecedent which is later deleted yielding an interpretation of a free relative. However, the features of the DP

antecedent remain in Spec position and are coindexed with the trace which is lexically governed by the complementizer.

Alternatively, the examples in (50a,b) may be analysed as wh-interrogatives containing an overt complementizer. Thus both will have the structure in (62).



English does not allow the structure in (62) where SpecCP and C⁰ are both lexically filled. The crucial point about (62), as far as SA is concerned, is that it supports the claim that *lladhii* is a complementizer rather than a relative pronoun.

Conclusion

In this chapter we discussed three types of headless relatives. We have proposed that these relatives contain features of the antecedent in SpecCP. In this sense, they are not completely headless. This assumption is more explicit with respect to *lladhii*-free relatives. The assumption made is that *lladhii* in SA can only head a relative clause if its spec position is occupied by DP. On the basis of this empirical evidence, I have argued that in case of headless relatives the specifier position of *lladhii* must contain [Φ]-features of the complementizer in addition to the feature [+def]. Since the complementizers *man* and *maa* do not inflect for definiteness, this feature may not appear in the spec position. We have proposed that the feature number and gender in the Spec position of these complementizers gets its interpretation from the embedded IP, not directly from the complementizer.

Chapter Seven

Reduced (Participial) Relatives

7.0 Introduction

This chapter focuses on reduced (participial) relative clauses. It will be shown that these relatives have the same structure assigned to standard relatives. The determiner-like morpheme preceding the participle is analysed as a reduced relative marker¹. It is argued that this relative marker is a complementizer base-generated in the C^0 position. It is obligatory when the NP in its specifier position is definite but must be null when this NP is indefinite.

Reduced relatives can be active or passive. The former are derived from the active verb and the latter from the passive verb. In Section 7.1 we look at Kayne's analysis of reduced relatives. Section 7.2 presents reduced relatives in SA and discusses a range type of evidence in an attempt to determine their syntactic status. Section 7.3 discusses the structure of reduced relatives in SA. Sections (7.4) and (7.5) present two proposed analyses of reduced relatives in SA.

7.1 Reduced Relatives in Antisymmetry

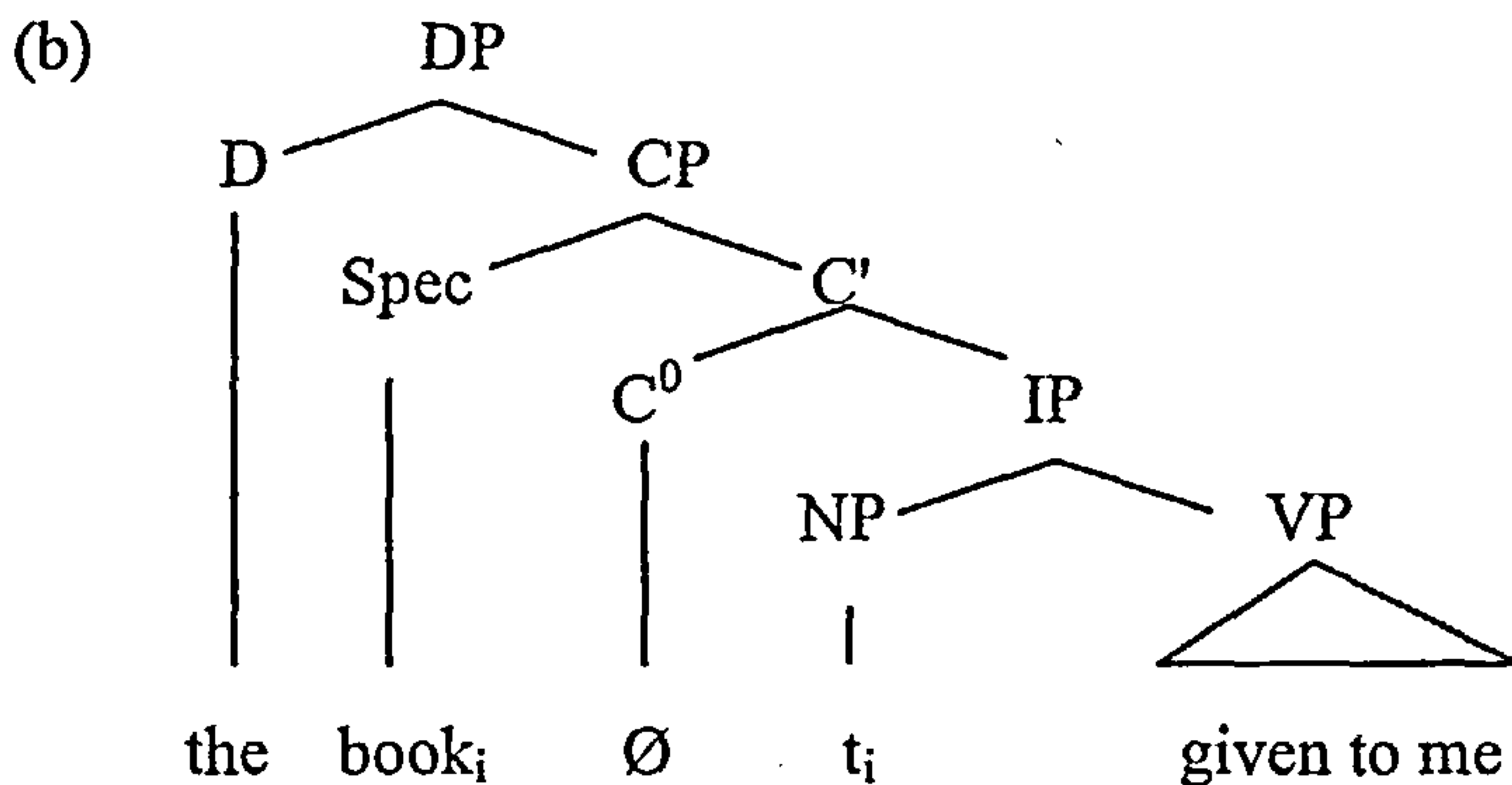
7.1.1 Postnominal participials and prenominal adjectives

Kayne (1994) analyses postnominal participials as reduced relative clauses. He proposes that reduced relatives have the same structure as full relatives. That is,

¹ This determiner-like element also precedes the participle verb in Hebrew. Languages such as English and French do not allow the determiner-participle sequence. See Siloni (1995) and Hazout (2001).

they are complements of the external D and involve movement to SpecCP. The noun raises to SpecCP. According to this analysis, the English example in (1a) will have the structure in (1b).

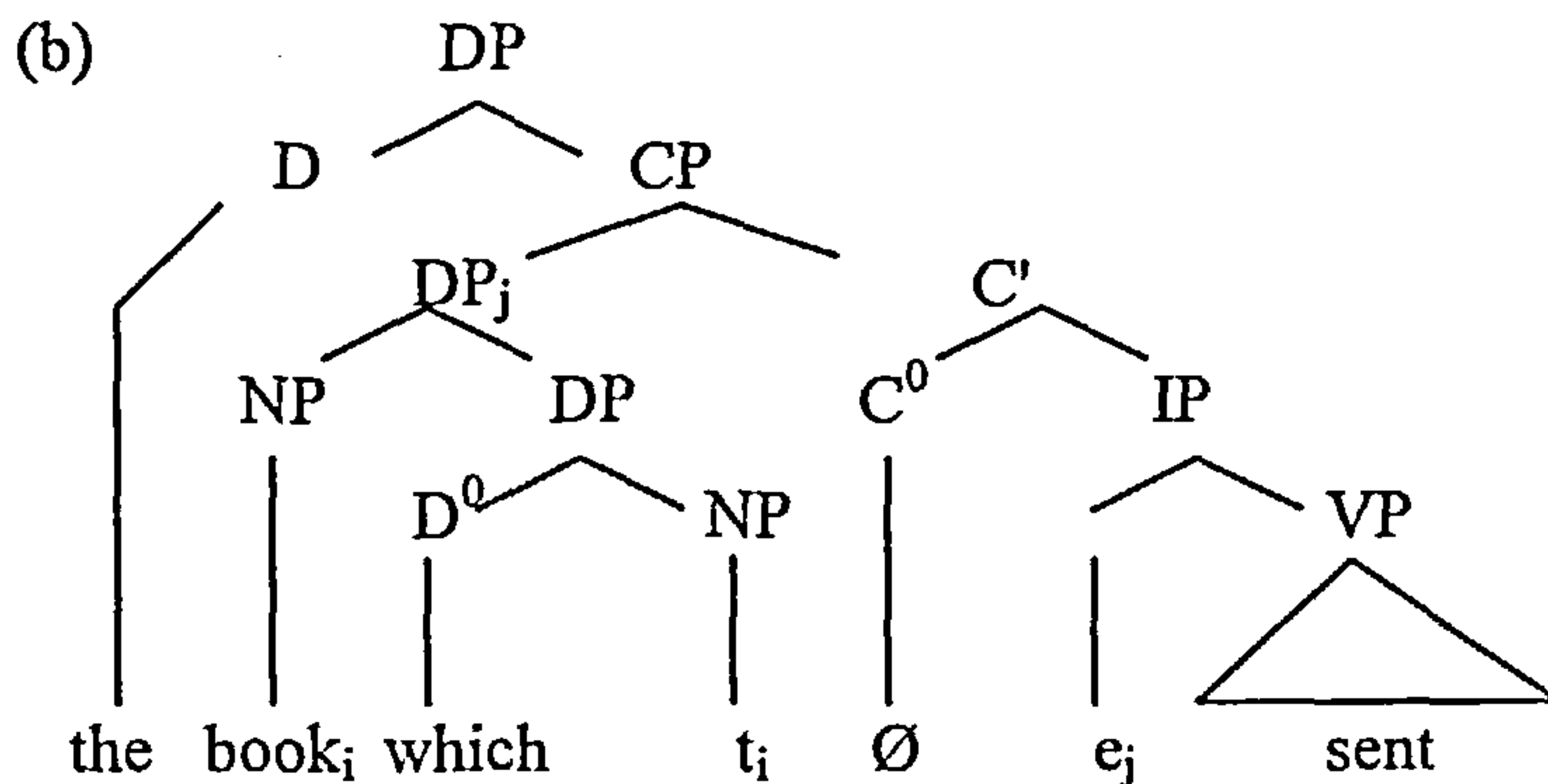
(1) (a) The book given to me....



Kayne assumes that the NP *book* in (1b) has raised from within the clause, SpecIP, to SpecCP, the complement of D. He claims that the NP *book* receives Case through an incorporation relation with D. Case on the NP in (1b) can licence its trace. The empty category in SpecIP is an NP trace rather than a DP trace². By contrast, the example given in (2a) is ungrammatical.

(2) (a) *The book which sent

The representation of (2a) is as in (2b).

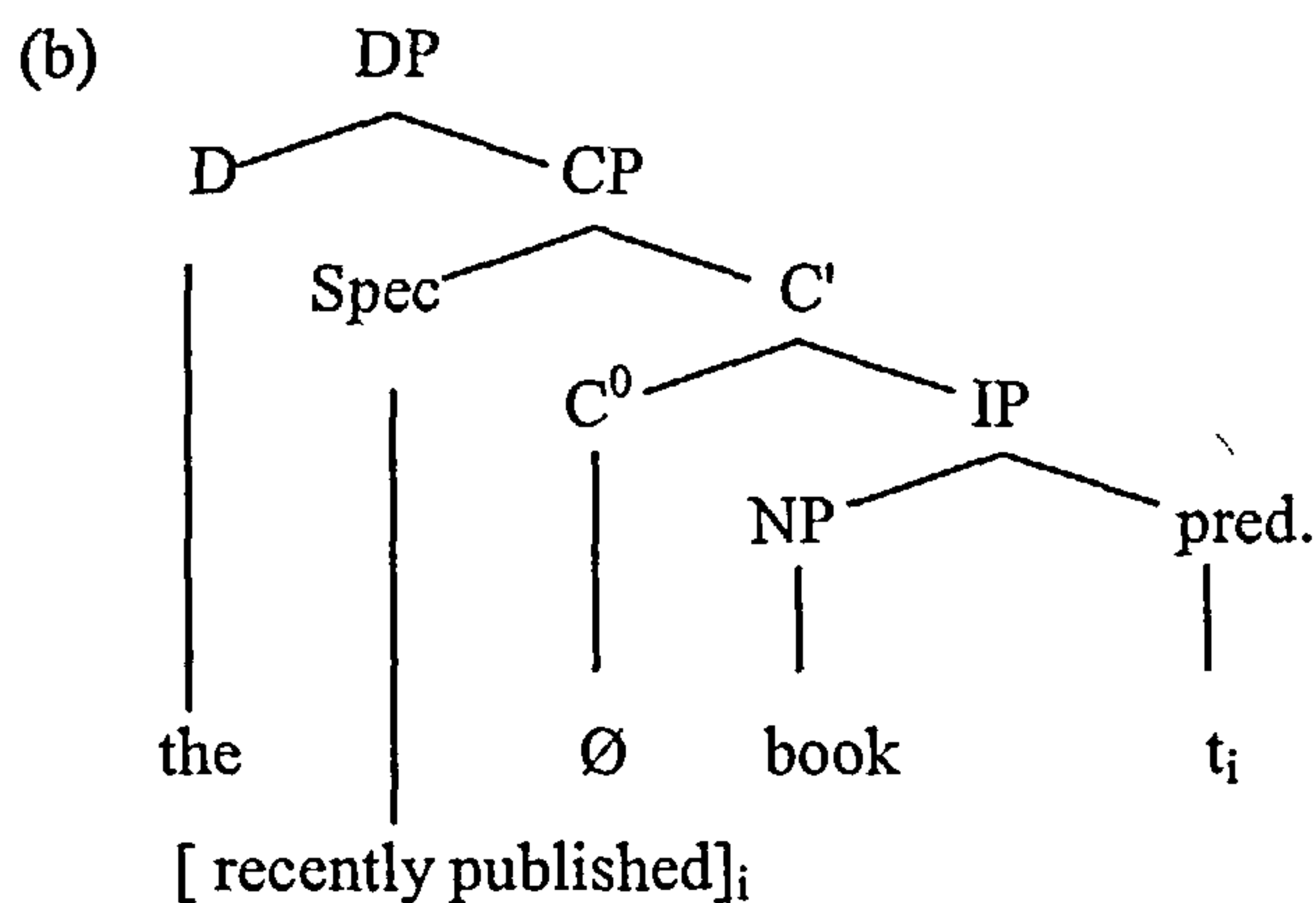


² This is the same structure Kayne proposes for *that*-relatives apart from the fact that C⁰ is null.

Kayne attributes the ungrammaticality of (2a) to Case. The empty category in SpecIP is not an NP trace but a DP trace and therefore cannot be licensed in the same way as in (1b) above³.

As far as the prenominal position of the participial constituent is concerned, Kayne proposes that it is derived by moving the predicate to SpecCP. The subject NP in this case stays in SpecIP, as in (3a) whose representation is given in (3b).

(3) (a) The recently published book

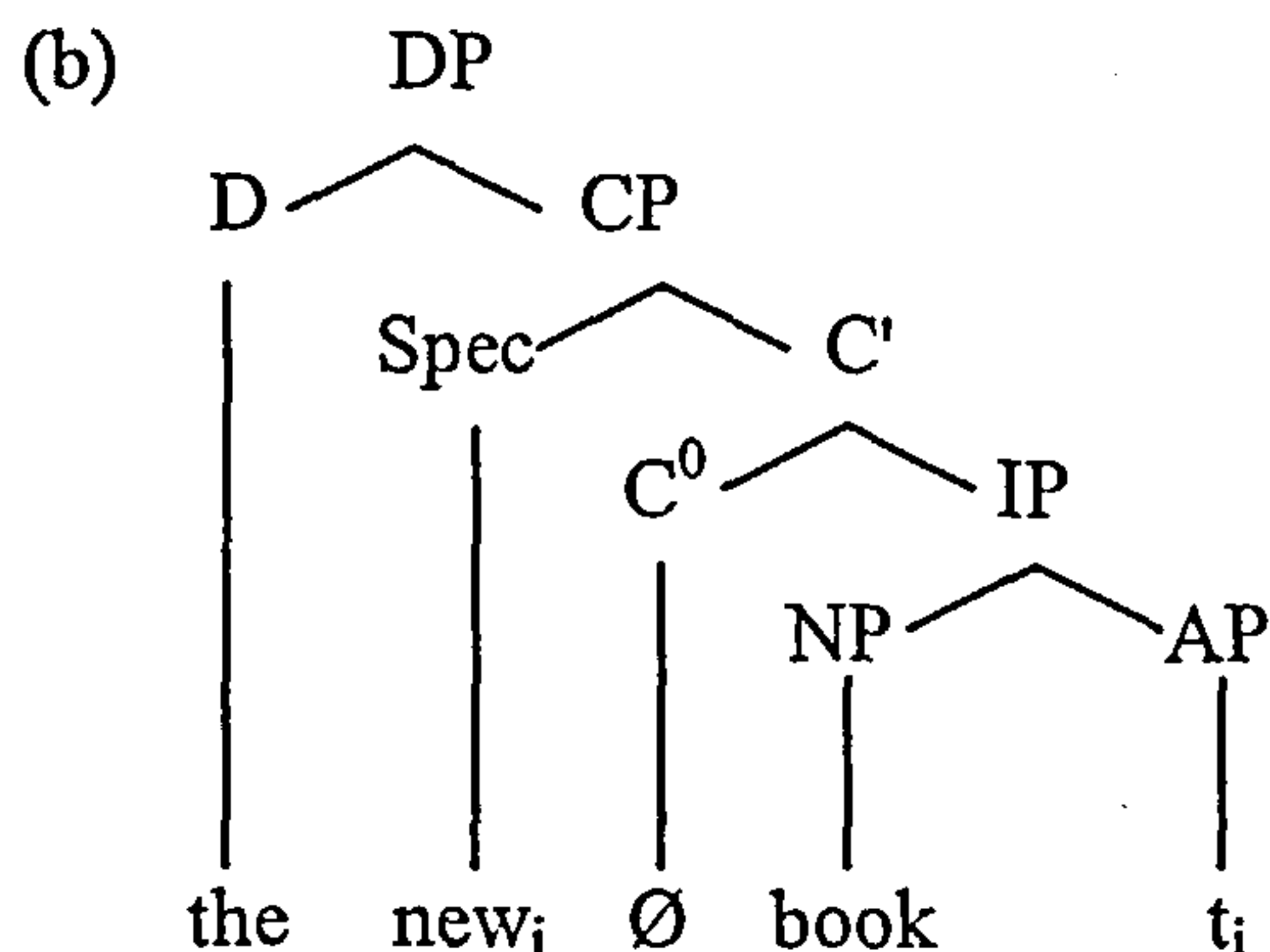


In (3b) the predicate moves to fill SpecCP because, according to Kayne, this Spec must be filled. Kayne explains why the predicate does not raise in (1) above. In (1), the predicate is followed by a complement (a prepositional phrase) and therefore it is the NP in SpecIP that moves to SpecCP. In (3) the predicate is not followed by a complement and therefore it moves to SpecCP.

Prenominal adjectives can have the same structure as in (3b). The example in (4a) has the representation in (4b).

(4) (a) The new book

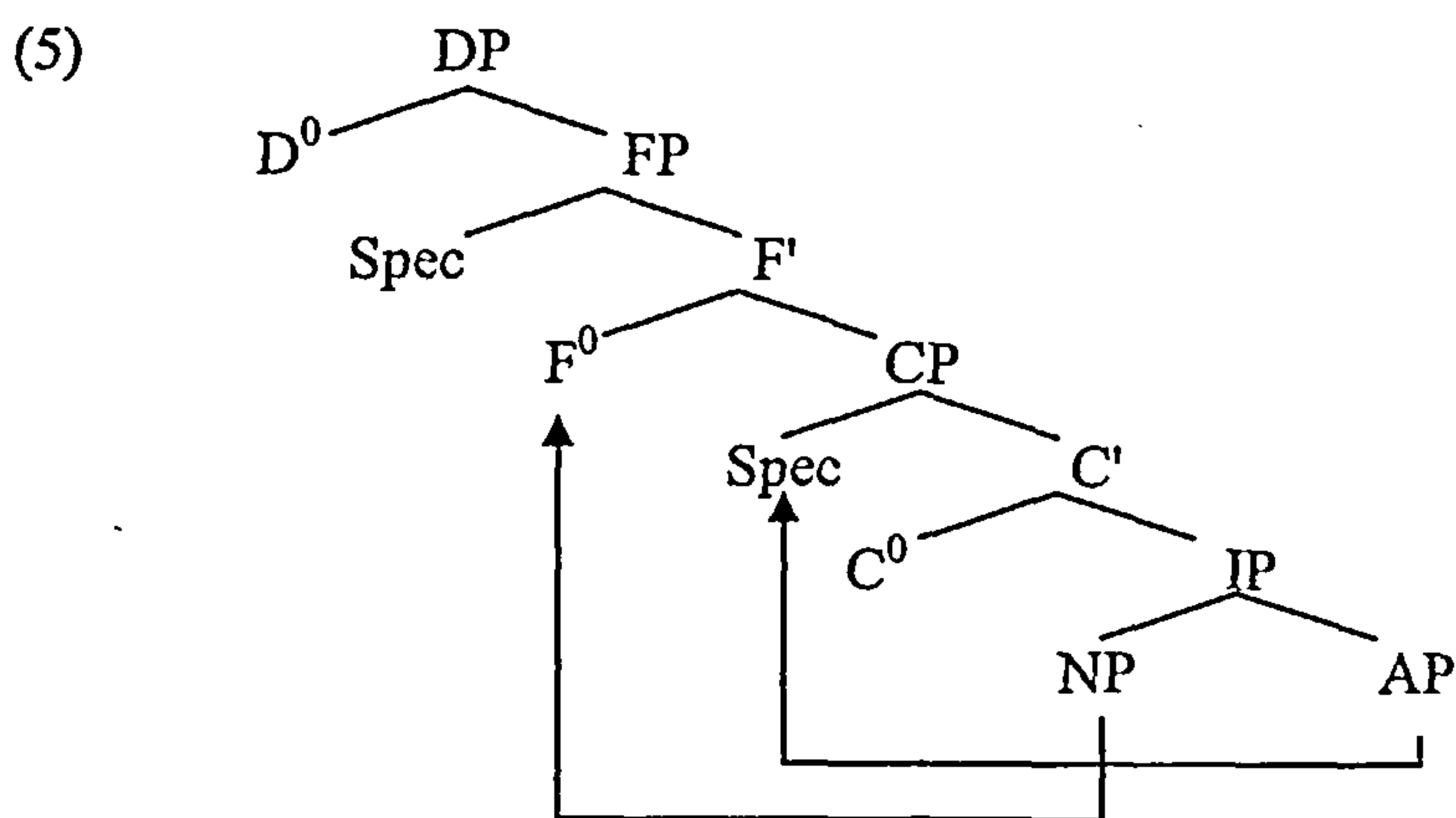
³ It is a DP trace since *which* is a determiner in Kayne's analysis. See Chapter Two (2.1.3.2.3.2.1.1).



Thus prenominal adjectives raise to SpecCP just like the predicate as in (3b).

7.1.2 Postnominal adjectives

Postnominal adjectives involve overt noun movement to a functional head dominating CP (Kayne 1994:101). In a language like French, where most adjectives occur in a postnominal position, adjectives move to SpecCP followed by NP movement to a higher functional head, as illustrated in (5).



The difference between English and French is that there is no further movement higher than SpecCP in English whereas in French further movement is necessary in order to get the correct word order. Consider the following French example, for instance.

- (6) le livre jaune
the book yellow
“The yellow book”

The example in (6) is derived as follows. The adjective moves to SpecCP in the same way as in the English example in (4b). NP cannot remain in SpecIP otherwise we will get wrong order. Thus the NP in SpecIP must move to some functional head higher than CP, as schematized in (5).

7.1.3 Objections against Kayne’s analysis

Kayne’s analysis has been rejected by some researchers. Sleeman and Verheugd (1998) propose, contra Kayne (1994), that adjectives cannot have argument structure and therefore cannot project a clausal structure. More precisely, these authors propose that adjectives cannot be a predicate of the subject in SpecIP position (as in 4 above). Following Valois (1991), Sleeman and Verheugd propose that simple adjectives are generated within the functional projections of NP. Thus in French the noun moves to a higher functional projection, as shown in (7b).

- (7) (a) DP [the yellow_{NP}[book]]
(b) DP [le livre jaune_{NP}[e]]

Sleeman & Verheugd point out that their analysis is based on the fact that adjectives in French cannot be analysed as participial constituents because they cannot be combined with *celui* “the one” (8a). However, *celui* can combine with a reduced relative clause as in (8b) below.

- (8) (a) *celui jaune
the one yellow
(b) celui envoyé à Jean
the one sent to John
“The one sent to John” (Sleeman & Verheugd 1998:188, Exs.9&8)

7.2 Reduced (Participial) Relatives in SA

7.2.1 The modifier function of reduced relatives

Reduced Relatives in SA involve the use of the active and passive participle. Traditionally, the function of the participials is that of a noun modifier. The participial relative construction may therefore be considered to be similar to standard relative clause. Hazout (2001) proposes that a reduced relative may take the form shown in (9) below.

- (9)[l- participial (XP)] (Hazout 2001:99 (4))

The initial element followed by the participial verb is morphologically identical to the definite article. I will ignore the syntactic category of this pre-participial element at the present and just refer to it as a particle in the gloss. The participial may be followed by a complement. The examples in (10) illustrate.

- (10) (a) l-marʔat-u l -jaalisat-u tahta sh-shajarat-i
the-woman-Nom prt sitting fs-Nom under the-tree-Gen
“The woman sitting under the tree”
(b) l-kitaab-u l -masruuq-u min l-maktabat-i
the-book-Nom prt stolen.3ms-Nom from the-library-Gen
“The book stolen from the library”

- (c) r-rajul-u l -kaatib-u r-risaalat-a
the-man-Nom prt writing.3ms Nom the letter-Acc
“The man writing the letter”

The participial verbs in the examples in (10) have the function of a noun modifier as shown by the translation. In (10a,b) the adjunct prepositional phrases following the participle are optional but the DP following the participle in (10c) is obligatory⁴.

As far as the particle preceding the participial is concerned, its status is not clear cut. Berman (1978) assumes that it is a complementizer. Accordingly, this particle must be analysed as a reduced form of *lladhii*. This view is supported by Haddad & Kenstowics (1980) who point out that in Lebanese Arabic (LA), the relative marker *lli* (*lladhii*) can be optionally reduced to *l*. They give the following examples:

- (11) (a) ṣ-ṣabi lli/l ħimil l-kirsi
the-boy that carried the chair
“The boy who carried the chair”

(Haddad & Kenstowics 1980:146, Ex.18)

- (b) l-bint lli/l 9ṭit-ni l-?alam
the girl that gave-me the pen
“The girl who gave me the pen”

(Haddad & Kenstowics 1980:146, Ex.18)

The complementizer *lli*, then, can be reduced to *l*. The question that arises at this point is: how can we distinguish between the definite determiner and the reduced complementizer which are morphologically similar? The following two sections are an attempt to draw the distinction between the definite determiner and the reduced complementizer in SA.

⁴ The obligatoriness of the complement DP in (10c) raises a crucial issue, namely, participial relatives are internally similar to clauses.

7.2.2 The definite *l* vs the relative *l*

7.2.2.1 The definite marker *l*

We can identify two determiners in SA: a zero (null) determiner and *l* determiner. The definite determiner *l* precedes a nominal where a specific reference is made. It has been suggested (e.g. Belcacemi 1999:3) that the determiner is inherent to and part of indefinite noun and that DP is a base constituent associated with *l* for definite NPs and adjectives.

Adjectives following nouns must have the same determiner. A zero determiner preceding a noun must also precede the modifying adjective and a definite determiner preceding a noun must also precede the adjective modifying the noun, as shown in (12a) and (12b), respectively.

- (12) (a) *kitaab-un jadiid-un*
book-Nom new-Nom
“A new book”
- (b) *l-kitaab-u l-jadiid-u*
the-book-Nom the-new-Nom
“The new book”

However, the example in (12c) where the determiner does not appear on the adjective is possible:

- (c) *l-kitaab-u jadiid-un*
the-book-Nom new-Nom
“The book is new”

The difference between (12b) and (12c) is that the former is a DP whereas the latter is an IP with no overt copula.

7.2.2.2 The relative marker *l*

Relative markers in English are *wh*-words introducing relative clauses. Arabic relative markers are not *wh*-words. They are complementizers and inflect for number, gender and Case⁵. Relative markers are confusing when reduced since in this case they are morphologically similar to the definite determiner. Consider the following example, which is similar to (12b) above.

- (13) (a) *l-bay-tu l-jamiil-u*
the-house-Nom the-beautiful-Nom
“The beautiful house”

It has been proposed that (13a) is a reduced relative clause derived from (13b) (cf. Belcacemi 1999).

- (b) *l-bayt-u lladhii kaana jamiil-an*
the-house-Nom that3ms was3ms beautiful-Acc
“The house which was beautiful”

Belcacemi (1999) proposes that (13a) can only be derived from (13b) if the copula is not overt as is the case in the present tense. In English and French, the copula must be overt whether it is past or present. According to Belcacemi, the derivation of the Arabic example in (13a) is similar to the derivation of the English example in (14a).

- (14) (a) The intelligent scientist

(14a) is obviously a reduced relative given in (14b) below

- (b) The scientist who is intelligent

⁵ In fact this applies only to *lladhii* and its variants. *Man* and *Maa*, as we have seen in Chapter Six, can also be *wh*-words.

According to this analysis, the derivation of the Arabic example in (13a) and the English example in (14a) involves deletion of the copula and the relative marker. The surface structure is derived by moving the adjective to a prenominal position presumably SpecCP, as proposed in Kayne (1994). The Arabic example must involve further movement. That is, the NP must move to a higher functional head position along the lines proposed for French (See the structure in (5) above).

The assumption that the example in (13a) is derived from a relative clause leads to the conclusion that the particle preceding the adjective is a relative marker. However, it will be shown in the following section that the particle preceding the adjective should be analysed as a definite determiner rather than a relative marker.

7.2.2.2.1 Evidence for the relative marker *l*

The analysis proposed for the Arabic example in (13) receives little support. Therefore the predicate cannot be a reduced relative clause. In the following subsections we will provide evidence that *l* is a reduced form of *lladhii* rather than a determiner.

7.2.2.2.1.1 Adverb insertion

The relative marker can cooccur with entities expressing action. Consequently, time adverbials can be inserted. Adjectives do not express action and therefore adverb insertion is not allowed⁶. For this reason (15a) is excluded.

- (15) (a) *l-kitaab-u l-jadiid-u ħadiith-an
 the-book-Nom the-new-Nom recently-Acc
 *‘‘The book which is recently new’’

⁶ Kinberg (1992) presents a review of Arabic participial relatives and discusses the aspect and tense element in these constructions. The interested reader is referred to this reference.

- (b) l-?ijtimaa9-u l-mun9aqad-u ħadiith-an
the-meeting-Nom RM held (part)-Nom recently-Acc
“The recently held meeting”

(15b), but not (15a), can have a full relative clause structure as shown by (15d).

- (c) *l-kitaab-u lladhii jadiid-u ħadiith-an
- (d) l-?ijtimaa9-u lladhii 9uqida ħadiith-an
the-meeting-Nom that held PASS 3ms recently-Acc
“The meeting that has been held recently”

The fact that *lladhii* cannot replace the particle preceding the adjective as shown by the ungrammaticality of (15c) indicates that this particle cannot be a relative marker. This is not the case in (15b). The particle preceding the participial can be substituted by *lladhii*, as in (15d). Thus (15b) must have a relative clause structure as (15d). The insertion of a temporal adverb also endorses this claim.

7.2.2.2.1.2 Participles as deverbal elements

Second, reduced relatives in SA can only be formed from the participles having two varieties matching the two kinds of Arabic verbs: active and passive⁷. As pointed out in Hazout (2001:99), this verb-like element displays all the internal distributional properties associated with verbs.

- (16) (a) r-rajul-u s-saakin-u l-bayt-a l-mujaawir-a
the-man-Nom Rel living-Nom the-house-Acc the-neighbouring-Acc
“The man living in the neighbouring house”

⁷ The active participle matches the finite active verb and the passive participle matches the finite passive verb. See Beeston (1970).

- (b) r-risaalat-u l-maktuubat-u bi 9inaayat-in
the-letter-Nom Rel written (f)-Nom with care-Gen
“The carefully written letter”

The present participle in (16a) is derived from the active verb *sakana* “live” and that in (16b) is derived from the passive verb *kutiba* “was written”. Since adjectives have no corresponding verbs, neither (12b) nor (13a) can be reduced relatives.

7.2.2.2.1.3 Coordination

The fact that only constituents of the same syntactic category can be conjoined supports the claim that the element preceding the participle is a relative marker.

- (17) (a) l-waladu l-waaqif-u wa lladhii kaana
the-boy-Nom Rel standing-Nom and that was
jaalis-an bi jaanib-i-hi
sitting-Acc with side-him
“The standing boy and (the one) who is sitting beside him”
- (b) l-walad-u l-waaqif-u wa l-jaalis-u
the-boy-Nom Rel standing-Nom and Rel sitting-Nom
bi jaanib-i-hi
with side-him
“The standing boy and (the one) sitting beside him”
- (c) l-walad-u lladhii kaana waaqif-an wa l-jaalis-u
the-boy-Nom that was standing-Acc and Rel sitting-Nom
bi jaanib-i-hi
with side-him
“The boy who was standing and (the one) sitting beside him”

In the example shown in (17a), the coordination involves a reduced relative and a full one; in (17b) it involves two reduced relative clauses and, finally, the example in (17c) a full relative and a reduced relative are conjoined. Thus the coordination test

shows that the element preceding the participle is a relative marker rather than a determiner.

7.2.2.2.1.4 Resumption

I further assume that reduced relatives in SA are similar to full relatives in the sense that they allow for the use of resumptive pronouns. The occurrence of a resumptive pronoun is in favour of the assumption that the particle preceding the participle is a relative rather than a definite marker.

- (18) (a) r-rajul-u l-mutahamat-u ?umm-u-hu bi l-qatl-i
the-man-Nom Rel accused (f) Nom mother-Nom his with the-killing
“The man whose mother is accused of murder”
- (b) sh-shaxs-u l-mushtabah-u bi-hi
the-person-Nom Rel suspected 3ms Nom with him
“The suspected person”

The antecedent in (18a) and (18b) has been extracted from the genitive and the prepositional complement, respectively. The extraction site is filled with an obligatory resumptive pronoun. We have seen that in standard relatives these positions must be filled with a resumptive pronoun. Moreover, the resumptive pronoun agrees with the antecedent in number and gender.

7.2.2.2.1.5 Agreement

As noticed above, the participle must agree with the head noun (the antecedent) in definiteness, Case, number and gender. This is exactly the same situation in standard relatives. The only difference is that in standard relatives agreement appears on both the relative marker and the verb of the relative clause whereas in reduced relatives agreement appears only on the participle. The reason might be that the relative marker does not appear in its full form. This implies that spec-head

agreement in definiteness is presumably more important than agreement in number and gender in this type of relatives.

Now we come to the assumption that reduced relatives involve a predicate verb rather than an adjective. We start with the following example (cf. Hazout 2001)

- (19) l-madrasat-u l-baaligh-u 9adad-u
the-school-Nom Rel reaching.3ms-Nom number.3ms-Nom
ṭullabi-haa thalaathuna ṭaalib-an
students-Gen its thirty-Nom student-Acc
“The school whose number of its students reaches thirty in number”
(cf. Hazout 2001:105, Ex.25)

Note that the participle and its overt subject carry the same features exactly as in a corresponding full relative clause where the verb and the subject have the same features, as in (20).

- (20) l-madrasat-u llatii yablugh-u 9adad-u
the school-Nom that reach.3ms number-Nom
ṭullab-i-haa thalathuuna ṭaalib-an
students-Gen its thirty-Nom student-Acc
“The school whose number of students reaches thirty in number”

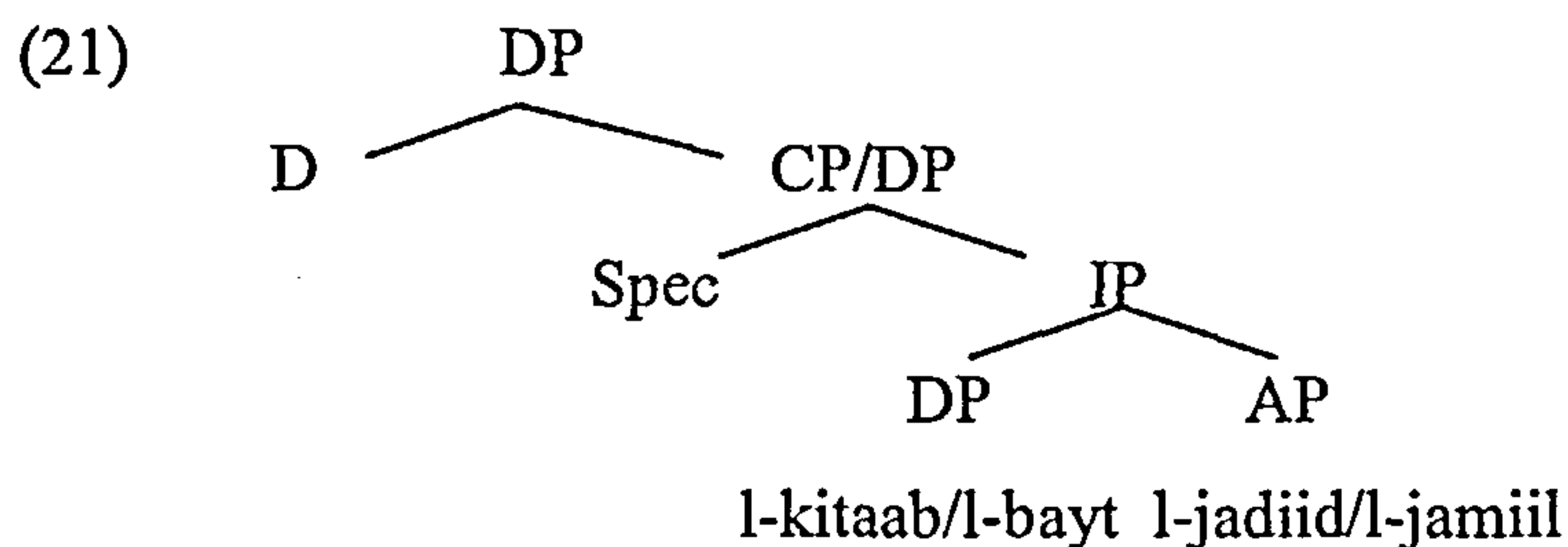
Given the facts outlined above, we can conclude that Kayne’s approach with respect to attributive adjectives does not seem to be possible for SA.

Recall that within Kayne’s analysis adjectives and other constructions such as relative clauses and possessives are basically complements of D. The fact that adjectives cannot be analysed as predicates in reduced relatives leads to the conclusion that they cannot raise to SpecCP.

However, if we adopt Kayne's analysis that adjectives project as predicates in reduced relatives and subsequently undergo movement to SpecCP and if we further assume that the determiner associated with the adjective is a clausal determiner then we may conclude along with Faasi-Fehri (1999:136) that both determiners (the one associated with the noun and the one associated with the adjective are clausal) in (12b) and (13a), repeated below for convenience, may have the representation in (21).

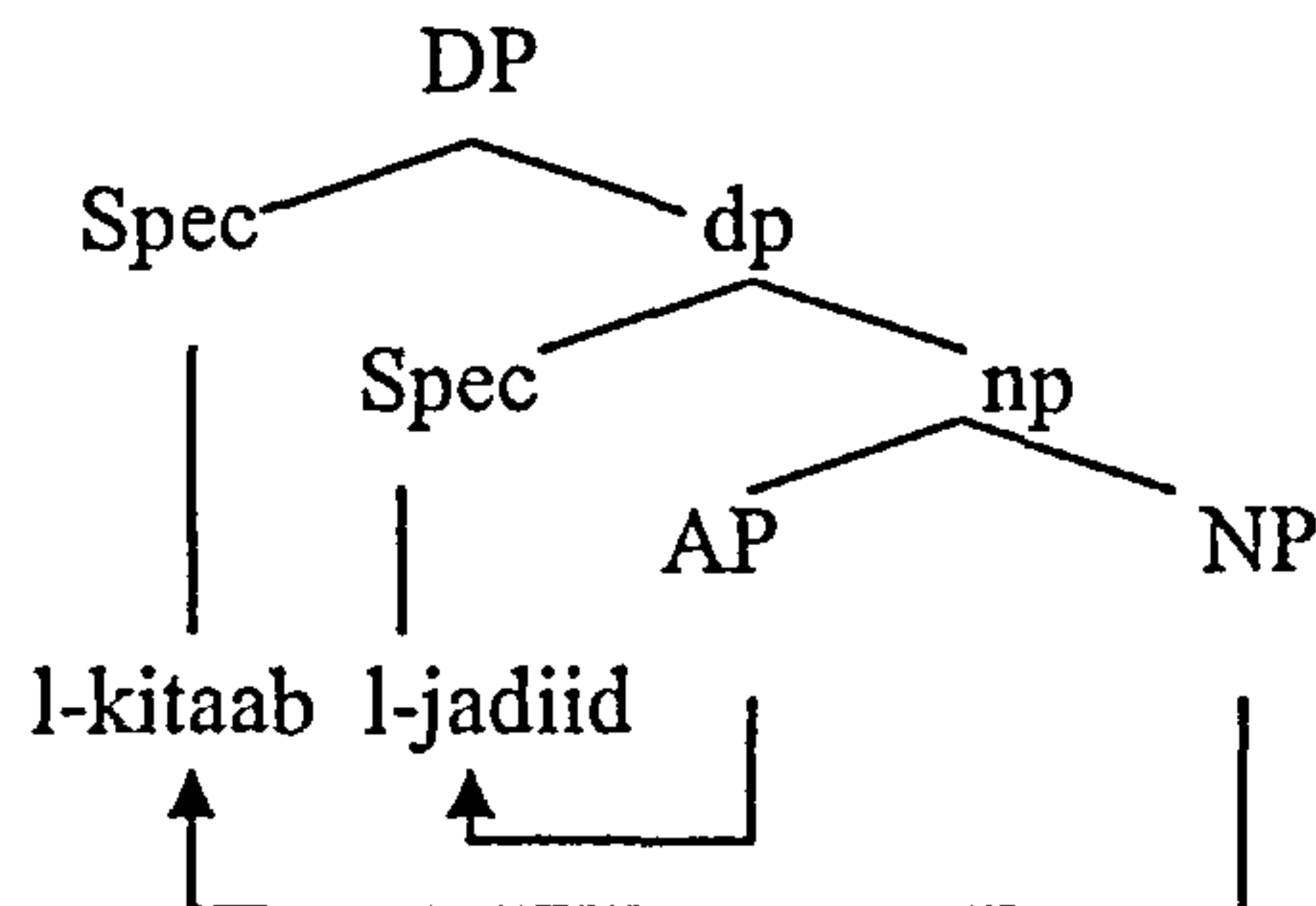
(12) (b) l-kitaab-u l-jadiid-u
the-book-Nom the-new-Nom
"The new book"

(13) (a) l-bay-tu l-jamiil-u
the-house-Nom the-beautiful-Nom
"The beautiful house"



As Fassi-Fehri (1999) points out, Kayne's analysis of attributive adjectives does not permit this double DP structure. Furthermore, the approach does not explain how agreement in definiteness between the two DPs is ensured. To deal with definiteness problem, Fassi-Fehri proposes that (21) should be represented as in (22).

(22)



Fassi-Fehri assumes that the small clause in (22) is identificational rather than predicational. Identificational small clauses ensure that both the subject and the predicate are definite. Accordingly, the subject and the predicate are saturated categories. One saturated category is identified with the other rather than predicated to it (Fassi-Fehri 1999:138).

It has been suggested (e.g. Sioni 1995:460) that languages that allow adjectival Ds also allow reduced relatives with D. By contrast, languages that do not allow adjectival Ds do not allow reduced relatives either. Both Hebrew and Greek have reduced relatives since they allow adjectival Ds whereas languages such as English, French and Italian do not have adjectival Ds and therefore they do not allow reduced relatives with D.

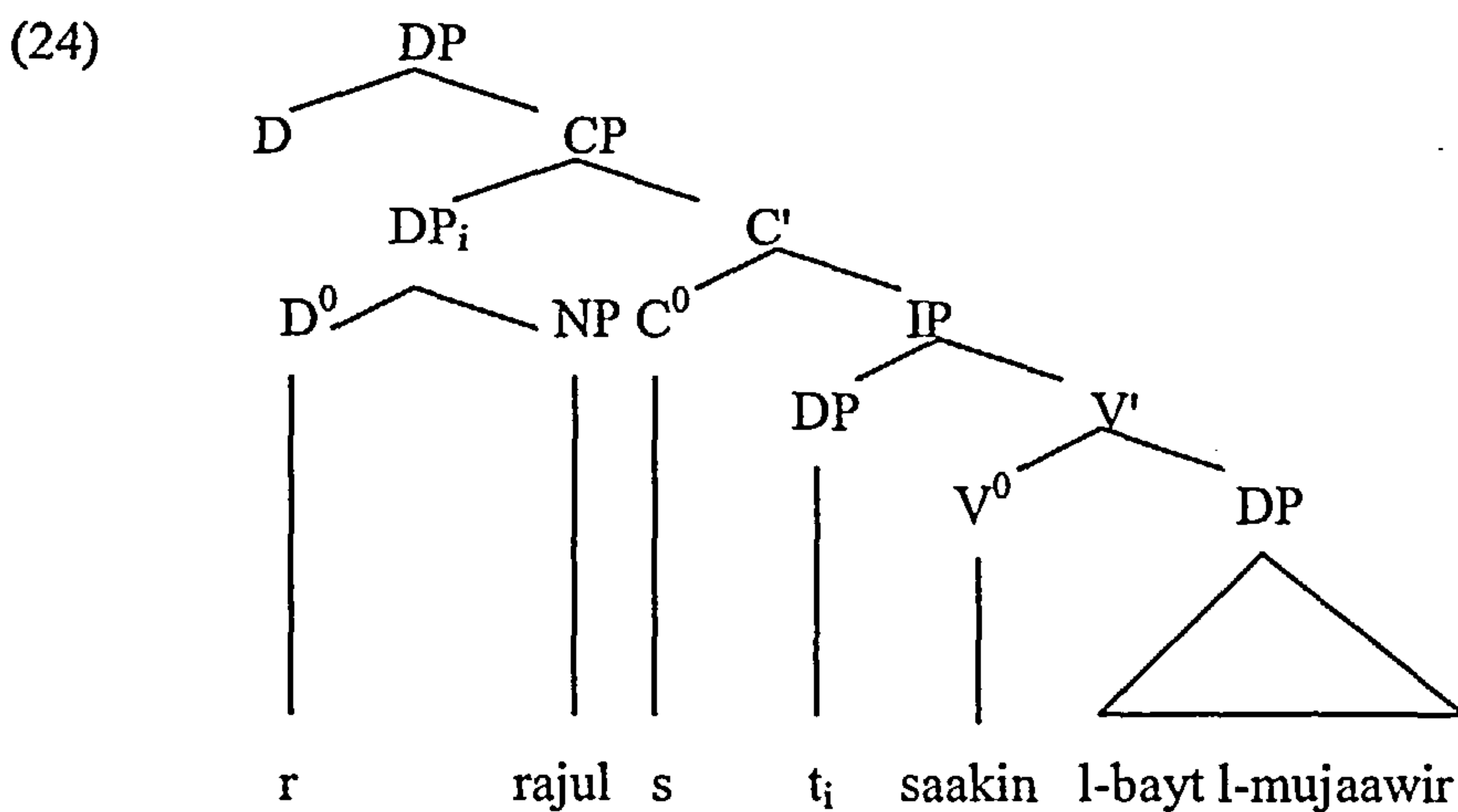
- (23) (a) the man (*the) arriving tomorrow
 (b) l'homme (*l') arrivant demain

7.3 The structure of reduced relatives

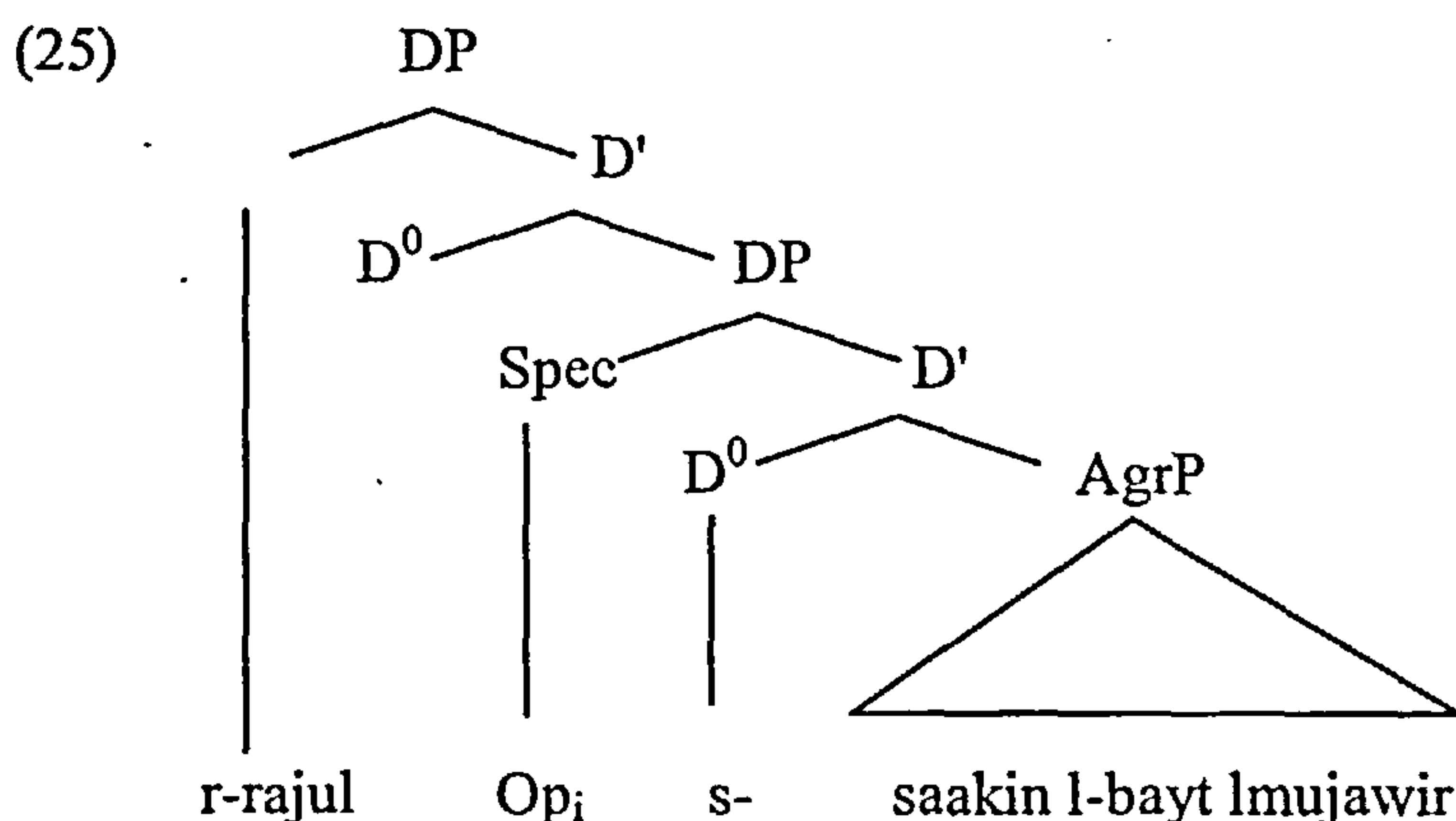
We have presented evidence that reduced relatives are in fact similar to full relative clauses. It has been shown that the D preceding the participle verb is a reduced relative marker. It is plausible then to analyse it as a complementizer as is the case with *lladhii* in full relative clauses. The analysis I suggest here for reduced relatives is not different from the analysis we have proposed for full relative clauses (See

Chapter Four and Five). We propose that these relatives are also derived by DP movement to SpecCP and the complementizer is base-generated in the C^0 position. Thus (16a), repeated below, will have the representation in (24).

- (16) (a) r-rajul-u s-saakin-u l-bayt-a l-mujaawir-a
the-man-Nom Rel living-Nom the-house-Acc the-neighbouring-Acc
“The man living in the neighbouring house”



Siloni (1995:461) proposes that the participial is a DP, rather than a CP, whose specifier position is occupied by a null operator which has moved from AgrP. According to Siloni, (16) will have the representation given in (25) below.



The analysis given in (24) is different from Siloni's analysis given in (25). The analysis in (24) treats reduced relatives as CPs whereas the analysis in (25) treats them as DPs. Moreover, C^0 in (24) takes IP as its complement. In (25) AgrP is the complement of D^0 . Hazout (2001) takes the distribution of adverbs, among other things, to exclude the structure in (24) for Hebrew. The distribution of adverbs is restricted in Hebrew participial relatives: they can only follow the participial verb, as shown in (26a) and (26b).

- (26) (a) *ha anaSim [ha- tamid holxim ba- rexov]
the people the always walking in the- street
(b) ha anaSim [ha- holxim tamid ba- rexov]
the people the walking always in the- street
"The people who always walk in the street"

(Hazout 2001:102, Ex. 13a,b)

The adverb restriction in (26) does not hold in standard relative clauses. It is for this reason that participial relatives in Hebrew cannot have the structure assigned to standard relatives (Hazout 2001:102). In other words, the element *ha* associated with the participle in (26b) cannot be in the C^0 position.

We find the same restriction in relation to adverb distribution in SA. Thus an adverb cannot intervene between *l* and the participial verb, as in (27b).

- (27) (a) r-ra?iis-u l-mudaafi9-u daa?im-an 9an l-maħrum-iina
the-president-Nom the-defending-Nom always-Acc on the-deprived-Acc
"The president who always defends the deprived"
(b) *r-ra?iis-u l- daa?im-an mudaafi9-u 9an l-maħrum-iina

Adverb distribution cannot be taken as direct evidence that participle relatives cannot be assigned the structure given in (24) above. In standard relatives, the insertion of an adverb between the complementizer *lladhii* and IP is only marginal.

- (28) (a) *l-mudiir-u lladhii yusaafir-u daa?im-an fi l-qitaar-i*
the-director that travell.3ms always-Acc in the- train-Gen
“The director who always travels in the train”
(b) ? *l-mudiir-u lladhii daa?im-an yusaafir-u fi l-qitaar-i*

The fact that an adverb cannot intervene between *l* and the participial verb in (27b) supports the claim that *l* is a complementizer.

In our analysis of subject relativization in standard relatives (See Chapter Four), we proposed that the trace in the subject position is lexically governed by the complementizer. The reason why (27b) and (28b) are excluded has to do with the ECP: the adverb blocks the complementizer to govern the trace in the subject position.

More evidence for the assumption that participial relatives are CPs rather than DPs comes from the relativization of positions other than the subject. When some position other than the subject is relativized, the participial verb agrees with its subject in [Φ]-features not with the antecedent. The example given in (19) above, repeated below for convenience, and the one in (29) illustrate.

- (19) *l-madrasat-u l-baaligh-u 9adad-u*
the-school-Nom C reaching.3ms-Nom number.3ms-Nom
tullabi-haa thalaathuna taalib-an
students-Gen its thirty-Nom student-Acc
“The school whose number of its students reaches thirty in number”
(cf. Hazout 2001:105, Ex.25)
- (29) *r-rajul-u d-daarisat-u ?uxtu-hu*
the-man Nom C studying Nom sister Nom-his
“The man whose sister is studying”

The relativized constituent in both (19) and (29) is the genitive NP. The participial verb agrees with the masculine NP *9adad* “number” in (19) and with the NP *?uxt*

“sister” in (29). This is due to the Case of the subject. The subject in both examples is marked for standard structural Case. It shows nominative Case in both (19) and (29). A more interesting example is the one in (30).

- (30) taḥadath-tu ma9a r-rajul-i d-daarisat-i ?uxt-u-hu
 talked I with the-man Gen C studying Gen sister Nom his
 “I talked with the man whose sister is studying”

The interesting part of (30) is that the participial verb and the antecedent have the same Case— Gen, as indicated in the gloss. Agreement in [Φ]-features holds only between the participial and the subject. What is relevant to the present discussion is that the subject in (30) is assigned Nominative by some mechanism. The key point is that if some language has some mechanism to assign Case to a lexical NP, it is expected to allow non-subject participial relatives (Siloni (1995:484). The examples in (19), (29) (30) involve non-subject participial relatives. Hebrew does not allow non-subject participial relatives since it lacks Case assigning mechanism (Siloni 1995).

One of the questions that should be addressed is why does the participle have the Case of the antecedent? In (19) and (29) the participle is Nominative because the antecedent is Nominative whereas in (30) the participle is Genitive because the antecedent is Genitive. This fact might suggest that we are dealing with adjectives rather than verbs. A solution can be sought by examining the distributional and selectional properties of participles and adjectives. Following Hasan (1975) and Fssi-Fehri (1993:186), we suggest that adjectives and participles differ only internally. Externally, participles are not different from adjectives. Participles assign Accusative, select the same type of complement that the verb selects and can be modified by a verbal modifier rather than by an adjective which is a nominal modifier. It is also relevant to mention that participle relatives are subject to Principle A of the binding theory (Chomsky 1981). According to Principle A, an

anaphor must be bound in its governing category. This is illustrated in the following example.

- (31) r-rajul-u l-xaadim-u nafs-a-hu muhtaram-un
the-man Nom the-serving Nom self Acc his respected Nom
“The man who serves himself is respected”

All these properties induce the verbality of the participle (Fassi-Fehri 1993:187).

As far as the external properties are concerned, participles are assigned Case. As shown in (19, 29 and 30) above, the Case of the participle is determined by the position it occupies in the structure. In (19) and (29) the participle is assigned a default Nominative since the antecedent is assigned this Case. In (30), the participle bears the Genitive since the antecedent is assigned Genitive by the preposition. Moreover, participles can occupy positions essentially occupied by adjectives. For example, a participle can occupy the complement position of a copular verb, as in (32a), and function as a predicate in nominal clauses, as in (32b) (cf. Fassi-Fehri (1993: 186).

- (32) (a) kaana r-rajul-u mustami9-an li l?axbaar-i
was 3ms the-man Nom listening Acc to the-news Gen
“The man was listening to the news”
(b) badr-un mumin-un bi-maa yaquul-u
badar-Nom believing Nom with-what say 3ms
“Badar is believing in what he says”
(c) kaana r-rajul-u ṭawiil-an
was.3ms the-man Nom tall-Acc
“The man was tall”
(d) badr-un mujtahid-un
badar Nom hard-working Nom
“Badar is hard-working”

The participle in (32a) and the adjective in (32c) are in the complement position of the copula; in (32b) and (32d) the participle and the adjective have the function predicate.

7.4 The extraction site

The next thing we would like to know is the extraction site of the “head” of the participial relative. If the assumption made above that participial relatives are CPs, then they should be expected to have an embedded IP from which the “head” raises to SpecCP. The raised “head” must then enter into Spec-head agreement with the complementizer in the C⁰ position. We start with examples (16) and (31), repeated below for convenience.

- (16) (a) r-rajul-u s-saakin-u l-bayt-a l-mujaawir-a
the-man-Nom Rel living-Nom the-house-Acc the-neighbouring-Acc
“The man who is living in the neighbouring house”
- (31) r-rajul-u l-xaadim-u nafs-a-hu muḥtaram-un
the-man Nom the-serving Nom self Acc his beloved Nom
“The man who serves himself is beloved”

I assume that in both examples the “head” raises from SpecIP to SpecCP, leaving behind a trace. The trace is properly governed by the complementizer. Recall that in dealing with standard relatives we proposed that the subject trace is governed by the agreeing complementizer *lladhii*. The same analysis holds for (16) and (31). The only difference is that the complementizer in reduced relatives does not manifest overt agreement features. In (7.2.2.2.1.3) above, I cited evidence that examples such as (16) and (31) should be treated as full relatives. The trace of the raised subject in (31) becomes the antecedent of the anaphor *nafsa-hu* “himself” and thus binds it. In order to satisfy Principle A of the binding theory, both the anaphor and the antecedent must be in the same governing category. The governing category is the IP which contains both the anaphor and its antecedent (the trace). A piece of

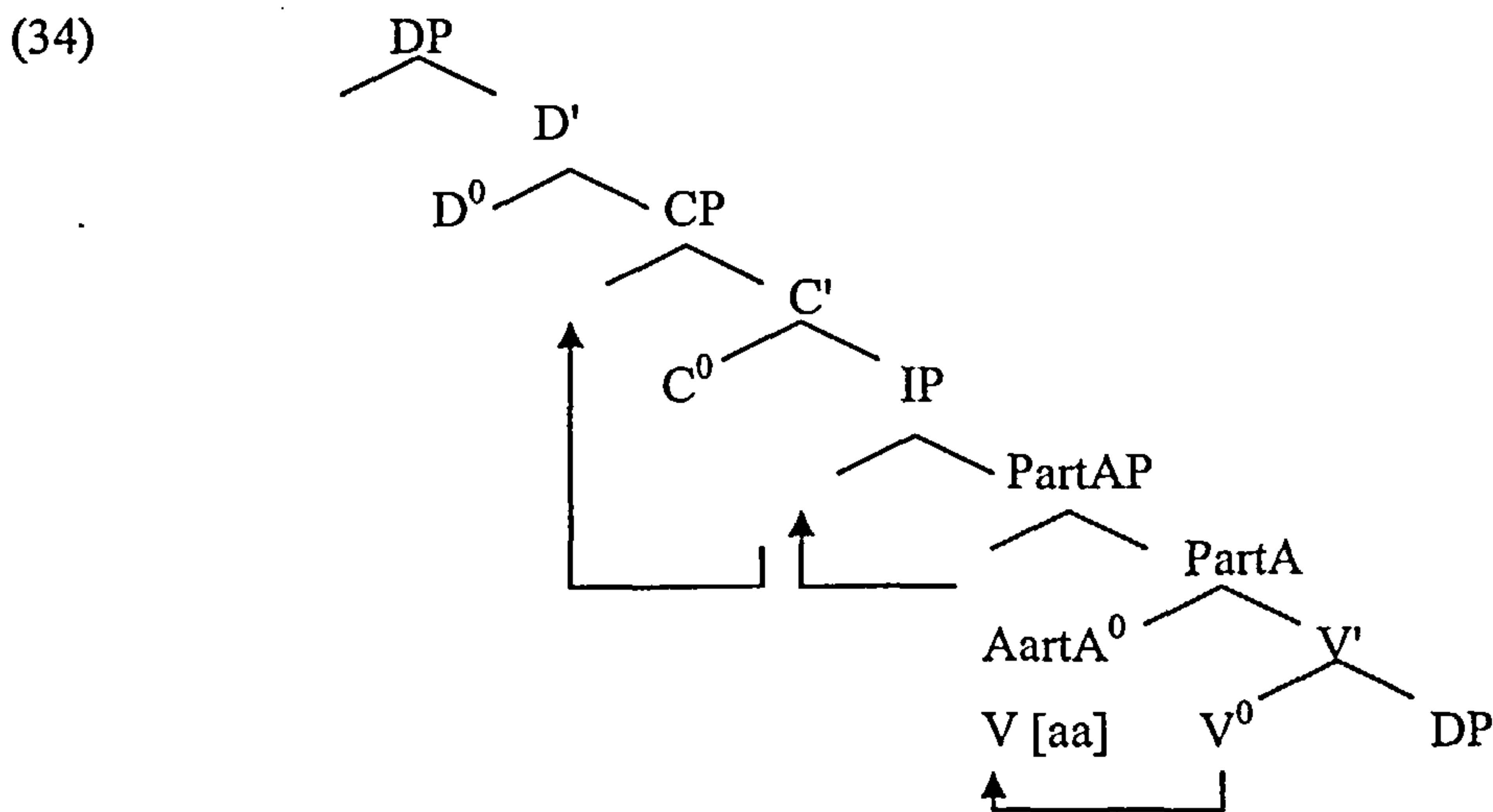
evidence that the anaphor in (31) is bound by the subject trace comes from the fact that the antecedent may not be lexically expressed, as shown by the grammaticality of (33).

- (33) *l-xaadim-u nafs-a-hu maḥbub-un*
 the-serving Nom self Acc him beloved Nom
 “Whoever serves himself is beloved”

The situation in (33) is similar to the situation in *lladhii*-free relatives we have seen in (6.3.1). The non-overt antecedent must be a null DP. This null DP, more precisely the features of the null DP move from the subject position to SpecCP and enter into Spec-head agreement with the complementizer *l* in the C⁰ position. It is plausible then that the understood subject in (33) binds the anaphor. The fact that the anaphor carries Accusative indicates that the participle is of a V rather than an A(djective) category because A categories are not accusative Case assigners.

7.5 An alternative analysis

In order to account for the participle affix [aa], I propose that this affix is a functional head. Thus the diagram given in (24) above is represented as something like (34) below.



The analysis represented in (34) shows that the functional head [aa] is base-generated in the head position of PartAP (Participle Affix Projection). The verb moves to left-adjoin the head in the PartA⁰ position. The advantage of this analysis is that the participle starts out as a V in the derivation. The trace of the verb will assign accusative to the object (as in (16), (31) and (33)). The subject is assumed to originate in the Specifier position of PartA⁰ where it gets its thematic role from the verb then moves to SpecCP via SpecIP. The antecedent and the complementizer, which is base-generated in the C⁰ position, enter into Spec-head agreement.

This analysis also accounts for the derivation of participial relatives involving other positions. The only difference is that non-subject positions require an obligatory resumptive pronoun. The analysis I have proposed for resumptive pronouns in standard relatives (See Chapter Four) also carries over to account for the resumptive strategy in participial relatives.

Conclusion

We have proposed in this chapter that reduced relatives in SA have the same structure assigned to full relatives. The morpheme *l* preceding the participle verb is a reduced complementizer. Our claim is based on coordination, adverb insertion and resumptive pronouns. We have also shown that these relatives are derived by “head” movement to SpecCP where it enters into Spec-head agreement with the reduced complementizer. However, unlike full relatives, the “head” in reduced relatives agrees with the complementizer only in definiteness. Number and gender agreement does not explicitly hold since the complementizer occurs in its reduced form.

Chapter Eight

Conclusion

This thesis has focused on the structure of relative clauses in Standard Arabic (SA) within the framework of phrase structure proposed in Kayne (1994) and subsequent work based on Kayne's insights.

First we gave a descriptive account of SA. The primary aim was to give the reader a general idea about constructions involving different types of relative clauses in the language being investigated which s/he may need to know. We also discussed some salient grammatical features related to word order and agreement.

We presented a review of the literature and an outline of the theoretical framework we applied in the study, the theory of phrase structure, according to which relative clauses are universally a complement of the external D. Therefore the only structure that relative clauses can be assigned is [_{DP}[D CP]. We adopted this view but argued that relative clauses in SA are complements of a null D. We proposed that D is not external but originates within the relative clause then moves along with its NP complement to SpecCP.

We looked at the relative and the subordinate complementizers and argued that the relative marker *ladhii* is best analysed as a complementizer rather than a relative pronoun. We also made an attempt to identify the features that make the relative complementizer distinct from the subordinate complementizer *?anna /?an* "that". We discussed different approaches (e.g Radford (1988); Rizzi (1990); Roberts (1992)) regarding the classification of the complementizer.

We discussed relative clauses derived from simple sentences. We have shown that the definite "head" in these relatives moves from the relative clause to the spec position of CP. The relative complementizer is obligatorily overt and agrees with

the DP in its spec in number, gender, definiteness and, sometimes, Case. Subject relatives seem to be different from both direct object and prepositional relatives in the sense that the extraction site in subject relatives does not contain a lexical trace. Furthermore, the relativized subject must agree with the verb. I have proposed that, due to the verbal morphology, a lexical resumptive pronoun does not appear in the extracted subject position. We have assumed that these relatives contain a null resumptive pronoun identified by the verb morphology. The derivation of the other two relatives is similar in the sense that the extraction site is filled with a lexical resumptive pronoun which I take to be a Spelled-Out trace. The analysis proposed here is in line with the idea that resumptive pronouns are bound variables as suggested in Zaenen et al (1981), Sells (1987) but against the assumption that relative constructions involving resumptive pronouns are not derived by movement (McCloskey (1990); Shlonsky (1992)). The analysis also rejects the idea that the resumptive pronoun is a realisation of a stranded D (Bianchi 1999/2000) or a relative pronoun as suggested in Suñer (1998) for Spanish and Yiddish.

As far as embedded clauses are concerned, we focused on two types of embedded clauses: embedded clauses introduced by *?an* and those introduced by *?anna*. We assumed that subject extraction from the first type takes place from a postverbal position on the basis that the word order in this type of clauses is obligatorily VSO. We have not adopted the Split-CP hypothesis for *?an*-embedded clauses. It is suggested that if the subject is extracted from SpecIP, the trace in SpecIP cannot be properly governed since *?an* is not an agreeing complementizer. It is also proposed that there is no movement to the Spec position of the lower CP since the head of this CP cannot agree with the moved DP in that spec position. We assumed that this is due to the fact that the embedded C^0 and the raised DP bear different $[\Phi]$ -features. Therefore the relativized DP moves directly to the spec position of the higher CP. The subject trace, following Rizzi (1982/1990), is governed by the verb. Subject extraction from *?anna*-embedded clauses is more complicated. It is assumed that what seems to be the subject is in fact a topic (Farghal (1986); Majdi (1987); Akkal

& Gonegai (1996); Shlonsky (1996)). I have therefore adopted Rizzi's (1997) hypothesis according to which CP is split into different maximal projections i.e ForceP, TopicP, FocusP and FinP.

I have proposed that the subject in *?anna*-embedded clauses is extracted from the specifier of TopP. The extracted subject then moves to the specifier position of the higher CP via SpecForce. A lexical trace appears in SpecTop which later cliticises into the complementizer in Force⁰. Other relatives are straightforward. For instance, extraction of the direct object and the object of a preposition from *?an/ ?anna*-embedded clauses leaves behind a trace in the form of a lexical resumptive pronoun. This trace is properly governed by the verb and the preposition, respectively. Therefore no ECP violation arises.

We discussed three types of headless relatives: *lladhii*-free relatives, *man*-free relatives and *maa*-free relatives. The first type seems at first sight to pose a problem for the assumption that the phonetic realisation of the complementizer is only possible if the antecedent DP is phonetically overt. The assumption made is that the empty head is identified by the rich morphology of the complementizer. In the case of the second and the third type, the complementizer is not endowed with any number or gender morphology. We assume that these features are determined between C⁰ and the embedded IP.

We have argued that participial relatives in SA do not involve movement of the participle to SpecCP, as suggested in Kayne (1994) for English. Furthermore, I have shown that reduced relatives in SA are in fact full relatives. Evidence for this claim comes from coordination, the distribution of adverbs and the occurrence of resumptive pronouns. Based on this observation, it is proposed that what precedes the participle is not a definite determiner but a complementizer. These relatives have some interesting properties with respect to agreement. Unlike full relatives, the "head" agrees with the complementizer only in definiteness. Number and gender must appear only on the participial verb. The assumption that the element preceding the participle is a complementizer is endorsed by the fact that it can only cooccur

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with a definite antecedent, exactly as in *lladhii* headed relatives. Thus this type of relative also shows agreement between the “head” and C^0 though it is a partial agreement.

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