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**Predictive power of contrastive analysis : Syrians' learning of the English DP.**

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**PREDICTIVE POWER OF CONTRASTIVE ANALYSIS:  
SYRIANS' LEARNING OF THE ENGLISH DP**

**BY**

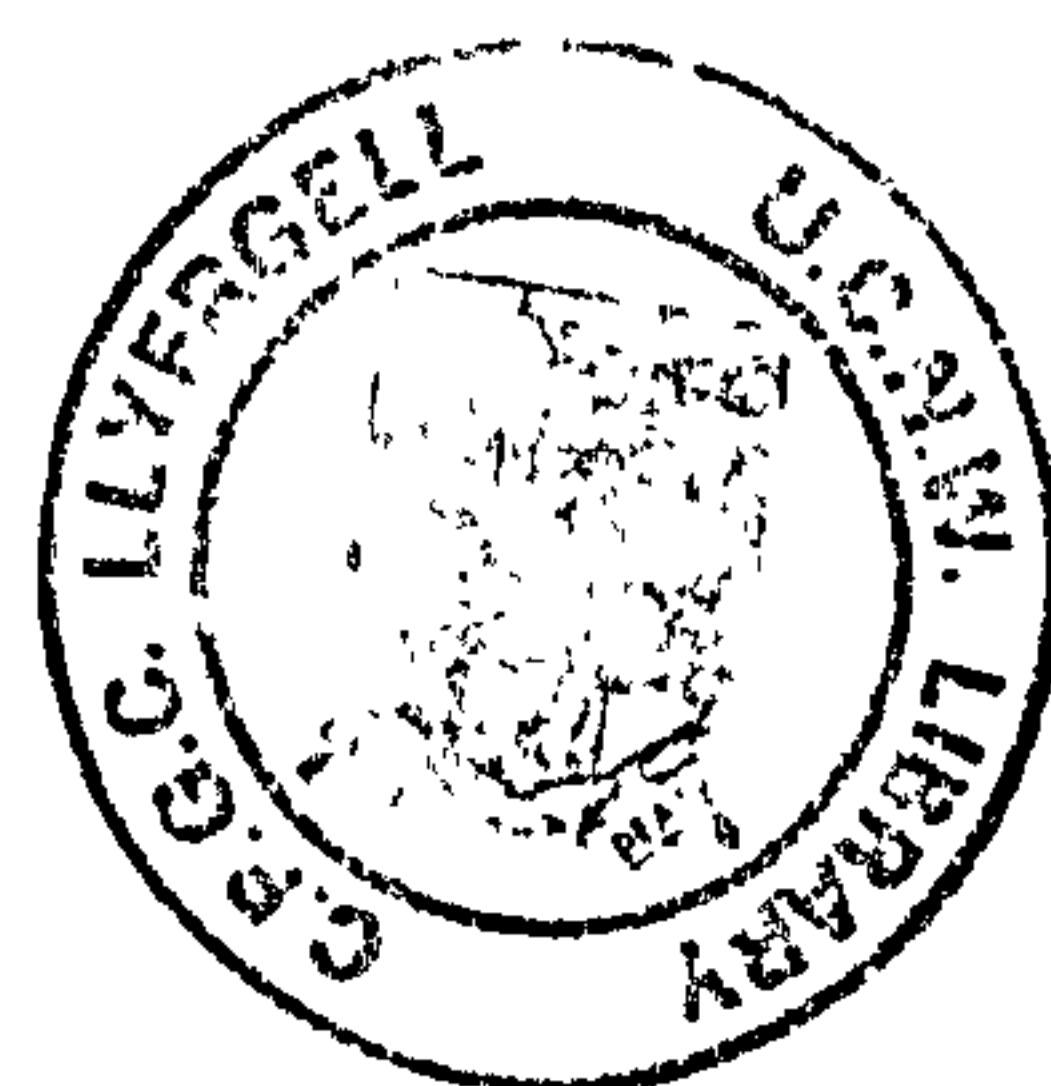
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**In fulfilment of the requirements of the degree of  
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**SCHOOL OF ENGLISH & LINGUISTICS  
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**1992**



***DEDICATION***

***To my family***

## ABSTRACT

This thesis is an investigation of the Contrastive Analysis Hypothesis. This hypothesis is founded on the assumption that second language learners tend to transfer their native language structures when learning a second language. In its strong version, this hypothesis claims that by contrasting two or more languages, it is possible to predict probable areas of difficulty and hence errors on part of the foreign language learner. Contrastive analysis yields two types of prediction: (i) second language learners will transfer their isomorphic L1 structures into the second language and thus produce correct target constructions, and (ii) they will transfer the anisomorphic structures of their mother tongue thus producing erroneous structures which reflect those of their mother tongue.

The second hypothesis which I seek to verify in the present work claims that the more advanced the second language learner is, the more successfully he/she will perform in the second language. Long exposure to the new language will enable the learner to improve his/her linguistic competence in this language and as a result, he/she will utilise more positive transfer and less negative transfer than the less advanced learner.

The validity of the two hypotheses will be investigated with reference to Syrian learners of English. The two languages under focus are English and Modern Standard Arabic. I focus exclusively on one syntactic structure viz., the noun phrase. My contrastive analysis of English and Modern Standard Arabic noun phrases is based on their description in terms of the general framework of the theory of Government and Binding.

The predictions yielded by contrastive analysis were empirically tested by carrying out a small scale empirical investigation which consisted of three tests: a Completion Test, a Translation Test and a Judgment Test. The three tests were administered to two groups of Syrian students studying English at the University of Tishrin, Latakia, Syria. The first group comprised 25 first year students, and the second group included a similar number of fourth year students.

I then carried out an error analysis of the data obtained in order to determine the source of each error and separate transfer from non-transfer errors. Quantificational measures were applied to the results in order to determine the relative frequency of each prediction in percentages.



The degree of success of the predictions were taken as measures for the validity of the hypothesis on which they were based viz., the Contrastive Analysis Hypothesis.

In order to verify the second hypothesis, I compared the mean percentages of transfer scored by both groups for each prediction in each test. Conclusions as to whether there were significant differences between the two groups in the degree of transfer were drawn by using the T-Test, which is statistical measure used to assess the significance of the differences between two given average scores.

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## LIST OF ABBREVIATIONS

APS	adjectival phrases	ILST	Interlanguage Studies
C	complementiser	LA	language acquisition
CA	Contrastive Analysis	L1	first language
CAH	Contrastive Analysis Hypothesis	LL	language learning
CFC	Case-Filter Condition	LF	Logical Form
CLA	Classical Arabic	LSs	Learning Strategies
CLI	Cross-Linguistic Influence	MSA	Modern Standard Arabic
CSs	Communication Strategies	NL	native language
CSM	Complement-to-Specifier Movement	NCBR	N0-Crossing-of-Branches Restriction
D	Determiner	PF	Phonetic Form
DCAP	Directionality-of-Case-Assignment Parameter	PPs	prepositional phrases
DP	the traditional noun phrase	PSs	Production Strategies
DS	D-structure	RCAP	Range-of-Case-Assigners Parameter
EA	Error Analysis	SS	S-structure
ENG	English	SSM	Specifier-to-Specfier Movement
EG	error gravity	SYA	Syrian Arabic
FL	foreign language	TC	Tertium Comparationis
FLL	foreign language learning	TL	target language
GB	Government & Binding Theory	THC	Theta Criterion
GP1	intermediate group	+TR	positive transfer
GP2	advanced group	-TR	negative transfer
HHM	Head-to-Head Movement	UDBC	Uniform-Directionality-of-Branching Constraint
I	inflection		
IL	Interlanguage		
IP	the traditional sentence		

TRANSCRIPTION

The Arabic alphabet consists of 28 consonants and 3 vowels. These are listed below in alphabetical order, together with the Roman symbols employed in this thesis and the names of the letter in transcribed form.

Name of Letter	Symbol	Transcription
hamza	ا	ʔ
alef	ا	a
baaʔ	ب	b
taaʔ	ت	t
jiim	ج	j
Haaʔ	ح	H
Xaaʔ	خ	x
daal	د	d
dhaai	ذ	dh
raaʔ	ر	r
zayn	ز	z
siin	س	s
shiin	ش	sh
Saad	ص	S
Daad	ض	D
Taʔ	ط	T
Zaʔ	ظ	Z
ʾ ayn	ء	ʾ

ghayn	غ	gh
faa?	ف	f
Qaaf	ق	Q
kaaf	ك	k
laam	ل	l
miim	م	m
noon	ن	n
haa?	ه	h
waaw	و	w
yaa?	ي	y
fatHa	ح	a
kasra	كسرة	i
Damma	ضم	u

Long vowels are indicated by doubling the vowel (e.g. aa, ii, and uu). Emphasised letters or those bearing the so-called 'shadda' (ّ), are indicated by doubling the consonant (e.g. majalla).



## CHAPTER I

### INTRODUCTION

#### 1.1. The Scope of the Present Study

One of the most controversial issues in foreign language learning concerns the role of the learner's first language. Over the past forty years or so, researchers attitudes towards the influence of the first language have changed considerably, reflecting the changes that have taken place in the psychological base for examining second language acquisition.

Beginning in the post-war years and carrying on into the 1960s, the belief was that 'interference' from the learners' first language was the major source of difficulty in learning a foreign language. It was assumed that where there were differences between the first and the foreign language, the learners' first language would 'interfere' with the foreign language; and where the first language and the foreign language were similar, the first language would actively facilitate the learning process. The underlying process was called language Transfer. In the case of differences, it functions negatively, while in the case of similarities, it functions positively.

In order to identify potential points of

difficulty/error, a procedure called Contrastive Analysis was developed. The Contrastive Analysis Hypothesis was founded on the assumption that it was possible, by establishing the linguistic differences between the learner's first language and the foreign language, to predict what problems the learner of a particular language would face.

The transfer hypothesis on which classical contrastive analysis was predicated was closely linked to the behaviourist habit-formation theory of language learning (see for example Skinner, 1957). Following Chomsky's (1959) review of Skinner's Verbal Behaviour, the behaviourist views of language learning as habit-formation was rejected in favour of a more mentalist approach, which took into account the active contribution of the learner.

Within the new approach, the language learner uses his/her own thinking processes (cognition) to develop his/her linguistic knowledge of the new language: he/she has become a 'strategy' user. Thus, if language learning could not be explained in terms of habit-formation, then clearly the notion of 'transfer' with its behaviouristic connotations was bound to be challenged.

The Contrastive Analysis Hypothesis came under attack from another quarter. The predictive power of contrastive analysis was shown to be limited: contrastive analysis was only able to predict part of the learning problems encountered by foreign language learners. It was also

found that the level of learning difficulty could not be inferred directly from the degree of linguistic difference between two language systems, some items of high interlingual contrastivity proving to be easily learnt, and some items of low contrastivity proving to be difficult. In short, the contrastive analysis hypothesis together with habit-formation theory was not capable of providing an adequate explanation of foreign language learning. As a result of these criticisms, by the late 1960s and early 1970s contrastive analysis fell into disfavour and the role of the first language in foreign language learning was played down.

Despite the critical voices, the interest in contrastive analysis has not diminished since 1980. A review of the relevant literature in the early 1980s reveals a modest but significant revival of confidence in CA, attributed to a variety of factors. The main difference between the traditional contrastive analysis and the recent developments is that the recent developments are influenced by the theory of cognitive psychology rather than by the earlier behaviourist one. Native language transfer is now considered as a learner 'strategy'. the learner is now seen as actively involved in manipulating his/her first language to facilitate his/her learning of the foreign language instead of the traditional orthodox contrastive analysis view that native language transfer was the result of persistent 'old' habits.



The 'crisis' in contrastive analysis has not been entirely resolved, however. There is still considerable disparity among researchers regarding its role in accounting for the language-learner's language. It is my goal in this thesis to test the Contrastive Analysis Hypothesis empirically with reference to Syrian learners of English, and demonstrate that native language transfer is an important determinant of foreign language learning. To this end, I shall carry out a contrastive analysis of English and Modern Standard Arabic, focussing on one syntactic structure viz., the noun phrase.

Modern Standard Arabic (henceforth MSA) is the learners native language from which will transfer the related syntactic rules and structures in their learning the corresponding rules and structures of a foreign language. MSA is the official language in Syria, which is used as the medium of instruction at all levels of education. It is also used in other formal settings like the mass media (e.g. radio, television, newspapers, etc.). It is to be differentiated from Syrian Arabic (henceforth SYA), which is the informal language used as a means of communication among people and has many dialectal varieties. SYA exhibits a number of divergencies from MSA in its phonological and morphological structure. As for its syntax, it can be said that, apart from a few exceptions, it has a similar syntactic structure to that of MSA.

Since the present study involves Syrian learners in a formal learning situation viz., university setting, and given that MSA and not SYA is the language which they normally use in such circumstances, I shall therefore assume that it is MSA rather than SYA which is the language they will use as a source of transfer into the new language. I thus confine my description of Arabic noun phrases to those of MSA only.

English (henceforth ENG), on the other hand, is considered a foreign language in Syria, by which is meant that it is learned through instruction and is not normally used in everyday communication. ENG is taught in both preparatory and secondary schools i.e. for a total of six years from the 6th. year at school to the 12th. year. On average, it is taught for 3 to 5 50-minute periods per week. The variety of ENG which is normally taught is Standard British English.

## **1.2. Organisation of the Thesis**

In reporting the present study I shall proceed as follows:

Chapter II is a general review of the research literature on the various approaches in the study of learner language. The aims of this review are (i) to show the 'state of the art' in the field, and (ii) to put the basic assumptions of this study in the right perspective. In section (2.3) and the related subsections, I review further the basic tenets of Contrastive Analysis: its



premise, its traditional association with the Transfer theory, its methodology and some of the criticisms levelled at the contrastive analysis hypothesis and their refutation. The section on contrastive analysis concludes with an account of the current reappraisal of contrastive analysis, which once again seeks to allocate an important role to the first language in foreign language learning. In section (2.4), I discuss the second approach in the study of learner language, namely, Error Analysis. In this section, I shed light on the significance of studying learner errors and some of the problems encountered in their definition. I also discuss the methodology of error analysis and its usefulness as a complementary technique to contrastive analysis in the study of learner language. I conclude my discussion of error analysis with a summary of the main shortcomings which have rendered this approach as inadequate in providing a comprehensive picture of the foreign language-learner's language. Finally, in section (2.5), I turn to discuss the third approach in the investigation of the foreign language-learner's performance viz., Interlanguage Studies. I discuss the main characteristics of Interlanguage as an independent linguistic system of the learner's first language and the foreign language, the new attitude towards learners' errors which Interlanguage research entails and the insights it provides into the nature of the learning process.

In Chapters III and VI, I move on to the first step in

the execution of my contrastive analysis of ENG and MSA , namely, providing detailed descriptions of the structures to be contrasted. In Chapter III, I describe the ENG noun phrase. This description is carried out within the framework of the theory of Government and Binding. I start my discussion of the ENG noun phrase in section (3.2.1) by introducing the relevant aspects of Government and Binding. In section (3.2.2), I discuss in some detail the main assumptions underlying the X-bar sub-theory of phrasal categories on which I rely extensively in my discussion of the noun phrase in both ENG and MSA. I only reiterate those aspects of X-bar syntax which are relevant to my description of the noun phrase. In section (3.2.2.1), I provide a brief outline of the pre-X-bar attempts to account for the structure of the ENG noun phrase such as those made by Chomsky (1965) and Jacobs & Rosenbaum (1968). Under earlier analyses, it was assumed that the head noun of a given noun phrase permitted only one type of higher level projection i.e. from N to NP. In section (3.2.2.2), I discuss the main tenets of X-bar theory as introduced by Chomsky (1970). The main assumption underlying this theory is that all phrases have a three-level hierarchical structure instead of a two-level structure. In a noun phrase, for example, we recognise a zero-bar level N (noun), an intermediate single-bar level N' (N-bar) and a full phrasal double-bar level N'' (N-double-bar or NP). In other words, a noun

phrase had the overall status of an NP. In section (3.2.2.2.A), I cite some arguments in favour of the intermediate N-bar phrasal category. In section (3.2.2.2.B), I summarise some of the problems which the 'standard' X-bar NP-analysis poses for the description of the ENG noun phrase and which have given rise to a more tenable analysis viz. the NP/DP-Analysis. In section (3.2.2.3), I discuss the main tenets of the NP/DP-analysis and discuss its main advantages over the traditional NP-analysis. Within the NP/DP-analysis, an ENG noun phrase comprises two categorial systems: a lexical NP-system and a functional DP-system. The noun phrase has the overall status of a DP rather than an NP. In section (3.3), I discuss the functional DP-system. In this section I discuss the syntax of determiners like the articles, demonstratives and predeterminers like all/both. In section (3.4) I discuss the main types of nominal modifiers which fall within the lexical NP-system. These include adjectival phrases (APs), prepositional phrases (PPs) and possessive DPs, among others. I discuss their constituent function as well as the various principles underlying their distribution in relation to the head noun and to each other.

Chapter IV is devoted to the noun phrase in MSA. My analysis of MSA is an extension of Fassi Fehri's analysis of the noun phrase in Classical Arabic (henceforth CLA). Following Fassi Fehri (op.cit.), I shall assume that a noun phrase in MSA consists of a functional system and a



lexical system. However, unlike Fassi Fehri's analysis in which he assumes that a noun in CLA is projected functionally into a DP via the addition of the definite article and that a demonstrative is in the [Spec., DP] position, I shall argue that in MSA, a head noun is projected functionally into a TP via the addition of the definite article and it is projected into a DP via the addition of a demonstrative. In other words, what is considered a DP under Fassi Fehri's analysis, is regarded as a TP under my analysis. I start my analysis of the Arabic noun phrase in section (4.2) by a discussion of the basic characteristics of the so-called Construct State followed in section (4.3) by an outline of Fassi Fehri's analysis. In section (4.4), I discuss the functional TP-projection within the MSA noun phrase. I extend Fassi Fehri's restrictive analysis of this system to other determiners like kull 'all', ba'D 'some' and ?ayy 'which', arguing that a noun phrase in MSA is projected further into a UP functional expansion via the addition of one of these items. In section (4.5), I discuss the lexical NP-system. I extend Fassi Fehri's analysis of this system to include a variety of nominal modifiers like APs, possessive TPs, numerals and PPs, among others. I discuss their syntactic functions as well as their linear word-ordering relative to the head noun and to each other.

I move in Chapter V to a contrastive analysis of ENG and MSA noun phrases which I described in Chapters III and

IV respectively. I also make predictions of potential points of difficulty/error and non-difficulty which might arise in Syrians' learning of these structures in ENG. I start off this chapter in section (5.2) by pinpointing some of the advantages of using the theory of X-bar as a theoretical basis for the my contrastive analysis of ENG and MSA noun phrases. Then in section (5.4), I highlight the differences and similarities between ENG and MSA which arise from their functional nominal systems. In section (5.5), I discuss the differences and similarities which stem from juxtaposing their nominal lexical systems. The contrastive analysis in this chapter yields a total of 18 predictions: 7 positive predictions and 11 negative ones.

In Chapter VI, I describe the method in which the predictions identified in Chapter V were empirically tested. In section (6.2), I describe the subjects who have participated in the empirical inquiry. In section (6.3), I describe the three tests which I administered in eliciting those learners' interlanguage. I administered three tests: a completion test, a translation test and a judgment test. In section (6.3.1) I describe the Completion Test, in section (6.3.2) I discuss the Translation Test and in section (6.3.3), I deal with the Judgment Test, providing examples of actual test sentences. In section (6.4), I describe the method I followed in administering the three test to the testees. Finally, in section (6.5), I discuss the scoring methods and quantificational measures used in decoding the data obtained.



In Chapter VII a discussion of the findings of the empirical investigation and their relevance to the two hypotheses addressed is carried out. In section (7.2), I assess the degree of success of contrastive analysis predictions both positive and negative. I first, present the results of the quantificational analysis, and then I evaluate their significance for the Contrastive Analysis Hypothesis. In section (7.3), I focus on the second hypothesis which this study addresses and examine its validity in the light of Syrian learners' elicited performance. This hypothesis rests on the assumption that advanced foreign language learners utilise their native language positive transfer and suppress negative transfer more than less advanced learners i.e. the former produce more target-like structures and less erroneous ones than less advanced learners.

In Chapter VIII, I complement my error analysis of Syrian students' errors in Chapter VII by an error analysis of the unpredicted DP-errors which occurred in their elicited linguistic performance. This chapter also includes a summary of the findings of the present research and an outline of the main shortcomings of this thesis. It concludes with some recommendations for future research in the field.

## CHAPTER II

### APPROACHES TO LEARNER LANGUAGE

#### 2.1. Introduction

It is assumed that in the study of foreign language learning and teaching the primary source of knowledge which can lead to an understanding of what is involved in learning is the language produced by learners when they attempt to use their own version of the target language i.e. their Interlanguage (henceforth IL). There have been three different approaches in the analysis of learner language: **Contrastive Analysis** (henceforth CA), **Error Analysis** (henceforth EA) and **Interlanguage Studies** (henceforth ILST).

EA and CA are similar in that they both have as their main objective the study of those erroneous aspects of the language-learner's language which show divergencies from the target language norms. Moreover, both CA and EA are comparative studies: CA involves a comparison of the learner's native language and the foreign language he wants to learn and EA involves a comparison of the language-learner's language and the foreign language. However, whereas the aim of CAs is to predict potential areas of errors on the part of the foreign language learner, the goal of EA is to provide an account of

attested errors i.e. errors which have actually occurred in learner language.

ILST represent a new way of looking at things, however. Unlike its predecessors (i.e. CA and EA), this approach aims at providing a more comprehensive picture of learner language. It aims at describing both erroneous and non-erroneous aspects of the language-learner's interlanguage system. Within this approach, learner language is an independent linguistic system which is described without any attempt to relate it to native language or foreign language. When learner language is looked at as a system in its own right, the concept of 'error' becomes of less validity.

In order to understand the roles CA, EA and ILST play in the investigation of learner language, in what follows, I shall discuss the three approaches, each in turn. In section (2.3), I focus on CA, in section (2.4) I discuss EA and in section (2.5) I shed light on ILST.

However, before I start my discussion of CA, EA and ILST, it will be relevant to start off this chapter by clarifying some terminological distinctions relevant to the present research.

## **2.2. Definition of Terms**

A number of terminological distinctions are sometimes made in the literature on second language learning. The most common ones are:

**First vs. Second vs. Foreign language:** 'first' language



(L1) is sometimes referred to as 'mother tongue' or 'native language' (NL). A language is 'first' if no other language was acquired before, e.g. Arabic in Syria. The term 'second' language (L2) is used to denote a language which becomes another tool of communication alongside the L1. It is usually acquired in a social environment in which it is actually spoken, e.g. French among the German speaking Swiss population. The term 'foreign' language (FL) is used to refer to a language that learners learn in a milieu where it is not normally in use but is acquired through instruction in a formal setting (e.g in the classroom), e.g. Spanish in France.

In most American-influenced work, the term 'second' language has been used as a blanket term which covers both 'untutored' (i.e. naturalistic) acquisition and 'tutored' classroom acquisition (e.g. Dulay et al. 1982:10; Klein, 1986:19; Ellis, 1985: 5).

There is a third name which is sometimes used as a neutral term between 'second' and 'foreign' language, namely 'target' language (TL) (e.g. James, 1990:205). This term is defined as referring to the language being learned or taught (Dulay et al., 1982: glossary).

The terminological distinction between 'second' and 'foreign' language will be reserved in the present work. I shall therefore use the terms FL and TL interchangeably to refer to Syrian's ENG, and use the terms NL and L1 interchangeably to refer to MSA.

**Learning vs. Acquisition':** the terms 'acquisition' and



'learning' are sometimes used to refer to two different phenomena. Language 'Learning' (LL) refers to 'guided' 'conscious' learning such as that in the classroom, e.g. learning English in Syria, whereas language 'acquisition' (LA) refers to the spontaneous 'subconscious' picking up of a language in naturalistic environments, i.e. through direct exposure to the target language, e.g. learning English in Britain and Arabic in Syria.

Some researchers (e.g. Krashen, 1981; Richards, 1978; Ringbom, 1987) kept the two concepts terminologically apart, while others used them interchangeably (e.g. Klein, 1986; Dulay et al. 1982; Ellis, 1985).

In the present study, I shall use the term most appropriate for Syrian learners of ENG, namely, 'learning', and use the term 'FLL' to refer to 'foreign language learning'.

## **2.3. CONTRASTIVE ANALYSIS (CA)**

### **2.3.1. Definition**

Contrastive analysis is a linguistic enterprise which takes as its object of inquiry two or more languages in order to single out the differences and similarities between them:

Contrastive linguistics may be roughly defined as a subdiscipline of linguistics which is concerned with the comparison of two or more languages .... in order to determine both the differences and similarities that hold between them.

(Fisiak, 1980: 1)

### 2.3.2. Objectives and Applications

Fisiak (1981: 2-9) makes a distinction between two types of contrastive analysis: **Theoretical CA** vs. **Applied CA**. The two types of contrastive study differ according to purpose. One of the goals of 'theoretical' CAs is to provide an account of the differences and similarities between the contrasted languages with the aim of establishing linguistic universals among other things. Theoretical CAs are not concerned with cross-language problems and make no claims about the applicability of its results. Applied CAs, on the other hand, are pedagogically oriented. Their main aim is to establish the areas of learning difficulties that are likely to be encountered by foreign language learners. The central claim which is made by applied contrastivists is that differences between the learners' NL and the FL hinder the learning process and are likely to cause difficulties and errors; whereas similarities facilitate learning a FL. Applied CAs gather information for specific purposes such as language teaching. It is claimed that the information yielded by 'applied' CA can be incorporated into pedagogical materials so that the potential negative effects of the learner's NL can be deactivated and the incidence of interference errors minimised (on this see Fisiak, 1981; Nickel, 1971, among others).

Not all researchers agree that this distinction between 'theoretical' and 'applied' CA is a valid one (see for example Krzeszowski, 1990 and James, 1980 among

others). In fact, it is not at all clear whether applied CAs can be executed independently of theoretical ones. Surely applied CAs are not independent executions of theoretical CAs. On the contrary, they are so closely connected with, and so obviously dependent on theoretical CAs. The former use the results of the latter and supplement them with psychological factors, which relate to the nature of the learning process.

The CA in this study is of the second type, i.e. it is directed at establishing the probable areas of difficulty for Syrian students in learning ENG as a FL. I make no claims about the pedagogical applicability of the results of my CA of ENG and MSA structures. To a large extent, the relevance of CA to language teaching remains a mystery. This might be explained on the grounds that we still know far too little about the nature of FLL and about the conditions under which NL transfer occurs.

### **2.3.3. Contrastive vs. Comparative Linguistics**

Contrastive linguistics is to be distinguished from another similar, though not identical, field, namely the field of comparative linguistics. The distinction between the two terms contrastive vs. comparative is often disregarded and both terms are wrongly taken to be synonyms of each other.

Comparative linguistics is concerned with grouping languages on the basis of various characteristics which they share. The comparativist is more interested in the



similarities between languages than in their differences. More particularly, he is interested in language typology, i.e. in the classification of languages into types. The shared features place the compared languages close in the typological groupings. We can thus talk of VSO languages such as Arabic and Hebrew and SVO languages like English and French.

Contrastive linguistics, on the other hand, is connected with noting and describing both similarities and differences between languages rather than grouping them typologically. In other words, typological linguistics focuses on clusters of languages united by some common feature or features, while contrastive linguistics focuses on pairs of languages and explores similarities and contrasts between them. However, the fact that there is a close relationship between contrastive linguistics and typological linguistics, is undeniable. For many researchers contrastive analysis is considered a branch of typological linguistics and they believe that, ultimately, a detailed CA yields essential data for a comprehensive linguistic typology (for a discussion of this issue, see Fisiak, 1990: 14-16).

#### **2.3.4. CA & Transfer Theory**

Transfer theory is the psychological cornerstone of CA. The Contrastive Analysis Hypothesis (henceforth CAH) was founded on the assumption that:



...individuals tend to transfer the forms and meanings and the distribution of forms and meanings of their native language and culture to the foreign language and culture ....

(Lado, 1957)

The CAH held that where the learner's L1 and the FL he wants to learn are different, the L1 will hamper the learning process. By the same token, where the L1 and FL are similar, the L1 will facilitate the learning of the FL.

In the psychological literature, the process which was responsible for this is referred to as language **Transfer**.

For most researchers, "transfer refers to the hypothesis that the learning of task A will affect the subsequent learning of task B" (Jakobovits, 1970: 188). Odlin (1989: 27) defines native language transfer as the '...influence resulting from similarities and differences between the target language and any other language that has been previously .... acquired'.

#### **2.3.4.1. Positive vs. Negative Transfer**

At the product level, native language transfer has two effects: facilitative vs. inhibitive. These are referred to as 'positive' vs. 'negative' transfer respectively.

Positive transfer (henceforth +TR) or facilitation results from the use of the L1 structure in FL performance when the structure in both languages is the same, resulting in correct utterances. By the same token,

negative transfer (henceforth -TR) refers to the process whereby the FL learner uses the L1 structures in FL performance when the structures are different from those in the FL. As a result, he will produce errors that reflect the structure of his NL. The term 'interference' is sometimes used interchangeably with the term 'negative' transfer (e.g. James, 1980: 15; Odlin, 1989: 26).

#### 2.3.4.2. The Nature of Transfer

The exact nature of transfer is not understood in any clear way. The concept of transfer originated in behaviourist learning psychology and was formulated within a stimulus-response framework. It was this association of the concept of transfer with behaviourism that provided the main sources of ammunition for the criticisms of the CAH.

In the 1960s behaviourist psychology was superseded by cognitive psychology and as a result, the theory of transfer upon which classical CA was predicated was attacked. Nonetheless, the concept of 'transfer' was not rejected entirely, rather attempts were made to accommodate it within the cognitive paradigm.

The basic concept in the cognitive approach to language learning is that of 'strategy'. Within this approach, the learner is viewed as an intelligent decision-maker who uses a number of strategies in his or her attempt to process the new language data. The concept of 'strategy' can be roughly defined as 'the mental

processes involved in internalising and automatising new L2 knowledge and in using L2 knowledge ... to communicate in the L2' (Ellis, 19885: 165).

Broadly speaking, learner strategies are divided into three main categories: Learning Strategies (LSs), Production Strategies (PSs) and Communication Strategies (CSs). Tarone (1980) defines LSs as 'attempts to develop linguistic and sociolinguistic competence in the target language' and 'whose motivation is not to communicate but to learn'. An example of LSs is that of Simplification whereby the learner tends to reduce the target language system into a simpler system (see for example, Jain, 1974 and Widdowson, 1975b). An example of linguistic 'simplification' is the omission of grammatical formatives like the articles, the possessive 's determiner and the plural morphemes (for an exhaustive discussion of learning strategies, the reader is referred to Oxford, 1990).

PSs are defined as attempts to use one's linguistic system efficiently and clearly, with a minimum of effort' (Tarone, 1980: 420). PSs are similar to CSs in that both are attempts to use one's linguistic system, but PSs differ in that they lack the interactional focus on the negotiation of meaning. An example of PSs is Monitoring which underlies learners' attempts to correct their performance in the target language by using their conscious L2 knowledge (see originally Krashen, 1977, 1981a).

Finally, CSs are commonly acknowledged to be



strategies used by learners when they face difficulties in communicating with their interlocutors. Faerch et al. (1984) describe CSs as 'problem-solving devices that learners resort to in order to solve what they experience as problems in speech production and reception' (1984: 154). The two defining characteristics of CSs on which Faerch et al. agree are thus 'problem-orientedness' and 'consciousness' (see also Tarone, 1977). An example of CSs is paraphrasing whereby the language learner replaces a L2 item by describing it (e.g. the use of the phrase 'a university teacher' instead of 'lecturer' by beginner Syrian students of ENG).

Within this framework, the point at issue, therefore, became to what extent the notion of 'transfer' could be reframed as a learner 'strategy'.

For many researchers, the notions of 'transfer' and 'strategy' are not at all incompatible with each other. As Ellis (1985) remarks, 'strategies' have as their input existing knowledge. Thus, since knowledge of L1 is one type of learners' existing knowledge, it follows that L1 can serve as one of the inputs into the process of hypothesis generation. The view of NL 'transfer' as a 'strategy' is also shared by a number of researchers like Taylor (1975), Sridhar (1975) and Faerch & Kasper (1986), among others. For example, Faerch & Kasper (ibid: 49) view NL transfer as a communication strategy. Like other CSs, NL transfer is a decision-making procedure rather than an



automatic process, it is a strategy by means of which a foreign language learner utilises his/her NL knowledge as a means for solving communication problems. Communication problems occur because the relevant IL rule or item is unavailable or momentarily inaccessible. Faerch & Kasper (ibid) cite numerous examples of situations in which the learner utilises his L1 knowledge as a problem-solving procedure. One example is literal translation, which represents instances in which the second language learner combines elements on the basis of the formally correspondent L1 phrase, e.g. the use of the phrase 'the president of the university' instead of 'the rector' by beginner Syrian learners of ENG.

However, whereas Faerch & Kasper (ibid) regard language 'transfer' as a communication strategy (see also Krashen, 1981a), Taylor (1975) considers it as a 'learning' strategy which the foreign language learner resorts to in order to facilitate the learning task. Taylor (op.cit.) argues that knowledge of L1 is one component of the learner's overall linguistic knowledge which he/she uses to facilitate new learning. This happens in situations where the learner finds difficulties in learning a given target rule. In order to make his/her learning task easier, he/she relies on his/her prior L1 knowledge and avoids learning the target rule which he/she finds difficult. Corder (1983) agrees that the mother tongue is a heuristic tool in the discovery of the formal properties of the new language, facilitating especially

the learning of those features which resemble the features of the mother tongue (1983: 95).

The rethinking of 'transfer' as a 'strategy' has been one of the factors that has contributed to the successful reappraisal of the role of L1 in FLL. Native language transfer is now considered 'a real and central phenomenon that must be taken in any full account of the second language acquisition process' (Gass & Selinker, 1983: 7).

However, what is still lacking is a richer characterisation of the underlying mechanisms involved in language transfer since, as James (1980: 25) rightly observes, thinking in terms of a 'strategy' of transfer seems to add little to our understanding of these mechanisms. The study of the various conditions under which transfer will/will not occur will lead to a more accurate definition of this phenomenon which is still puzzling and very little understood.

#### **2.3.5. The Contrastive Analysis Hypothesis: Two Versions**

There are two competing versions of the CAH: a weak version and a strong version. This distinction was first made by Wardhaugh (1970).

The strong version is also called the predictive or CA 'a priori' (see Gradman, 1971a). This is the classical version which was very popular during the heyday of CA. It claims a predictive power i.e. a power to predict, on the basis of juxtaposed NL:TL descriptions alone, actual learning behaviour. The starting point of this approach is

a point by point comparison of a given system in the learner's native language and the target language. The aim of this comparison is to discover the differences and similarities between the two languages. By doing this, researchers aim at predicting what will be the points of difficulty for learners learning a second language. These predictions are based on the assumption that similarities will be easier to learn and differences harder (see Lado, 1957: chapter II).

On the other hand, the weak form is called the explanatory or 'a posteriori' version. While this version is also based on the notion of interference, it claims merely to have the power to diagnose L1 transfer errors that have already been committed. For example, Snook (1971:18) argues that 'explanation of TL errors, not their prediction, is the main objective of CA'. The same view is also shared by Lee (1972: 16) and Wilkins (1972: 202). Similarly, Wardhaugh argues that the strong version of CA is 'unrealistic' and 'impracticable', and that CA is only tenable in its weak diagnostic form. Not all L2 errors are L1-based. Thus, in order to be able to account for the observed difficulties in FLL satisfactorily, the linguist should use all types of linguistic knowledge available to him (Wardhaugh, 1970: 126).

However, what Wardhaugh has ignored is the fact that this best knowledge must include among other things, knowledge of the contrasts between the learner's NL and



the FL. This knowledge can only be obtained by first conducting a CA of the two languages involved. In other words, if CA is to be worth while, it should be predictive: diagnosis of errors will then remain the job of error analysis (James, 1980: 185).

In this study, I adopt the 'strong' version of CA i.e. my CA of ENG and MSA aims at predicting potential L1 transfer errors on the part of Syrian learners of ENG.

#### **2.3.6. CA: Procedures**

Executing a CA involves two major steps: Description and Comparison.

##### **2.3.6.1. Description**

At this stage, the elements selected in one language for comparison with similar items in another are described at the appropriate level.

The description of the languages involved in CA is usually carried out using one descriptive model throughout. A problem which faces contrastivists is related to the question of what is the best theoretical model to choose as the basis for grammatical CAs. It is generally assumed that 'CA is only as good as the theory on which it is based' (Di Pietro, 1971). A good model is one which yields descriptions which are both rigorous and explicit. This in turn will enable comparisons to be rigorous and explicit.

The grammatical models which have been used as bases for CAs have changed in accordance with developments in



linguistic theory. The early phases of CA were closely linked to Structuralism, a model first expounded by Bloomfield (1933). For example, Lado (1957), Fries (1945), Stockwell (1957) and the early volumes of the University of Chicago CA series all adopted the structural approach in their contrastive projects. Later contrastive analyses adopted Chomsky's Transformational Grammar (TG) as a theoretical framework. In this study, I have used the theory of GB as a basis for my CA of ENG and MSA noun phrases. For a discussion of the main advantages of using this model as a descriptive basis, the reader is referred to section (5.2) below.

#### 2.3.6.2. Comparison

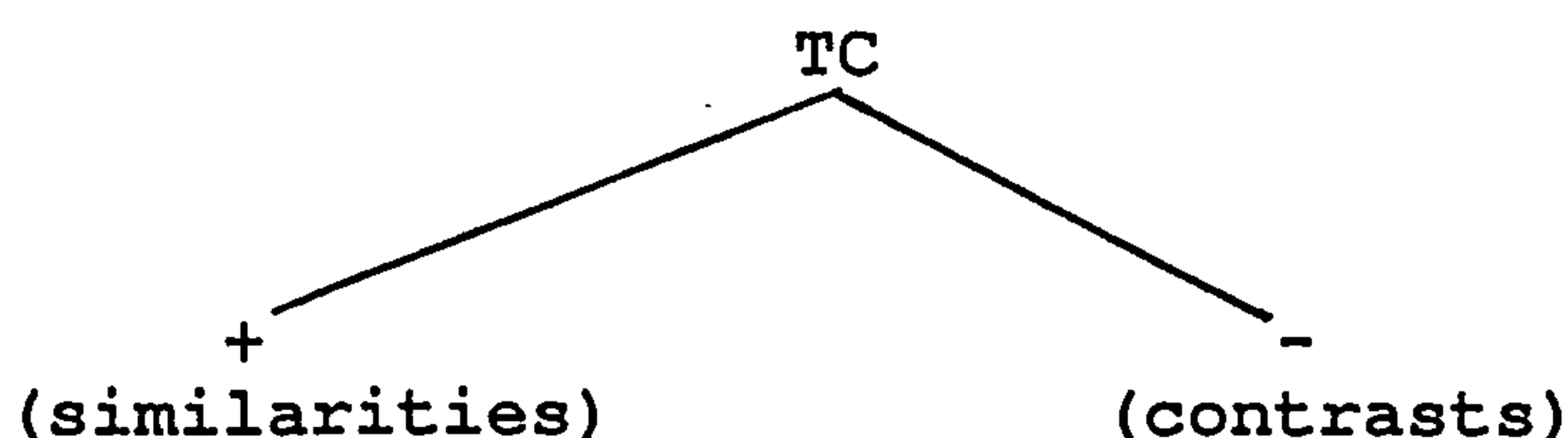
This stage involves juxtaposing the selected structures in order to determine the similarities and differences between the two languages.

In order to qualify as relevant for contrast, the two language structures must be 'comparable' or equivalent in a sense important to the CA being done (Bouton, 1976:144). This is a precondition in CA.

In essence, comparability presupposes a degree of shared similarity between the contrasted languages. Thus, in addition to having some differences between them, the two elements under comparison must also have certain features in common. This is especially important if we are to establish the minimal differences between them, because 'it is only against a background of sameness that

differences are significant' (James, 1980: 169).

In a given CA, therefore, there are three different variables at play. Firstly, there is the underlying sameness or degree of shared similarity which James (1980) refers to as the **Tertium Comparationis** (TC henceforth). This TC allows the comparison of L1 and L2. Secondly, there are the differences that emerge against the TC (i.e. the contrasts). The notion of 'contrast' can be further defined as 'a difference against a background of similarity' (James, *ibid.*). Thirdly, there are the similarities which arise between L1 and L2. The relationship between the above three factors can be represented as follows:



Equivalence of structures is thus a precondition to their comparison: 'only equivalent systems, constructions and rules are comparable (Krzeszowski, 1981).

The most widespread criterion for equating structures is that of 'translational equivalence' as established by a bilingual informant. Nonetheless, a problem which faces contrastivists is the lack of a rigorous definition of the notion of 'translational equivalence'. Krzeszowski (1990: 148) argues that "Equivalent structures have identical deep structures even if on the surface they are

markedly different". Bouton (1976), on the other hand, argues that there are large classes of constructions which are translation equivalents but cannot be derived from a common deep structure. For example, Bouton (op.cit.) argues that while the Persian-English questions Az koja miyaid 'where are you coming from ?' and 'where have you been' can function equivalently in a given situation, yet they are structurally different in many ways. For example, the English sentence is in the simple present aspect, whereas the Persian is in the present continuous aspect. In other words, the two sentences cannot be derived from a common deep-structure. Bouton (ibid) adds that translationally fully equivalent structures must have similar communicative roles as well as having similar structural properties. This is because:

To contrast the form of two languages  
without reference to what function those  
forms serve is to deal with only half of  
each of those languages being studied.

(ibid: 145)

The problem of finding a sound definition of the notion of equivalence still remains as a major problem in CA and has yet to be satisfactorily resolved.

After the description and comparison of the two language structures are carried out, the 'applied' contrastivist uses the yielded information about the similarities and contrasts between the two languages as a basis for making predictions of potential learning



difficulties and non-difficulties which might arise in learning the relevant target structures. He/she identifies the conditions conducive to two kinds of transfer: +TR and -TR. However, since -TR is normally manifest in errors, we conclude that the 'applied' contrastive analyst predicts errors. Moreover, since not all errors are the result of NL interference, it should be emphasised that the contrastivist can predict only a proportion of second language learner's errors.

### 2.3.7. CA: CRITIQUE & DEFENCE

The CAH enjoyed considerable popularity during the 1950s and 1960s. However, in the early 1970s, the pendulum began to swing in the other direction and CA faced a serious crisis of confidence. The validity of contrastive studies was questioned by many linguists who argued that CA failed to achieve the aims originally set for it by applied linguists, namely, predicting and explaining second language learning difficulties.

In this section, I shall review some of the criticisms levelled at CA and their refutation. As James (1971) remarks, the most regrettable feature of these criticisms is that they at times attribute to CA claims that have never been made for it.

First, there were the doubts concerning the ability of CA to predict errors. It was argued by the critics of CA that interference from the L1 is not the sole source of errors in FLL, there are other sources, which CA fails to



predict (e.g. Duskova, 1969; Lee, 1968). Recently, empirical evidence cited by Dulay & Burt (1973; 1974a) has also shown that in neither child nor adult L2 performance do the majority of the grammatical errors reflect the learners' NL. Similar claims have also been made by George (1972), Selinker (1972) and Richards (1974b). Both Richards and Selinker cited numerous examples of errors which were intralingual and developmental in nature (see pp 57-58 for a definition of intralingual and developmental errors).

The above criticism can be shown to be invalid by pointing out that CA has never claimed that interference from the mother tongue is sole or at least the main source of errors (James, 1990: 205). As Nickel (1971: 67) observes:

... Contrastive linguistics is not at all committed to the view that all mistakes made by the learners of foreign languages are caused by interference from the source language.

The value of CA lies in its ability to indicate potential areas of interference and error. Not all errors are due to interference. Psychological and pedagogical factors also contribute to the commission of errors. Moreover, explaining why or why not interference occurs is not the job of the contrastive analyst, whose duty is to chart the structural routes in FLL, but rather of the psychologist, whose responsibility it is to study the conditions under which transfer takes place. Better

predictions in second language learning can only be made when researchers succeed in defining the rules governing the complex process of language learning.

The argument that CA even predicts difficulties that fail to materialise has encouraged some researchers to postulate that there is a better alternative to CA, namely, Error Analysis, which Richards (1974b) defines as a 'non-contrastive approach' to errors, (see for example, Wilkins, 1968; and Wardhaugh, 1970). This claim, nevertheless, can be shown to be invalid for a number of reasons. Firstly, the two fields are very different in their approaches: a priori vs. a posteriori detection of error (James, 1971: 55).

Secondly, just as there are aspects of the learner's performance that CA cannot cater for (e.g. overgeneralisation errors), there are those which EA fails to explain (e.g. the avoidance behaviour of second language learners).

EA can only account for the difficulties which surface as errors in the performance of FL learners. However, as has been empirically demonstrated by Schachter (1974), learning difficulties do not always show up as errors in production. A learner may decide to 'avoid' producing those FL structures which he/she finds difficult, as a result, he/she produces fewer errors than predicted. Schachter (op.cit.) conducted a study in which she compared the major restrictive clause (RCF) strategies of

four different first languages (Arabic, Persian, Chinese, and Japanese) with the major restrictive RCF strategies of L2 ENG. According to her CA predictions, Chinese and Japanese learners would have most difficulties in producing ENG relative clauses. This was based on the finding that relative clauses in Chinese and Japanese are very different from ENG relative clauses, whereas RCFs in Arabic and Persian are relatively similar to those in ENG.

However, contrary to the CA-based predictions, Schachter found that Japanese and Chinese learners produced fewer relative clause errors than predicted. What she also found was that those learners produced very few relative clauses at all, which indicated that they were avoiding using these structures and that they only produced them when they were relatively sure that they would be correct. They were using the **Avoidance** strategy. This explains why they committed fewer errors than was predicted by CA.

The fact that the avoidance behaviour of learners correlated significantly with CA-based predictions of difficulty implies that, in addition to predicting potential cases of error, CA has the advantage of predicting the 'avoidance' strategy on part of the second language learner. EA, on the other hand, has no apparatus to handle this phenomenon: 'if the learner does not produce the constructions he finds difficult, then no amount of error analysis is going to explain why' (Schachter, 1974:212).



In fact, Schachter's ideas on 'avoidance' were not original. Levenston (1971) had used the term **Underrepresentation** to refer to the avoidance behaviour of second language learners. As a result of his operation of an avoidance strategy, the learner will 'underrepresent' i.e. does not use the L2 structures which he/she finds difficult i.e. those L2 structures that contrast with L1. Conversely, he/she will 'overindulge' i.e. overproduce structures which he/she finds easy by virtue of their being similar to his/her NL.

One way of avoiding a difficult structure is by means of 'paraphrase'. For example, Schachter's subjects used a kind of coordination instead of the desired subordination: in place of 'we put them into boxes which we call rice boxes', they produced the semi-grammatical structure: 'we put them into boxes we call them rice boxes'. To use Levenston's (1971) terminology, it can be said that Chinese and Japanese learners 'overindulged' the second co-ordinating structure, while 'underrepresenting' the first.

The third criticism against CA is that its predictions of students' errors are not reliable (Baird, 1967; Lee, 1968). It is argued that when learners' L1 has two alternative substitutions for one and the same item in the L2, it is unlikely that CA would be able to predict which of the two items would be used by the learner.

This criticism represents another case of the

exaggeration of the claims made on behalf of CA. CA has never claimed 100% predictability of which 'choices' speakers will make. It might be that these choices are sometimes determined by socio-cultural conventions; we should therefore not expect a linguistically based CA to be able to make accurate predictions in such circumstances (James, 1971).

A fourth argument which has been raised against CA is related to its pedagogical applicability. There have been doubts on the usefulness of contrastive studies in the classroom. More precisely, it has been argued that the results of CA have no immediate use in the classroom

This argument is an ill conceived one since nobody wants to use the immediate findings of CA for classroom consumption:

" to use the results of contrastive analysis 'raw' in the classroom is rather like presenting a customer in a restaurant with the ingredients and a recipe."

(Sanders, 1976: 69)

When used in the classroom, CA forms a useful technique, employing the previous knowledge of the learner, informing him about the similarities and differences between his NL and the FL he is studying, helping him to decide on which L1 structures he/she can safely transfer to the L2, also warning him against making false analogies and about potential areas of interference (Marton, 1979). However, while CA can influence the

selection and grading of teaching items, it must be emphasised that it is not the only criterion to be considered in designing the teaching syllabus. Contrastive linguistics can offer no more than a partial contribution to the planning of FL teaching. In order to meet pedagogical requirements, the results of CA might be profitably supplemented by the results of error-based analyses (on this point, see Duskova, 1969).

It has also been argued that basing teaching materials on CA may result in the learner's being presented with only one part of the target language. This partial exposure to the target language may be harmful to the process of learning which involves the TL as a whole (see for e.g. Lee, 1972).

This argument contains another misunderstanding of the pedagogical implications of CA. Using CA in the construction of teaching syllabuses does not imply that one is limited to the presentation of the items which constitute learning problems. On the contrary, as James (1980: 152) remarks: '...those structures that match L1 structures must constitute part of the materials, since materials do not only teach what is 'new' and unknown, but provide confirmation of interlingual identities'. In fact, most contrastivists recognise the fact that restricting teaching materials to problematic areas would lead to the learner gaining a distorted view of the TL (see for e.g. Nickel, 1971: 9). Nevertheless, it is reasonable to expect differences between the L1 and FL to receive more



emphasis, especially in terms of more intensive drilling and exercise.

Pertinent to the assumption that both differences and similarities must be taught to second language learners is Chomsky's (1981d: 8-9) distinction between 'positive' and 'negative' evidence. Chomsky (ibid) argues that the relevant evidence which constitutes children's linguistic experience may be either 'positive' or 'negative'.

The set of sentences or even just ONE sentence illustrating a particular linguistic structure, which the learner hears constitutes for him positive evidence that this structure is possible for the language he is learning. 'Negative evidence' is of two kinds: 'direct' and 'indirect'. 'Direct negative evidence' comprises the correction of the child's error by the speech community around him. 'Indirect negative evidence' results if the learner never hears or reads any example of a particular phenomenon. For Chomsky (op.cit), 'indirect negative evidence' is more relevant to acquisition than 'direct negative evidence'. On the basis of 'indirect negative evidence' the learner can infer that a particular phenomenon is not possible in the language he is attempting to learn.

The 'positive' vs. 'negative' evidence dichotomy as discussed above suggests that if we eliminate isomorphic structures from the teaching syllabus, then there will be no chance that a FL learner will obtain the necessary

'positive' evidence for learning these structures. As a result, he will develop a partial knowledge of the target language.

#### **2.3.8. Reappraisal of CA**

What emerges from the above discussion on the validity of CA can be summarised as follows: CA formed a hypothesis and like all hypotheses, it was open to criticism. Nonetheless, despite a great deal of criticism, the CAH has not been refuted conclusively. Interest in CA has not faded in the past few years, as Selinker has recently admitted:

"... no matter how hard some of us have tried, we have never been able to leave the contrastive perspective, nor can we."

(Selinker, 1990: 137)

A perusal of the literature on FLL in the late 1970s and early 1980s reveals that there has been a revival of confidence in CA. A number of factors have contributed to give 'a kiss of life' to CA. In what follows, I shall be summarising some of these factors.

##### **2.3.8.a. The Empirical Evidence**

For one thing, the evidence of interference errors in both child and adult L2/FL performance is so plentiful that it cannot be ignored. A review of the published literature reveals that there have been scores of instances where predictions of CA have been borne out by empirical research. Selinker (1969), for example, found

that there were definite transfer effects of the native Hebrew on Hebrew-English IL word- order. Dušková (1969) likewise found obvious cases of interference from the mother tongue in the performance of her Czech learners of ENG. Interference from Czech was plainly obvious in word-order, sentence- construction, and the uses of the articles. The present study provides further evidence of NL transfer at the syntactic level. As will be shown in chapter VII, the EA of Syrian learners' MSA-ENG IL reveals interesting instances of their NL influence in their uses of ENG noun phrases. Even the opponents of CA have been unable to deny the fact that a proportion of L2/FL 'goofs' (errors) do reflect the L1 structures (see for example, Richards, 1971; Dulay et al., 1982; George, 1972).

However, what remains controversial is the exact percentage of transfer errors in relation to other errors. Different percentages have been proposed by different researchers. For example, Dulay et al. (op.cit.) claimed that only 3% of the total errors could be attributed to NL transfer; George (1972) reported a percentage of 33%, Grauberg (1971) reported 36% and Lott (1983) had a percentage of 50%. Perhaps, what might have contributed to this asymmetry in the percentages obtained is the lack of a well-defined criterion for establishing which error is the result of NL transfer and which is not. This problem becomes more serious when the same error is made by L1 and FL learners.



#### **2.3.8.b. The Positive Role of the L1**

The second reason in the renewed confidence in CA is the fact that the potential for +TR from the mother tongue has recently been given more attention by scholars like Ringbom (1987). Evidence for the positive influence of learning a related language came in the form of increased comprehension in the early stages of learning. Ringbom (ibid) found that Swedish Finns learning ENG (a language cognate with their Swedish NL) did better in both listening and reading comprehension tests than Finns whose Finnish NL is a language distant from ENG (Ringbom, 1987: 81). The perception of similarities between their NL and ENG has encouraged Swedish learners to transfer their NL rules into ENG and thus produce fewer comprehension errors. One of the conclusions which can be drawn from Ringbom's study is, therefore, that NL transfer plays a definite role in both the production and reception of a FL.

#### **2.3.8.c. NL Transfer & UG**

Another factor which has helped to revitalise CA is based on Chomsky's theory of Universal Grammar (UG). According to Chomsky (1981d), the linguistic features which constitute UG comprise a restricted system of Principles and Parameters. The 'principles' are 'invariant linguistic features' (e.g. the Projection Principle), whereas 'parameters' are those properties of grammar which have varying realisations in particular core grammars'

(Kean, 1986: 80). Parameters include the Head-Parameter which determines the distribution of the head constituent in relation to other elements within the phrase (on this, see Cook, 1988, White, 1989, among others). A parameter can have more than one value, for example, the Head-Parameter has two values: the head-first value (e.g. in English) and the head-last value (as in Japanese).

Within this theory, acquiring a language consists of, among other things, setting the parameters of UG appropriately, as Chomsky explicitly puts it: 'The transition from the initial state S1 to the steady state S2 is a matter of setting the switches' (1986a: 146). The child comes to the learning task with several parameters to fix, he utilises the 'evidence' or input data he receives from his environment in fixing the parameters by selecting the appropriate option. For example, a learner of ENG has to set the Head-Parameter to 'head-first' value, whereas a speaker of Japanese has to set it to 'head-last' value.

One of the implications that Chomsky's theory of parameters has had for second language learning is that it has provided a subtle and persuasive reconsideration of NL transfer as an important factor in L2/FL learning. This theory allows NL knowledge to be accommodated within a theory of L2 learning. For example, in her account of language transfer, White (1989) argues that the learner's initial hypothesis about the L2 data is that the L1 parameter setting/value applies to it. The learner uses

the L1 parameter value as a way of organising the L2 data, resulting in transfer effects in the interlanguage grammar. White (op.cit.) also suggests that resetting to the appropriate L2 value is eventually possible on the basis of L2 input interacting with UG.

In a study conducted by White (1986a), she found that Spanish learners of English actually transferred their L1 value of the Pro-Drop Parameter (which specifies that Spanish allows subject pronouns to be omitted, whereas English always requires lexical subjects) into English, and in some cases they reset their L1 value of this parameter to the L2 value. Evidence of transfer came from the acceptance and use of null subjects by native speakers of Spanish learning ENG. However, while White's empirical findings might not be particularly powerful evidence for the parameter-setting model in second language learning, her results constitute compelling evidence for the operation of NL transfer in L2/FL learning.

#### **2.3.8.d. Various Effects of the L1**

The finding that the effects of the L1 operate in ways other than through transfer has also contributed to the successful resurgence of interest in L1. As was already discussed in section (2.3.7, pp. 32-34) above, the L1 may have a constraining role in FL production. The perception of differences between the L1 and L2 by learners may effectively prevent them from transferring their L1 structures into the new language. Instead, they may



'avoid' using structures which are exotic to their L1 resulting in what Schachter (1974) calls 'avoidance' behaviour. A third example of L1 influence is Borrowing. Borrowing is a term used to refer to the temporary or permanent use of a linguistic item from one language in the performance of another (Corder, 1983: 92). Borrowing occurs mainly in the domain of lexis and is most common in situations where the L1 is formally related to the L2. An example of 'borrowing' is the use of the word 'pigg' instead of 'refreshed' by Swedish learners of English in: 'I'm usually very pigg after the diet' (cited by Ringbom, 1987: 117).

From what has been said so far of the different effects of L1 on the learning of a FL, it becomes apparent that in using the term 'transfer' to refer to mother tongue influence, one runs the risk of assigning too limited a role to the L1. To give the L1 its due credit, a number of researchers like Kellerman & Sharwood-Smith (1986) and Odlin (1989) have used the term Cross Linguistic Influence (CLI) as a blanket term which covers all aspects of L1 influence including 'transfer', 'avoidance' and 'borrowing'.

The general conclusion that can be drawn from the above observations is one which supports the CAH. CA predictions, both positive and negative, have been more or less confirmed by empirical research and a more positive look has been given to the role of L1 in L2/FL learning.

This positive attitude towards NL transfer in FLL has been highlighted by the fact that 'the researchers' interest has shifted in recent years from questions concerned with the existence or non-existence of NL transfer over to the study of the conditions under which the occurrence of transfer is enhanced' (Sajavaara, 1986: 68). It has been argued that there are a number of variables which influence the extent to which a given L1 can influence the learning of a L2. In the next section, I shall summarise some of these factors.

#### 2.3.9. Conditions on CLI

One factor influencing the degree of CLI or what Ringbom (1987) calls the 'transfer load', is related to the perceived distance between the L1 and FL. Previously, it was thought that the bigger the differences between the L1 and L2, the more likely that FL learners will utilise their L1 knowledge in acquiring a second language. Current views on this matter, however, point to the opposite. Kellerman (1977) argues that second language learners are guided by their perception of the cognateness of the L1 and L2, i.e. by their **psychotypology**. Language transfer is more likely to occur when the two languages share a certain degree of similarity. Wode (1978) refers to this degree of similarity as the **crucial similarity measure** (Wode, 1978: 116), which means that for a L1 rule to be utilised, it must differ from a L2 rule in minimal ways. Zobl (1984) also emphasised the need for 'relative

similarity' between items for transfer to occur. By the same token, transfer is less likely to occur when the structures of the L1 and L2 are so different (Lee, 1968). As Kellerman (1983) explains, the lack of available correspondence between the two languages would, in the initial stages at least, act as a bar to transfer, since the learner is unable to make the necessary cross-lingual tie-ups (Kellerman, 1983: 114).

Another variable relates to the effects of linguistic universals in IL development. It is claimed that the degree of CLI can also be affected by the learner's perception of the nature of his L1 structures, more specifically, by their degree of 'markedness'. In this respect, Zobl (1986) argues that L1 transfer is weaker in 'peripheral' rules i.e. rules which are language specific (for a discussion of 'peripheral' vs. 'core' rules, see originally Chomsky, 1981d). Structures which are 'marked', i.e. language specific and exceptional in some ways, have less chance of being transferred than 'language-neutral' structures, i.e. structures which are regular and not language specific. The idea is that FL learners are still sensitive to marked properties of their L1s and will not consider them transferable to the FL (see for example, Kellerman, 1983, Zobl, 1986, and Liceras, 1986). For example, Zobl (op.cit.) found that whereas the ENG unmarked word-order (subject+verb+object) is transferred to the L2 French of ENG learners, the French marked (subject+pronoun object+verb) construction will not be



transferred to the L2 English of French learners. Thus, we will attest errors such as: '\* le chien a mange les', but not '\* I him like'.

Liceras (op.cit.) likewise claims that L2 learners have intuitions about marked structures in the L1 and are able to detect if the L2 does not have these marked structures. However, her empirical study only partially supported her claims. Liceras tested the the role of markedness in transfer with reference to native speakers of ENG learning Spanish. She found that, contrary to her expectations, 43% of the beginner learners did in fact transfer their marked L1 structures which involved preposition stranding into Spanish. Nonetheless, her finding that only 4% of the intermediate learners and 3% of the advanced group allowed preposition stranding, supports her claim that marked L1 structures are not persistent.

Another variable which contributes to CLI is the learner's stage of learning. It is argued that NL transfer is greater in the early stages of FLL than in the later stages (see Seliger, 1978; Krashen, 1981a; Ringbom, 1987 among others). In other words, beginner FL learners rely more extensively on their mother tongue than advanced learners. One possible explanation of the claim that NL transfer decreases as the learner's proficiency in the FL increases is that the beginner learner has not yet acquired adequate knowledge of the FL rules and has very

little else to rely on than his L1. Advanced learners, on the other hand, have longer exposure to the target language, therefore, they will have acquired sufficient L2 knowledge to meet their communicative needs in this language.

It is also argued that CLI is stronger in unnaturalistic L2 learning such as that in the classroom than in naturalistic situations in which the target language is used for communication. This is because in a naturalistic setting, the learner has more intensive contacts with the target language than in the classroom which constitutes a limited L2 environment (on this point see Ervin Tripp, 1974; Martin, 1980). The claim that formal environments increase learners' reliance on their L1 has not been proven yet.

Finally, it is claimed that the extent to which FL/L2 learners rely on their L1 is sometimes determined by the type of elicitation task being carried out. The general assumption is that Translation tasks artificially increase the learner's reliance on his/her L1 (see for example, Dulay et al., 1982; Ringbom, 1987). The claim that there are task-related effects on 'transfer' use by FL learners has yet to be proved by empirical research.

There are thus numerous conditions which determine the extent of CLI on FLL. It must be noted, however, that conclusions as to the role of these variables in the context of CLI are very speculative in nature and need empirical verification. A great deal of research is still

needed before we are able to fit the influence of these factors into a general theoretical framework.

However, what all these attempts to specify the variables that help to determine when NL transfer occurs show is that NL transfer is a living phenomenon, as Kohn (1986) rightly observes: '... despite its sometimes irritatingly elusive character, transfer is one of the major factors shaping the learner's interlanguage competence and performance' (1986: 21). And as long as native language transfer plays a role in the formation of learner language, then CA remains indispensable in the spheres of FLL and teaching.

It is my aim in this thesis to verify the CAH in relation to Syrians' learning of the ENG noun phrase. I predict that (i) Syrian learners will positively transfer their isomorphic MSA nominal structures into ENG thus producing correct ENG noun phrases, and (ii) they will negatively transfer their anisomorphic L1 nominal structures and as a result, they will produce erroneous non-target-like structures. I shall refer to this hypothesis as **Hypothesis One**.

In addition to the CAH, I shall also examine the validity of the claim that advanced FL learners utilise +TR and suppress -TR more than less advanced learners. I shall therefore claim that, in the present study, Syrian fourth year students of ENG will produce more target-like structures than first year students.



Having discussed the various aspects of CA, I shall now turn my attention to the second approach in the discussion of second language learner's difficulties, namely, EA. EA was proposed as a better alternative to CA in accounting for foreign language learning difficulties. However, as will be argued below, CA and EA are complementary rather than mutually exclusive. This means that when applied, both are indispensable in the account of learner language. In this study, I use EA as a means to verify my CA predictions and to identify other, non-contrastive errors.

## **2.4. ERROR ANALYSIS (EA)**

### **2.4.1. Definition**

Error analysis is a technique for identifying, classifying, and systematically interpreting the deviant forms produced by FL learners.

A distinction is made between two types of deviant structures, viz. **unacceptable** vs. **ungrammatical** structures. The distinction between the terms 'acceptability' and 'grammaticalness' was first drawn by Chomsky (1957) who observes that grammaticalness is only one of the many factors that interact to determine acceptability. The term 'unacceptable' is used as a cover term to refer to a sentence which is linguistically and/or pragmatically odd, whereas the term 'ungrammatical' refers to a sentence which is linguistically ill-formed. This means that an unacceptable sentence need not be

ungrammatical: a sentence might be fully grammatical yet unacceptable for semantic or pragmatic reasons. The following is a concrete example of a grammatical yet unacceptable sentence, which was originally cited by Chomsky (1957: 15):

- Colourless green ideas sleep furiously.

#### **2.4.2. The Role of Errors in FLL**

The errors that learners make when learning a FL have always been a primary concern to the teacher and textbook writer alike. This concern is reflected not only in the way writers of pedagogical grammars draw attention to the potential 'pitfalls' in the target language (e.g. Swan, 1980), but also in the extensive lists of 'common errors' prepared by researchers (e.g. French, 1949).

There have been two contradictory views on the role of errors with respect to LL. In behaviourist learning theory, errors were undesirable. They were indications of non-learning rather than wrong learning and should be eradicated as Brooks (1960) complained: 'Like sin, error is to be avoided and its influence overcome'.

However, with the advent of generative linguistics in the sixties, behaviourists' views on language learning were rejected. Within the new approach, making errors is an important inevitable part of learning ' (Corder, 1967: 11); 'people cannot learn language without first systematically committing errors' (Dulay et al., 1982: 138). Making errors is considered as a sign of using a

strategy, evidence of the learner's internal processes.

### 2.4.3. What is an Error?

Most researchers agree that an error is a linguistic form which deviates from some selected norm of mature L1 performance. This definition of error is by no means uncontroversial, for two reasons. First, there is no fixed rule as to what the norm referred to in identifying errors should be (Ringbom, 1987: 71).

A norm may vary a great deal. In the area of grammar, for instance, the norm may be any one of the varieties of the language the speaker uses (e.g. the written vs. the spoken language; formal vs. informal, etc.). An utterance may be well-formed with respect to one norm, ill-formed in terms of another. For example, Lennon (1991) observes that colloquial speech allows many forms of syntactic anomalies such as the omission of grammatical morphemes, which would be considered erroneous in formal written production.

Lennon (op.cit.) also identifies a second major problem in unambiguously defining error. This problem is related to the fact that even within the same code, considerable variation is to be found among native speakers with regard to error identification. Lennon (op.cit.) cites fourteen cases of 'doubtful' errors where the members of a panel of six native speakers of ENG were divided three against three (see Lennon, 1991: appendix, for a detailed discussion).



#### 2.4.4. Errors vs. Mistakes

A distinction is made between two types of error: **Performance vs. Competence** errors (see originally Chomsky, 1957). Performance errors are non systematic and are caused by factors such as fatigue and memory limitation, whereas competence errors are systematic and result from a lack of knowledge of the rules of the language.

Corder (1967: 167) used the term 'mistakes' to refer to performance errors while reserved the term 'error' to refer to 'systematic deviations that learners make while developing knowledge of the L2 rule system'. For Corder (ibid), errors are more significant than mistakes because they provide evidence of the learner's underlying knowledge of the language to date, whereas mistakes are the product of mere chance circumstances.

However, it is not always easy to distinguish mistakes of performance from errors. The problem of determining what a learner's error and what a learner's mistake is is difficult especially in the learner's absence.

Corder's definition of errors and mistakes entails that errors characterise FL learners' performance, whereas fully competent native language speakers make mistakes, never errors.

Another type of errors is **lapse** which can be committed by any one at any time due to factors such as lack of concentration, shortness of memory and the like (Norrish, 1983: 8). A classic example of a lapse on the part of a native speaker is the accidental transposition of sounds

as in the following Spoonerisms:

- I saw you fight a liar in the back quad; in fact, you have tasted the whole worm.
- He missed a kiss.

#### 2.4.5. Goals of EA

EA like CA has both 'applied' and 'theoretical' goals (Corder, 1971). First, EA has important implications for designing pedagogical materials. The two major assumptions held by error analysts as outlined in Schachter (1974) are firstly, EA will reveal to the investigator just what difficulties learners in fact have. These difficulties will show up as errors in production. Secondly, the frequency of occurrence of specific errors will provide evidence of their relative difficulty.

Thus, by identifying the areas of difficulty for the learner, EA indicates to language teachers and course designers which areas of the TL students have most difficulty producing correctly. It also informs the teacher how far the learner has progressed in the learning process and what remains to be learnt (Corder, 1967: 167). The information yielded by EA can help in (i), determining the sequence of presentation of the teaching materials, with the difficult items following the easier ones, and (ii), devising remedial lessons and exercises.

Nonetheless, it has been shown that the lower frequency of an error does not necessarily mean that the point in question is less difficult (see Duskova, 1969;

Kleinmann, 1977). Instead of producing erroneous responses, the learner may try to 'avoid' using the structures which he finds difficult (on 'avoidance' behaviour of learners, see section 2.3.7 above). As a result, he/she produces fewer errors than expected. Since EA cannot cater for the 'avoidance' behaviour of learners while CA can, it follows that EA cannot account for all learners' difficulties. Therefore, in order to meet its pedagogical aims, the results of EA must be complemented by those of CA.

In addition to correcting and eradicating learners' errors, EA can also contribute to the formation of an explanatory theory of the learner's performance in the new language. The study of the systematic errors that FL learners make provides data from which inferences about the nature of the learning process can be made. By identifying the sources of errors, we gain valuable insights into the strategies learners employ to simplify the learning task.

#### **2.4.6. Error Types**

There are a number of taxonomies according to which errors can be classified. We thus distinguish between descriptive vs. explanatory error taxonomies. A descriptive error taxonomy classifies errors on the basis of some observable characteristics without reference to their underlying causes or sources. On the other hand, an explanatory error taxonomy classifies errors on the basis



of the sources which give rise to errors. In my discussion of the DP errors in this study, I shall refer both to their surface-characteristics and to their sources (see chapter VIII).

Within a descriptive error taxonomy, one way of classifying errors is with reference to the ways surface-structure elements are altered. Dulay et al. (1982) note that surface elements of language are altered in specific ways. The main error types that a surface strategy taxonomy yields include:

a) **Omission errors:** these result from the absence of an item that must appear in a well-formed utterance. An example is the wrong omission of the indefinite article from the underlined noun phrase in the following sentence:

(1). He lives in [\* big house]

b) **Addition errors:** addition errors are characterised by the presence of an item which must not appear in a well-formed sentence. An example is the redundant insertion of the definite article after the demonstrative in the underlined nominal phrase in the following sentence:

(2). [\* This the car] is a brand new one

c) **Misformation errors** which result from the use of the wrong form of the morpheme or structure. An example is the wrong use of the singular form of the demonstrative before a plural head noun as in the following example:

(3) . \* That girls are my friends

However, the reliance on obvious observable deviations in the learner's productive use of the target language is not always a reliable procedure. An utterance may look superficially perfectly acceptable, but still contain a number of errors. In this connection, Corder (1973) makes a distinction between 'covert' vs. 'overt' errors (1973: 272). Those structures that are specifically deviant are considered by Corder as **overtly erroneous**. On the other hand, utterances which are superficially well-formed but which do not convey the meaning that the learner intended to convey are **covertly erroneous** (e.g. 'I want to know the English' in the sense of 'I want to learn English'). Thus, before a decision is made as to whether a given utterance is erroneous or not, we must consider the situational context in which this utterance has been produced.

Errors can also be categorised on the basis of the underlying processes responsible for the formation of errors. Two main categories are distinguished here: **interlingual vs. non-interlingual errors**.

Interlingual errors are errors which result when the second language learner transfers his/her different NL structures into the new language resulting in errors that reflect the L1 structures. These errors are also referred to as 'interference' or 'transfer' errors (see for example, Dušková, 1969). Some researchers, however, make a terminological distinction between the term 'interlingual'

on the one hand and the terms 'transfer' and 'interference' on the other. For example, Dulay et al. (1982: 102) use the term 'interlingual' as a descriptive term to refer to an observable characteristic of the learner's performance, and use the terms 'interference' and 'transfer' as explanatory terms to refer to underlying process responsible for the error.

To cite a concrete example, the following construction is an example of interference errors produced by a number of Syrian learners in the use of the word-order of possessive DPs:

- (7). Yesterday, I went with some friends to  
[\* house Talal] for a visit

Non-interlingual errors are errors which are not caused by a transfer of an L1 pattern into an FL construction. Richards (1974a) makes a distinction between two types of non-interlingual errors viz., **developmental** vs. **intralingual** errors.

Developmental errors are 'the result of a normal pattern of development, and which is common among language learners' (Richards et al., 1985: 78). Examples of developmental errors are **Overgeneralisation** errors. Overgeneralisation covers instances where the learner creates a deviant structure on the basis of his/her experience of other structures in the target language (Richards, 1974a: 174). The addition of the plural ending -s to childs, foots, informations represents an instance



of overgeneralisation errors which learner create on the pattern boys, cars, trees. Overgeneralisation errors are common among both L1 and L2 learners.

In actual fact, both transfer errors and overgeneralisation errors can be subsumed under the category of 'transfer' errors. Both types of error result from one and the same underlying process viz., the transfer of previous knowledge into new learning situations. The only difference between the two being that, in the case of overgeneralisation, transfer occurs from and into the same language viz., the TL, whereas in the case of transfer errors, transfer is from one language to another i.e. from the learner's NL into the TL (on this point, see Taylor, 1975).

Intralingual errors, on the other hand, are '.... those which reflect the general characteristics of rule learning, such as faulty generalisation, incomplete application of rules, and failure to learn conditions under which rules apply' (Richards, 1974a: 98).

The classification of errors into three discrete categories viz. interlingual, developmental and intralingual is not very satisfactory, however. For one thing, since the concept of 'overgeneralisation' plays a significant role in the identification of both developmental and intralingual errors, it follows that when one uses the terms developmental as well as intralingual as two distinct error categories, there is a great overlap. Also, the distinction between what

constitutes an interlingual error and what constitutes a developmental one is not always straightforward, since there are a number of ambiguous errors which can be classified equally well as developmental and interlingual. Such errors reflect the learner's NL structure, and at the same time are of the type found in the speech of children acquiring their L1. To cite a concrete example, the omission of the indefinite article before nouns defined by adjectives as in:

(6) She is [\* beautiful dancer]

has been classified as an interlingual error in the present study, because it reflects the learner's MSA equivalent pattern, whereas Richards (1974b: 187) classified this error as a developmental one.

A further problem which relates to the classification of errors on the basis of their origin stems from the fact that language learning is a process which involves both internal and external factors. However, by assigning a single source to each error the analyst fails to reflect this interaction. There is no single source of errors. Many of the deviant forms produced by learners can be accounted for in terms of one or more processes (see the example in (6) above).

However, that not all errors are the result of internal cognitive processes like 'transfer' and 'overgeneralisation'. Errors may sometimes result from

some factors external to the language learner, such as the teaching methods to which he/she is subjected. Stenson (1975) uses the term Induced errors to refer to errors committed in this way. Selinker (1972) uses the term 'transfer of training' to account for a similar phenomenon. For examples of 'transfer of training' errors, the reader is referred to Chapter VIII of this thesis.

#### **2.4.7. EA: the Methodology**

There are various stages involved in the analysis of errors in a given corpus. These steps are interrelated, for while each step accounts for one aspect of the errors in any sample of data, the applied linguist needs them all to fully and comprehensively account for the errors he/she identifies in a given corpus. There are five such steps:

- a) Selection** of the corpus of language to be analysed. This involves deciding on, among other things, the medium to be sampled, e.g. spoken vs. written data, spontaneous vs. guided performance, etc.
- b) Identification** of errors within the selected corpus. As was pointed out in section (2.4.4) above, there are two types of deviance: 'errors' and 'mistakes'. Analysis will be restricted to deviances which are the result of lack of competence, viz. errors, rather than deviances which are the result of processing limitations viz., mistakes.
- c) Classification** of errors. This is carried out by assigning a grammatical description to each error in order to determine the type or category of the error made.



Description of errors requires the analyst to state what went wrong and which grammatical rule has been broken. The learner's erroneous responses are judged against the TL norms, which enables the investigator to see in what way the learner's stretches of language are different from those in the target language. Thus, we have syntactic vs. semantic errors, omission vs. addition errors, etc.

**d) Explanation of errors.** Whereas description of errors is mainly a linguistic procedure, explanation is a psychological one. This is not to deny, however, that the two phases are closely related to each other. In fact, description of errors is a preliminary step to their explanation for the simple reason that we cannot possibly explain an error before it has been described linguistically. In this stage of the procedure, an attempt is made to identify the psycholinguistic causes of a given error. For a discussion of the major sources of errors, the reader is referred to section (2.4.6) above.

**e) Evaluation of errors.** The final stage in the overall operation of EA is usually done for purely pedagogical purposes. It involves the assessment of error gravity (EG), the degree of seriousness of each error. Information about relative EG will affect the investigator's decision as to which errors demand immediate attention, and which do not.

A number of competing criteria for EG have been identified in the literature, some are linguistic, others are communication based (see James, 1983 for a full

discussion). To cite an example of linguistic related criterion of EG, it is assumed that Global errors are more serious than Local ones. Burt & Kiparsky (1974: 73) define global errors as 'those that violate rules involving the overall structure of a sentence...', whereas local errors are those which '...cause trouble in a particular constituent, or in a clause of a complex sentence'. In a local error, it is often easy to identify the problem area, whereas in a global one, there is no simple way in which one can indicate the nature of the error, because distortion involves the whole sentence. The following sentences are respective examples of 'local' vs. 'global' errors cited in James (1983):

(7) \* Why does he likes Haydn ?

(8) \* English language speak many people

Not all researchers give adequate attention to all the steps involved in the analysis of errors as described above. For example, both Corder's (1974) and Faerch et al.'s (1984) descriptions of these steps consisted of three stages only, namely, recognition, description, and explanation. However, considering the ultimate pedagogic goal of EA, it can be said that both Corder's and Faerch's descriptions are not exhaustive. There is a final stage missing in their descriptions, namely, assessing the degree of seriousness of the error in terms of communication, norm, etc. in order to be taken into

account in language teaching. Dušková (1969) included this stage in her methodology.

#### 2.4.8. Shortcomings of EA

Despite its valuable contributions to a better understanding of the phenomenon of language learning, EA has suffered from a number of weaknesses which have impeded its potential contributions to the field. The role of EA in language learning is open to criticism on a number of counts.

First, EA is one-sided, i.e. it fails to give a complete picture of the acquisition process. Part of its failure is due to the fact that EA focuses only on idiosyncratic non-target forms. A full account of the IL phenomenon requires the identification of what the learner can do in toto by examining both idiosyncratic and non idiosyncratic i.e. well-formed forms. EA is primarily concerned with what the learner cannot do and neglects what the learner can do. Another consequence of this one-sidedness of EA is that it 'entails the risk of giving a distorted picture of the role of the L1 influence' (Ringbom, 1987: 69). L1 transfer does not manifest itself exclusively in errors. There are other aspects that EA fails to explain such as the 'avoidance' phenomenon and +TR effects.

EA can be shown to be one-sided even with regard to its treatment of learners' erroneous forms. EA lacks the rigorous descriptive criteria which can account for all



types of learners' errors. Pertinent to this issue is Lennon's (1991) distinction between **Full Blown** errors and **Infelicitous** errors. Infelicitous errors are forms which are neither native-like nor completely erroneous. These errors are not fully erroneous, because they are grammatically acceptable; on the other hand, they are not native-like, because meaning is communicated but with some loss of precision. The following sentence is an example of infelicitous errors:

- (9) There is a dam wall which should protect the village from flood

(cited by Lennon, 1991: 188)

Lennon (ibid) found that those native ENG speakers who found the sentence unacceptable, were unable to specify exactly what was wrong with it. This implies that the unacceptability of a given form cannot always be attributed to a particular linguistic element. Lennon remarks that it is the cumulative effect of the various elements in the above sentence that produced the sense of disquiet on part of the English speakers (see the local/global error distinction above).

In sum, if EA is to be properly conducted, it must not only consider the grammaticality of learners' utterances, but also assess them in terms of their success or otherwise in mobilising the resources of the TL to communicate. Only then will error analysts be able to distinguish 'full blown' errors from borderline cases.

The response to these shortcomings in EA gave rise to a new, and supposedly less flawed approach, namely Interlanguage Study, to which I now turn my attention.

## 2.5. INTERLANGUAGE STUDIES (ILST)

### 2.5.1. Definition

The term Interlanguage (IL) was first coined by Selinker (1972) in his paper entitled Interlanguage to refer to '...a separate linguistic system based on the observable output which results from a learner's attempted production of a TL norm' (Selinker, 1972: 214).

In his paper, Selinker emphasised the cognitive dimension of second/foreign language learning and argued that, in his attempt to master the target language, the language learner develops an independent language system (i.e. Interlanguage), which is different from both the L1 and the L2.

Selinker (op.cit.) identified five central cognitive processes which are responsible for IL. These are : NL Transfer, Overgeneralisation of TL rules, Transfer of Training, Strategies of L2 Learning, and Strategies of L2 Communication.

Selinker's above characterisation of second language learning processes into five distinct strategies lacks precision. This is explained on the grounds that what he proposes as distinct sources of error turns out to be subsets of each other. For example, it is acknowledged

that 'overgeneralisation' is one of the strategies which both L1 and L2 learners use in learning their L1/L2. Thus, when Selinker uses 'overgeneralisation' as well as 'strategies of L2 learning' as distinct error categories, there is indeed a great degree of overlap.

In section (2.3.4.2) above, I provided examples of learning and communication strategies, whereas in section (2.4.6) of this chapter, I gave examples of 'overgeneralisation' and 'transfer' errors. For examples of 'transfer of training' errors, the reader is referred to Chapter VIII of this thesis.

Selinker's paper was seminal. It provided the theoretical framework for interpreting second language learning as a cognitive process and for the empirical research into the sequence of development of L2/FL leaning.

Different terms were used by different authors to refer to one and the same phenomenon. For example, Nemser (1971a: 116) used the term Approximative Systems to refer to the 'deviant linguistic system actually employed by the learner attempting to utilise the target language'. The term 'approximative systems' was also adopted by Richards (1974). Corder (1971: 148) used the term Idiosyncratic Dialects to indicate the uniqueness of the language of the second language learner. Dulay et al. (1982: 54) used the term Transitional Constructions to refer to the 'interim structures learners regularly use during the acquisition of a particular target language structure'.



Each of the above terms draws attention to a particular aspect of the phenomenon. By focussing on the term 'language', the terms 'interlanguage' explicitly recognises the rule-governed systematic nature of the learner's performance. It also captures the intermediate nature of the learner's system between his NL and the TL. The terms 'approximative systems' and 'idiosyncratic dialects', on the other hand, stress the goal oriented development of the learner's language towards the TL. Finally, the term 'transitional constructions' emphasises the unstable nature of this language.

Of the four terms, the term 'interlanguage' is the best established in the current literature on the subject mainly because of its neutrality as to the directionality of attitude. Other terms like 'approximative systems' and 'transitional constructions' imply a TL-centred perspective.

### 2.5.2. Why Study IL ?

For Selinker (1972: 210), the study of IL will ultimately lead to an understanding of the psycholinguistic structures and processes underlying FLL. He argues that inferences about the underlying learning processes should be primarily concerned with the set of utterances which the language learner actually produces when attempting to use the TL. A better understanding of the learner's innate strategies would in turn lead to better decisions about language teaching.

Research in which the point of departure is an analysis of IL is referred to as Interlanguage Studies (ILST). Early ILST were closely associated with EA which served as one of the main devices for examining the processes of IL (e.g., Dulay & Burt, 1973/1974b; Bailey et al., 1974). EA later gave way to more comprehensive descriptions of both erroneous and non-erroneous aspects of IL performance. IL research has indicated that learner language is a linguistic system which has a number of important characteristics. These will be discussed in the next section.

### **2.5.3. Characteristics of IL**

The learner's language has many properties which can be summarised as follows:

a) **Systematic:** the learner's language is systematic. It is a language which has a grammar and is describable in terms of a set of rules (Corder, 1971: 147). The IL grammar is a unique system which is internally structured and distinct from the L1 and the L2 (Nemser, 1971a: 119). IL is not to be seen as a distorted or amputated variant of a NL, but as a linguistic system in its own right (Adjemian, 1976: 297).

One of the main differences between IL and NLs is that, unlike NLs, the rules which form the learner's language are 'fossilizable'. Selinker (1972: 215) defines 'fossilizable' linguistic phenomena as: 'linguistic items, rules, and subsystems which speakers of a particular NL

will tend to keep in their IL relative to a particular target language'.

Fossilization occurs once learners have obtained sufficient L2 knowledge to meet their communicative needs. It characterises second language learners not L1 learners. The fossilisation of some target rules prevents native-speaker competence being achieved by most second language learners.

Fossilized structures can be realised as errors or as correct target forms. An example of an erroneous fossilised rule is the omission of the -s genitive determiner from possessive DPs by Syrian learners of ENG, as is exemplified in the following sentence:

- (8) [The \* enemy attack on the peaceful city]  
      annoyed me

The view of IL as an independent system from the NL has had important implications for the attitude towards learners' errors. It means that whether IL rules are in accordance with the NL rules is not a relevant issue when describing their systematicity. Thus, the term 'error' itself becomes of a doubtful validity. An erroneous learner's utterance will be classified as such only with reference to the norms of the TL. For the FL learner, however, the true norms are to be found in his or her IL system. A learner's utterance which is ungrammatical in terms of the rules of the NL, will in fact be grammatical in terms of the learner's IL. In other words, learner



language is no longer seen as an erroneous form of the TL but as an 'etat de dialecte'.

This stance towards learners' errors which the internal logic of the IL hypothesis entails is not pedagogically positive, however. The analysis of learners' errors serves an important function in LL and teaching. As soon as IL is seen in a norm-oriented context like an educational situation, the notion of errors becomes indispensable. This would explain why performance analyses of IL usually include analyses of errors and non-errors.

**b) Dynamic:** ILs are typically dynamic systems in the sense that they are likely to change both by incorporating new rules and words and by revising already existing ones (Faerch et al., 1984: 274). The rules which constitute the IL are gradually extended over a range of linguistic contexts. A learner revises the interim systems to accommodate new hypotheses about the TL system.

**c) Permeable:** IL is permeable i.e. it is incomplete and in a state of flux. Adjemian (1976: 308) suggests that there are two processes which reflect the IL permeability. A learner may on occasions use rules or items from his/her L1 and/or he/she may distort or overgeneralise a rule from the TL in an effort to convey the intended message. This happens when the TL rules or forms for expressing meaning needed by the learner are not well adopted into his or her IL system. However, IL permeability is bound to be lost at a given stage of development, giving rise to

'fossilisation'.

**d) Reduced System:** An IL is a variety of language which is both formally and communicatively reduced when compared to languages used as native languages by adults. IL is a simplified system both with regard to the number and complexity of rules, and the number of words they contain. The omission of grammatical morphemes such as articles and plural markers in the early stages of learning is but one example of this reduced system. In this sense, IL is comparable to other forms of simplified registers such as child language, foreigner talk, and the like. This property of IL reflects a strategy of simplification on part of the second language learner, which underlies his/her attempt to reduce the learning burden to manageable proportions.

## **2.6. Conclusion**

To recapitulate the major points of this chapter, section (2.3) was a literature review of the theory of CA. In this section, I presented some arguments in favour of CA as a crucial issue in the process of second language acquisition and teaching. One of these arguments has been based on the finding that the presence of 'transfer' errors has been too obvious to be denied even by the opponents of CA.

In section (2.4), I discussed various aspects of EA and its importance as a complementary technique to CA. This section also included an account of the role of

errors in LL and some of the problems encountered in their definition and classification.

Finally in section (2.5), I shed some light on ILST and the insights these studies provide into the mechanisms underlying the learning process.

Among the issues raised in this chapter, there are two hypotheses which will be addressed in this study. First, there is the CAH which predicts that differences between the learner's NL and the FL will lead to learning difficulties/errors, while similarities will cause the learner no difficulties and as a result, he/she will produce correct FL forms. The second hypothesis which I seek to test out in this work rests on the assumption that NL -TR decreases as the learner's proficiency in the FL increases.

Having outlined the basic assumptions underlying the present study, I shall now turn to the first step in the verification of the two hypotheses, namely, a description of ENG and MSA noun phrases. I shall start off in Chapter III by a description of these phrases in ENG.



## CHAPTER III

### A DESCRIPTION OF ENG NOUN PHRASES

#### 3.1. Introduction

This chapter is a description of the structure of ENG noun phrases. The theoretical framework which I have selected as a basis for my description of ENG nominals is the theory of Government and Binding (henceforth GB) in general and the X-bar Theory of phrasal categories in particular.

In this study, I shall adopt the view that a noun phrase in ENG comprises two categorial systems: a **lexical** system and a **functional** system. The 'lexical' system designates that part of the noun phrase of which the head constituent is the lexical category N (noun). The 'functional' system, on the other hand, is that section of the noun phrase of which the head is a functional category D (determiner).

This is the NP/DP-analysis which has been advocated at length by Abney (1987) and Radford (1990). The NP/DP-analysis of noun phrases represents a major shift from the Standard X-bar treatment of these structures (see for example Jackendoff, 1977, among others) in that the traditional noun phrase is now taken to have the overall status of a DP rather than an NP.

However, before I give a detailed account of the DP/NP- analysis, I shall start off in section (3.2.) by a discussion of the main tenets of the theoretical framework within which this analysis will be carried out. In section (3.2.1.), I present a general outline of GB, and in section (3.2.2.), I discuss in some detail the theory of X-bar syntax.

### **3.2. The Theoretical Background**

#### **3.2.1. The Theory of Government and Binding**

The theory of GB is a theory of universal grammar (UG), which was synthesised in Chomsky's Lectures on Government and Binding (1981) and developed in Knowledge of Language (1986a) and Barriers (1986b).

GB is a modular theory of grammatical structure, it subsumes a number of sub-theories interacting with each other to define the syntactic structure of language.

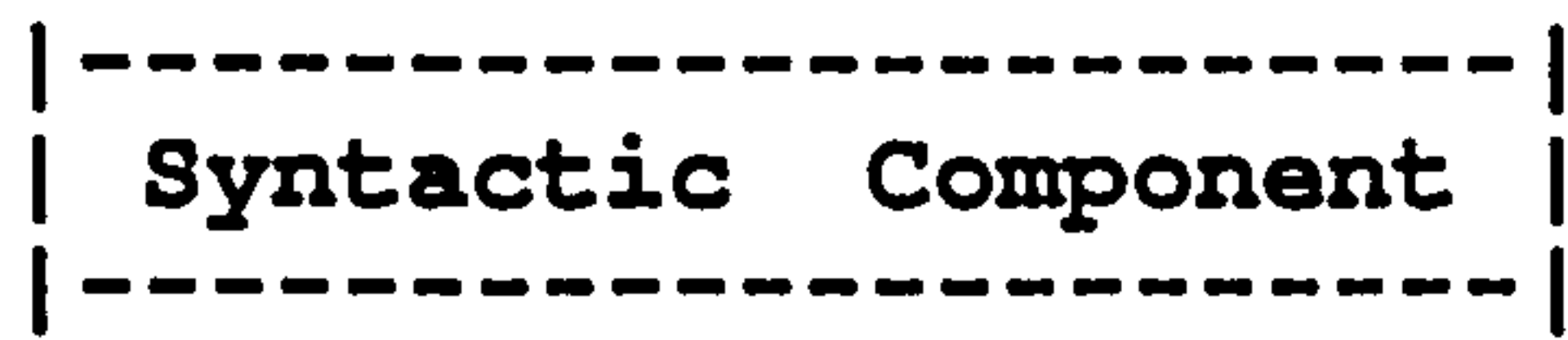
Seven theories are subsumed under GB. X-bar syntax is one of them. It defines some structural properties of D-structures. The others are: Case Theory, Theta Theory, Government Theory, Binding Theory, Bounding Theory, and Control Theory. Each of these theories comprises a **Principle** or a set of principles and a number of **Parameters**.

Throughout this study, I shall only make reference to X-bar Theory, Case Theory, and Theta Theory. I shall therefore restrict my discussion of GB to the latter

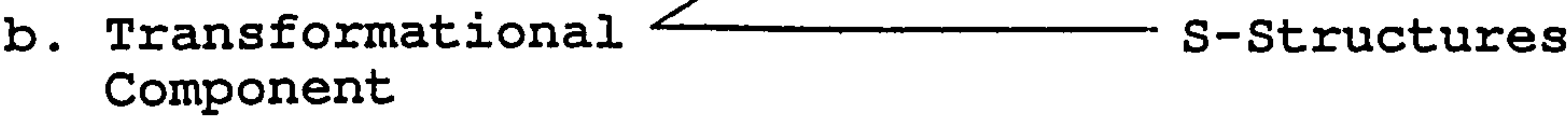
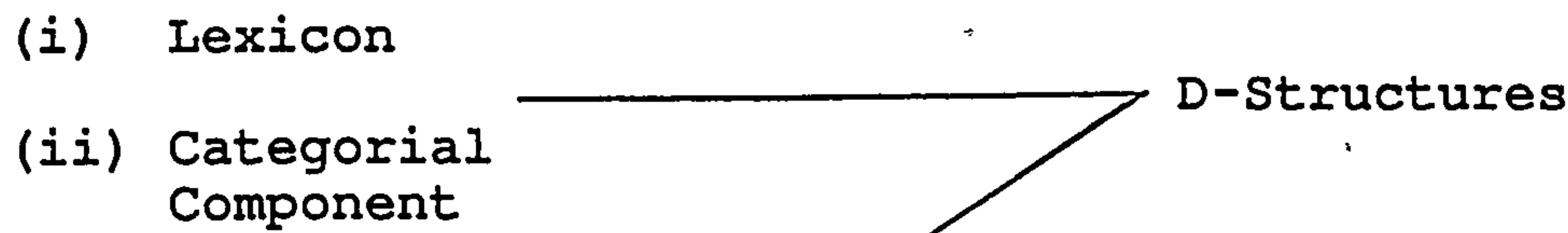
three.

Within GB, the organisation of the grammar is as follows:

(1)



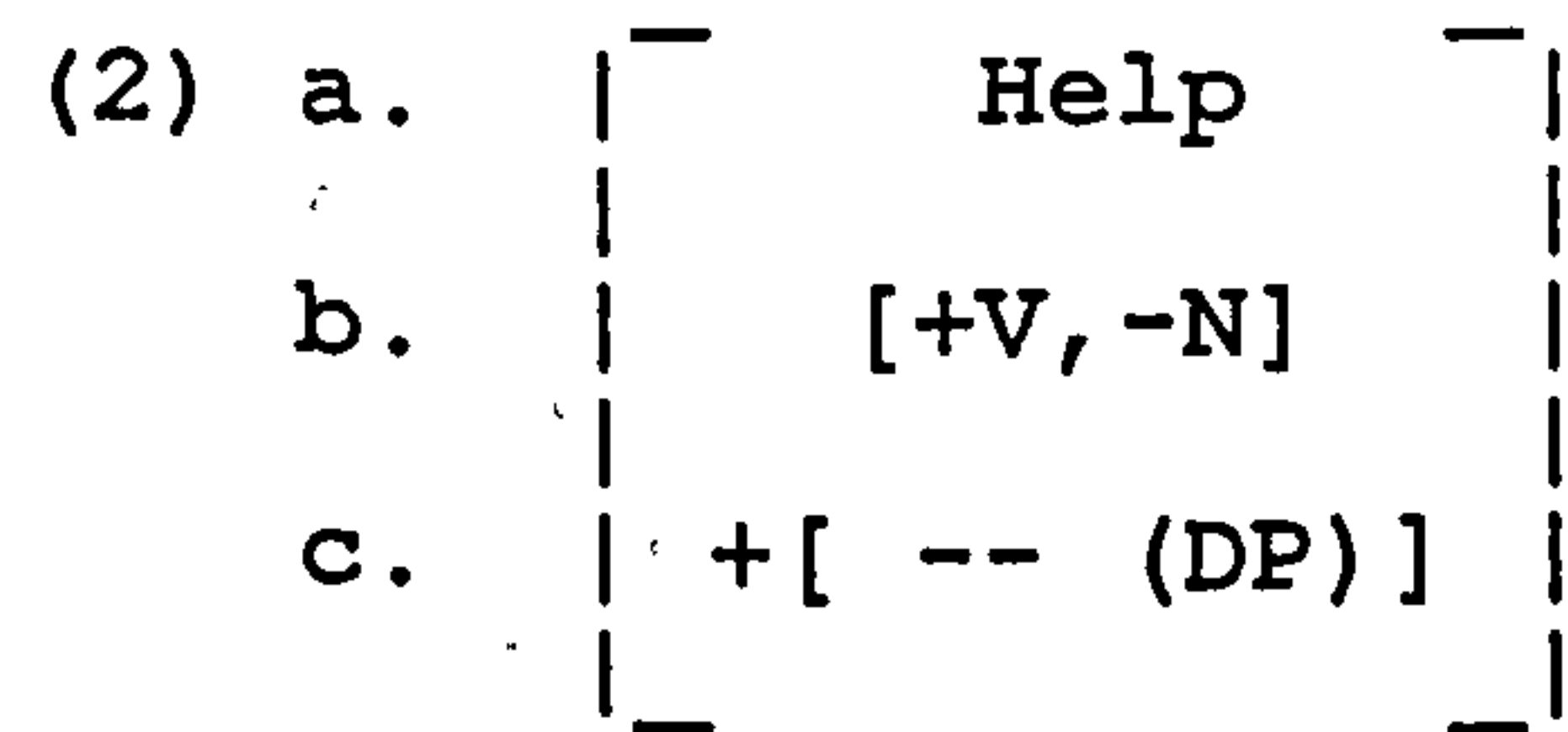
a. Base:



PF-Component      LF-Component  
(phonetic form)   (logical form)

(adapted from Horrocks, 1987: 98)

The base consists of certain conditions on phrase structures and the lexicon. The lexicon contains a list of all the words in a language, together with a specification of their categorial features and their subcategorisation properties. By subcategorisation properties is meant the array of complements a given lexical item may take. (2) is an example of the lexical entry of the verb help:





(2/b) identifies help as a verb, whereas (2/c) specifies that help is a verb which optionally subcategorises a DP as a complement.

An important part of the contents of the lexical entry for an item is Thematic information. Thematic roles (or theta-roles) are the semantic properties assigned by heads (Chomsky, 1986a: 93). Theta-roles are drawn from a highly restricted universal set, which includes among others: Theme, Patient, Goal, and Agent. The constituents which bear a semantic relationship to the head are called its Arguments. Arguments include subjects and complements. In (3), for example, the subject phrase John and the complement Mary are arguments of the head V likes. They are assigned the thematic-roles Agent and Patient respectively:

(3) John likes Mary

Theta Theory constrains the assignment of theta-roles via the Theta Criterion (henceforth THC), which specifies that 'each argument bears one and only one theta-role, and each theta-role is assigned to one and only one argument' (Chomsky, 1981: 36). In other words, no theta-role can be assigned to more than one constituent. This would, among other things, prevent the iteration of complements which have the same theta-roles in a given structure, blocking sentences like:

(4) [\* The destruction of the city of the village] annoyed me

The categorial component comprises a set of X' (or X-bar) principles which specify the projection of phrasal categories from lexical categories in the form of a comprehensive phrase structure schemata. The central assumption of X-bar syntax is that any word category X can function as the head of a phrase and be expanded into the corresponding phrasal category XP by the addition of three different kinds of modifier: it projects into an intermediate X' phrase by the addition of a complement; the resultant X' can in turn be recursively expanded into another X' (or X-bar) via the addition of an adjunct; and X' can further be expanded into X'' (X-double-bar=XP) by the addition of a specifier. The Endocentricity Principle (see Radford, 1990b: 2, for a formulation) requires that a phrase contains a head of the same type (e.g. an NP is headed by an N, a VP is headed by a V, and so on). Furthermore, the Projection Principle which specifies that 'syntactic representations [i.e. syntactic structures] must be projected from the lexicon' (Chomsky, 1981: 29), integrates the syntactic description of a given phrase with the properties of lexical items. The main role of the Projection Principle is to ensure that heads have the right number of complements and to ensure that they have the same number at all levels. Finally, the Head-Parameter will determine the relative order of heads and complements in a given phrase. For example, it will specify that in ENG-type languages, heads precede their complements. In (5) for example, the head N refusal precedes the

complement PP of the job offer:

(4) [John's refusal of the job offer] was unexpected

The Transformational Component consists of a single optional transformation 'Move-Alpha' where 'Alpha' stands for any constituent category. 'Move-Alpha' specifies that any part of the structure can be moved anywhere (Chomsky, 1982: 15). The main movement types in ENG include: 'wh-movement' (e.g. in wh-questions), 'NP-movement' (e.g. in passive structures), 'extraposition' (e.g. moving a PP contained within NP to the end of this NP), and 'V-movement' (e.g. the movement of V into the empty I-position in finite clauses). For a discussion of these movements, the reader is referred to Radford (1988: Chapters VIII & X).

S-Structures are mapped from D-structures (henceforth DSs) by the application of movement rules. 'S-structures' are to be distinguished from 'surface-structures': 'S-structure' is a near surface-structure, it is the product of the application of transformational rules to DSs; on the other hand, 'surface-structure' is the output of the phonological component of the grammar. It is the input to the 'PF-component', which maps it onto a 'phonetic form', and to the 'LF component', which maps it onto a 'logical form', where certain aspects of meaning are made explicit. The 'PH' and 'LF' components will not be referred to in my discussion.



Finally, Case Theory deals with the principles of Case assignment to constituents. It is the module which assigns (abstract) case to noun phrases and by doing so, provides a principled explanation for several aspects of movement (see for example the movement of subjects/possessors in noun phrases in section 3.4.1.1 below). The Case Filter Condition (henceforth CFC) requires that 'all phonetically realised NPs<sup>1</sup> are assigned (abstract) case' (Chomsky, 1986a: 74). It means that lexical DPs can move from non case-marked positions into case-marked positions. Parameters of Case Theory include the Directionality of Case-Assignment Parameter and the Choice of Case-Assigners Parameter. These will be referred to in the relevant sections in this chapter and the next.

Case is assigned under 'government'. The concept of 'government' is basic to GB theory. It has been defined differently by different researchers. The definition which will be adopted here is in terms of C-command relations as proposed by Chomsky (1986a). Under this definition, a category Y 'governs' a maximal projection X" if Y and X" C-command each other (1986a: 162). One of the definitions of the relation C-command is the one of Chomsky (1986a) which specifies that 'Y C-command every element of its domain that is not contained within Y' (1986a: 162). In Chomsky (1986b: 8), this version is called 'm-command'. In

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1. Under the NP/DP-analysis of noun phrases (see section 3.2.2.3), these would be DPs rather than NPs.

turn, the domain of an element is everything within the maximal projection containing it.

The choice of case is determined by the governor in any given example. In ENG, for example, objective case is assigned to a DP governed by a verb (e.g. the complement of a verb) or a preposition (e.g. the complement of a preposition), among others, and genitive case is assigned to a DP governed by D (e.g. the subject DP of a nominal phrase). In MSA, on the other hand, objective case is assigned under government by V to its complement; whereas genitive case is assigned to a nominal phrase governed by T (article) ,e.g. the subject of a nominal phrase (see section below for a discussion), and to a phrase governed by a preposition (e.g. the complement TP of a preposition).

Having briefly introduced some of the basic concepts of GB, I turn now to discuss in some detail the theory of X-bar syntax. I shall only reiterate those aspects which are crucial for our description of the structure of the noun phrase.

### **3.2.2. The Theory of X-bar Syntax**

I shall begin my account of this theory with a critical review of the literature of early analyses of ENG noun phrases. I shall first include a short survey of the pre-X-bar era, then I shall present the 'basic' X-bar schema for noun phrases, which was first proposed by Chomsky (1970). This will be followed by a discussion of

the main problems posed by Chomsky's original schema for the description of ENG noun phrases, and this will lead us, finally, to an account of the NP/DP-analysis of nominals.

### 3.2.2.1. Pre-X-bar Syntax

Under early work in syntax based on the 'standard theory of transformational grammar' model which was introduced in Chomsky (1965), few serious attempts were made to develop a theory of phrase structure. Aspects itself was a model which made few explicit claims about the constituent structure of phrases.

In an X-bar context, issues which are of interest here include:

(i) which phrases are implicitly assumed to be **endocentric**, i.e. properly headed, and which **exocentric**, i.e. do not have a head of the relevant type.

(ii) how many different types of structurally distinct non-head constituents are there in a given phrase.

(iii) which word categories do and do not have phrasal projections.

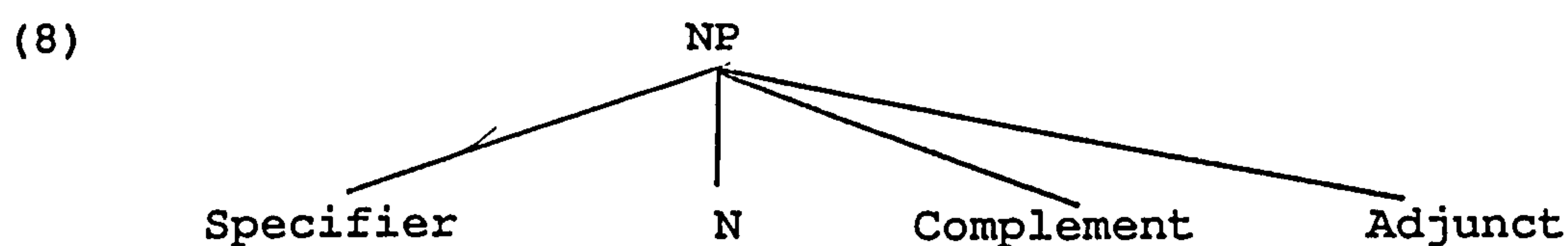
An examination of the phrase structure rules formulated within the Aspects (1965) framework indicates that some constituents were implicitly 'endocentric' (NP was headed by N), while others were 'exocentric' (categories like S had no head), compare respectively:

(6) NP ---- Det N

(7) S ---- NP Aux VP (adapted from Chomsky, 1965: 85)



Two further implicit assumptions are made in (6) and (7): (i) functional categories like determiners (henceforth Ds) or auxiliaries (AUXs) have no phrasal expansions into DetP or AUXP, and (ii) heads permitted only one type of higher level projection, from X to XP. In consequence, heads, specifiers, and adjuncts were all immediate constituents of XP. This implicitly suggests that the internal structure of a noun phrase containing a head, a specifier, a complement and an adjunct would be linear as follows:



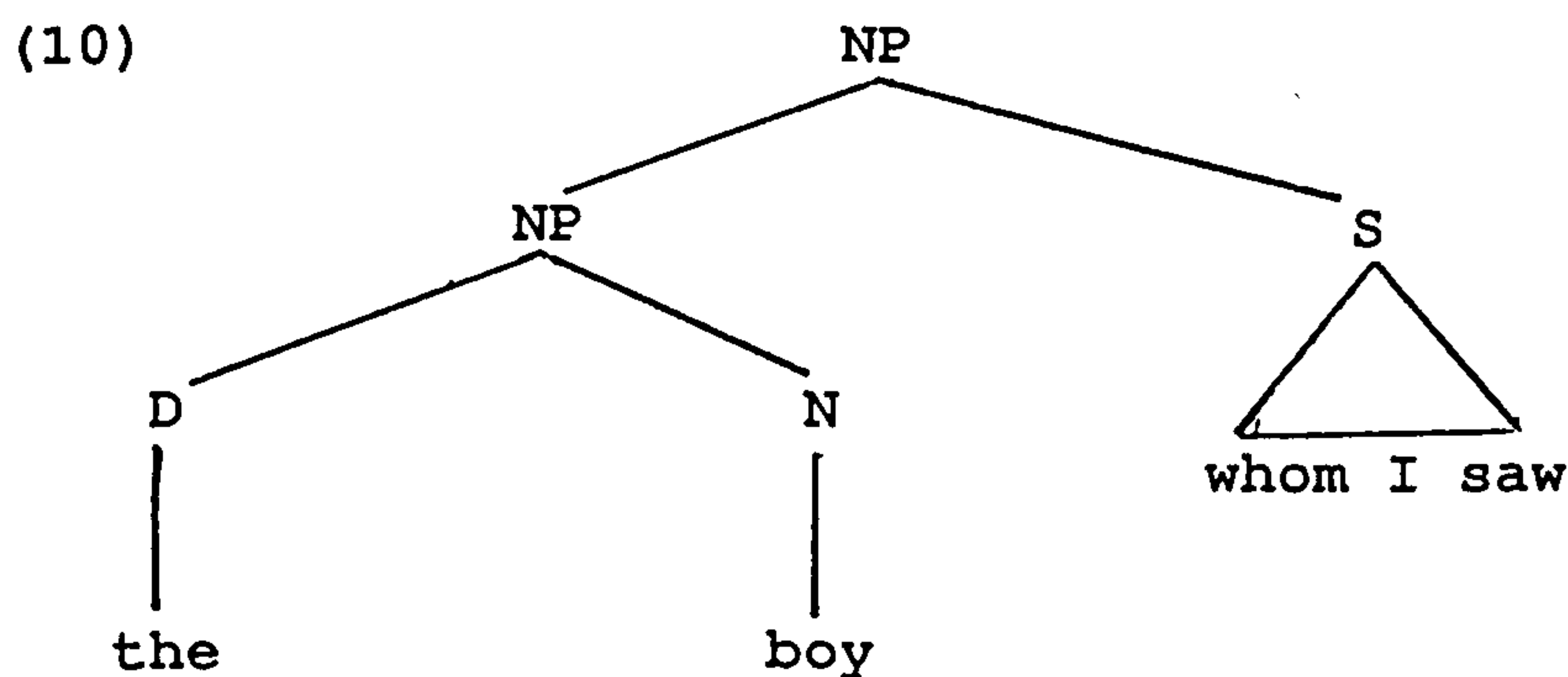
But the analysis in (8) is defective, because it poses considerable problems for the description of ENG noun phrases. Under a structure like (8), no provision was made for the structural distinction between nominal modifiers such as argument PPs and non-argument PPs. Nonetheless, as we shall see later, the postulation of such a structural distinction is a well motivated one, since it is only in terms of a hierarchical analysis of these constituents will we be able to account for certain related phenomena.

Thus, given that little serious thought was given to the system of category labels used in Aspects, it would be misguided to see Aspects as presenting any coherent theory of constituent structure.

However, given that Aspects itself was a theoretical work which contained little descriptive detail, it is perhaps more instructive to look at a standard descriptive textbook of the Aspects era, namely that of Jacobs & Rosenbaum (1968).

In the framework of Jacobs & Rosenbaum (op.cit. Chapter II), we can represent the structure of a noun phrase like the one in (9) as in (10):

(9) The boy [ whom I saw ]

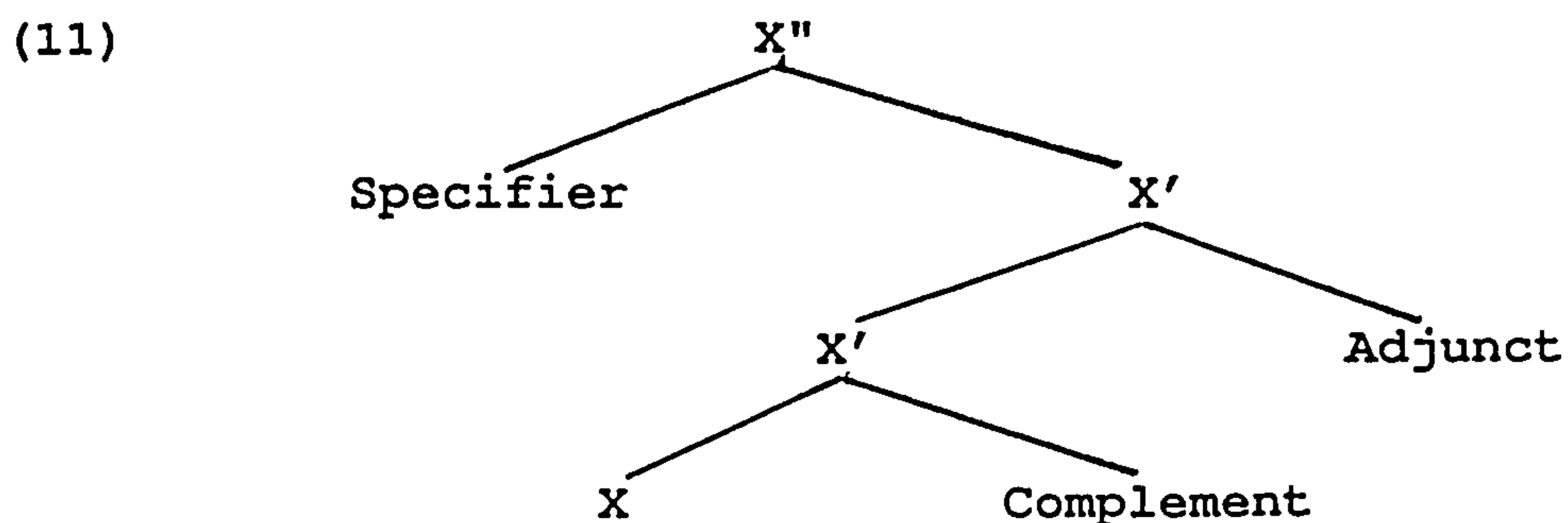


The tacit assumption made by such an analysis of noun phrases is that there are two structurally distinct types of nominal modifier, namely (i) adjuncts, which recursively expand an NP into NP, and (ii) non-adjunct modifiers, which are sisters of the head N and daughters of NP. In (10), relative clauses are analysed as adjuncts of NP, i.e. constituents which are both sisters and daughters of NP, whereas all other types of nominal modifier such as determiners, argument PPs, non-argument PPs, APs, and genitive NPs are analysed as sisters of N and daughters of NP.

However, one of the conclusions which can be drawn with regard to Jacobs & Rosenbaum's analysis is that it arguably does not give the right constituent structure of ENG noun phrases, as tests like one-pronominalisation show (see section 3.2.2.2.A below).

### 3.2.2.2. The Standard X-bar Theory: The NP-Analysis

In his influential paper Remarks on Nominalisation, Chomsky (1970) argued that all major lexical categories such as nouns (Ns), adjectives (As), and verbs (Vs) permit a range of following complement phrases (e.g. complements PPs) which are generated in the base rather than derived from other base forms such as relative clauses. In order to capture this cross-category generalisation, Chomsky (op.cit.) proposed a general base-rule schema which can be represented in skeletal form as follows:



In (11), X is a variable which stands for any lexical category which serves as the head constituent of the whole phrase.

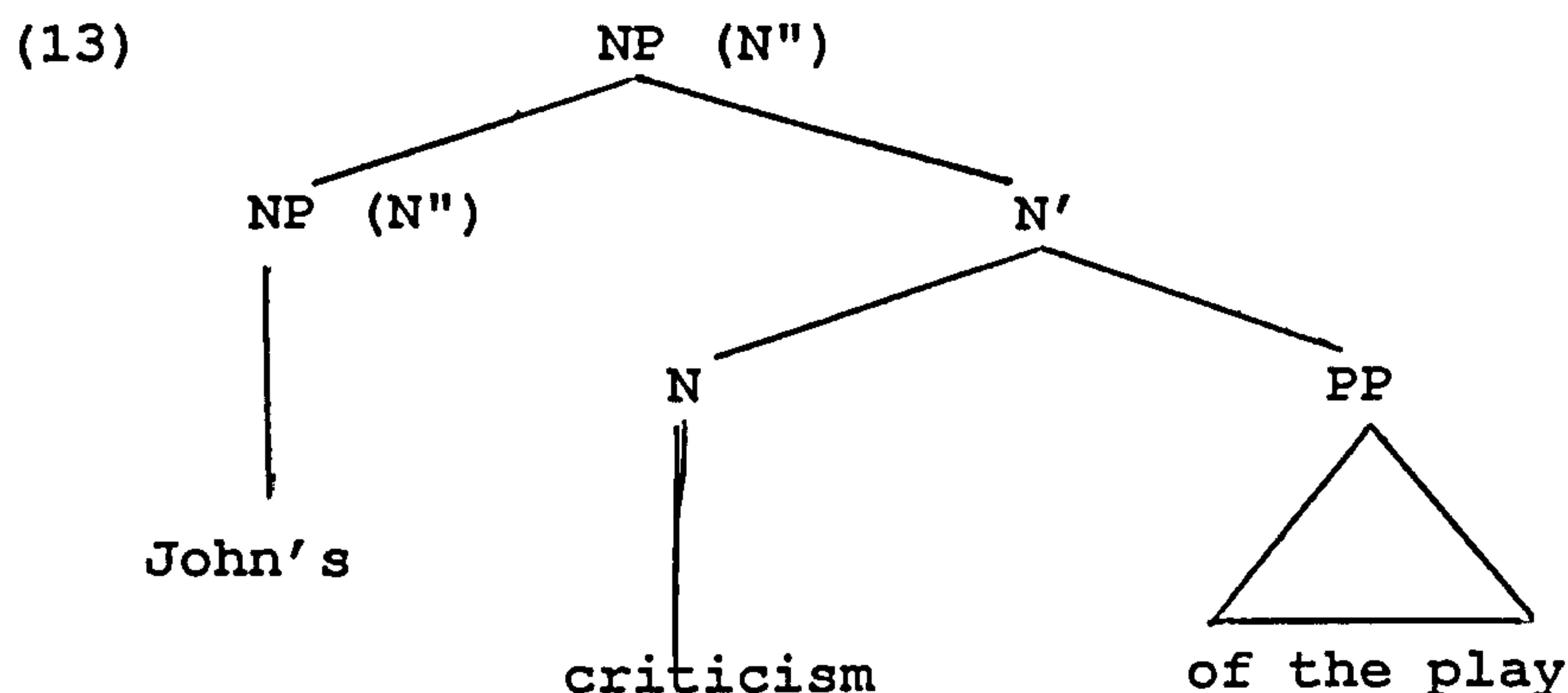
Implicit in (11) is the assumption that all phrases share a simple structure with three levels, a zero-bar level X, an intermediate single-bar level X' or X-bar, and



a full phrasal double-bar level  $X''$  or  $X$ -double-bar, which designates the 'maximal' projection of a major category node and is equivalent to  $XP$ .  $X$ -bar consists of the head  $X$  and possible complements (e.g. subcategorised constituents) and adjuncts (i.e. non-subcategorised constituents); double-bar or  $XP$  consists of the head  $X$ -bar and possible specifiers. A specifier of  $X$ -bar refers to the material preceding the head of the phrase (in an NP, the [Spec., NP] position is filled by a determiner or a possessive NP). The terms specifier, complement and adjunct are not themselves syntactic categories, but functional labels for parts of the structure of the phrase that may be filled by actual syntactic categories.

To take a concrete example, I represent the constituent structure of the noun phrase in (12) as in (13) below:

(12) John's criticism of the play



Note however, that in (13) the bar notation  $N''$  has been replaced by the category label NP. Throughout this

thesis, I shall use the category label NP (and XP in general) consistently instead of the bar notation N" (or X") both in tree diagrams and elsewhere, except where quoting directly from other references. A triangle will be used to abbreviate the structure of a constituent that need not be made fully explicit. However, whereas I use the bar notation N' (or X') in tree diagrams, I refer to the relevant constituent as N-bar (or X-bar) elsewhere.

The main assumption made by the analysis in (13) is that the sequence N+PP complement criticism of the play forms a phrasal category N-bar, which is structurally distinct from the sequence N-bar+[Spec.,NP] John's criticism of the play. Thus, whereas a PP complement expands the head N into an N-bar, a genitive NP expands N-bar into an NP (or N-double-bar).

Chomsky's (1970) work as outlined above marked the beginning of the X-bar syntax era. The general formula which he introduced for the structure of phrases is referred to in the relevant literature as the Standard or 'classical' three-level X-bar theory of phrase structure. There are however other versions of X-bar theory. For example, Jackendoff (1977) argued in favour of a symmetrical four-level X-bar model, whereas Stuurman (1985) argued in favour of a symmetrical two-level model. In this work, I shall adopt the classical three-level X-bar model. This is mainly because the greatest volume of descriptive studies of noun phrases has utilised this version of X-bar syntax (see for example Hornstein &

Lightfoot, 1981a; Woolford, 1983; Radford, 1981/1988; Fassi Fehri, 1988, among others).

There are a number of arguments against Chomsky's original X-bar model. Firstly, this model is restrictive in the sense that it provides too impoverished an analysis of noun phrases. In (13), for example, the only types of nominal modifier which are catered for are argument PPs and genitive possessive NPs. In other words, no provision was made for other types of non-subcategorised constituents such as non-argument prepositional phrases like with blond hair and adjectival phrases like new in (14) below:

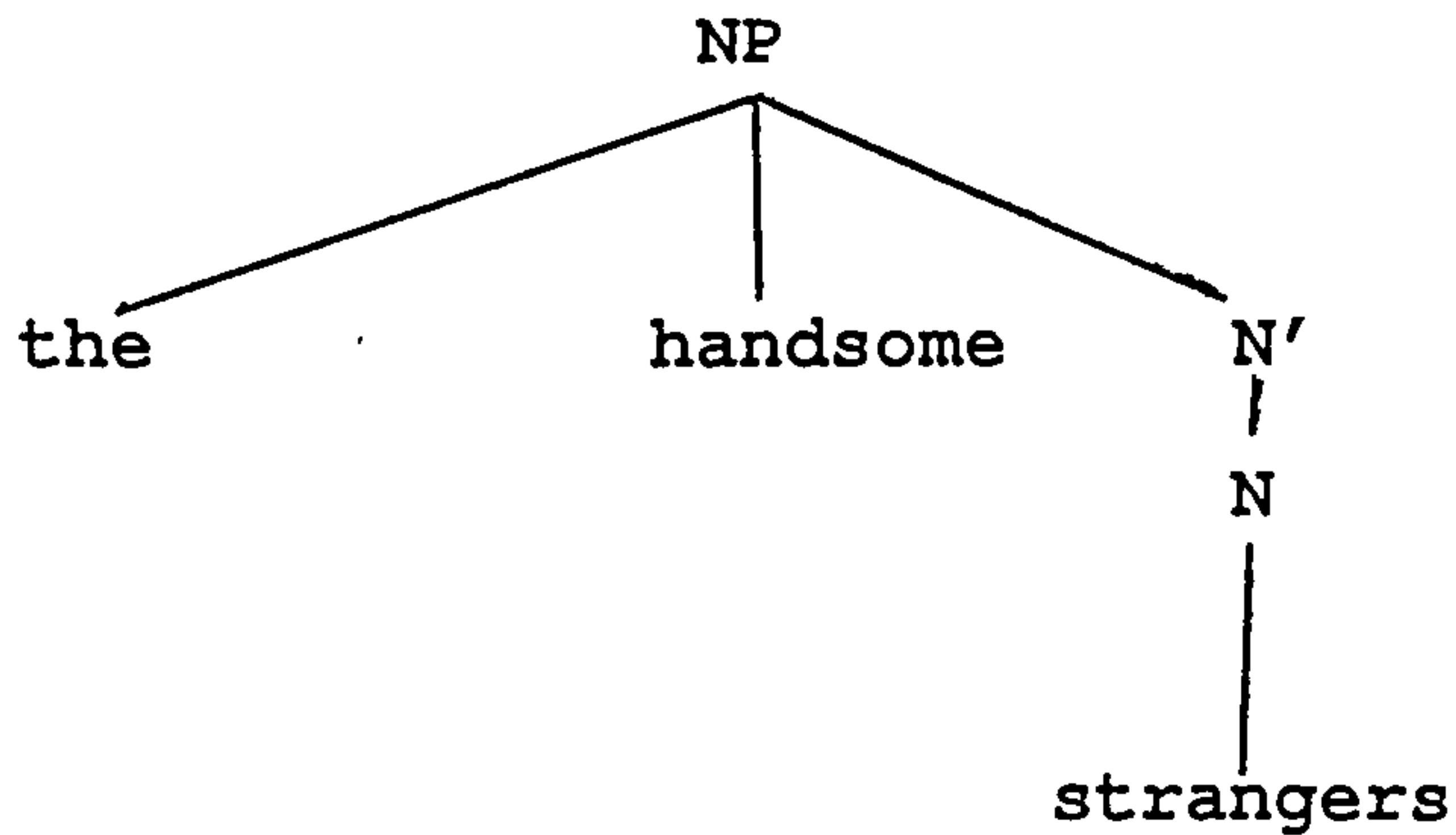
(14) [A new student of physics with blond hair]

Secondly, under (13), it is (tacitly) assumed that there is only one kind of pre-head modifier viz., specifier, and one kind of post-head modifier viz., complement. This would seem to imply that any kind of premodifiers such as determiners and APs will be analysed as specifiers. But if this is so, then an NP like the one in (15) would be assigned the structure in (16):

(15) [The handsome strangers]



(16)



Under (16), the APs handsome and the determiner the are structurally parallel: they are all generated in the [Spec., NP] position. One of the main problems posed by this analysis for the description of these constituents relate to facts about their linear word-ordering. Under this analysis, it is not at all clear how one can provide a straightforward account of the relative word-ordering facts of these modifiers. As the ungrammaticality of the following example shows, in an ENG noun phrases, determiners always precede APs:

(17) [\* handsome the strangers]

The fact that in (17) the definite article the must precede the AP handsome, suggests that these two constituents are structurally distinct and that the definite article occupies a higher structural position than that occupied by prenominal APs.

By contrast, within the NP/DP-analysis of noun phrases, the two assumptions (i) that determiners are generated in the head D-position of the containing noun phrase and (ii) that APs are base-generated as N-bar

adjuncts, provide us with a straightforward account of their word-ordering restrictions.

The third major weakness of Chomsky's original X-bar analysis is that, despite the fact that he postulated a nominal constituent which is larger than N but smaller than NP, viz. the N-bar constituent, which is, moreover, a constituent that is recursively generated, he did not provide any argument in favour of this intermediate phrasal category. Empirical arguments in support of the claim that the N+complement sequence formed an N-bar were subsequently provided by a number of linguists including Baker (1978), Lightfoot & Hornstein (1981) and Radford (1981, 1988). Some of these arguments will be cited in the next section.

#### **4.2.2.2.A. Evidence for the N-bar**

Baker (1978) presented the first piece of evidence in support of a three-level hierarchical analysis of NPs in ENG. He argued that the noun phrase comprises two basic parts viz. the Determiner and a Nom. constituent. The Nom. constituent corresponds to Chomsky's N-bar. A Nom. phrasal category consists of a head N plus one or more other optional constituents such as PPs and APs.

The basic arguments which Baker adduced in support of his Nom. analysis of noun phrases were based on **one-Pronomilisation** facts. He argued that the pronoun one could be interpreted as standing for more than just a noun by itself. In (18) and (19), for example, 'one' was taken

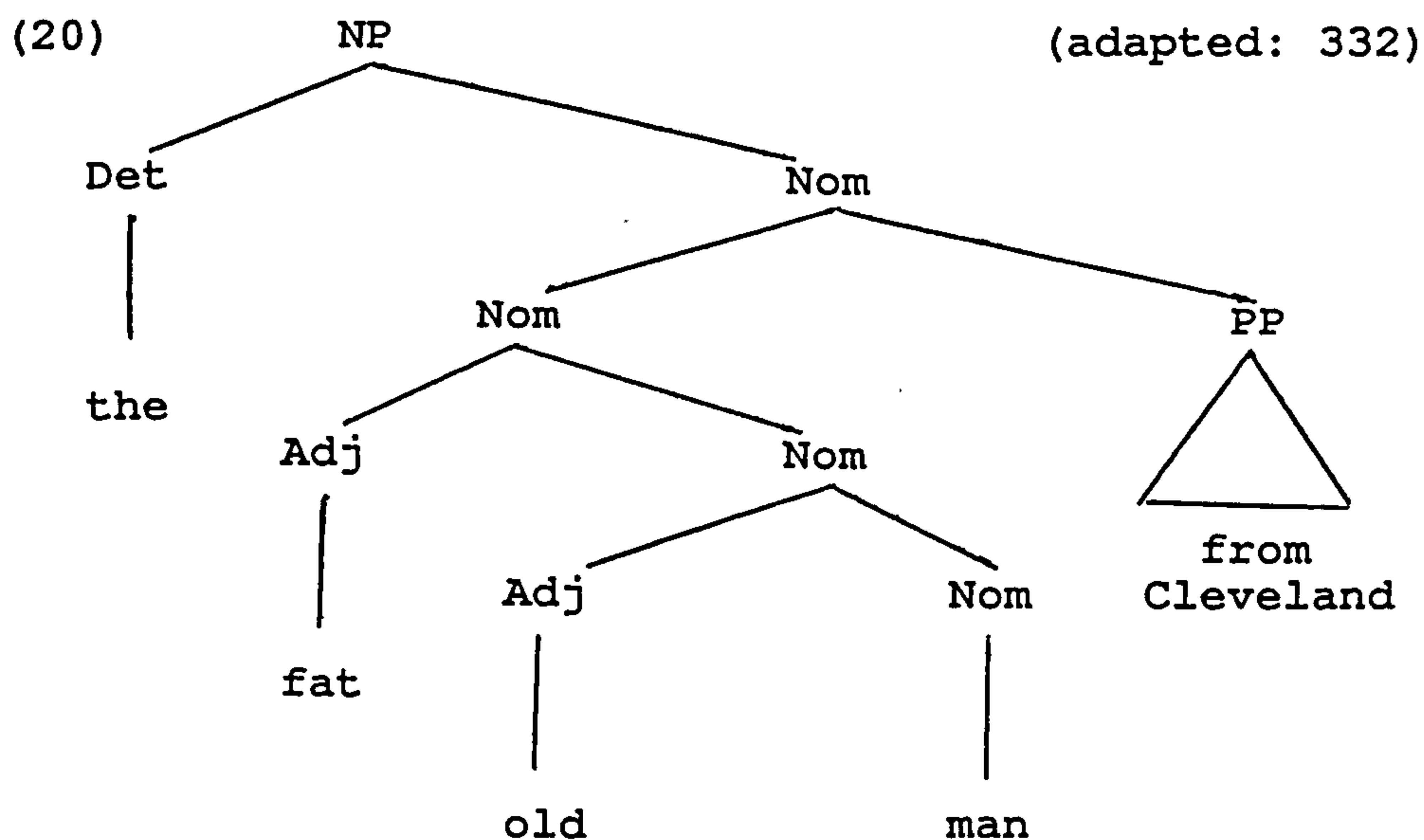
to refer to the sequences N+PP man from Cleveland and AP+N old fat man respectively:

(18) [The fat old man from Cleveland] was more helpful than [the young thin one]

(19) Fred talked with [the fat old man from Cleveland] and also with [the one from New York]

(adapted: 329)

Under Baker's analysis, the replaced sequences are single constituents originating in Nom. nodes. To make this point more concrete, the proposed structure of a noun phrase such as the fat old man from Cleveland in (19) has the following schematic form:



One of the main advantages of the Nom.-analysis of noun phrases is, therefore, that it provides us with a uniform characterisation of the constituents that one can replace. The tacit assumption made by Baker's analysis in (20) is that one is a pronoun which typically replaces Nom.



constituents.

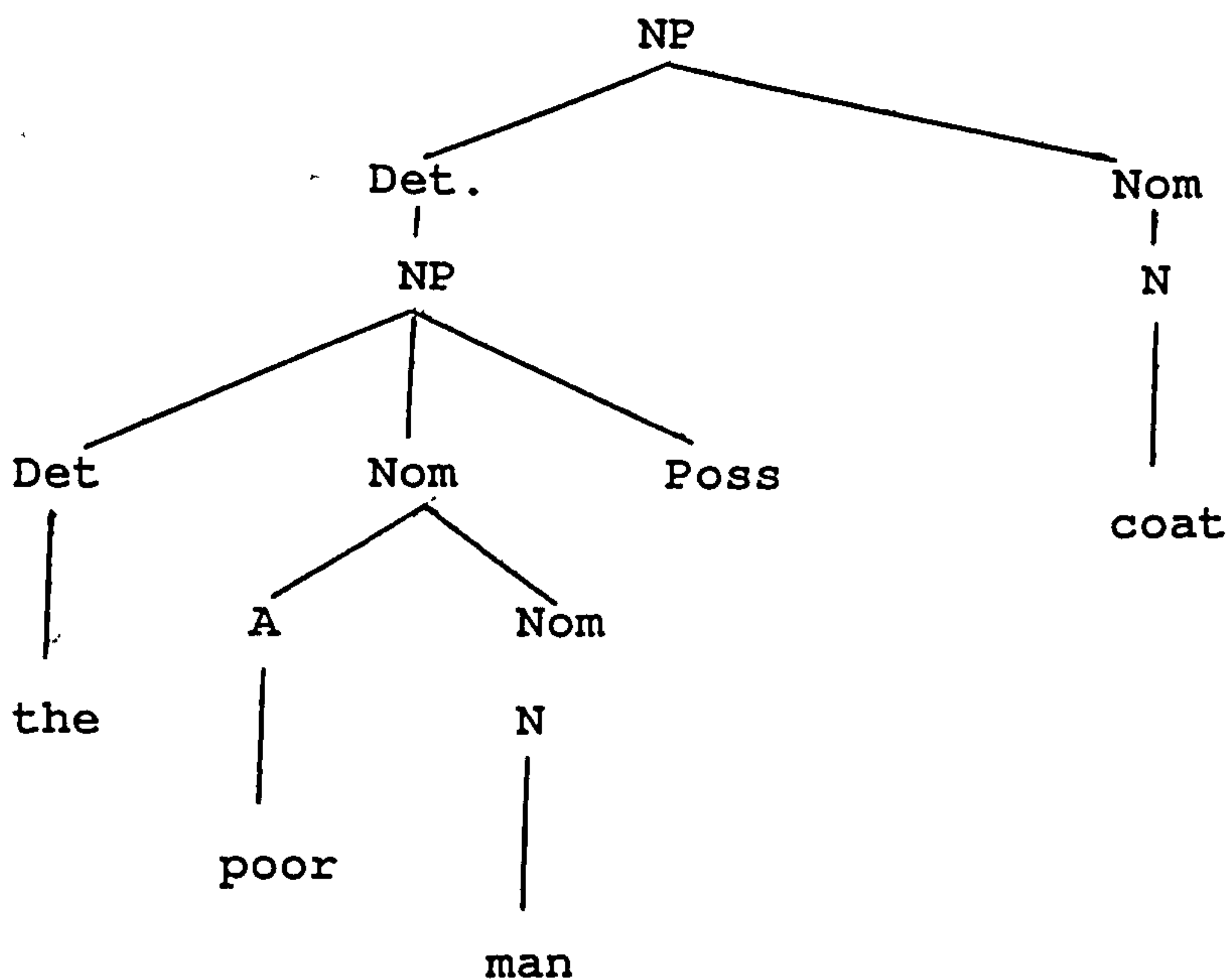
Baker (op.cit.) argues that the postulation that one can replace Nom nodes only is supported on the grounds that such an assumption will enable us to satisfactorily account for the ungrammaticality of such structures as (21) below:

(21) [\* The poor man's coat] is similar  
to [the rich one]

(adapted: 333)

Under the Nom.-analysis of noun phrases, the first bracketed noun phrase in (21) is assigned the structure represented in (22) below:

(22)



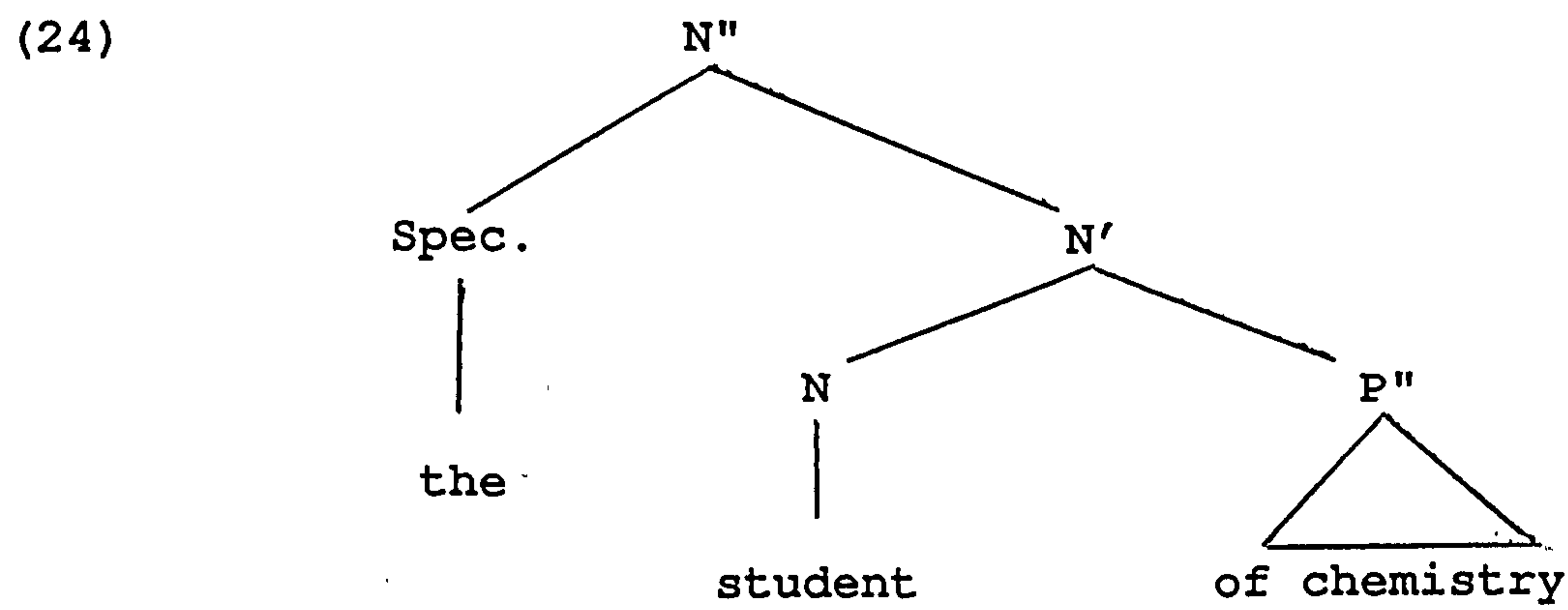
Given (i) that one can only replace Nom. constituents, and (ii) that the replaced constituent in (22). viz., man's coat, does not form a single Nom. constituent, it follows that this sequence cannot be replaced by the proform one,

hence the ungrammaticality of the example in (21) above.

By contrast, in the absence of a uniform rule of one-substitution, no such account can be given of the ill-formedness of (21).

Hornstein & Lightfoot (1981) and Lightfoot (1982) also argued in favour of a three-level analysis of ENG noun phrases instead of the 'standard' TG two-level analysis. Lightfoot (1982), for example, argues that it is only in terms of a hierarchical analysis like (24) which recognises that the sequence student of chemistry form a unit in a way that the sequence the student does not, that we can account for the ungrammaticality of the construction in (23):

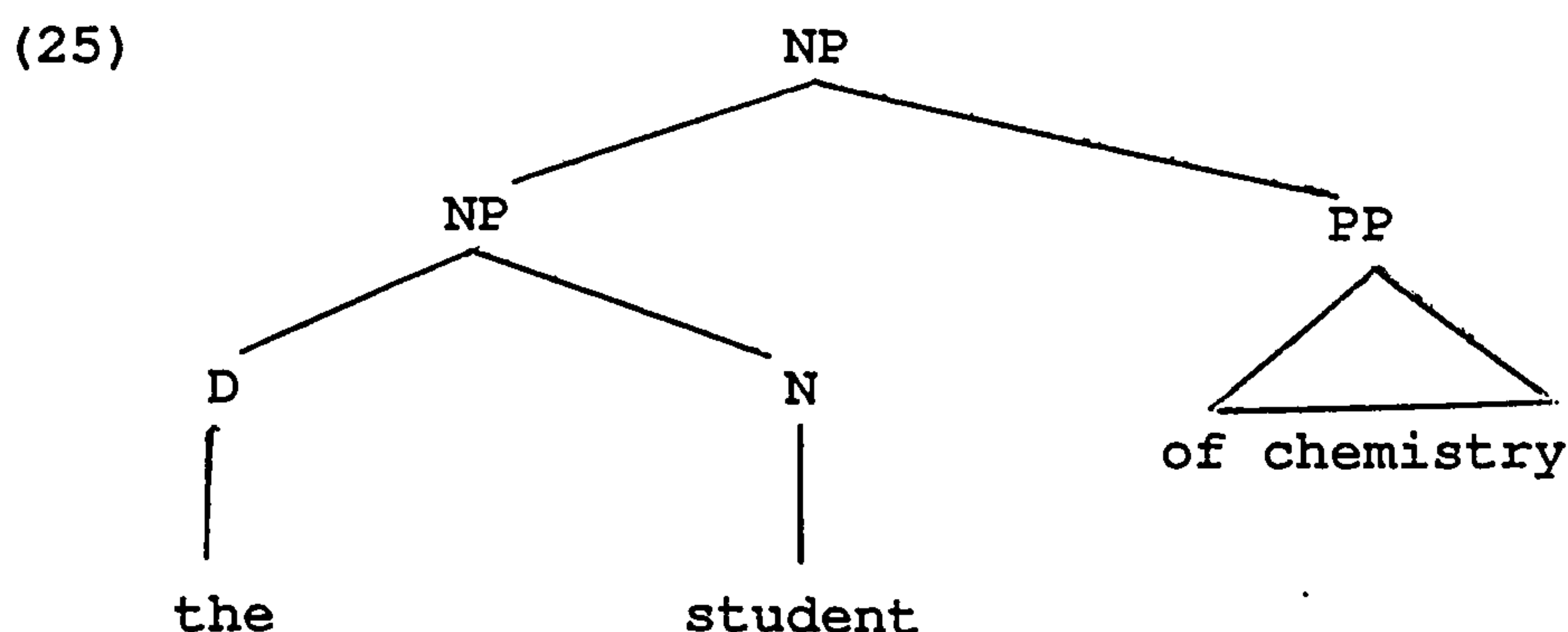
- (25) [ The student of chemistry] was older than  
[\* the one of physics]  
(adapted: 54)



Given (24), the sequence N+PP student of chemistry forms an N-bar constituent which is larger than the N student but smaller than the whole NP the student of chemistry. Thus, given a rule of one-interpretation which specifies that 'one refers to a preceding N-bar that

contains a countable noun' (Lightfoot, 1982: 52), then the analysis in (24) will enable us to provide an adequate explanation of the ungrammaticality of (23) above. More specifically, this analysis correctly predicts that one in (23) cannot have the noun student as its antecedent because the latter has the status of an N not an N-bar.

By contrast, a two-level analysis such as that in (25) below fails to capture the illformedness of (23), because it does not recognise an N-bar constituent in the first place:



Radford (1988) provided another piece of empirical evidence to support the claim that the sequence N+complement is an N-bar. Radford (ibid) derived his evidence from Shared Constituent Coordination (known also as Right Node Raising) facts. Thus, providing (i) that:

Shared Constituent Coordination is only possible where the shared string is a possible constituent of each of the conjuncts

(Radford, 1988: 78)

and (ii) that in (26) the N+complement sequence king of



England can function as the 'shared constituent' as in (27), supports the claim that this string is in fact a constituent of some sort, compare:

- (26) [The king of England] abdicated
- (27) He was the last ( and some people say the best )  
[king of England]

(adopted from Radford, 1988: 78)

It should be further added that the phrase king of England cannot be an NP since it does not have the same distribution as a full noun phrase, cf.

- (28) a. [The king of England] —|
  - b. [\* king of England] —|
- opened parliament

(Radford, 1988: 169)

Thus far, I have cited some arguments in favour of N-bar as an intermediate phrasal category. An important issue is whether N-bars can have adjuncts or not. As was have already mentioned above, the Standard TG model allowed for adjuncts of NPs (see Jacobs & Rosenbaum above). If NP can have adjuncts, then this suggests that other phrasal categories can have adjuncts too. Furthermore, the assumption that N-bars are phrasal categories will in turn predict that they can have adjuncts.

The possibility of N-bars having adjuncts has already been catered for under Baker's analysis above. In positing a hierarchical analysis of (19) as in (20), Baker was

making two important points with regard to the constituent structure of noun phrases, viz. (i) there are premodifiers which are not specifiers (e.g. adjectives), and (ii) there are postmodifiers which are not complements (e.g. non-argument PPs). In (20), Baker analysed both the APs fat and old and the PP from Cleveland as adjuncts to Nom., i.e. as elements which recursively expand Nom. into Nom..

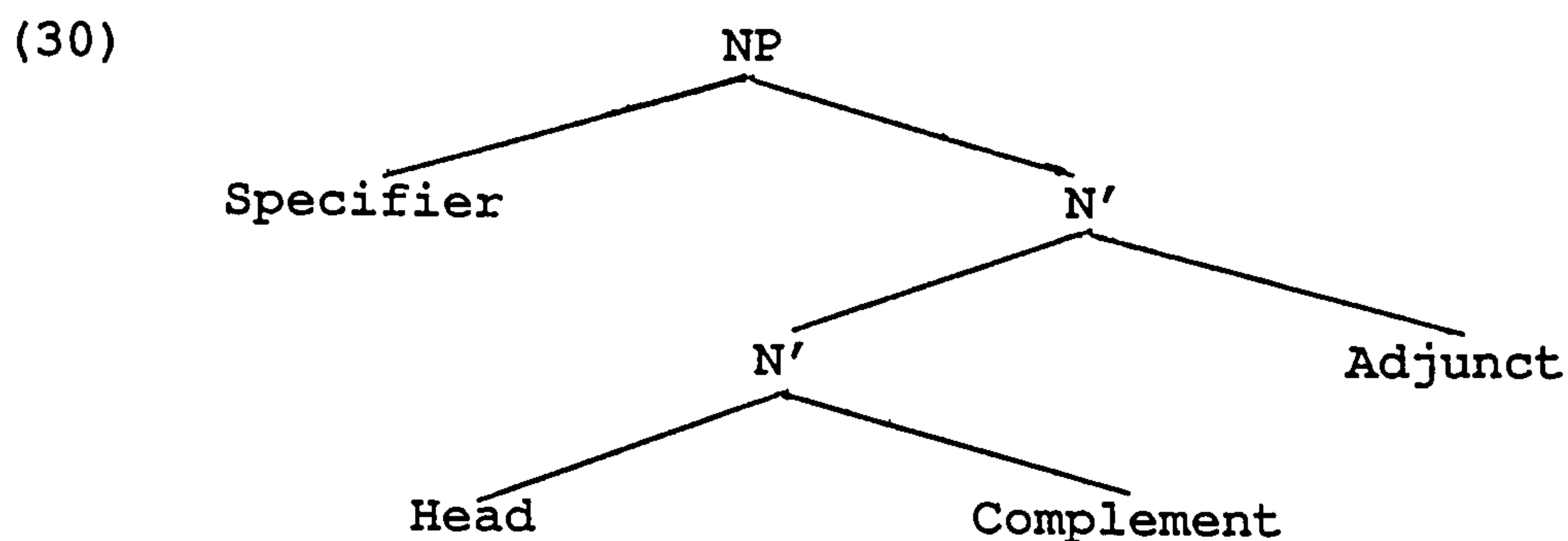
Lightfoot (1982) likewise analysed APs, non-argument PPs, and Ss as optional constituents which recursively expand an N-bar into an N-bar, and Radford (1988) argued that prenominal NPs like corner in (29) can have the same function i.e. of expanding an N-bar into an N-bar:

(29) [The corner coffee shop]

Empirical evidence for the claim that APs and PPs are N-bar adjuncts in ENG will be presented respectively in sections (3.4.1.2) and (3.4.2.1) below.

To recapitulate, within the standard version of X-bar syntax, a noun phrase in ENG is an NP which is headed by N. This N projects further into an N-bar by the addition of a complement (e.g. an argument PP); it recursively projects into an N-bar by the addition of an adjunct (e.g. an AP or a non-argument PP); and it projects into an NP maximal projection via the addition of a specifier such as a determiner or a possessive NP (see example 31 below). This amounts to saying that the skeletal structure of an ENG noun phrase containing a complement, an adjunct, and a

specifier has the following form:



In a given noun phrase, therefore, there are three distinct types of nominal modifier, which are structurally distinct from each other, viz. complements, adjuncts, and specifiers. Complements designate a set of phrasal categories whose syntactic function is to expand an N into an N-bar; adjuncts comprise categories which may expand an N-bar into an N-bar and specifiers expand an N-bar into an NP.

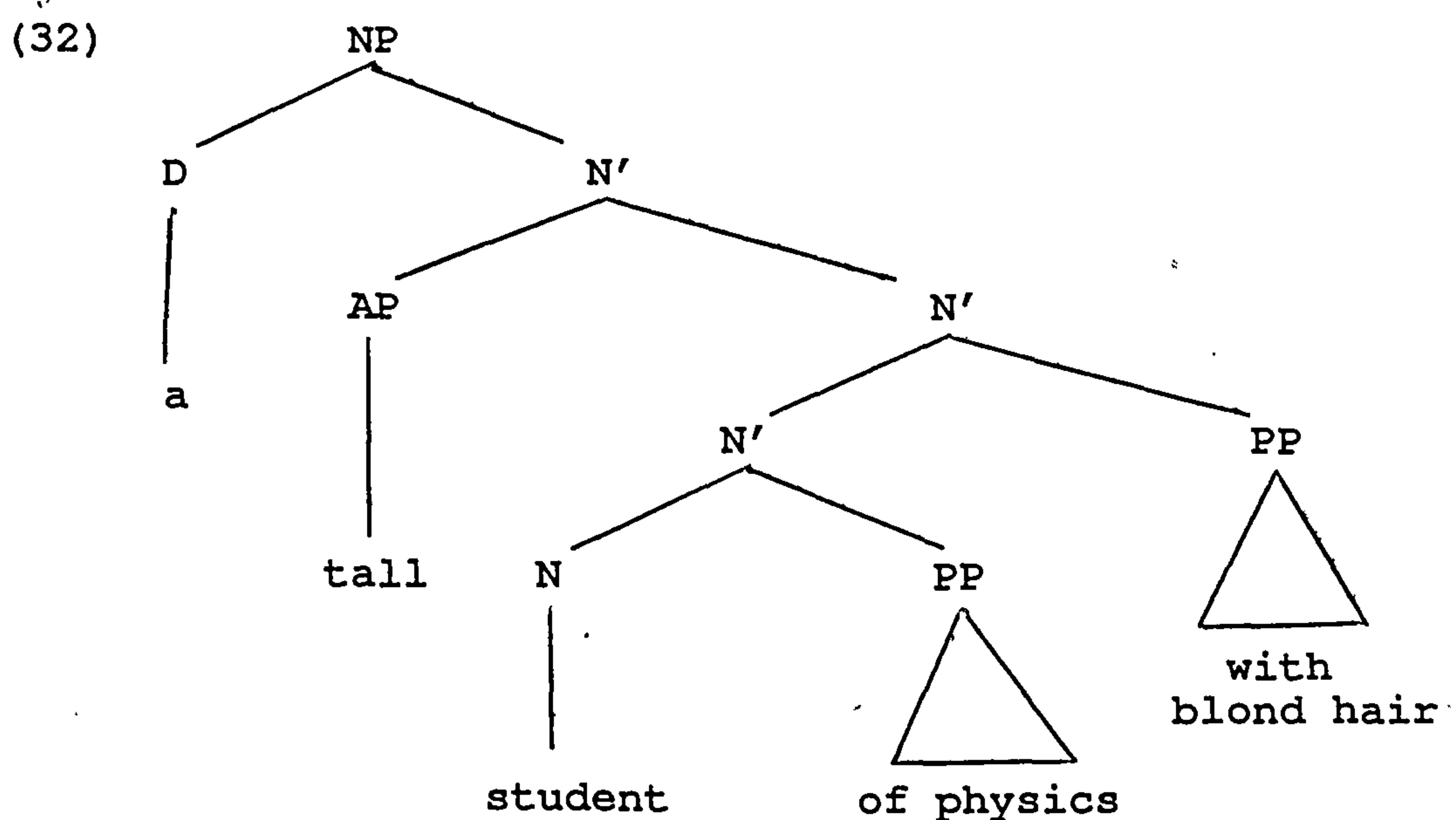
We can see from (30) that specifiers are sisters of N-bar and daughters of NP; adjuncts are both sisters and daughters of N-bar; and complements are sisters of N and daughters of N-bar.

To make my discussion more concrete, given that the specifier position is occupied by categories such as determiners and possessive NPs, the complement position is occupied by categories such as argument PPs; and the adjunct position is filled by phrasal constituents like non-argument PPs, APs, and prenominal NPs. This means that a noun phrase containing a determiner (D), an argument PP, and a non-argument PP such as that in (31) have the



associated structure in (32):

(31) Jane is a tall student of physics with blond hair



### 3.2.2.2.B. Problems with the NP-Analysis

There have been a number of attacks on the traditional NP-analysis of ENG noun phrases. Firstly, from a theoretical perspective, given that the X-bar theory of categories was in itself an appeal to cross-categorical harmony, it can be said that early analyses of the structure of noun phrases were essentially asymmetrical in nature. To be less abstract, one of the problems posed by an analysis such as that in (32) is that it violates the following Symmetrical Projectability Principle:

(33) All word categories [in a given language] project into higher level constituents in symmetrical ways

(Radford, 1990b: 2)

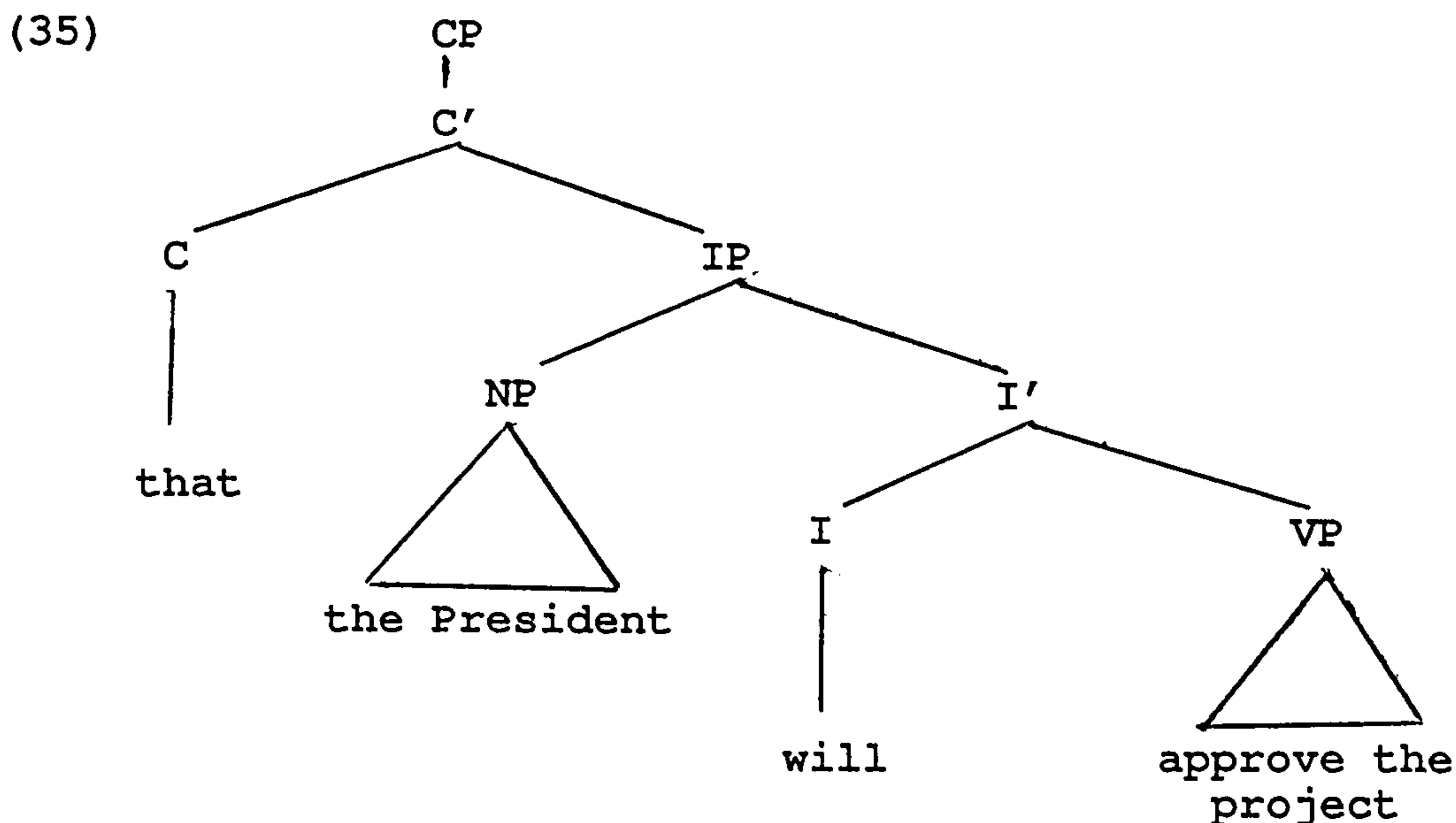
From the diagram in (32) above, we see that

determiners are unprojectable categories which have no further phrasal projections into D-bar and DP. In (32), the determiner a is a single word category which occupies the [Spec., NP] position and has no complements or specifiers.

Under the standard analysis, all functional categories like I (Inflection), C (Complementiser), and D (Determiner) are defective categories in that they have no higher phrasal expansions. Recently, however, Chomsky in his Barriers (1986b) monograph, has argued that the non-lexical categories I and C permit the same phrasal projections as lexical categories. Within the framework of Barriers, the traditional sentence (S) is taken to be an IP with I as the functional head. The I-position can be filled by the infinitive particle to or by a finite auxiliary (e.g. will). I projects into an I-bar by the addition of a complement (e.g. VP), and this I projects into an IP by the addition of a specifier (e.g. possessive NP). In a parallel fashion, a complement clause is a CP which is headed by C. C is a position which can be filled by complementisers like that/for/if/whether. C projects into a C-bar via the addition of a complement (e.g. IP) and this C projects into a CP by the addition of a specifier, if any.

To take a concrete example, a complement clause such as that in (34) would be analysed as having the constituent structure given in (35) below:

(34) We know for certain [that the President will approve the project]



The CP/IP-analysis of clausal structure represents a major step towards a symmetrical theory of categories. This is because (i) under (33) clauses are 'endocentric' structures by virtue of the fact that they now comprise two layers of structure viz., CP and IP, with each such layer being a projection of the relevant head word-level category, i.e. C and I respectively, and (ii), the non-lexical categories I and C are now fully integrated categories, since they are projectable in exactly the same way as the lexical categories N, V, A, and P.

Given that the functional categories C and I are now totally projectable elements, a natural question which arises is why the functional category D has no projection at all ?

In addition to the theoretical flaw of the standard theory of X-bar cited above, there are other problems,



which are descriptive in nature. One such problem is related to the fact that under this analysis no provision was made for determiners to have complements and specifiers. Yet there are situations where this is required. Radford (1988), for example, argues that D (determiner) can take a specifier, as in the following examples:

(36) He advocated an analysis along [essentially these  
lines]

(37) He made [precisely that point] (adapted: 264)

In (36) and (37), the degree words essentially and precisely are arguably the specifiers of the determiners these and that respectively.

The solution proposed in Radford (op.cit.) is that D heads a DP which functions as the specifier of N-bar. However, the problem with this analysis, is that D never appears to take a complement and is thus anomalous in this respect.

A further empirical problem with the traditional NP-analysis in (35) is that it is too restrictive in the sense that it makes no provision for a number of nominal modifiers. These include what has been traditionally known as Predeterminers, i.e. items like what/how/such, and predeterminer APs such as those underlined in (39). Both types of nominal modifier occur in nominal structures in which they always precede the indefinite article, as the following examples show:

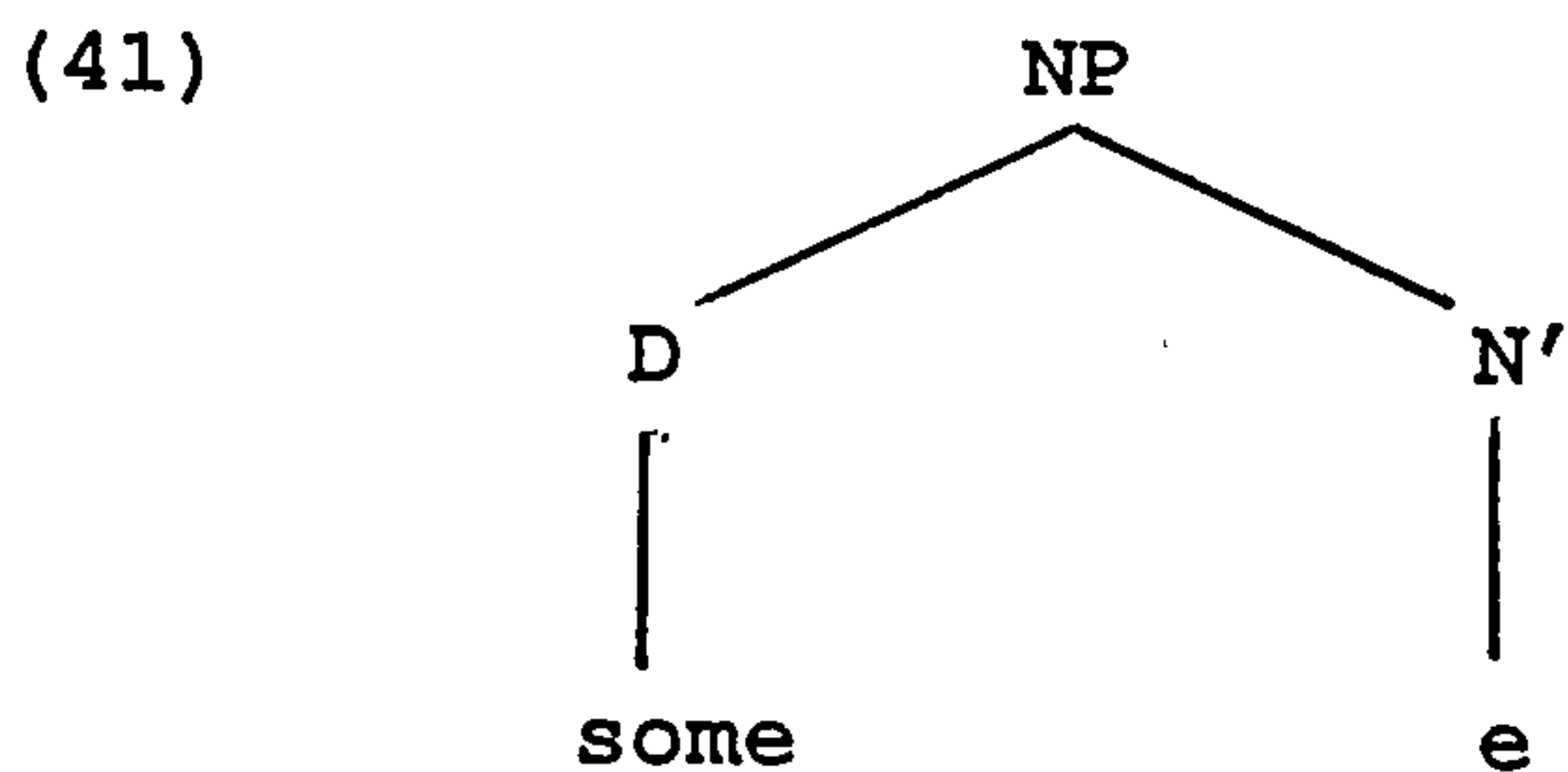
- (38) a. It was [quite a good film]  
b. [What a fool] he is!  
c. He told us [such a funny story]
- (39) a. It was [so remarkable an incident]  
b. I have never encountered [too difficult  
a question]

Given that (i) determiners like the indefinite article is generated in the [Spec., NP] position, and (ii) the specifier position cannot be doubly filled, it follows that the above underlined predeterminer items cannot be generated in the [Spec., NP] position. In other words, the traditional NP-analysis provides no obvious structural position within the noun phrase under which we can plausibly generate the above nominal modifiers. I return to this point later in this chapter (see pp 113-14).

Another descriptive problem with the NP-analysis of nominal phrases relates to the difficulty of accounting for the fact that many determiners can be used pronominally:

- (40) a. There are nuts here, please have [some]  
b. [This] is my new car  
c. There are 20 candidates here, [each] was interviewed individually

Given that determiners are in the [Spec., NP] position, then a phrase like that in (40/a) would have the following schematic structure (the symbol  $\bar{e}$  indicates an empty N-bar constituent):



However, as Radford (1990b) argues, an empty N-bar analysis of pronominal determiners like the ones in (41) is problematic for the simple reason that it would lead to the generation of ungrammatical structures such as those in (42) below:

- (42) a. [\* The e] in our class all passed the exam  
 b. Hazel is [\* a beautiful e]

From the above discussion it becomes clear that the standard X-bar analysis of nominals proves to be problematic on both theoretical and descriptive grounds. More specifically, the analysis of determiners as originating in the [Spec., NP] position fails to capture a number of important characteristics of this type of nominal modifier.

Recently, however, there has been an alternative analysis of noun phrases, which seems to overcome most of the shortcomings of the traditional NP-analysis. This is the NP/DP-analysis, which has been advocated by a number of linguists including Fukui (1986), Abney (1987), and Radford (1990/b). Under the new analysis, the traditional noun phrase is taken to be a DP (determiner phrase) rather



than an NP. NP under the NP/DP-analysis corresponds to N-bar in the traditional NP-analysis. Under the NP/DP-analysis, therefore, the terms 'noun phrase', 'DP' and 'determiner phrase' are synonyms.

in what follows, I shall discuss the main tenets of this hypothesis and highlight the main advantages it has over the NP-analysis discussed above.

### 3.2.2.3. The NP/DP-Analysis

The main claims which are held by the proponents of the NP/DP-analysis are: (i) a noun phrase is headed by a functional element designated as D which projects further into a D-bar by the addition of an NP complement and into a DP by the addition of a specifier; and (ii) the head D-position of the noun phrase is filled at DS by determiners like the articles and demonstratives.

The first of these assumptions i.e. the postulation that a noun phrase is headed by a functional category D harmonises with the analysis of sentences as headed by a functional I-constituent (see diagram 35 above). A functional category in Abney's terms refers among other things to a set of elements which (i) constitute a closed set of vocabulary items, (ii) are generally phonologically and morphologically dependent (see 43 below for an illustration), (iii) permit only one complement (e.g. I selects a VP complement, D selects an NP complement, etc.), (iv) lack descriptive content i.e. their semantic contribution is restricted to regulating and specifying

the reference of their complement (Abney, 1987: 64-65).

Under the NP/DP-analysis, therefore, D is a syntactic category which is the nominal counterpart of I (inflection) in clausal structures. Like I in sentences, D in nominal phrases is the site of a noun phrases's grammatical features such as Number and Gender.

The second hypothesis within Abney's NP/DP-analysis is that the head D-position is filled at DS by determiners like the articles and demonstratives, among other things. Put differently, Abney argues that determiners are Functional heads of the containing nominal phrases<sup>1</sup>. In fact, there are a number of arguments which substantiate the claim that lexical determiners are head constituents of the noun phrase in which they occur.

First, determiners are 'functional' categories: they form a closed-class of elements; they lack descriptive content; and in many languages they are morphologically dependent. This latter claim is further supported by facts from Arabic and French, where the definite article is cliticised to the noun it modifies<sup>2</sup>, cf. respectively:

-----  
1. Note however that Abney's categorisation of determiners as 'functional' words is not original. Fries (1945: 44-56) had made a distinction between 'function' words (e.g. the articles and interrogative determiners like which/what, among others) and 'content' words (e.g. nouns, verbs, and adjectives).

2. Professor Andrew Radford pointed out to me that this might be the case in English as well. This is clear in some dialects (e.g. the Yorkshire dialect) where the is reduced to a single consonant segment (a glottal stop) as in [in ? Ka:] 'in the car'.

(43) a. الرجل  
man the  
'the man'

b. Je vais a' l'hotel  
'I am going to the hotel'

Also, whereas in the majority of cases lexical categories like nouns and verbs have regular morphological properties, determiners are characterised by the fact that they have irregular morphology, and many have more than one allomorph (e.g. a/an; this/these). The choice of allomorph is furthermore conditioned by some rule which does not apply more generally to lexical categories.

For example, the choice of the indefinite article allomorph is determined by the phonological structure of the modified noun. Thus, a is only used before a singular count noun which begins with a consonant, whereas an is used before a singular count noun that begins with a vowel:

(44) a. \* an / a car  
b. \* a / an owl

By contrast, the above phonological restrictions do not hold between lexical categories such as adjectives and the noun they modify, cf.

(45) a big car / owl

A second type of rule which conditions the type of determiner that can be used to modify a given head N relates to grammatical Number. Thus, whereas the demonstrative determiner this can only be used to modify



non-count and singular count nouns, a demonstrative like these can only be used with plural count nouns, see examples (46) and (47) respectively:

(46) I like this hat / music /\* hats better than that one

(47) I like these hats /\* hat /\* music better than those

Lexical categories, on the other hand, are not subject to the kind of Number restriction which determiners are subject to. An adjective, for instance, can be used to modify any grammatical kind of noun, whether a non-count noun, a singular count noun, or plural count noun, as the following example shows: .LS1

(48) nice hat / hats / music.

The syntax of pronominal determiners provides another piece of evidence in support of analysing determiners as heads of the nominal phrase in which they occur:

(49) a. Please carry [this]

b. I'd like some beer, if you have [any]

The fact that phrases comprising pronominal determiners have the same distribution of a typical noun phrase suggests that they are in fact noun phrases:

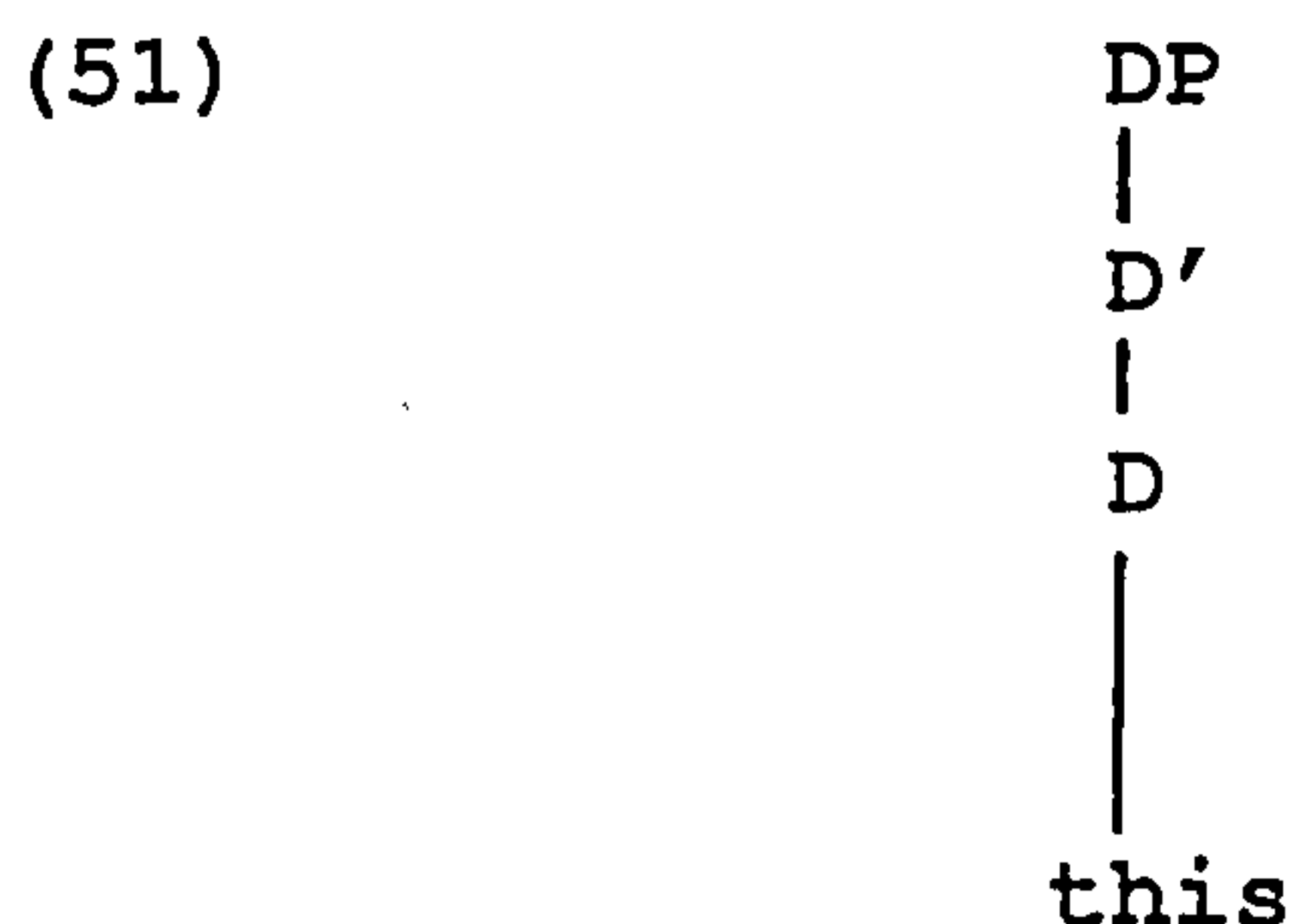
(50) a. Please carry [this box / this]

b. [This car] is mine / [this] is mine

Given the general assumption in X-bar syntax that

heads are obligatory constituents of their containing phrases, a natural way of analysing pronominal determiners would be to posit that they are the heads of their containing nominals in (49).

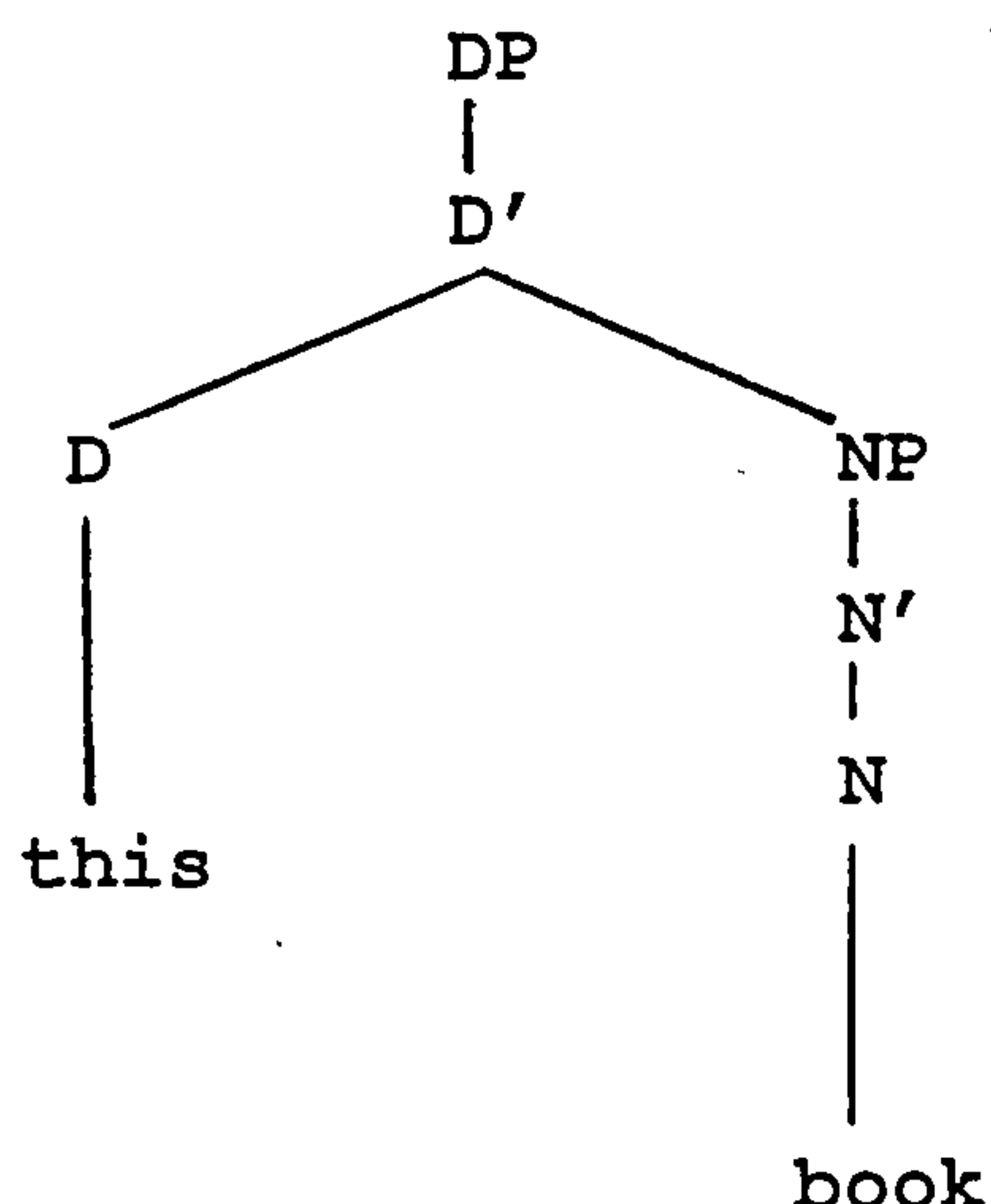
Given (i) that pronominal determiners are head Ds of the nominal in which they occur, and (ii) that phrasal categories are projections of the relevant head constituent, it follows that the overall nominal in (49) cannot have the status of an NP constituent but rather must have the status of a DP. In the light of the above discussion, we therefore represent the internal structure of (49/a) as follows:



The above analysis of pronominal determiners as head D-constituents of the containing noun phrases can be extended to pronominal determiners which should be analysed in a parallel fashion. This would entail that a nominal phrase like the one in (52) would be assigned a structure along the lines of (53) below:

(52) I haven't read [this book] yet

(53)



Thirdly, there is evidence that there are structures in ENG in which D must be the head of the nominal phrase. For example, it is argued that determiners are the heads of the partitive phrases in which they occur, as the following examples show:

(54) a. [ Each of these students ] was interviewed separately

b. [ Neither of them ] is clever

c. [ Those kind of people ] are crazy

(adapted from Radford: 1990b)

Evidence for the claim that the determiners each, neither and those are the head constituents in (54/a), (54/b) and (54/c) respectively, is derived from the fact that in each case, the grammatical properties (e.g. the Number property) of the whole phrase is determined by the D rather than by N, compare:

(55) a. \* [ each of these students ] were interviewed separately



b. \* [neither of them ] are clever

c. \* [those kind of people ] is crazy.

It is clear from the fact that the underlined verbs was, is, and are have the singular or the plural form that the corresponding bracketed nominals are singular or plural, respectively. I return to this point later in this chapter (pp 113-14).

Thus, if determiners are heads of partitive nominal phrases and phrases like (54/c), then the logic of this analysis necessitates that we extend the analysis of D as the head of partitive nominals to include non partitive nominals. This amounts to saying that all determinate NPs (i.e. nominal phrases containing determiners) are headed by D.

The syntax of pronouns provides another piece of evidence for the claim that determiners are head D-constituents of the containing noun phrase. For example, Abney (1987) argues that pronouns cannot be nouns because (i) they do not appear with noun modifiers such as determiners and adjectives, and (ii) they never take the plural -s inflection, compare:

(56) a. [\* The she that I talked to] was nice

b. Which pictures ?

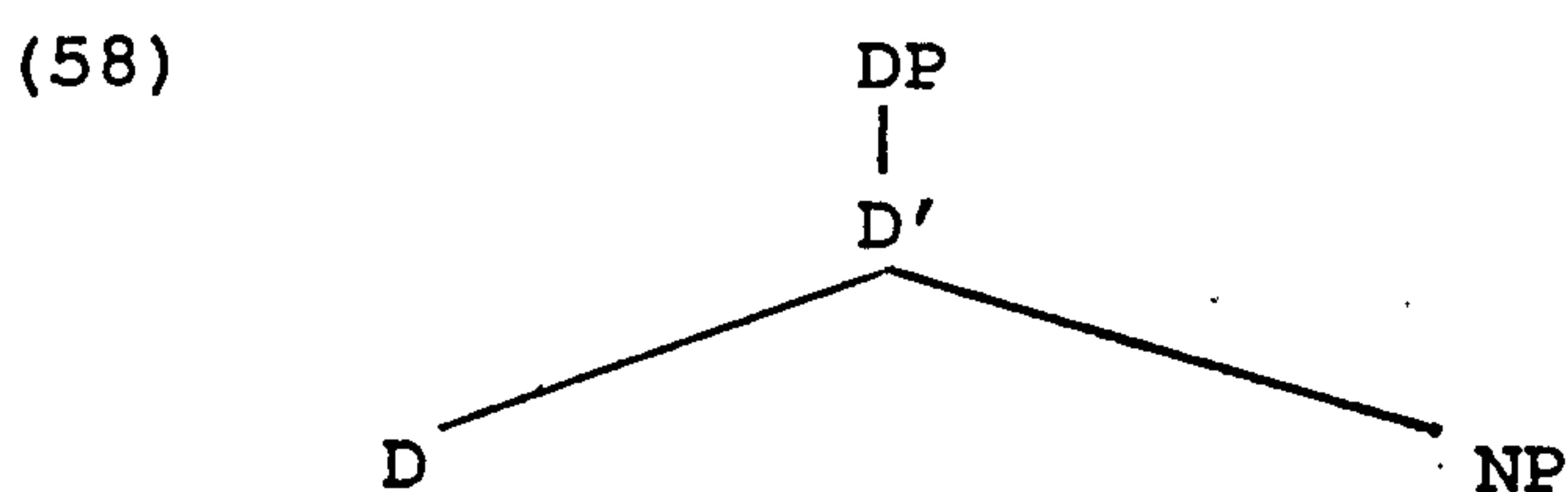
[\* Those awful thems of you in a bikini]

A second argument in support of analysing pronouns as determiners can be formulated in relation to structures such as the following:

(57) [ We/You/The opponents of the poll tax ] must  
bring the government down

(adapted from Radford, 1990b: 11)

In the above example, the determiner the is arguably a head D-constituent of the matrix bracketed noun phrase, taking as its complement the NP opponents of the poll tax. However, the fact that the can be substituted by pronouns like you/we without inferring ungrammaticality, suggests that these pronouns likewise function as prenominal determiners in structures like (57) above (see Radford, 1990b for more discussion of the syntax of pronouns). Given the above reasoning, we can represent the structure of (57) as in (58):



the/we/you

opponents of the poll tax

The analysis in (58) suggests that determiners and pronouns in ENG are generated in the same structural position within the noun phrase, viz. the head D-position. Note however that structures like (57) are only possible where the pronoun is first or second person plural. In other words, pronouns like he/she/I/they do not have prenominal determiner function, hence the ungrammaticality

of:

(59) [\* They linguists] are crazy

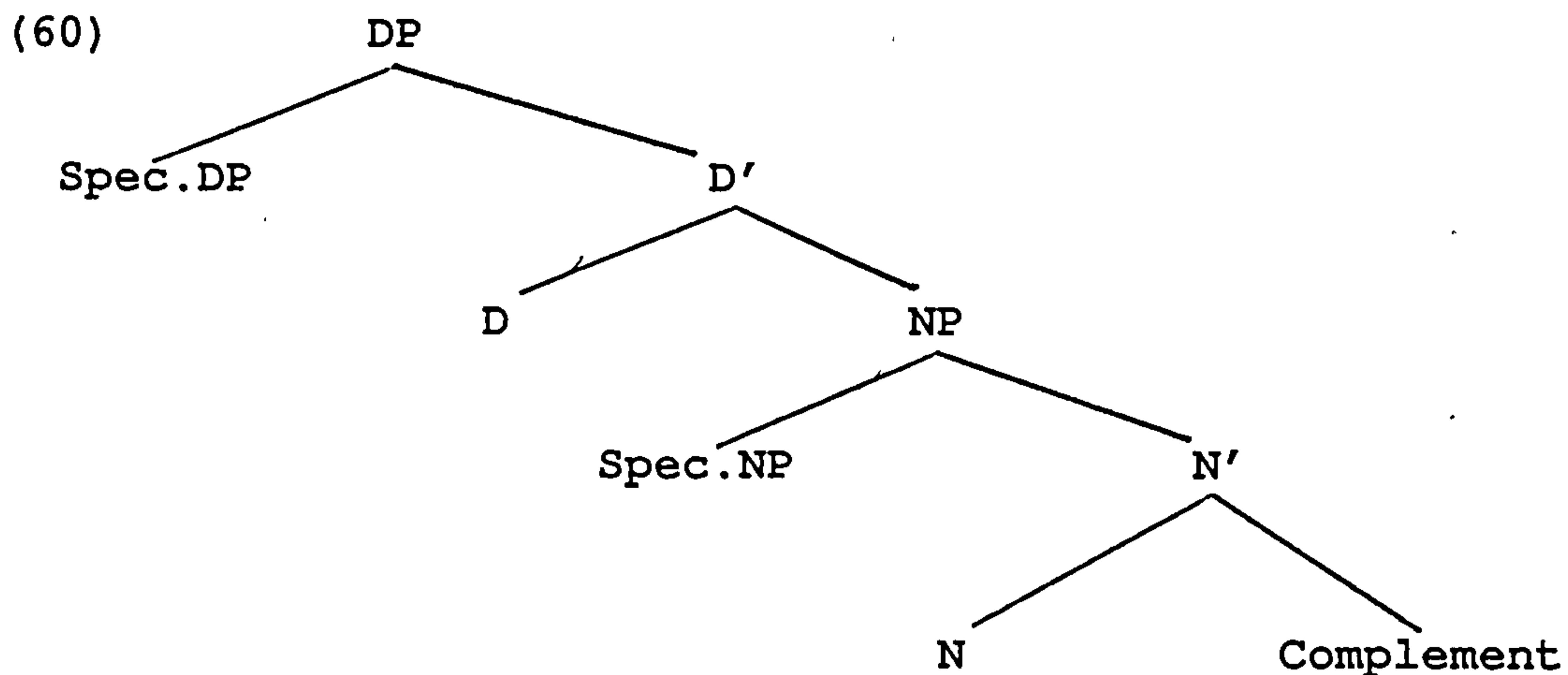
      [\* She actress] is famous

One can argue here nonetheless, that this is not a problem per se, since like all determiners, individual pronouns have separate lexical entries, so that the question of whether or not they can have an NP complement will be specified in the subcategorisation framework of the pronouns concerned. Thus, it can be said that the pronouns you/we can optionally subcategorise a following NP complement, whereas I/he/she/they cannot take NP complements.

Hitherto, I have cited some arguments in favour of the claim that a head N in ENG projects functionally into a DP via the addition of a determiner. Put differently, the foregoing discussion supports the conclusion that a noun phrase containing a determiner among its constituents has the status of a DP rather than an NP.

It should be pointed out nonetheless that the NP/DP-analysis of nominal constructions does not block the possibility of N having its own specifiers, complements and adjuncts. Thus, under the NP/DP-analysis, there are two sub-systems within the noun phrase: the DP-system and the NP-system. Under this analysis, the skeletal structure of a given nominal phrase would have the following schematic form:





The DP/NP-analysis exemplified in (60) above suggests parallels with the CP/IP/VP-analysis of clauses in that both nominals and clauses comprise a lexical category system contained within a functional category system (NP within DP in the case of nominals and VP within IP and CP in the case of clauses).

#### 3.2.2.3.A. Further Advantages of the NP/DP-Analysis:

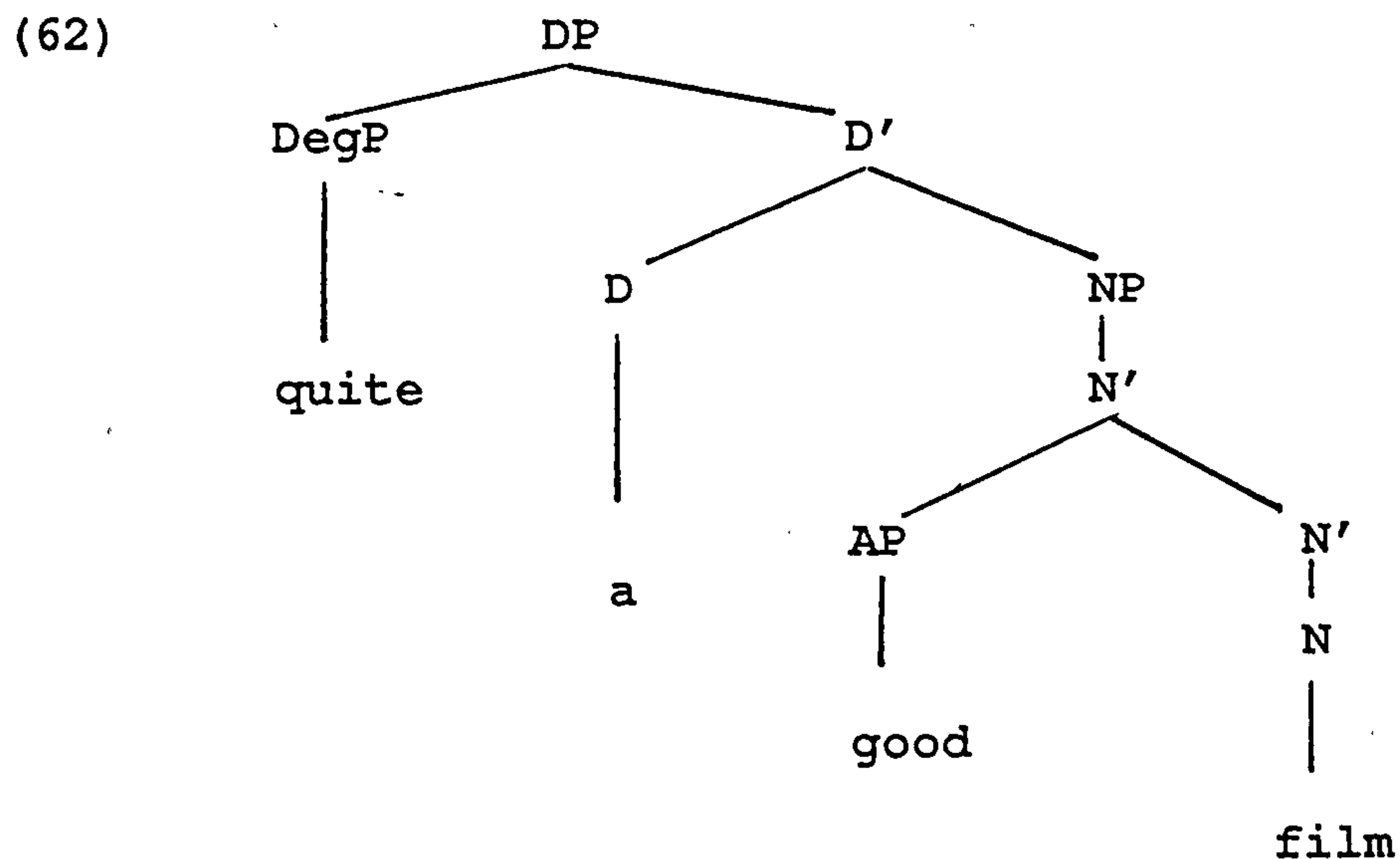
The DP/NP-analysis seems to have a number of advantages over the traditional NP-analysis in (3.2.2.2). This analysis has overcome a number of the theoretical and descriptive problems which beset the NP-analysis.

From a theoretical point of view, the DP/NP-analysis is superior to the NP-analysis in that the former not the latter satisfies the Symmetrical Projectability principle in (33) by virtue of the fact that under this analysis, both N and D are projectable categories (into NP and DP respectively), whereas under the NP-analysis, N was projectable but D was unprojectable. Under the NP/DP-analysis, therefore, D is no longer a defective syntactic

category by virtue of its projectability. The main theoretical advantage of the NP/DP-analysis, therefore, is that it allows us to develop a maximally symmetrical theory of categories in which all word-level categories both lexical and functional project into phrases in symmetrical ways.

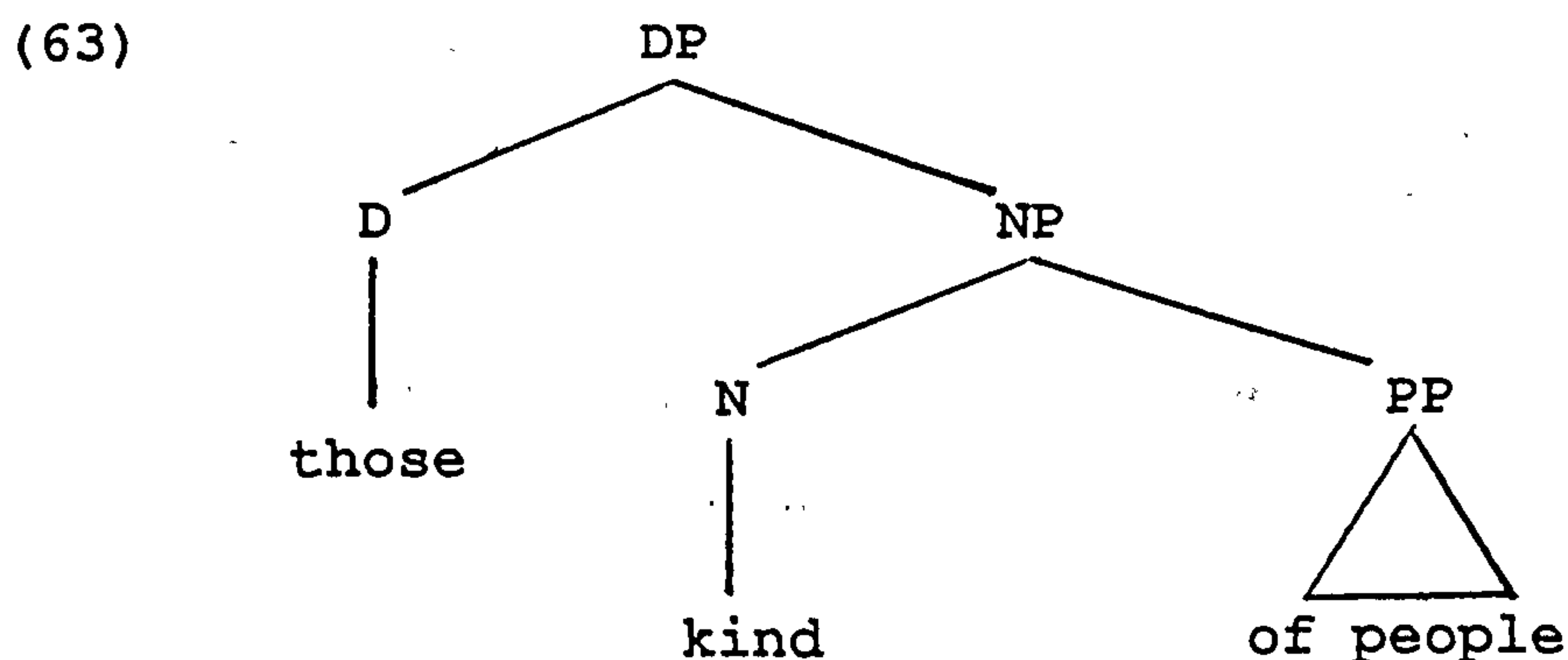
From a descriptive perspective, the NP/DP-analysis is also more tenable than the earlier NP-analysis. This analysis provides a natural way of accommodating predeterminer constituents like the ones in (38) and (39) above. Thus, given that determiners like the indefinite article a are in the head D-position and that D can have its own specifiers, then one way of accounting for the grammaticality of the sentences in (38) and (39) is by postulating that items like quite, what and so remarkable are generated in the [Spec., DP] position. To be more concrete, a noun phrase such as that in (38/a) repeated here as (61) for convenience, would have the structure in (62):

(61) It was [quite a good film]



The above analysis of predeterminers will be entirely blocked under the classical X-bar analysis which posits only one specifier position within the noun phrase.

A further descriptive advantage of the DP/NP-analysis is that under this analysis, we can account for the agreement facts in the examples (54) in a straightforward fashion. More specifically, under this analysis, the bracketed nominal in (54/c), for example, has the categorial status of a DP, as can be represented schematically as follows:



Given that the nominal phrase in (54/c) is headed by a



D constituent, it follows that the overall phrase will inherit the grammatical properties of its head D 'by percolation'. Since the head D is a plural determiner (those), the analysis in (63) predicts that the overall DP those kind of people will be a plural expression, and thus requires plural agreement. And as the example in (54/c) shows, this is indeed the correct prediction.

In sum, there are a number of theoretical and descriptive advantages of the DP/NP-analysis of noun phrases over the traditional NP-analysis. Consequently, I shall adopt the NP/DP-analysis (for ENG and MSA) in this study.

Having described in theoretical terms the main aspects of the NP/DP-analysis of noun phrases, in the remaining part of this chapter, I shall discuss the major types of nominal modifier in terms of the DP/NP-analysis as outlined above. My treatment of ENG nominal phrases is not exhaustive. I shall only focus my attention on those aspects which are relevant to our discussion of ENG and MSA CA.

Following the above reasoning, I divide my discussion of ENG nominal phrases into two sections. In section (3.3), I discuss the main types of nominal modifier which occur within the functional D-system, including items like the articles, demonstratives, among others. In section (3.4.), I discuss the modifiers which belong to the lexical N-projection. These include possessive DPs, APs, PPs, and numeral phrases, among others. My discussion of

these constituents is mostly derived from Radford (1988, 1990, 1990a/b), Jackendoff (1977), Abney (1987), Fukui (1986).

I shall be discussing the various principles which determine the relative order of each type of nominal modifier both in relation to the head constituent and in relation to other modifiers. The term 'modifier' is used as a cover term which may designate a specifier, a complement or an adjunct. It will be shown, for example, that the No Crossing Branches Restriction and principles of both Theta Theory and Case Theory play an important role with regard to the word ordering-facts of the various modifiers.

### 3.3. The Functional System

In section (3.2.2.3) above, I presented the evidence for the claim that a noun phrase projects functionally (i.e. it has a phrasal expansion in which the head is a functional category) into a DP via the addition of a lexical determiner (e.g. this, some, etc.).

On distributional grounds, we recognise two main classes of determiner which occur within the functional system of the ENG noun phrase. The first subclass includes items like the articles, demonstratives, which(ever), what(ever), either/neither, some,any, enough, and each, among others. These determiners are traditionally referred to as 'central determiners' since other determiners are usually indirectly defined by reference to them. The

second group comprises items such as all, both, fractions like half, and multipliers like double three-times, etc. These determiners are traditionally called 'predeterminers' because they can occur before central determiners. In what follows, I shall discuss both types of determiner each in turn.

### 3.3.1. Central Determiners

The main central determiners to be discussed here include the articles the and a(n); demonstratives, some and the interrogative wh-determiners (e.g. which(ever) and what(ever));

The above determiners occur in prenominal position where they are in complementary distribution with each other, and therefore never co-occur:

- (64) a. [\* This the car] is more expensive than the other one  
b. [\* Which some students] do you want to interview first ?  
c. There are [\* some the tools] for the job

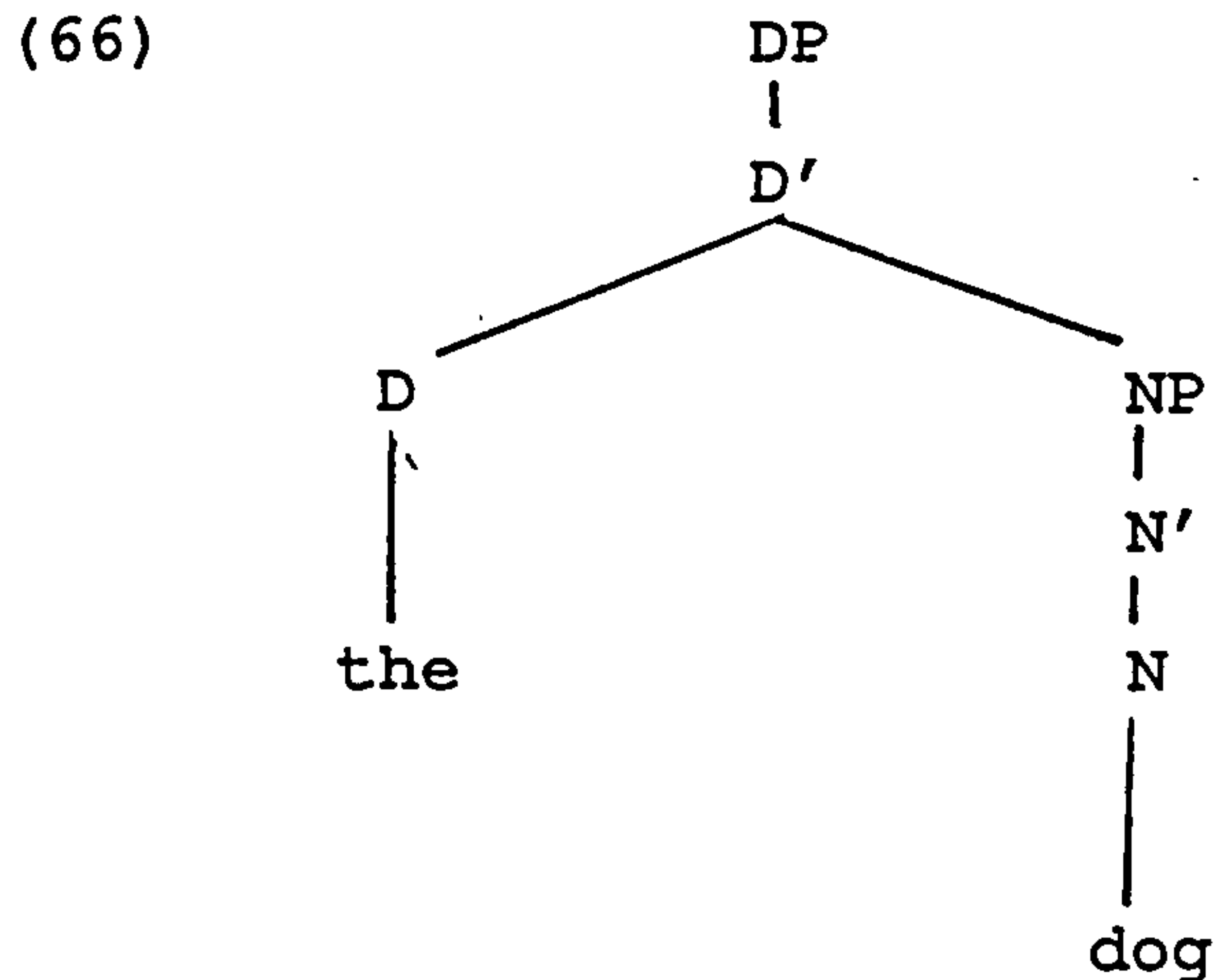
Their mutual exclusivity in the same phrase suggests that they occupy the same structural position within the noun phrase.

Within the framework of X-bar syntax, arguments were presented in section (3.2.2.3) that determiners are D-heads of the noun phrase in which they occur. In other words, an ENG noun phrase projects into a DP via the addition of a determiner. Thus, given (i) that a



determiner like the is of the syntactic category D, and (ii) that this D heads the containing nominal, we represent the internal constituent structure of the underlined nominal phrase in (65) as in (66) below:

(65) [The dog barking next door] is a poodle



Information as to the range of complements that a given determiner can subcategorise (i.e. take) will be further specified separately in the lexical entry of each determiner, since these are highly idiosyncratic in nature and cannot be derived from some general principles.

Determiners in this section can be divided into two groups with regard to the range of complements that they allow. The first group includes the articles the and a(n). These determiners share the characteristic that they obligatorily take a following NP complement, compare:

(67) a. [The man with red hair] is my uncle

b. Thabet is [a banker]

a(n) and the cannot be used pronominally, hence the ungrammaticality of the following example: .LS1

(68) a. [\* The with red hair] is my uncle

b. Thabet is [\* a]

The second group include items like some, which, and demonstratives. These determiners differ from those in the first group in that they can optionally take a following NP complement:

(69) a. I saw [some people] I knew

b. [Which book] do you like best ?

c. I am surprised you like [these pictures]

In addition to selecting following NP complements, the determiners in the second group can be used pronominally, i.e. in phrases in which they stand on their own:

(70) a. He asked for some money and I gave him [some]

b. [which] do you want ?

c. Wait until you've read [this]

Most of the above determiners can also take a following of-phrase complement. For a discussion of this, see section (3.4.2.2) below.

### 3.3.2. Predeterminers

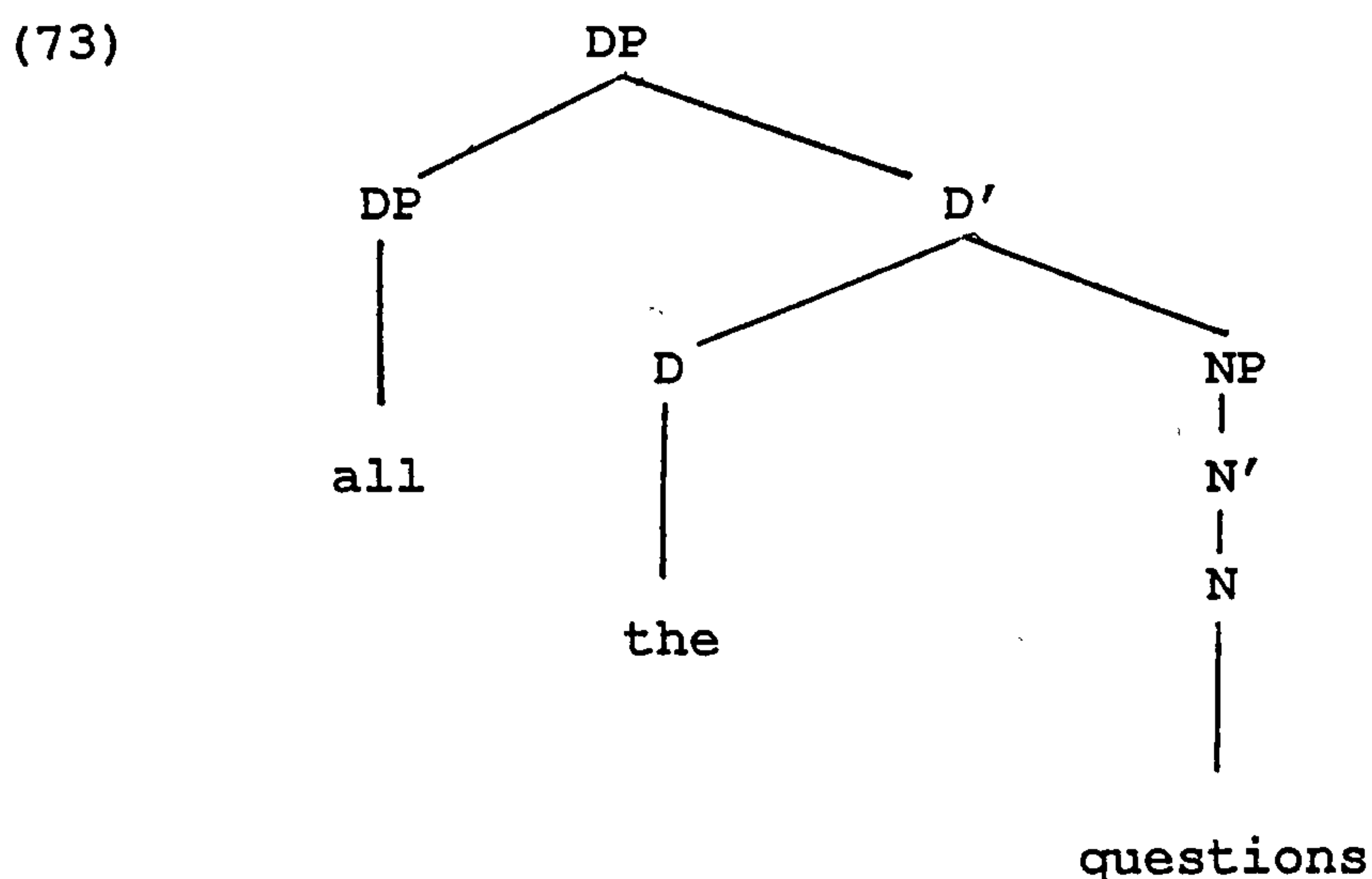
This group of determiners includes items such as all, both, half, and multipliers such as double, three-times, and quite. (on other predeterminers such as such, what,

how, see section 3.2.2.3.A above). These determiners occur before central determiners and are mutually exclusive in this position:

- (71) a. [All the questions] must be answered  
 b. [Both these students] are intelligent  
 c. He bought [double this amount of beer] last night
- (72) a. [\* All both his friends] are clever  
 b. [\* Both half these cars] are brand new ones

The fact that the above determiners can occur with the articles and demonstratives in the same noun phrase suggests that they occupy a different structural position from that occupied by demonstratives and articles.

One possibility is that predeterminers occupy the [Spec., DP] position on a par with other predeterminers like what/quite/such (section 3.2.2.3.A) above), as can be represented schematically in the following terms:



But the possibility that predeterminers are in the



[Spec., DP] position can be rejected for two reasons: (i), the [Spec., DP] position is occupied by genitive DPs (see section below 3.4.1.1 for a discussion), and (ii), most of these items can co-occur with genitive phrases, as the following examples show:

(74) [All/both/half John's friends] passed the exam

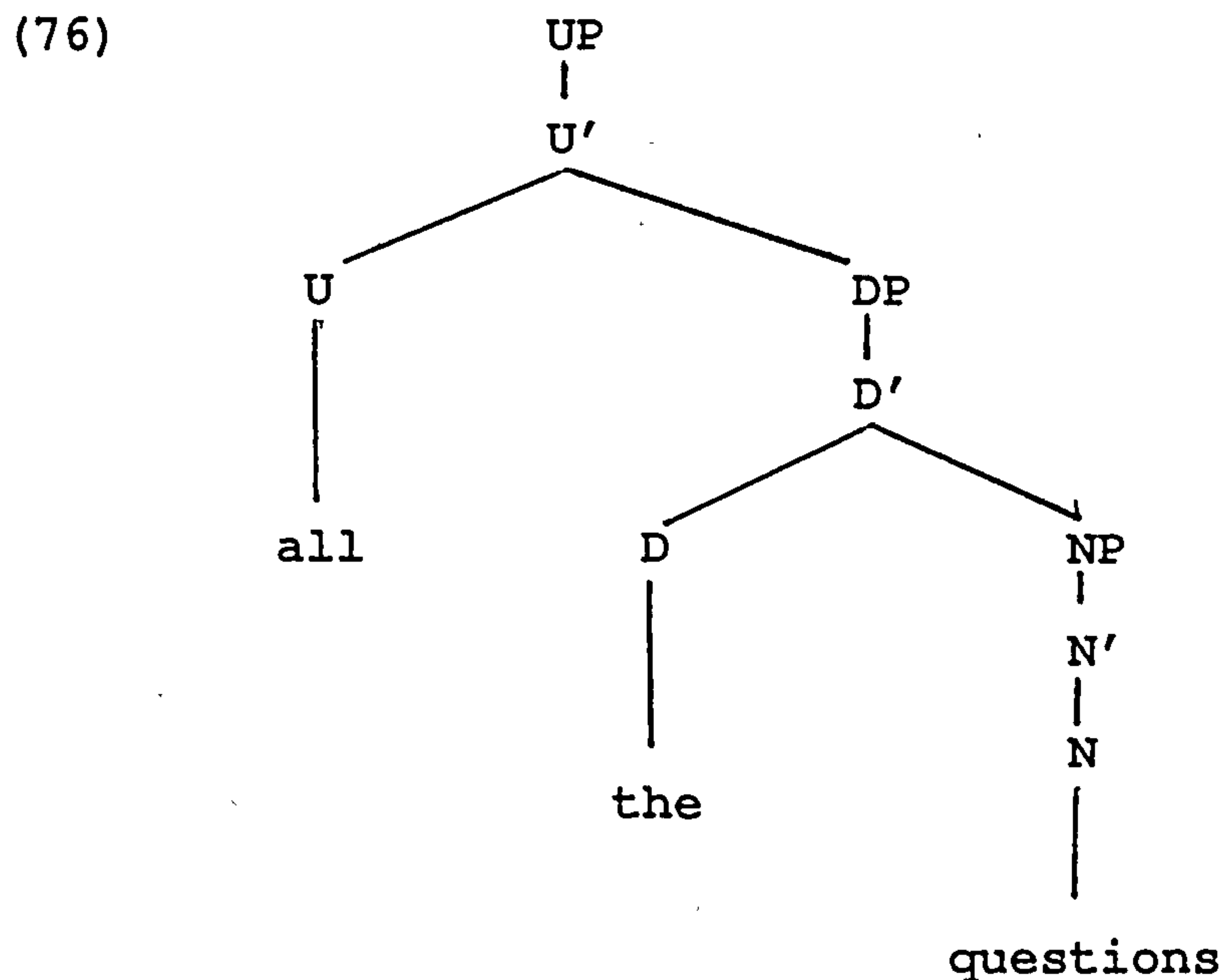
Thus, given that the specifier position is a unique position and that it cannot be filled twice, it follows from the grammaticality of (74) that determiners like all/both must occupy a structural position other than the [Spec., DP] position.

Perhaps a more plausible analysis is to regard predeterminers as heads of the noun phrases in which they occur. Support for this analysis comes from the fact that most of these determiners can stand on their own:

(75) [All/both] enjoyed themselves

Thus, given the X-bar assumption that heads are obligatory constituents of their phrases, it follows that all/both are head constituents in (75). We can generalise this analysis of pronominal predeterminers to the structures in (71) and claim that they occupy the head position in these. We will designate this position as the U position to differentiate it from the D-position which is filled by the articles and demonstratives. This means that a noun phrase such as (71/a) would have the following

schematic structure:



And we account for the grammaticality of (71/a) by postulating that all is a head U which subcategorises a following DP as a complement.

However, given Fukui's (1986) assumption that the specifier of a given functional category can only appear when it is licensed, for e.g. when case is assigned to this position, and that in ENG determiners like all/both are not case-assigning categories, we conclude that the specifier position of the corresponding phrasal projection will be caseless. This would in turn explain why the [Spec., UP] position remains empty.

In addition to taking a DP complement, items like all, both can also take NPs as complements:

- (77) a. [All children] want presents on their birthdays  
 b. [Both students] passed the exam

(on the uses of all/both in partitive structures, see section 3.4.2.2 below).

The above discussion of determiners brings us to discussing the second system within the noun phrase viz., the 'lexical' system.

#### 4.4. The Lexical System

Nominal modifiers which form part of the lexical projection of N can be subdivided into two groups: prenominal modifiers and postnominal modifiers. In section (3.4.1.) I discuss prenominal modifiers whereas in section (3.4.2.) I examine the syntax of postnominal modifiers.

##### 3.4.1. Prenominal Modifiers

###### 3.4.1.1. Possessive DPs

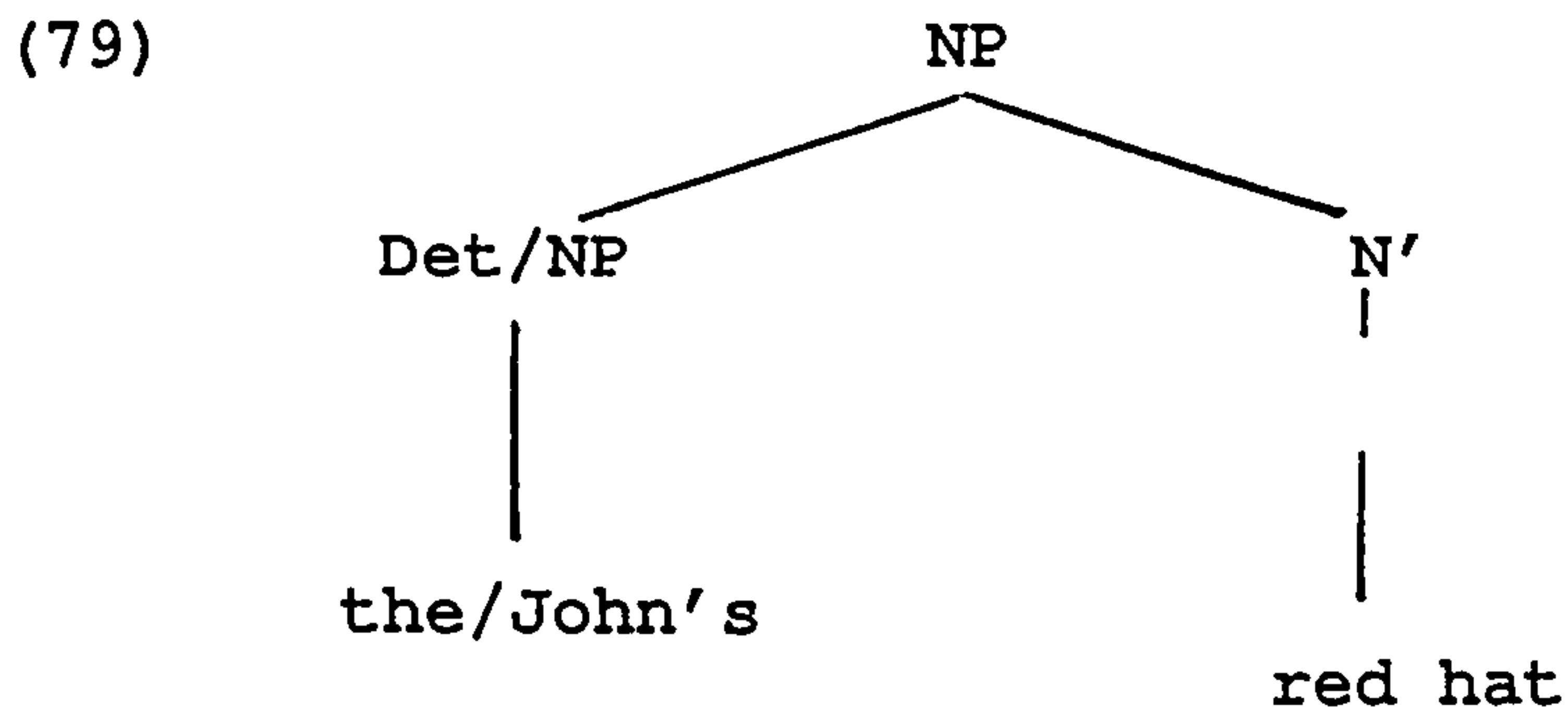
One type of nominal premodifier is genitive/possessive noun phrases. Possessors within nominal phrases are also referred to as subjects (of noun phrases), by virtue of the fact that, like the subjects of clausal structures, they occupy the structural position of specifiers underlyingly (see diagram 86 below for an illustration). In the present work, the terms possessors/subjects are used interchangeably.

Possessive DPs in ENG, occur in prenominal position and are in complementary distribution with determiners:

- (78) a. I liked [\* the John's new red hat]  
b. Have you seen [\* some Mary's new pictures ?]  
c. [\* My uncle's this villa] is near the seaside



Under the NP-analysis, the complementarity of distribution of possessors and determiners is explained on the grounds that they occupy the same structural position (see originally Chomsky, 1970), viz. the [Spec., NP] position, as can be shown schematically as follows:



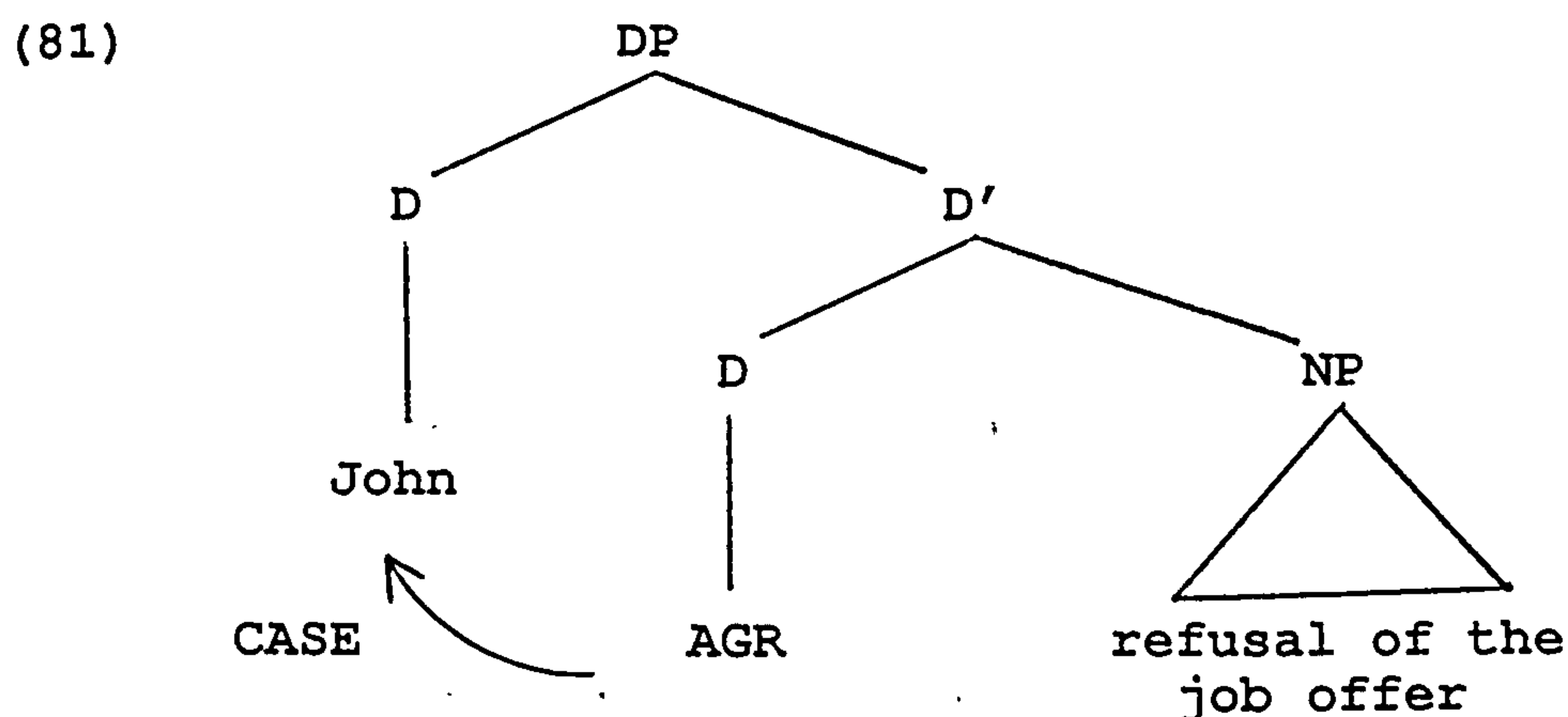
Under this analysis, however, no explanation was given of how the genitive phrases acquires the genitive 's suffix.

Under the NP/DP-analysis, there have been two alternative accounts of the distribution of possessive DPs within the noun phrase. The first account is along the lines suggested by Abney (1987). Under Abney's analysis, possessors occupy the [Spec., DP] position where they are both theta-marked and case-marked by D to its right. In order to account for the complementarity of the distribution of genitive DPs and determiners, Abney (ibid) postulates (i) that the genitive case of possessors is assigned by an AGR element in D, and (ii) that 'AGR in D does not co-occur with lexical determiners' (ibid, 271). Thus, possessors only appear when there is AGR in D. The inability of AGR to co-occur with lexical determiners

would in turn explain the inability of possessors to co-occur with lexical determiners.

Under Abney's analysis, therefore, a noun phrase containing a genitive DP among its modifiers such as that in (80) would have the underlying structure in (81) below:

(80) [John's refusal of the job offer] was unexpected



The main assumptions underlying Abney's analysis of possessive DPs are (i) the morpheme -s is a mere case inflection, and (ii) the head D-position of the matrix noun phrase is left empty at DS. One of the problems posed by Abney's analysis relates to case-marking mechanisms. More specifically, under this analysis, the case assigned to the matrix DP by an external governor will percolate down onto an empty head D which must therefore be able to carry case. However, given the assumption that case must be realised on an overt lexical item, it is not at all clear how an empty category D can be marked for case. In fact, what we have here is a double abstraction: (i) the external case assigned to the matrix DP will percolate to

an empty head, and (ii) the genitive case of subjects/possessors is assigned internally by an empty head D.

Another problem with Abney's analysis is that since the morpheme 's is a case inflection, then how come it cliticises to the entire subject phrase and does not percolate down to the head D of the subject DP, or onto the head N of NP as in:

- (82) a. [ The king of England's crown]  
b. [\* The king's of England crown]  
c. [\* The's king of England crown]

The second alternative analysis of prenominal possessive DPs treats the genitive 's morpheme as a head determiner of the whole nominal construction as was argued by Fukui (1986). Like Abney, Fukui (ibid) argues in favour of the DP-analysis of noun phrases. He, however, argues that the maximal projection of N is an N-bar, which means that, under his analysis, an NP and an N-bar are one and the same thing. He thus assumes that the head D of the nominal phrase projects into a D-bar by the addition of an N-bar complement, and it projects into a DP by the addition of a specifier.

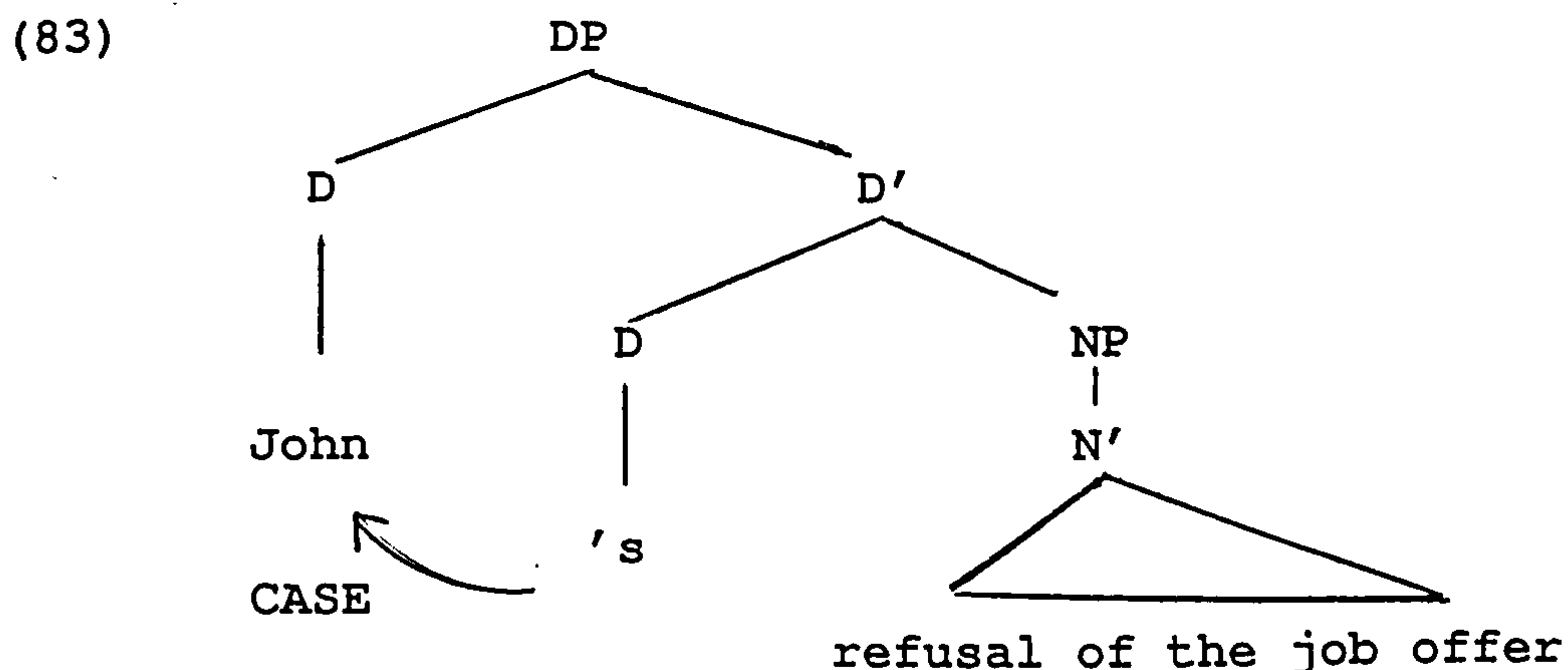
The [Spec., DP] position is filled by a possessive DP at surface structure. In order to be licensed, a possessive DP must be case-marked by D in this position.

According to Fukui (op.cit.), the functional category D includes determiners which can assign case like 's and



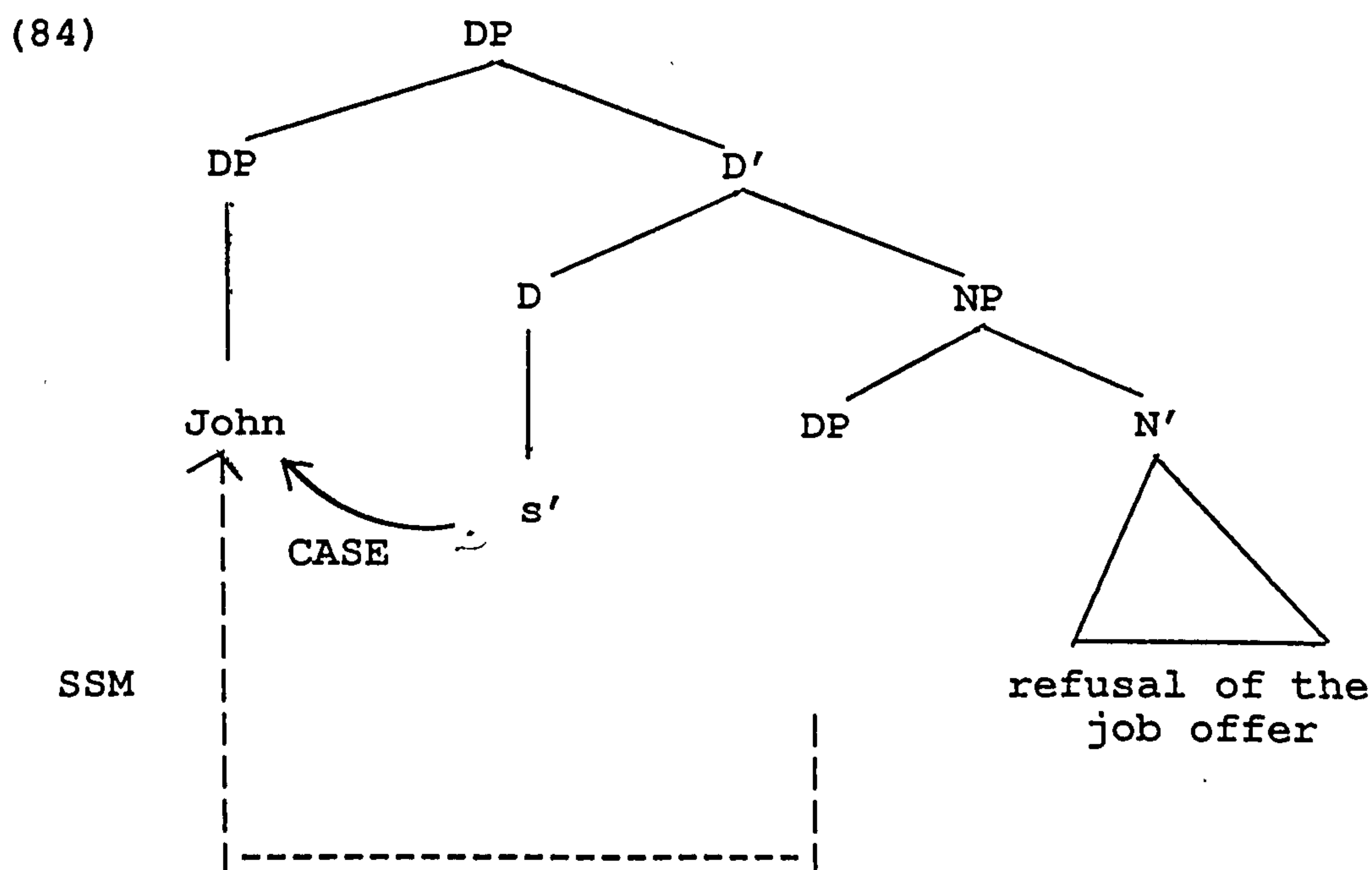
determiners which cannot assign case like the articles and demonstratives among others. Given that subject/possessive DPs are only licensed via case, it follows that a possessor can only appear in the [Spec.,DP] position when this position is occupied by the case-assigning determiner 's. Thus, providing that determiners like the articles and demonstratives are non case-assigners, it follows that they cannot appear with possessors in the same noun phrase. This is because the latter can only appear in [spec., DP] position when case is assigned to this position.

Under Fukui's analysis, therefore, the nominal phrase in (80) has a structure which can be represented as follows:



However, given (i) that arguments and hence subjects are theta-marked elements and (ii) that they can only be theta-marked by a lexical category (see Radford, 1990: 9), it follows that the subject phrase John must originate within the NP lexical projection of the noun phrase at DS

in order to be theta-marked by the lexical head N. Furthermore, given (i) that possessive DPs must also be marked for case so that the CFC is not violated, and (ii) that in ENG, case is assigned rightward by lexical categories and leftward by functional categories (see Fukui, 1986 and Fehri, 1988 among others), it follows that the only possible position for this DP to get case is the [Spec., DP] position. This means that in order to be case-marked, the possessive DP is raised to the specifier of D in order to be case-marked by 's. Thus, the surface structure form in (80) is derived by a Specifier-to-Specifier Movement (henceforth SSM) of the possessive phrase John. More specifically, this phrase has moved from the [Spec., NP] position to the [Spec., DP] position for case reasons. We can represent this movement in the following way:

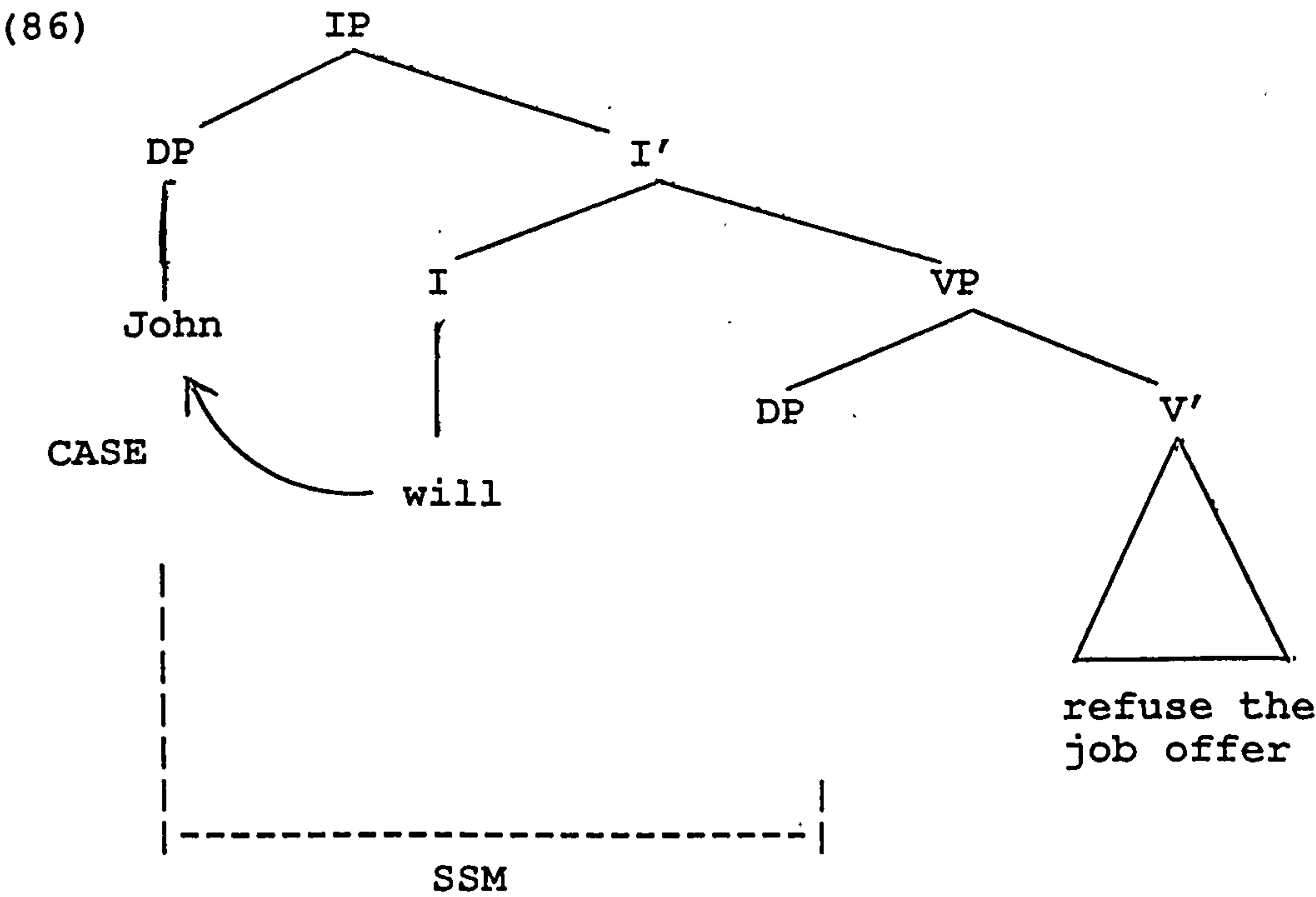


Note that the above analysis of the subject/possessor

phrase of the derived nominal phrase in (80) is consistent with the analysis of subject phrases in the corresponding verbal structures (see for example Koopman & Sportiche, 1991 ). To take a concrete example, the following structure represents the clausal counterpart of the nominal phrase in (80):

(85) [John will refuse the job offer]

In the above clausal structure, the subject phrase John also originates in a theta-marked position viz., the [Spec., VP] refuse the job offer, but is subsequently raised up to become the specifier of the matrix IP in order to be case-marked by the head I will, as is shown in schematic form in (86) below:



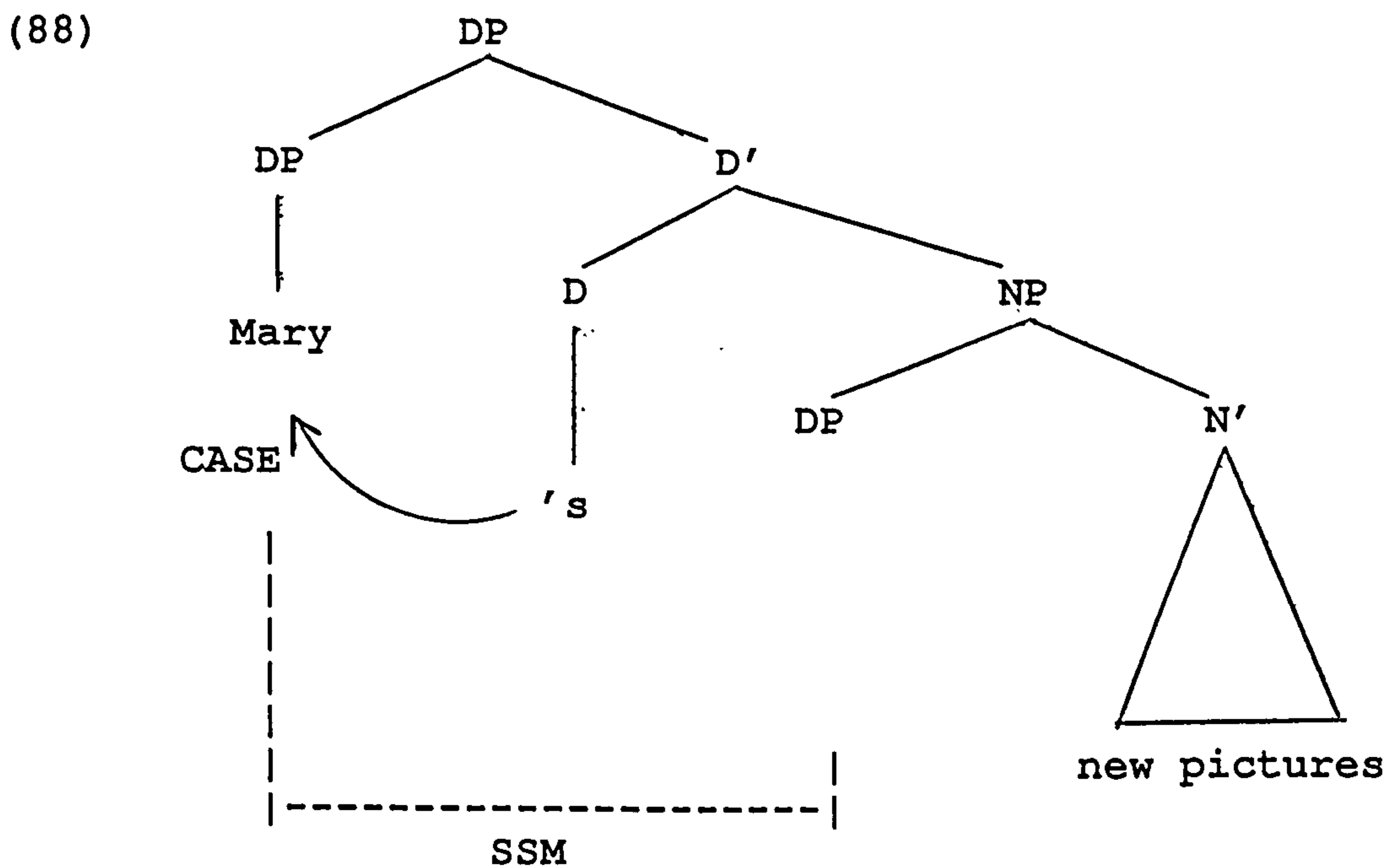
The above analysis of the possessive phrases of



derived nominals can be extended to possessive phrases of non-gerundive nominals such as the following:

(87) Have you seen [Mary's new pictures ?]

We thus assume that in (87) the possessive DP Mary also originates in the [Spec., NP] position for theta-marking conditions, but is later moved to the [Spec., DP] position in order to be case marked by 's and satisfy the CFC, as can be represented in the following schematic form:



### 3.4.1.2. Adjectival Phrases

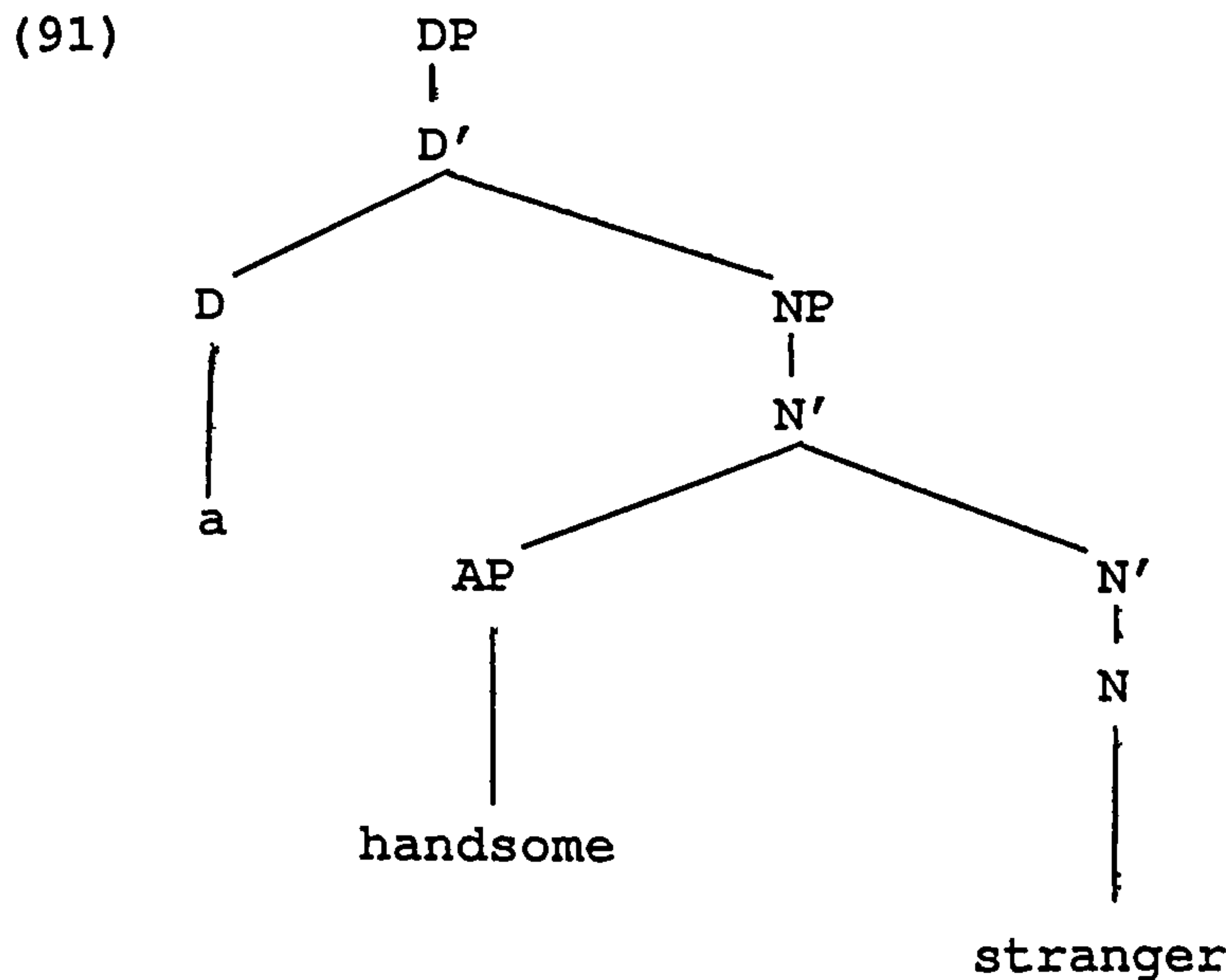
Adjectival phrases (or APs)in ENG are most commonly used in prenominal position where they follow determiners and quantifiers:

- (89) a. We visited [his delightful cottage] in the mountains
- b. I bought [some expensive T-shirts] yesterday
- c. It was [a really excellent film]

Within the framework of X-bar syntax and following Radford (1988)<sup>1</sup>, I shall argue that APs in ENG are N-bar adjuncts, i.e. elements which recursively expand an N-bar into an N-bar<sup>2</sup>.

The core assumption made here is that a noun phrase containing an AP such as that in (90) has the associated structure in (91):

(90) I saw [a handsome stranger]



From (91), we see that APs are recursive elements whose syntactic function is to expand the N-bar stranger into an N-bar. One of the consequences of this analysis is

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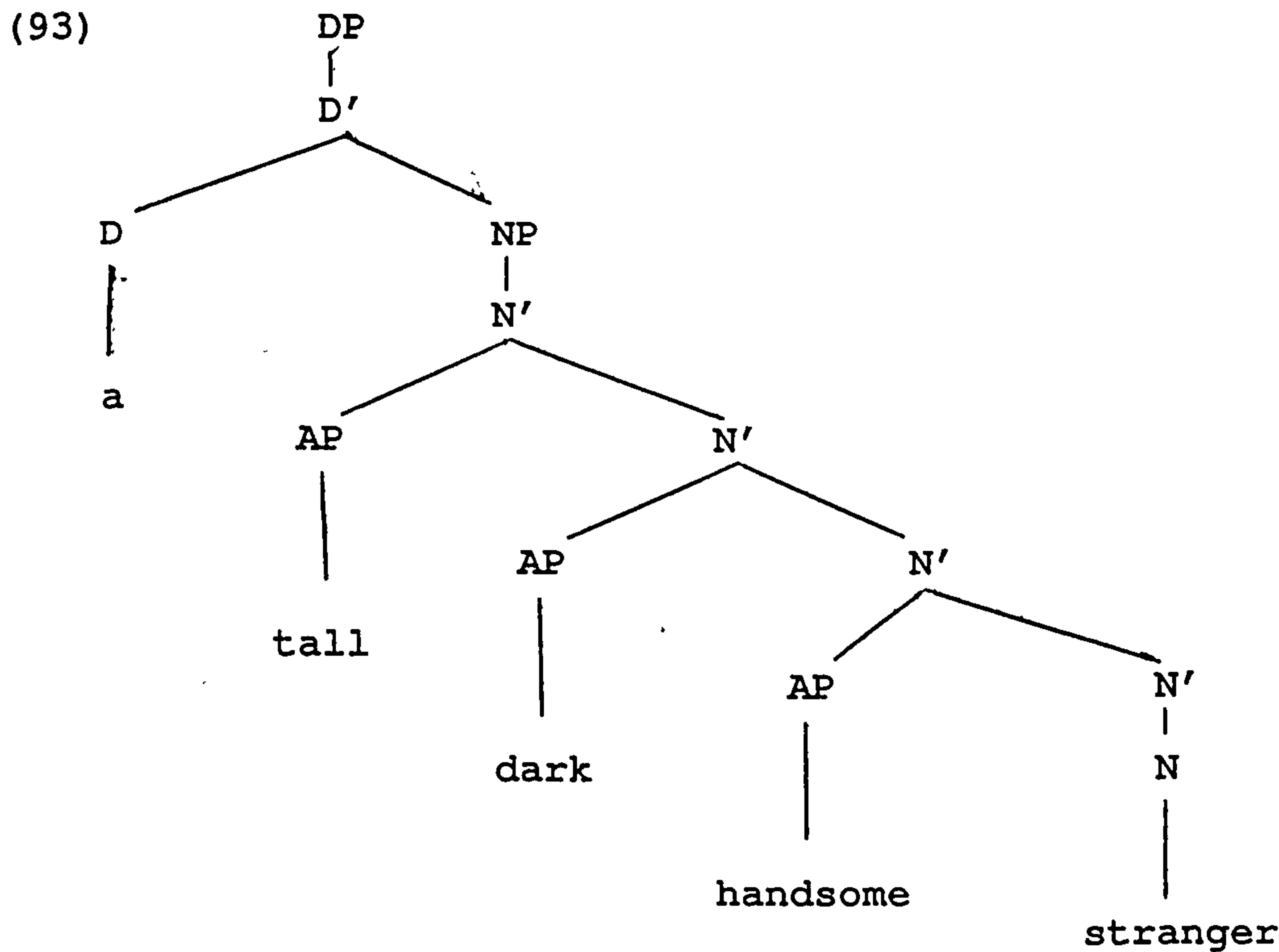
1.Abney (1987) proposes a different analysis of prenominal APs. Under his analysis, an A heads the noun phrase in which it occurs. For a discussion of the main shortcomings of Abney's A-as-Head analysis, the reader is referred to Radford (1990/a).

2. It should be pointed out however, that an NP-adjunct analysis of prenominal APs is equally plausible for ENG but not for MSA.

that it predicts that a noun phrase can contain an indefinite number of stacked attributive APs, and as the example in (92) shows, this is indeed the right prediction:

(92) I saw [a tall dark handsome stranger]

The phrase in (92) would be represented as having the following structure:



Moreover, the analysis in (91) predicts that we can stack the APs on top of N in any order. As the following examples show, this prediction is completely borne out:

- (94) a. I saw [a dark tall handsome stranger]  
b. I saw [a handsome dark tall stranger]  
c. I saw [a handsome tall dark stranger]



It should be noted however, that whereas the analysis in (91) predicts that there are no syntactic restrictions on the ordering of prenominal APs, it allows for other restrictions (e.g. semantic restrictions). For example, Quirk et al. (1985) and Dixon (1982a) argue that there are constraints on the linear ordering of attributive APs in a given noun phrase, which are determined by their semantic properties. Thus, whereas some of the above sequences are acceptable from a syntactic point of view, some of them will be more preferable on semantic grounds.

Further evidence of the claim that prenominal APs are N-bar adjuncts is derived from 'one-substitution' facts. To be less abstract, the structure in (88) above predicts that the sequences stranger, handsome stranger, dark handsome stranger, and tall dark handsome stranger are all N-bar constituents. Thus, if we posit that one is the type of pronoun which typically substitutes N-bar constituents (see Baker 1978; Hornstein & Lightfoot, 1981; Radford, 1988), we predict that each of these sequences can be proformed by the pro-N-bar one, and as the examples (100) show, this prediction is a correct one:

- (95) a. Which stranger ? The tall, dark, handsome one ?  
 b. which handsome stranger ? The tall, dark one ?  
 c. Which dark handsome stranger ? The tall one ?  
 d. Which tall dark handsome stranger ? This one ?

In (95/a), the proform one has the N-bar stranger as its antecedent; in (b) it refers back to the N-bar handsome stranger; in (c) it refers back to dark handsome

stranger; and in (d), it takes the whole sequence tall dark handsome stranger as an antecedent.

Although in the unmarked case the majority of ENG APs occur prenominally, there is a class of APs which occur in postnominal position:

- (96) a. He is [the president elect]  
b. This is [the attorney general]  
c. He is [the heir apparent]

Many APs can equally be used in either position:

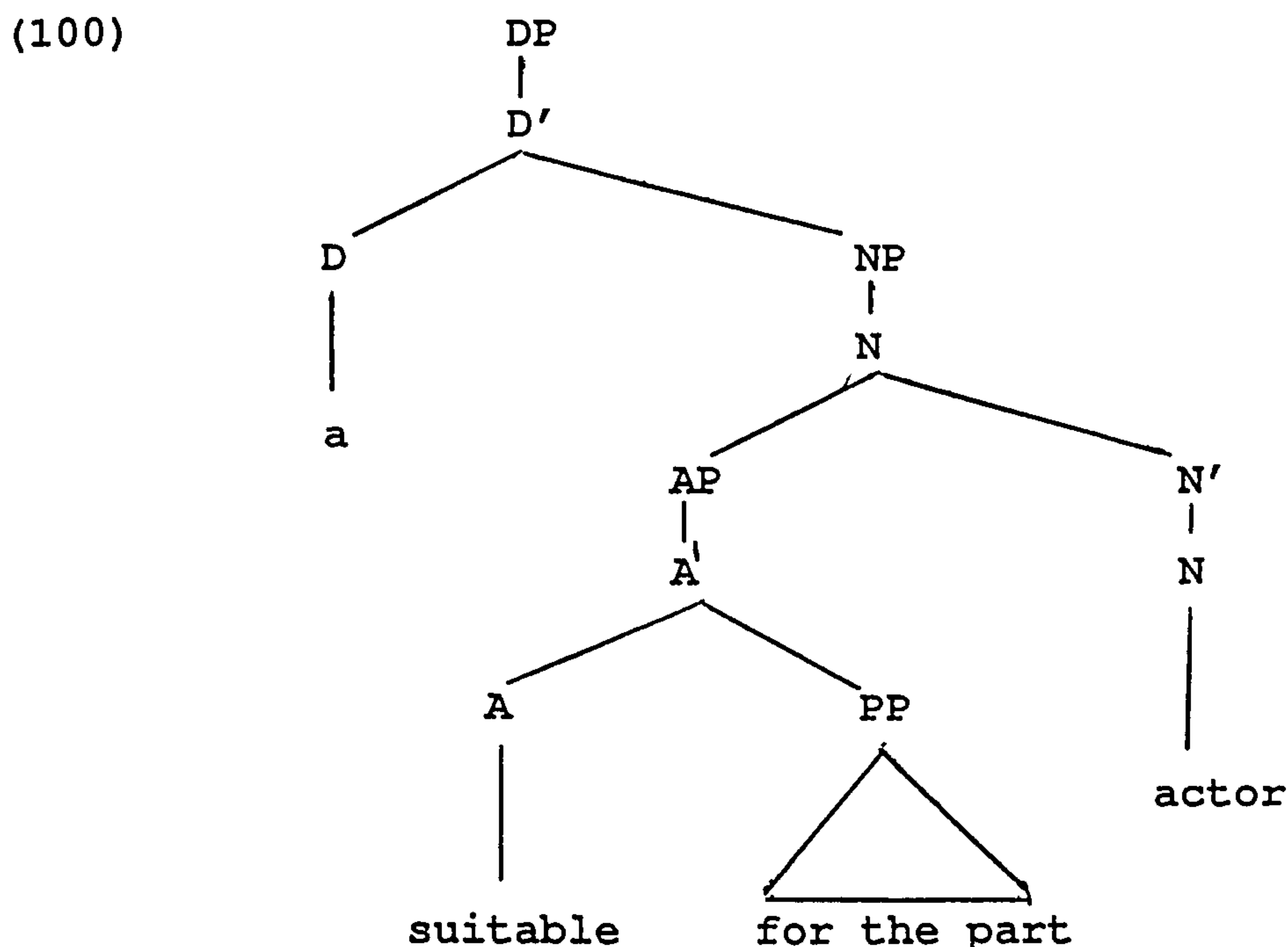
- (97) a. This is [the best possible solution]  
b. This is [the best solution possible]  
  
a. He is [the only suitable actor]  
b. He is [the only actor suitable]  
  
a. It is [a quite so impressive car]  
b. It is [a car quite so impressive]

Alterations like these in (97) suggest that APs in ENG can be base-generated as a right or left adjuncts to the N-bar they modify.

An essential difference between attributive APs and postnominal APs is that an attributive AP cannot have a complement in prenominal position whereas a postnominal AP can have a complement in postnominal position, compare respectively:

- (98) a. He is [\* a suitable for the part actor]  
b. She lives in [\* the next to mine room]  
c. He made [\* a parallel to mine suggestion]  
(99) a. He is [an actor suitable for the part]  
b. She lives in [the room next to mine]  
c. He made [a suggestion parallel to mine]

The ungrammaticality of the examples in (98) is explained on the grounds that they violate a constraint on the Uniform Directionality of Branching Constraint henceforth UDBC), which requires a premodifier to be head-final (see Radford, 1990a: 16). To illustrate this point, I represent the structure of a nominal phrase like the one in (98/a) as follows:



In (100), we see that the prenominal AP suitable for the part is a right branching structure headed by the A suitable, and yet it is immediately embedded inside a left-branching node. In turn, the grammaticality of the examples in (90) is explained on the grounds that it does not violate the UDBC restriction. This is because the underlined APs are right-branching structures contained within right-branching structures.

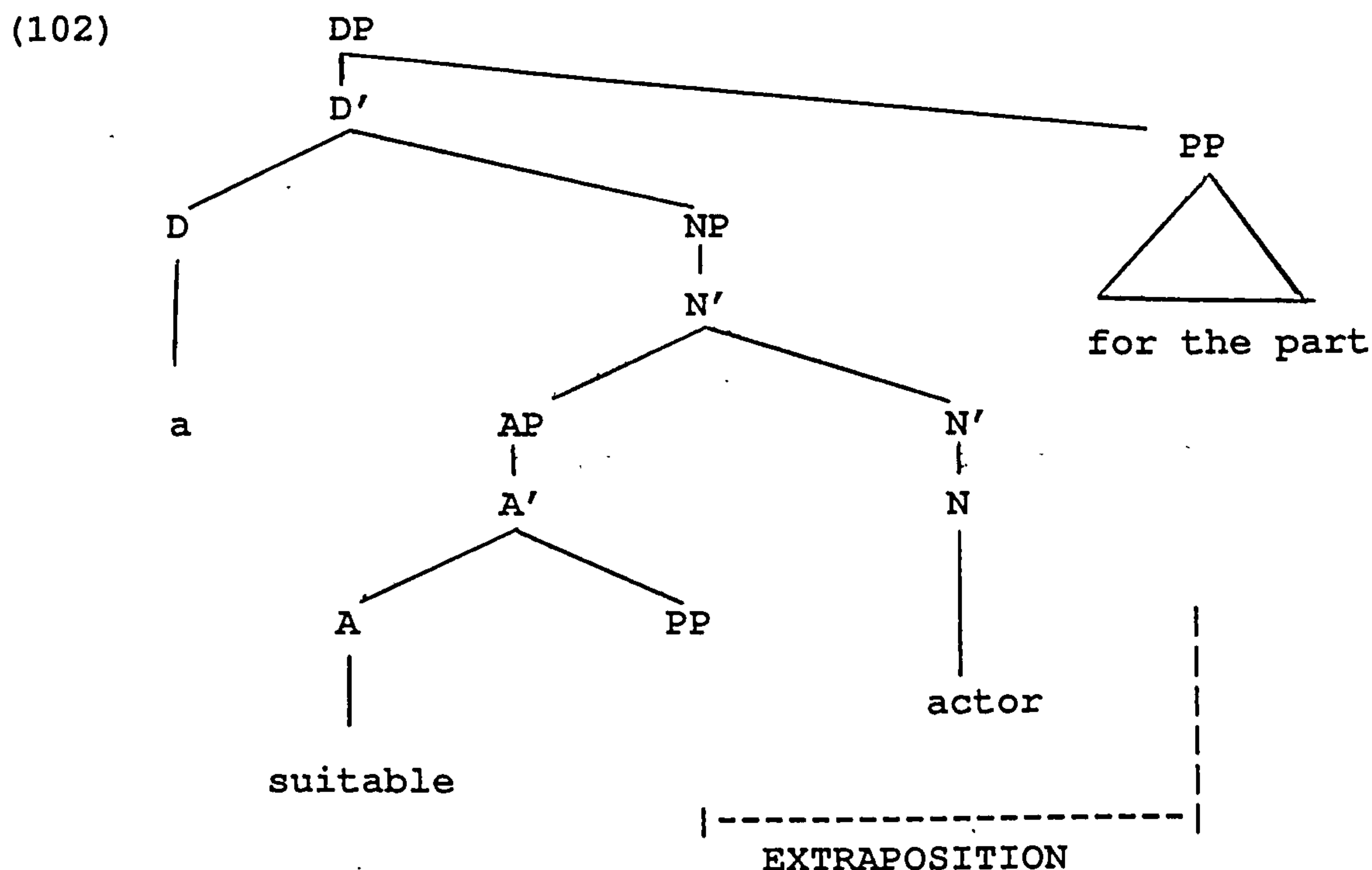
The UDBC can be avoided if we extrapose the complement



PP for the part and adjoin it to the matrix DP, so resulting in the following well-formed structure:

(101) He is [a suitable actor for the part]

We can represent the extraposition rule as follows<sup>1</sup>:



A third class of APs in ENG comprise those which can occur in predeterminer position. The following are examples:

(103) a. He told [so funny a story]

b. It was [so remarkable a coincidence]

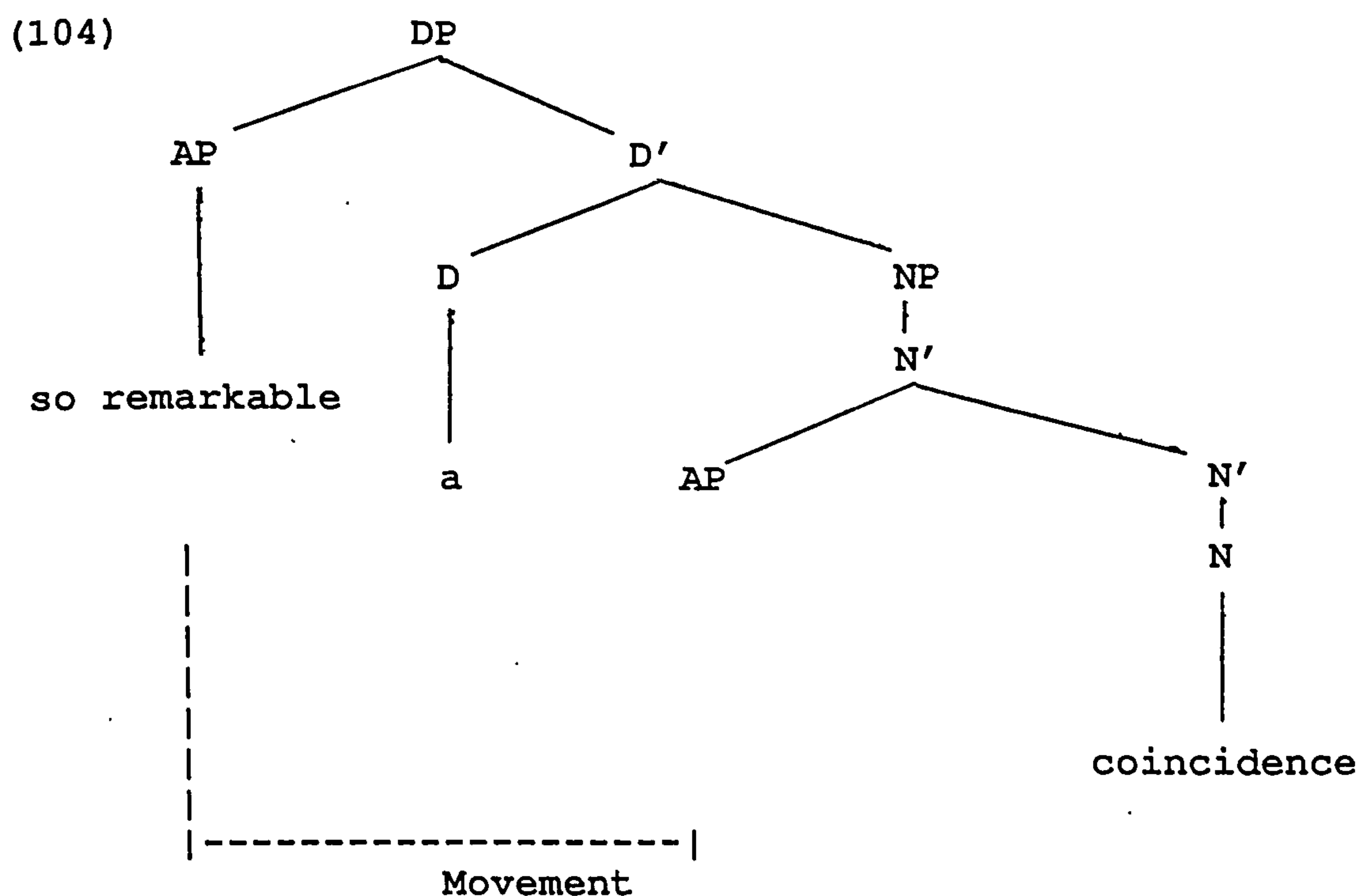
c. It was [too difficult a question]

1. Note however that this extraposition is only sometimes possible, as the ungrammaticality of the following example shows:

- She is [\* a fond woman of her son]

In the majority of cases, predeterminer APs are preceded by degree words like so/too/as. Following Radford (1990a), I assume that predeterminer APs such as those in (108) originate in the 'normal' prenominal position, i.e. as adjuncts of N-bar, and then get preposed from this underlying position into the superficial [Spec., DP] position.

The type of movement rule involved here is parallel to that of wh-movement since in both types of movement, the movement operation applies only to APs premodified by items like how/so/such/too. Another parallel between the two types of movement is that in both cases, the AP is moved into the specifier of a functional head category (C in clauses, and D in nominals). We can represent this movement in nominal structures as follows:



One source of evidence to the claim that predeterminer APs originate within the lexical projection of N is based on the fact that in many instances the AP can be used interchangeably in both positions without inferring ungrammaticality, as the following examples show:

(105) a. I have never seen [a quite so impressive car]

b. I have never seen [quite so impressive a car]

(adapted from Radford, 1990a: 15)

Furthermore, given Fukui's (1986) assumption that specifiers have to be licensed by their heads in some way, this would provide an account of the fact that nominal constructions involving APs in predeterminer position can only occur when the head D is the indefinite article a, not when it is the or this, cf.

(106) a. It was [\* too difficult the question]

b. [\* How remarkable this coincidence]

#### 3.4.1.3. Numerals

Following Jackendoff's (1977) terminology, I divide English numerals into two groups: cardinals and semi-numerals.

Cardinals include items such as three, four, ten, etc. which do not require an article before them; semi-numerals, on the other hand, comprise items like dozen, hundred, million, etc. and require an article before them



<sup>1</sup>, see examples (107) and (108) respectively:

(107) a. There are [three birds] in this cage

b. He has [two sisters and four brothers]

(108) a. He bought his fiance [a dozen red roses]  
on her birthday

Following Jackendoff (op.cit.), I shall assume that numerals are nouns rather than quantifiers. One piece of evidence for this claim comes from the fact that they can be modified by typical nominal modifiers such as APs and demonstratives:

(109) a. [A beautiful two weeks]<sup>2</sup> (adapted: 129)

b. [This two weeks] was better than the last one

Another piece of evidence for the claim that numerals are nouns and not quantifiers comes from the fact that, unlike quantifiers, numerals cannot have degree words as specifiers, compare:

-----  
1. Note that the indefinite article a of a semi numeral is deleted when the head N of the matrix DP is modified by constituents like demonstratives, numerals or possessive DPs, compare:

- [\* Those/\* Mary's/\* three a dozen red roses]
- [Those/Mary's/three dozen red roses]

1. Note that structures such as this are only possible when an AP intervenes between the numeral and the article hence the ungrammaticality of: \* a three weeks.

(110) [so many people]

[too little wine]

(111) [\* so three / \* too dozen red roses]

As far as their relative distribution within the noun phrase is concerned, numerals usually occur before APs and after possessive DPs:

(112) a. [John's dozen new pictures]

b. [Mary's three beautiful daughters]

(113) a. [\* John's new dozen pictures]

b. [\* Mary's beautiful three daughters]

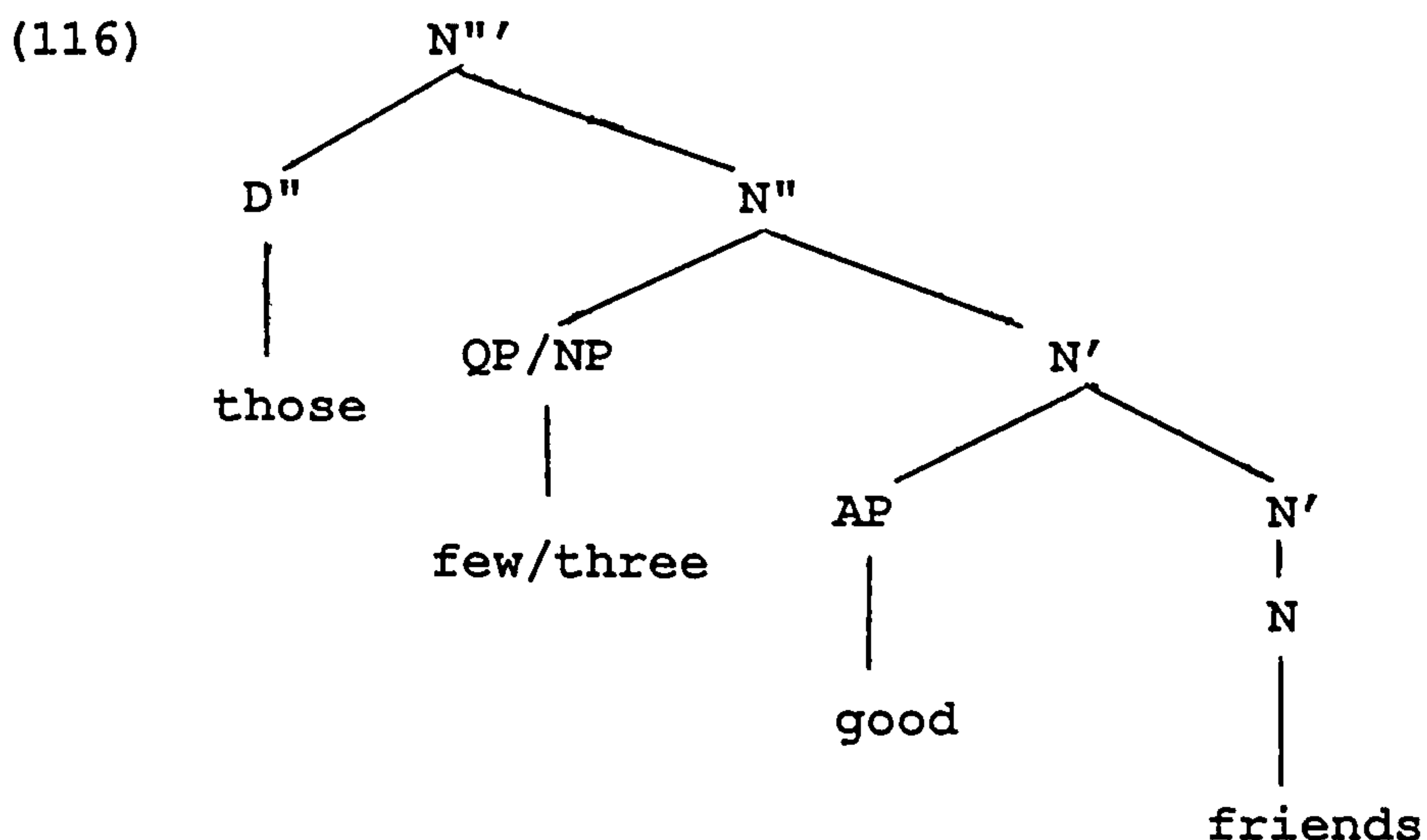
They are furthermore in complementary distribution with QPs (quantifier phrases) in this position:

(114) a. [\* Jane's dozen many cuddly teddy bears]

b. I have already seen [\* these three several movies]

In order to accommodate numeral phrases and quantifier phrases within the X-bar schema, Jackendoff (1977: Chapter 5) introduced a second specifier position within the noun phrase, which means that the maximal projection of N is N''' under his analysis. He furthermore assumed that both numeral phrases and QPs have the syntactic function of expanding N-bar into N-double-bar. To make this point more concrete, under Jackendoff's three-bar analysis, an NP such as that in (115) would have the associated structure in (116):

(115) I know [those few/three good friends]

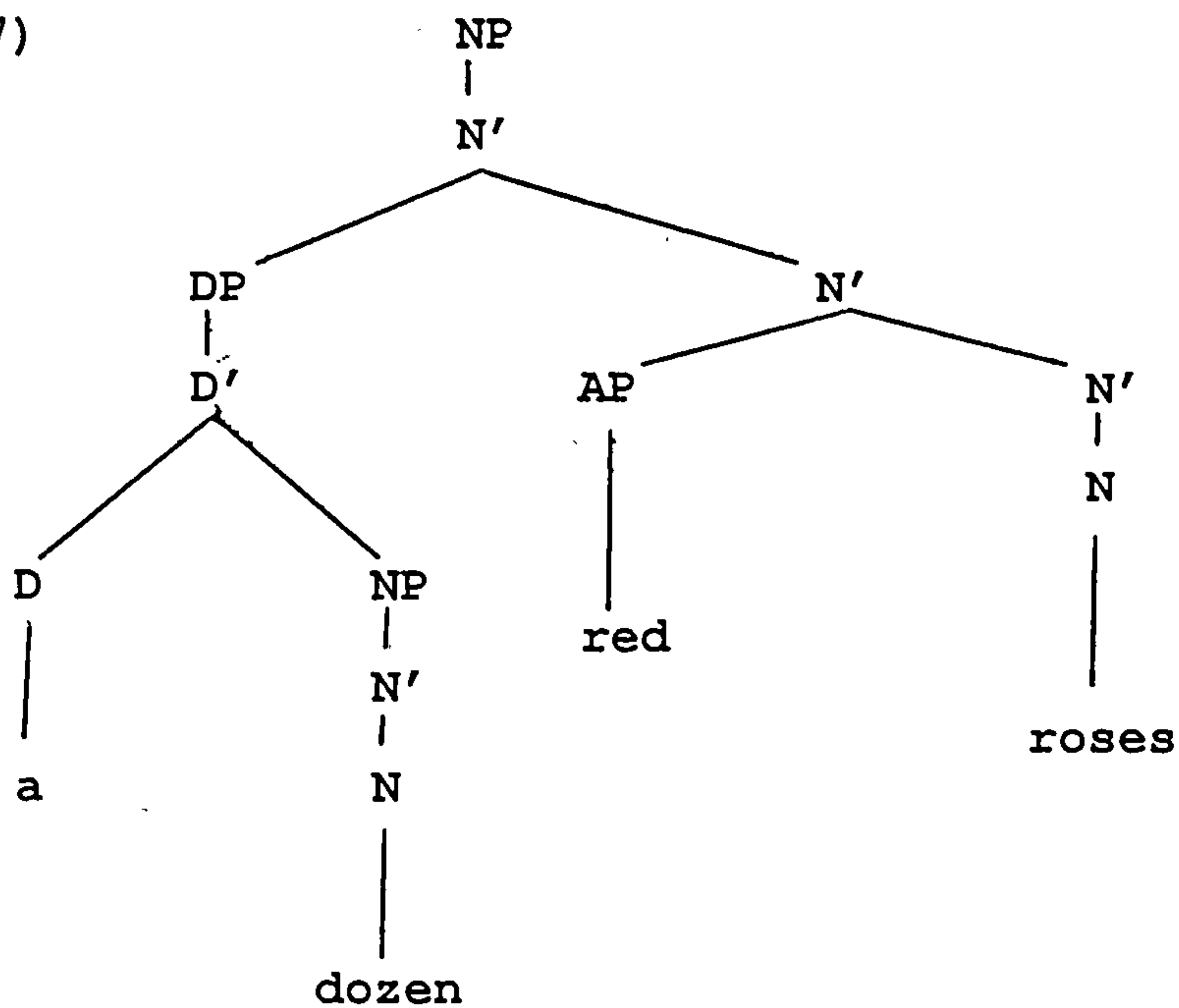


One of the objections to Jackendoff's analysis is based on the grounds that the logic of his approach necessitates that we invent a fourth level to attach other nominal modifiers like predeterminers all and both. This would in turn require the abandonment of the core assumption of X-bar syntax that there is a uniform cross-categorial system of projections for heads.

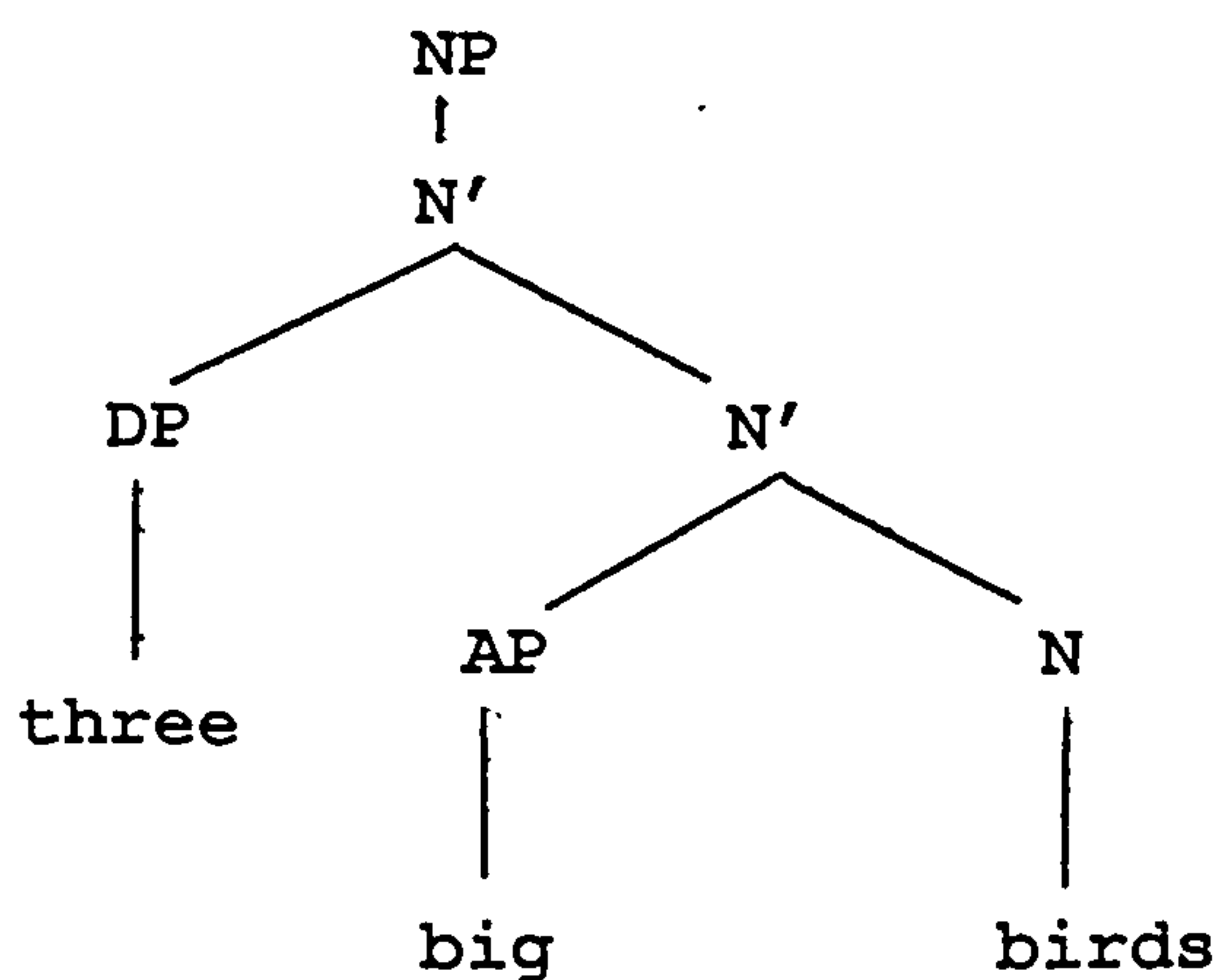
Within the present framework, I shall propose that numeral phrases have the same constituent function as APs viz., expanding N-bar into N-bar. I therefore represent the internal structure of the numeral phrase in (108) and (107/a) as in (117) and (118) respectively:



(117)



(118)



The analysis of numeral phrases as N-bar adjuncts yields two predictions: (i) that these phrases can be recursively stacked, and (ii) that they can be used along with other N-bar adjuncts such as APs in any order. Nonetheless, the two predictions are falsified by the ungrammaticality of the sentences in (119) and (120) respectively:

(119) He owns [\* three six expensive cars]

(120) He owns[\* expensive three cars]

However, one can argue here that the ungrammaticality of (119) is attributable to a semantic rather than a syntactic constraint, since it is not at all clear how a given number can be 'three' and 'six' at the same time. This means that each numeral (and each quantifier) may quantify only one expression, and each expression can be quantified by only one numeral.

We can also attribute the ungrammaticality of the example in (120) to semantic rather than syntactic constraints, which relate to 'scope' relations. More precisely, we can assume that the relative position of a numeral phrase and that of an AP reflect their 'scope' relations so that a given phrase has 'scope' over everything which it C-commands (on this see pp 81 above). Thus, we can assume that numeral phrases have wider scope than adjectival phrases. Therefore, since in (125) the numeral phrase three has scope over the N-bar expensive cars, it follows that three must C-command this N-bar and hence precede it.

### **3.4.2. Postnominal Modifiers**

#### **3.4.2.1. Prepositional Phrases**

Following Radford (1988), I distinguish between two types of Prepositional Phrase (or PP) which may modify a given head N viz., complement PPs and adjunct PPs. The contrast between the two types can be illustrated in terms of the following examples:

- (121) a. [a teacher of English with red hair]  
 b. [a trip to Paris by car]  
 c. [the destruction of the city in the morning]

In (121/a) for example, the underlined PP of English is arguably a complement whereas the PP with red hair is an adjunct.

One way of distinguishing between the two kinds of PP is by examining the subcategorisation restrictions which hold between these modifiers and the head nouns they modify. Complements differ from adjuncts in that the former are more closely linked to their heads than the latter. In (121/a) for example, there are severe subcategorisation restrictions of a syntactic nature holding between the head N teacher and its complement PP of English. These restrictions are reflected in the fact that only some nouns not others permit the of-phrase of English as a complement:

- (122) [\* a boy/\* driver/\* cook/ student of physics]

By contrast , the adjunct PP with red hair can be used to modify any type of head noun (providing semantic and pragmatic constraints):

- (123) [a boy/ driver/ cook/ student with red hair]

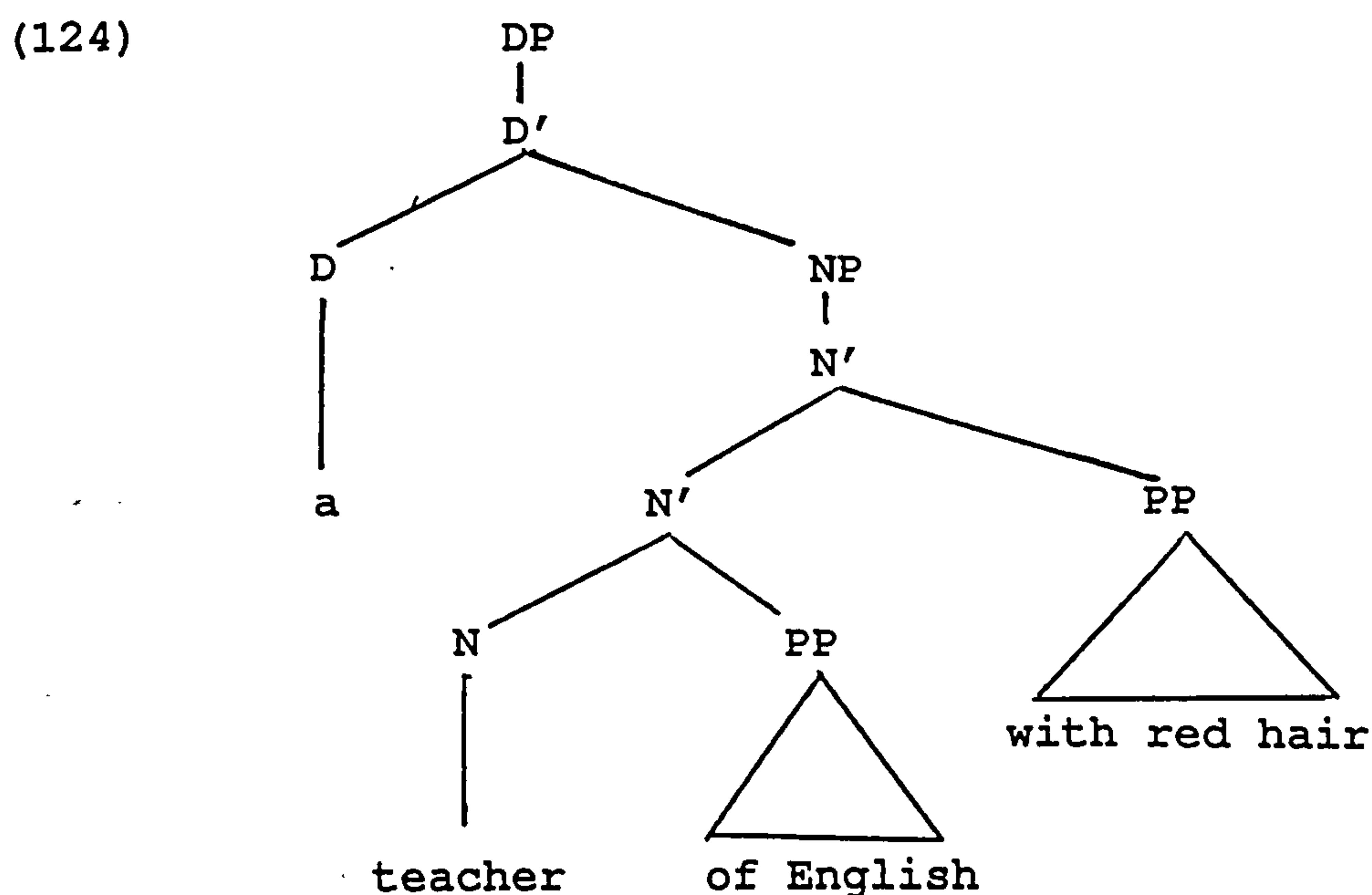
The above complement/adjunct distinction which Radford makes in relation to postnominal PPs corresponds to Chomsky's (1965) distinction between 'internal' and 'external' postverbal PPs. Chomsky (ibid: 101-3) uses the



term 'internal' to refer to modifiers which show strong degree of 'cohesion' to the modified head and 'external' to refer to modifiers which show less 'cohesion' to the head they modify.

Given that 'subcategorisation' restrictions hold only between a head and its arguments (see Chomsky, 1986) and that complement PPs are 'subcategorised' constituents, it follows that complement PPs are arguments of the head N whereas adjunct PPs are non-arguments.

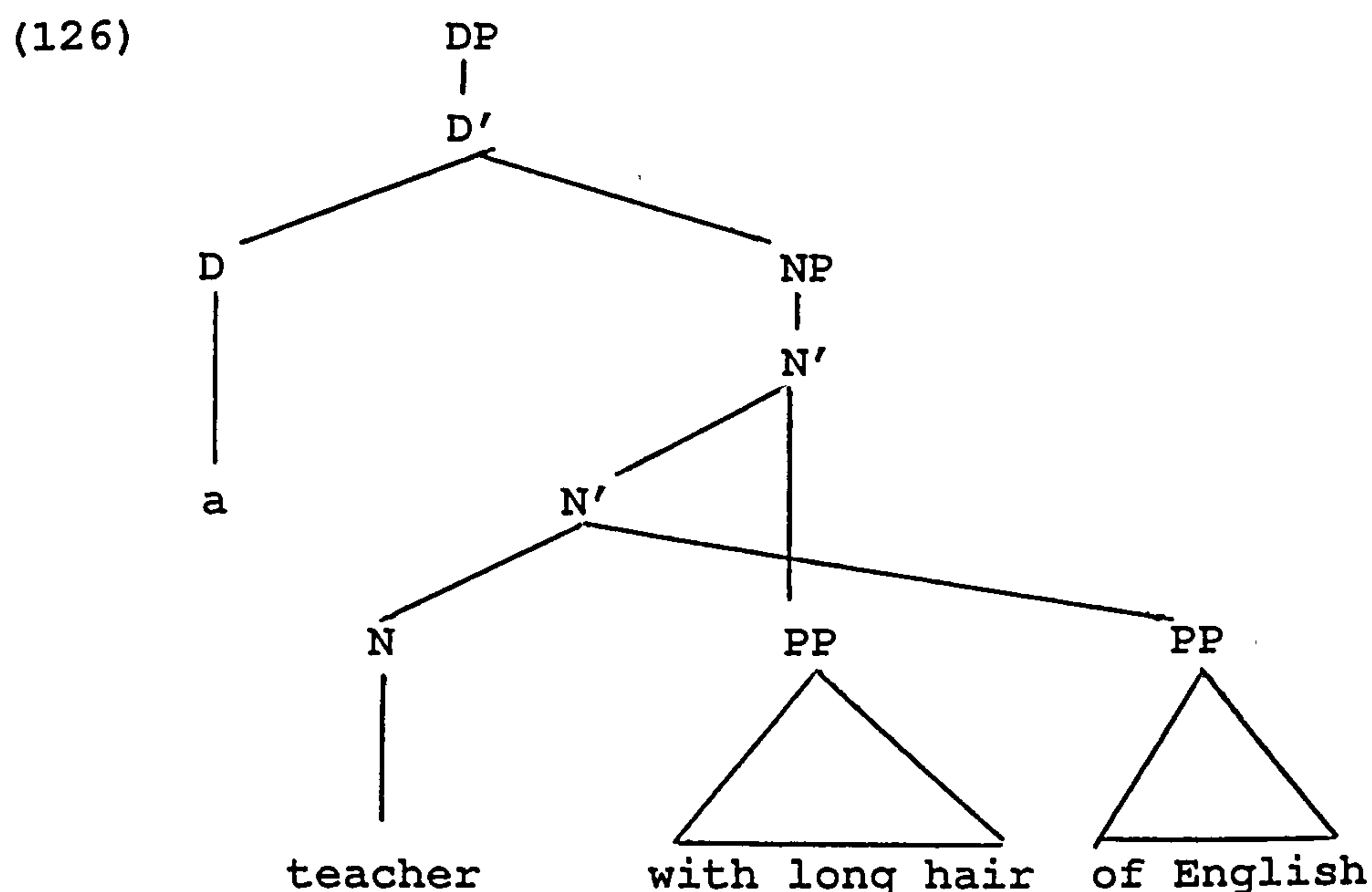
As far as their constituent function is concerned, in what follows and following Radford (1988), we will argue that argument PPs are syntactic complements of the head N whereas, like prenominal APs, non-argument PPs are N-bar adjuncts. This claim amounts to saying that a nominal phrase containing an argument PP and a non-argument PP such as that in (121/a) above, has the following schematic structure:



There are a number of arguments in support of positing that the nominal phrase (121/a) has that associated structure in (124). Firstly, the analysis in (124) will correctly predict that complement PPs are positioned closer to their heads than adjunct PPs, and as the ungrammaticality of (125) shows, this is indeed the right prediction:

(125) [\* a teacher with long hair of English]

The structure of the ill-formed phrase in (125) can be represented as follows:



The structure in (126) which is associated with the ungrammatical example in (125), is ruled out by virtue of the fact that it violates a universal condition on the well-formedness of phrase-markers. The No Crossing of Branches Restriction (NCBR), which specifies that phrase markers cannot contain crossing branches (on this see

Radford, 1988: 121). Thus, the example in (125) is ungrammatical because it contains an offending node viz., the adjunct PP with long hair, which violates the NCBR. By contrast, there is no violation of this constraint in (124) above.

A second prediction made by (124) is that non-argument PPs are recursive elements which expand N-bar into N-bar. This would entail that we can have an indefinite number of non-argument PPs in the same phrase, and that these PPs can be stacked on top of N in any order. And as the grammaticality of (127) shows, this is indeed the right prediction:

- (127) a. [a teacher with red hair with blue eyes  
          in black jacket]
- b. [a teacher in black jacket with blue eyes  
          with red hair]
- c. [a teacher with blue eyes in black jacket  
          with red hair]

By contrast, since non-argument PPs are not recursive elements, it follows that we cannot have more than one argument PP in a given noun phrase, unless the noun requires two PPs as in an argument with John about politics. And as the ungrammaticality of the following structure shows, this prediction is totally borne out:

- (128) Jane is [\* a teacher of physics of English]

The inability of argument PPs to be recursively stacked may also be explained in terms of the principles



of Theta-Theory. More specifically, given (i) the PP of English is an argument, and (ii) arguments of a lexical head are theta-marked by this head, and (iii) a condition of theta-marking to the effect that a given lexical head has only one theta-role of the relevant type to assign (see the THC, pp above), it follows that a given head N can only have one complement of a given type. This would explain the ungrammaticality of (128) above.

By the same token, since non-argument PPs are not thematically linked to their lexical heads, it follows that a given head N can be modified by an indefinite number of these PPs.

As was mentioned above, in the unmarked case, a complement PP must always be adjacent to the head it modifies and precede an adjunct PP. It is noteworthy, nonetheless, that this linear ordering of complement and adjunct PPs is always violated in cases where the complement PP is relatively 'long/complex' (see Radford, Chapter 8 for a discussion), in which case it can be positioned after the adjunct PP without resulting in ungrammaticality, as in the following example:

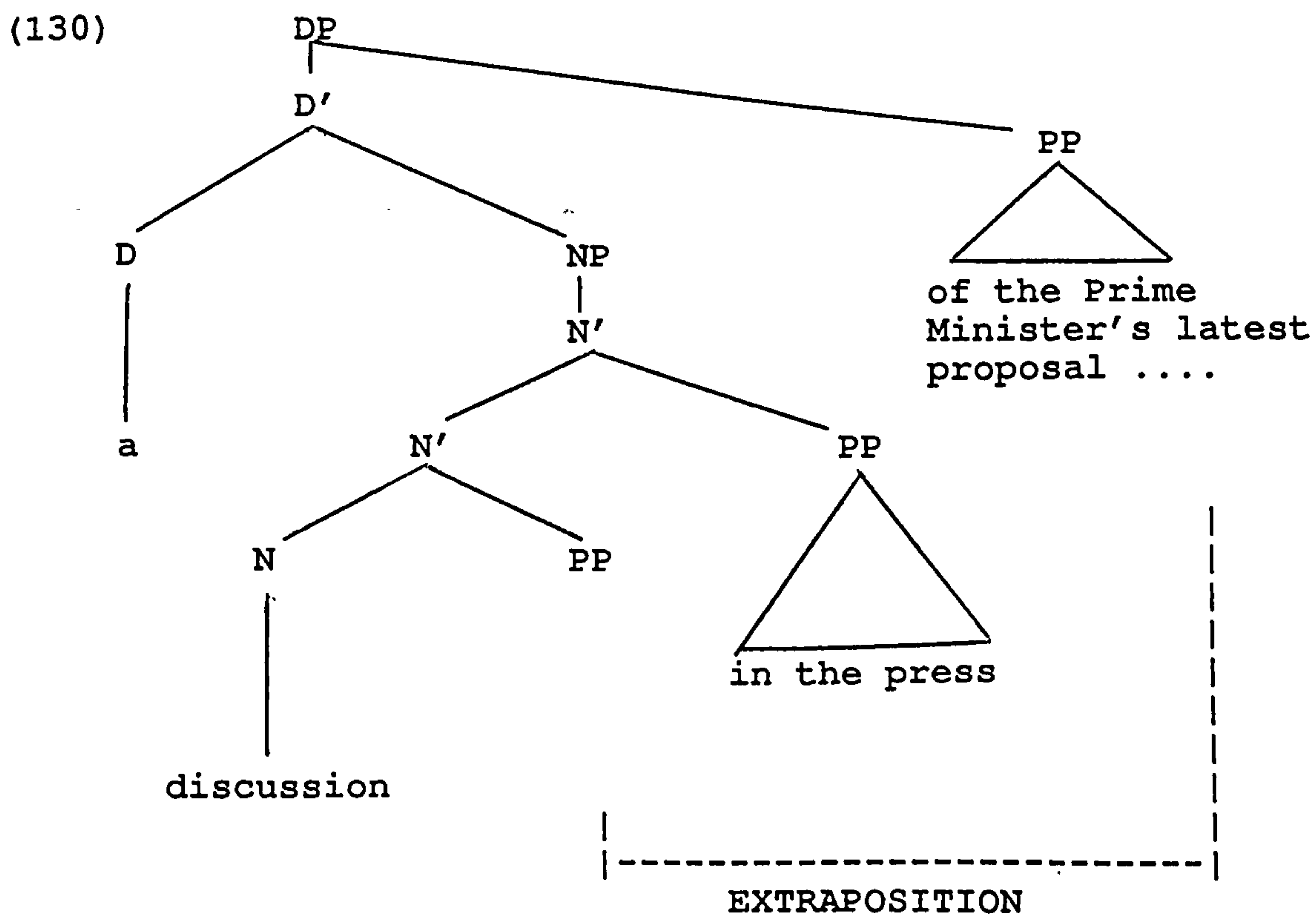
(129) a. [The discussion in the press of the Prime Minister's proposal to increase university tuition fees]

b. [A review in the press of Chomsky's latest book]

Given the universal assumption that deep-structures are 'pure representations of arguments receiving theta-

roles' (Chomsky, 1986: 155), and (ii) complement PPs are arguments and thus must be theta-marked by their heads, and (iii) a lexical head can only theta-mark its sister complement (Chomsky, Barriers: 13), it follows that the only possible position for a complement PP like of the Prime Minister's ... in (129/a) to receive its theta-role from N at DS is the sister of N position.

However, the complement PP is later 'extraposed' from its original position as a sister of N via an 'adjunction' process (see Chomsky, 1982). Thus, providing that 'adjunction' is only possible to a maximal projection (Chomsky, Barriers: 6), it follows that this complement PP will probably be adjoined to the overall containing DP. We can represent this PP movement in the following way:



#### 3.4.2.2. Partitive Of-Phrases

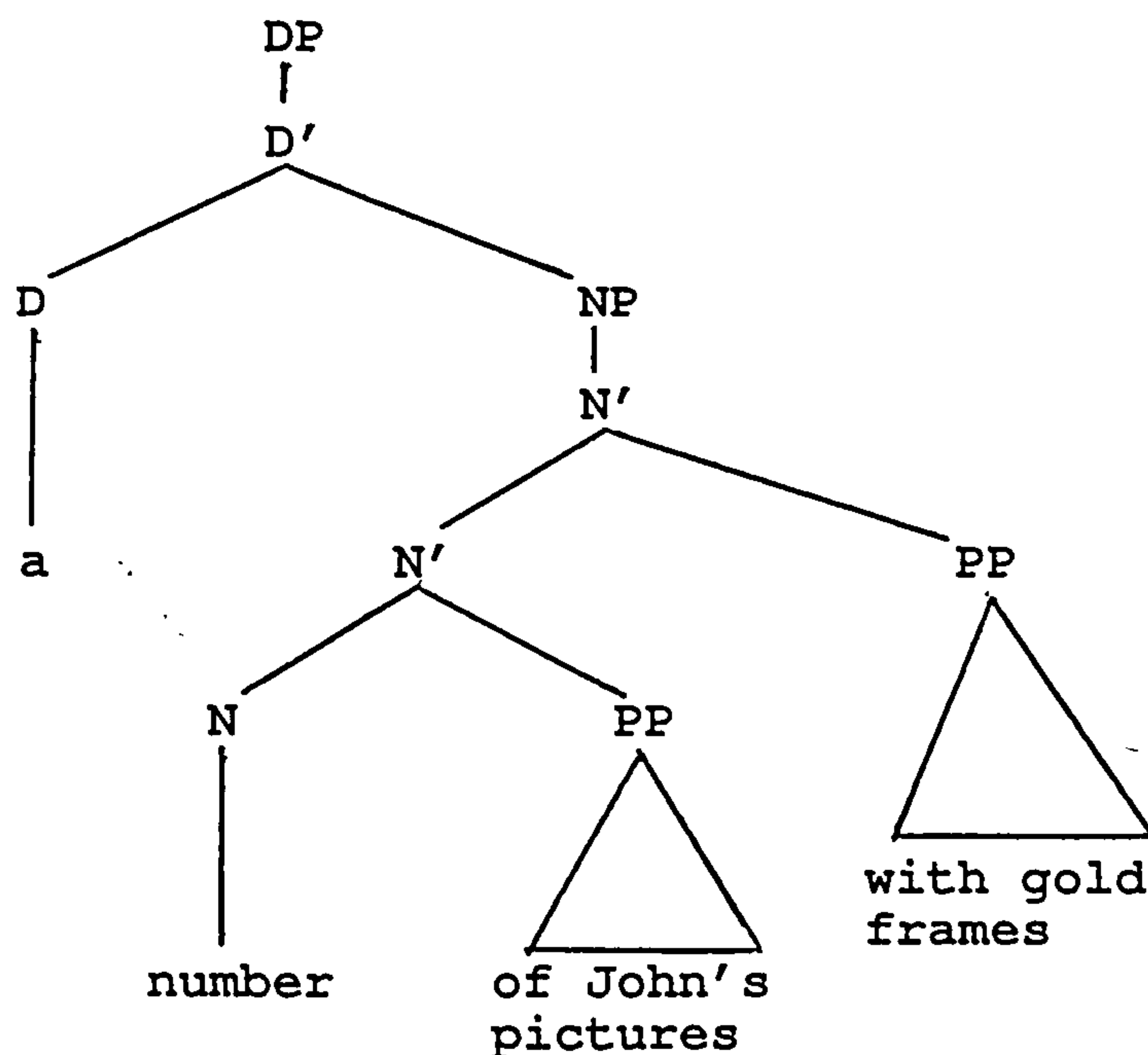
A partitive nominal phrase i.e. a nominal phrase containing a partitive of-phrase consists of an indefinite head noun plus a following of-phrase complement where the DP following of is a personal pronoun or a noun preceded by a definite determiner. The of-phrase is called a partitive phrase because it designates a set out of which certain individuals or a certain subset is selected (Jackendoff, 1977: 108). The following are examples of partitive of-phrases:

- (131) a. [A large number of John's pictures with gold frames] were destroyed by the fire  
b. [A group of those mine workers] went on strike last month

There is evidence that partitive of-phrases have the syntactic constituent function of expanding the head N into an N-bar (Jackendoff, 1977). This equals saying that they originate as complements of N at DS. In the light of this assumption, we can represent the internal structure of a partitive nominal phrase like the one in (131/a) as follows:



(132)



There are a number of arguments which support the above analysis of partitive phrases. First, this analysis predicts that a partitive of-phrase originates as a sister of N at DS. This would in turn predict that this of-phrase must always precede an adjunct PP i.e. a PP which attaches at the N-bar level. And as the ungrammaticality of (152) below shows, this prediction is totally borne out:

(133) [\* A number with gold frames of John's pictures were destroyed by the fire]

A second argument which Jackendoff (1977) adduces in favour of analysing partitive phrases as complements of N is derived from one-substitution facts. More concretely, the fact that in (134) the pronoun one can replace the N + of-phrase sequence groups of the men and not the head N groups alone, suggests that this sequence is indeed an N-bar, cf.

(134)

a. [Groups of the men from Siberia] and [ones from Japan]

b. [Groups of the men] and [\* ones of the women]

(adapted from Jackendoff, 1977: 107).

Partitive of-phrases do also occur in constructions where the head category is a determiner or a numeral:

(135) a. He wanted to interview [each of the students] in turn

b. [All of them] wanted to see the new film

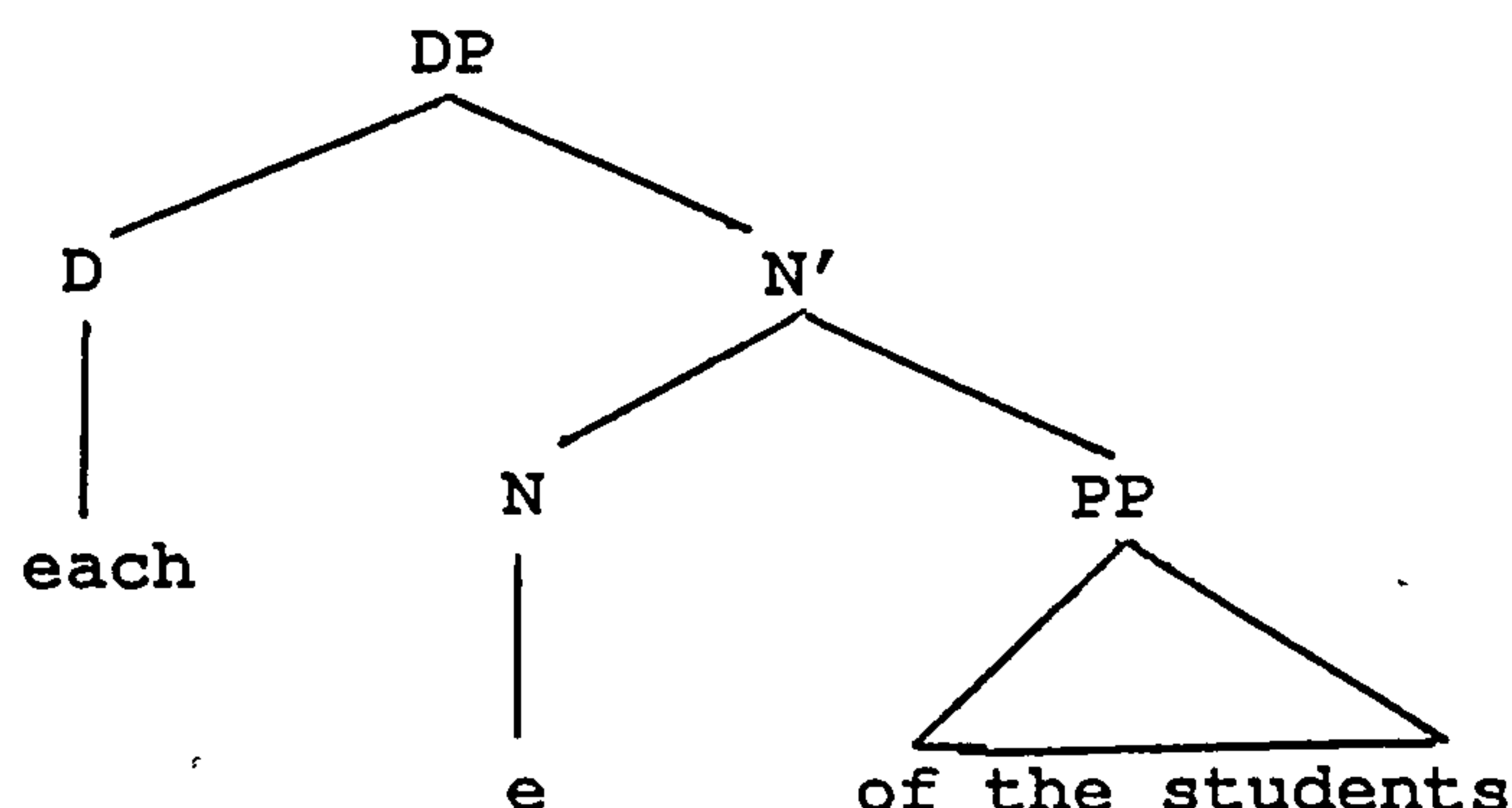
c. [These of the students who have passed the exam], will be rewarded

d. I invited [three of my friends] for dinner tomorrow

e. [Twenty millions of these magazines] are sold every year

Jackendoff (1977) analysed a nominal phrase containing a determiner and an of-phrase complement as having an empty head N complement. Under Jackendoff's analysis, the structure of a nominal phrase such as that in (135/a) would have the following structure:

(136)

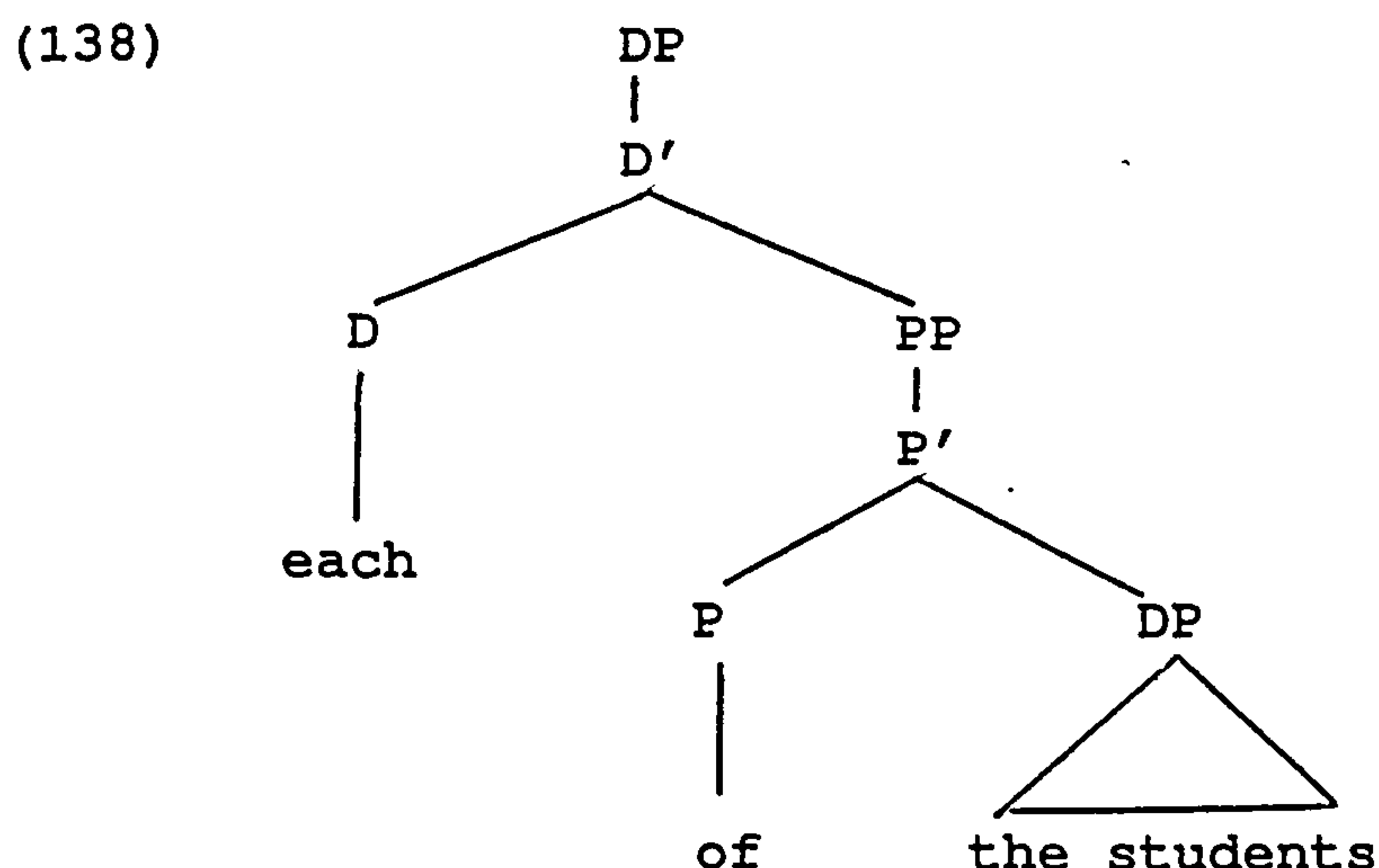


The assumption that the head noun can be empty is

problematic in that it would fail to provide way of accounting for the lack of:

- (137) a. [\* either nice e] of the students is clever  
 b. [\* All old e] of these people witnessed the accident

By contrast, under the NP/DP-analysis, a partitive phrase like (135/a) would be analysed as having the status of a DP in which the head category is the determiner each which takes the following of-phrase as a complement. To make this point less abstract, we represent the structure of (135/a) in the following schematic form:



The analysis in (138) is more plausible than the empty head analysis in (136) because it does not permit the production of ungrammatical structures such as those in (137) above.

#### 3.4.2.3. The Postposed Genitive

Another type of nominal modifiers is called the postposed genitive structure which is also referred to as



the 'double genitive'. Nominal phrases involving postposed genitive phrases have similar meanings to nominal phrases containing partitive of-phrases in that they both designate an item or a set of items out of which certain items have been singled out<sup>1</sup>.

The following are examples of noun phrases involving postposed genitive phrases:

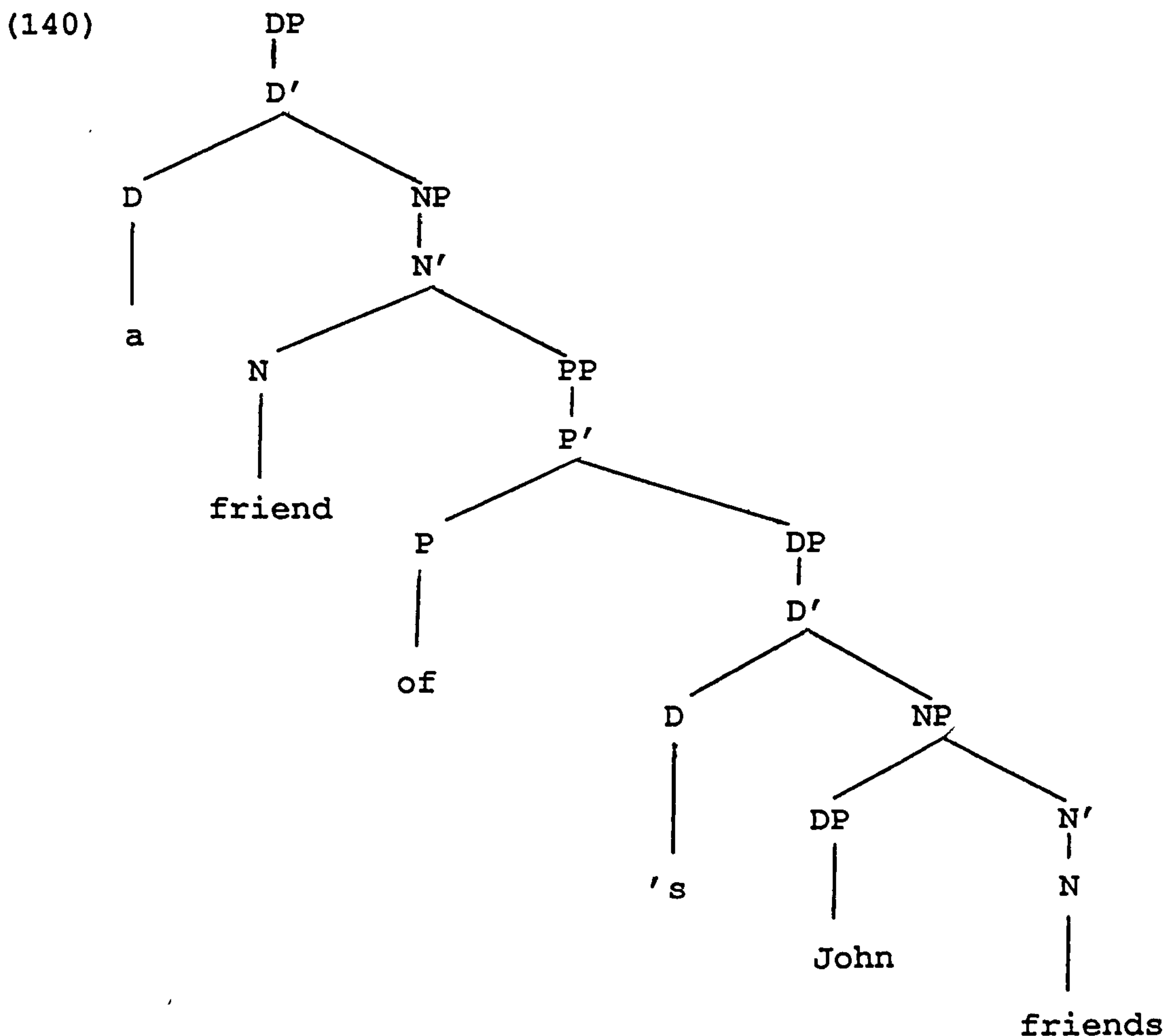
- (139) a. Tom is [a friend of John's]  
b. [Some pictures of Picasso's] are kept in the National Gallery  
c. [Which picture of mine] do you like best ?

Following Jackendoff (1973) (see Stockwell et al., 1973: 704-6), I shall assume that a noun phrase like the one in (139/a), for example, is derived from the following underlying structure:

-----  
1. Stockwell et al. (1973: 704-710) argue that postposed genitives have similar but not identical meaning to partitive phrases. They argue that the following sentences, for example, are not synonymous:

- (i) Some of John's antiques were damaged in the truck  
(ii) Some antiques of John's were damaged in the truck

Thus, whereas the first sentence says that, out of the entire set of John's antiques, some were damaged, and some, were not, the second sentence, on the other hand, makes no reference as to whether or not John has any antiques that were not damaged (ibid: 709).

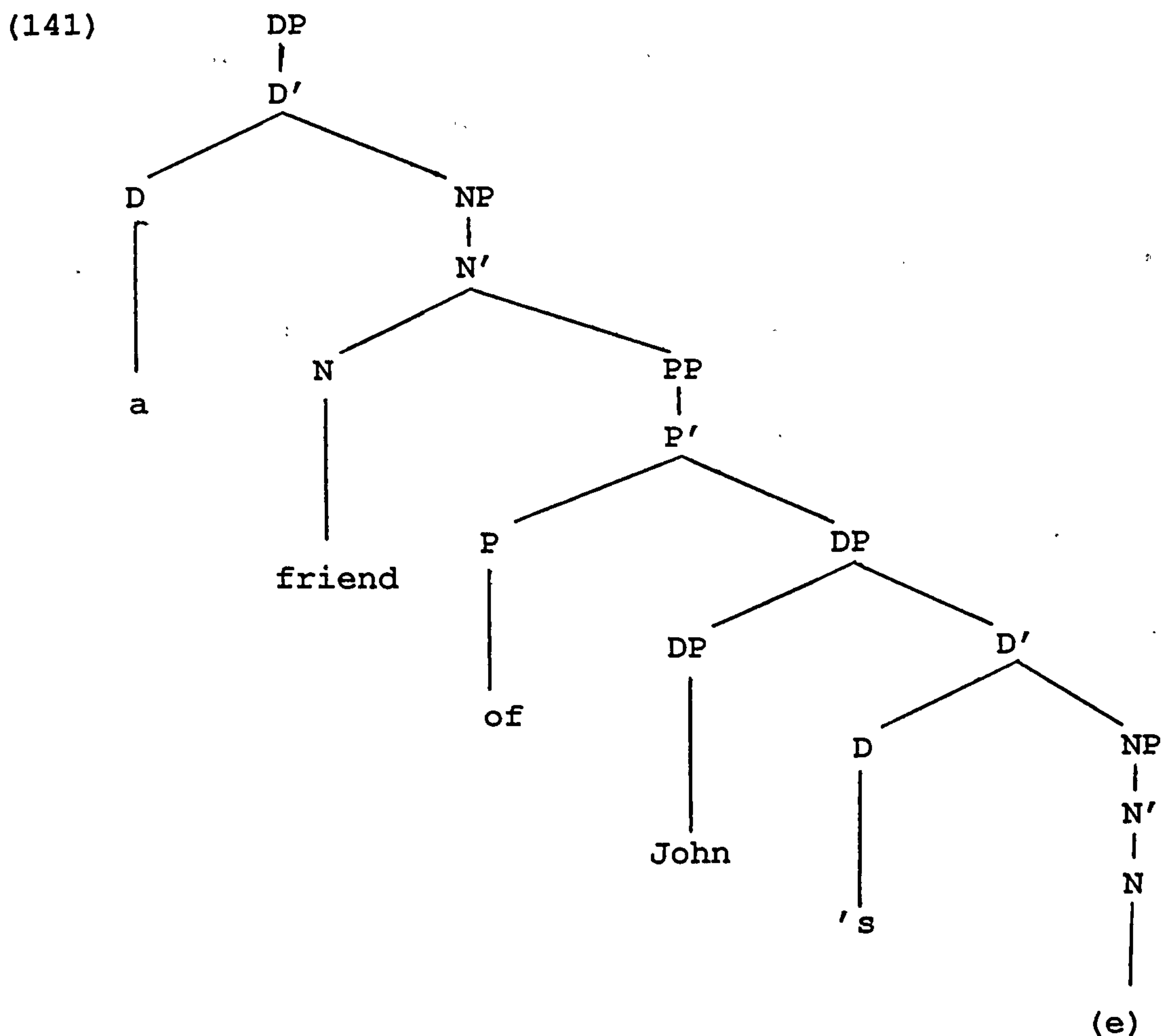


The main assumption made in (140) is that the possessive DP John's originates as a specifier of the complement DP of John's friends. However, the surface structure form in (139/a) is later derived from (140) via a process of deletion of the lower N-bar friends. Such a deletion furthermore is made obligatory if the matrix DP is headed by an indefinite determiner.

As a result of this deletion of the lower N-bar, its subject DP of the lower NP changes phonological shape via the application of a process of 'substantiation' which obligatorily applies to possessive phrases followed by an empty N-bar constituent (on this see Jackendoff, 1977:

115). So we have mine instead of my as in (139/c) above, and we have yours instead of your, etc.

In the light of what has been mentioned so far, I represent the structure of the derived phrase (139/a) as follows:



The main assumption made by (141) is that the genitive phrase of John's is a constituent which expands N into an N-bar. In other words, it stipulates that this phrase functions as a syntactic complement of the head N friend. This would in turn predict that the postposed genitive phrase of John's will always precede adjunct PPs. And as



the well-formedness of the following example shows, this is in fact the right prediction:

(142) Tom is [a friend of John's with blond hair]

compare:

(143) Tom is [\* a friend with blond hair of John's]

### 3.5. Conclusion

This chapter has been a description of the ENG noun phrase within the framework of GB. Following recent developments in the literature, I have assumed that the ENG noun phrase consists of two categorial systems: a DP-system and an NP-system. I provided numerous arguments in favour of this NP/DP-analysis of the noun phrase, and discussed the main types of nominal modifiers which occur within each system. These included determiners, possessive DPs, APs and PPs, among others. In the next chapter, I shall turn to discuss the noun phrases in MSA.

## CHAPTER IV

### THE STRUCTURE OF MSA NOUN PHRASES

#### 4.1. Introduction

In the previous chapter, I took a detailed look at the internal structure of ENG noun phrases within the framework of GB. In this chapter, I turn to look at the internal syntactic structure of noun phrases in MSA within the same theoretical framework.

My treatment of the syntax of noun phrases in MSA is an extension of Fassi Fehri's (1988) analysis of these structures in CLA, of which MSA is a simplified version<sup>1</sup>. I shall claim here that nominal phrases in MSA

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1. One of the main differences between CLA and MSA relates to their case system. Overall, nouns in CLA are inflected for three different cases by virtue of their position in the sentence: they are inflected for (a) Nominative case (e.g. the subject of a clause), (b) Objective case (e.g. the direct object of a verb), and (c) genitive case (e.g. the object of a preposition). In writing, these cases are morphologically marked by three different types of diacritic: --- (Damma), --- (fatHa), and --- (kasra) respectively. In reading, on the other hand, the vowels indicating the distinction between the three cases are: u, a, and i, respectively, cf.

- wada'a [al-walad-u] [al-kitab-a] 'la [al-minDaDat-i]  
put the-boy-Nom. the-book-Obj. on the-table-Gen.  
'the boy put the book on the table'

In MSA, on the other hand, nouns are not morphologically marked for case. Furthermore, the vowel endings which stand for the three cases are not consistently taken into account in ordinary reading. In the present study,

have parallel structures to those in CLA. Before I outline the main assumptions underlying Fassi Fehri's analysis, I shall first highlight the main properties of the basic nominal structure in Arabic or the so-called Construct State.

#### 4.2. The Construct State

The term 'construct state' is used in the Semitic languages to refer to a nominal construction which consists of a head noun and a following genitive phrase. The genitive phrase can be either a possessive phrase or a complement phrase, compare (1) and (2) respectively:

- (1) zur-tu [QaSr-a al-malik-i]  
 visited-I palace-obj. the-king-gen.  
 'I visited the king's palace'
- (2) ?QlaQa-ni [QaSf-u al-madiinat-i]  
 worried-me bombing-nom. the-city-gen.  
 'the city's bombing worried me'

The head N of the construct state receives its case from an external governor depending on the position it occupies in a given context. For example, in (1) above, the head N QaSra is case-marked with the objective case, because it occupies the object position of the preceding verb zurtu.

The most salient feature of the construct state is that the definite article can never appear on the head N

-----  
 ...Continued...

however, and for ease of exposition, I shall disregard these case endings in my transcription of Arabic data.



of the construct. This means that in a given noun phrase in Arabic, the definite article is in complementary distribution with both possessive and complement noun phrases, compare respectively:

- (3) zur-tu [\* al-QaSr-a al-malik-i]  
 visited-I the-palace.obj. the-king-gen.  
 '\* I visited the king's the palace'
- (4) ?aQlaQa-ni [\* al-QaSf-u al-madiinat-i]  
 worried-me the-city-nom. the-bombing-gen.  
 'the city's the bombing worried me'

The definiteness value of the head N is usually determined by that of the genitive phrase. A definite complement renders the head N definite and an indefinite complement renders it indefinite, as is shown by the behaviour of modifying APs. When the genitive complement is definite, a modifying AP is also definite, and when the complement is indefinite, this AP will be indefinite too, compare:

- (5) zur-tu [QaSr-a al-malik-i al-jadiid-i]  
 visited-I palace-obj. the-king-gen. the-new-gen.  
 'I visited the new king's palace'
- (6) haadhaa [mudarres-u kimyaa?-i-n  
mashhuur-i-n]  
 this teacher-nom. chemistry-gen.-indef  
 famous-gen.-indef.  
 'this is a famous teacher of chemistry'

Moreover, if the genitive complement of a construct state becomes the head of another construct state, then the article will only appear on the rightmost N, and the definiteness of the others will depend on that of this

last constituent:

- (7) zur-tu [QaSr-a malik-i al-muluuk-i]  
visited palace-obj. king-gen. the-kings-gen.  
'I visited the king of kings' palace'

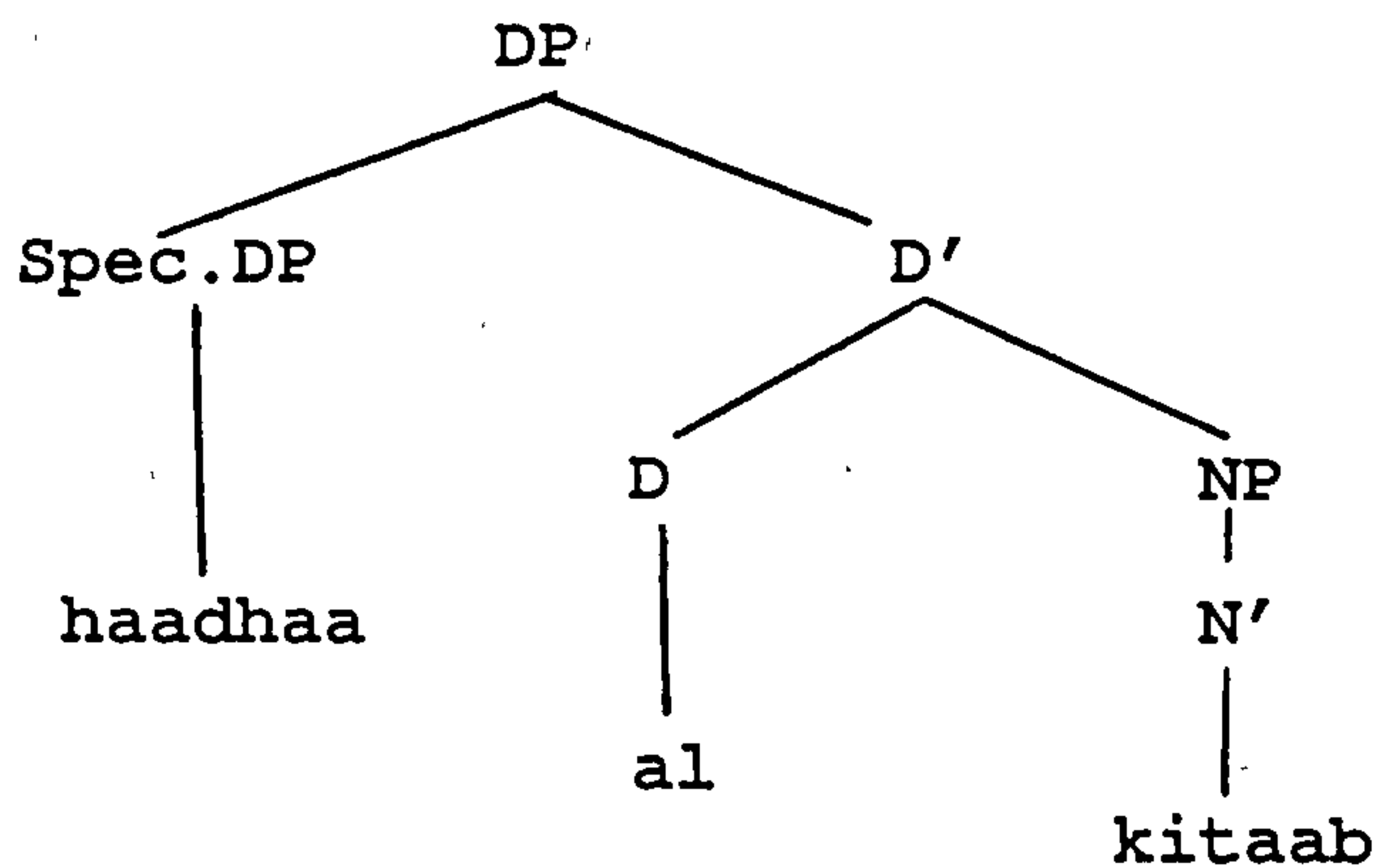
#### 4.3. Fassi-Fehri's Analysis

Fassi Fehri (1988), argues that a nominal phrase in CLA comprises two categorial systems: a **lexical** system in which the head category is a lexical category N (noun), and a **functional** system in which the head is a functional category D (determiner).

Fassi Fehri (op.cit.) extended the X-bar schema to include determiners like the articles, thus taking the traditional noun phrases to be a DP rather than an NP, with the article al as the head D-constituent, and an NP projection as a complement of D. To account for the relative distribution of demonstratives and the article in CLA, Fassi Fehri (op.cit.) assumed that a demonstrative is generated in the [Spec., DP] position. Under Fehri's analysis, therefore, a nominal phrase containing an article and a demonstrative such as that in (8) will be analysed as having the structure in (9) below:

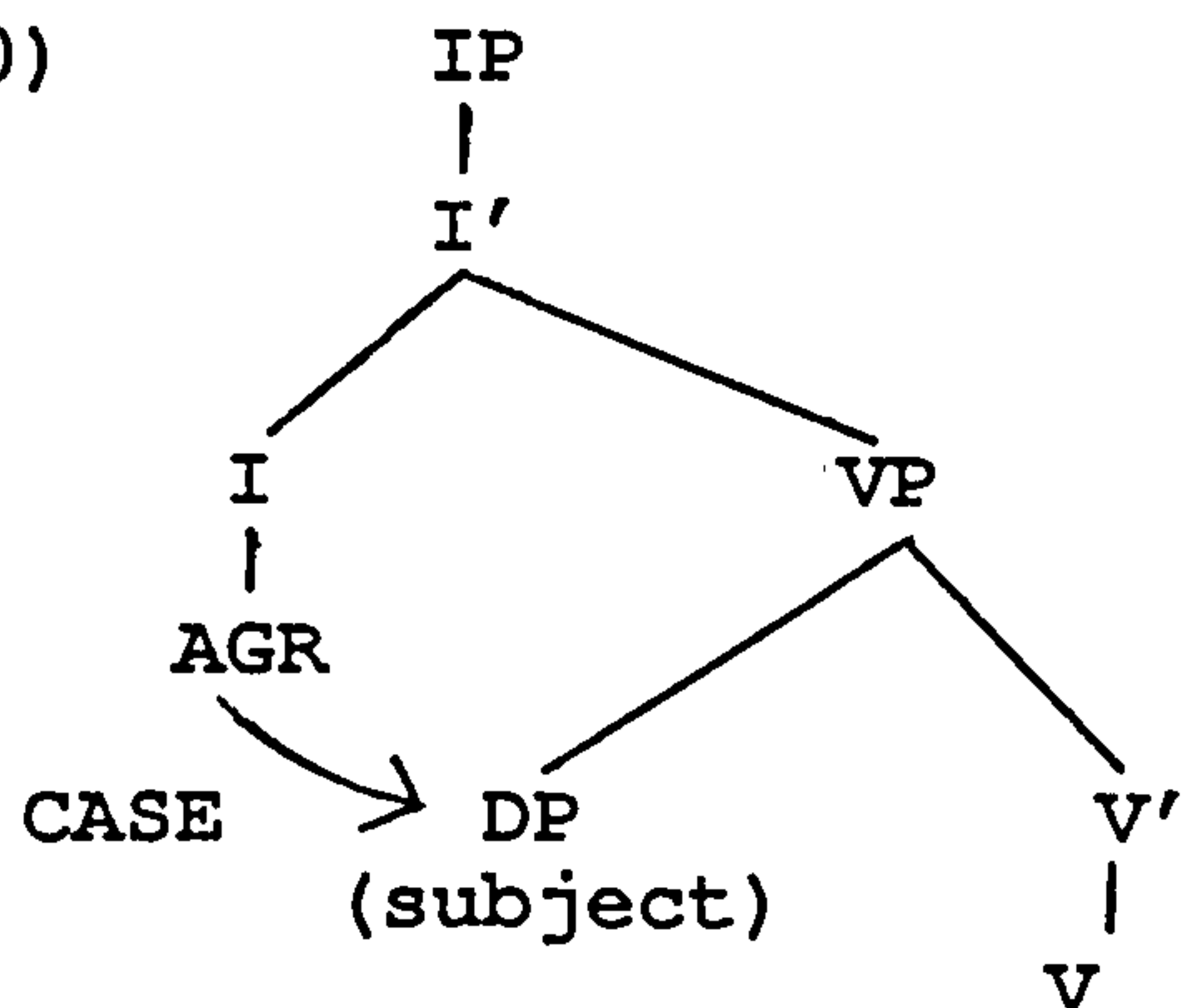
- (8) Qara?-tu [haadhaa al-kitaab]  
read-I this the-book  
'I read this book'

(9)

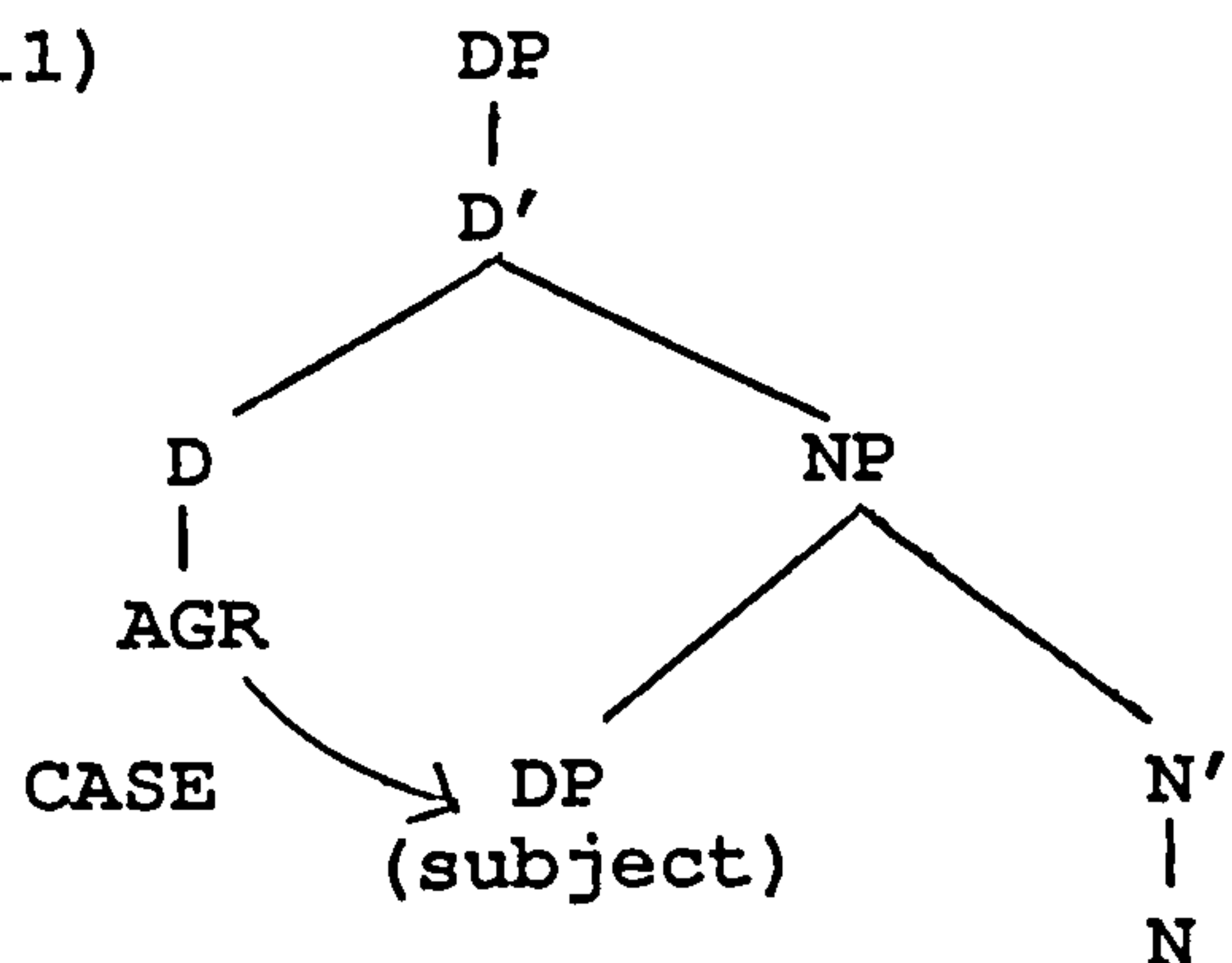


Fassi Fehri also generalised the notion of subjects in CLA as specifiers of XP to derived nominal structures on the basis of their similarities with verbal gerunds and clauses. He furthermore assumed that the genitive case of possessors is assigned rightward by an empty AGR in D in the same way as the subjects of verbal structures are assigned nominative case by I to the specifier to its right. He thus attributed to clauses and noun phrases the following parallel structures:

(10)



(11)



In his discussion of the surface NSO (noun+subject+object) word-order of the construct state, Fassi Fehri assumed that it is derived from the underlying SNO word order via a Head-to-Head (henceforth HHM)



movement rule which moves the head N to the head D-position of the matrix phrase. This HHM is the same mechanism responsible for the derivation of the surface VSO word order in verbal structures<sup>1</sup>.

As an illustration of this HHM in CLA, I represent the derivation of the surface VSO word-order in the underlined verbal structure in (12) from initial SVO word-order as in (13) below:

- (12)

?QlaQa-ni

[QaSf-u

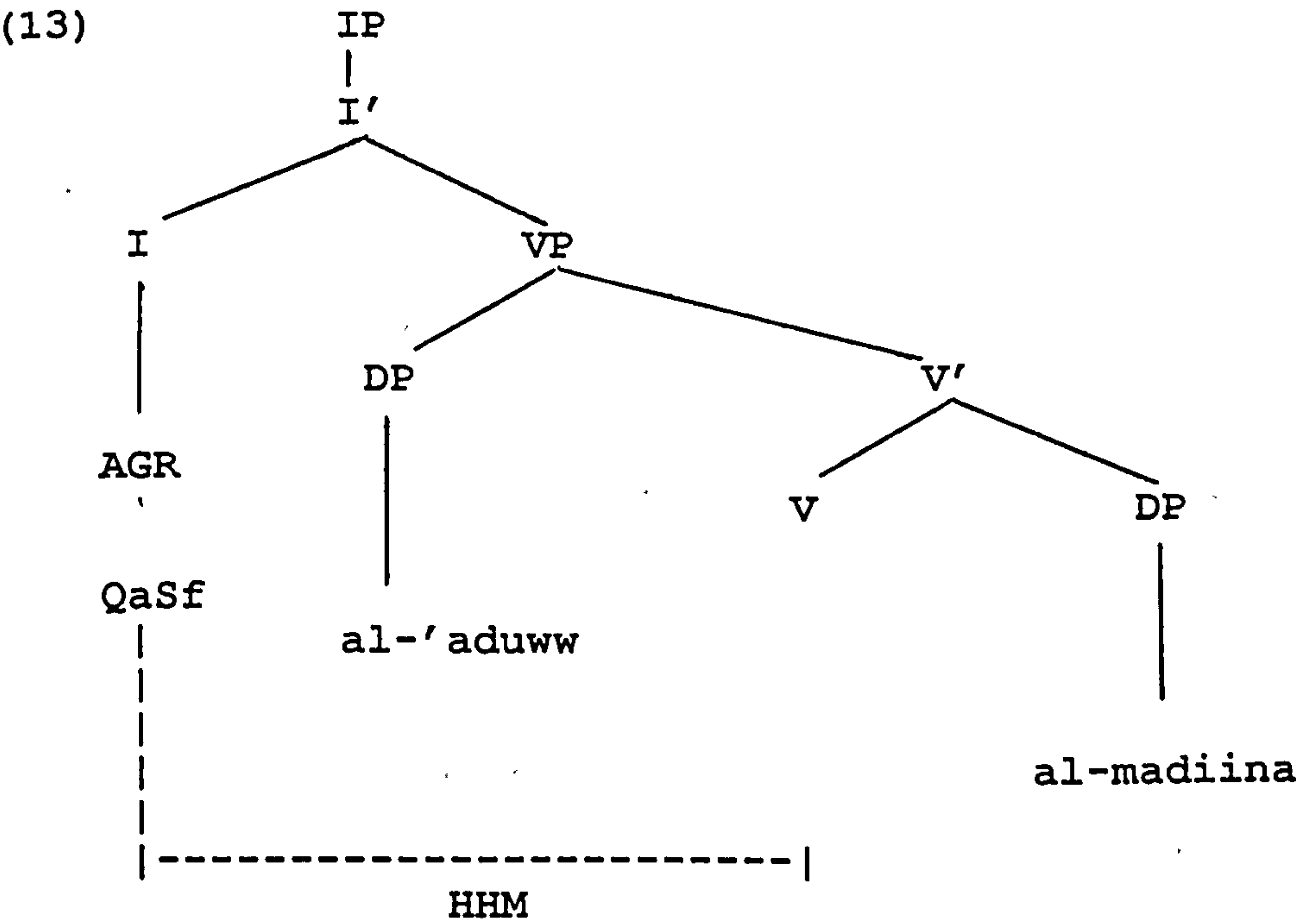
al-'aduww-i

al-madiinat-a]

annoyed-me bombing-nom. the-enemy-gen.

the-city-obj.

'the enemy's bombing of the city annoyed me'



There are a number of points to be mentioned in

1. Fassi Fehri's analysis of HHM in construct states in CLA is consistent with Ritter's (1988) analysis of these constructions in Hebrew.

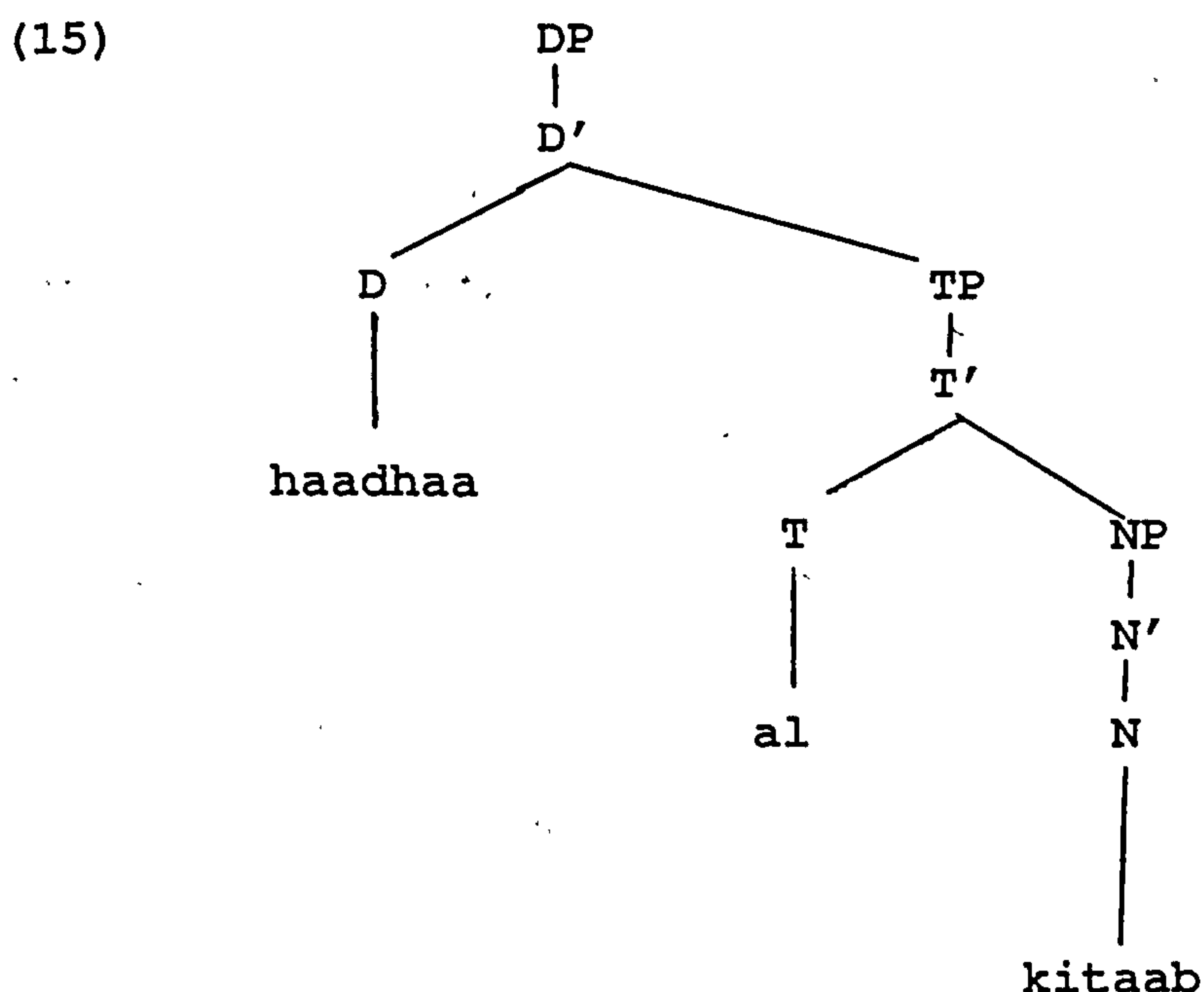
relation to Fassi Fehri's analysis of nominals in CLA. Firstly, the analysis of demonstratives as DP specifiers poses some problems for the description of these items. In CLA, a demonstrative always agrees in case and grammatical features like number and gender with the modified head N (see section 4.4.2 below). Fassi Fehri assumes that the agreement between the demonstrative and the head N is an instance of specifier-head agreement. There are reasons to doubt however, that this is the right analysis. For one thing, the assumption that specifiers agree in case with the head constituent is weakened if we examine examples taken from other languages. To avoid abstractness, I cite the following example from English:

(14) I like [John's new car]

In the above example, there is no agreement in case between the specifier John and the head N car. Thus, whereas car is assigned objective case by virtue of the fact that it occupies the object position of the verb like, its specifier John is genitive.

A second problem posed by Fassi Fehri's analysis of demonstratives as DP specifiers is that it violates the core assumption of X-bar syntax, which states that all word level categories have phrasal projections. Under (9), demonstratives are defective categories in that they are single word categories which do not appear to have phrasal projections.

In this study, an alternative analysis of demonstratives will be proposed. I shall argue in section (4.4.2) below that demonstratives are functional D-heads of the nominal phrase in which they appear. I thus assume that a nominal phrase in MSA projects into a TP via the addition of the article, and it projects into a DP via the addition of a demonstrative. Under the new analysis, the phrase in (8) will be assigned the following structure:



One of the advantages of the analysis in (15) over the analysis in (8) is that it is in conformity with the X-bar hypothesis that all word level categories are projectable. By analysing a demonstrative as the head of the matrix phrase, we make provision for this category to have its own complement, viz. a definite TP.

A second criticism of Fassi Fehri's analysis of noun phrases is that it is too restrictive in the sense that



the only types of determiners discussed are the articles and demonstratives. His analysis makes no provision for other determiners. In the current study, I shall extend the discussion of the functional system of an Arabic noun phrase to include quantifiers like ba'D 'some', kull 'all', and ?ayy 'which'. I shall argue that these items occupy the head U-position of the containing noun phrase. In other words, I shall assume that a noun phrase in MSA projects functionally into a UP via the addition of one of these quantifiers. I shall also extend Fassi Fehri's treatment of the lexical system within an Arabic nominal phrase to include such modifiers as APs, PPs and Numerals, among others.

In what follows, I shall be discussing the functional system and the lexical system, each in turn.

#### 4.4. The Functional System

The main types of nominal modifier which will be discussed here are determiners. On distributional grounds, determiners in MSA can be divided into three groups.

The first class of determiner includes the definite article al; the second group includes among other things demonstratives like haadhaa 'this.masc.', haadhihi 'this/these.fem', dhaalika 'that.masc', tilka 'that.fem', ha?ulaa? 'these/those.masc'; the third group comprises the universal quantifier kull 'all', the interrogative determiners like ?ayy 'which, what' and the general assertive determiner ba'D 'some'. The determiners in this

group can co-occur with determiners of the previous two groups, as is shown by the following examples:

- (16) a. [kull ha?ulaa? al-?aTfaal]  
all those the-children  
'all those children'
- b. [?ayy l-majallaat] tu-faDDil ?  
which the-magazines you-prefer ?  
'which magazines do you prefer ?'

The determiners in this group are furthermore in complementary distribution with each other:

- (17) a. [\* ?ayy kull al-majallaat] tu-faDDil ?  
which all the-magazines you-prefer ?  
'\* which all the magazines do you prefer ?'
- b. [ ba'D ?ayy al-kuttaab] tu-faDDil ?  
some which the-authors you-prefer ?  
'\* some which authors do you prefer ?'

In what follows, I shall discuss the syntax of each of the above classes of determiner in turn. I shall argue that a noun phrase in MSA (i) projects into a TP functional projection via the addition of the definite article al, (ii) it projects into a DP via the addition of a demonstrative, and (iii) it projects into a UP by the addition of determiners like kull (all).

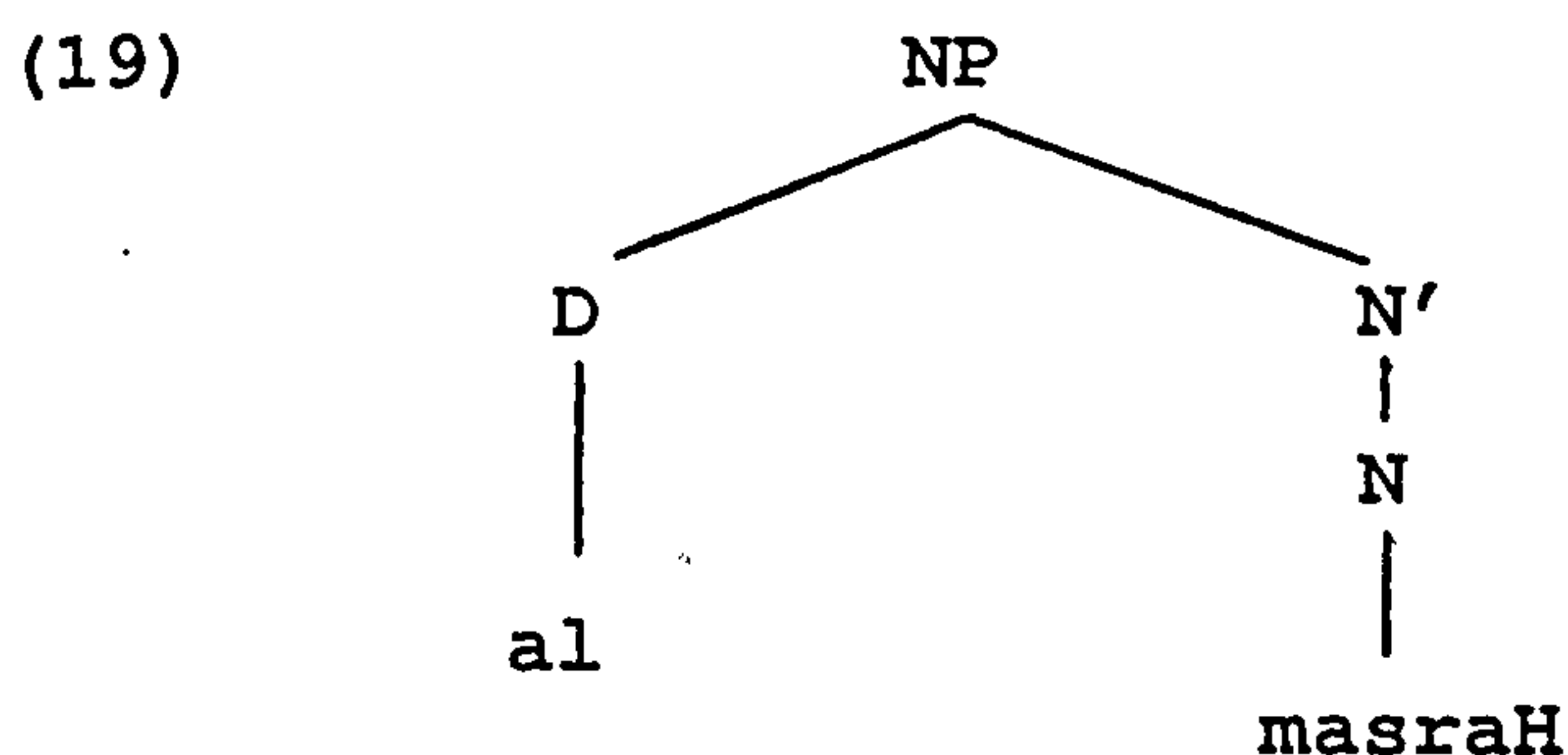
#### 4.4.1. The Articles

##### 4.4.1.A. The definite article

In MSA the definite article al is usually prefixed to the noun:

- (18) a. sa-n-azhab ?ila [al-masraH] ghadan  
 shall-we-go to the-theatre tomorrow  
 'we shall go to the theatre tomorrow'

One possible analysis of the article in MSA (parallel to the analysis of ENG articles adopted in early X-bar descriptions of ENG) would be to posit that it is generated as the specifier of NP. Under this analysis, an NP such as (18) would be analysed as having the structure (19) below:



One of the descriptive problems posed by the analysis in (19) relates to structures in which the article is preceded by a demonstrative, as in the following example:

- (20) Qara?-tu [haadhihi al-QiSSa] albaariHa  
 read-I this the-story yesterday  
 'I read this story yesterday'

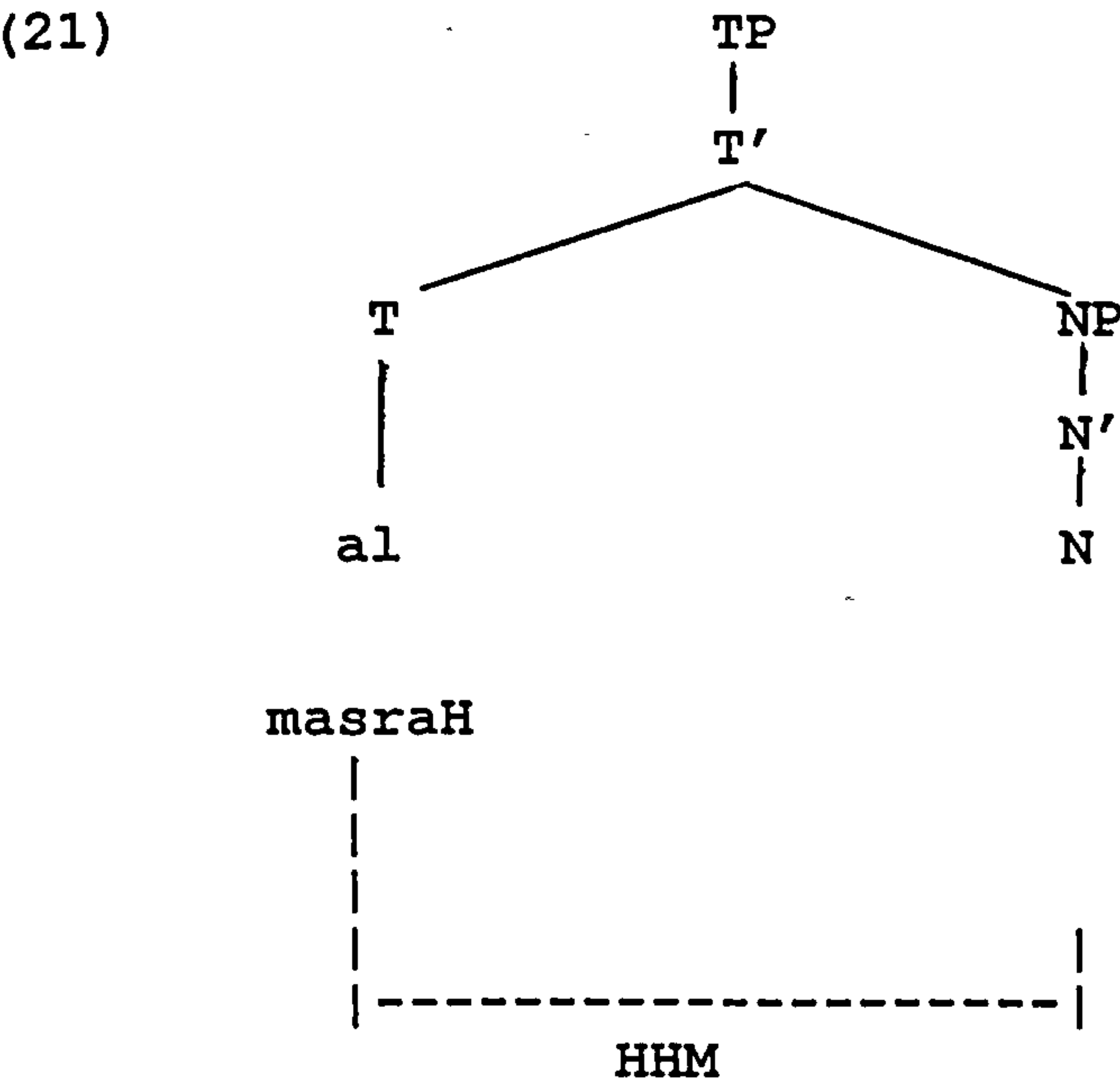
The assumption that the article is generated in the [Spec., NP] position provides no obvious way of accounting for the distribution of demonstratives. The postulation that demonstratives are also in the [Spec., NP] position will be eliminated on the grounds that a structural position cannot be doubly filled.

Within the NP/DP-framework, and given the core



assumption of X-bar syntax that all word categories project into higher level constituents in symmetrical ways, then the natural analysis of the article in MSA would be to posit that it occupies the position of the head of the phrase in which it occurs. I shall designate this position as the T-position to differentiate it from other functional head-positions which other determiners occupy within the noun phrase. This equals saying that a noun phrase in MSA projects into a TP via the addition of the definite article which takes an NP projection as a complement. Following Fassi Fehri (1988), I shall furthermore assume that the head N of the complement phrase undergoes a HHM, on a par with the HHM in verbal structures (see diagram 13 for an illustration).

To minimise abstractness, I represent the structure of the nominal phrase in (18) as in (21):



In (21), the head N masraH moves to T in order to

provide morphological support for T and receive the case that percolates down to T through T-bar and forms an adjunction structure. Since the definite article in MSA is realised as a prefix, therefore, we assume that adjunction is to the right of T. We can further assume that the article in MSA takes a righthand complement, hence it originates to the left of its NP complement.

Under the analysis in (21), the traditional Arabic noun phrase is taken to be a TP rather than an NP. The head T (article) projects into a T-bar by the addition of an NP complement, and it projects into a TP maximal projection via the addition of a specifier.

However, given that (i) the specifier of a given functional category can only appear when case is assigned to this position (on this see Fukui, 1986), and (ii) in MSA, functional categories like Ts, Ds, and Us, cannot assign case leftward, as is postulated by the Directionality-of-Case-Assignment Parameter (henceforth DCAP), means that the specifier positions of the corresponding phrasal projections will be caseless. This would in turn explain why these positions remain empty.

One of the consequences of the analysis of the article as head of the overall containing noun phrase is that we would expect it to be able to stand on its own like many head constituents. This prediction is not borne out, as the ungrammaticality of the following construction shows:

- (22) ?aHbab-tu [\* al-]  
 liked-I the  
 '\* I liked the'

We can attribute the inability of the article to stand on its own to its particular subcategorisation properties. We thus account for the ungrammaticality of (22) by arguing that the article in MSA is a head T which obligatorily selects an NP complement.

In addition to subcategorising an NP complement, the article in MSA can also occur in the following contexts:

- (23) [al-ba'D] lam yu-SaddiQ QiSSata-hu  
 the-some not believe story-his  
 'some did not believe his story'

- (24) [al-kull] ?aHabba-ha  
 the-all liked-her  
 '\* the all liked her'

Given that quantifiers like kull 'all' and ba'D 'some' are U heads of the relevant noun phrases (see section 4.4.3 below for a discussion), then the grammaticality of structures like the ones in (23) and (24) can be explained on the grounds that, in addition to subcategorising an NP complement, the definite article in MSA can also take a following UP as a complement.

One of the advantages of the analysis in (21) over the NP-analysis of noun phrases in MSA relates to the case properties of subjects/possessors. More specifically, given that in MSA possessors originate in the specifier of N-bar position ( on a par with the analysis of subjects in verbal constructions), then no satisfactory account was



given of how possessors acquire case. The postulation that the head N assigns genitive case to its TP specifier can be rejected on the grounds that the DCAP which specifies that case in CLA, and one can plausibly assume in MSA, is assigned uniformly rightward by all categories. This means that a head N cannot assign case to the specifier to its left. On the other hand, under the analysis, in (21), the two assumptions (i) that the noun phrase in MSA is headed by a the functional category T (article), and (ii) that this T assigns case rightward to the specifier of its TP complement, enable us to provide a straightforward account of the mechanism of genitive case-assignment of subjects/possessors in MSA (see section 4.5.1 below for a discussion).

#### 4.4.1.B. The Indefinite Article

The indefinite article is overtly expressed in CLA by means of the phoneme n which is usually suffixed to the noun as the following examples show:

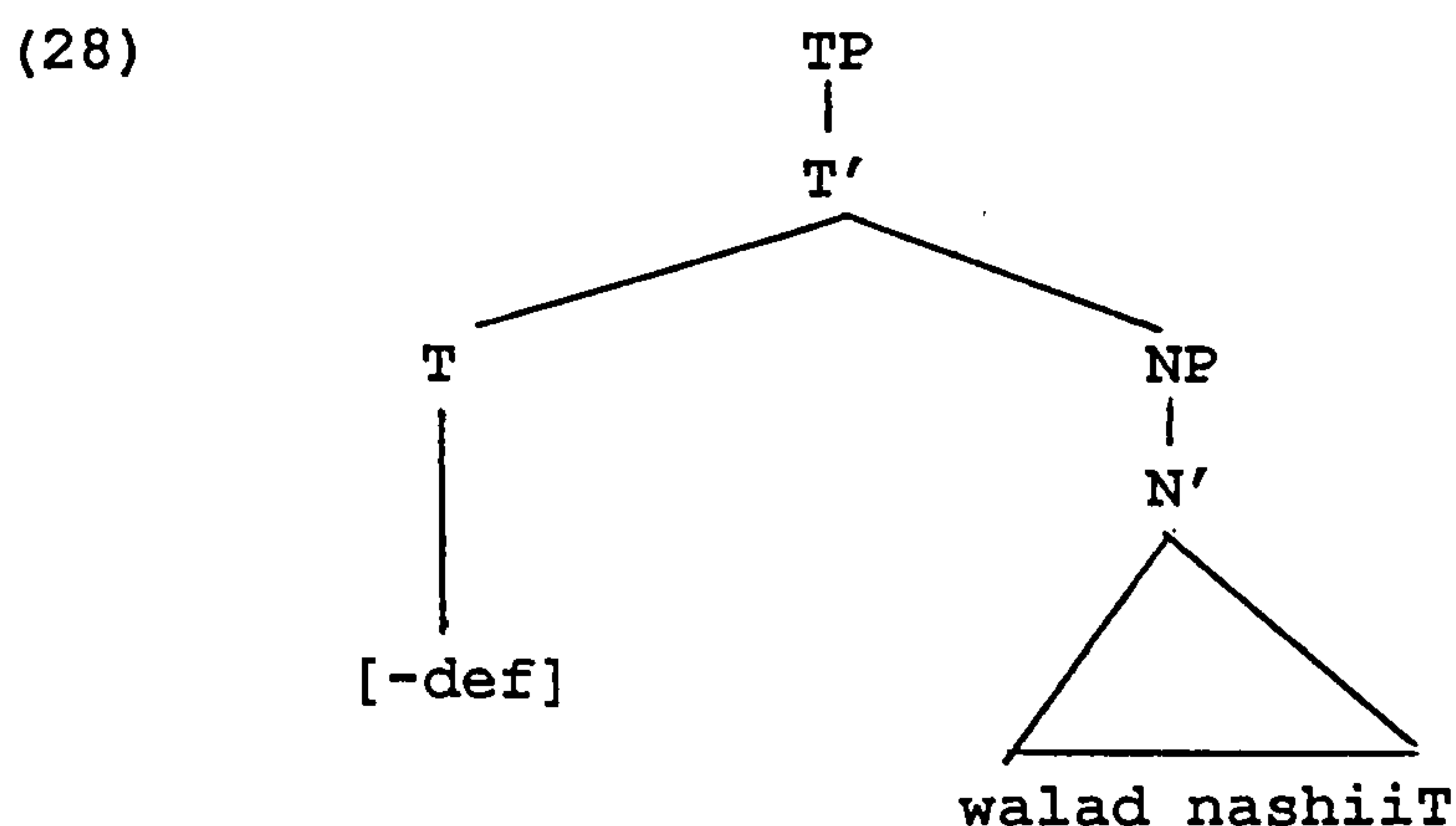
- (25) haadhaa [walad-u-n            nashiiT-u-n]  
       this        boy.nom.indef. hardworking.nom.indef.  
       'This is a hardworking boy'

In MSA, on the other hand, the indefinite article is not morphologically realised, as can be shown by the following examples:

- (26) haadhaa [walad nashiiT]  
       this        boy hardworking  
       'this is a hardworking boy'

- (27) y-amlik [bait jamiil] bijaanib al-baHr  
 he-own house beautiful near the-sea  
 'He owns a beautiful house near the sea'

To provide a systematic account of the structure of the MSA structures in (26) and (27) within the X-bar framework, I shall postulate that in an indefinite Arabic noun phrase, the T-position is left empty at DS. I therefore represent the internal structure of an indefinite noun phrase like the one in (26) as follows:



The assumption that the T-Head position of an indefinite noun phrase is empty at DS means that in MSA, indefinite noun phrase and a bare NP are one and the same thing, i.e.,

TP [-Def.] ----- NP

#### 4.4.2. Demonstratives

In MSA, a demonstrative appears only when followed by the definite article, otherwise, the resultant structure will be a verbless clausal structure rather than a phrasal construction, compare for instance:

- (29) a. ?-a'rif [haadhaa al-mudiir]  
 I-know this the-manager  
 'I know this manager'
- b. ?-ufaDDil ?an ?-ashtari [haadhaa al-kitaab]  
 I-prefer that I-buy this the-book  
 'I prefer to buy this book'
- (30) [haadhaa mudiir]  
 this headmaster  
 'this is a headmaster'

Another important property of demonstratives in MSA is that they agree in grammatical features such as gender and number with the head noun of the following noun phrase<sup>1</sup>:

- (31) a. [haadhaa al-walad]  
 this.masc the-boy
- b. [haadhihi al-sayyaara]  
 this.fem the-car.fem
- c. [hatayn al-Suuratayn]  
 these.fem.dual the-pictures.fem.dual

A demonstrative also agrees in case with the noun it modifies. This case is covertly realised in haadhaa 'this.masc', haadhihi 'this/these.fem', and ha?ulaa? 'these/those.masc', and is overtly realised by a vowel change in the dual demonstratives haadhayn 'these.dual.masc' and hatayn 'these.dual.fem', compare:

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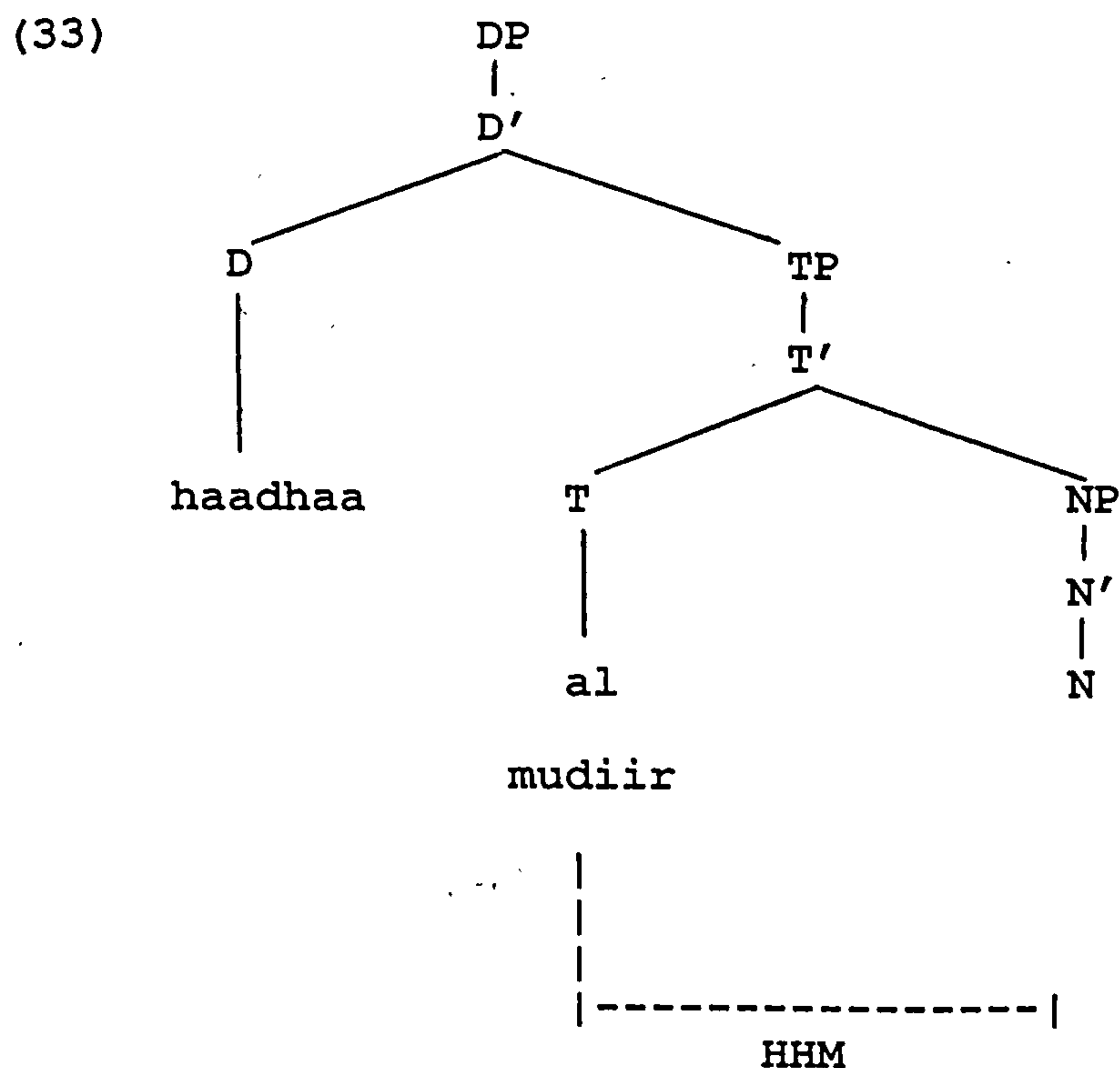
1. The demonstrative haadhihi is exceptional in the sense that it does not agree in number with the head of the following noun phrase. This demonstrative can have either a singular or a plural nominal complement, see for example:

- (i) ?a-'rif [haadhihi al-QiSSah/ al-QiSaS]  
 I-know this/these the-story /the stories



- (32) a. jaa?a [hadhaan al-waladaan]  
 came these.dual.nom. the-boys.dual.nom  
 'these two boys came'
- b. ?a-'rifu [hadhayn al-wladayn]  
 I-know these.dual.obj the-boys.dual.obj  
 'I know these two boys'

In what follows, I shall assume that in MSA, demonstratives are heads of the noun phrase in which they appear. I shall argue that they are heads of a separate categorial system from that headed by the definite article. More particularly, I shall assume that demonstratives are D-heads of the nominal construction containing them. This entails that the noun phrase in (29/a) above has the following schematic internal structure:



There is a priori plausibility to taking

demonstratives as head-constituents. One argument in favour of the analysis in (33) comes from the fact that demonstratives in MSA can be used pronominally, as is exemplified by the following sentences:

- (34) ?ayy lawn tu-faDDil ? ?u-faDDil [haadhaa]  
 which colour you-prefer? I-prefer this  
 'which colours do you prefer? I prefer this )

Moreover, when standing alone, a demonstrative behaves exactly like a full noun phrase in that it has the same distribution, compare for instance:

- (35) [haadhihi/haadhihi al-fatayaat] SadiiQaat-i  
 this / this the-girls friend-my  
 'this/this girl is my friend'

Given the fundamental assumption of X-bar syntax that heads are obligatory constituents of their containing phrases, we conclude that in (34), the demonstrative haadhaa occupies the head position of the containing phrase. I thus represent the internal structure of this phrase in the following manner:

- (37)
- |         |
|---------|
| DP      |
|         |
| D'      |
|         |
| D       |
|         |
| haadhaa |

We can furthermore extend this analysis of pronominal demonstratives as phrasal heads to the prenominal demonstratives in (29) above and conclude that in MSA,

demonstratives are heads of the noun phrases in which they occur. I shall designate this head position as the D-position to distinguish it from other functional head positions within the nominal phrase.

Part of the subcategorisation properties of this head is that it can subcategorise either a definite TP complement or a zero complement but not an NP complement, hence the grammaticality of the structures in (29) and (34) respectively.

To account for the agreement facts between a demonstrative and the modified head N, I shall assume that the mechanism by which the demonstrative inherits case and grammatical features from N would be 'extended percolation' from D to its complement. I shall assume that the case assigned to the matrix DP by an external governor will percolate down from DP into D via D-bar. This same case will later be transmitted to TP and then to T via T-bar. Then, the HHM movement of N into T to provide lexical support for T, will have the effect that N acquires this case.

It is relevant to mention here that a demonstrative in MSA can also occur in postnominal position, see for example:

- (38) [QiSSat-uka haadhihi] ?aQlaQat-ni  
       story-your this           worried-me  
       'this story of yours worried me'

In MSA, a postnominal demonstrative is analysed as an AP which modifies the preceding nominal construction, hence



the fact that, like all APs in MSA, it agrees in case, number, and gender with the head of the preceding phrase.

#### 4.4.3. kull, ba'D and ?ayy

The third class of determiners include items like the universal quantifier kull 'all', ba'D 'some', and the interrogative determiner ?ayy 'which/what'.

Occurring simultaneously in a given noun phrase, these determiners precede demonstratives and the article, as can be shown in the following sentences:

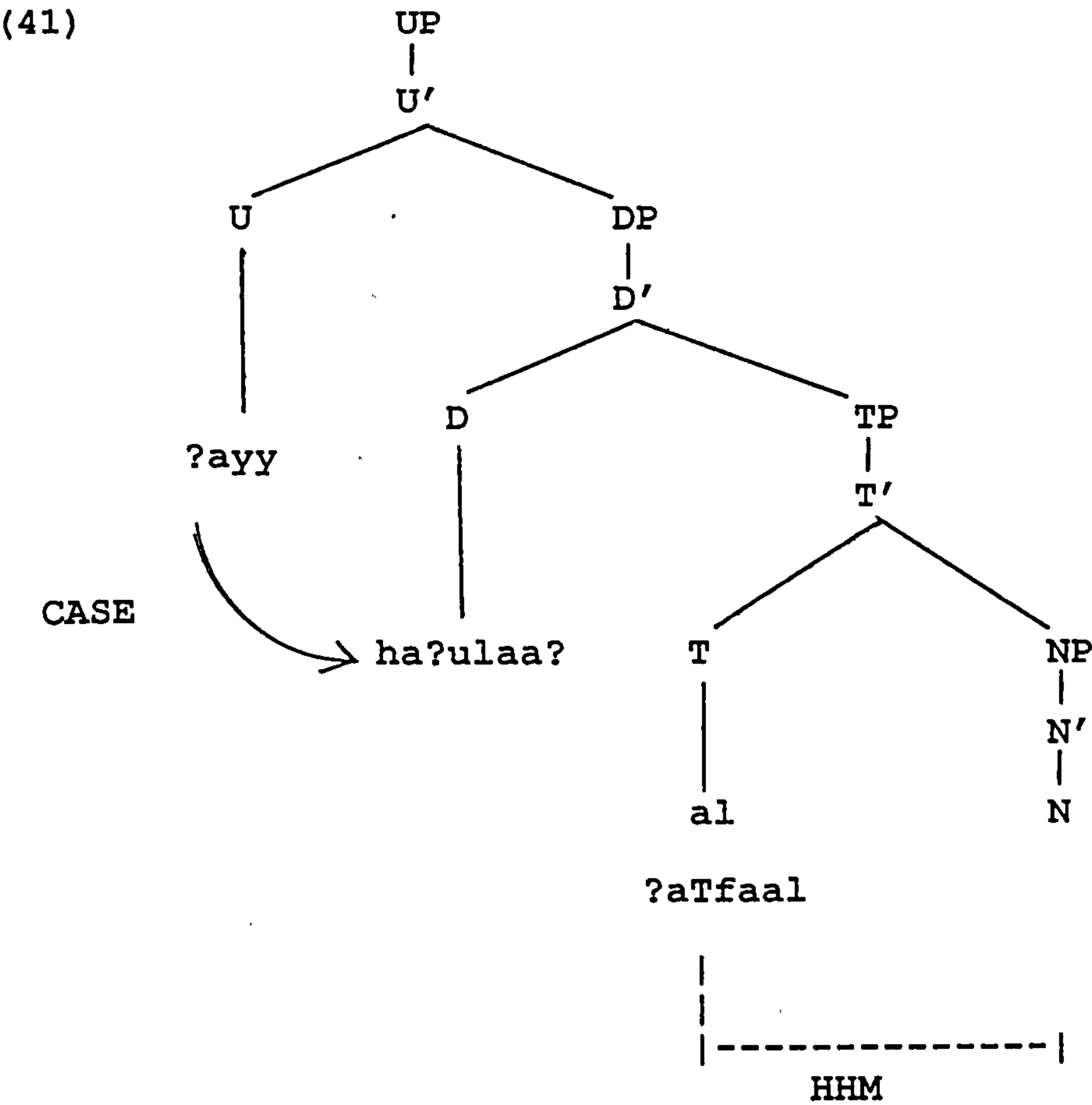
- (39) a. shtaray-tu [ba'D al-hadaayaa] li-?aX-i  
 al-Saghiir  
 bought-I some the-presents to-brother-my  
 the-little  
 'I bought some presents for my little brother'
- b. Qara?-tu [kull al-majallaat] llati  
 ?aHDar-ta-ha  
 read-I all the-magazines which  
 brought-you-it  
 'I read all the magazines which you brought'
- c. [?ayy ha?ulaa? al-?aTfaal] ?aXuu-k ?  
 which these the-children brother-your  
 'which of these the children is your brother ?'

Compare:

- (33) a. [\* ha?ulaa? kull al-?aTfaal]  
 those all the-children  
 '\* those all the balls'
- b. [\* al-kull ha?ulaa? al-?aTfaal]  
 '\* the all those children'

The constructions (39/40) suggest that quantifiers like ba'D occupy a distinct structural position from those occupied by demonstratives and the article. Within the framework of X-bar syntax, I shall assume that these

determiners are functional heads of the nominal phrase which they contain. I shall designate the position which these determiner occupy as U. To make my discussion more concrete, I represent the structure of a noun phrase like the one in (39/c) above in the following schematic terms:



There are a number of arguments in favour of analysing kull, ba'D and ?ayy as phrasal heads. First, these items cannot be premodifying APs mainly because, unlike postmodifying APs, they do not agree in case with the modified head N. These determiners usually receive case from an external governor depending on their relative position in a given sentence. As for their complement

TPs/DPs, these are usually case-marked with the genitive. This case, furthermore, is realised by an overt clitic when the complement is a pronominal form, as is shown by the following example:

- (42) [kullu-hum/ba'Du-hum] SaddaQa al-QiSSa  
 all-them/ some-them believed the-story  
 'all/some of them believed the story'

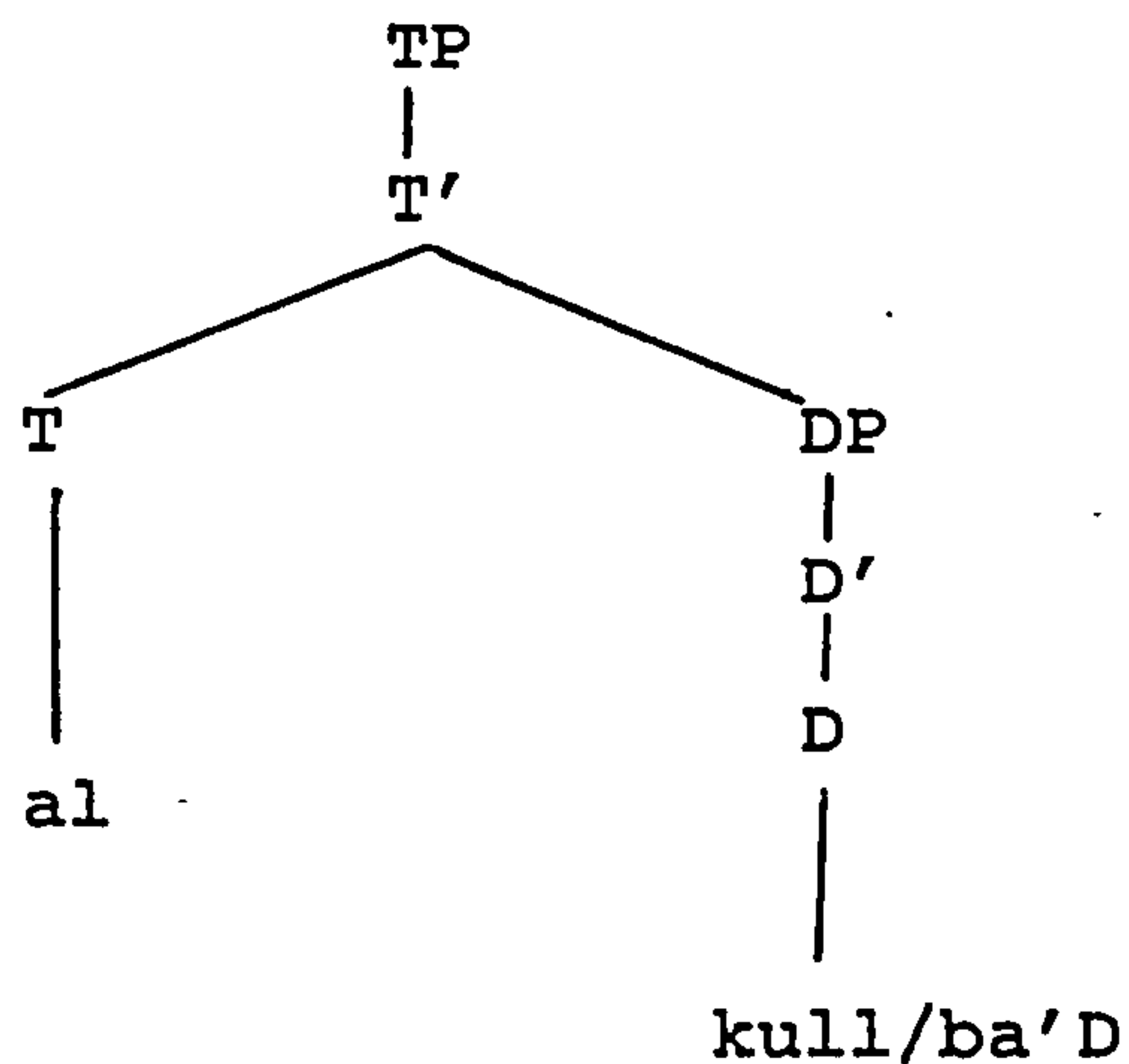
Further evidence for the claim that these items head the containing nominal is based on the fact that they can stand alone. Moreover, when standing alone, these determiners behave exactly like an NP in that they can take the article, as the following examples show:

- (43) a. [al-ba'D] lam yuSaddiQ QiSSata-hu  
 the-some did not believe story-his  
 'some (of them) did not believe his story'
- b. [al-kull] najaHa fi al-?imtiHaan  
 the-all passed in the exam  
 'all (of the students) passed in the exam'

The fact that these determiners can stand on their own makes plausible to analyse them as heads. I therefore assume that the internal structure of the phrases in (43) will be as depicted in (44) below:



(44)



To attain maximal structural symmetry between pronominal ?ayy, ba'D and kull and pronominal ones, we therefore assume that these determiners are heads of the containing phrases in both contexts.

We can furthermore account for the grammaticality of the examples in (39) by assuming that the determiners kull, ba'D, and ?ayy are head *Us* which (obligatorily) subcategorise either *TPs* or *DPs* as complements.

As for the case properties of these determiners, I shall assume that they assign genitive case to the following *TP/DP* phrase under government. This case will be then transmitted to the head *D* (demonstrative) and later to *T*. The *HHM* of the head *N* will have as a result the transmission of this case to the moved head *N*, as was already schematised in diagram (41) above.

With this, I come to the end of my discussion of the nominal functional system. In the remaining of this chapter, I shall turn to discuss the second system within the Arabic noun phrase, viz. the lexical system.

#### 4.5. THE LEXICAL-SYSTEM

In this section, I shall be looking at the major types of nominal modifier that occur within the lexical projection of N. These modifiers include phrasal constructions like PPs, TPs/DPs, APs, Partitive Phrases, Numerals, and postposed genitive constructions.

I shall be discussing the constituent function of each of these modifiers in the noun phrase in which they appear and their word-order in relation to the head N and to each other.

##### 4.5.1. Possessive TPs/DPs

In MSA, in a given construct state, possessive noun phrases always occur in postnominal position at surface-structure. A possessive phrase can be an NP, a TP (i.e. a noun phrase headed by the article) or a DP (i.e. a noun phrase headed by a demonstrative), the following are examples:

- (45) a. haadhaa [QaSr malik mashhuur]  
this palace king famous  
'this is a famous king's palace'
- b. ?aQlaQa-ni [ʔiHtilaal al- 'aduww li-l-madiina]  
worried-me occupation the enemy of-the-city  
'the enemy's occupation of the city worried me'
- b. faaja?a-ni [ʔintiHaar tilka al-mumaththila  
al-mashhuura]  
surprised-me suicide that the-actress  
the-famous  
'the suicide of that famous actress surprised me'

Another important property of possessive TPs in MSA, is that their presence in a given noun phrase excludes

that of the definite article, as the ungrammaticality of the following example shows:

- (46) a. [\* al-ʔiHtilaal al-ʔaduw li-l-madiina ....  
           the-occupation the-enemy of-the-city  
           '\* the enemy's the occupation of the city ....'
- b. [\* al-ʔintiHaar al-mumaththila al-mashhuura] ....  
           the-suicide the-actress the-famous  
           '\* the famous actress' the suicide'

Possessive phrases in MSA are usually case-marked with the genitive case. This case, furthermore, is covertly marked when the possessor is realised by a lexical NP/TP/DP, and is marked by an overt clitic when the possessor is realised by a pronoun, compare:

- (40) a. [wuSuul al-raʔiis al-mufaaʔiʔ]  
           arrival the-president the-sudden  
           'the President's sudden arrival'
- b. [wuSuul-u- hu al-mufaaʔiʔ]  
           arrival-nom-his the-sudden  
           'his sudden arrival'

Structures like those in (45) are referred to in Arabic as the 'nominal gerunds'. The 'nominal gerund' in MSA behaves like a derived nominal in ENG. As the example (48) below shows, the 'nominal gerund' in MSA can be constructed with an article and modified by an adjective. As for its complement, this may receive case either like the complement of an ordinary noun (see section below), or indirectly via the dummy preposition li:

- (48) ʔaQlaQa-ni [al-Qaʔf al-shadiid li-l-madiina]  
           worried-me the-bombing the-severe of-the-city  
           'the severe bombing of the city worried me'



Following Fassi Fehri (1988), I shall assume that in (45/b), for example, the possessive phrase al-mumaththila 'the actress' originates as a specifier of NP at DS and remains there at SS. The postulation that the subject of nominal gerunds occupies the [Spec., NP] position at DS comes in conformity with the principle of maximising structural symmetry with the subjects of verbal gerunds and IPs as discussed in Fassi Fehri (ibid) (see section above for an illustration).

Given the assumptions that (i) deep-structures are 'pure' representations of thematic roles (Chomsky 1981), together with a theta-assignment principle to the effect that in order to maintain a maximally constrained theory of theta-marking, this theta-marking takes place within the maximal projection of a given head category, and (ii) the 'agent' theta-role is assigned to the specifier position of a given lexical category (e.g. V), it follows that the only available position for the subject phrase al-mumaththila in (45/c) to get its 'agent' theta-role is the [Spec., NP] position.

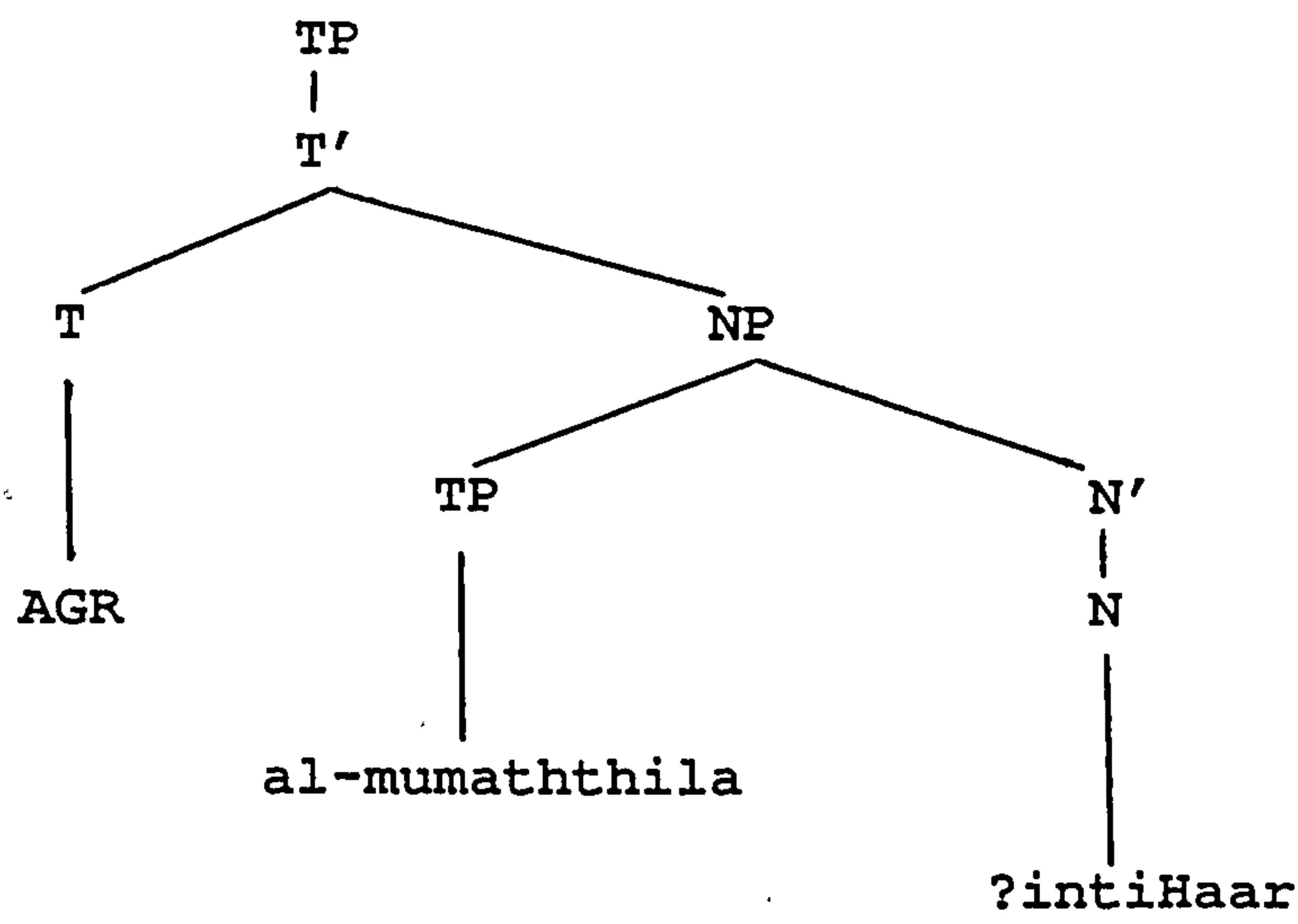
To account for the case properties of subjects in MSA, I shall assume following Fassi Fehri (op.cit.), that the subject al-mumaththila in (45/b), is assigned case under government by T. This rule of case-assignment follows from the DCAP. According to this parameter, case in CLA, and it is reasonable to assume in MSA, is assigned uniformly rightward by both lexical and functional categories. The

above case parametrisation principle means that case can be assigned rightward from T to the specifier of its NP complement, in the same way as I assigns case to the TP subject to its right in clausal structures.

However, given that possessors and the article in MSA are mutually exclusive, and given Abney's (1987) assumption that functional categories have null as well as overt members (e.g. empty C in English), then I shall assume following Fassi Fehri that the genitive case of subjects/possessors in MSA is assigned by an empty AGR in T. We shall furthermore assume that when T is filled by an article, then the AGR case-marker cannot appear due to a constraint that a structural position cannot be doubly filled. In other words, in MSA, lexical determiners and AGR mutually exclude each other, hence the fact that no article can appear in a noun phrase which contains a possessive TP. This would account for the ungrammaticality of the examples in (46) above.

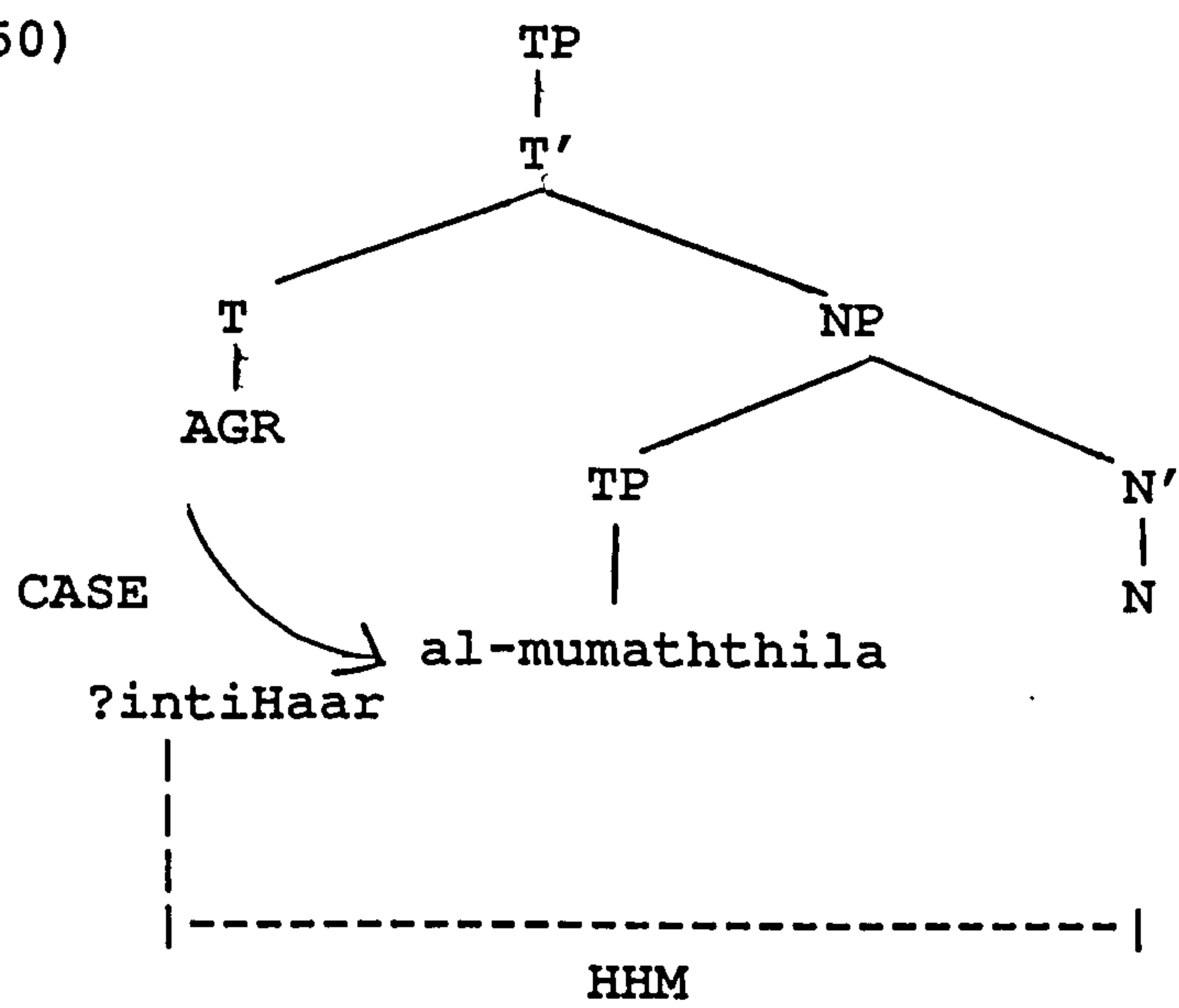
In view of what has been said so far about the theta-marking and case-marking mechanisms of possessive TPs/Dps in MSA, we can represent the underlying structure of the Arabic gerundive nominal in (45/b) as follows:

(49)



However, the surface Noun+Subject (NS) word-order in (45/a) is later derived from ( 49) via the application of a HHM, on a par with that deriving the Verb+Subject (VS) word order in IPs. More explicitly, in (49), the head N al-mumaththila moves to T in order to provide morphological support to AGR. AGR, once supported morphologically, assigns genitive case to TP/DP in the specifier position of its complement NP, as is schematised in (50) below:

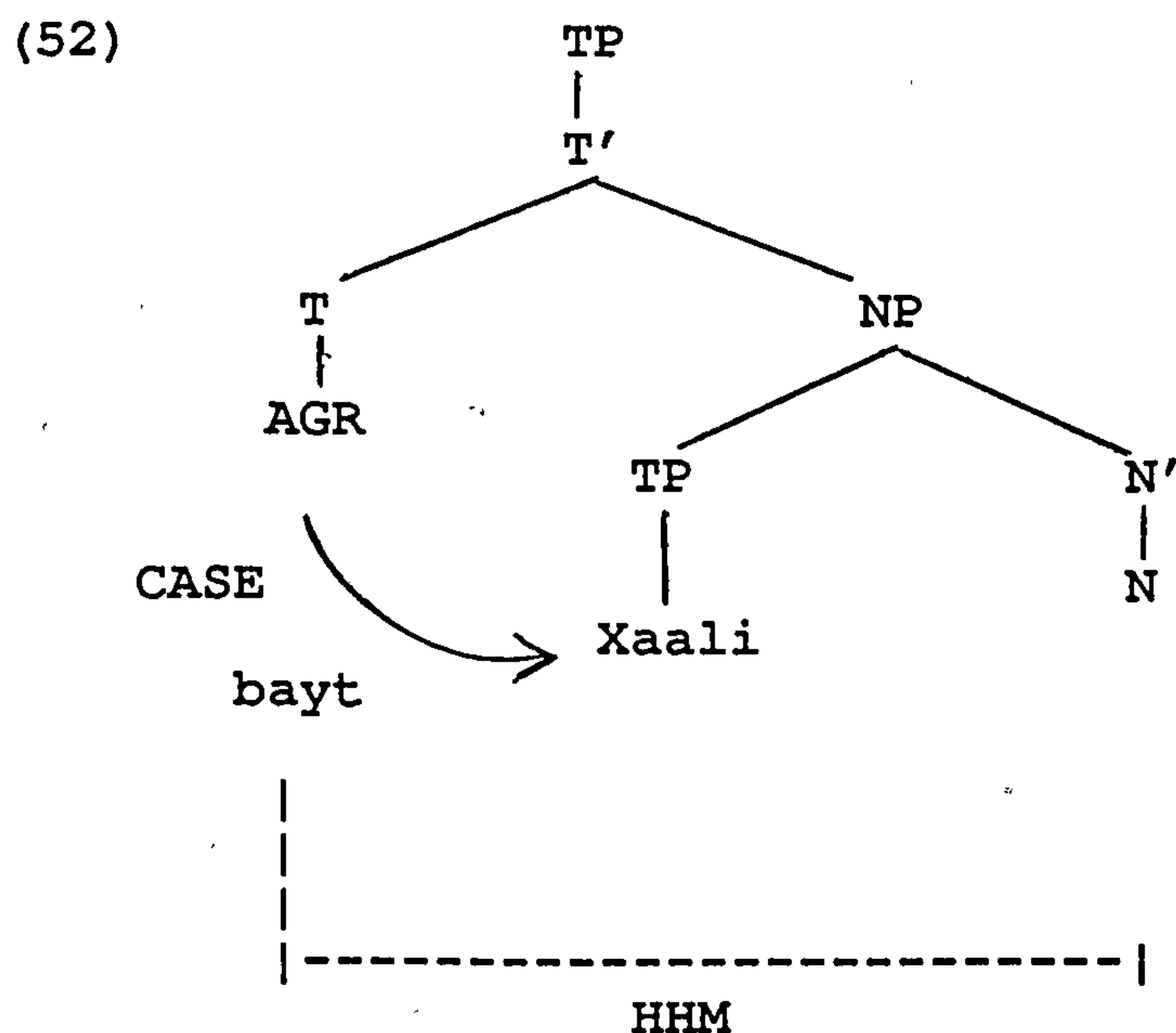
(50)





The above discussion of the subjects of derived nominals can be extended to include subjects of non gerundive nominals, viz. Possessors. I shall therefore assume that the Possessor Xaali 'my uncle' in (51) originates as a specifier of the NP bayt Xaali 'my uncle' at DS. I represent the internal structure of the whole phrase in (51) as in (52) below:

(51) sa-?-azhab ghadan ?ila [bayt Xaal-i]  
 shall I-go tomorrow to house uncle-my  
 'I shall go to my uncle's house tomorrow'



In this diagram, the possessive TP Xaali receives case from AGR under government. The application of the HHM as described above, will then derive the surface NS word order in (51).

#### 4.5.2. Complement TPs/DPs

At surface-structure, a head noun in MSA can be directly followed by a complement TP/DP which is

(covertly) case-marked with the genitive, as the following examples show:

- (53) a. ?aQlaQa-ni [tadmiir     al-madiina]  
         worried-me   destruction the-city  
         'the city 's destruction worried me'
- b. ?aHbab-tu [Suurit   jamaal al-jadiida]  
         liked-I     picture Jamaal   the-new  
         'I liked Jamal's new picture'

The claim that the underlined TPs in the above sentences are complements of the relevant head nouns is supported if we examine the subcategorisation restrictions which hold between these TPs and the head nouns of the corresponding phrases. To take one example, the postulation that there are subcategorisation restrictions between the TP al-madiina and the head N tadmiir in (53/a), is borne out by the ungrammaticality of (54) below:

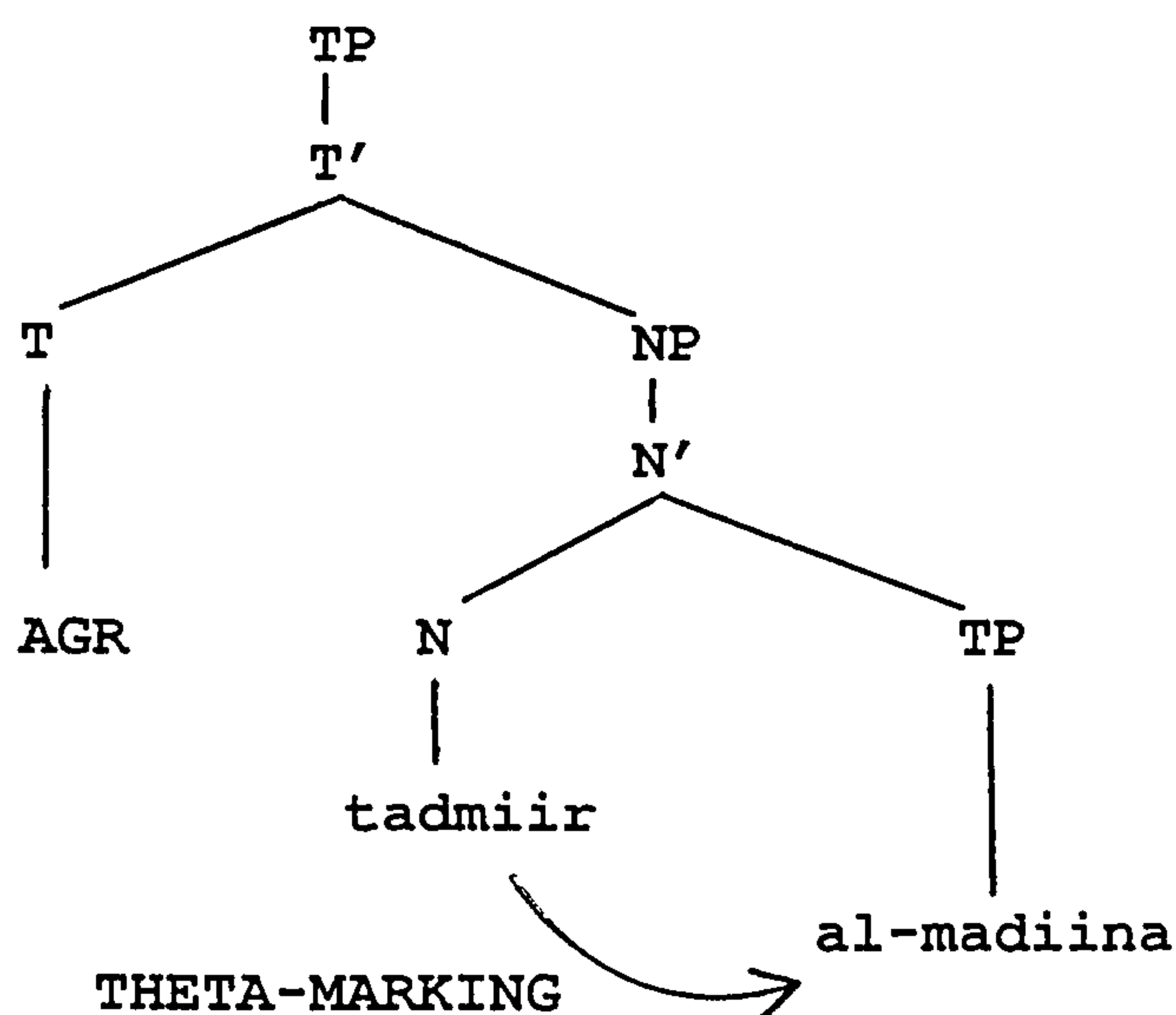
- (54) [\* insiHaab / \* hujuum / \* riHla / al-madiina]  
      \* withdrawal/\* attack/ \* trip/     the-city

The ungrammaticality of (54) indicates that only certain noun (e.g. 'tadmiir') can take a following TP complement. In other words, there are severe subcategorisation restrictions between tadmiir and the TP al-madiina. Nonetheless, since subcategorisation restrictions hold only between a head and its Complement, we conclude the al-madiina is a complement of tadmiir.

Given the assumptions (i) that a head N theta-mark its complements, and (ii) that the theta-marker and the

recipient of the theta role are 'sisters', we conclude that the complement TP al-madiina originates as a sister of the head N tadmiir at DS, as can be shown schematically as follows:

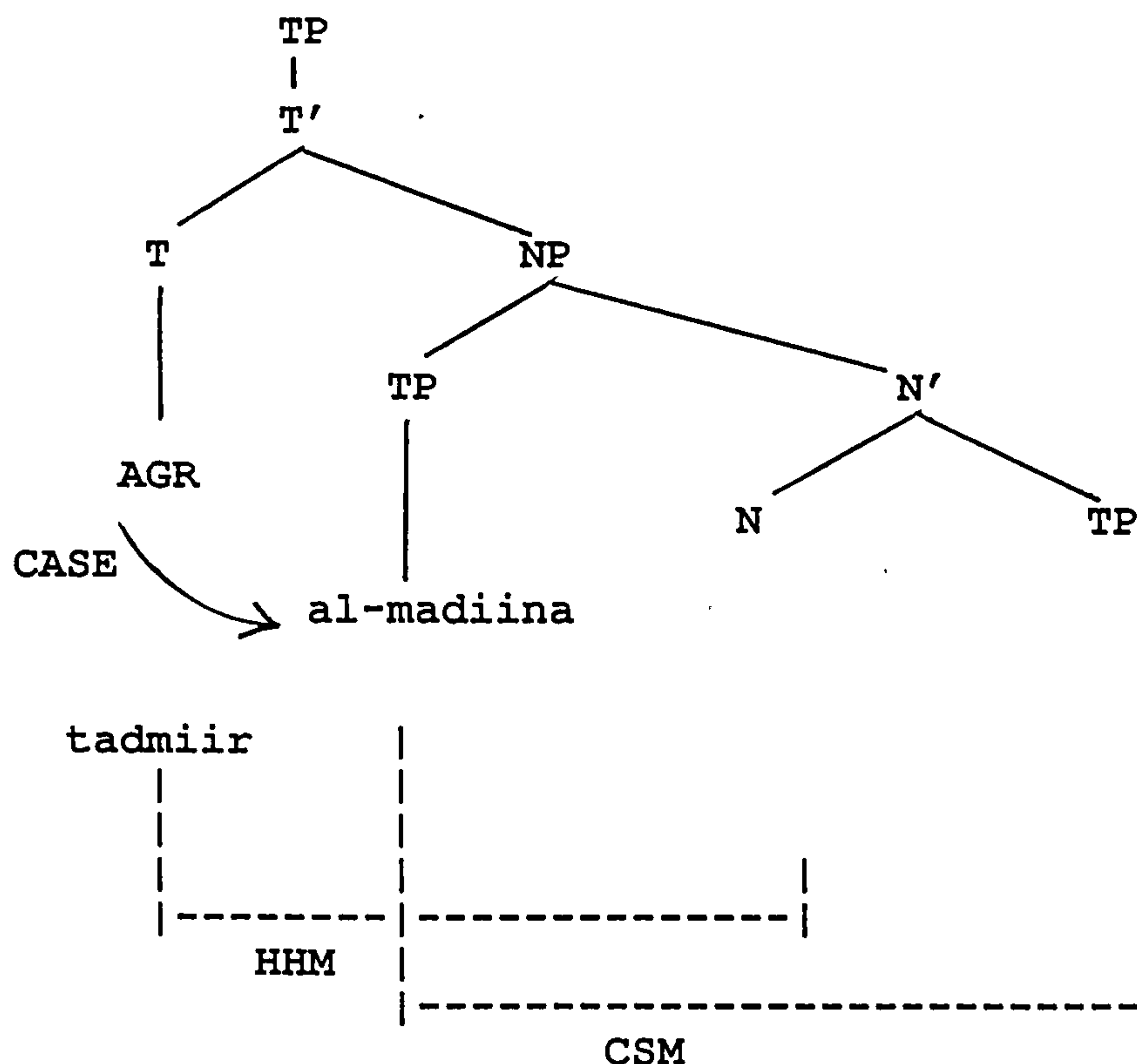
(55)



However, given the two case parameters (i) the Range-of-Case-Assigners Parameter (henceforth RCAP) which specifies that nouns in MSA are not direct case assigners, and (ii) the DCAP which specifies that case in MSA is uniformly assigned rightward by all categories, it follows that in order to receive case, the complement TP al-madiina must move to a position where it can receive case. This position is the [Spec., NP] position in which a the moved complement TP will be able to receive case under government from AGR in T. In effect, we have a Complement-to-Specifier Movement (henceforth CSM), which can be represented as follows:



(56)



From (56), we see that the operation of both CSM and HHM will result in the derivation of the surface NO word-order in (53/a). This analysis indicates that in MSA, an underlying complement is in fact a superficial specifier.

There are a number of arguments which support the analysis in (56). First, this analysis correctly predicts that in a given construct state, a subject-possessive TP/DP and a complement TP/DP can never co-occur, as the ungrammaticality of the following example shows:

- (57) ?qlaQa-ni [\* ?iHtilaal al-'aduww al-madiina]  
worried-me occupation the-enemy the-city  
'\* the enemy's occupation the city worried me'

Given that in (56) the subject phrase al-'aduww is in the [Spec., NP] position where it receives case from AGR in T, then the complement phrase al-madiina cannot be

moved to this position in order to be case-marked by AGR, given the restriction that a given structural position cannot be doubly filled. Moreover, given that the head N tadmiir cannot assign genitive case directly to its complement TP al-madiina, it follows that this complement phrase is caseless and, therefore, it violates the CFC. This would account for the ungrammaticality of the structure in (57). The ungrammaticality of the example in (57) can be avoided by the insertion of the dummy case-assigner li, as in:

- (58) ?aQlaQ-ni [ʔiHtilaal al-'aduww li-l-madiina]  
 worried-me occupation the-enemy of-the-city  
 'the enemy's occupation of the city worried me'

A second correct prediction which the analysis in (56) yields is that the presence of the definite article on the head N of the matrix noun phrase will exclude the presence of a complement phrase and vice versa, as can be shown by the following example:

- (58) ?aQlaQa-ni [\* al-tadmiir al-madiina]  
 worried-me the-destruction the-city  
 '\* the city's the destruction worried me'

The two assumptions that (i) complement TPs/DPs in MSA are case-marked by AGR in T, and (ii) that AGR in T and determiners like the definite article are mutually exclusive, provides an adequate explanation of the ill-formedness of (57). In (57), the presence of the definite article al in the head T-position of the overall noun

phrase will prevent the case-assigning category AGR from appearing in this position and, as a result, the moved complement noun phrase will be unable to receive case from T. In such case, the intervention of the dummy case-assigner li becomes inevitable if ungrammaticality is to be avoided. The function of li is to transmit the theta-role assigned by N to its complement and to case-mark this complement with the genitive:

- (59)    ?aqlaqa-ni    [al-tadmiir                      (al-shadiid)  
              li-l-madiina]  
              worried-me    the-destruction    (the-severe)  
              of-the-city  
              'the severe destruction of the city worried me'

Fassi Fehri (1988) refers to the fact that the presence of the article in a given construct state excludes that of a genitive complement and vice versa as the No-Article-in-the-Genitive-Hypothesis.

Examples from other languages such as French, provide further support for the No-Article-in-the-genitive Hypothesis. Consider for example the following French constructions:

- (60) a.    quel garçon ?  
              which boy ?  
       b.    Lequel des garçons ?  
              the which of boys ?  
              '\* the which of boys ?  
       c.\*    Lequel garçon ?  
              the which boy ?  
              '\* the which boy ?'

As the above examples show, the appearance of the



definite article le on the pronominal determiner quel 'which' in (c) has prevented it from assigning case directly to its complement, hence the ungrammaticality of this example.

As for the relative linear ordering of complement TPs to other nominal modifiers, the analysis in (56) correctly predicts that, once it is moved to the [Spec., NP] position, a complement TP/DP in MSA will always precede other modifiers such as complement PPs, adjunct PPs and APs:

- (61) a. Ziaad [Taalib kimyaa? fi al-jaami'a]  
           Ziad     student chemistry in the-university  
           '\* Ziad is a student at university of chemistry'
- b. [tadmiir     al-madiina al-'aniif]  
           destruction the-city     the-severe  
           'the severe destruction of the city'

A final noteworthy point is that whether a given head noun can/cannot take a TP as complement will be highly determined by the subcategorisation properties of this noun. Only certain nouns not others can take a TP as complement, cf.

- (62) a. [\* al-hujuum     al-maTaar]  
           the-attack     the-airport  
           '\* the attack the airport'
- b. [\* al-safar     al-Qariya]  
           the-travel the-village  
           '\* the travel the village'

However, Nouns like safar 'travel' and hujuum 'attack' can take PPs as complements. In each case, the choice of the preposition being the same as that of the indirect

object of the corresponding verbal counterpart, compare for instance:

- (63) a. [al-hujuum 'ala al-maTaar]  
the-attack on the-airport  
'the attack on the airport'
- b. [hajama 'ala al-maTaar]  
attacked (he) on the-airport  
'he attacked the airport'

So we can plausibly call nouns which take direct TPs as complements transitive nouns (e.g. tadmiir 'destruction'), and nouns which do not intransitive (e.g. hujuum 'attack').

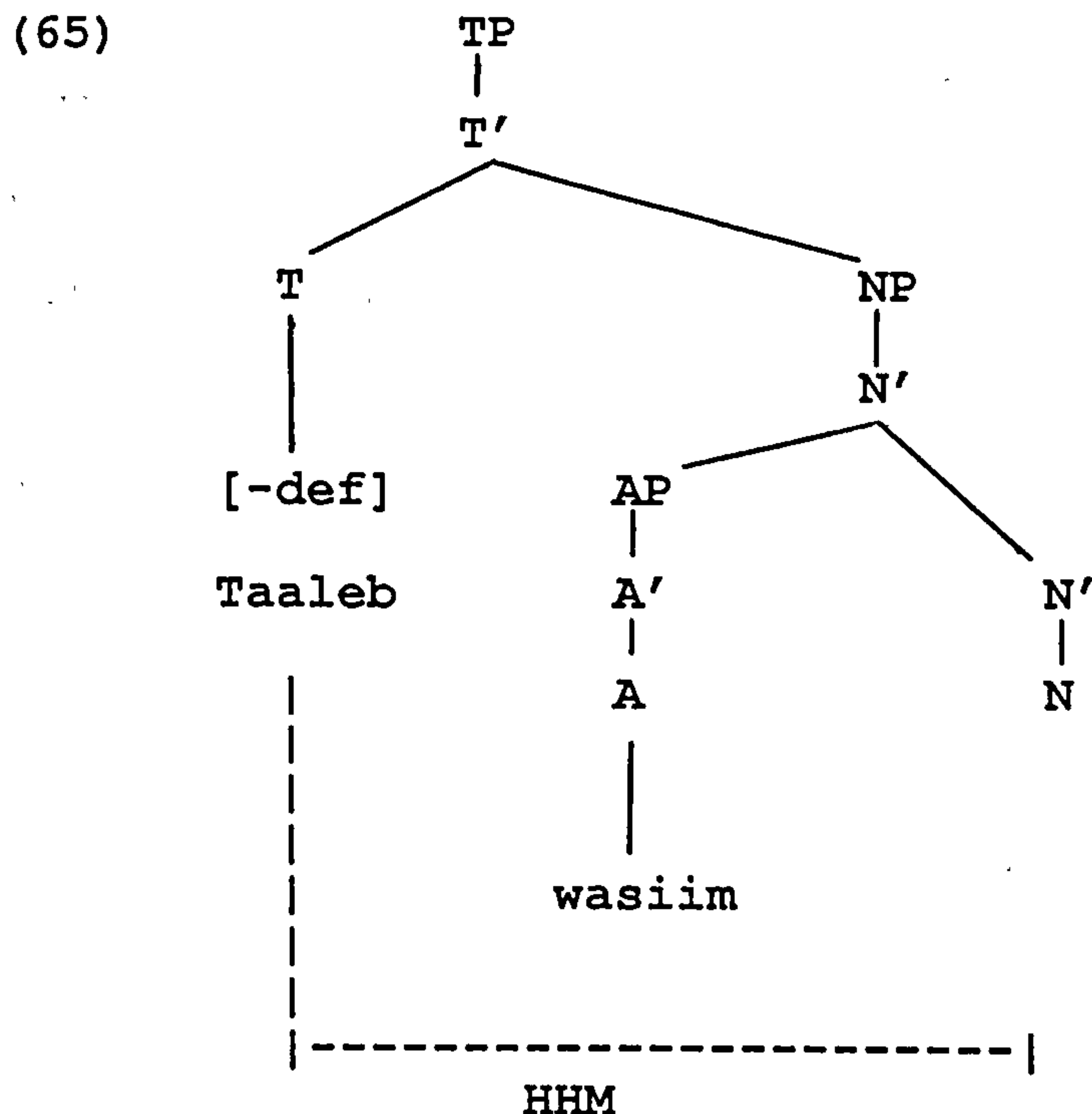
#### 4.5.3. Adjectival Phrases

An AP in MSA usually follows the noun it modifies and agrees with it in case, definiteness, gender and number. The following sentences are examples:

- (64) a. Thaabit [Taalib wasim]  
Thaabit student handsome  
'Thabet is a handsome student'
- b. haadhihi [QiSSa mushawwiQa]  
this story exciting  
'this is an exciting story'

As for the constituent function of APs in MSA, in what follows I shall argue that they are N-bar adjuncts generated to the left of the modified N-bar, i.e. they are constituents which recursively expand an N-bar into an N-

bar<sup>1</sup>. I therefore represent the structure of a noun phrase which contains an AP among its modifiers such as that in (64/a) as follows:



The analysis in (65) implies that APs in MSA are recursive elements, i.e. they have the potential of being stacked on top of N in any order. And as the following examples show, this is indeed the right prediction:

- (66) a. thaabit [Taalib wasiim muthaQQaf naajiH]  
 Thabit student handsome educated successful  
 'Thabit is a handsome educated successful student'
- b. thaabit [Taalib naajiH muthaQQaf wasiim]  
 'Thaabit is a successful educated handsome student'

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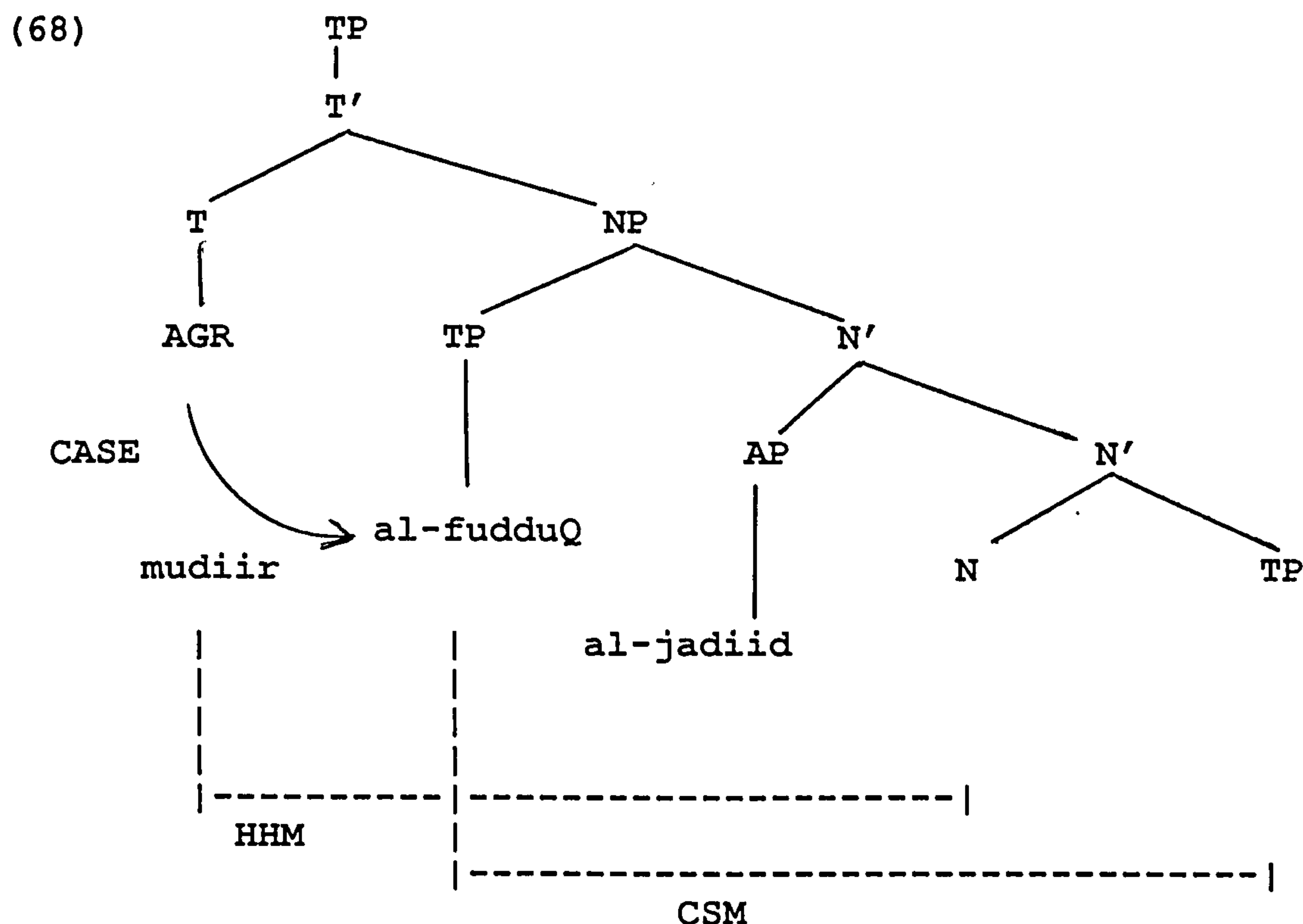
1. My analysis of APs in MSA as N-bar adjuncts is parallel to the analysis proposed by Siloni (1991) for Hebrew APs. MSA and Hebrew impose similar restrictions on the distribution of their APs in construct states.



A second argument in favour of analysing APs in MSA as lefthand N-bar adjuncts is derived from facts about the linear ordering restrictions of these modifiers in relation to other nominal modifiers. More concretely, the analysis in (66) correctly predicts that in given construct state, a modifying AP must follow the TP/DP complement of the head N, once the head N moves to T and the complement TP/DP moves to the [Spec., NP] position. The following example shows that this prediction is totally borne out:

- (67) a. Qaabal-tu [mudiir al-funduQ al-jadiid]  
           met-I           manager the-hotel   the-new  
           'I met the new hotel manager'
- b. Qaabal-tu [\* mudiir al-jadiid al-funduQ]  
           met-I           manager the-new    the-hotel

The noun phrase in (67) has the following schematic structure:



The analysis of APs as N-bar adjuncts which are generated left to the modified N-bar yields another correct prediction, which relates to the linear ordering of APs relative to complement PPs and adjunct PPs. Given the two assumptions that (i) complement PPs are sisters of N, and (ii) adjunct PPs are left-adjuncts to N-bar, then the analysis in (68) predicts that an AP must always precede a complement PP and an adjunct PP, when occurring in the same noun phrase. And as the following example shows, this is indeed the right prediction:

- (69) a. shaahad-tu [al-mudarris al-jadiid li-l-fizyaa?  
bi-sha'r aHmar]  
saw-I the-teacher the-new of-the-physics  
with-red hair  
'I saw the new teacher of physics with red hair'

compare:





#### 4.5.4. Prepositional Phrases

A head Noun in MSA can be modified by two types of prepositional phrases: complement PPs and adjunct PPs. What distinguishes the two types of PP is the fact that, in the case of complement PPs, there are normally subcategorisation restrictions (of a syntactic nature) between the head N and the PP complement; whereas in the case of adjunct PPs, no subcategorisations restrictions hold between N and the modifying PP.

To make my discussion less abstract, I shall argue that the PPs li-l-kimyaa? and 'ala al-madiina in (71/a) and (71/b) respectively are complements, whereas the PPs bi-sha'r aHmar and fi al-layl are adjuncts:

- (68) a. Ghassaan [mudarres li-l-kimyaa?  
bi-sha'r aHmar]  
Ghassan teacher of-the-chemistry  
with-red hair  
'Ghassan is a teacher of chemistry  
with black hair'
- b. [al-hujum al-mufaaaji? 'ala al-madiina  
fi al-layl]  
the-attack the-sudden on the-city  
in the-night  
'the sudden attack on the city at night'

The claim that a PP like li-l-kimyaa? is a complement is supported by the fact that there are subcategorisation restrictions between this PP and the head noun it modifies, namely, mudarres. These restrictions become more apparent if we consider the ungrammaticality of the following construction:

- (72) [\* shurT / \* saa?iO/\* rajul/ mudarres li-l-kimyaa?]  
\* policeman/\* driver/\* man/ teacher of-the-chemistry

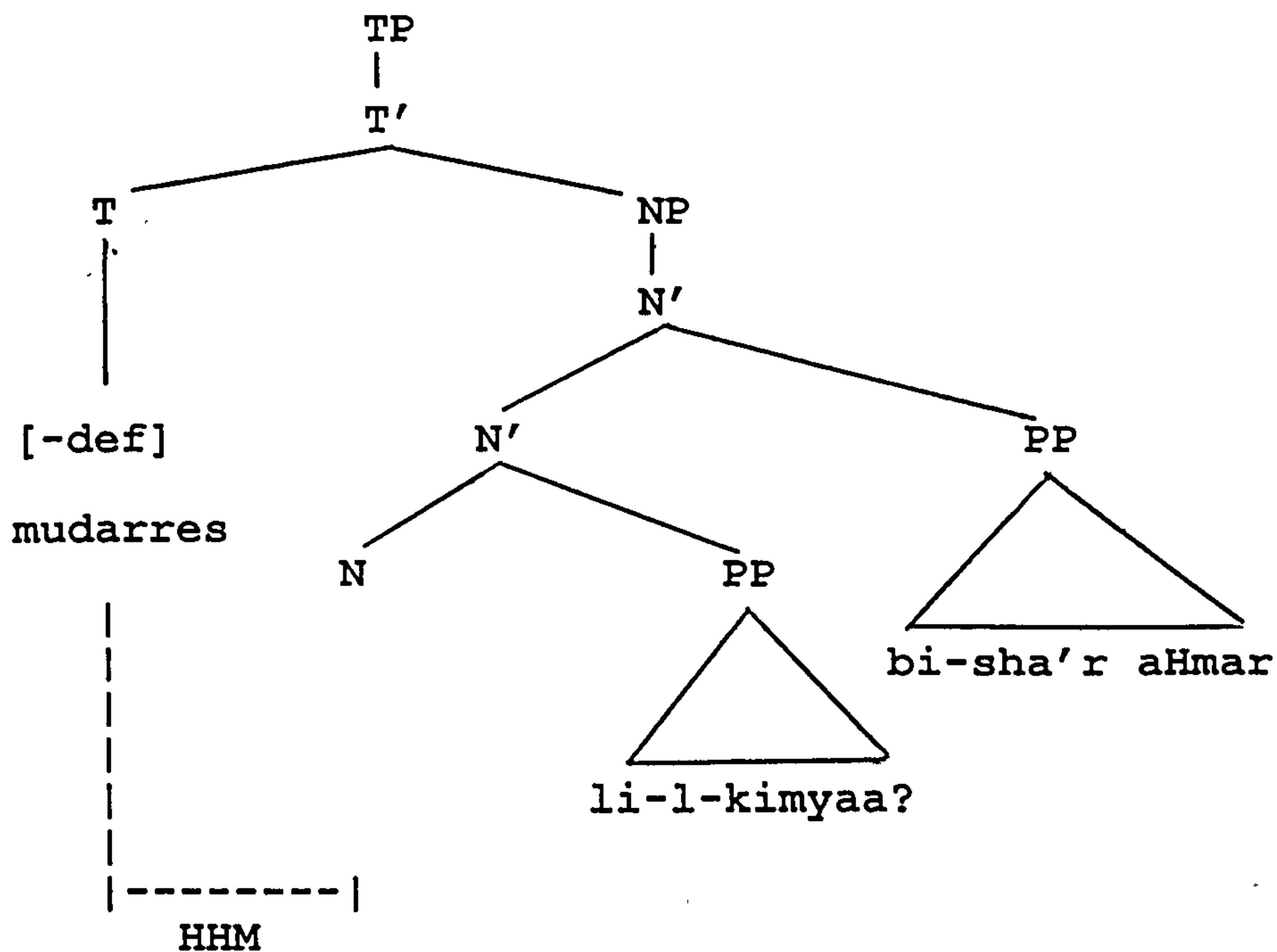
The ungrammaticality of the above structure is a demonstration of the fact that only some nouns (e.g. 'mударres'), not others permit a PP complement headed by li.

On the other hand, the PP bi sha'r aHmar is an adjunct because there are no subcategorisation restrictions which hold between this PP and the head N mударres. Evidence for this claim comes from the fact that this PP can be used to modify any type of noun (providing that there is no violation of semantic and pragmatic restrictions), as is shown by the following example:

- (73) [shurTi / saa?iQ / rajul / mударres bi-sha'r ?Hmar]  
policeman/driver/ man/ teacher with-red hair

In what follows, I shall argue that in MSA, complement PPs and adjunct PPs are structurally distinct constituents. More specifically, we shall argue that argument PPs have the syntactic function of expanding an N into an N-bar, whereas nonargument PPs are constituents whose syntactic function is to recursively expand an N-bar into another N-bar. So, I represent the underlying structure of the nominal phrase in (71/a) as follows:

(74)



From the above diagram, we see that the complement PP li-l-kimyaa? is base-generated as a sister-of-N, whereas the adjunct PP bi-sha'r aHmar is generated as a sister of N-bar.

The claim that non-subcategorised PPs recursively expand an N-bar into another N-bar suggests that we can stack an indefinite number of these modifiers on top of N in any order. Support for this claim is derived from considering examples like the following:

- (75) a. [mударres bi-sha'r aHmar bi-Qamiis abiaD  
bi-mi'Taf ?aswad]  
teacher with-hair red with-shirt white  
with-jacket black  
'a teacher with red hair in white shirt  
in black jacket'
- b. [mударres bi-mi'Taf aswad bi-sha'r aHmar  
bi-Qamiis abiaD]  
'a teacher in black jacket with red hair  
in white shirt'



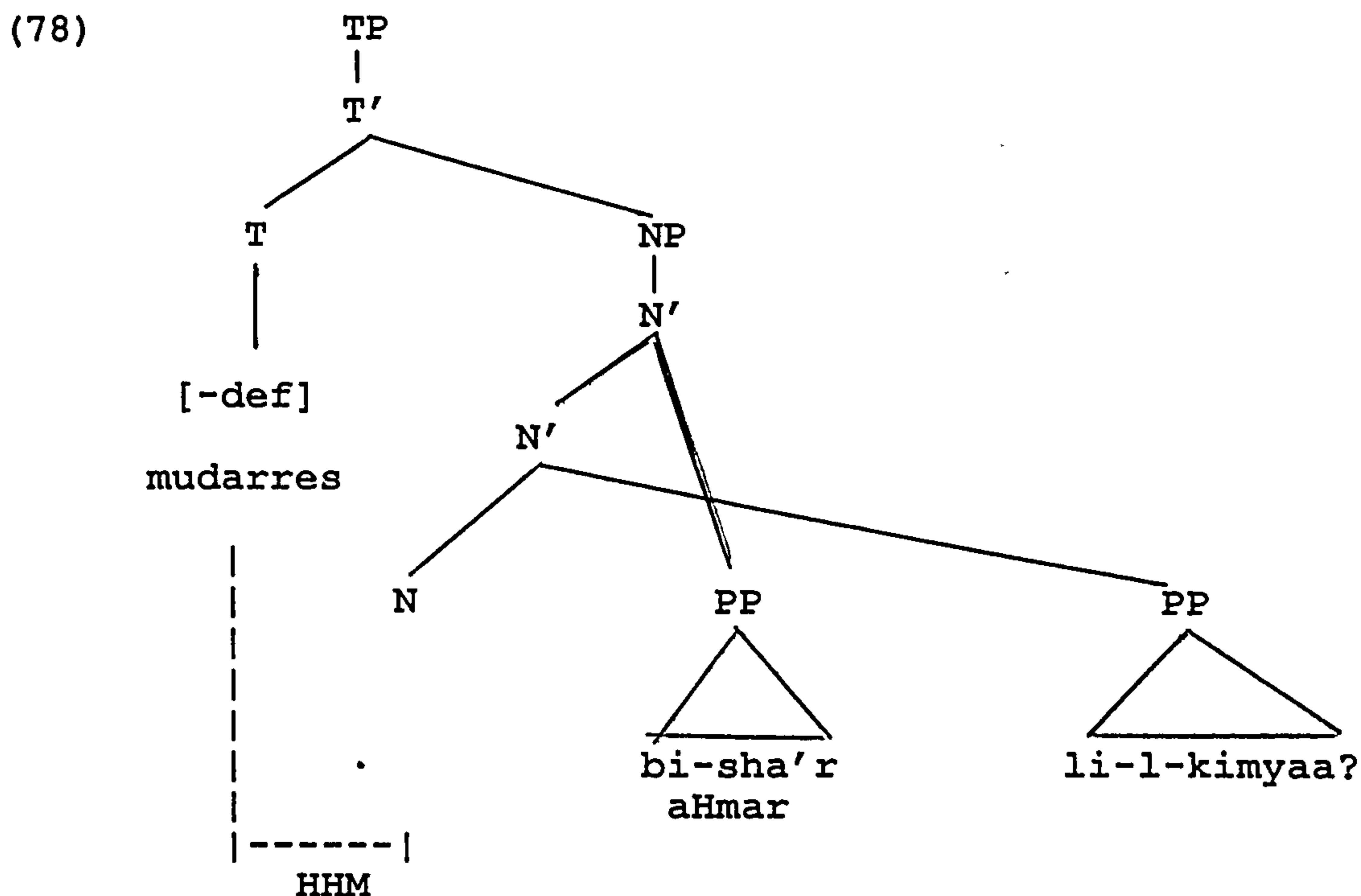
On the other hand, the claim that subcategorised PPs expand N into an N-bar correctly predicts that they cannot be stacked, hence the ungrammaticality of (76) below:

- (76) [\* al-hujuum 'ala al-madiina 'ala al-Qarya  
'ala al-mabna]  
the-attack on the-city on the-village  
on the-building  
'\* the attack on the city on the village  
on the building'

As for the relative order of complement PPs and adjunct PPs, the analysis in (74) correctly predicts that a complement PP must precede an adjunct PP, otherwise the result will be ungrammatical structure, compare:

- (77)  
a. ghassaan [mudarres li-l-kimyaa?  
bi-sha'r aHmar]  
Ghassan teacher of-the-chemistry  
with-hair red  
'Ghassan is a teacher of chemistry with red hair'  
b. [\* ghassaan mudarris bi-sha'r aHmar  
li-l-kimyaa?]  
Ghassan teacher with-hair red  
of-the-chemistry  
'\* Ghassan is a teacher with red hair of chemistry'

The ungrammaticality of (77/b) is explained on the grounds that its corresponding structure violates the NCBR, as can be shown in (78) below:



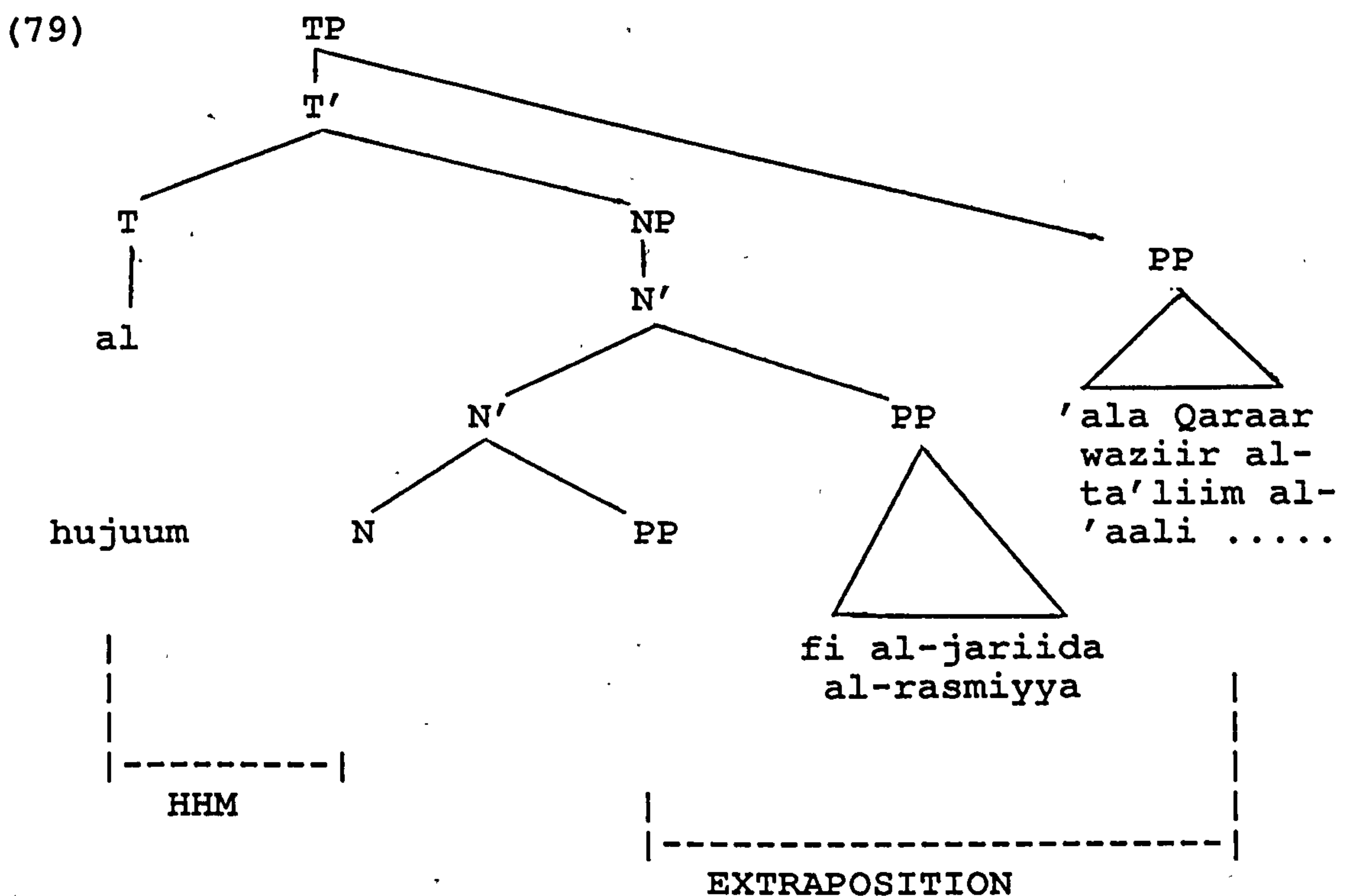
On the other hand, the structure of the grammatical example in (77/a) does not contain any intersecting branches, as the diagram in (74) shows.

Hitherto, I have provided arguments in favour of a structural difference between complement and adjunct PPs. This structural contrast is represented in schematic form in (74) above. I have also shown that an analysis along the lines of (74) correctly predict (i), that a head N in MA can be modified by an infinite number of adjunct PPs, and (ii), that in the unmarked case, complement PPs must always precede adjunct ones in a given noun phrase.

Nevertheless, there are cases in which the opposite N+adjunct PP+complement PP is used. The extraposition discussion by Radford (1988: chapter 8) applies in MSA too. Here too, a long/complex PP is extraposed from its underlying position as a sister of N and adjoined to the

overall phrase. To avoid abstraction, we represent the derivation of the surface form in (78) as in (79):

- (78) [al-hujuum      fi al-jariida      al-rasmiyya  
'ala Qaraar waziir      al-ta'liim      al-'aali  
bi taXfiiD minaH al-Tulaab]  
the-attack      in the-newspaper the-official  
on decision      minister the-education      the-high  
in reducing grants the-students  
'the attack in the official newspaper  
on the Minister of higher education's decision  
to decrease students' grants'



#### 4.5.5. Numerals

Numerals in MSA form two major subclasses: cardinals and semi numerals. Cardinals include items such as ?arba'a 'four', 'ashara 'ten', thalathiin 'thirty', and so on. Semi-numerals, on the other hand, refer to words such as maa?a 'a hundred', dazzina 'a dozen', ?alf 'a thousand',



and malliun 'a million'. Examples of noun phrases containing cardinal and semi-numerals are (77) and (78) respectively:

- (80) a. tuujad ['ashr Suwar] 'ala al-minDada  
           there     ten   pictures   on   the-table  
           'there are ten pictures on the table'
- b. y-ata?allaf haadhaa al-kitaab min [Xamsiin SafHa]  
           it-consist this     the-book   of   fifty   pages  
           'this book consists of fifty pages'
- (78) a. shtaray-tu [dazzinat ?aQlaam] albaariHa  
           bought-I     dozen     pens       yesterday  
           'I bought a dozen pens yesterday'

Within the framework of X-bar syntax, I shall assume that numerals in MSA are head nouns of the phrase in which they occur. One argument in support of this claim is that, like all nouns in MSA, they can occur in 'construct states' i.e. in constructions in which they receive case from an external governor and take a following genitive phrase as a complement. This complement undergoes a CSM in order to be case-marked by AGR in T, in the same way as the complement of an ordinary construct state receives case from T<sup>1</sup>. So, I represent the structures of noun phrases containing numerals among their constituents like the ones in (80) and (81) as in (82) and (83)

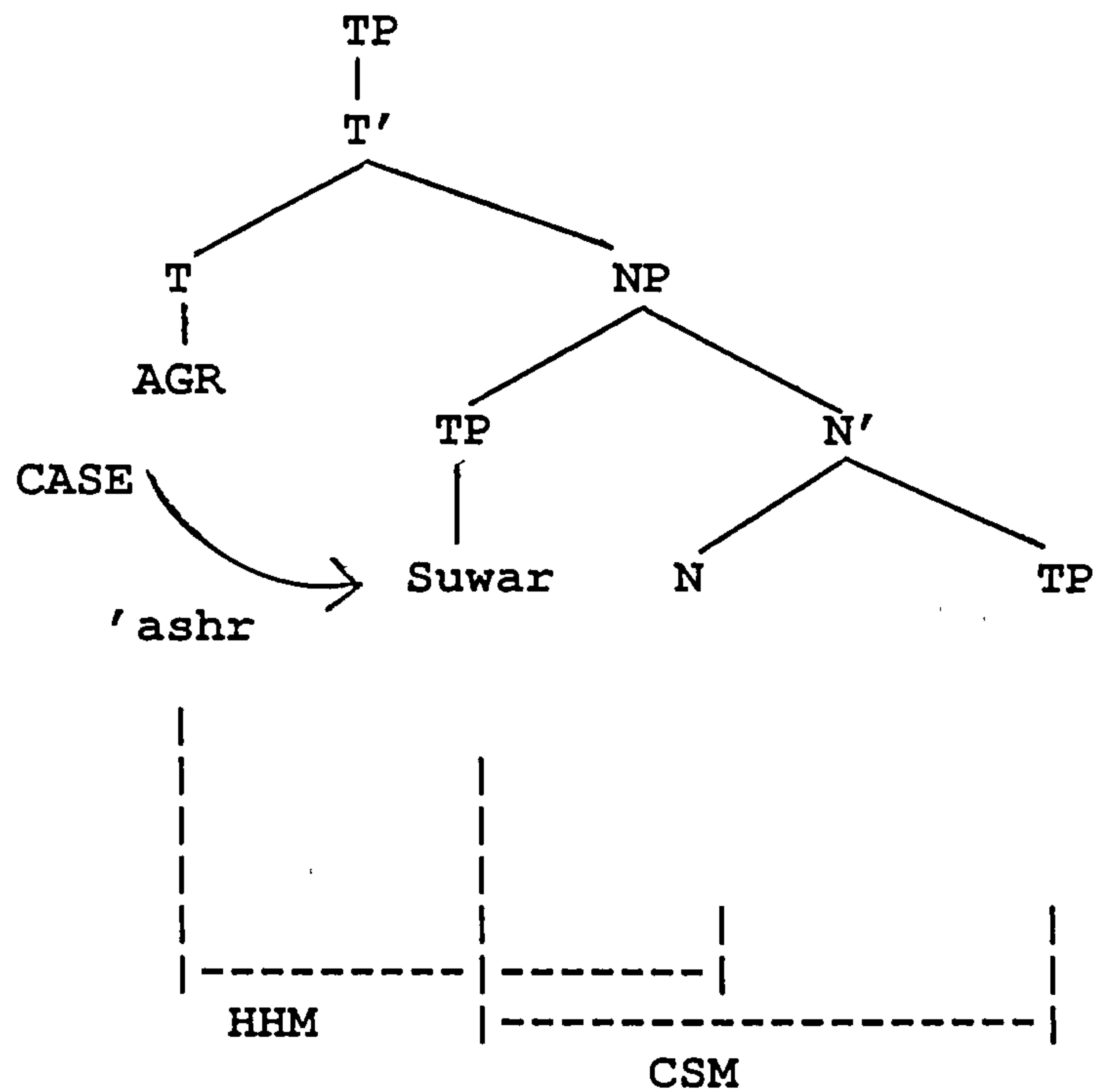
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1. A noteworthy point is that numerals form an exception to the rule that the head of a given construct state cannot bear the definite article. As the following example shows, in a construct state headed by a numeral, this numeral can be construed with the article:

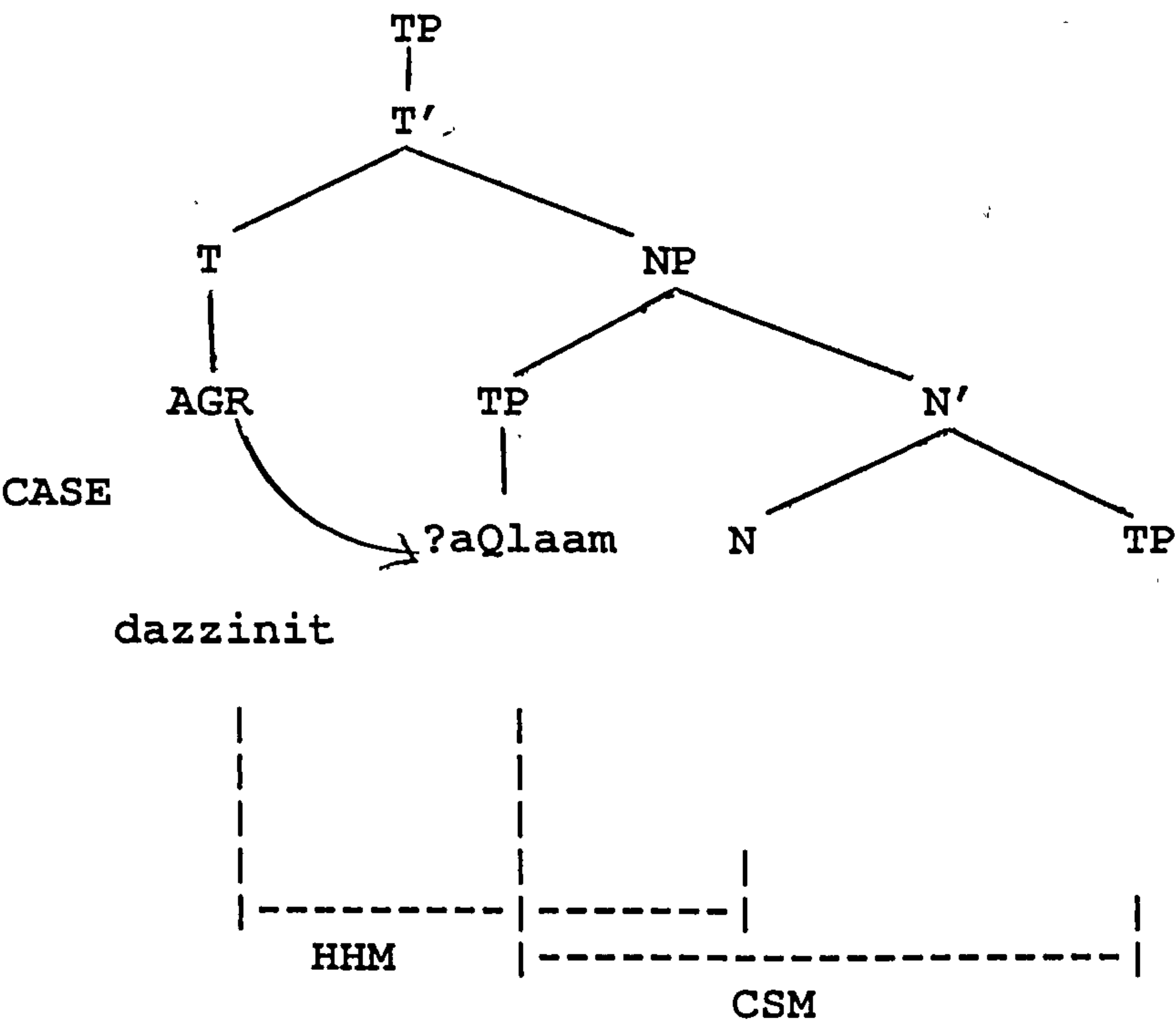
- (i) shaahad-tu [kull al-?arba'at ?aflaam]  
       saw-I       all   the-four   films  
       'I saw all the four films'

respectively:

(82)



(83)



In (82) and (83), the cardinal number 'ashr and the semi numeral dazziinit are analysed as head Ns which take

a following TP as complement<sup>1</sup>.

One argument in favour of analysing semi-numerals as head nouns is the fact that it is usually the semi-numeral which carries the plural inflection of the matrix phrase in which it occurs<sup>2</sup>, as can be seen from the following example:

- (85) a. yuujad [ʔarbaʔat ʔalaaf Taalib] fi  
haadha al-mabna  
there four thousands student in  
this the-building  
'there are four thousand students in  
this building'
- b. t-aHtawi [haadhihi al-HadiiQa 'ala  
sitit malayiin Tayr]  
it-contain this the-garden on  
six millions bird  
'this garden contains six million birds'

Further support of the claim that numerals are head nouns of the containing noun phrase is derived from the fact that they behave like group nouns in that they can

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1. I have no explanation of why there are subcategorisation restrictions between a numeral and its complement TP.

2. It should be noted, however, that the semi-numerals maaʔa 'a hundred' and dazzina 'a dozen' are unique among semi-numerals. The semi-numeral maaʔa remains invariable with regard to number inflection, that is to say, it remains singular in all contexts:

- (i) y-taʔallaf haadhaa kitaab min [Xamsa maaʔat SafHa]  
it-consists this the-book from five hundred page  
'this book consists of five hundred pages'

On the other hand, in a nominal phrase containing the semi-numeral dazzina, both the numeral and the complement TP are inflected for number:

- (ii) shtarai-tu [sit dazzinaat ʔaOlaam]  
bought-I six dozens pens  
'I bought six dozens pens'



occur in partitive phrases where they subcategorise a following partitive min-phrase as is discussed in section 5.3.6. below).

As far as the subcategorisation properties of cardinals are concerned, it is noteworthy that in MSA, cardinals from 'eleven' to 'ninety' are exceptional in that they require a singular TP complement, whereas cardinals from 'three' to 'ten' take a plural complement, see (86) and (87) respectively:

- (86) huwa yamlik ['ishriin sayyaara]  
 he owns twenty car  
 'he owns twenty cars'

- (87) shariba [sittit fanajiin Qahwa] haadhaa al-SabaaH  
 drank (he) six cups coffee this the-morning  
 'he drank six cups of coffee this morning'

Before I conclude this section on numerals, it is noteworthy that cardinals in MSA can function as APs in which case they occur in postnominal position and agree in case with the modified head noun. This use of cardinals is most common when the preceding head noun is definite. This use of cardinals is exemplified in the following sentence:

- (85) huwa yamlik [al-biyuut al-thalaatha  
 llati bijaanibi-na]  
 he owns the-houses the-three  
 which near-us  
 'he owns the three houses which are near us'

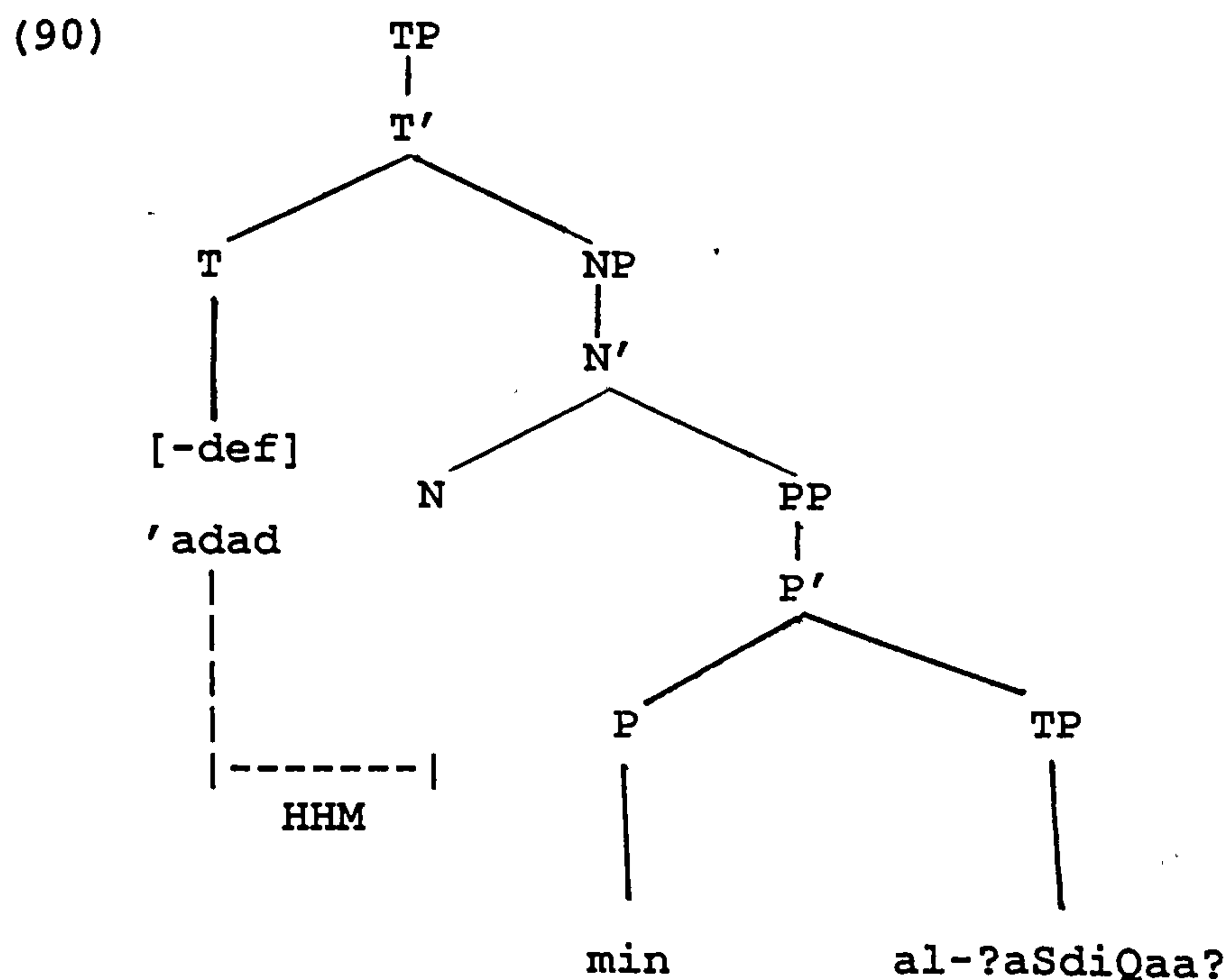
#### 4.5.6. Partitive min-Phrases

In MSA, partitive phrases are most commonly used after numerals and group nouns such as 'adad 'a number', majmuu' 'a group', and kamiyya 'a quantity'. Examples of

noun phrases containing partitive min-phrases are the following:

- (86) a. zahab-tu ma'a ['adad min al-?aSdiQaa?]  
 ?ila al-masraH  
 went-I with a number of the-friends  
 to the-theatre  
 'I went with a number of friends to the theatre'
- b. [majmuu'a min ha?ulaa? al-talamiiz] rasab-u  
 fi al-?imtiHaan  
 group of those the-students failed-they  
 in the-exam  
 'a group of those students failed in the exam'

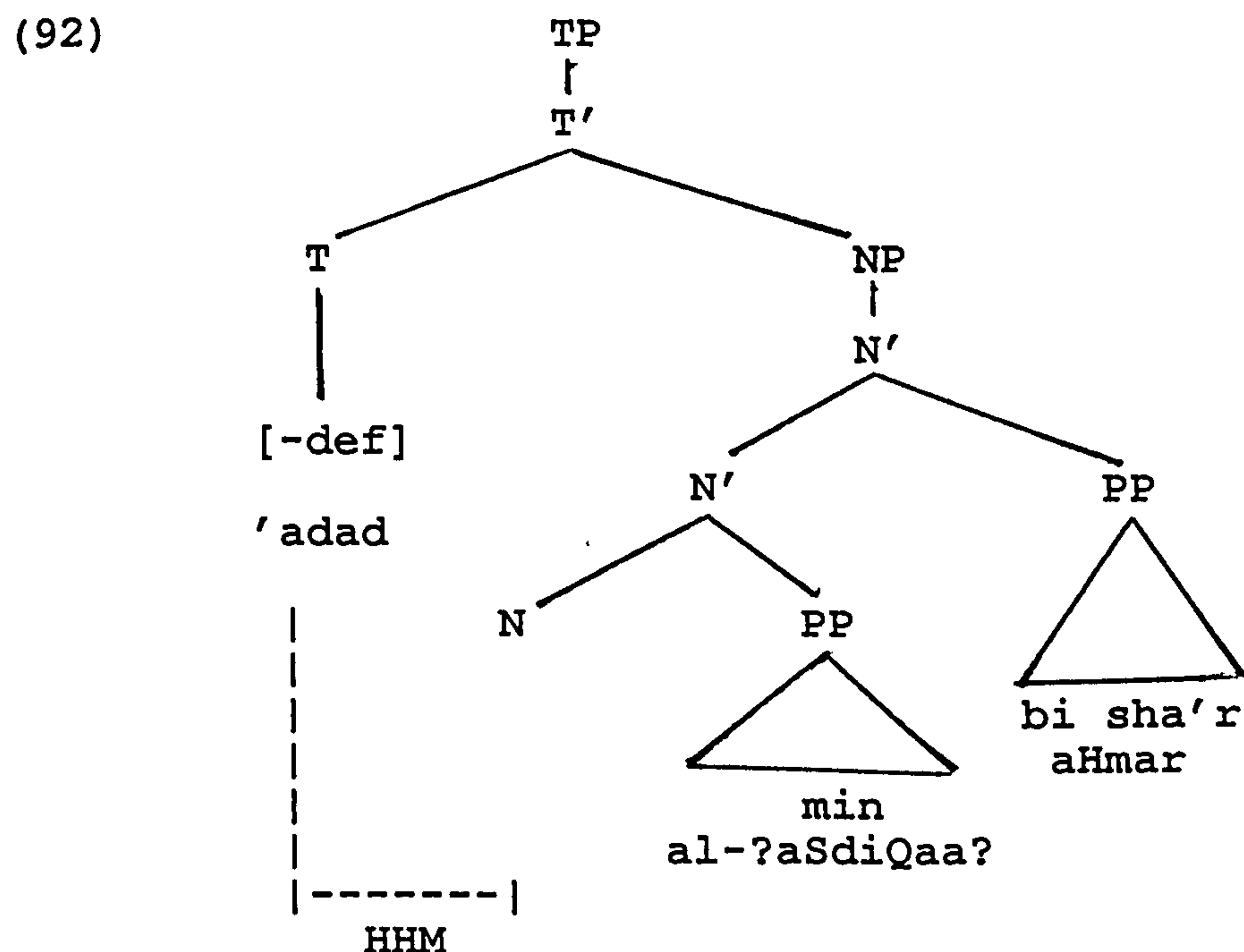
In what follows, I shall argue that the partitive min-phrases in MSA are syntactic complements of the head N, i.e. they are constituents that expand an N into an N-bar. This claim is equivalent to saying that the internal structure of a noun phrase containing a definite min-phrase such as that in (89/a), for example, has the following schematic form:



Justification of the structure in (90) comes from considering the distribution of the min-phrase relative to a given adjunct PP. More explicitly, the structure in (90) predicts that if we modify the head noun 'adad by a partitive phrase like min al-?aSdiQaa? and an adjunct PP like bi sha'r aHmar, then the min-phrase must precede the adjunct one. As the grammaticality of (91) shows, this prediction is entirely borne out:

- (91) zahab-tu ma'a ['adad    min al-?aSdiQaa?  
       bi sha'r aHmar] ....  
       went-I    with    a number of    the-friends  
       with hair    red  
       'I went with some friends with red hair ...'

The schematic structure corresponding to the phrase in (91) is the following:



The opposite constituent order, however, will be blocked by the NCBP, otherwise, the result will be the



following ungrammatical structure:

- (93) zahab-tu ma'a [\* 'adad bi sha'r aHmar  
min al-?aSdiqaa?]  
 ' \* I went with a number with red hair  
 of the friends'

It will be relevant to mention that in MSA, partitive phrases are not found after determiners like ba'D 'some', kull 'all', ha?ulaa? 'those/these', ?ayy 'which', as is shown by the ungrammaticality of the following examples:

- (94) a. shtaray-tu [\* kull min haadhihi al-hadaaya]  
 min nafs al-makaan  
 bought-I all of these the-presents  
 from same the-place  
 'I bought all of these presents  
 from the same place'
- b. [\* ba'D min ?aSdiQaa?] la yu-Hibbuuna madwnna  
 some of friends-my no they-like Madonna  
 'some of my friends do not like Madonna'
- c. [\* ?ayy min-hum] tu-faDDil ?  
 which of-them you-prefer  
 'which of them do you prefer ?'

To express a partitive meaning, the above determiners take direct complement TPs, as is exemplified by the following sentences:

- (95) a. shtaray-tu [kull haadhihi al-hadaaya] ....  
 bought-I all these the-presents...  
 'I bought all these presents... '
- b. [ba'D ?aSdiQaa?-i] la yu-Hibbuuna madwnna  
 some friends-my no they-like Madonna  
 'some of my friends do not like Madonna'
- c. [?ayyu-hum] tu-faDDil ?  
 which-them you-prefer ?  
 'which of them do you prefer ?'

We can attribute the grammaticality of the examples in

(95) to the fact that the determiners in question are all direct case-assigners in MSA. This would explain why they can be directly followed by complement TPs without the violation of the CFC.

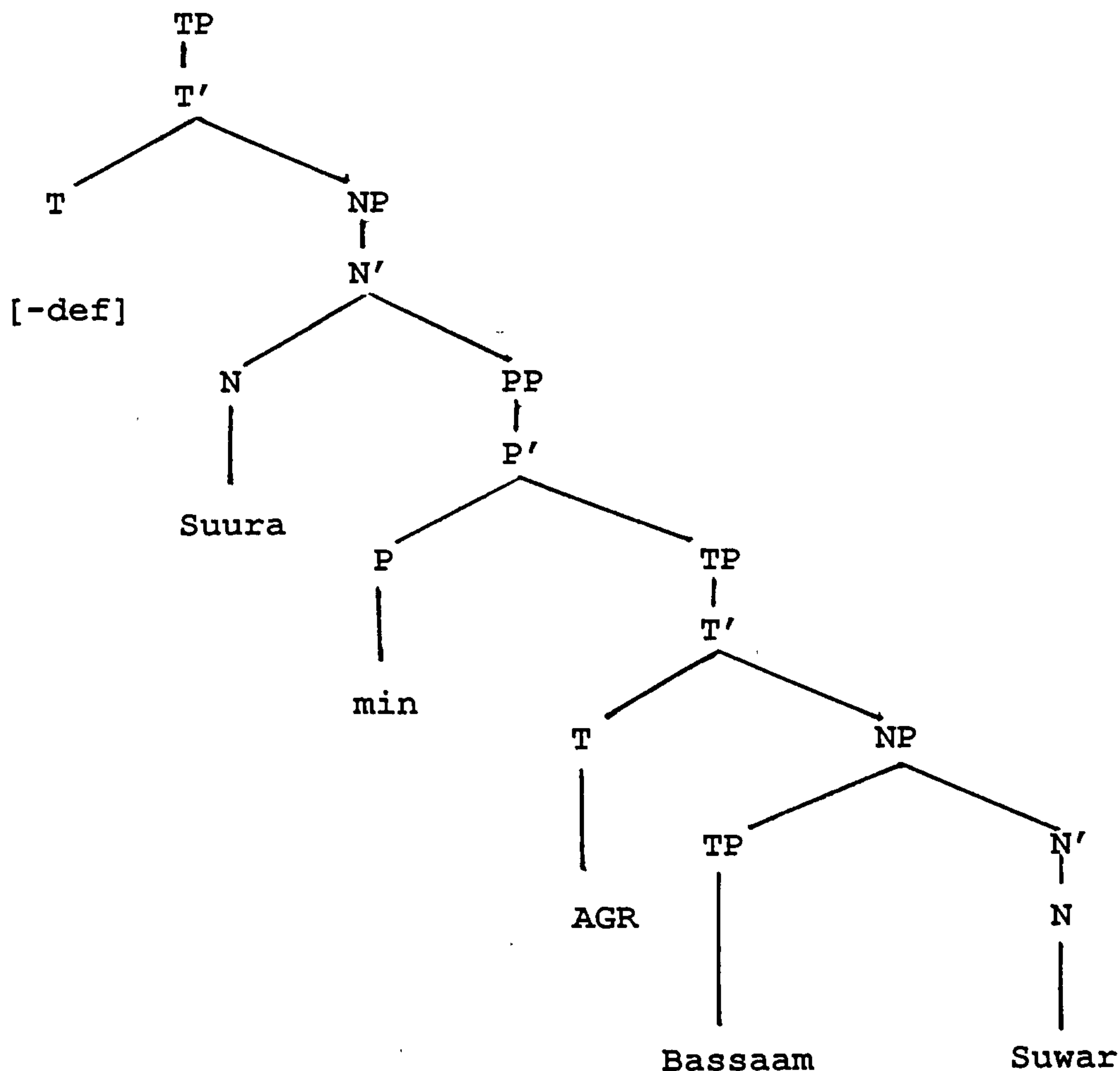
#### 4.5.7. The Postposed Genitive

The MSA structures which correspond to ENG structures which involve postposed genitive phrases such as those discussed in section (3.4.2.3) above, are the following:

- (96) a. Yuujad [Suura min Suwar bassaam] 'ala al-Haa?iT  
there picture of pictures Bassam on the-wall  
'there is a picture of Bassam's on the wall'
- b. [ʔayy ʔughniya min ʔaghaani madonna] tu-Hib ?  
which song of songs Madonna you-prefer ?  
'which of Madonna's songs do you prefer ?'

I shall assume that the above constructions have parallel underlying structures to their ENG counterparts discussed in the previous chapter. I shall therefore represent the internal DS of a phrase such as (96/a) as in the following manner:

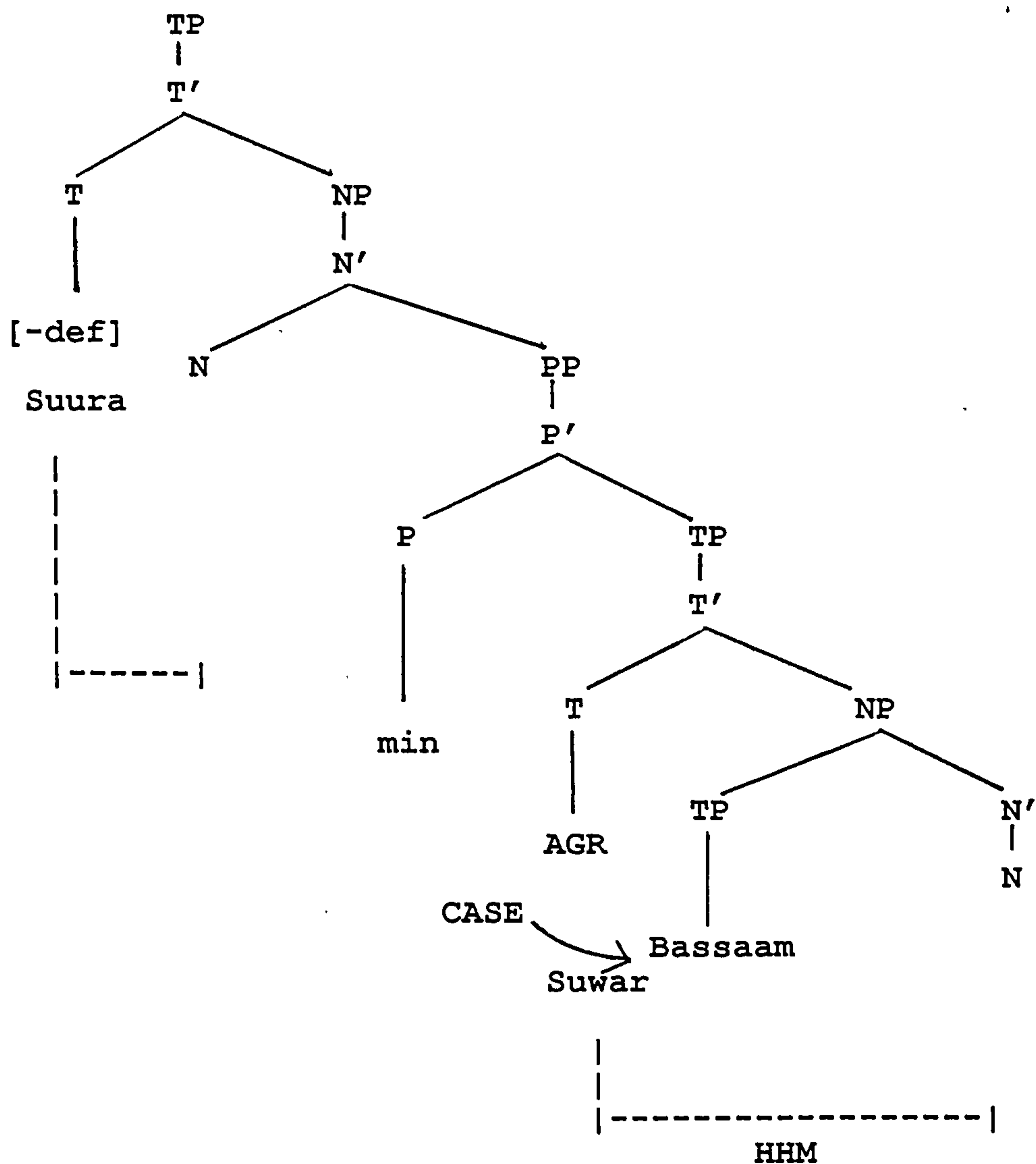
(97)



An examination of the constructions (97) suggests that no deletion of the lower N-bar Suwar 'pictures' takes place. This is in contradiction to ENG postposed genitive structures in which deletion of the lower N-bar is obligatory. In other words, the derived structure of a phrase like (96/a) after the application of the HHM of the head noun of the lower noun phrase will be of the following form:



(95)



One interpretation of the fact that in MSA, the lower N-bar constituent is retained in postposed genitive structures is based on the fact that in MSA, there are no forms that correspond to ENG possessive pronouns like mine, hers, and Bassam's in the above example. In other words, possessive determiners in MSA cannot have an independent function, hence they cannot function as pro N-bars.

From the diagram (98), we note that the PP min Suwar Bassaam 'of Bassam's photos' is analysed as a syntactic

complement of the head N, i.e. as a phrase whose constituent function is to expand an N into an N-bar. One of the predictions yielded by such an analysis is that this PP must precede an Adjunct PP when both PPs occur in the same noun phrase. This prediction is borne out if we consider the grammaticality of the following example:

- (99) [Suura    min Suwar    Bassaam 'ala al-Haa?iT]  
       picture of   pictures Bassam    on the-wall  
       'a picture of Bassam's on the wall'

However, the opposite constituent order will be blocked by the NCBC, as is shown by the ungrammaticality of the following example:

- (100) [\* Suura 'ala al-Haa?iT min Suwar    bassaam]  
       picture on the-wall of pictures Bassam  
       '\* a picture on the wall of Bassam's'

#### 4.6. Conclusion

This chapter has been a detailed discussion of noun phrases in MSA. This discussion has been carried out within the framework of X-bar syntax.

I extended Fassi Fehri's analysis of these phrases in CLA to MSA though with some modification. An alternative analysis of demonstratives and the article has been proposed. Under the new analysis, the article and the demonstrative head two separate categorial systems, viz., the TP-system and the DP-system respectively. We have also extended the discussion of the functional system within the Arabic nominal phrase to determiners like ba'D 'some',

kull 'all', and ?ayy 'which'. These determiners have been analysed as heading a separate functional expansion from thoses headed by the article and demonstratives.

The discussion of the lexical system has been also expanded to include nominal modifiers like PPs, APs. TPs/DPs, and numeral among others. The main issues raised in our discussion of these structures included their constituent function, i.e. whether they are complements, adjuncts, etc., as well as the various underlying mechanisms which determiner their distribution both relative to the head noun and to each other. I have shown, for example, that APs in MSA have the constituent function of expanding an N-bar into an N-bar, whereas the syntactic function of subcategorised PPs is to expand an N into an N-bar. As for the relative order of the various modifiers, we assumed, following Fassi Fehri (op.cit.) that the surface NSO word order in a given construct state is derived from the underlying SNO word order via the application of a HHM of the head N. It was also shown that a CSM of a complement TPs/DPs together with a HHM of N play an important role in the distribution of such nominal modifiers as complement TPs/DPs.

Having provided detailed descriptions of the internal structure of noun phrases in both ENG and MSA, in the next chapter, I turn my attention to discuss the basic contrasts and similarities which stem from these descriptions between the two languages.



## CHAPTER V

### A CONTRASTIVE ANALYSIS OF ENG & MSA NOUN PHRASES

#### 5.1. Introduction

In this chapter, I aim to execute a contrastive analysis of the structure of noun phrases in ENG and MSA. This contrastive study is based on my description of these phrases in the previous two chapters (Chs. III and IV) , which was carried out within the framework of X-bar syntax formulated within the general framework of the theory of GB, as described in Chapter III.

By juxtaposing the two systems in ENG and MSA, I seek to highlight the major similarities and differences between the DPs in the two languages. The next step will be to 'apply' the results of this CA to predict probable areas of difficulty and of non-difficulty for Syrian learners of ENG in learning and producing this phrasal type.

The main assumption is that Syrian students will find no difficulty in learning and producing ENG structures that are similar to corresponding MSA ones. As a result, they will produce the correct target forms. Conversely, they will face difficulties in using ENG structures that are different from the ones in MSA. Consequently, they will produce errors which reflect their NL structures.

The predictions yielded in this chapter were tested in the empirical investigation which I carried out as part of this research project, so that conclusions can be drawn as to the validity of the hypothesis under scrutiny viz., the CAH.

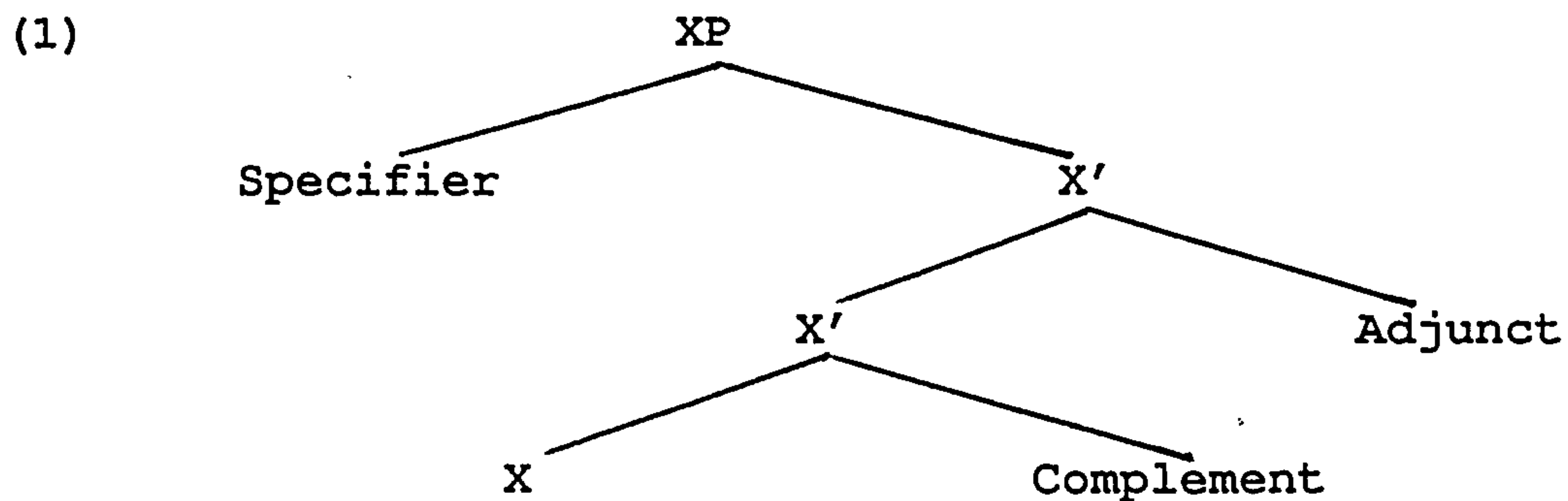
However, before I carry out my CA, it will be relevant to begin in the next section by highlighting the main reasons underlying my selection of X-bar syntax as a theoretical basis for the current CA.

## **5.2. Advantages of X-Bar Syntax for CA**

There are many reasons for executing the present contrastive analysis within the framework of X-bar syntax rather than within a structural/taxonomic model.

Firstly, X-bar theory is an explicit theory of phrase structure. It is the most widely employed theory in the discussion of phrasal categories; its use is not exclusive to GB but used within, for example, Generalised Phrase Structure Grammar (e.g. Gazdar et al., 1985).

This theory states in a well-defined manner the projection of phrasal categories from lexical categories via the Projection Principle. This is done in the form of a simple cell-like schema, which was stated in (11) above, and repeated here as (1) for convenience:



The Projection Principle blocks the overgeneration of ill-formed phrasal structures by incorporating the subcategorisation properties of lexical items into their syntactic representations. It specifies in clear terms what are the possible phrasal categories in a language and what are not.

Furthermore, X-bar syntax interacts with other sub-theories within GB in an explicit fashion to characterise the main syntactic properties of human language. This in turn has provided us with a rigorous model of syntactic description. Under this model, we have been able to handle a vast array of phenomena related to noun phrases in ENG and MSA.

The use of an explicit model can bring to light various features of language structure which would probably otherwise remain hidden, and, as a result, it offers a more reliable explanation of the observed differences between the contrasted languages. For example, as we shall see in section (5.4.2) below, one of the differences between ENG and MSA is that whereas in ENG a demonstrative and the definite article cannot co-occur in the same noun phrase, in MSA, by contrast, a demonstrative



is always followed by the definite article, as the examples in (2) and (3) show respectively:

(2) Have you read [\* this the book/this book ?]

(3) hal Qara?-ta [haadhaa al-kitaab/\* haadhaa kitaab ?]  
did read-you this the-book this book  
'did you read this book ?'

Within X-bar syntax, I have been able to provide a systematic explanation of the above contrast between ENG and MSA. I have assumed that in ENG, demonstratives and the articles occupy the same structural position within the noun phrase viz. the head D-position, whereas in MSA, demonstratives and the article occupy different structural positions namely, the head D-position and the head T-position respectively. In ENG, a demonstrative and the article subcategorise an NP as a complement, whereas in MSA, a demonstrative takes a TP complement and the article selects a following NP complement.

However, had I selected a taxonomic model as a basis for our CA of ENG and MSA structures, I would not have been able to capture the above dissimilarity between the two languages, since such a model is not explicit enough to permit exact analyses of the relevant structures. Using a grammar such as GB/X-bar allows us to achieve some degree of 'descriptive' adequacy, while a taxonomic model achieves at best 'observational' adequacy (for a detailed discussion of 'descriptive' vs. 'observational' adequacy, see Radford, 1988: 27-30).

A further bonus in using X-bar as a theoretical framework lies in its universality. The main objective of this theory is to capture the properties of the phrase structure of all languages, rather than properties which are idiosyncratic to a single language. Chomsky (1988) has explicitly expressed this idea when he defines X-bar syntax as a theory which ' .... specifies the general properties of the phrases of human language' (ibid: 68).

The universality of our model is at a premium in achieving a level of adequacy in CA, as Krzeszowski (1990) rightly remarks:

.... it seems that those models which make explicit references to universal categories are more suitable [ for CA ] than those which are connected with language isolationism ....

(ibid: 36)

Among the consequences that such a universal theory has in relation to the present CA is that it has provided us with the necessary TC (on this see section 2.3.6.2 above) for his analysis. This TC is the X-bar schema represented in diagrammatic form in (1) above. By contrast, by insisting on the uniqueness of each language involved in the contrastive procedure, the structuralist linguist has failed to provide the common ground of interlingual similarity which is a vital component of CA. Without this TC or shared degree of similarity, ' .... there would be no point of departure for the contrastive statements to be made' (Di Pietro, 1971: 4).

So we are provided with the 'constant' in our CA in the form of a universal theory of phrase structure, together with a set of universal principles which impose certain well-formedness conditions on the structural properties of phrasal categories (e.g. the Endocentricity Principle, the Projection Principle, among others): what then, is the 'variable' ?

As was mentioned in section (3.2.1) above, the GB theory within which the current version of X-bar is incorporated, allows for the possibility that, in addition to the invariant 'core' features which all languages share, there are also a number of features which are idiosyncratic 'peripheral' and applicable to some languages rather than others. As Cook (1988) remarks, this theory of UG 'captures the variations between languages in terms of a limited choice between two or so possibilities, known as a parameter' (ibid: 8). Examples of parameters are the Head-Parameter, the DCAP and the RCAP.

The concept of parameter gives a much more sophisticated view of language differences and similarities than superficial models. A contrastive analysis in this case results in statements about the particular parameter setting which each of the compared languages utilises. For instance, one of the differences between ENG and MSA is that in ENG, an AP usually precedes the N-bar it modifies, whereas in MSA, an AP always follows the modified N-bar. Within the framework of X-bar, one way of accounting for the difference in the relative



word-order of head nouns and adjuncts like APs is by postulating that MSA is rigidly a head-first language since in the majority of phrases, the head constituent precedes its modifiers. ENG, on the other hand, is not strictly speaking a head-first language, since a head can either precede or follow its modifying complements/adjuncts.

MSA differs from ENG in relation to another parameter, namely, the DCAP. Thus, whereas in ENG case is assigned rightward by lexical categories (e.g. verbs and prepositions) and leftward by functional categories (e.g. D and I), in MSA, by contrast, case is assigned rightward uniformly by both lexical and functional categories.

One of the advantages of this theory of parameters for CA is that it enables the contrastivist to identify bundles of associated contrasts and make sets of predictions all at once. For example, a number of contrasts can be identified between ENG and MSA, which stem from the DCAP. As we shall see in section ( 5.5.1) below, the DCAP predicts (among other things) that a SSM of subjects/possessors is obligatory in ENG, while this movement is not necessary in MSA, hence the fact that possessive DPs in ENG occur prenominally whereas in MSA, they occur postnominally at surface-structure. Another contrast which can be identified between ENG and MSA as a result of the DCAP, relates to the distribution of their complement DPs/TPs. This parameter predicts that a CSM of

complement phrases to the [Spec., DP] position is obligatory in ENG and not in MSA in which a complement TP undergoes a CSM into the [Spec., NP] position. This in turn predicts that in ENG, a head N can have a complement DP in prenominal position at surface-structure, while in MSA, a head N cannot have a complement phrase in prenominal position (see section 5.5.2 below for a discussion).

Another virtue of X-bar syntax hinges on the notion of DS. This theory is essentially a theory of the DS of phrases. The X-bar formula in (1) is mainly a representation of the structure of phrases at DS, which is assumed to be largely universal to all languages (see originally Chomsky, 1967: 80). This means that the interlingual equations to be made between ENG and MSA structures are based on DS accounts of these structures.

Basing our contrastive statements on DS accounts of the contrasted languages often reveals divergencies much finer than those detectable by surface/taxonomic models. It enables us to predict and explain what a surface-structure model cannot predict or explain.

For example, one of the differences to be noted between ENG and MSA relates to the fact that a possessor in ENG occurs in prenominal position at surface-structure, whereas in MSA, it occurs in postnominal position, as is illustrated by the following examples:

- (4) [John's hat]  
(5) [bayt Talaal  
house Talal  
'Talal's house']

According to the structuralist, who limits himself to surface-structure facts in analysing his data, examples like (4) and (5) are completely disparate phenomena. By treating them as unrelated phenomena, the contrastivist will be unable to provide any systematic explanation of this difference between the two languages. He will be content to account for the fact that possessors in ENG are prenominal whereas in MSA they are postnominal merely by observing that they are idiosyncrasies of the two languages.

However, within the GB/X-bar theoretical framework, it is possible to equate the above structures interlingually by reference to their DS. Given (i) that DS is in large common to all languages, and (ii) that DS is a representation of arguments receiving theta-roles, it follows that possessors occupy the same position underlyingly, viz. the [Spec., NP] position. However, as will be discussed in section (5.5.1) below, the contrast between the surface-structure forms in (4) and (5) results from the application of two different types of movement in the two languages. Thus, given that in ENG possessors undergo a SSM, whereas in MSA a head N undergoes a HHM, we correctly predict that ENG possessors will occur prenominally, whereas MSA possessors will occur



postnominally. This prediction would by no means have been made under a theory which fails to recognise a second level of language structure, such as the traditional taxonomic theories of grammatical description. So, what would otherwise have been two unrelated statements, can become in a CA based on X-bar/GB theory a significant generalisation.

In sum, there are a number of factors which render the theory of X-bar syntax as the tenable basis for our CA of ENG and MSA nominal phrases. This theory is an explicit theory of phrase structure, which is able to provide a sound and straightforward account of the various features of the structures under scrutiny. Its universality has provided us with the common point of departure necessary for doing the CA. Finally, the concept of DS which this theory exploits, leads to significant contrastive statements instead of 'ad hoc' superficial ones.

### 5.3. Executing the CA

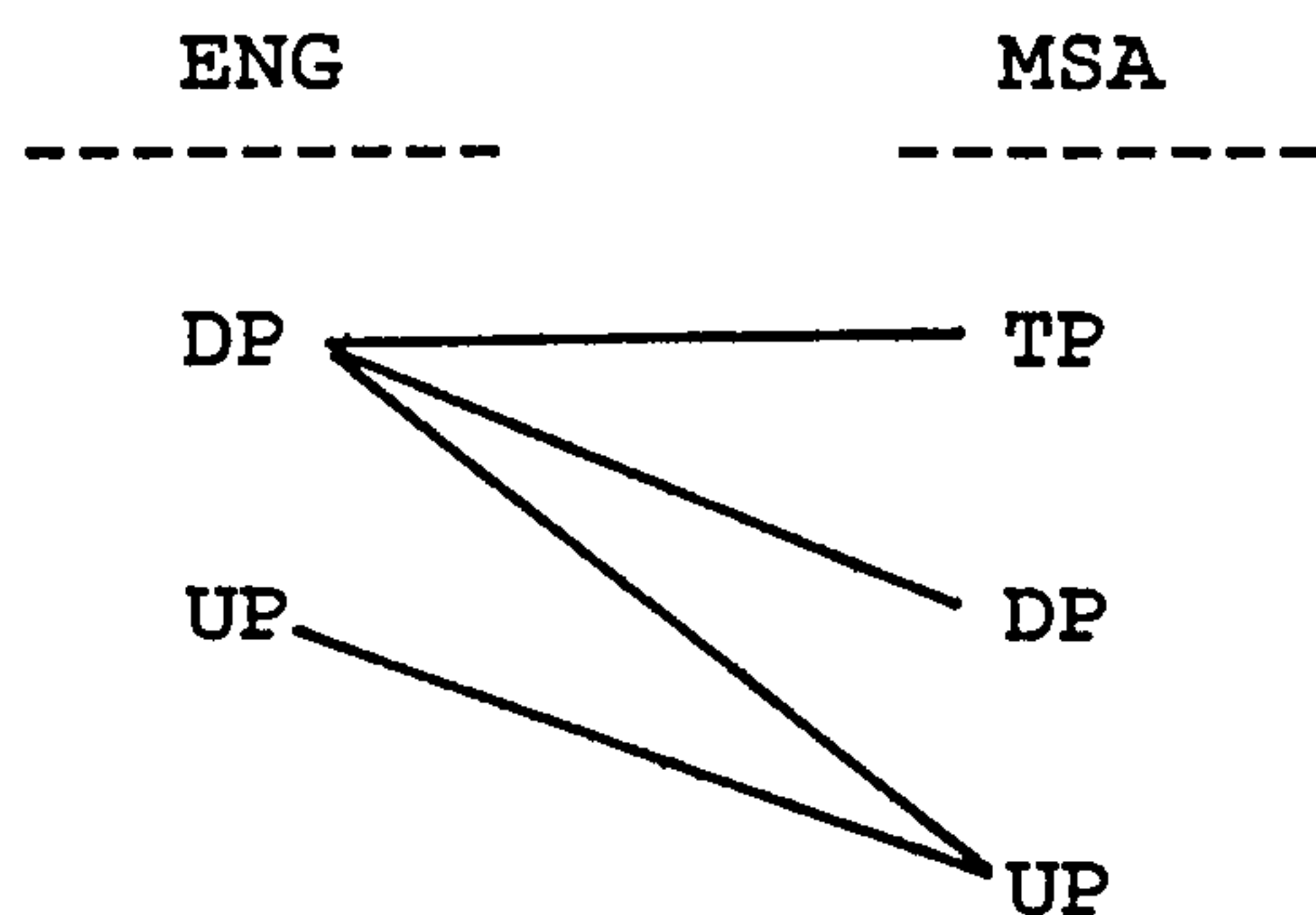
This brings us to executing the actual contrastive analysis of ENG and MSA noun phrases. As was established earlier in Chapter III and Chapter IV, a noun phrase in both ENG and MSA consists of two parts: a **functional projection**, in which the head of the whole phrase is taken to be a functional category (e.g. articles and demonstratives, etc.), and a **lexical projection**, in which the head is the lexical category N. I shall start off in section (5.4) by discussing the contrasts and similarities

which emanate from the ENG and MSA nominal functional projections, whereas in section (5.5.), I shall describe the contrasts and similarities which stem from the nominal lexical systems in the two languages.

#### **5.4. Contrasts in the Functional Projection**

Recall that the functional head position of a noun phrase is filled at D-structure by a set of lexical items known traditionally as determiners, such as (among others) demonstratives and the articles. The differences to be seen here between ENG and MSA functional systems stem mainly from differences in the distributional and co-occurrence restrictions holding between these determiners.

On distributional grounds, we recognised three distinct syntactic classes of determiner in MSA viz. Ts, Ds, and Us, whereas there were only two such classes in ENG viz. Ds and Us. The names T, D, and U, are merely syntactic labels, which are used to mark the structural differences between the various functional items. In other words, whereas a MSA noun phrase has three distinct functional projections, namely, TP, DP, and UP, an ENG noun phrase has two functional expansions, namely, DP and UP. The relationship between these functional systems can be represented as follows:



Different determiners occupy different syntactic positions in the two languages. For example, whereas in MSA the definite article fills the T-head-position, in ENG, it occupies the D-head-position of the noun phrase in which it appears. Furthermore, whereas determiners like which and some are D-constituents in ENG, they are U-constituents in MSA.

The main types of determiner to be discussed in what follows are the articles, demonstratives, and determiners like all, some, and which.

#### 5.4.1. The Articles

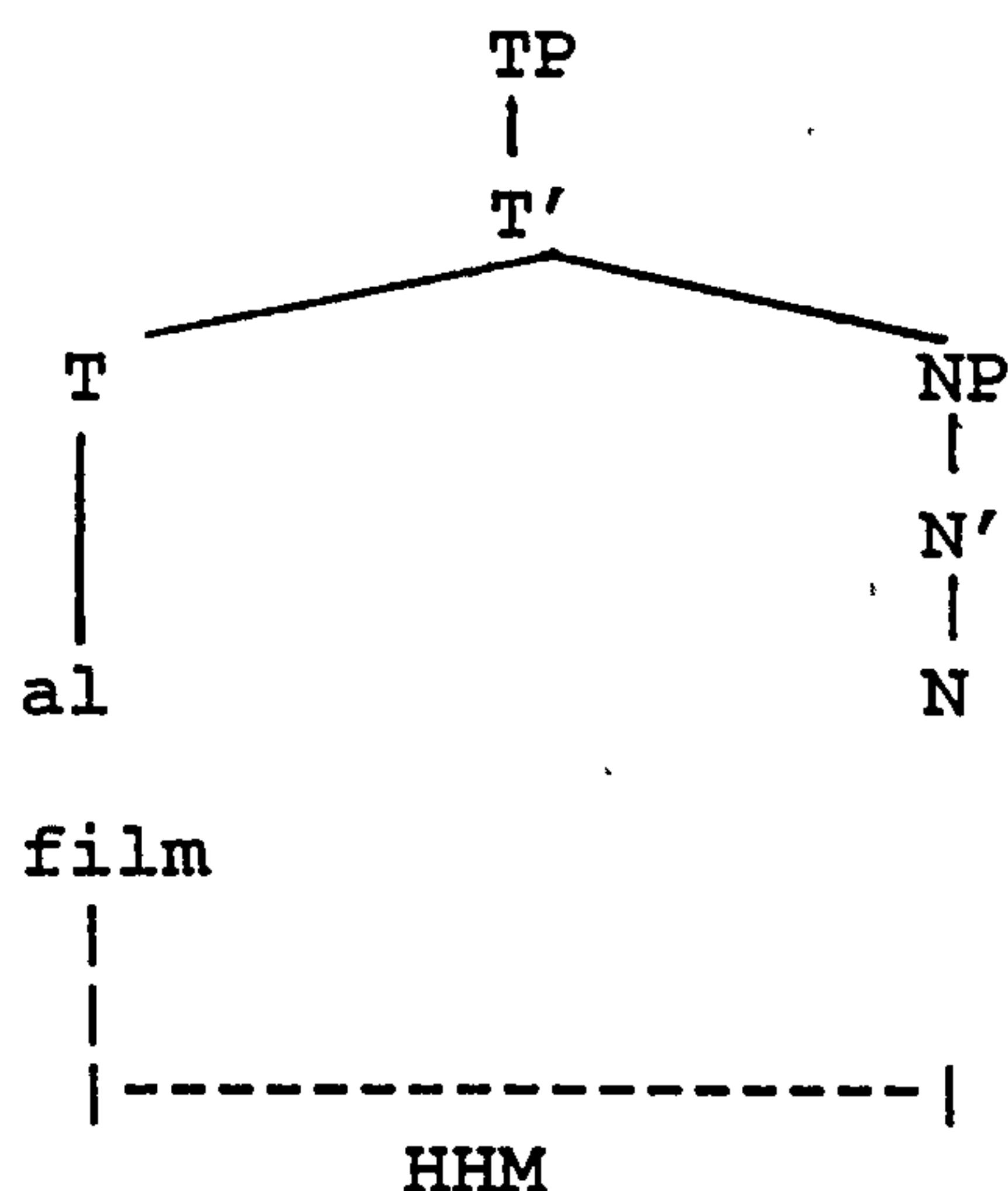
##### 5.4.1.1. The Definite Article

As was explained in section (4.4.1.1) above, an Arabic noun phrase which is headed by the definite article al such as that in (6) would be analysed as having the schematic structure in (7):

(6). lam ?u-shaahid [al-film al-jadiid]  
 not I - saw the-film the-new  
 'I didn't see the new film'



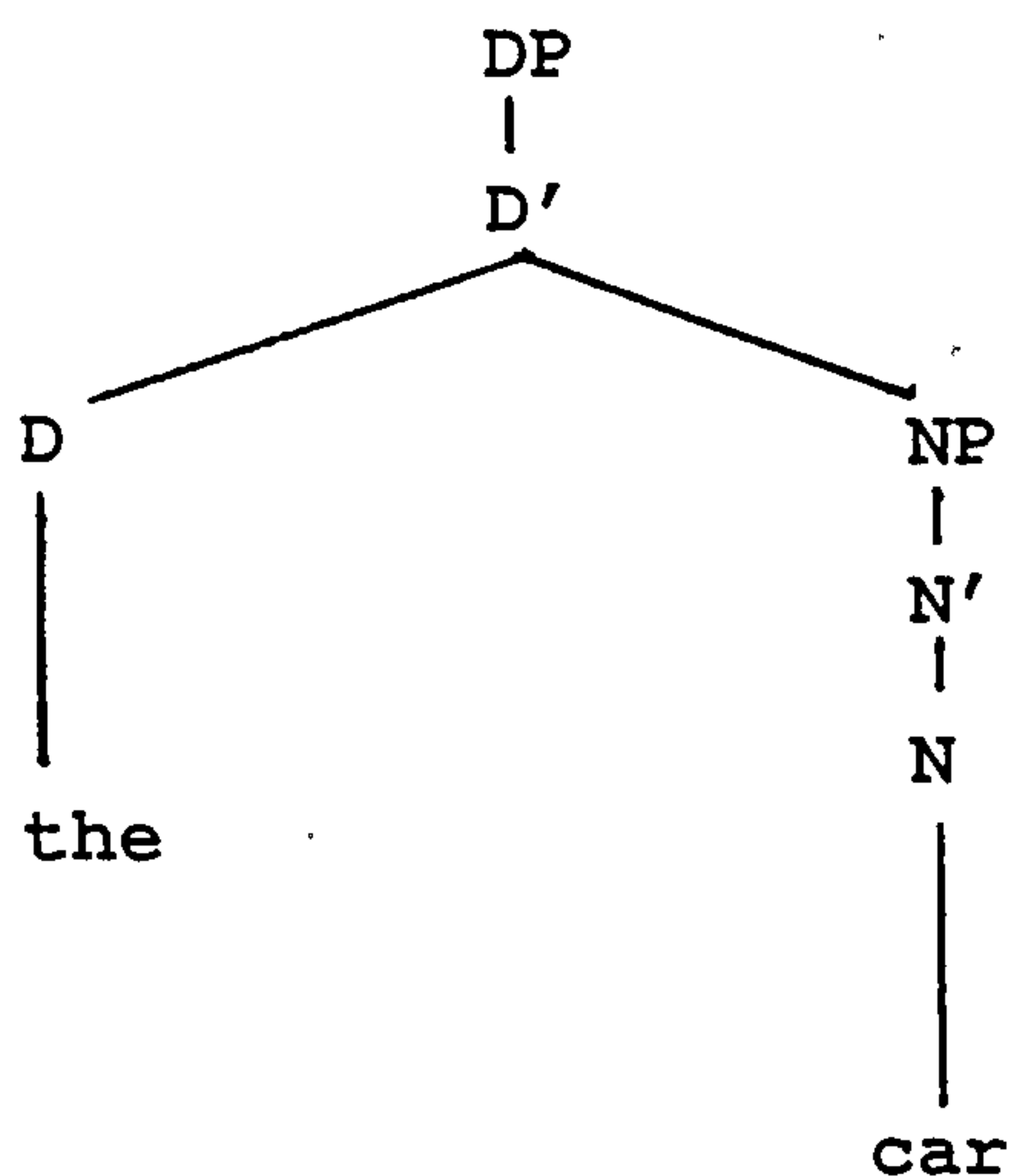
(7)



I also represented the structure of an ENG noun phrase headed by the definite article the such as that in (8) along the lines of (9):

(8). [The car] that John bought was a brand new one

(9).



From diagrams (7) and (9) above, we see that a MSA NP projects into a TP via the addition of al, while an ENG NP projects into a DP by the addition of the. In other words, NPs in both MSA and ENG project into further phrasal expansions by the addition of the definite article. Moreover, both al and the are subcategorised as

obligatorily having NP complements.

I therefore conclude that MSA and ENG are congruent as far as their definite article is concerned: both al and the functionally expand the NP in which they occur, and both subcategorise NP as their complements. Consequently, I predict that Syrian learners will find no difficulty in learning ENG NPs headed by the definite article, thus producing the correct ENG form in (8) above. I shall refer to this prediction as Prediction 1<sup>1</sup>.

An interesting contrast arises between ENG and MSA in relation to the ways in which they impose restrictions on the co-occurrences of their definite articles. More specifically, in addition to subcategorising an NP complement, the MSA definite article al can also subcategorise a complement UP, i.e. a noun phrase headed by items like kull 'all' and ba'd 'some'. Consider for example the following grammatical sentences in MSA:

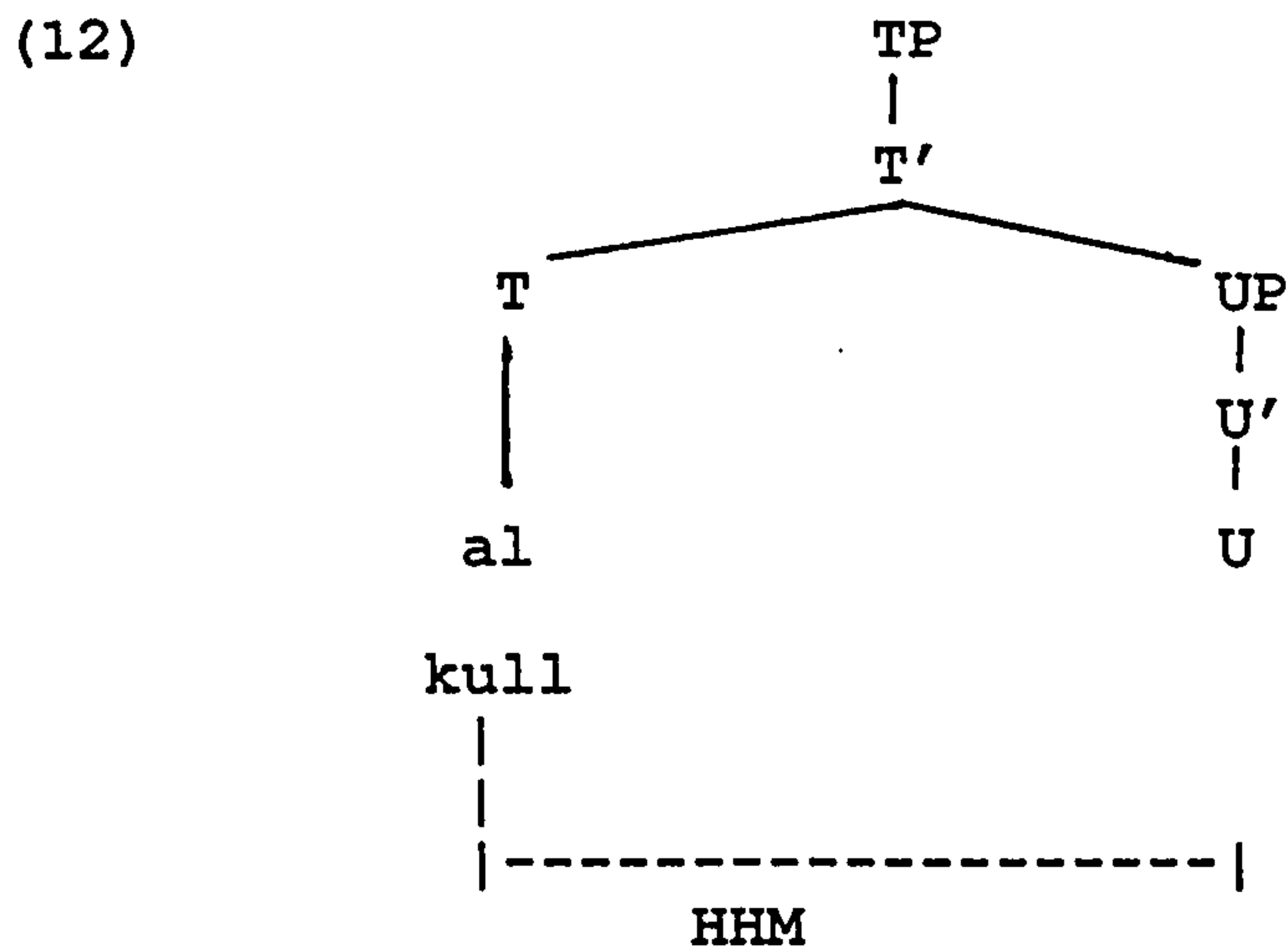
(10) [al kull] SaDDaQa QiSSata-hu  
the all believed story-his  
'all (of them) believed his story'

(11) [al ba'D] najaHa fi al- ?imtiHaan  
the some passed in the-exam  
'\* the some passed in the exam'

The structure of the underlined noun phrase in (10) can be represented schematically along the following

-----  
1. The predictions generated in the course of this CA are assembled at the end of this chapter (see table 5.3, pp 281-282).

lines:



By contrast, the ENG definite article the cannot occur in analogous contexts, because it can only take an NP as complement. This is demonstrated by the ungrammaticality of the following examples:

(13) [\* The all] brought presents to Talal  
on his birthday

(14) [\* The some] did not like the new president

In other words, it is possible for a UP in MSA to project further into a TP, whereas a UP cannot project into a DP in ENG. This contrast between ENG and MSA suggests that Syrian learners of ENG will negatively transfer their NL structures in (10) and (11) above into ENG thus producing erroneous forms like those in (13) and (14) above. This is Prediction 2.

#### 5.4.1.2. The Indefinite Article

The main difference which emerges here between ENG and MSA is that in ENG, there is an overt indefinite article,



whereas in the majority of cases in MSA<sup>1</sup>, the indefinite article is not morphologically realised, see (15) and (16) respectively:

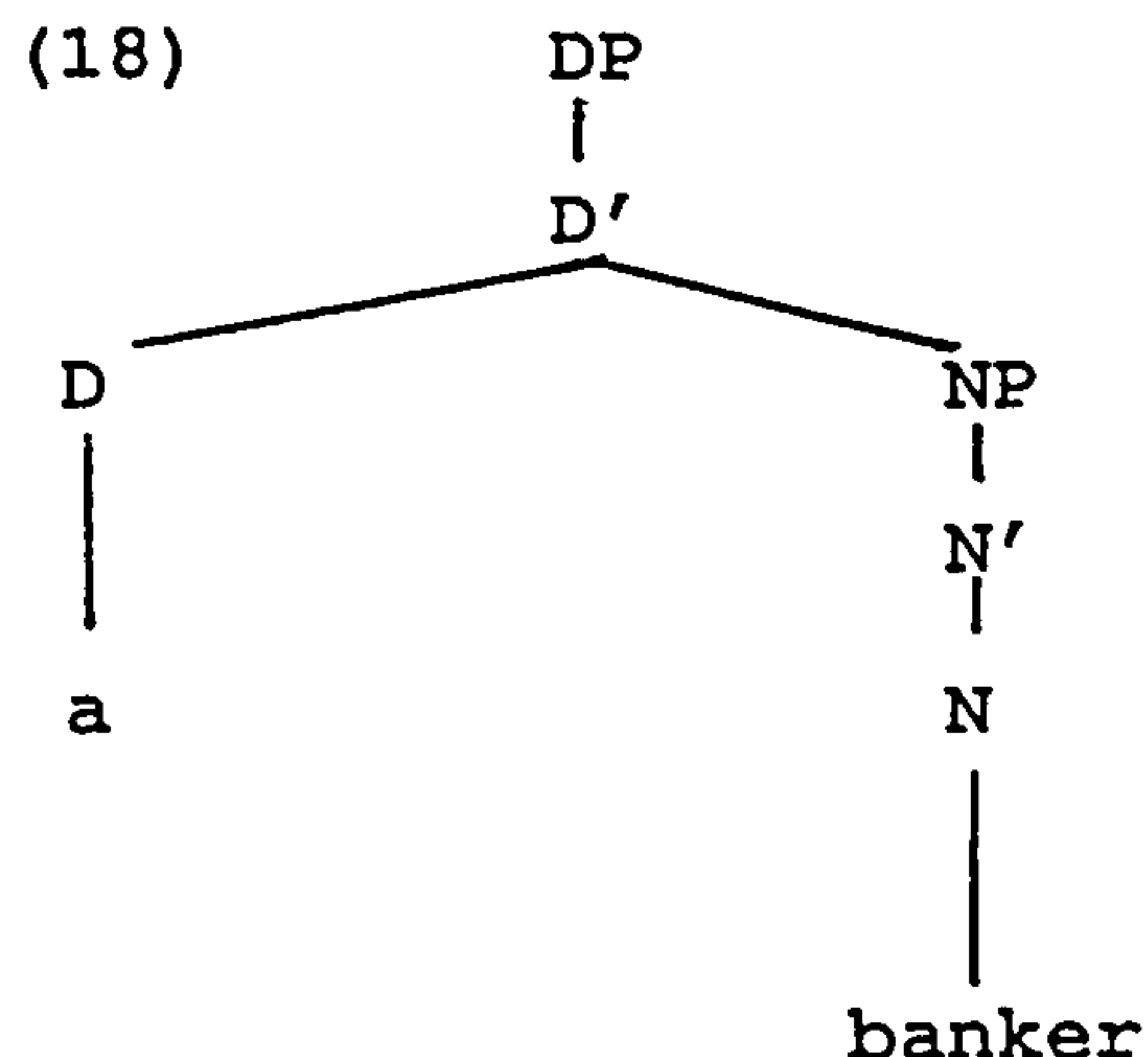
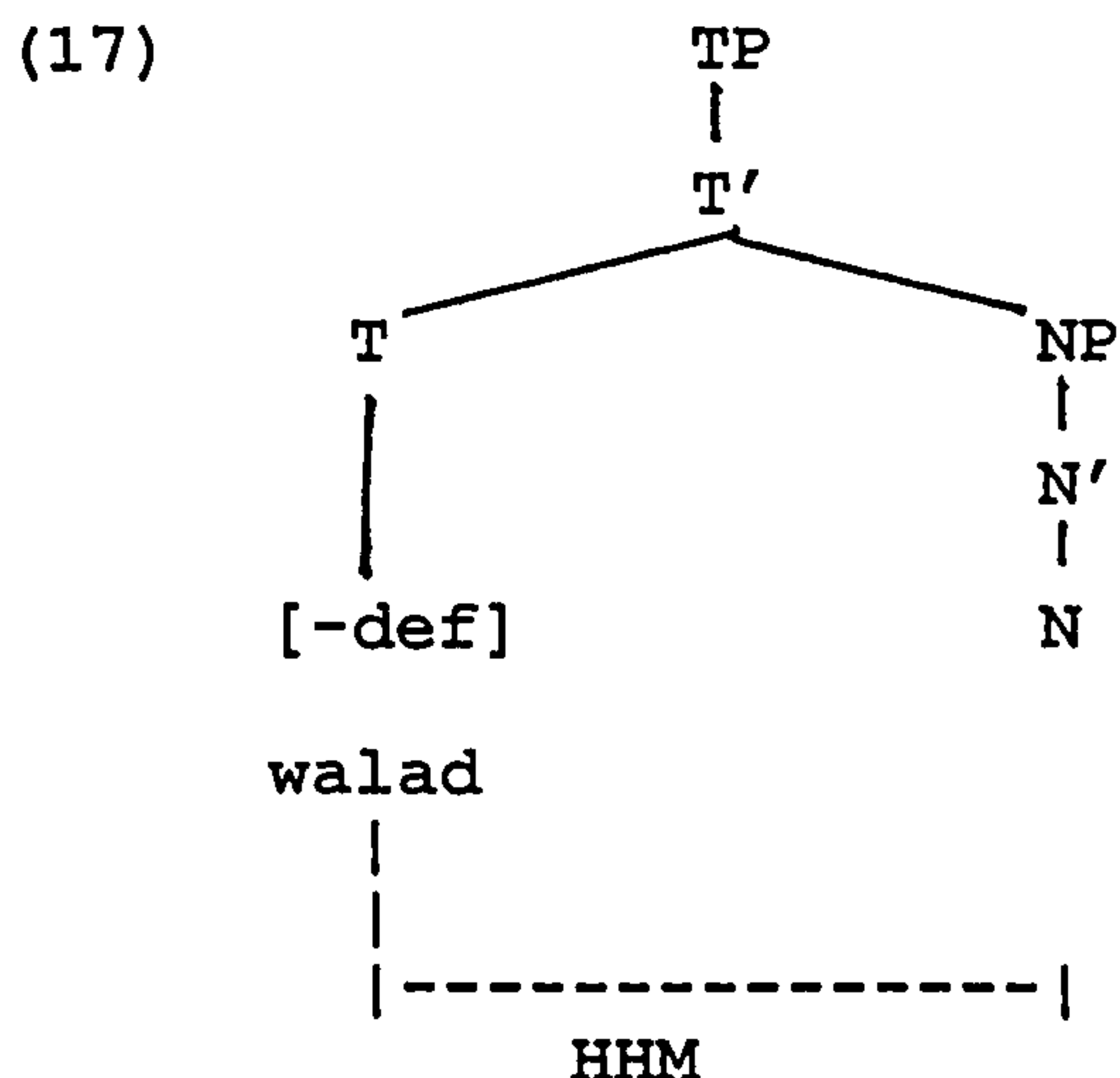
(15) Thabet is [a banker]

(16) haadhaa [walad]  
this boy  
'this is a boy'

We can account for this contrast in terms of X-bar syntax by arguing that the functional head T-position of an indefinite noun phrase in MSA is left empty at DS, whereas the head D-position of an indefinite ENG noun phrase is filled by an overt determiner (i.e. a(n)).

To illustrate the above contrast between ENG and MSA indefinite noun phrases in schematic terms, I represent the internal DS of the MSA phrase such as that in (15) above, and that of an ENG noun phrase such as that in (16) by (17) and (18) respectively:

- 
1. In few cases, however, the indefinite article is overtly expressed, as in:
    - ?istawQaf-tu [rajul-an] fi al-TariiQ  
stopped-I man-a in the-street  
'I stopped a man in the street'



In the light of the above contrast identified between ENG and MSA, I therefore predict that learners will negatively transfer their mother tongue features into ENG. As a result of this negative transfer, they will fail to use the indefinite article, thus making errors which will take the following form:

- (19) His father is [\* teacher]  
(20) He bought [\* nice car]

**This is Prediction 3.**

### 5.4.2. Demonstratives

A demonstrative in MSA is always followed by the definite article al when occurring in a noun phrase, compare:

- (21) ?u-faDDil [haadhaa al-kitaab]  
I- prefer this the- book  
'I prefer this book'
- (22) ?u-faDDil [\* haadhaa kitaab]  
I- prefer this book  
'I prefer this book'

Unlike in MSA, in ENG a demonstrative can never co-occur with the definite article in the same noun phrase, as the ungrammaticality of the English example in (23) shows:

(23) My father wants to buy [\* this the house]

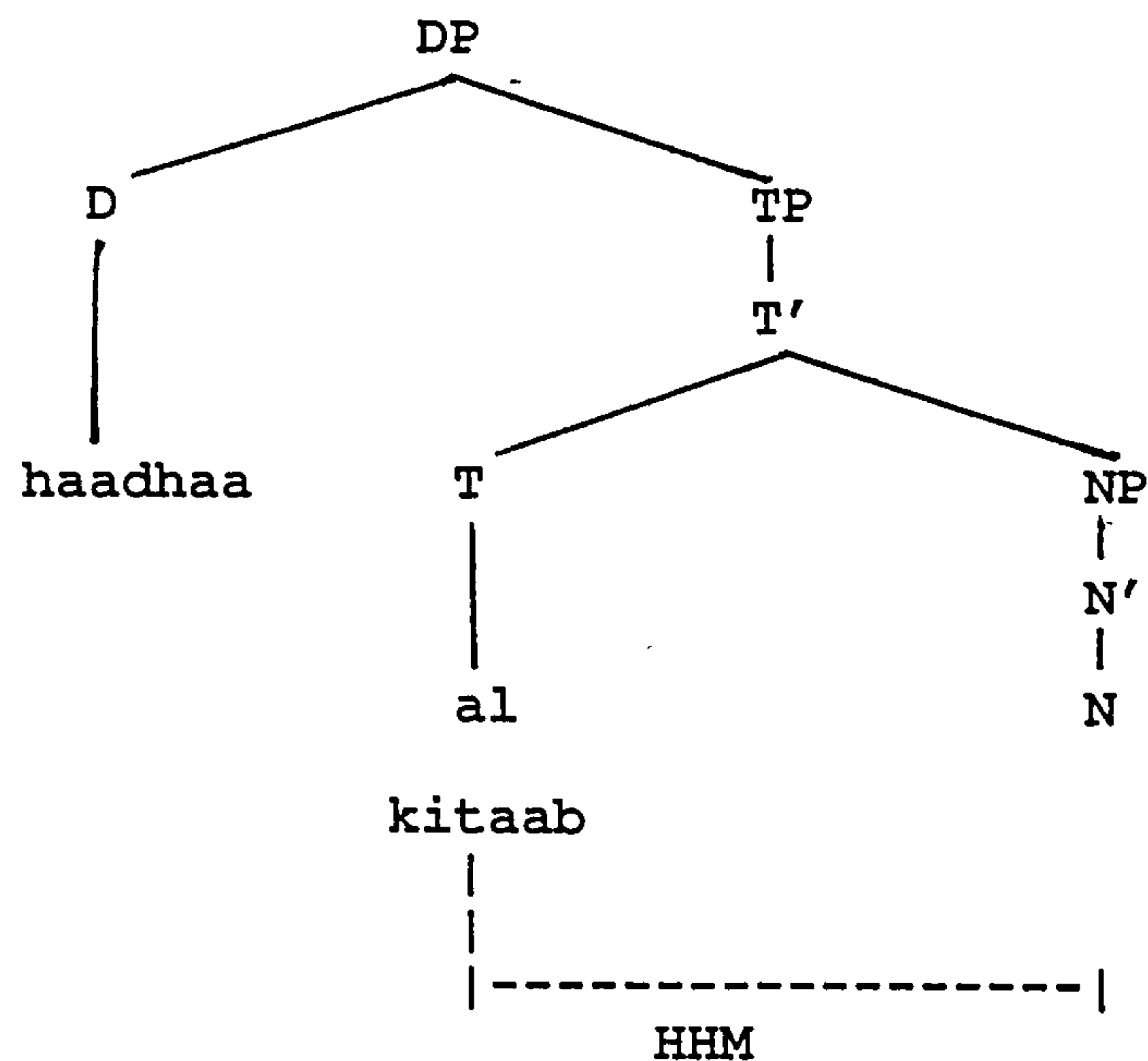
An ENG demonstrative can only subcategorise a bare NP as a complement:

(24). [this boy] was born in the USA

To account for the fact that a demonstrative in MSA co-occurs with the definite article in the same TP phrase, I postulated in the previous chapter that demonstratives and articles occupy two different structural positions within the X-bar schema. Thus, whereas the definite article occupies the T-position, a demonstrative occupies the D-position. In other words, an NP in MSA projects into a TP via the addition of the definite article a, and it projects into a DP via the addition of a demonstrative, as is illustrated schematically by the following diagram, which represents the internal structure of (21) above:

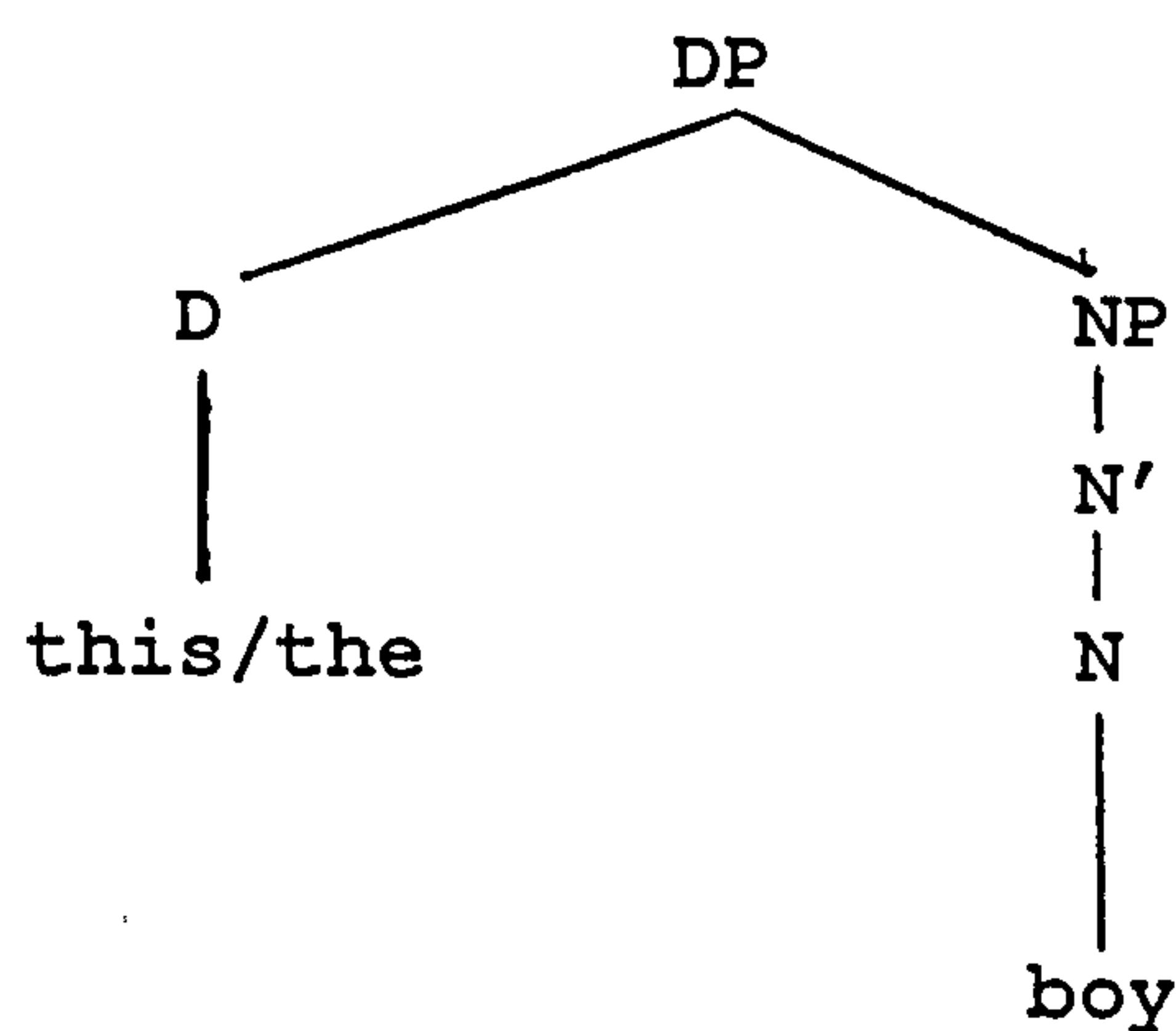


(25) .



By contrast, an ENG demonstrative can never co-occur with the definite article simply because they occupy the same structural position in a given noun phrase, namely, the D-position, as is shown in the following diagram which represents the structure of the ENG noun phrase (24) :

(26) .



In other words, the addition of either a demonstrative or an article to a given NP in ENG will have as an effect the projection of this NP into a DP. In MSA by contrast, the addition of the article projects an NP into a TP,

whereas the addition of a demonstrative projects it into a DP.

The ungrammaticality of the example in (22) suggests furthermore that a demonstrative in MSA obligatorily selects a definite NP complement, whereas the ungrammaticality of the ENG example in (23) suggests that a demonstrative in ENG can only subcategorise an NP as its complement.

As a result of the above contrast discussed in relation to the demonstrative system in MSA and ENG, I predict that learners will find difficulty in learning ENG demonstratives, and that they will produce erroneous target forms which will reflect their NL structures, like the one in (23) above. This is Prediction 4.

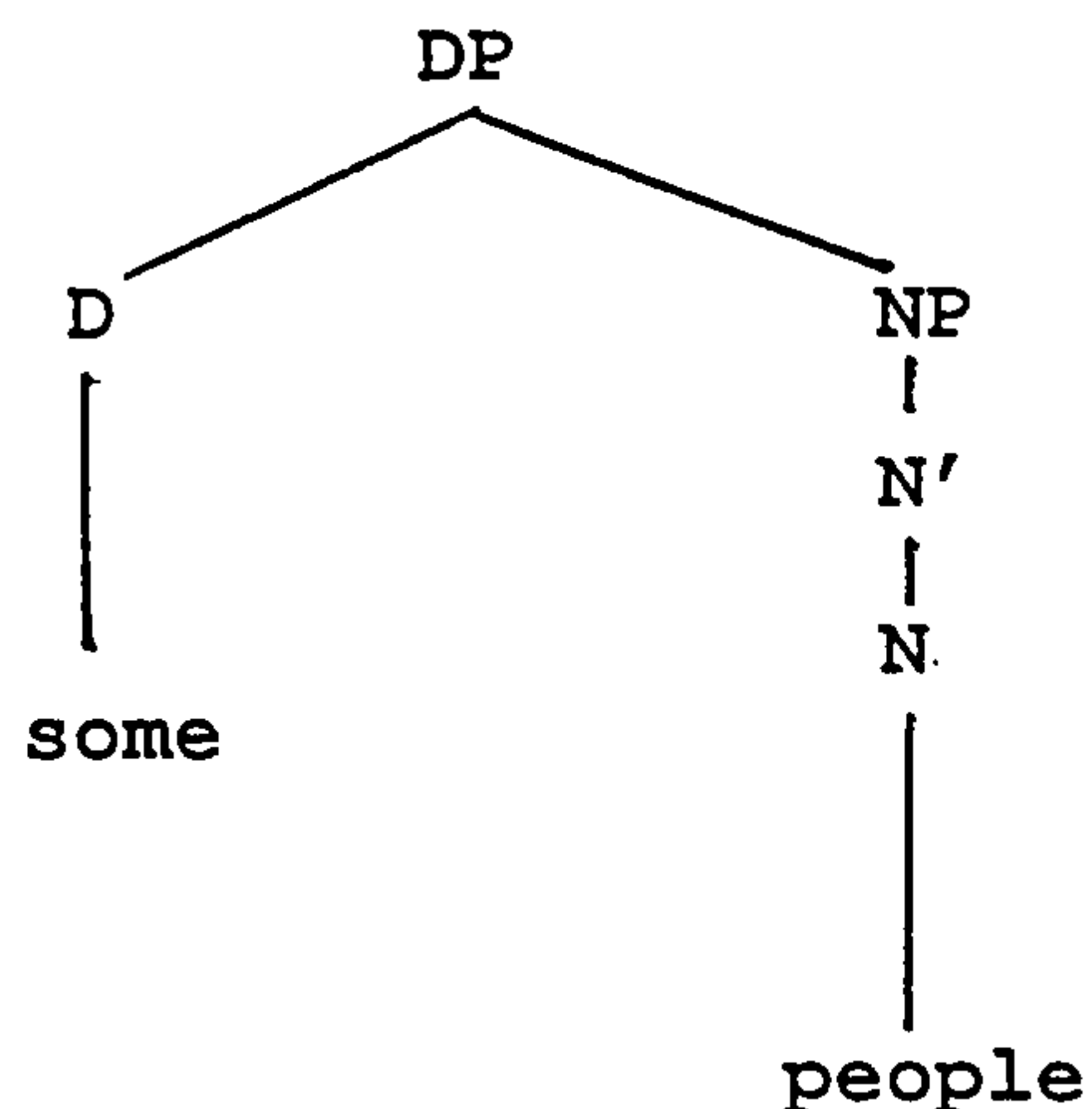
#### 5.4.3. Some/ba'D & which/?ayy

The difference which arises here between MSA and ENG is due to the fact that some/which and ba'D/?ayy occupy two distinct structural positions within the noun phrase.

On distributional grounds, it was argued in section (3.3.1) above that in ENG, the determiners some and which occupy the head D-position in the noun phrase in which they occur. In other words, an NP in ENG projects into a DP by adding either some or which. This amounts to saying that the structure of a phrase containing some such as that in (27) will have the schematic form in (28) below:

(27) [some people] were taken in by his ridiculous story

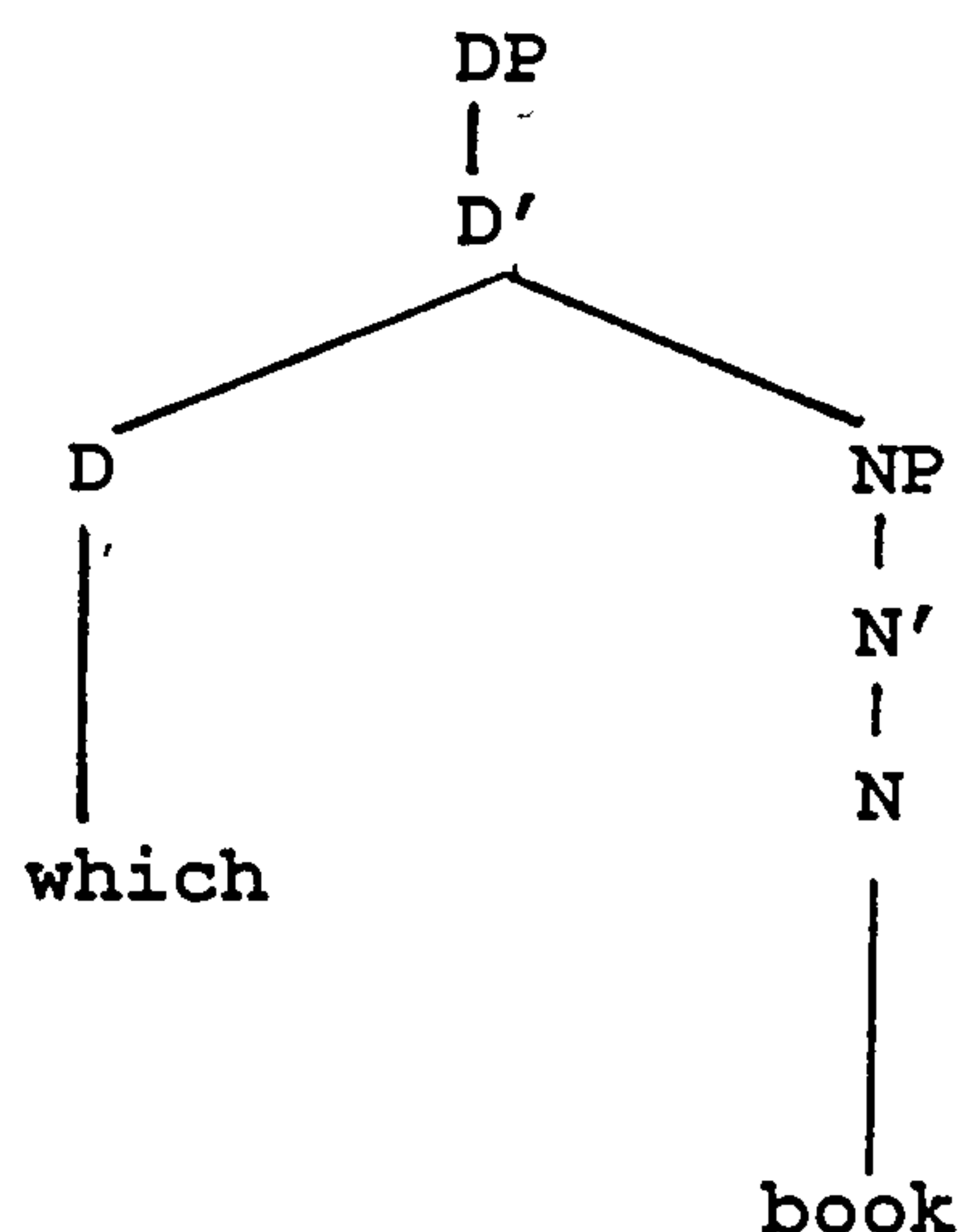
(28)



Similarly, a noun phrase containing which like the one in (29) will have the associated structure in (30):

(29) [Which books] do you like best ?

(30)



Thus, some and which occupy the same position as the definite article and demonstratives. This in turn suggests that some, which, the and a demonstrative can never occur in the same configuration, hence the ungrammaticality of the examples in (31) and (32):

(31) [\* Which the pictures] were destroyed by the fire ?

(32) [\* Some these students] did not pass the exam



On the other hand, the grammaticality of (27) and (29) is accounted for by assuming that some and which in ENG are head Ds which can subcategorise an NP as a complement.

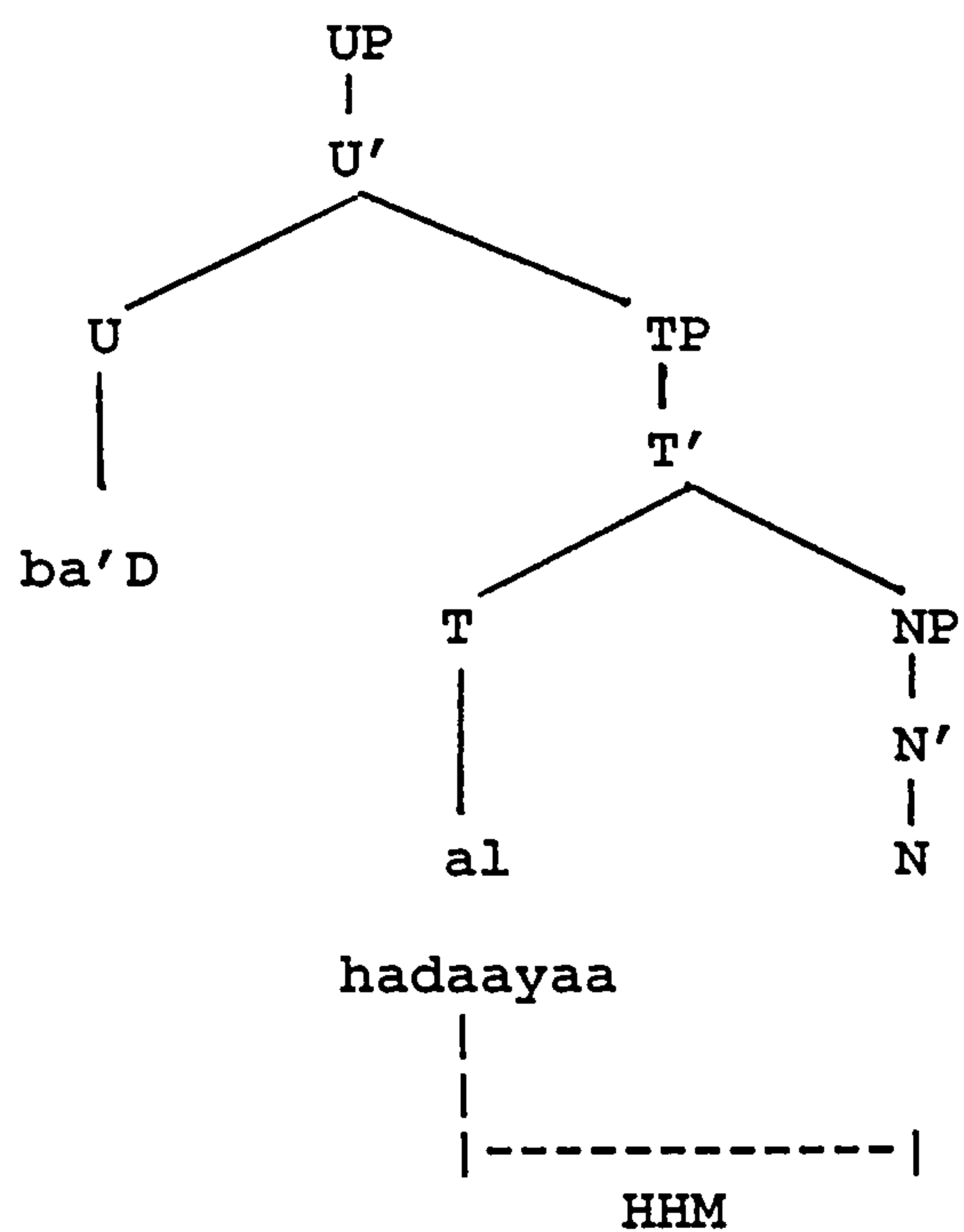
In MSA, by contrast, the determiners ba'D 'some' and ?ayy 'which' can co-occur with the definite article and the demonstratives in the same phrase, as is shown by the following examples:

- (33) ?u-riid ?an ?a-shtari [ba'D al-hadaayaa]  
 li ?aX-i al-Saghiir  
 I-want that I-buy some the-presents  
 to brother-my the-little  
 'I want to buy some presents to my little brother'
- (34) [?ayy haadhihi al-majallaat] tu-faDDil ?  
 which these the-magazines you-prefer ?  
 'which of these magazines do you prefer ?'

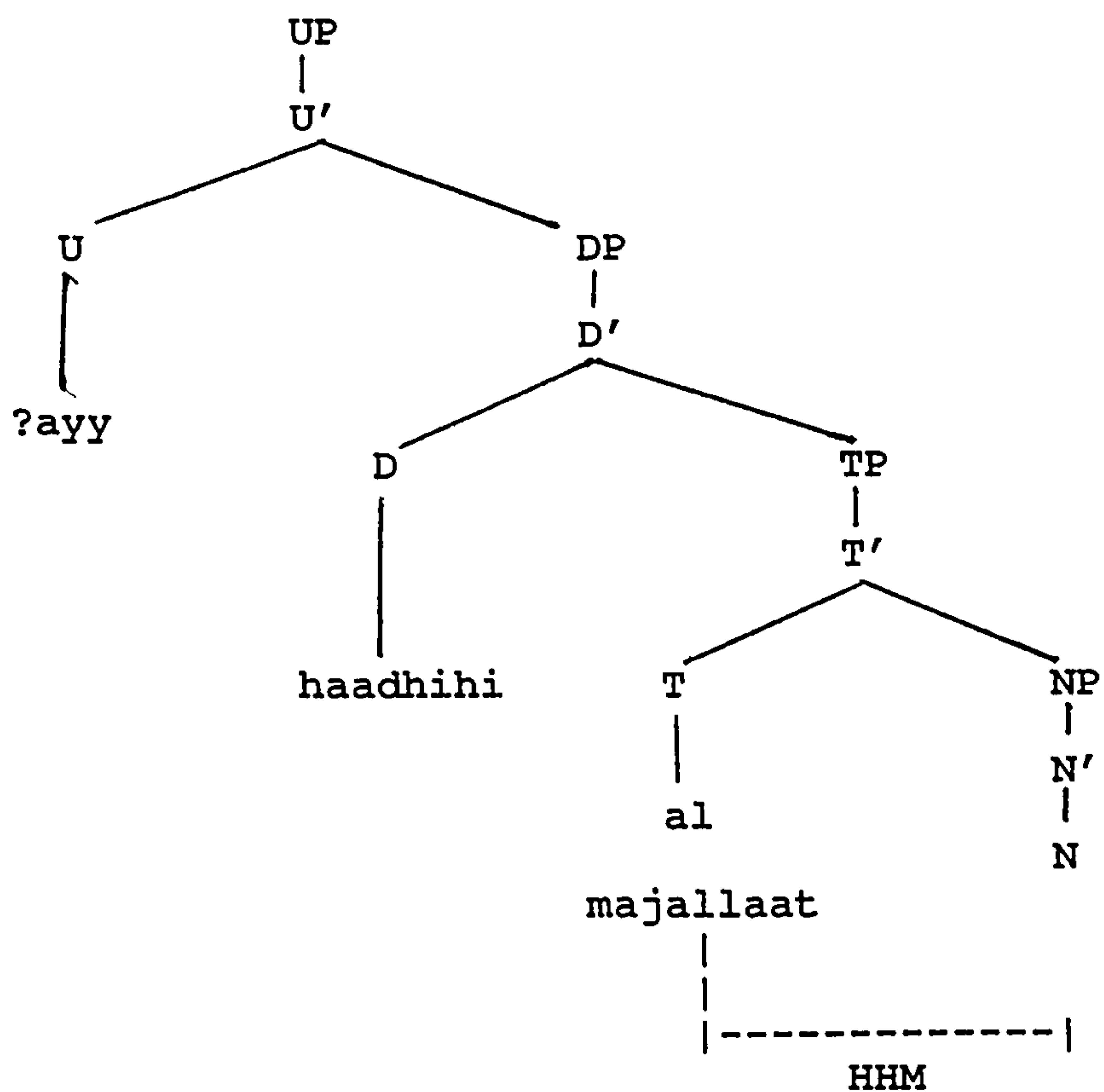
The grammaticality of the MSA structures in (33) and (34) is attributable to the facts that (i) ba'D and ?ayy occupy the head U-position of the containing nominal, which is distinct from those occupied by the article and demonstratives, and (ii) both ba'D and ?ayy can subcategorise both DPs and TPs as complements.

To illustrate the structural distinction between ba'D/?ayy, al and haadhihi', I provide the following tree diagrams in representation of the structures of (33) and (34) respectively:

(35)



(36)



However, given that part of the subcategorisation framework of ba'D and ?ayy in MSA is that they cannot take

bare NPs as complements<sup>1</sup>, and that they obligatorily subcategorise TPs/DPs as complements, as is shown by the ungrammaticality of the following examples:

- (37) ?urid ?an ?ashtari [\* ba'D hadaayaa  
 li-?aX-i S-Saghiir  
 I-want that buy some presents  
 to-brother-my the-little  
 'I want to buy some presents for my little brother'
- (38) [\* ?ayy majallaat] tu-faDDil ?  
 which magazines you-prefer ?  
 'which magazines do you prefer ?'

Then my CA of some/which and ba'D/?ayy in ENG and MSA will predict instances of -TR by Syrian learners. More specifically, they are likely to transfer the subcategorisation properties of their NL determiners ?ayy and ba'D into ENG, and wrongly assume that the corresponding ENG determiners which/some also subcategorise DPs/TPs as complements. Thus, on the basis of examples like the ones in (33) and (34), they will produce erroneous examples like the ones in (31) and (32). In turn, they will fail to produce grammatical ENG structures like the ones in (27) and (29) simply because their NL does not permit such structures. This is Prediction 5.

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1. It must be noted however that in MSA, the determiner ?ayy can take a bare NP as complement only when the latter is headed by a singular head N, as in the following example:

- [?ayy kitaab] tu-faDDil ?  
 which book you-prefer ?  
 'which book you prefer ?'



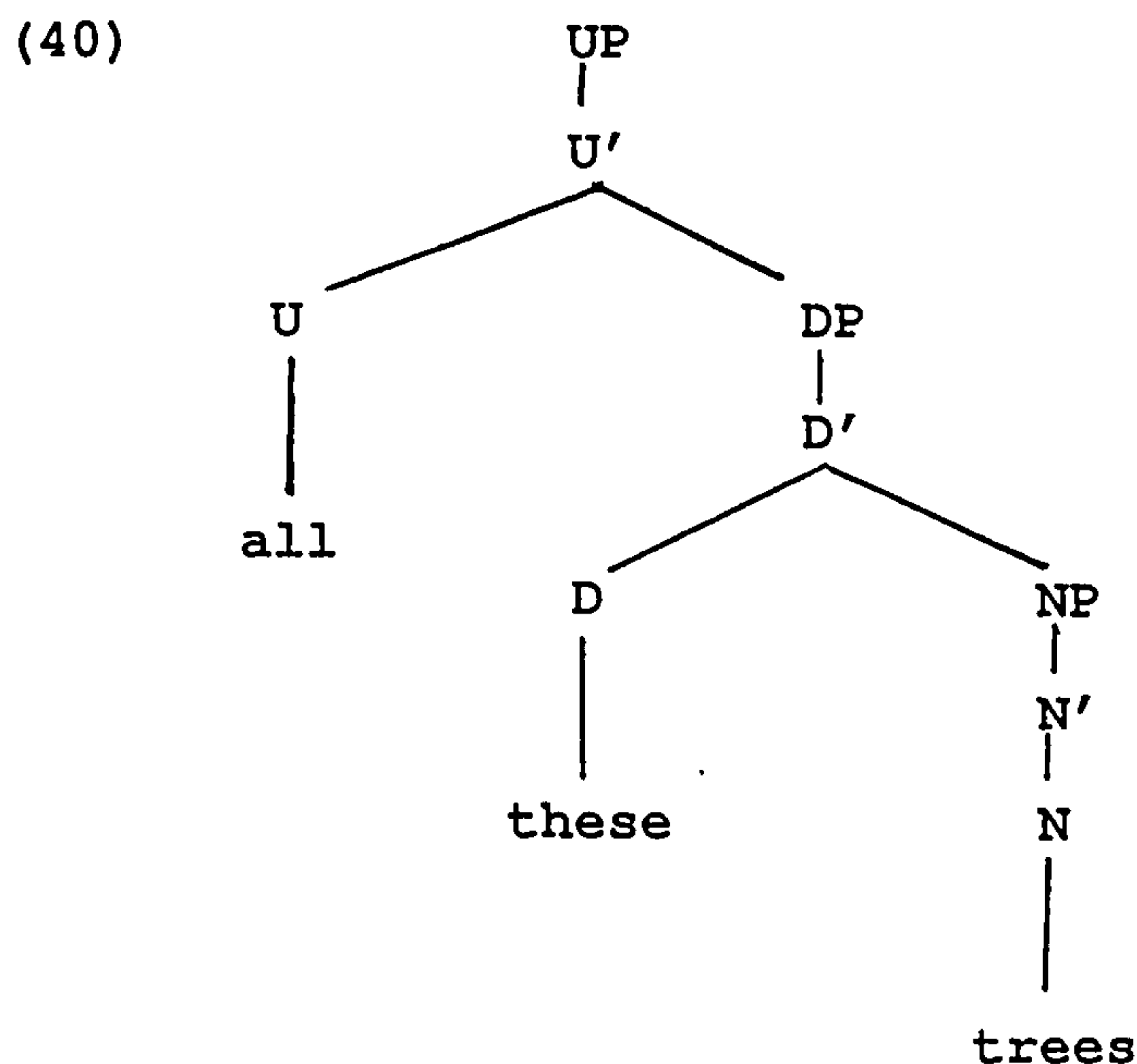
#### 5.4.4. All/kull

The universal quantifier all and its MSA equivalent kull occupy a parallel position in the noun phrase. This position is the U-head-position.

As was discussed in section (3.3.2) above, among the lexical properties of all in ENG is that it can subcategorise a DP complement which is headed by the definite article or a demonstrative, as the following examples show:

- (39) a. [All the students] in our class have passed  
the exam
- b. My father planted [all these trees] last summer

We can represent the structure of an ENG noun phrase headed by all such as that in (39/b) along the following lines:

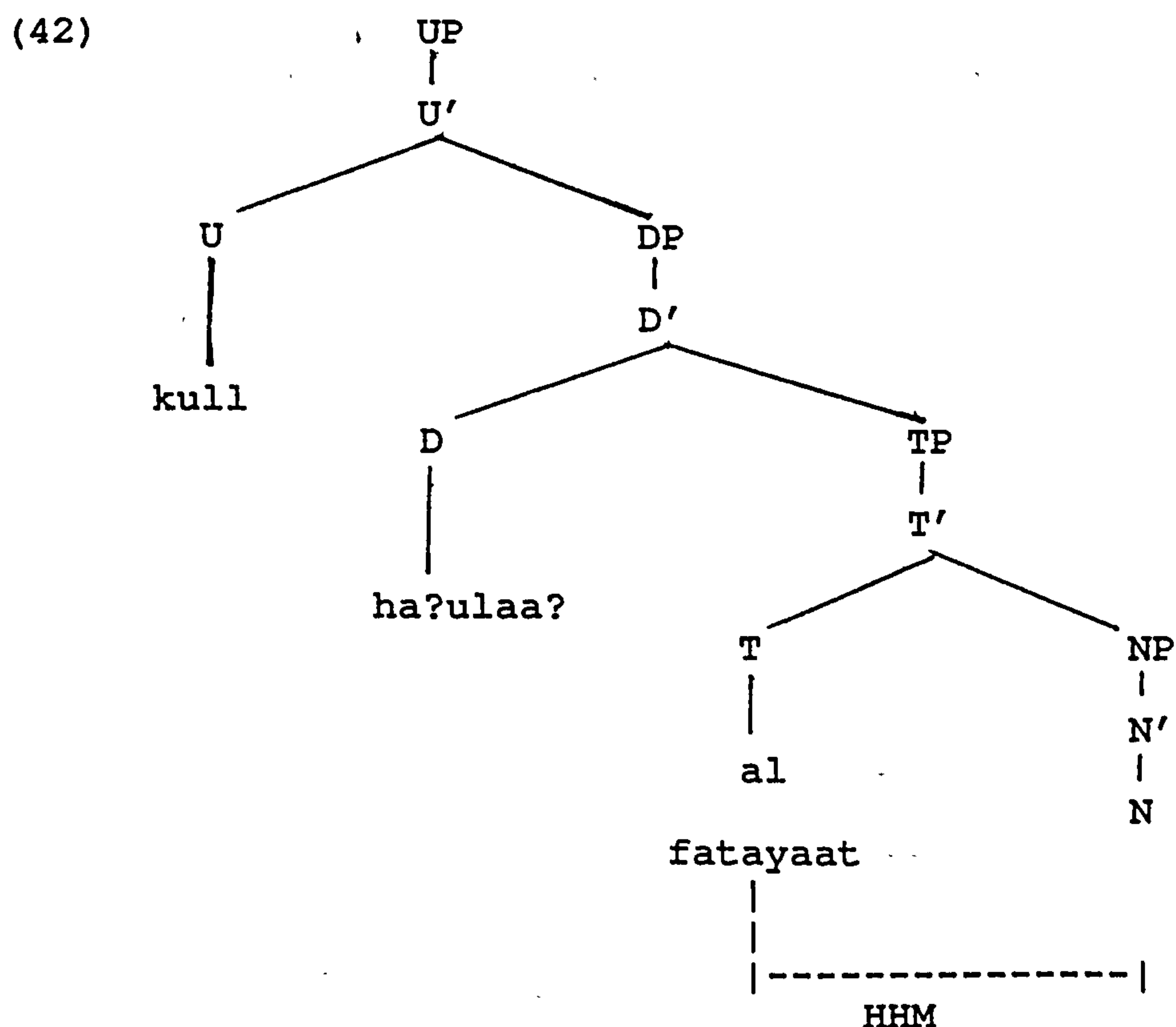


Similarly, kull in MSA is assigned the syntactic.

category U on distributional grounds. Like ENG, this U can take both DPs and TPs as complements, as is illustrated by the following examples:

- (41) a. ?a`rif [kull al-fatayaat] fi Saffi-na  
 I know all the-girls in class-our  
 'I know all the girls in our class'
- b. ?a`rif [kull ha?ulaa? al-fatayaat]  
 I know all those the girls  
 'I know all those the girls'

So, I represent the structure of a noun phrase headed by kull such as that in (41/b) in schematic form as in (42) below:



The two facts, (i) that all in ENG can take a DP complement which is headed by either the definite article or a demonstrative, and (ii) that kull in MSA can

also take a DP complement headed by a demonstrative or a TP complement headed by the definite article, point to the probability of +TR on part of Syrian learners of ENG. I therefore predict that they will have no difficulty in learning the ENG structures in (39) above and that they will produce them correctly. This is Prediction 6.

5.4.5. Summary

Thus far, I have pinpointed the differences and similarities between MSA and ENG which emanate from the functional projections of their noun phrases. I recognised two types of functional projection within the noun phrase in ENG, whereas three such expansions were identified in MSA. The following diagram summarises the types of functional projection recognised in each language:

Table (5.1) Nominal Functional Projections in ENG/MSA	
MSA	ENG
TP	-
DP	DP
UP	UP

In ENG, an NP projects into a DP functional projection via the addition of an article, a demonstrative, or a determiner like some and which, among others, and it projects into a UP by adding determiners such as the universal quantifier all . On the other hand, an NP in MSA



projects into a TP functional projection by the addition of the definite article, it projects into a DP via the addition of a demonstrative, and finally, it projects into a UP via the addition of determiners like ba'D, kull and ?ayy. In other words, no TP functional projection was recognised in ENG. We also saw that the above phrasal expansions are effected by different types of determiner in each language.

Most of the contrasts mentioned so far between ENG and MSA stem from differences in the co-occurrence restrictions imposed by each language on the realisation of each of its determiners. Such restrictions form part of the lexical entry specified for each determiner in the lexicon. For example, I accounted for the co-occurrence of a demonstrative and the definite article in the same noun phrase in MSA by assuming that one of the lexical properties of demonstratives in MSA is that they obligatorily select TPs as their complements.

An important contrast can be noted here between the ENG and MSA determiner systems, which is not based on the idiosyncratic lexical properties of determiners but rather follows from more general principles such as the RCAP. According to this parameter, MSA differs from ENG in the choice of its case assigners. Thus, whereas in MSA the range of categories which can assign case include functional categories like Ds and Us (e.g. ba'D 'some', ?ayy 'which, etc.'), and lexical categories such as Vs, Ps,

and probably As. In ENG, on the other hand, this range includes only Ds (e.g. 's) , Is, Vs, and Ps. This means that determiners like some, which, and all can not assign case in ENG. The differences between the two languages in their choice of case-assigning categories are summarised in the following table:

Table (5.2)

Case-Assigning Categories in ENG/MSA

	I	D	N	P	V	A
E	+	-	-	+	+	-
MA	+	+	-	+	+	?

As was discussed in section (4.4.3), MSA determiners like ba'D 'some', ?ayy 'which/what' and kull 'all' mark their complement TPs/DPs with the genitive case under government. This case is marked by an overt clitic when the complement is realised as a pronoun, as is shown by the following examples:

- (43) a. [?ayyu-hum] ?akhuu-k ?  
           which-them brother-your  
           'which of them is your brother ?'
- b. [kullu-na] ?aHbab-na al-mudiir al-jadiid  
           all-us like-we the-manager the-new  
           'all of us liked the new manager'

By contrast, the corresponding ENG determiners are not case assigners, hence the fact that they cannot occur in analogous contexts:

- (44) a. [\* some/\* all them] are crazy  
b. [\* which them] do you like best ?

The ungrammaticality of (44) is avoided by the insertion of of:

- (45) a. [All/some of them] ....  
b. [Which of them] .... ?

In (45), the preposition of assigns (objective) case to the following nominal complement, whereas in (44) there is no such case-assigner, so that the ungrammaticality of these examples is explained on the grounds that they violate the CFC.

The foregoing discussion of the case properties of ENG determiners as opposed to MSA determiners suggests that Syrian learners will negatively transfer their MSA structures (43) into ENG, thus failing to insert the case assigning of in the relevant target forms. As a result, they will produce ill-formed target examples like the ones in (44). This is Prediction 7.

As I pointed out at the outset of this chapter, in addition to the functional expansion, there is a second type of projection within the noun phrase in MSA/ENG. This is the formal projection in which the head category is a lexical item designated as N (noun). In the next section, I shall discuss the contrasts and similarities between ENG and MSA, which emanate from their nominal lexical systems.



### 5.5. Contrasts in the Lexical System

A large number of nominal modifiers fall within this system, such as APs, PPs, possessive DPs/TPs, etc. In what follows, I shall be discussing the contrasts and similarities which arise between MSA and ENG in relation to each of these modifiers in turn.

#### 5.5.1. Possessive DPs/TPs

The main cases I am going to discuss here are represented in examples (46) and (47), taken from ENG and MSA respectively:

- (46) a. Here is [Talal's car]  
b. [The enemy's attack] on the peaceful village  
was condemned by the government
- (47) a. sami'-tu ?ila [Hadiith Talaal] albaariHa  
listened-I to speech talaal yesterday  
'I listened to Talal's speech yesterday'  
b. zaara-t [Qasra al-malik] fi al-madiina  
visited-she palace the-king in the-city  
'she visited the king's palace in the city'

Two contrasts become evident from juxtaposing the above structures in ENG and MSA. The first of these contrasts reflects a contrast in word-order restrictions. From the above examples, we see that possessors occupy a prenominal position in ENG, whereas they occupy a postnominal position in MSA. In other words, whereas ENG is a SN (subject+Noun) word-order language, MSA is a NS word-order language.

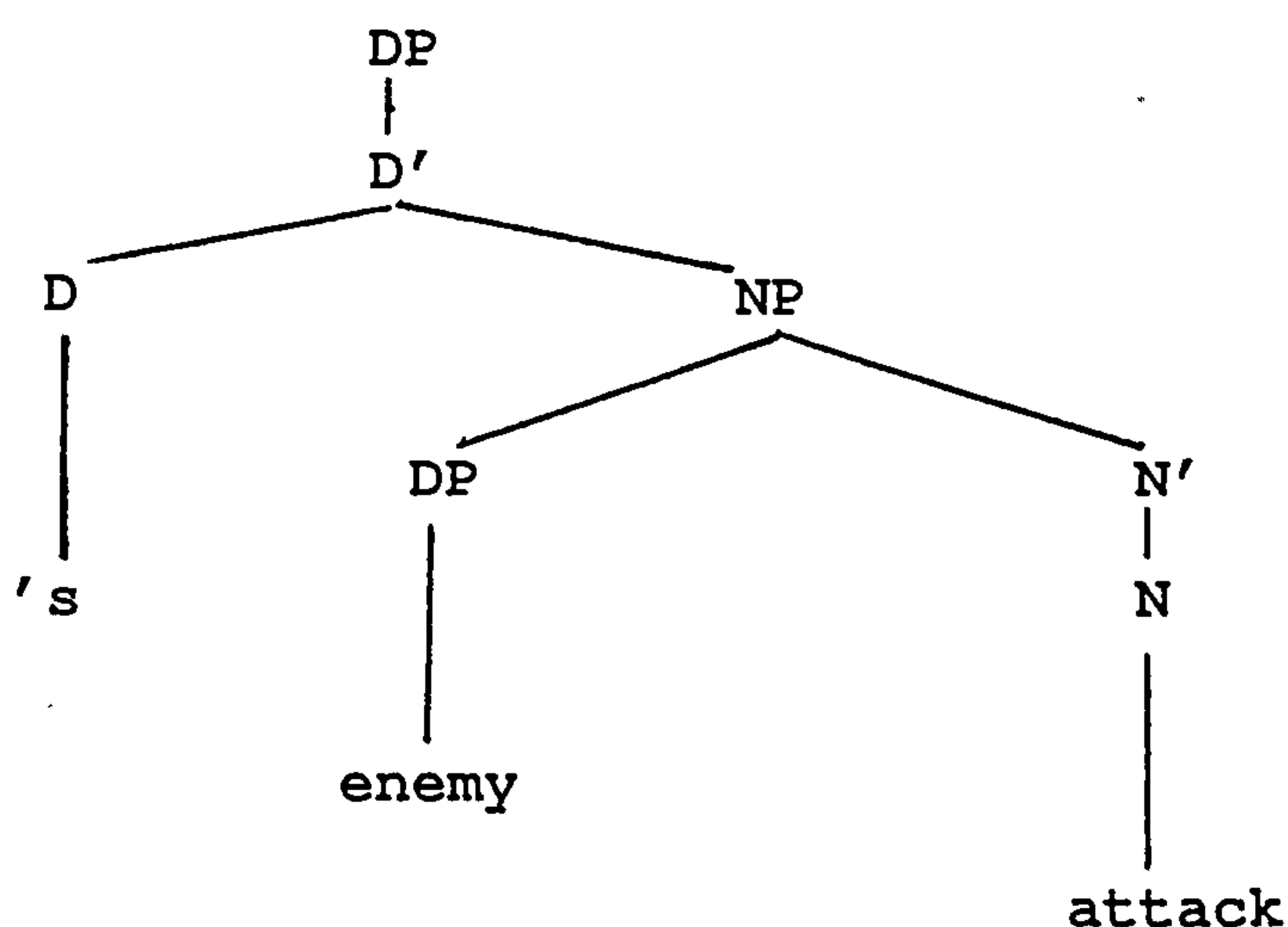
Two different mechanisms are at play in deriving the

surface subjects' word-orders in (46) and (47) above. The two word-orders are derived via the application of two types of movement. More particularly, the ENG word-order in (46) is derived by the application of a SSM, whereas the Arabic order in (47) is derived by applying a HHM.

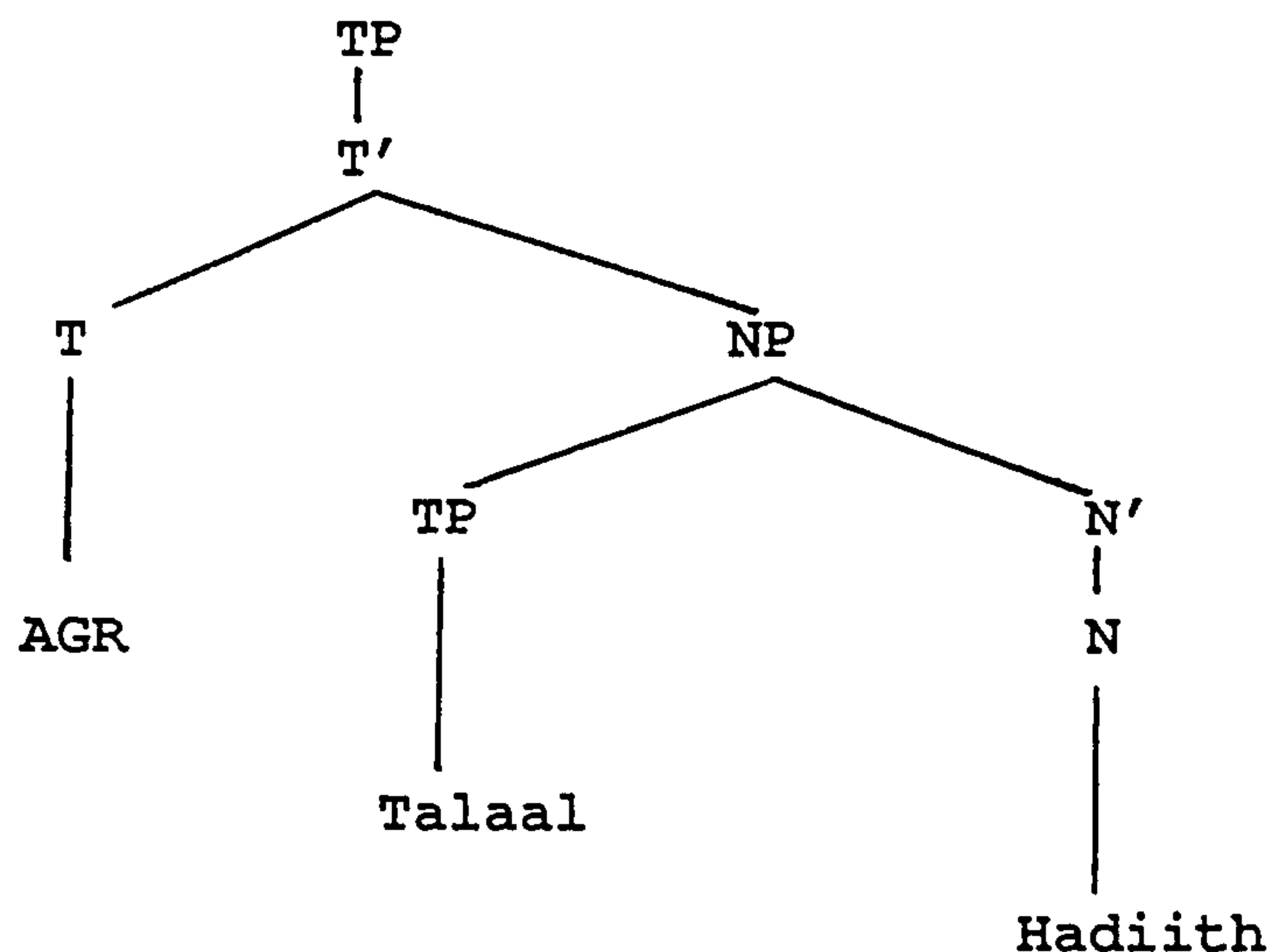
Under X-bar theory, possessors (in both ENG and MSA) are generated in the same structural position underlyingly viz., the [Spec., NP] position, mainly for theta-marking purposes.

So, we can represent the underlying structure of the ENG example in (46/b) as in (48), and represent the structure of the MSA example in (47/a) as in (49):

(48)



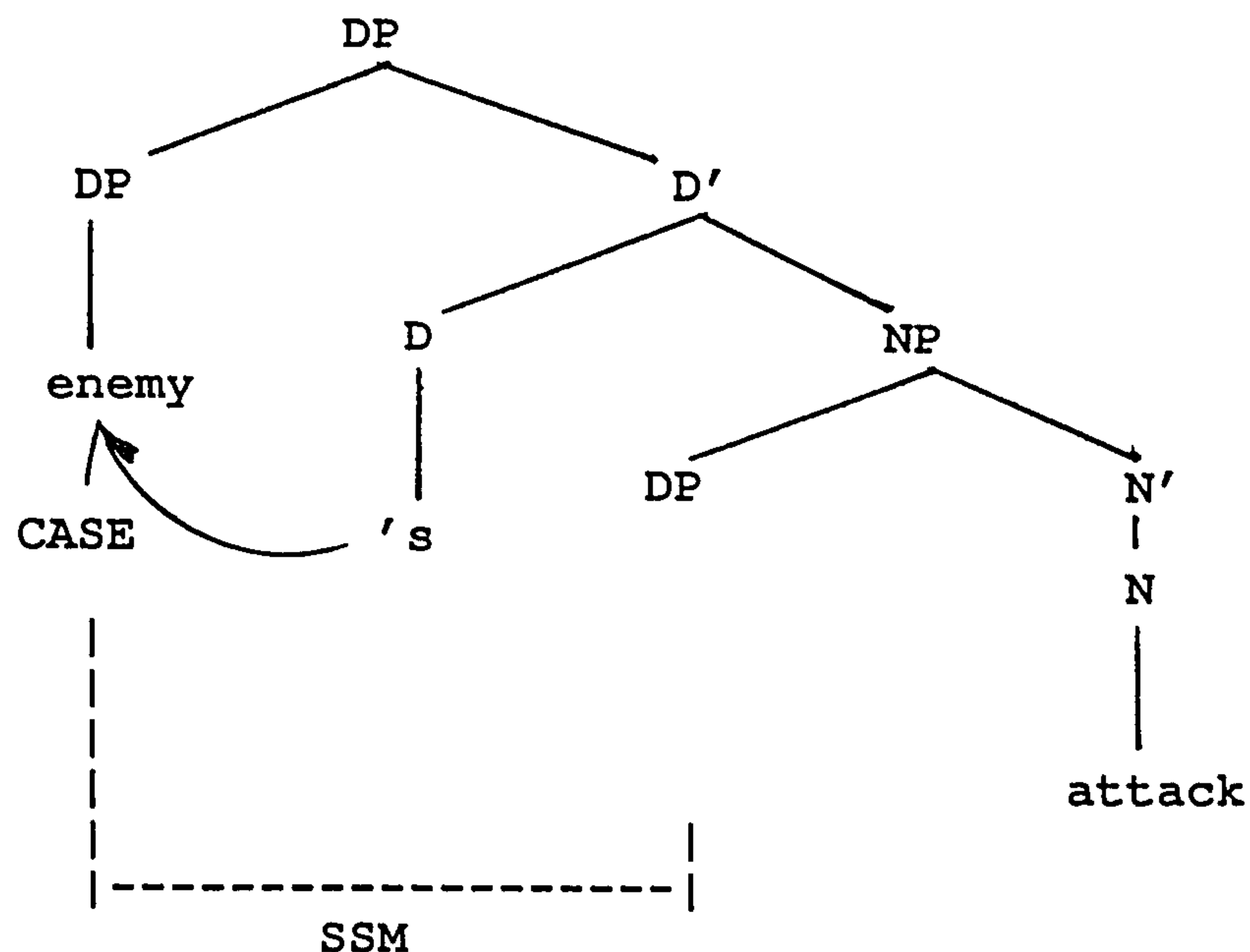
(49)



However, the possessive phrase enemy in (48) is later moved to the [Spec., DP] position in order to be case-marked by D to its left. This movement can be explained in terms of the DCAP. According to one of the values of this parameter, case in ENG is assigned rightward by lexical categories and leftward by functional categories. This in turn means that the only available position in which the possessive phrase enemy can receive case from D is the [Spec., DP] position. Consequently, this possessive DP is raised to the [Spec., DP] position, and as a result, we get a Specifier-to-Specifier movement in ENG. This movement is from the [Spec., NP] position into the [Spec., DP] position. As a result of this SSM, we have the subject+noun word-order in (46). We can represent this movement in schematic form as in the following diagram:

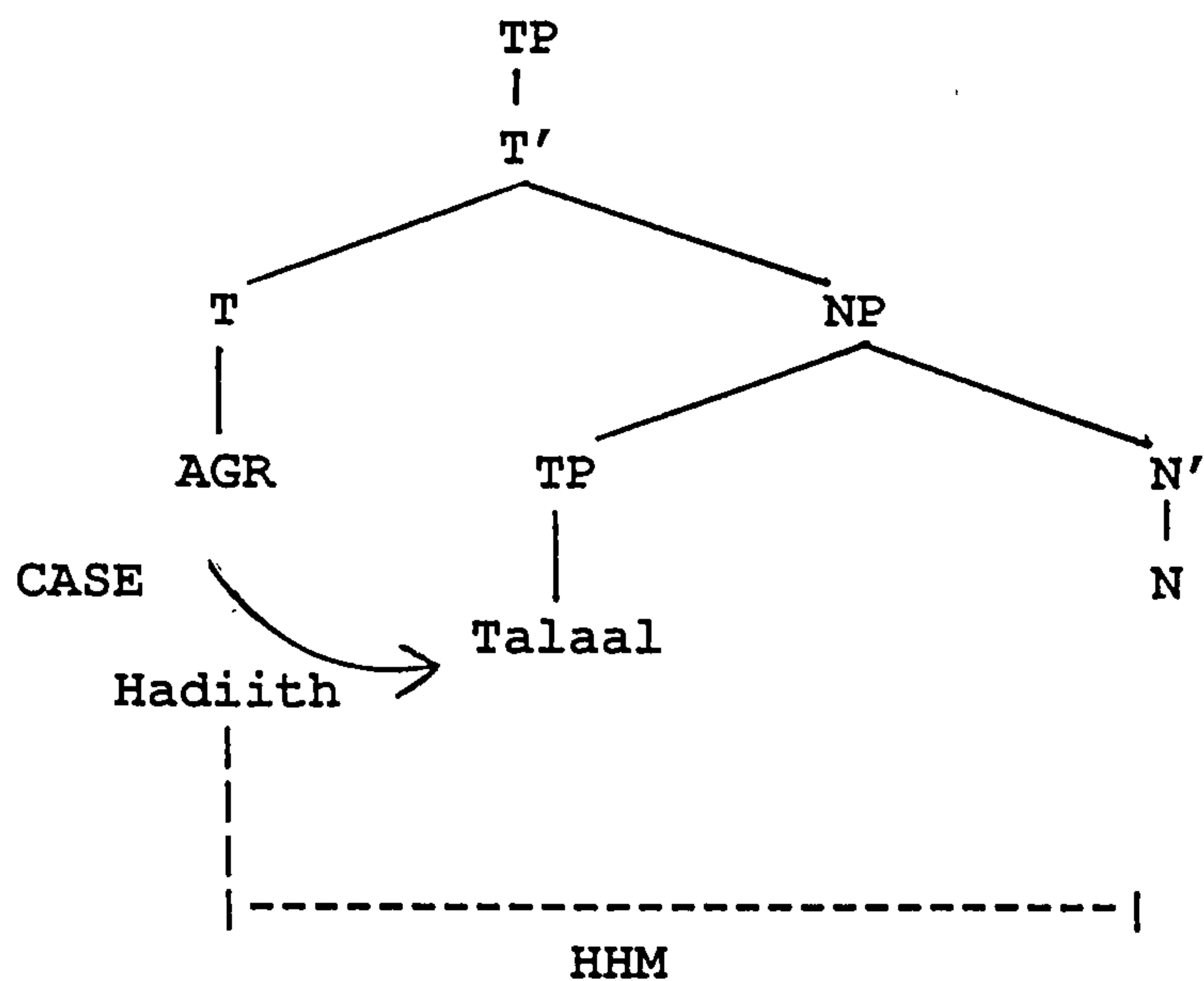


(50)



In MSA, on the other hand, no SSM is necessary. The DCAP which specifies that in MSA, case is assigned rightward uniformly by both lexical and functional categories presupposes that the possessive TP Talaal in (49) can receive its case from T in the [Spec., NP]position. However, the NS word-order is derived by a HHM when the head N Hadiith moves to T in order to provide morphological support for T, as was explained in section (4.5.1) above. This HHM can be illustrated as follows:

(51)



In the light of the above contrast in the relative word-order of possessors between ENG and MSA, I predict that learners will negatively transfer the HHM of their NL into ENG. As a result of this -TR, they will make errors which will take the following forms:

(52) a. This is [\* hat Mary]

b. [\* Departure the president] was delayed  
for security reasons

This is Prediction 8.

The second contrast between ENG and MSA relating to their possessive phrases can also be accounted for in terms of one of the parameters of Case Theory viz., the RCAP. More precisely, we assume that whereas in ENG the range of case-assigners include such determiners as the 's genitive case-assigner which assigns case to possessive DPs (see diagram 50 above), in MSA, by contrast, there is no such determiner and the genitive case of possessors is assigned by an empty AGR in T (see figure 51 above).

At surface-structure, the ENG 's determiner is cliticised to the possessive DP, resulting in forms like the following:

- (53) a. This is [Mary's hat]  
b. [The actor's suicide] shocked me

In MSA by contrast, the genitive case is realised morphologically by a zero morpheme  $\emptyset$ , as is shown in the following examples:

- (54) a. [riHlat al-farii  $\emptyset$ ] ?ila pariis  
trip the-team to Paris  
'the team's trip to Paris'  
b. zur-tu [bayt nabiil  $\emptyset$  al-jadiid]  
visited-I house Nabil the-new  
'I visited Nabil's new house'

As a consequence of the above contrast between ENG and MSA in the range of genitive case assigners, I predict that Syrian students will negatively transfer their NL value of the RCAP into ENG. More specifically, they will wrongly assume that the genitive case of ENG possessors is also assigned by an empty AGR. As a result, they will fail to insert the genitive 's determiner in the relevant phrases, thus producing erroneous responses like the following:

- (55) a. I didn't like [\* Mary new hat]  
b. Have you heard of [\* the government new reforms ?]

This is Prediction 9.



### 5.5.2. Complement DPs/TPs

ENG differs from MSA in that in MSA, a head N can be directly followed by a complement TP at surface-structure, whereas a head N in ENG cannot do so at surface structure, as is illustrated by the following examples respectively:

(56) a. ?aQlaQa-ni [tadmiir      al-madiina]  
         annoyed-me   destruction the city  
         'the city's destruction worried me'

         b. ra?ai-tu [Suurit      ziad al-jadiida]  
         saw-I      picture Ziad the-new  
         'I saw Ziad's new picture'

(57) a. [\* Imprisonment the actor] was unexpected

         b. Have you seen [\* picture Mary with silver frame]

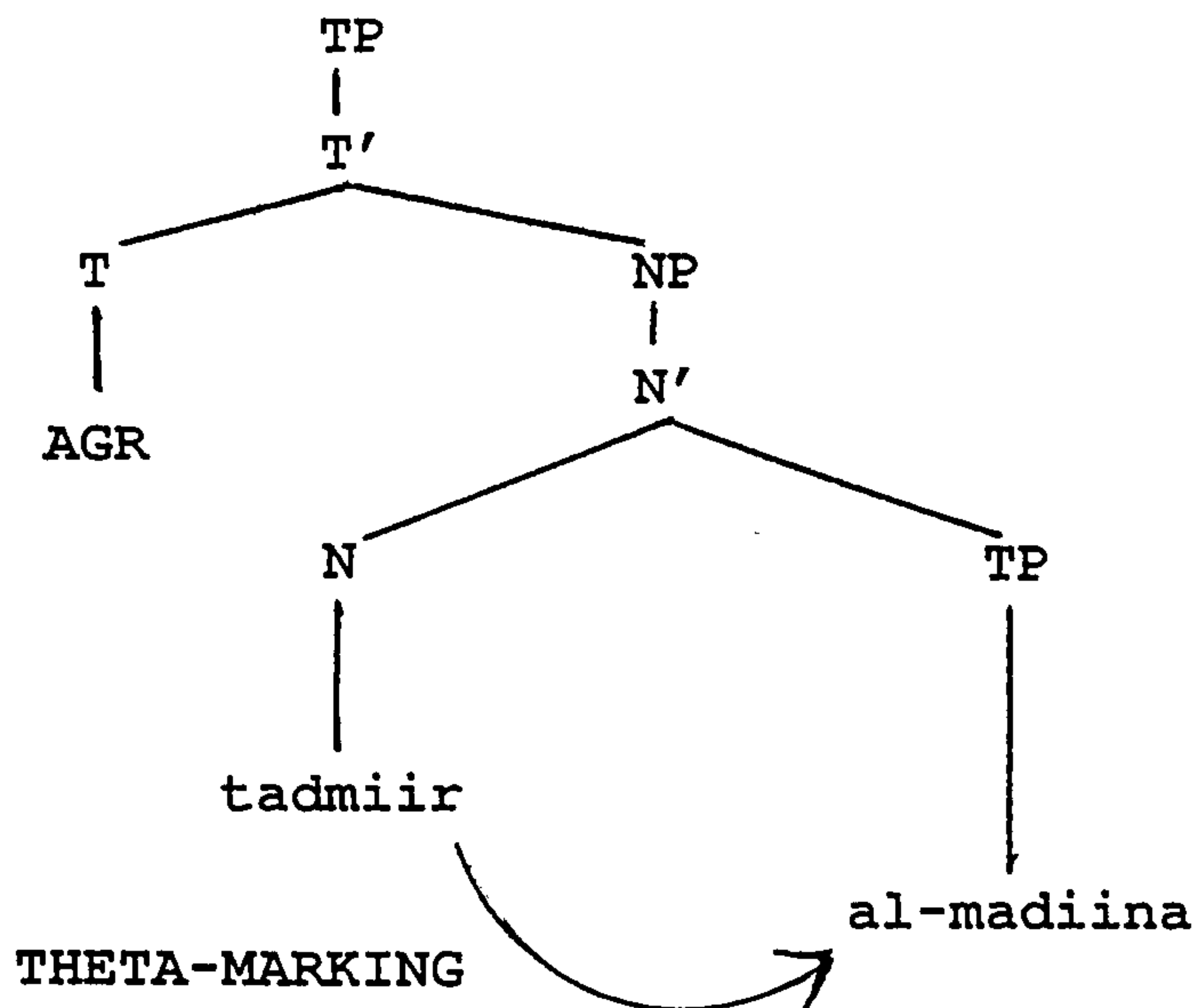
The corresponding well-firmed structures to the ENG examples in (57) are the following:

(58) a. [The actor's imprisonment] was unexpected

         b. Have you seen [Mary's picture with silver frame ?]

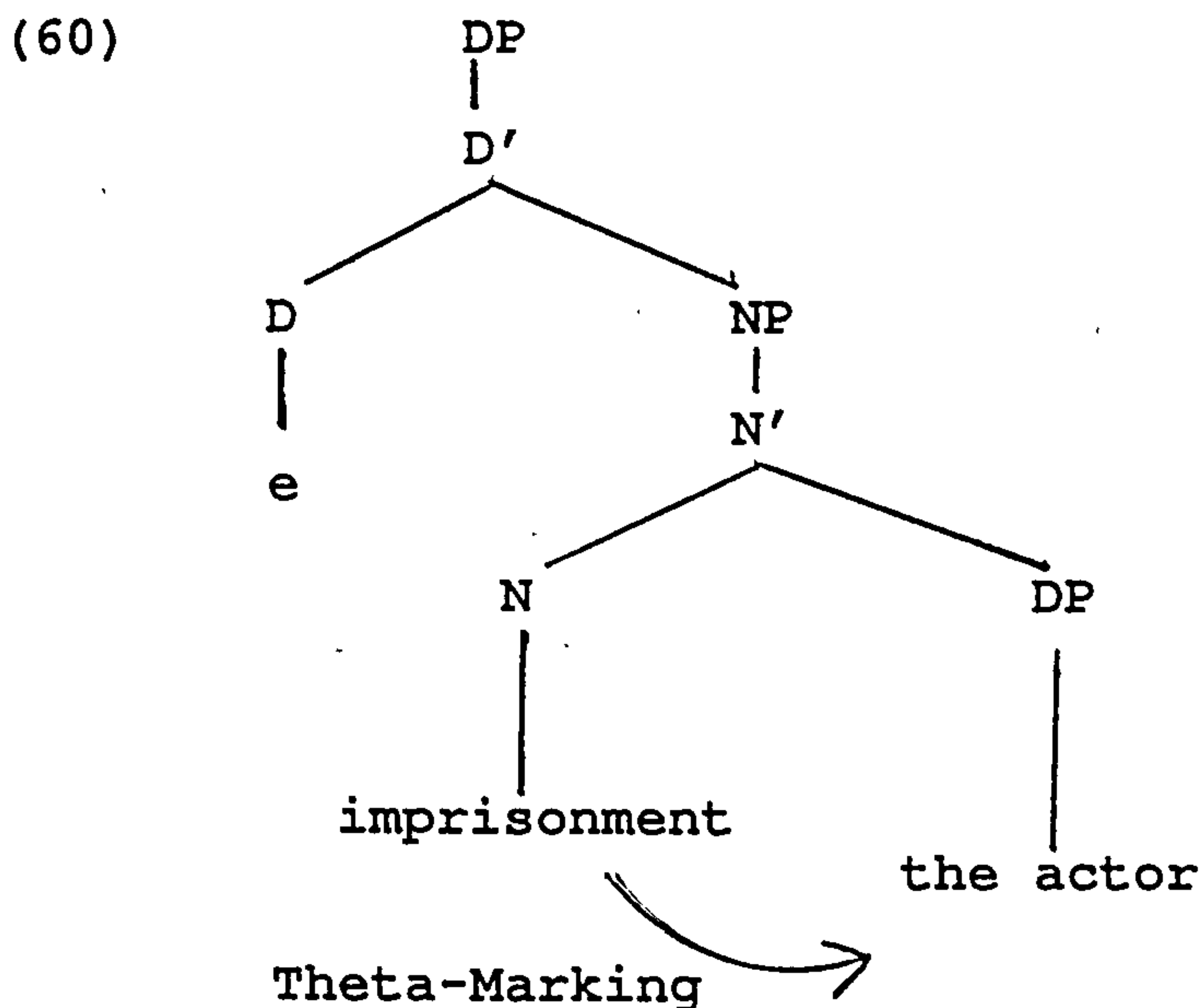
Within the framework of X-bar syntax, the structures in (56) and (57) above would essentially have the same underlying structure. For example, given our arguments in section (4.5.2) above, then a MSA noun phrase like (56/a) would have the following underlying structure:

(59)



Given that (i) complements are theta-marked elements and (ii) that a head N can only mark its sister complements, then the TP complement l-madiina must originate as a sister of the head N in order to be theta-marked by N in this position.

Similarly, following Chomsky (1970), the ENG noun phrase in (57/a) are well-formed at DS. UNDER the NP/DP-analysis of noun phrases, the corresponding DS to the ENG noun phrase in (57/a), for example, would have the following schematic form:



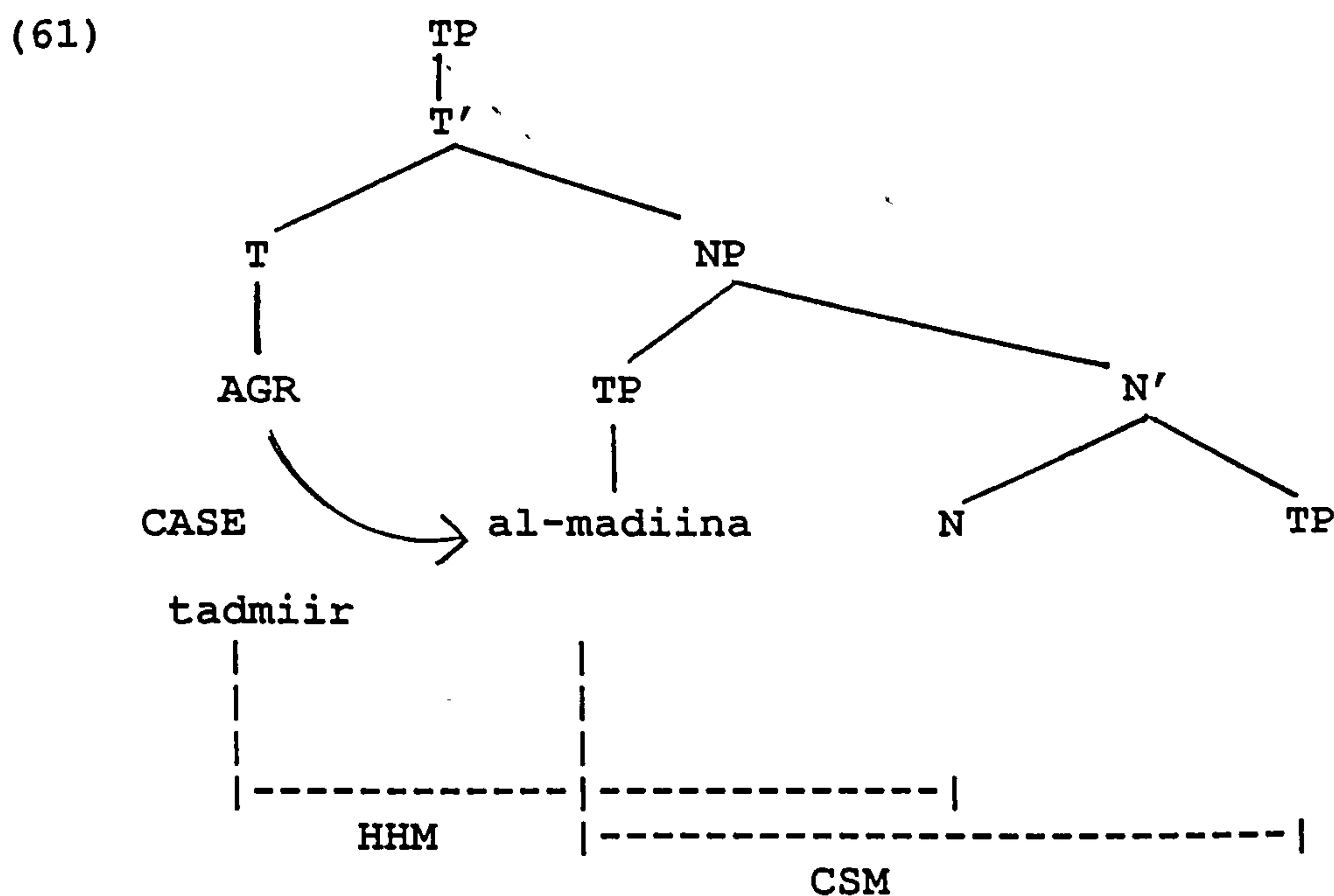
From the above diagram, we see that the complement DP the actor originates as a DS direct object without of on a par with the direct object of the verbal counterpart of the above nominalisation (i.e. 'imprison the actor'). It is generated as a sister of N in order to get its theta role from N in this position.

However, what makes the structures in (56) and (58) differ at surface-structure is ascribable to differences in movement rules between the two languages. The MSA structures in (56) involve two different movements, whereas their ENG counterparts in (58) involve one movement only.

To be less abstract, given the RCAP, which specifies that in MSA nouns are not direct case-assigners, it follows that In (59), the complement TP al-madiina 'the city' has to be moved to a position in which it is able to receive case. Furthermore, given the DCAP, which specifies that in MSA case is assigned rightward by all categories,

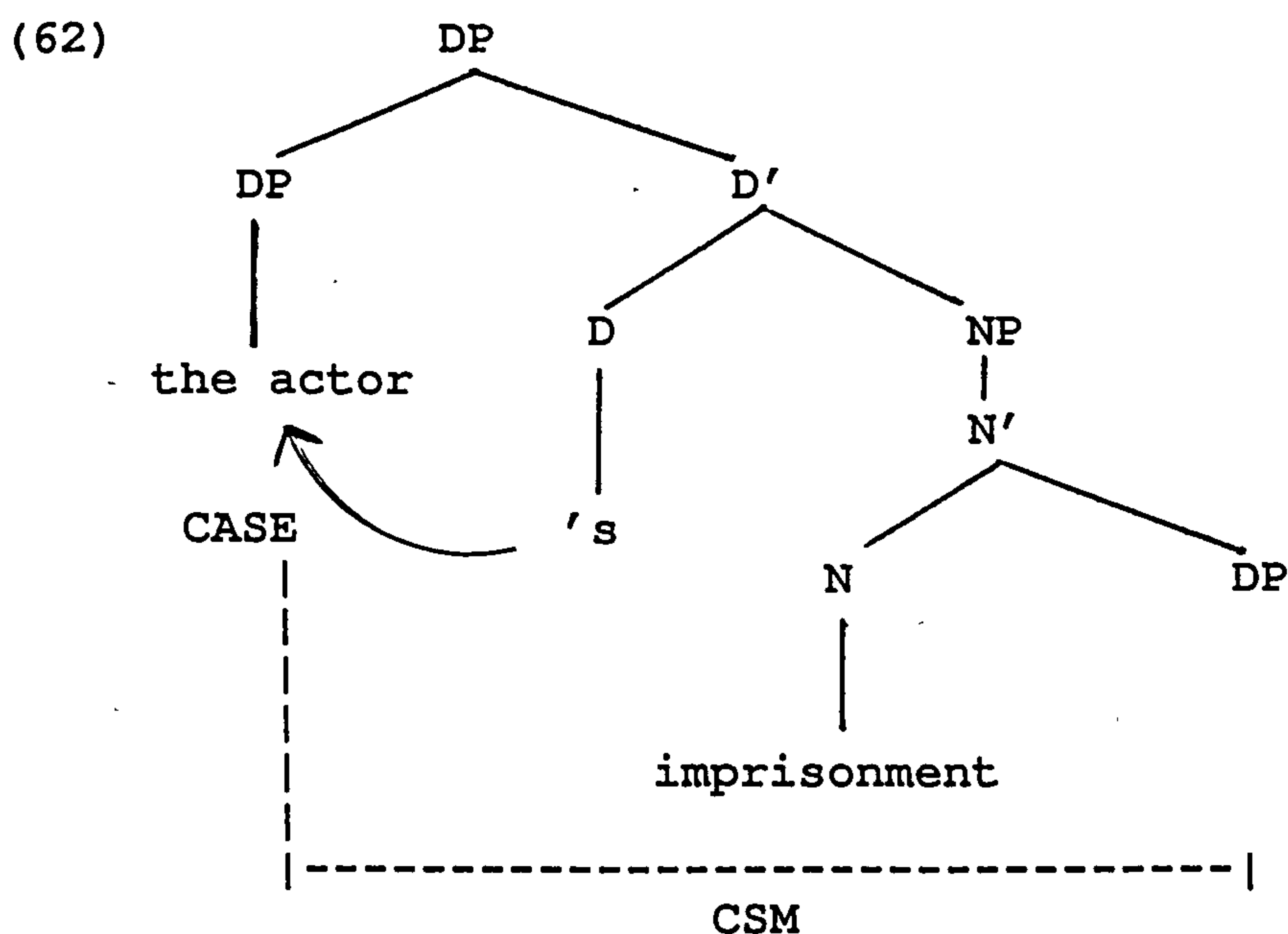


it follows that the only available position for the TP al-madiina to receive case is the [Spec., NP] position where it will be case-marked by AGR in T under government. This CSM of the complement al-madiina together with a HHM of the head N tadmiir to the head T-position in order to provide lexical support to T, will have as a result the derivation of the surface MSA NO word-order in (56/a). These CSM and HHM are represented in The following diagram:



The RCAP also specifies that nouns in ENG are not direct case-assigners, which means that in (60), the complement DP the actor is caseless and thus violates the CFC. In order to avoid the violation of the CFC, this DP is moved into a position in which it can receive case. Given the DCAP, which specifies that case in ENG is assigned rightward by lexical categories and leftward by

functional categories, it follows that the only available position for the complement DP the actor to be case-marked is the [Spec., DP] position in which it will be assigned case by the genitive 's determiner to its left. Consequently, we have a CSM (complement-to-specifier movement), which will derive the ON word-order in (58/a). We can represent this movement in schematic form as follows:



In sum, the MSA surface NO word-order in (56) is derived via the application of two movements namely, a CSM and a HHM, whereas the ENG ON word-order in (58) is derived from the underlying NO word-order by the application of a CSM. The CSM involved in the derivation of the ENG structures in (58) is different from the CSM responsible for the MSA forms in (56). In ENG, the CSM moves the complement DP from its underlying position as a

sister of N into the [Spec., DP] position, whereas in MSA, the CSM moves the complement TP/DP to the [Spec., NP] position. As was discussed above, this difference in the CSM between the two languages is attributable to the DCAP, and results in the difference in their word-ordering of complement TPs/DPs.

In consequence, my CA of the above structures in ENG and MSA will predict that Syrian learners will transfer the CSM and HHM from MSA into ENG and as a result, they will commit such errors as exemplified in (61) below:

- (61) a. [\* Capture the murderer] was expected  
 b. These are all [\* pictures Mary]

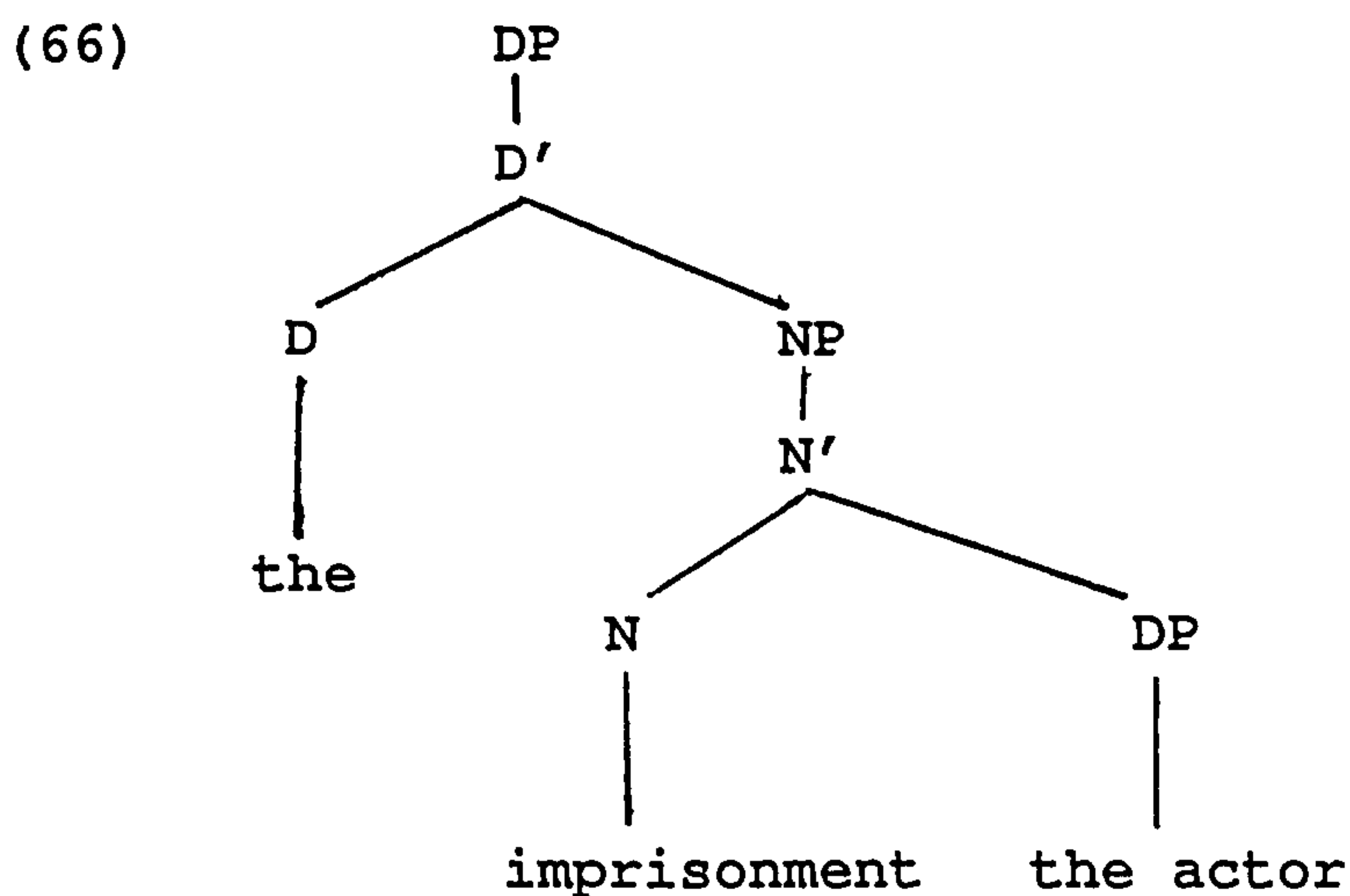
This is Prediction 10.

My CA of ENG and MSA complement DPs/TPs will also predict an instance of +TR on part of the Syrian learners of ENG. This positive prediction is based on the grounds that nouns in both languages can case-mark their complement DPs/TPs indirectly via a dummy preposition, compare respectively:

- (64) a. [The imprisonment of the actor] was unexpected  
 b. This is [a picture of Mary with silver frame]
- (65) a. ?aQlaQa-ni [al-tadmiir al-'aniif  
li-l-madiina  
 worried-me the-destruction the-severe  
 to-the-city  
 'the sever destruction of the city worried me'
- b. ghassaan [al-mudarrib al-jadiid li-l-fariiQ]  
 Ghassaan the-manager the-new to-the-team  
 'Ghassaan is the new manager of the team'



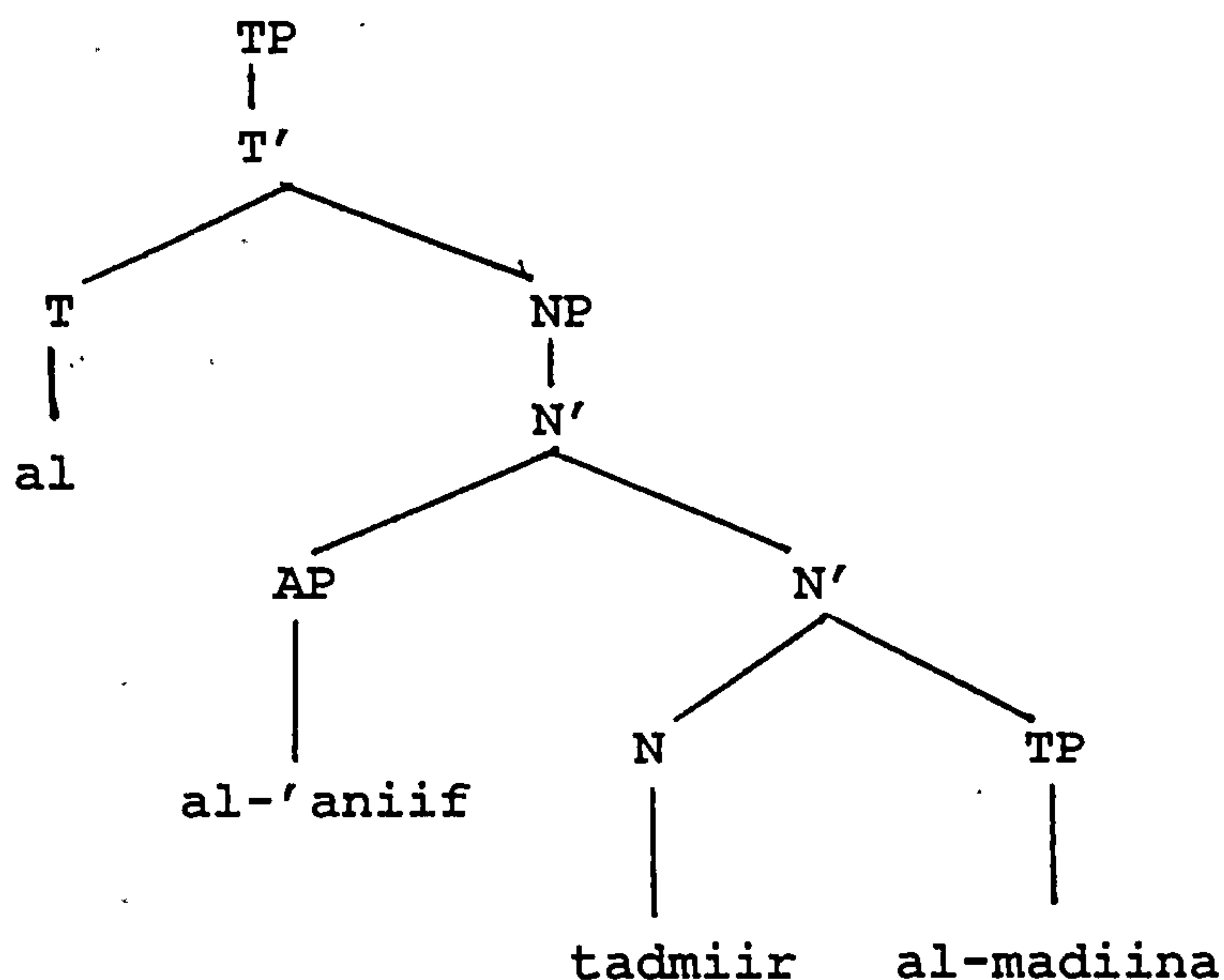
The intervention of the dummy case-assigners of and li is obligatory when the whole DP/TP is headed by an overt determiner. In (64/a), for example, the overall noun phrase is headed by the definite article, as can be seen from the following diagram:



Given that the is not itself a case-assigning determiner, it follows that, if moved to the [Spec., DP] position, the complement DP the actor will be unable to receive case and as a result, it violates the CFC. In order to avoid violating this condition, an of is inserted. The function of of is to assign case directly to the complement phrase the actor, thus satisfying the CFC (on of insertion, see Chomsky, 1970).

In MSA likewise, the use of the dummy case-marker li, which corresponds to of in ENG, becomes inevitable when the head T-position of the matrix noun phrase is filled by the article. To take a concrete example, I represent the underlying structure of the example in (65/a) as in (67):

(67)



In (67), the presence of the non-case-assigning determiner al will block that of the case-assigning category AGR in this position. This in turn block the CSM of the complement al-madiina, since any TP moved to the [Spec., NP] position will be caseless thus violating the CFC. The insertion of li which assigns case directly to the complement phrase al-madiina will satisfy the relevant condition.

In the light of the above similarity between ENG and MSA, my CA will predict that Syrian learners will correctly insert of in the relevant target structures, thus producing correct forms like the ones in (68):

(68) a. John is [the new lecturer of linguistics]

b. [The assassination of the President in the stadium] shocked me

I shall refer to this as Prediction 11.

### 5.5.3. Adjectival Phrases

Within the framework of X-bar, APs were analysed (in both MSA and ENG ) as N-bar syntactic adjuncts, that is as elements which recursively expand an N-bar into another N-bar.

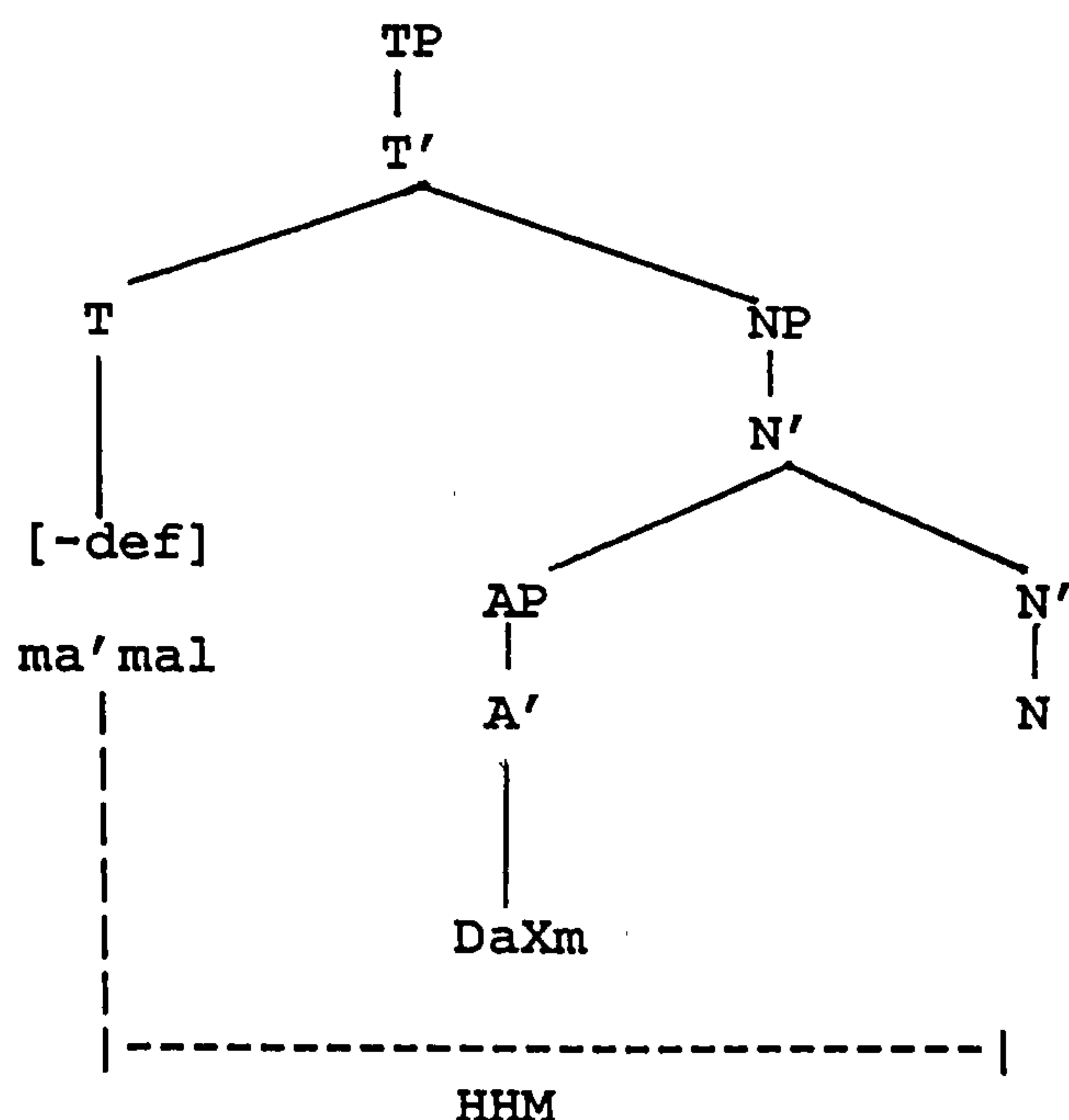
A number of contrasts arise between MSA and ENG in relation to this type of nominal modifier. The first of these contrasts stems from a difference in word-order restrictions. An AP in MSA follows the noun it modifies, whereas in ENG it occurs in prenominal position in the majority of cases, cf. respectively:

(69) y-a'mal jamiil fi [ma'mal DaXm]  
 he-works Jamil in factory big  
 'Jamil works in a big factory'

(70) He built [a nice villa] beside the seaside

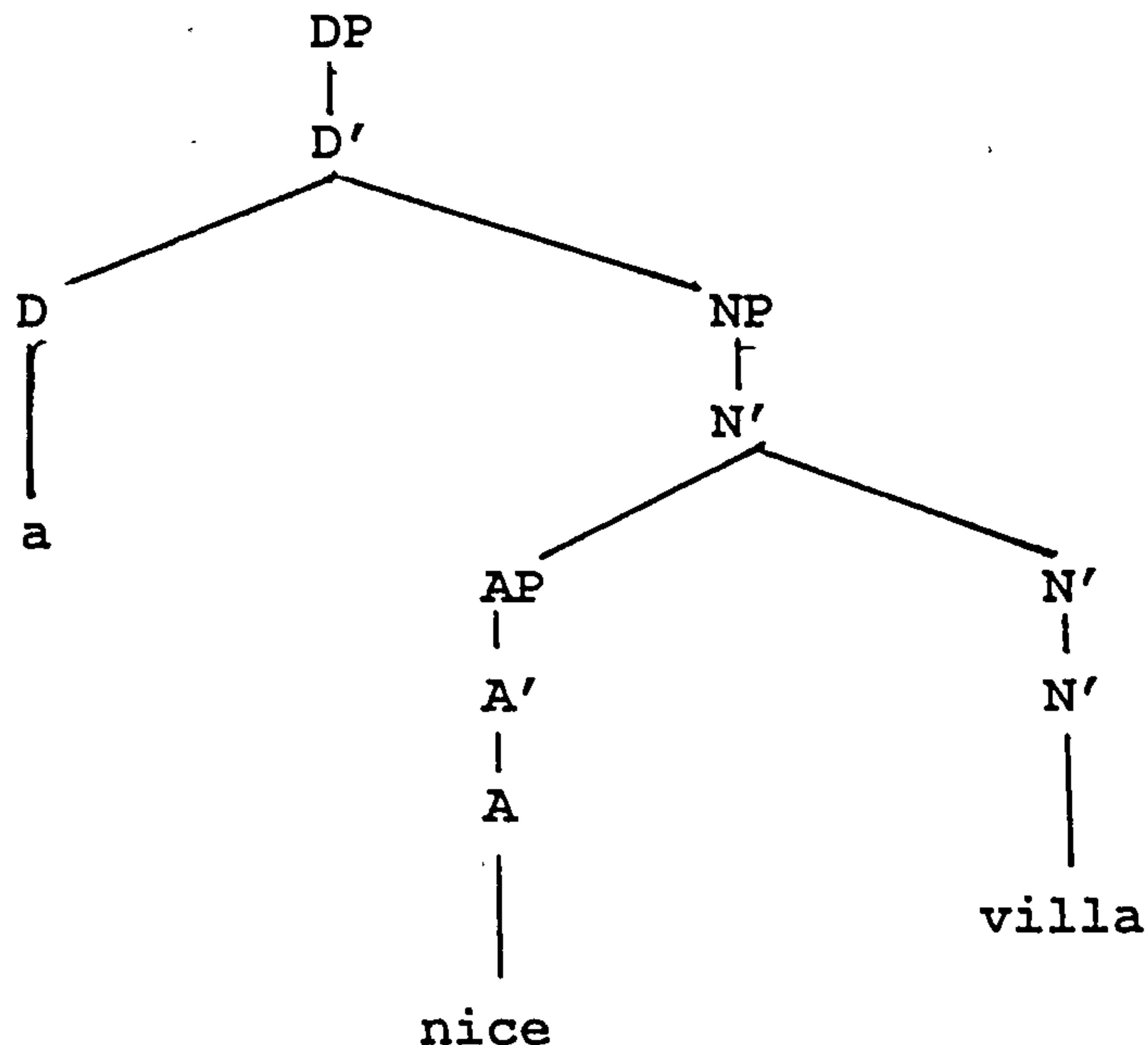
The respective structures of (69) and (70) are as depicted in (71) and (72) below:

(71)





(72)



Within the framework of x-bar syntax, we can interpret the above disparity between ENG and MSA in the linear ordering of their APs in terms of the Head-Periphery Principle, which is a universal principle which accounts for the distribution of 'heads' in relation to other constituents within phrases (see originally Stowell, 1981 in Radford, 1988). The examples in (69) suggest that noun phrases in MSA are head-first structures in which the head N precedes its modifying APs. Further support for the claim that noun phrases in MSA are head-first structures comes from the fact that the head N also precedes other types of nominal modifiers such as complement and possessive TPs/DPs and PPs.

The analysis of noun phrases in MSA as head-first constructions harmonises with other analyses of other phrases in MSA. Consider for example the linear ordering of the heads of phrasal structures such as APs and VPs in

(73) and (74) respectively:

(73) kaana al-TaQs [baarid jiddan] albaariHa  
was the-weather cold very yesterday  
'the weather was very cold yesterday'

(74) [lam ya-takallam kathiiran 'an al-mawDuu']  
not he-spoke much about the-subject  
'he did not speak much about the subject'

As the examples in (73) and (74) show respectively, both the head A baarid and the head V yatakallam are positioned before the degree phrases modifying them. What these examples suggest, is that MSA exhibits a maximal structural symmetry across phrasal categories in so far as the relative distribution of their head constituents is concerned.

On the other hand, the ENG examples in (70) suggest that noun phrases in ENG are not head-first structures. In ENG, the distribution of the head N in relation to its modifiers varies considerably. Thus, whereas N precedes complement and adjunct PPs, postposed genitive phrases and APs, it follows other constituents like complement DPs, possessive DPs, some APs and numerals.

Another contrast arises between MSA and ENG in relation to this type of modifier. This contrast is related to the fact that APs in MSA copy down grammatical features such as Number, Gender and Definiteness from the modified head N<sup>1</sup>, as is shown by the following examples:

-----  
1. Definiteness is strictly speaking a feature of T not N, unlike number and gender. We can assume that the definite value of T percolates down to NP and to N via N-bar, and that a modifying AP inherits this value from N.

- (75) talaal wa samiir [awlaad azkiyaa?]  
 Talal and Samir boys clevers  
 'Talal and Samir are clever boys'
- (76) [al-walad al-Tawiil] huwa ?aX-i  
 the-boy(masc.) the-tall(masc.) he brother-my  
 'the tall boy is my brother'

By contrast, APs in ENG do not inflect for definiteness, number or gender, hence the ungrammaticality of the following examples:

- (77) a. Have you seen [\* the huge the skyscraper] on TV ?  
 b. I like [\* reds flowers]

Another contrast arises between MSA and ENG as a result of the postulation that MSA is a head-first language whereas ENG is not rigidly a head-first language. In more concrete terms, given the UDBC which requires premodifiers to be head-final constituents, it follows that since APs in MSA are postnominal modifiers, it follows that they can have their own complements in this position, as is illustrated in the following sentences:

- (78) a. jamaal [walad faXuur bi-?abii-h]  
 Jamal boy proud in father-his  
 'Jamal is a boy proud of his father'
- b. ya-skun fi [bayt mujaawir li-bayt-i]  
 he-lives in house next to-house-my  
 'He lives in a house next to mine'

By contrast, the fact that APs in ENG occur in prenominal position entails that they cannot have a complement in this position, as the ungrammaticality of the following examples shows:



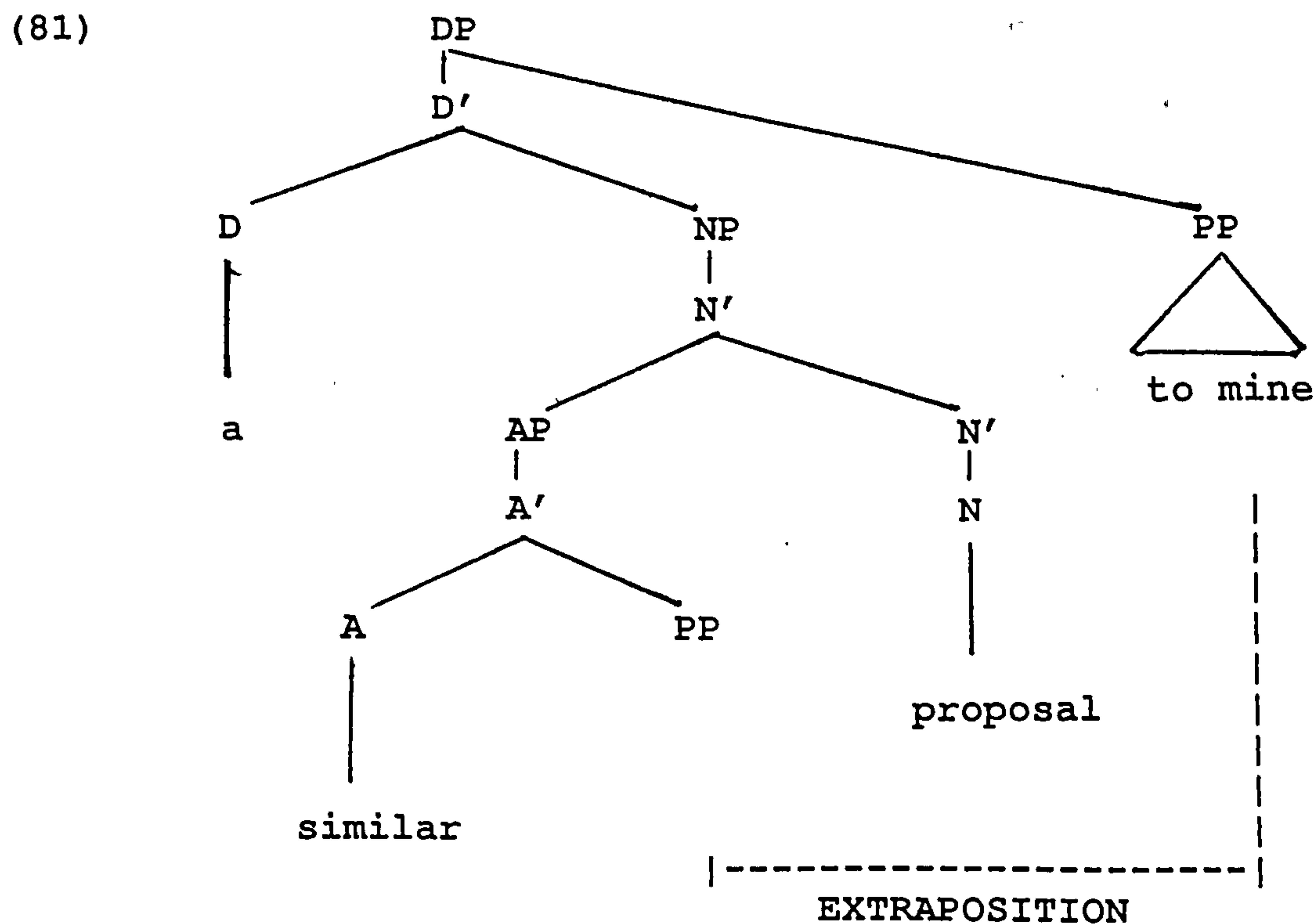
- (79) a. He made [a similar to mine suggestion]  
 b. He stayed in [\* the next to mine room]

The ungrammaticality of the ENG examples in (79) is due to the fact that these sentences violate the UDBC. On the other hand, there is no violation of this constraint in phrases containing postnominal APs like the ones in (78) above.

The UDBC can be avoided by extraposing the PP complement of the AP into postnominal position as in:

- (80) He made [a similar proposal to mine]

When extraposed, this PP is probably adjoined to whole DP as is shown in figure (81) below:



However, an important similarity can be identified

here between ENG and MSA. As was mentioned in section (3.4.1.2) above, in the marked case, there are instances in ENG in which an AP follows the noun it modifies and, therefore, it can be followed by its complement PP in this position. The following are examples:

- (82) a. She bought [a dress similar to mine]  
b. She is [a woman proud of her son]

Thus, given that in MSA too, APs occur in postnominal position together with their complements, as the examples in (78) show, then my CA of these structures will predict that Syrian learners will not encounter any learning difficulties in cases where ENG APs occur postnominally, because they will positively transfer their isomorphic NL structures in (78) into ENG. In effect, they will correctly produce target language structures like the ones in (82) above. This is Prediction 12.

#### 5.5.4. Prepositional Phrases

A PP constitutes a major type of modifier in MSA and ENG. There are two structurally distinct types of PP: complement PPs and adjunct PPs. Examples of complement PPs are of physics and li-l-funduQ 'of the hotel' in (83/a) and (84/a) respectively; examples of adjunct PPs are with long hair and bi sha'r aHmar 'with red hair' in (83/b) and (84/b) respectively:

- (83) a. John is [a student of physics]  
b. John is [a student with long hair]

- (84) a. samiir [al-mudiir al-jadiid li-l-funduQ]  
 Samir the-manager the-new of-the-hotel  
 'Samir is the new hotel manager
- b. samiir [mumaththil bi she'r aHmar]  
 Samir actor in hair red  
 'Samiir is an actor with red hair'

Occurring in the same noun phrase, complement PPs obligatorily precede adjunct PPs in both ENG and MSA, otherwise the result is ungrammatical structures, as the examples (85) and (86) show respectively:

- (85) a. John is [a student of physics with long hair]  
 b. John is [\* a student with long hair of physics]

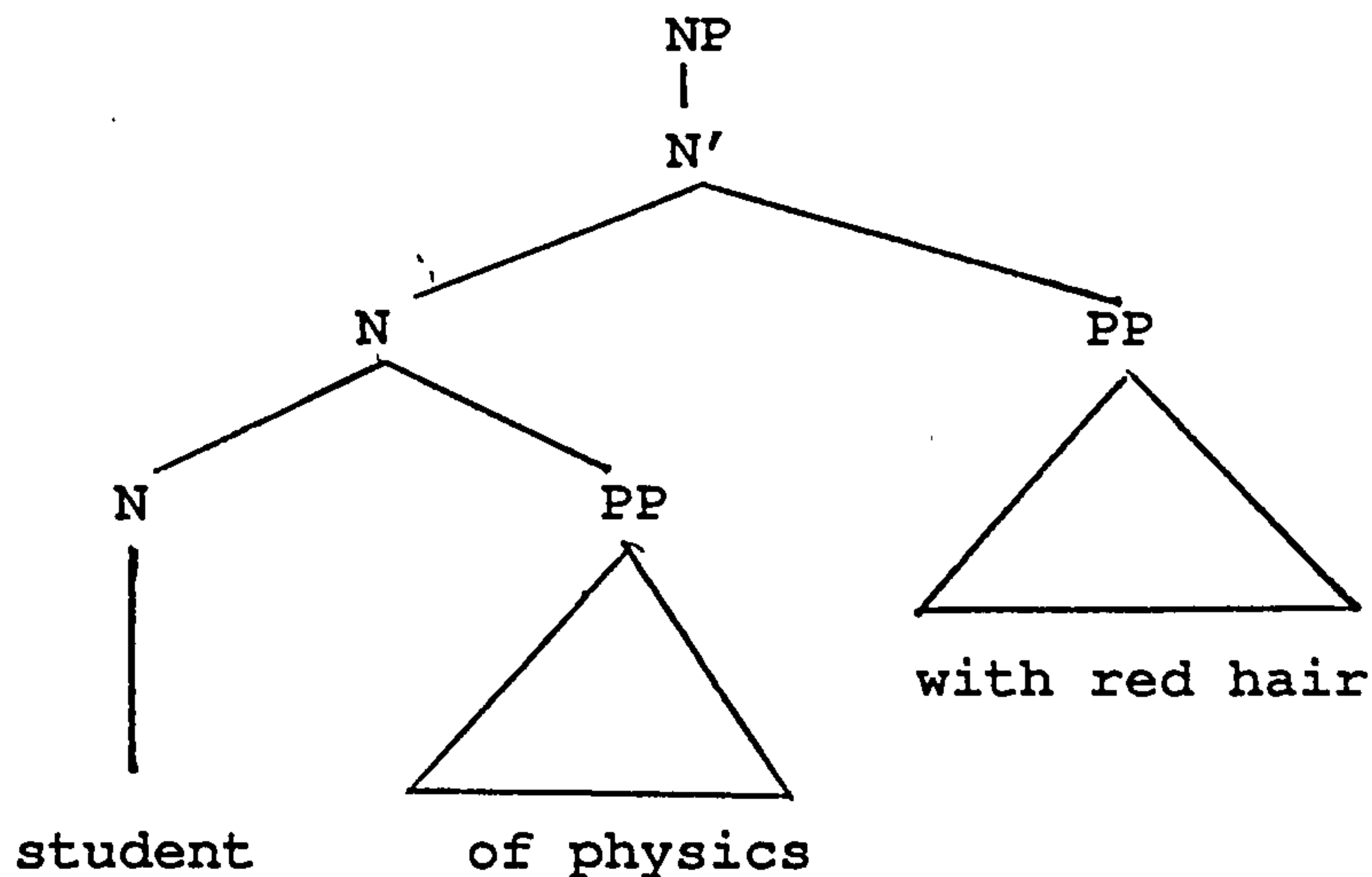
- (86) a. samiir [mudiir li-l-funduQ bi sha'r aHmar]  
 manager of the hotel with hair red  
 'a hotel manager with red hair'
- b. samiir [\* mudiir bi sha'r aHmar li-l-funduQ]  
 'a hotel manager with red hair'

In Chapters III and IV, I argued that (in both ENG and MSA) complement PPs and adjunct PPs occupy distinct structural positions in the noun phrase in which they occur. Complement PPs are generated as sisters of N at DS in order to be theta-marked by N in this position, whereas adjunct PPs are generated both as sisters and daughters of N-bar.

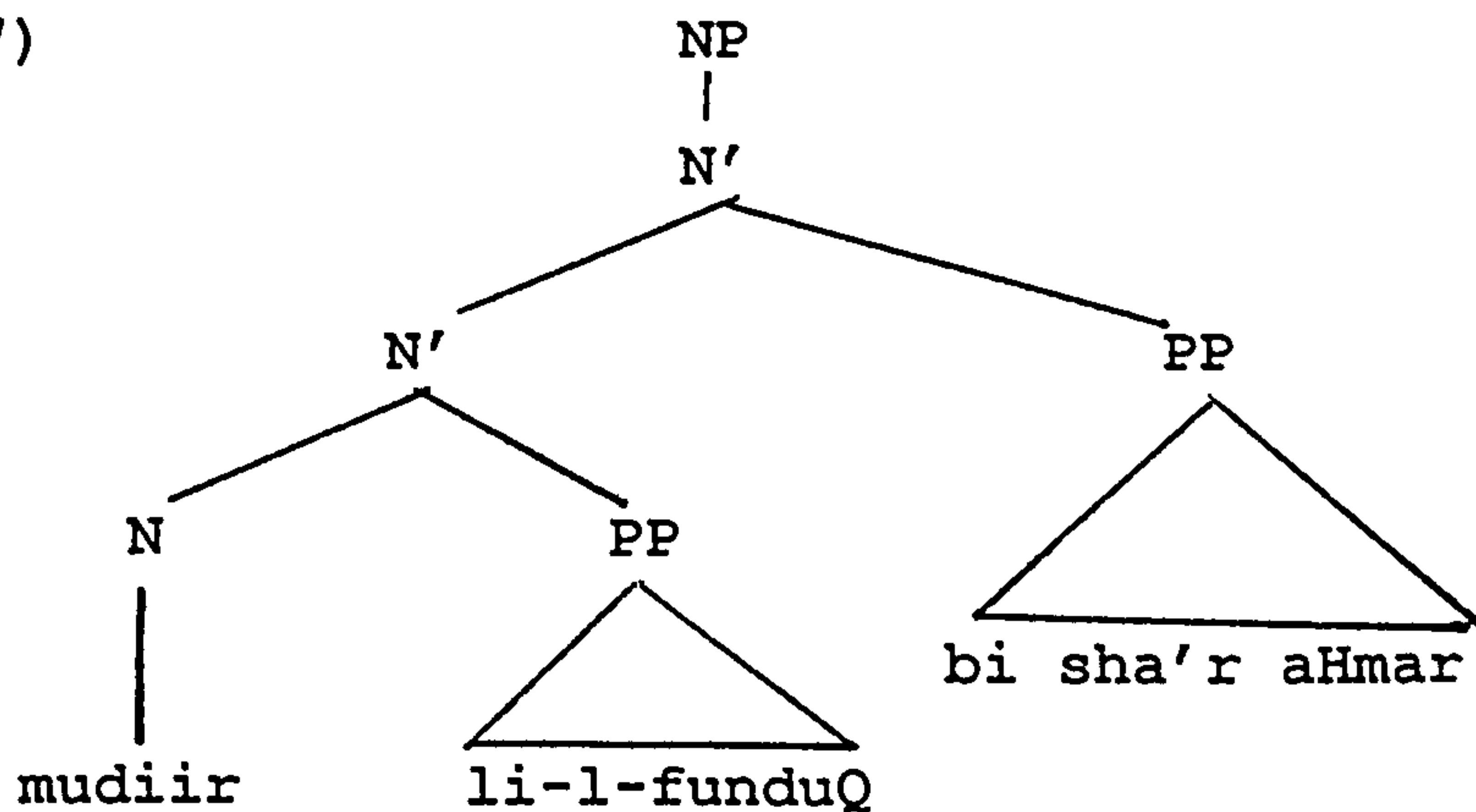
So I represent the internal structure of an ENG noun phrase containing both a complement PP and an adjunct PP such as that in (85/a) along the lines of (87) below. And I represent the DS of a MSA noun phrase containing a complement PP and an adjunct PP such as that in (86/a) as in (88):



(87)



(87)



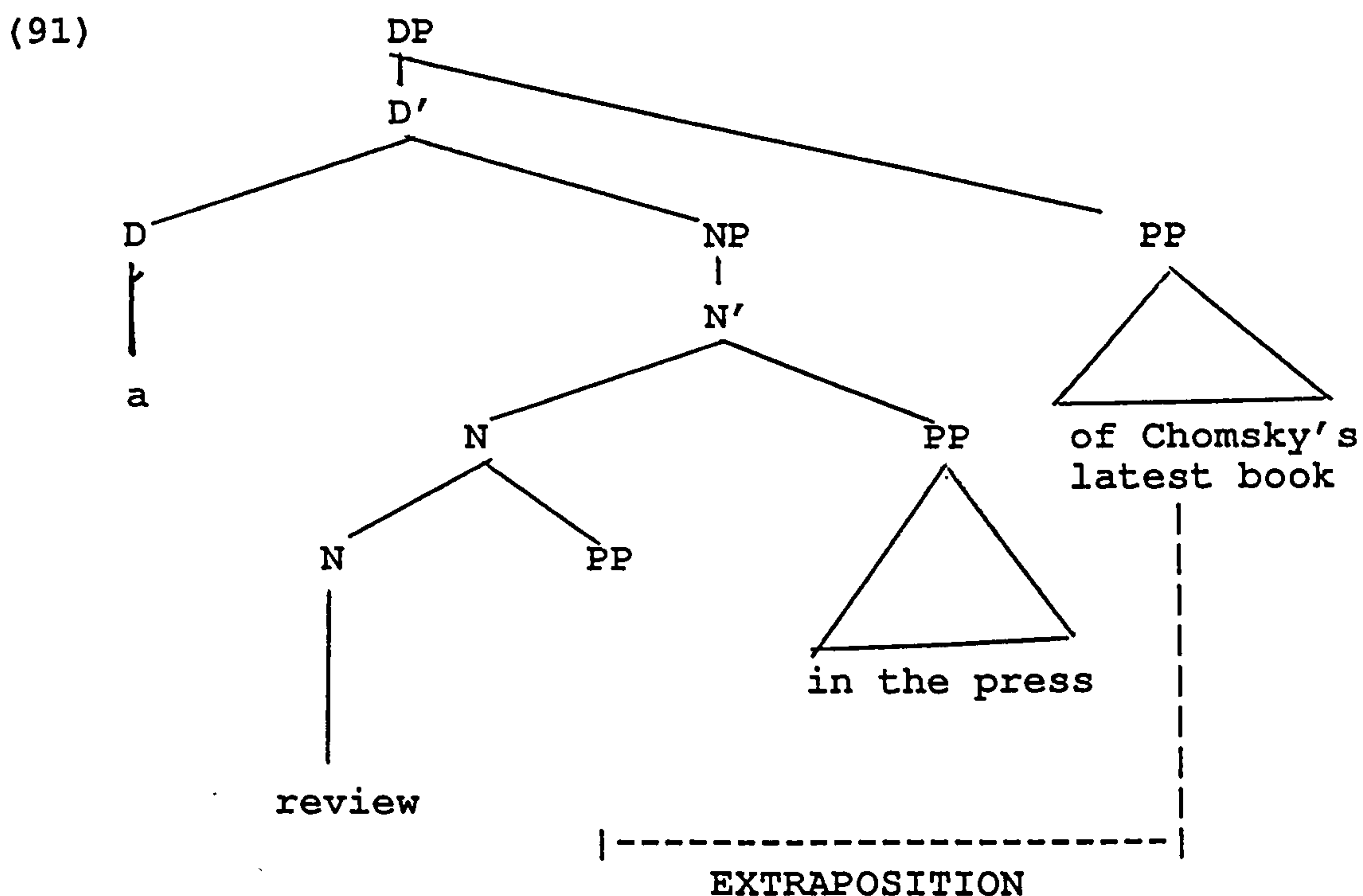
As the above diagrams show, complement PPs must always precede adjunct ones. Nevertheless, as was discussed in section (3.4.2.1) above, there are instances in ENG in which the order of the two types of PP is reversed. This reversed constituent order is obligatory where the Complement PP is 'long/complex', compare:

(89) [a review in the press of Chomsky's latest book]  
has just appeared

(90) [\* a review of Chomsky's latest book in the press]  
has just appeared

In order to account for examples like the one in (89)

in which a complement PP precedes an adjunct one, I provided arguments in section (3.4.2.1) above that the complement PP of Chomsky's latest book is generated as a sister of N at DS in order to get a theta role from N in this position. However, this PP is later extraposed from this position and adjoined to the overall DP, as can be shown in the following schematic diagram:



A complex Complement PP is also extraposed in MSA, consider for example the following sentence:

- (92) [al-hujuum fi al-jariida 'ala XuTTiT al-ra?iis  
al-jadiida]  
 the-attack in the-newspaper on plan the-President  
 the-new  
 'The attack in the newspaper on the President's  
 new plan'

Two conclusions can be drawn from my CA of ENG and MSA PPs functioning as nominal modifiers. First, I predict

that Syrian learners will positively transfer structures like those in (86/a) into ENG, thus producing grammatical ENG structures like the following:

- (93) a. Jane is [a teacher of French with blue eyes]  
b. This is [a picture of Mary with silver frame]  
c. [The destruction of the city in the morning]  
annoyed me

I also predict that they will positively transfer structures like the ones in (92) into ENG nominal phrases containing heavy PPs, thus producing the correct form as in:

- (94) They all heard of [the attack on TV on the Prime Minister's new social and economic plans]

The above two predictions will be referred to as Prediction 13 and Prediction 14 respectively.

#### 5.5.5. Numerals

Numerals in ENG and MSA comprise two groups: cardinals and semi numerals. Cardinals refer to items such as five, three, etc. in ENG, and to sitta (six), ?arba'a 'four' in MSA. Semi numerals, on the other hand, include items such as dozen, hundred, million in ENG, and items such as dazziina (dozen), maa?a (hundred), and ?alf (thousand) in MSA.

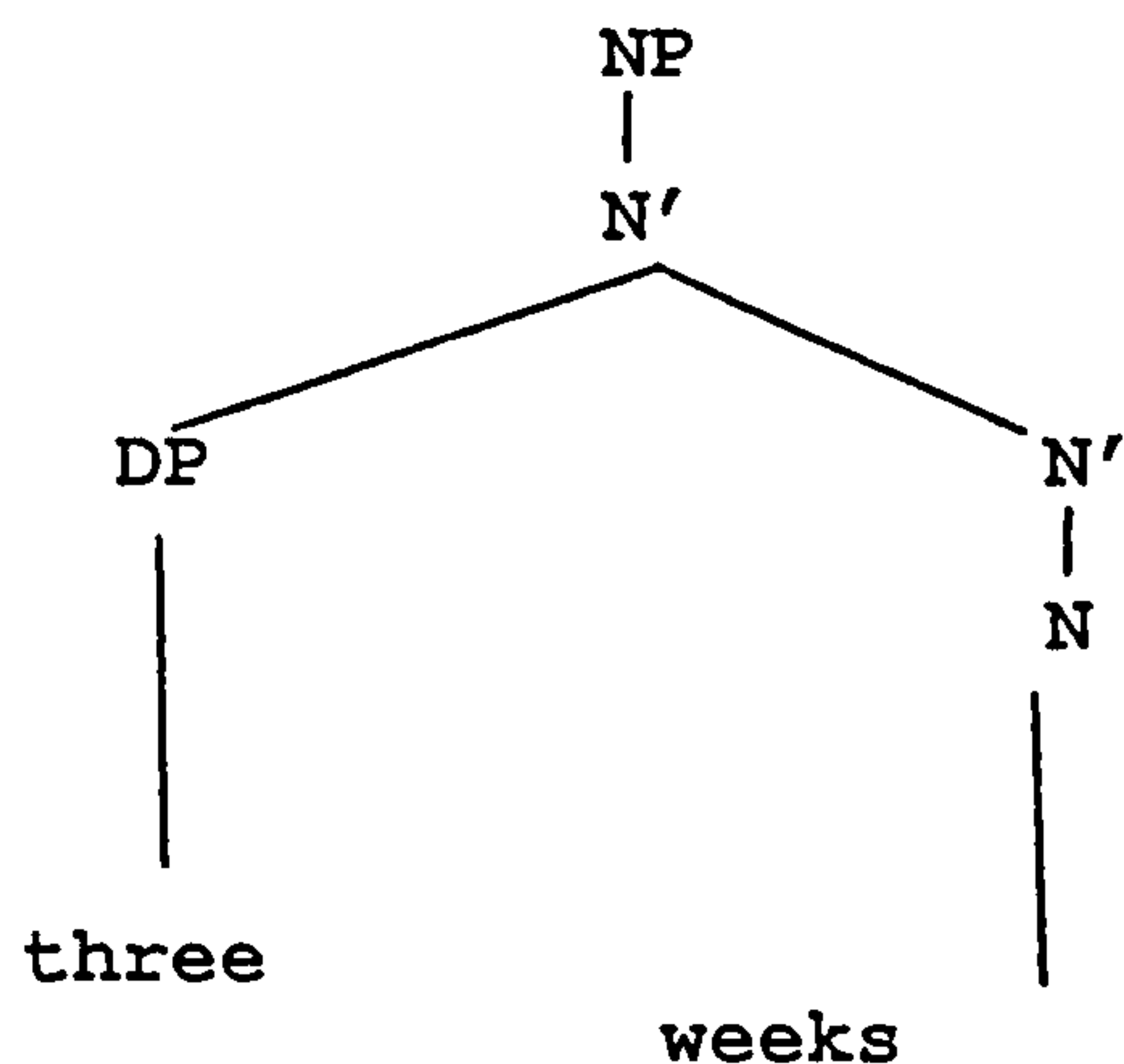
Within the X-bar framework, I analysed ENG numerals as N-bar adjuncts, i.e. as items recursively expanding an N-bar into another N-bar. I can thus represent the structure



of an ENG noun phrase containing a numeral among its constituents such as that in (95) along the lines of (96):

(95) He was away from home for [three weeks]

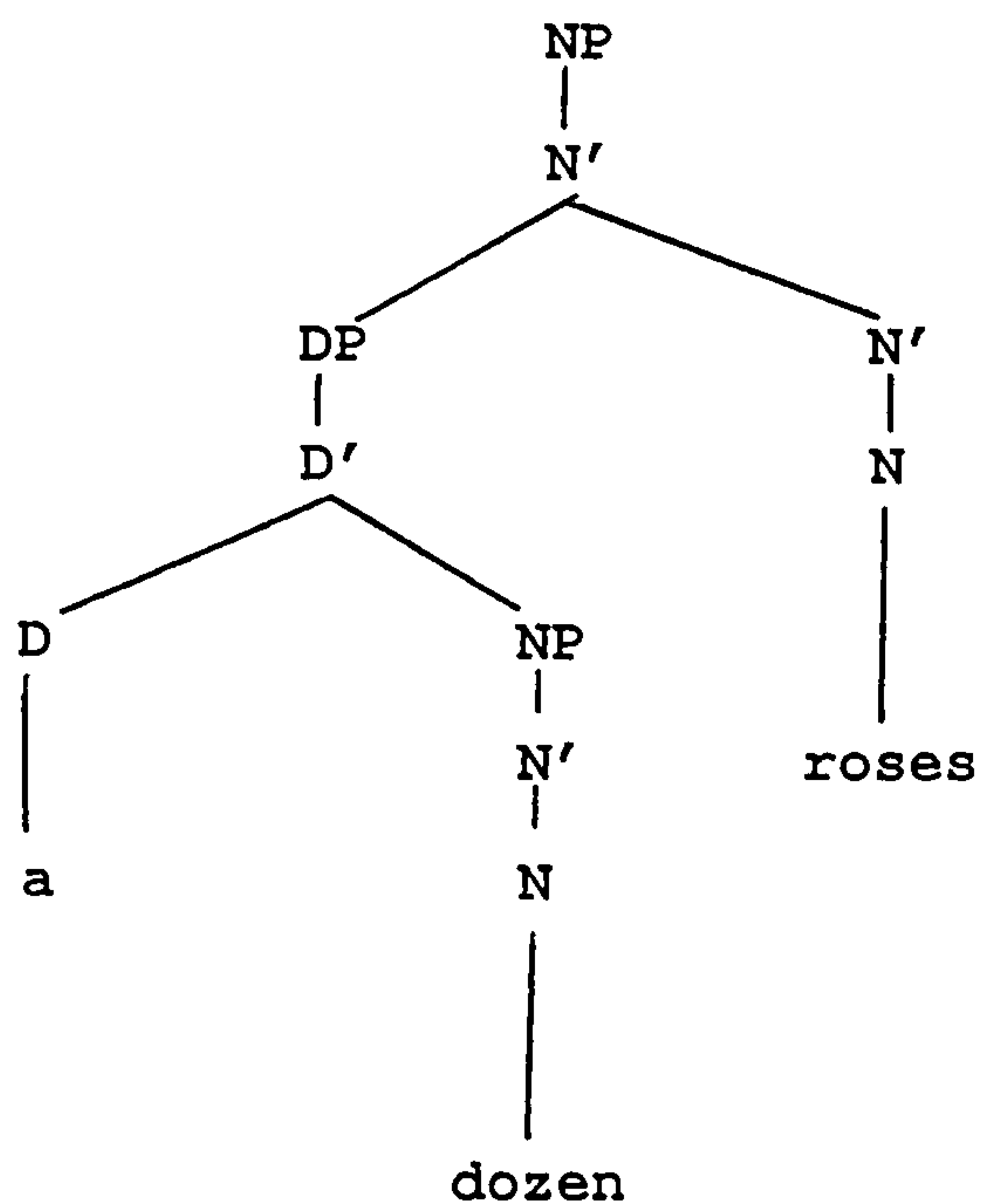
(96)



It was also showed that the structure of a phrase containing a semi- numeral such as that in (97) will be as depicted in (98):

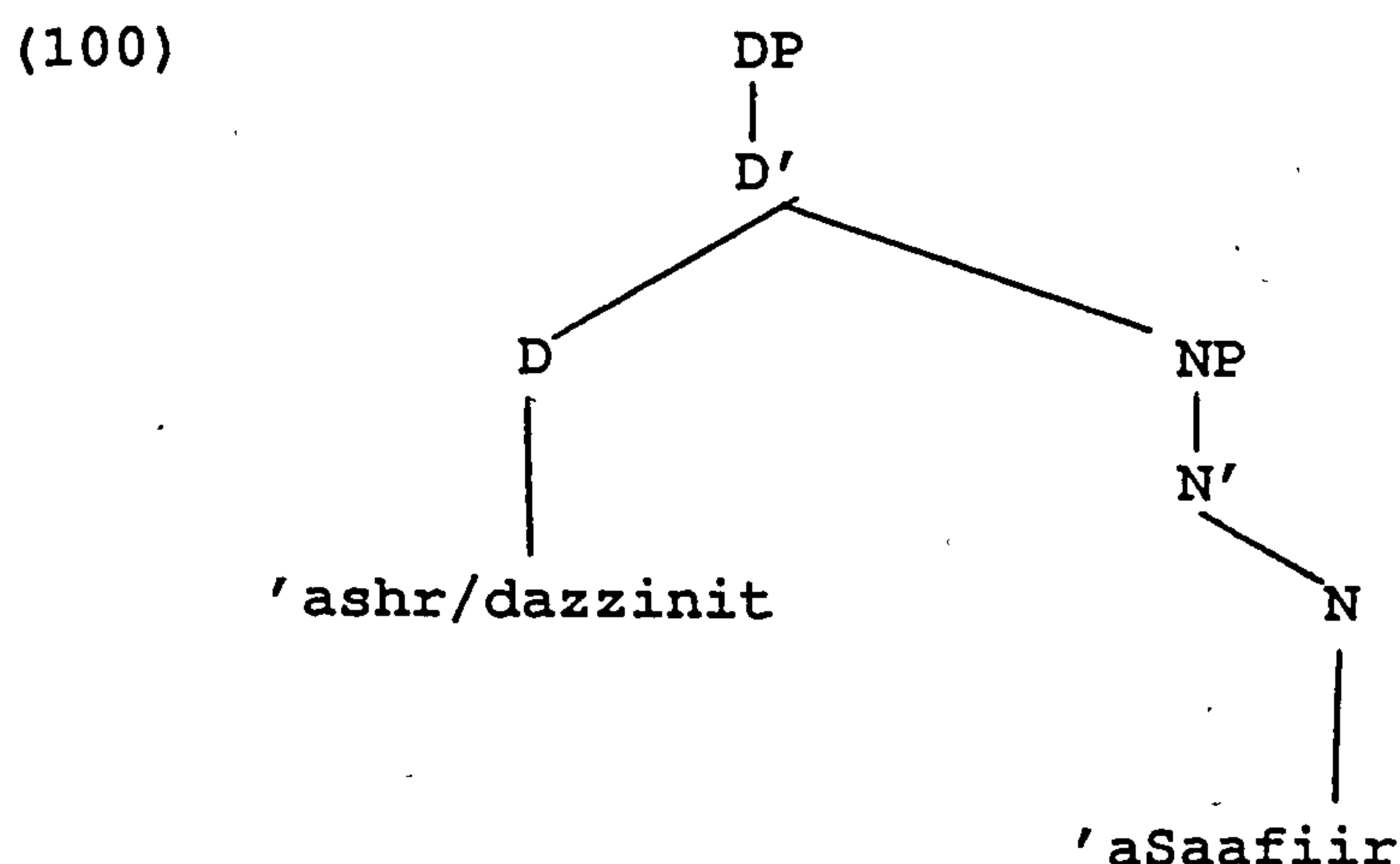
(97) He bought me [a dozen roses]

(98)



In MSA, by contrast, I justified the claim that numerals (both cardinals and semi-numerals) cardinals are heads of the phrase in which they occur. These heads are furthermore analysed as taking indefinite TP complements. This entails that the structure of a phrase such as that in (99), for example, will have the schematic form represented in (100) below:

- (93) ya-Htawi haadhaa al-QafaS 'ala  
 ['ashr/dazzinit 'aSafiir]  
 it-contain this the cage on  
 ten/dozen birds  
 'this cage contains ten birds'



The claim that semi-numerals are regarded as N-heads of the phrases in which they occur is justified on the grounds that it is the semi-numeral that usually bears the grammatical features of the matrix phrase containing it such as number features, as is shown in the following example:

- (101) Xamsat ?alaaf majalla wuzzi'a-t  
 al-shahr al-maaDi  
 five thousands magazine distributed-it  
 the-month the last  
 'five thousands magazine were distributed last month'

Due to the dissimilarity in the syntactic status of semi-numerals between ENG and MSA, as has been demonstrated above, I predict that Syrian learners will negatively transfer structures of their language such as that exemplified in (101) into ENG. As a result of this -TR, they will produce erroneous examples such as the following:

- (103) a. He bought me [\* five dozens red roses]  
 b. [\* two thousands magazines] were sold last week

This is Prediction 15.

#### 5.5.6. Partitive of/min-phrases

The differences and similarities to be discussed here between ENG and MSA relate to the range of categories which each language permits to occur in partitive structures. On the one hand, in both languages, numerals (both cardinals and semi-numerals) license a following partitive prepositional phrase, as can be shown by the following examples:

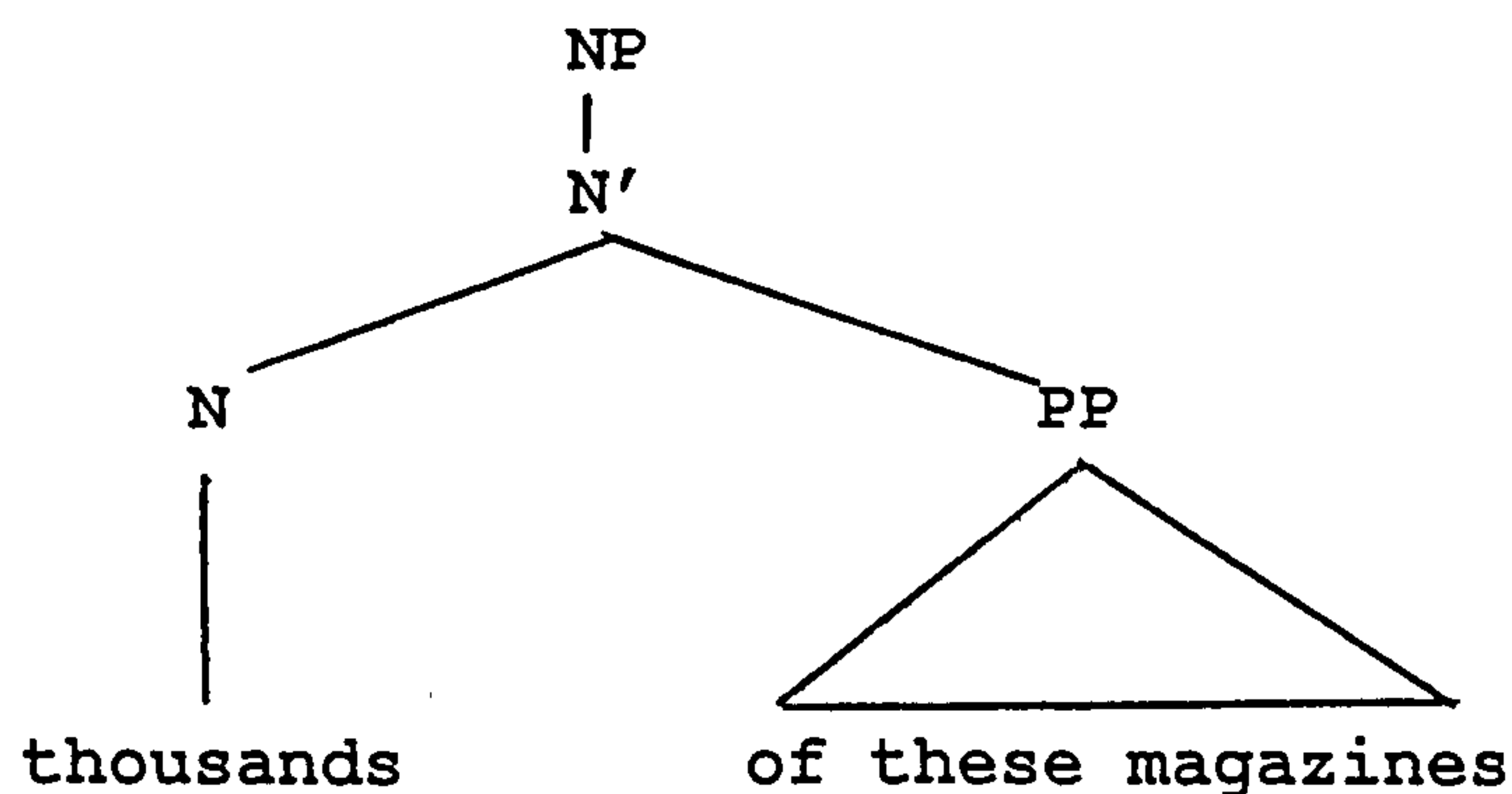
- (103) a. [Thousands of these magazines] are sold every day  
 b. [Three of John's friends] did not turn up to the party yesterday

- (104) a. tu-wazzi'      al-jaami'a      [malaayiin  
                   min haadhihi al-kutub] kulla 'aam  
                   it-distribute the-university millions  
                   of these      the-books every year  
                   'the university distributes millions of these  
                   books every year'
- b. QabaDa-t      al-shurTa 'ala [tis'a min ha?ulaa?  
                   al-mujrimiin]  
                   arrested-it the-police on      nine      of those  
                   the-criminals  
                   'the police arrested five of those criminals'

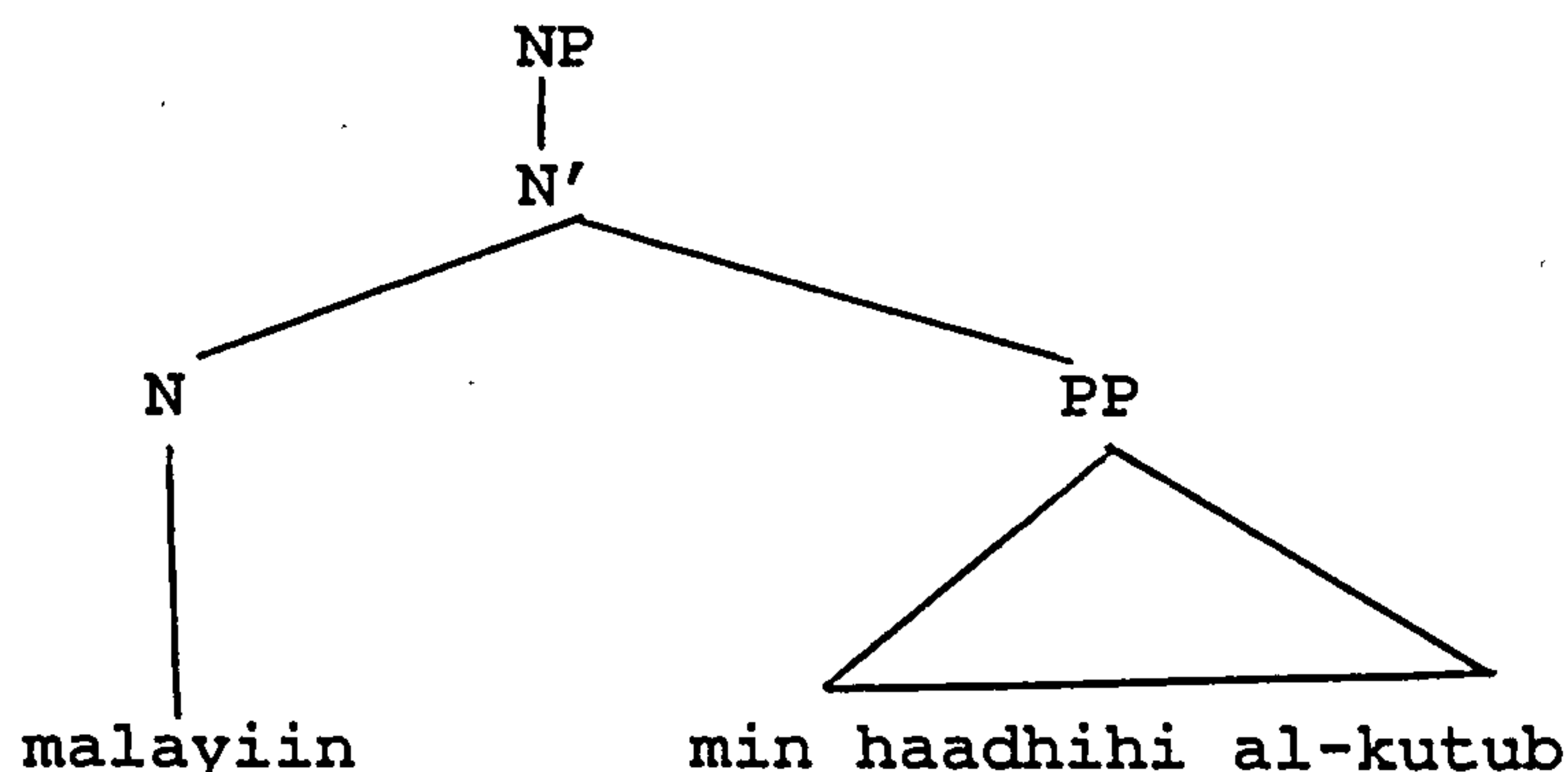


In both languages, the numeral was analysed as the head N constituent of the matrix phrase and the following of/min-phrase as a complement of N viz., an element whose syntactic constituent function is to expand N into N-bar. So, I represent the corresponding structures of the nominal phrases (103) and (104) as in (105) and (106) respectively:

(105)



(107)



Thus, given that partitive phrases involving numerals as heads have parallel structures in ENG and MSA, I predict that Syrian learners will have no difficulties in learning them and, therefore, they will produce the correct ENG forms in (103). This is Prediction 16.

In addition to the similarity noted above between MSA and ENG partitives, the two languages differ in that

whereas part of the subcategorisation properties of ENG determiners like which, some and all is that they all take a following partitive of-phrase complement, their M SAA counterparts ?ayy, ba'D and kull do not occur in similar environments. This contrast can be demonstrated by the following examples taken from ENG and MSA respectively:

- (107) a. [Some of Mary's dresses] are made in France  
 b. [Which of these cars] is yours ?
- (108) a. [\* ba'D min ?aSdiQaa? ziaad] lam yu-shaahid-u  
 al-mubaraa yawm al-?aHad  
 some of friends Ziad not they-saw-they  
 the-match day the-Sunday  
 'some of Ziad's friends did not see the match  
 on Sunday'
- b. [\* ?ayy min ?aghaani madwna] tu-faDDil ?  
 which of songs Madonna you-prefer ?  
 'which of Madonna's songs do you prefer ?

A CA of the ENG determiners which, some and their MSA counterparts ?ayy and ba'D will therefore predict that they will face difficulties in acquiring partitive phrases headed by these determiners.

Instead of producing the desired target forms (107), I predict that these learners will write the following ungrammatical sentences:

- (109) a. [\* Some Mary's dresses] are made in France  
 b. [\* Which these cars] is yours ?

This is Prediction 17.

The above prediction is based on the grounds that to express a partitive meaning in MSA, determiners like ?ayy

and ba'D take a direct TP/DP complement, as the following examples show:

- (110) a. [ba'D ?aSdiQaa? ziaad] lam yu-shaahid-u  
 al-mubaraa albaariha  
 some friends Ziad not they-saw-they  
 the-match yesterday  
 'some of Ziad's friends did not see the match  
 yesterday'
- b. [?ayy ha?ulaa? al-?aTfaal] ?aXuu-k ?  
 which these children brother-your ?  
 'which of those children is your brother ?'

The grammaticality of the examples in (110) is born out by the fact that (i) the determiners ?ayy and ba'D occupy a higher structural position than the article and demonstratives (the U-head-position), and (ii) one of the subcategorisation characteristics of these determiners is that they can take either a TP complement (i.e. a noun phrase headed by the definite article al) or a DP complement (i.e. a noun phrase headed by a demonstrative) (see diagram 41 above).

By contrast, I accounted for the inability of the ENG determiners which and some to be followed by a direct DP complement (i.e. a noun phrase complement which is headed by an article or a demonstrative) on the basis that these determiners are generated in the same structural position as the article and demonstratives viz., the D-head-position (see section 3.3.1 above).

#### 5.5.7. The Postposed Genitive

In this final section, I discuss the contrasts emanating from a type of nominal modifier known



traditionally as the 'postposed genitive' structure. Postposed genitive structures are found in ENG phrases such as the following ones:

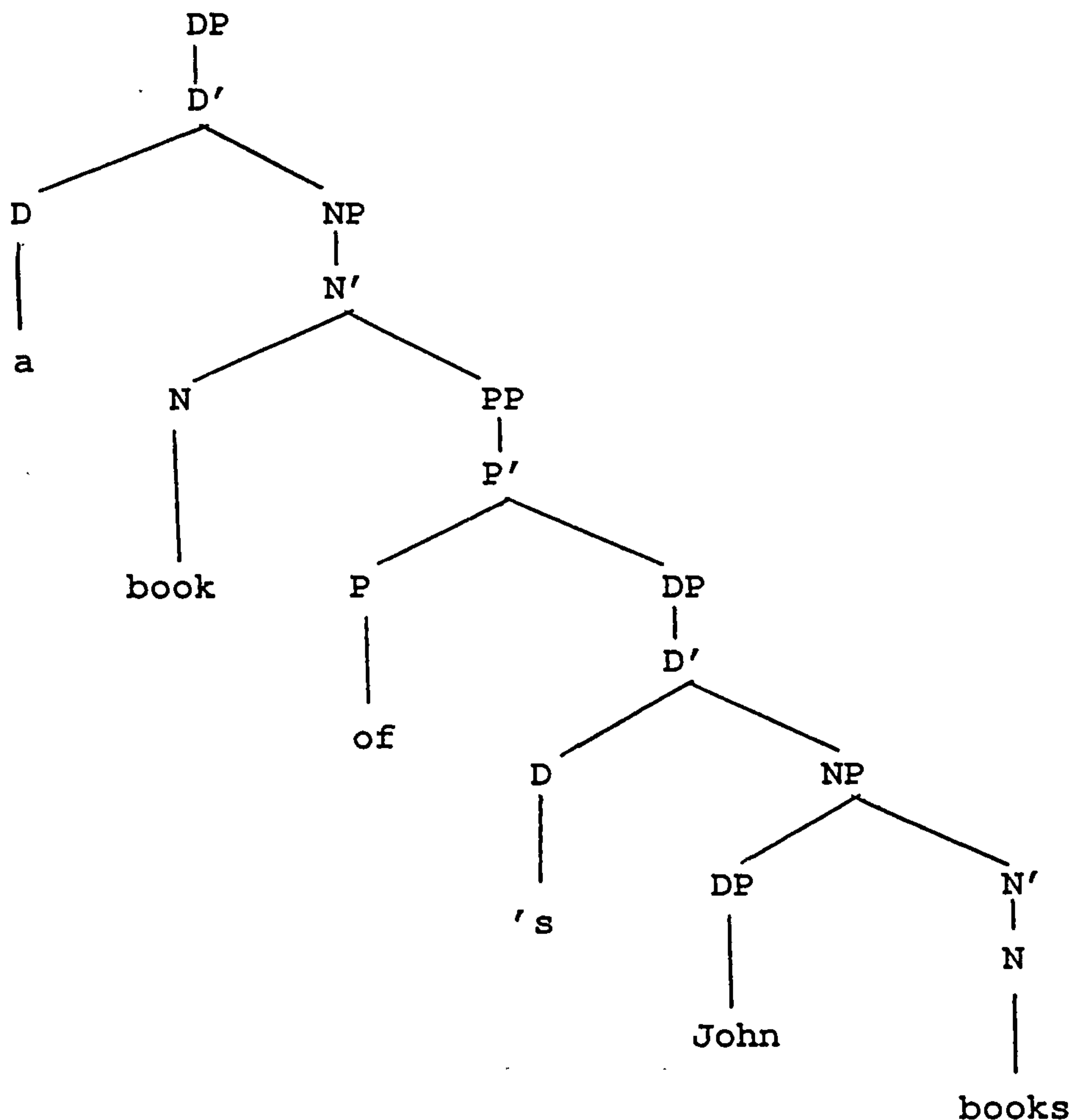
(111) There is [a book of John's] on the table

The MSA equivalents to the above ENG structures are the following:

(112) yuujad [kitaab min kutub jwn] 'ala al-minDaDa  
there book of books John on the-table  
'there is a book of John's on the table'

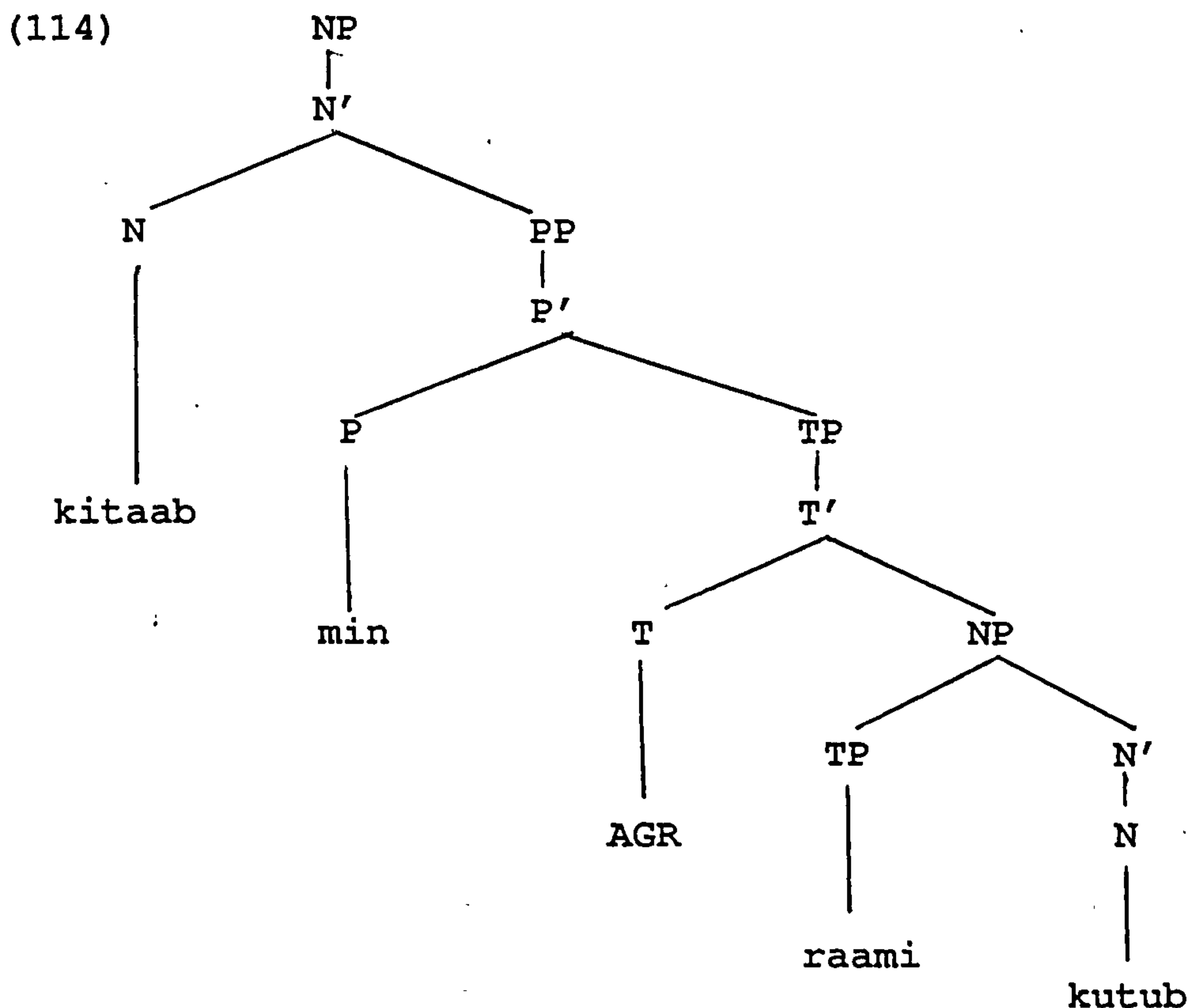
Following Jackendoff (1973;1977), I postulated that ENG phrases like (111) would have the following DS phrase marker:

(113)



The surface structure form in (111) is then derived from (113) via a process of deletion of the lower N-bar. Such a deletion, furthermore, is obligatory if the matrix DP is headed by an indefinite determiner.

I also assumed in section (4.5.6) that the DS of the corresponding MSA phrase in (112) has the following schematic form:



Considering the surface-structure form in (111) indicates that in MSA, no deletion of the lower N-bar takes place. Thus, the contrast between ENG and MSA structures in (111) and (112) can be explicitly accounted for by assuming that 'deletion' applies in ENG and not in MSA.

In the light of this disparity between MSA and ENG postposed genitive structures, I therefore predict that Syrians will negatively transfer the 'no-deletion' rule of their mother tongue into ENG, thus committing errors like the following:



- (115) a. There was [a huge a picture \* of Mary's pictures]  
on the wall
- b. That was [a good proposal \* of his proposals]
- c. This is [a new book \* of Chomsky's books]

This is Prediction 18.

## 5.6. Conclusion

This chapter has outlined a CA of E and MA nominal phrases. I have pinpointed the major contrasts and similarities between the two languages, and made a number of predictions for Syrians in learning and/or using (producing) these structures. Overall, there are 18 predictions that I intend to test out in the empirical inquiry. They include 7 positive predictions and 11 negative ones. These predictions are summarised Table (5.3) below.

Table (5.3) : Summary of Predictions			
Prediction Number	Type of Transfer	Prediction	Example
1	+TR	Correct Insertion of the definite article	Tom is <u>the</u> new head of the department
2	-TR	incorrect insertion of <u>the</u> before pro-nominal <u>all</u> and <u>some</u>	* <u>The</u> <u>some</u> believe that God does not exist
3	-TR	Incorrect omission of the indef. article	They all think that she is * <u>good</u> <u>dancer</u>
4	-TR	Incorrect use of DPs after demonstratives	I have already read <u>this</u> <u>the</u> <u>book</u>
5	-TR	Incorrect Use of DPs after <u>some</u>	I would like * <u>some</u> <u>the</u> <u>sugar</u> please
6	+TR	Correct use of DPs after <u>all</u>	You must answer <u>all</u> <u>the</u> (se) <u>questions</u>
7	-TR	Omission of the case-marker of after <u>all</u> and <u>some</u>	* <u>All</u> / <u>some</u> <u>them</u> passed the exam
8	-TR	The use of the wrong w.o. of possessive DPs	We went to * <u>house</u> <u>my</u> <u>uncle</u> for a visit
9	-TR	The omission of the 's genitive determiner	Most people object to <u>the</u> <u>government</u> new plans

Table (5.3) / continued			
10	-TR	Incorrect addition of direct complement DPS after N	They are our <u>new teachers French</u>
11	+TR	Correct addition of <u>of</u>	The assassination <u>of the President</u> shocked everybody
12	+TR	Correct use of post-nominal APs	Jumaana lives in a house <u>next to mine</u>
13	+TR	Use of the correct w.o. of complement and adjunct PPs	Tom is a student <u>of physics with blond hair</u>
14	+TR	Use of the correct w.o. of long/complex complement PPs	The criticism <u>on TV. of the President's latest economic plans</u>
15	-TR	Wrong addition of the plural marker -s to the semi-numeral	He bought * <u>two dozens</u> red roses for his fiance
16	+TR	Correct use of partitive <u>of</u> -phrases after numerals	<u>Millions of these cars</u> are sold every year
17	-TR	Omission of partitive <u>of</u> -phrases after <u>which</u>	* <u>which Mary's pictures</u> do prefer ?
18	-TR	Overinclusion of the lower N-bar in proposed genitives	She put a picture of <u>her son's pictures</u> on the wall



## CHAPTER VI

### THE EMPIRICAL STUDY: TESTING CA PREDICTIONS

#### 6.1. Introduction

My objective in this chapter is to give an account of the empirical investigation conducted in the present study. The aim of carrying out such an investigation was to examine empirically two hypotheses. The first and most important of these hypotheses is that a CA conducted on the basis of X-bar syntax can successfully predict +TRs and -TRs Syrian learners will make from their L1. In the light of this hypothesis, I predicted that similarities between ENG and MSA would yield +TR, which would lead Syrian learners to produce and judge the TL structures correctly. On the other hand, I predicted that differences between the two languages would yield -TR or 'interference' and as a result, Syrian learners would wrongly produce and judge the relevant TL structures as incorrect.

The second hypothesis investigated postulates that advanced learners will perform better in the TL than intermediate learners in the sense relevant to CA theory of making more +TRs from L1 and fewer -TRs from L1. I therefore predicted that Syrian students in GP2 would commit fewer interference errors than the students in GP1

and that they would produce and recognise more target-like structures than the students in the less advanced group. Because of their unfamiliarity with the new linguistic system, FL learners will rely extensively on their NL for support in the early stages of learning. With increased proficiency in the FL, they will rely proportionally less frequently on their NL grammar, and rely more frequently on their increasing knowledge of the FL.

In what follows, I shall discuss the choice of subjects, items and the elicitation tasks which were devised and implemented in order to test these hypotheses. I shall also discuss the ways I followed in decoding and organising the elicited data, the scoring methods used and the quantificational measures applied to reduce the complex bulk of scores into manageable areas of investigation.

## **6.2. Subjects**

The subjects were 50 university students of ENG at the University of Tishrin in Syria. They were divided into two groups of 25. The subjects in the first group were all first year students during the 1989 winter term: I shall henceforth refer to this group as GP1. The subjects in the second group were fourth year students in their final year at university. I shall refer to this group as GP2.

All the subjects had Arabic as their mother tongue. They were moreover randomly sampled from a population of university students. The subjects in GP1 were of both

sexes (11 males and 14 females) and ranged from 18 to 21 years of age and were all at the beginning of their first academic year at university.

GP2 subjects were also of both sexes (12 males and 13 females) and their ages ranged between 21 to 25 years old. They were also at the beginning of their final year at university.

Initially, I selected a total of thirty subjects to represent each group. But this number was later reduced to twenty five subjects, since out of the thirty subjects who did Test I in GP1, a group of three students did not show up for Test II. In other words, only twenty seven subjects did Test II. As for Test III, two more students joined the list of absentees. This means that the total number of absentees from Test III was five subjects , which in turn reduced the number of the sample testees to 25 subjects.

Similarly, a total of thirty subjects was selected to represent GP2. However, four of those subjects failed to turn up for Tests II and III, which means that the number of subjects who carried out the three tests consistently was twenty six individuals. In order to balance numbers in the two groups, I reduced this number to twenty five by omitting one further subject chosen randomly. The main reason for the restriction to university educated subjects was the easy availability of those subjects.

Finally, the rationale behind the selection of first and fourth year students as the experimental sample is



based on expectations of differences between the two levels, which this research aims to test (see Hypothesis Two). I assumed that the gap between the two groups at the ENG level would be wide enough to provide a good basis for the comparison of the linguistic performance of the two groups and the drawing of significant statistical conclusions about the validity of Hypothesis Two.

### 6.3. Materials

In order to test the two hypotheses empirically, I devised and administered an elicitation instrument with the Syrian subjects. The use of elicited rather than randomly selected data in the present work is justified on the grounds that such data will permit the evaluation of the hypotheses being tested in a way that would not be possible through the scrutiny of a randomly selected corpus of FL utterances. Elicitation techniques allow us to deal with quite specific areas of language under quite specific conditions and therefore, they are indispensable if certain research questions are to be answered. By an elicitation procedure is meant:

"...any procedure which causes a learner to make a judgment about the grammatical acceptability of a form or provokes him into generating a linguistic response"

(Corder, 1981a: 61)

So what was needed in the attempt to characterise learners' linguistic competence is an investigation of what they are able to produce as well as judge. We

therefore distinguish two types of data: 'performance' data and 'intuitional' data.

By means of performance data we are able to identify what a learner is capable of understanding and producing; by means of intuitional data, we have access to what he/she can judge. Both types of data are complementary and equally indispensable in any empirical enquiry.

Bearing in mind that intuitional data and performance data are equally important in the elicitation of learners' interlanguage, the tests I carried out were of two types: production tests and recognition tests. There were two production tests: a completion test and a translation test. There was only one test of recognition, namely, the judgment test. I used three tests so as to obtain a sufficiently wide range of representative errors.

Each of the above test batteries consisted of a number of test items. The criteria used for the selection of those items were not haphazard. On the contrary, the nature and choice of the contexts in which the test items appeared were based upon what learners had been predicted to produce and judge. The subjects' knowledge of many ENG syntactic structures was investigated. Those structures were singled out for testing on the basis of the predictions made by my CA of ENG MSA nominal phrases. The structures in question included many types of modifier within the noun phrase.

Overall, I had isolated 18 predictions to test. They

were predictions of learners' transfer of the rules of their NL into ENG. There were two different types of prediction: 'positive predictions' and 'negative predictions'. It was hypothesised that when a positive transfer was involved, subjects would correctly produce and judge the target structure as correct. Conversely, when the prediction was negative, it was assumed that learners would be unable to produce or recognise the correct ENG form. In each case, their behaviour or beliefs were due to L1 influence.

I set out to test eleven negative predictions and seven positive ones. Each prediction was tested at least once in each test mode. The variety of ENG, which was used as the criterion of correctness was that of Standard British English, which is the form normally taught to and required of students.

The test sentences across all tests were all short readable sentences of simple lexical structure. They were deliberately so constructed in order to guarantee their maximal comprehension by the testees, and to avoid problems arising from variables other than those focal to the research.

But before I give an account of the procedures I followed in administering the three tests, I shall first describe in some detail the internal structure of each test.

The order in which the three tests appeared was as follows: (a) the Completion Test, (b) the Translation Test



and (c), the Judgment Test. This order was adopted so as to conceal as much as possible the linguistic structure under investigation. This would in turn reduce the amount of conscious awareness of the structures being elicited and guarantee a spontaneous and more natural production of the ENG structures.

#### **6.3.1. Test I: Completion**

This consisted of two parts: part I and part II.

Part I of this test included 14 test sentences testing 12 predictions. Four of those predictions were positive predictions and the remaining 8 were negative ones. In each test sentence a blank space was left and a word or string of words were enclosed in brackets and provided separately at the end of each test item. The subjects were asked to insert the bracketed word(s) in the given space and make any extra changes to preserve grammaticality.

However, in the majority of cases the direct insertion of the bracketed item(s) in the corresponding space would have as an effect the production of ungrammatical target forms. This was so unless some extra alterations were made in the sentence. My discussion of this test so far suggests that my main interest of administering was therefore to see whether subjects were capable of introducing the correct adjustments necessitated by incorporation of an addition to the test item.

The alterations needed were either omissions of items which were already present in the test sentence (see items

4 & 5) or insertions of items which were absent (see items 1-3, 6, 8, 10-14). The items to be inserted\omitted were mainly grammatical words such as articles, the case assigner of, the genitive 's determiner, and the plural inflection. It is important to add here that the test sentences were constructed in such a way as to make the extra changes obligatory after the insertion of the bracketed word(s). The students' attention was also drawn to the fact that in some cases no extra changes were needed for the production of good sentences. In such cases the mere insertion of the bracketed item(s) would suffice to introduce a good target form (see items 7 & 9).

On the basis of my CA of MSA and ENG noun phrases, I predicted that learners would correctly insert/delete the appropriate item(s) if a positive prediction was associated with the test sentence (see test items 1, 12, and 14). Conversely, students were predicted to insert/omit the required item if a negative prediction was involved in the test sentence. The failure to introduce the required item(s) would result in the production of erroneous target forms, as was predicted for test items 2-5, 4-6, 8, 10-13.

To make my discussion more concrete, I shall provide some examples of the test items in part I of Test I. A full list of all the test items will be found in Appendix I. For example, the following sentence represents test item No.1 of the test:

(1) Yesterday I met Mr. Jones,----- students' advisor  
(new)

This sentence was meant to test a +TR prediction about learners' use of the definite article the . It was designed in such a way as to make the insertion of the article obligatory if the learner was to produce a good ENG sentence. The insertion of the bracketed adjective new in the given space created the appropriate context for the obligatory insertion of the. However, since the definite article is obligatorily used in the above structure in both ENG and MSA, as was originally predicted by CA of ENG and MSA article systems, I predicted that learners would produce the correct target form i.e. they would correctly insert the before new, since the definite article is obligatorily used in the above structure in both ENG and MSA. Similarly, to test whether learners were capable of inserting the indefinite article a, the following test item (test item No.10) was devised:

(2) London is ----- city (big)

In the above example, the insertion of the indefinite article was essential for the production of a grammatical sentence. Nevertheless, since this test item tested a negative prediction, I predicted that learners would fail to insert the missing article, thus producing a deviant structure.

Test item No.5 was another example of -TR prediction. With that item, I investigated learners' ability to



produce correct noun phrases headed by the quantifier some. According to the CA of this quantifier and its MSA counterpart ba'D, I showed that ba'D obligatorily selects a TP complement, i.e. a noun phrase headed by the definite article. This means that ba'D always co-occurs with the definite article al in contrast to some which can never occur as such. In order to see whether learners were capable of producing the correct ENG structure involving some, the following test item was introduced:

- (3). I want to buy ----- the presents for my little  
brother (some)

In this item, the omission of the definite article which was already supplied in the test sentence was essential for the production of a good answer. But in the light of my CA, Syrian learners were expected to fail to make such an adjustment for the reasons mentioned above. Instead, they were predicted to retain the definite article after the insertion of some in the given space.

The final example I shall mention here is test item No.7, which represents an instance in which the insertion of the bracketed item did not require any additional or compensatory changes in the test sentence:

- (4). ----- the stories we read were written by the  
same author (all)

The above item involved a +TR prediction which was related to the subcategorisation properties of the universal

quantifier all and demonstratives. Since both kull (all) and all can subcategorise a following DP as a complement as was predicted by my CA of this quantifier in ENG and MSA, I predicted that learners would produce the correct answer due to the positive influence of their mother tongue.

To sum up this section, I found the completion technique described above more diagnostic than traditional completion tests. This can be explained on the grounds that the linguistic problems under investigation were so diverse, making it extremely difficult to handle in traditional completion or close tests. This brings us to a discussion of part II of Test I.

Part II of Test I consisted of 6 test items, which tested six predictions. Five of those predictions were about word-order restrictions of the following syntactic structures within the noun phrase: complement DPs (see item 15 & 20), Possessive DPs (see item 18); complement PPs vs. adjunct PPs (see item 19); long PPs vs. short PPs (see item 16); and postnominal APs vs. prenominal APs (see item 17).

In order to test whether learners were capable of producing the right word-order of the above constituents, the following elicitation method was used. In each of the four items, two gaps were provided and the subjects were asked to insert the relevant item(s) in ONE of those gaps. The items to be inserted were enclosed in brackets and put at the end of the test sentence(s). In each case, the





Both the insertion of the possessive DP 'John' in the correct space and the addition of the genitive 's determiner were necessary for the formation of the correct target form.

In fact the above item tested two predictions, namely prediction 8 and prediction 9 (both negative). Prediction 8 was about the relative word-order of possessive DPs, and Prediction 9 concerned the insertion of the genitive -'s determiner. On the one hand, learners were predicted to use the wrong word-order, and on the other hand, they were predicted to fail to insert the required determiner before the possessor.

It is relevant to add that predictions 8 & 9 were the only predictions to be tested in one and the same item across all tests. This was because of the difficulty of separating one prediction from the other in two different test sentences.

### 6.3.2. Test II: Translation

Another test of learners' ability to produce grammatical ENG nominal structures was the translation test. This test was the second to be administered to subjects. They were given a short passage in Arabic and asked to translate it into 'good English'. This passage consisted of twenty sentences forming a continuous text, a description of a birthday party. Like test I, this test was comprehensive in the sense that it covered all the predictions under investigation. Each prediction was

tested at least once in this test.

### 6.3.3. Test III: Judgment

The judgment test was the final test to be given. Unlike Tests I & II, Test III was mainly set to test both learners' recognition and production. It tested the same range of syntactic structures tested in the previous two tests.

In this test subjects were presented with 27 sentences and asked in plain terms to state which of those items was 'good' and which was 'bad'. They were also required to underline and correct the part of the test sentence which was unacceptable to them.

The forms in which the test items were presented were varied. Some items were introduced in their target non-deviant forms, others were introduced in their test deviant forms. Many of the test sentences were introduced in both forms i.e. the correct target form and the test incorrect form. This was done in order to achieve systematic and comparable results.

The sentences which were introduced in their target form were all non-deviant sentences. They were in turn subdivided into two groups according to the type of prediction associated with each of them. The first group comprised sentences where the prediction was that learners would correctly think they were correct (see items 7,11,15,23,27). All the sentences in this group tested +TR predictions. To give one example, the following sentence was test item No.15:

(7). Jane is our new teacher of English with blue eyes

The above sentence was introduced in its TL form, which was similar to the source form. It investigated the distribution of complement PPs such as 'of English' in relation to adjunct PPs such as 'with blue eyes'. This distribution was previously shown to be the same in both ENG and MSA. In the light of this similarity, I predicted that learners would correctly regard the above sentence as a good English sentence.

The second group, on the other hand, consisted of sentences where the prediction was that learners would wrongly think they were wrong (see items 22 and 24). The sentences in this group were based on -TR predictions. For example, it was predicted that the following sentence would be viewed by learners as deviant because of the -TR from their mother tongue:

(8). Jane told me that Tom gave her a picture of his

The aim of the item in (8) was to elicit learners' judgments on the postposed genitive structure in ENG. This structure was predicted to be different in both ENG and MSA. The difference was such that the lower N-bar was obligatorily deleted in ENG but retained in MSA. This dissimilarity between the two languages would result in the testees' wrongly judging the above item to be deviant, due to L1 -TR.

By contrast, items which were produced in their test



forms were all deviant sentences. In the majority of cases, the forms in which the tested structures were introduced corresponded to their forms in the learners' NL. The items in this group can be divided into two subclasses, each of which involves a different kind of prediction. The sentences in the first group were predicted to be treated by subjects as non-deviant because of the negative influence of their NL (see items 1,3,6,8-10,14,18,19-21,25). On the other hand, it was predicted that the items in the second group would be correctly judged by subjects as involving deviance because of the positive influence of their native language (see items 2,12,13,16,17,26).

The deviance incorporated in each of those items was pertinent to the syntactic structure(s) under investigation and to the influence of L1. In each example, this deviance was made in the DP section of the sentence. Moreover, most of the deviant sentences were in the form that the Syrian learners in fact produce, as a result of L1 interference.

As an example of the first group, the following sentence was introduced to investigate the use of the indefinite article (item No.18):

(9). There is huge castle in Aleppo

In the above example, the deviance resulted from the deliberate omission of the indefinite article a from the

DP 'huge castle'. Nevertheless, it was expected that this sentence would be wrongly judged by the testees as acceptable because of the negative influence of their mother language, as predicted by CA.

An example which represents the second type is the following structure, which was predicted to be positively identified by subjects as deviant because of the positive influence of MSA (see test item 2):

- (10). Most people think that new president is better  
than the previous one

The item in (10) was set to test learners' judgment on the use of definite article the. The ungrammaticality of this example resulted from the omission of the definite article from the DP 'new president'. But as our CA of the definite article in ENG and MSA predicted, learners were expected to correctly categorise this sentence as deviant. They were also predicted to be able to insert the missing article before the AP new as a result of the similarity in the uses of this article between ENG and their NL.

So far, I have provided a detailed discussion of the three tests administered to the subjects in the present study. In order to make our discussion more concrete, I have provided examples of the test items that were included in each test. More importantly, I have concentrated on clarifying the methods used in constructing the items for each test. In what remains of this chapter, I shall outline the procedures followed in

presenting the three tests to the testees in the classroom.

#### **6.4. Procedure (Method)**

Among the issues to be discussed here are: piloting of materials before the current investigation; the form in which the tests were given to the testees; and the instructions given.

In order to ensure that the instructions were intelligible to the subjects and that they could perform satisfactorily in the test situation, I carried out pilot trials of the three tasks with a group of Arabic speakers studying at Bangor University. Those pilot trials showed that the three tests which we had set were feasible, since the students in the trial group performed satisfactorily in all of them. In other words, no revision was prompted by the piloting of the three tests.

The issue of piloting of materials is of particular importance to the current investigation. One main factor which necessitated pilot testing of materials was that one of the testing techniques used was new to the subjects. This new technique was the Completion Test.

As was mentioned earlier in this chapter, this test differs from ordinary completion tests in that its main aim was not to test whether learners were able to insert the right word in the right place. The item to be inserted was separately provided for each test item in advance. However, as was pointed out before, the aim of the



completion test used here was to test learners' ability to make the extra changes in the test sentence. Such changes were furthermore made obligatory by the inclusion of the new item(s).

The three test papers introduced to the testees were all printed on a neat form. The learners were required to enter their responses on the actual question paper for both the Judgment Test and the Completion Test. As for the Translation Test, they were provided with separate answer sheets. Moreover, they were assured that the tests they would be asked to carry out had no relation whatever to their course work. The anonymity of the testees was also guaranteed: instead of writing down their names on the test papers, they were only required to enter their sequential numbers and the number of the group which they belonged to. This was all done in order to make them feel at ease in the experimental situation and to enable us to achieve more objective results.

The instructions themselves were made as explicit as possible. They were short and clear instructions. Subjects were told in detail what it was they were supposed to do. Moreover, simple examples of the performance of each test were provided. The running of the experiment was done by myself in class time in order to answer any query which was related to the test being done.

In order to prevent them from introducing extra unnecessary changes especially in the completion and judgment tests, subjects were instructed not to add or

omit more than one word in each test sentence.

Finally, the three tests were administered to the subjects at timed intervals of two weeks. This duration was presumed to be sufficient to guarantee that by the time of the next test, learners would not have advanced greatly in their mastery of the syntactic structures under investigation.

### 6.5. Scoring Criteria

Each subject was scored twice for each test item across all tests. Firstly, subjects were scored according to whether or not they produced the correct target forms: this is the Correctness Criterion. Secondly, they were scored according to whether or not the predicted NL transfer was corroborated in their responses: this is the Transfer Criterion. This scoring method reflects the immediate objectives of the empirical investigation. First, scoring subjects' answers on a transfer/non-transfer dimension is the starting point for testing the validity of Hypothesis One. Second, scoring learners' performance on a correct/non-correct axis provides the information necessary for the verification of Hypothesis Two.

It must be noted, however, that since the present study is primarily concerned with the syntax of noun phrases and the learning problems associated with them, the only aspects of Syrian learner's IL which were under scrutiny were those pertinent to the structures under

investigation. This means that errors which were made in other areas of the TL grammar have been excluded from the analysis.

#### 6.5.1. Correctness Criterion

Each correct answer was given one point (1) and each incorrect answer was given zero (0). Some students did not perform on certain test items, for which the scores were represented by (#). I only considered items scored 1 and 0, and disregarded those scoreless items.

The points scored on each test item were added together and divided by the number of students who did the exercise. The result was then converted into percentages, giving a percentage group score for this item. A 100% score indicates that all students who answered that particular item got it right; a 0% score indicates that none of them got it right.

Next, I added up the points scored on all the items testing one prediction in one test and divided them by the number of students who did the exercise. The resultant score was then converted into percentages, which gave the overall percentage of correct/incorrect responses for every prediction in each task. Finally, I calculated the mean percentage of correct/incorrect answers for each prediction in the whole test. This procedure was applied on each test item, each test, and each prediction for both groups. Differences in the degrees of accuracy between the two groups were taken as measures of the validity of



Hypothesis Two.

#### 6.5.2. Transfer Criterion

Next to each accuracy score, there appears a second score which indicates whether the predicted transfer (positive or negative) materialised or not. I used the figure 1 to indicate that the predicted NL transfer was borne out by the results, and used the figure 0 to refer to the fact that the predicted transfer was not empirically confirmed. The percentages of the predicted transfer were calculated for each item, each prediction and each task in the same way as the percentages of correct/incorrect answers were worked out.

To test for statistically significant differences between GP1 and GP2 in transfer, I used the T-Test (henceforth T) (on this see Robson, 1973; Hatch & Farhady, 1982). A statistically significant difference has a significant T-value. The significant value of T is usually determined by the number of 'degrees of freedom' (D.F.), which is in turn related to the sample size. In the current investigation, the value of D.F. corresponds to a T-value of (2.02). Thus, to be significant, the difference must have a T-value which is greater than or equal to (2.02) at the probability level of (.05).

#### 6.6. Conclusion

This chapter was a detailed discussion of the empirical aspect of the present research project. It has

examined many aspects of the methodological apparatus used in carrying out this empirical investigation. Among the relevant issues which have been discussed here are: subjects and the criteria used in their selection; the materials used to elicit the required data and the ways in which they were constructed to suit the purpose of the current study; the procedures followed in carrying out the experiment in order to make the tests more comprehensible to the testees; and the scoring methods and quantificational measures used in decoding the Syrian learners' elicited linguistic performance.

## CHAPTER VII

### RESULTS & DISCUSSION

#### 7.1. Introduction

Having outlined the various facets of data collection and data analysis in the previous chapter, I shall in this chapter examine the findings of my empirical investigation and their relevance to the two fundamental questions which this study addresses. In other words, my main concern in this chapter is to examine the validity of my predictions in the light of students' performance as elicited by the test instruments. For convenience, I have divided this chapter into two major sections: in section (7.2), I discuss the validity of Hypothesis One and in section (7.3), I deal with Hypothesis Two.

#### 7.2. Hypothesis One

The procedure I shall follow in evaluating the success of CA predictions consists of comparing the responses the students actually produced upon elicitation with the responses they were predicted to produce by CA. The success of the CAH will therefore depend on the degree to which the students' actual responses matched their predicted responses.

The degree of confirmation of the CA predictions were



measured by comparing the overall mean percentage of predicted responses with the mean percentage of unpredicted responses. This comparison of percentages was carried out for each prediction in each test and for both groups. The results of this comparison constitute the measure of validity of my predictions and of the hypothesis on which they are based.

It should be noted here that the strength of confirmation of each prediction in the current investigation was rated as follows:

from %80	to %100	=	strongly confirmed
from %60	to %79	=	confirmed
from %49	to %59	=	acceptable
below %49		=	not confirmed.

As I mentioned in chapter VII, a total of 18 predictions were examined in this investigation. They comprised 7 positive predictions and 11 negative ones. I shall start my analysis of these predictions in section (7.2.1.) by presenting the results of the statistical analysis of each prediction, then in section (7.2.2.), I discuss the significance of the findings of the quantificational analysis in order to assess the success of each prediction in each group.

#### 7.2.1. RESULTS

In this section, I shall refer to the mean percentages scored for each prediction by both groups. These scores will be further displayed in the associated tables. For

ease of exposition, I divide this section into two subsections. In section (7.2.1.1.), I examine the validity of +TR predictions, whereas in section (7.2.1.2.) I discuss the degree of confirmation of -TR predictions.

#### 7.2.1.1. The Degree of Confirmation of +TR Predictions

A positive prediction implies that I predicted the correct target structures would be produced and recognised. The items which involved +TR predictions were items 1, 6, 11, 12, 13, 14, and 16. The total number of sentences which tested those +TR predictions were 25 items distributed over the three tests viz., Test I (Completion Test), Test II (Translation Test) and Test III (Judgment Test), in the following manner:

Test	No. of items testing +TR
I	7
II	7
III	11
Total	25

The occurrence of each of the seven +TR predictions within the 25 testing items was as follows:

Prediction	No. of testing items
1	3
6	3
11	3
12	4
13	5
14	4
16	3

An important point must be made here about learners' performance on items testing +TR predictions. The elicited responses fell into three categories. The first category comprised predicted correct answers i.e. answers which learners were predicted to get right. The second category of correct responses consisted of unpredicted correct responses i.e. answers which did not show the predicted +TR but were right in another way. The occurrence of these latter responses happened in cases where there was more than one correct response on a given test item. To cite one example, I predicted that since in both ENG and MSA the universal quantifier all subcategorises a following DP as a complement, the students would correctly produce the following correct response on such items (see prediction 6 below):

(1) I have already seen [all these films]

However, in addition to producing the above response,



some students produced an alternative unexpected response on the same test item. This response was of the following form:

(2) I have already seen [all of these films]

In this example, they produced a noun phrase in which all subcategorises a following prepositional phrase (partitive of-phrase) instead of a determiner phrase headed by these. Such an answer was scored as an unpredicted correct response, i.e. as a response which neither confirmed nor disconfirmed my prediction.

The third category of answers involved incorrect ENG responses, which were unpredicted of course: I shall deal with these in Chapter VIII.

Since some of the correct answers did not contain evidence of the predicted NL influence, it follows that the degree of validity of the positive predictions in this study is not directly related to the frequency of correct responses but rather to the frequency of responses which showed the expected +TR. Consequently, I shall consider only the mean percentages of each group's predicted correct responses since these are the only ones which determine the required degree of validity.

#### **Prediction 1**

This prediction was about the use of the definite article the, which Syrian learners in both GP1 and GP2 were expected to correctly produce in sentences such as:

(3) Yesterday, I met Mr. Jones, [the new students'  
advisor]

This prediction was tested 3 times altogether: in Test I, item 1; in Test II, item 7; and in Test III, item 2. The students' responses relevant to this prediction can be summarised as follows:

#### GP1

In Test I, 17 students got the predicted correct answer, 7 students got wrong answers, and one student abstained. This amounts to saying that the mean score of correct responses for prediction 1 in Test I was 71% and that the mean score of incorrect responses was 29%.

In Test II, there were 20 correct responses and 5 incorrect ones. This indicates that there was a mean percentage of 80% correct responses vs. 20% incorrect ones.

In Test III, there were 15 correct items, 9 incorrect items, and one missing item. Thus, the mean score for the predicted correct response in this test was 62% whereas the mean score of incorrect responses was 37%.

Overall, the mean average scored for Prediction 1/GP1 was 71% correct answers showing the degree of confirmation of this prediction. This means that in this prediction, the degree of validity of +TR was directly related to the frequency of correct responses. These results are summarised in the following table.

Table (7.1.a): Prediction 1/GP1

Test	Item	% Correct	%Transfer %task	Mean	% Incorrect	No Resp.
I	1	71%	71%		29%	1
II	7	80%	80%	71%	20%	-
III	2	62%	62%		37%	1

**GP2**

In Test I, 21 students got correct answers and 4 students got wrong answers. This entails that there was a mean degree of 84% correct responses vs. 16% incorrect ones.

In Test II, the number of correct items were 22 and those of incorrect items were 3 ones. This gives a mean percentage of 88% correct responses vs. 12% incorrect ones.

Finally, in Test III, students produced 20 correct responses vs. 5 incorrect ones i.e. 80% correct answers vs. 20% incorrect ones.

The above figures show that the average score for Prediction 1/GP2 was 84% correct responses. This score also represents the degree of confirmation of the prediction. Table (7.1.b) summarises the above results.



Table (7.1.b): Prediction 1/GP2

Test	Item	% Correct	%Transfer %task	Mean	% Incorrect	No Resp.
I	1	84%	84%		16	-
II	7	88%	88%	84%	12	-
III	2	80%	88%		5	-

### Prediction 6

This prediction was related to the subcategorisation restrictions imposed by the universal quantifier all. The CA predicted that Syrian students would produce structures involving the correct use of a complement DP after all, as in the following example:

(9) I have already seen [all these] films

This prediction was tested by 3 testing items: in Test I, item 7; in Test II, item 14; and in Test III, item 7. Students' performance on these items can be analysed as follows:

Table(7.7.a): Prediction 6/GP1

Test	Item	% Correct	Transfer% %task	Mean	% Incorrect	No Resp.
I	7	92%	84%		8%	-
II	14	76%	76%	82%	24%	-
III	7	96%	88%		4	-

Table (7.7.b): Prediction 6/GP2

Test	Item	% Correct	Transfer% %task	Mean	% Incorrect	No Resp.
I	7	100%	88%		-	-
II	14	88%	84%	84%	12%	-
III	7	96%	80%		4%	-

**Prediction 11**

This prediction involved the correct insertion of the dummy case-marker of before complement DPs in structures such as the following:

- (8) [The severe bombing of the airport] annoyed me

The use of of was tested in 3 items: in Test I, item 14; in Test II, item 19; and in Test III, item 17.

Table (7.6.a): Prediction 11/GP1

Test	Item	% Correct	Transfer% %task	Mean	% Incorrect	No Resp.
I	14	72%	72%		28%	-
II	19	76%	76%	74%	24%	-
III	17	76%	76%		24%	-

Table (7.6.b): Prediction 11/GP2

Test	Item	% Correct	Transfer% %task	Mean	% Incorrect	No Resp.
I	14	88%	88%		12%	-
II	19	92%	92%	88%	8%	-
III	17	84%	84%		16%	-

### Prediction 12

This prediction involved the use of the correct word-order of postnominal APs as in the following example:

- (5). While we were on holiday, he stayed in  
[the room next to mine]

This structure was elicited 4 times: in Test I, item 17; in Test II, item 15; and in Test III, items 11 and 26.

Table (7.3.a): Prediction 12/GP1

Test	Item	% Correct	%Transfer %task	Mean	% Incorrect	No Resp.
I	17	73%	69%		24%	2
II	15	92%	72%	69%	8%	-
III	11 26	78%	68%		22%	- -



Table (7.3.b): Prediction 12/GP2

Test	Item	% Correct	%Transfer %task	Mean	% Incorrect	No Resp.
I	17	88%	80%		12%	-
II	15	96%	88%	82%	4%	-
III	11	96%	78%		6	-
	26	92%				

**Prediction 13**

This prediction predicted the use of the correct word-order of complement PPs vs. adjunct PPs as in the following example:

(6) Jane is [our new teacher of English with blue eyes]

This structure occurred in 5 testing items altogether: in Test I, item 19; in Test II, item 13; and in Test III, items 12, 15, and 16. The following tables summarise students' scores on items testing prediction 13.

Table (7.4.a): Prediction 13/GP1

Test	Item	% Correct	%Transfer %task	Mean	% Incorrect	No Resp.
I	19	76%	76%		24%	-
II	13	92%	92%		8%	-
III	12			78%		-
	15	74%	74%		25%	-
	16					1

Table (7.4.b): Prediction 13/GP2

Test	Item	% Correct	Transfer% %task	Mean	% Incorrect	No Resp.
I	19	88%	88%	84%	12%	-
II	13	96%	96%		4%	-
III	12	84%	84%		16%	-
	15					-
	16			-		

Prediction 14

This prediction was about the word-order of long/heavy PPs relative to short PPs as is exemplified in the following sentence:

- (7) [A review in the press of Chomsky's latest book on applied linguistics] has just appeared

This prediction was tested 4 times: in Test I, item 16; in Test II, item 18; and in Test III, items 13 and 23.

Table (7.5.a): Prediction 14/GP1

Test	Item	% Correct	Transfer% %task	Mean	% Incorrect	No Resp.
I	16	70%	70%	75%	29%	1
II	18	88%	88%		12%	-
III	13	71%	71%		28%	1
	23	71%	71%			-

Table (7.5.b): Prediction 14/GP2

Test	Item	% Correct	Transfer% %task	Mean	% Incorrect	No Resp.
I	16	80%	80%		20%	-
II	18	92%	92%	83%	8%	-
III	13	80%	80%		20%	-
	23					-

**Prediction 16**

This prediction refers to the correct use of partitive of-phrases after numerals, as in the following example:

- (4) [Three millions of these magazines] were distributed last month

This structure was tested in three test items: in Test I, item 12; in Test II, item 5; and in Test III, item 27. Learners' performance on this structure can be analysed as follows:

**GP1**

In Test I, there were 21 correct responses and 4 incorrect ones. This shows a mean score of 84% correct items vs. 16% incorrect items.

In Test II, 20 students got it right and 5 students got it wrong. This shows 80% correct responses vs. 20% incorrect ones.

In Test III, 18 students had correct results and 7 students had incorrect ones i.e. the mean percentage of correct responses in test III was 72% whereas the mean percentage of incorrect answers was 28%.



Thus, the average scores for Prediction 16/GP1 were 79% correct vs. 21% incorrect responses. The average score of correct responses shows the degree of validity of the prediction.

Table (7.2.a): Prediction 16/GP1

Test	Item	% Correct	Transfer% %task	Mean	% Incorrect	No Resp.
I	12	84%	84%		16	-
II	5	80%	80%	79%	20	-
III	27	72%	72%		28	-

## GP2

In Test I, learners produced 23 correct items and 2 incorrect ones, i.e. there was a mean degree of 92% correct responses vs 8% incorrect ones.

In Test II, the figure showing correct answers was 22 and that showing incorrect answers was 3 or 88% correct responses vs. 12% erroneous ones.

In Test III, the number of correct responses was 21 and that of erroneous ones was 4 or 84% correct answers vs. 16% incorrect ones.

The above figures indicate that the mean percentage of correct responses scored for Prediction 16/GP2 was 88%, which also represents the degree of confirmation of the prediction.

Table (7.2.b): Prediction 16/GP2

Test	Item	% Correct	%Transfer %task	Mean	% Incorrect	No Resp.
I	12	92%	92%		8%	-
II	5	88%	88%	88%	12%	-
III	27	84%	84%		16%	-

By this we come to the end of the quantificational analysis of learners' performance on the seven +TR predictions i.e. predictions 1,6,11,12,13,14 and 16. In the next section, I shall present the results of the quantificational analysis of the negative predictions.

#### 7.2.1.2. The Degree of Confirmation of -TR Predictions

In this section, I aim to analyse learners' performance for which the CA predicted wrong responses because of -TR from MSA.

The number of predictions of -TR was 11. Those predictions were: 2,3,4,5,7,8,9,10,15,17 and 18.

Altogether, 46 items tested -TR predictions. Those items were distributed in the three tests in the following manner:

Task	No. of testing items
I	13
II	15
III	18
Total	46

The number of items testing each prediction can be displayed as follows:

Prediction	No. of testing items
2	3
3	6
4	4
5	3
7	3
8	5
9	5
10	5
15	4
17	5
18	4

The learners' responses on the items testing -TR can also be divided into three groups. The first group comprises predicted erroneous responses. The second group consists of unpredicted erroneous responses, i.e. wrong responses which were not based on L1. The third group of answers comprised correct target-like constructions i.e. non-predicted correct responses.

Nonetheless, since my main concern in this section is the degree of success of predicted NL transfer, I shall therefore concentrate on discussing the frequencies of the predicted wrong responses only, i.e. the responses which contained evidence of the predicted -TR. I shall deal with each prediction one by one presenting the percentage frequency scored for each of them by both groups. These frequencies will be displayed in the relevant tables.



Prediction 2

This prediction referred to the co-occurrence restrictions between the definite article the and determiners like some and all. Our CA of these determiners in MSA and ENG predicted that Syrian students would produce the following ungrammatical sequences:

- (15) [\* The some] like the cinema better  
than the theatre
- [\* The all] brought presents to Talal on  
his birthday

This prediction occurred in 3 test items: in Test I, item 9; in Test II, item 20; and in Test III, item 1.

Table (7.13.a): Prediction 2/GP1

Test	Item	% Incorrect	Transfer% %task	Mean	% Correct	No Resp.
I	9	36%	31%		63%	3
II	20	48%	48%	44%	52%	-
III	1	64%	52%		36%	-

Table (7.13.b): Prediction 2/GP2

Test	Item	% Incorrect	Transfer% %task	Mean	% Correct	No Resp.
I	9	8%	8%		92%	-
II	20	20%	20%	18%	80%	-
III	1	24%	24%		76%	-

### Prediction 3

This prediction predicted that learners would fail to insert the indefinite article a in such structures:

(10) Her friends think that she is [\* beautiful girl]

The above structure was tested in 6 items: in Test I, items 2 and 10; in Test II, items 3 and 16; and in Test III, items 4 and 18.

#### GP1

In Test I, item 2, students scored 7 correct responses, 17 incorrect responses including 13 predicted ones, and one student did not response. On item 10, there were 6 correct answers, 18 erroneous answers 14 of which were predicted, and one missing answer. These figures show an average of 27% correct responses vs. 72% incorrect ones including 56% expected ones.

In Test II, item 3, there was a score of 7 correct responses vs. 18 incorrect ones including 15 predicted errors. On item 16 of the same test, learners scored correctly on 6 items and incorrectly on 19 items. The incorrect items comprised 15 expected ones. Thus, there was a mean percentage of 26% correct responses vs. 74% erroneous answers which included 60% predicted errors.

In Test III, item 4, 6 students got it right whereas 19 students got it wrong. On item 18, 5 learners got it right and 20 ones got it wrong. Among the incorrect responses, there were 18 predicted errors. The mean degree

of correct responses in test II was therefore 22% whereas that of incorrect answers was 78% comprising 70% expected errors.

Overall, as far as Prediction 3/GP1 is concerned, the mean degree of predicted erroneous responses was 62% representing the degree of success of the prediction.

Table (7.8.a): Prediction 3/GP1

Test	Item	% Incorrect	Transfer% %task	Mean	% Correct	No Resp.
I	2 10	72%	56%		27%	1 1
II	3 16	74%	60%	62%	26%	- -
III	4 18	78%	70%		22%	- -

## GP2

In Test I, item 2, learners produced 18 correct items and 7 incorrect ones of which 6 items showed the predicted NL -TR. On item 10, they scored 16 correct items vs. 9 incorrect ones including 7 predicted errors. Thus, there was an overall mean percentage of 68% correct responses vs. 32% erroneous ones including 26% predicted errors.

In Test II, item 3, students scored successfully on 17 items and unsuccessfully on 8 items. Six of the erroneous items showed the expected -TR. On item 16, they scored 16 correct answers and 9 incorrect ones including 7 predicted errors. This means that the overall mean degree of transfer in Test II was 26%.



Finally, in Test III, item 4, there were 17 correct answers vs. 8 incorrect ones all of which confirmed the predicted transfer. On item 18 of the same test, there were 16 correct items vs. 9 incorrect ones. Eight of the erroneous items were predicted. In Test III, therefore, the mean degree representing the degree of confirmation of prediction 3 was 32%.

In sum, as the above figures show, GP2 students scored an overall mean percentage of 67% correct answers vs. 33% incorrect. The incorrect responses included an average of 28% predicted ones, which shows the degree of confirmation of Prediction 3/GP2.

Table (7.8.b): Prediction 3/GP2

Test	Item	% Incorrect	Transfer% %task	Mean	% Correct	No Resp.
I	2 10	32%	26%		68%	- -
II	3 16	34%	26%	28%	66%	- -
III	4 18	34%	32%		66%	- -

#### Prediction 4

This prediction referred to the erroneous insertion of complement DPs instead of complement NPs after demonstratives, as is shown by the following example:

(16) [\* This the car] is a brand new one

The use of demonstratives was tested in 4 items: in Test I, item 4; in Test II, items 6 and 10; and in Test III, item 8.

Table (7.14.a): Prediction 4/GP1						
Test	Item	% Incorrect	Transfer% %task	Mean	% Correct	No Resp.
I	4	32%	32%	25%	68%	-
II	6	18%	14%		82%	-
	10					-
III	8	40%	40%		60%	-

Table (7.14.b): Prediction 4/GP2						
Test	Item	% Incorrect	Transfer% %task	Mean	% Correct	No Resp.
I	4	12%	12%	9%	88%	-
II	6	2%	2%		98%	-
	10					-
III	8	20%	20%		80%	-

### Prediction 5

This prediction predicted the incorrect use of a complement DP instead of the desired complement NP after the quantifier some, as is in the following sentence:

(18) Tom wanted to buy [\* some the presents]  
for his fiance

I tested the above prediction 3 times: in Test I, item 5; in Test II, item 1; and in Test III, item 25. Learners' performance on these items is summarised as follows:

Table (7.16.a): Prediction 5/GP1

Test	Item	% Incorrect	Transfer% %task	Mean	% Correct	No Resp.
I	5	50%	37%		50%	1
II	1	36%	28%	36%	64%	-
III	25	52%	44%		40%	-

Table (7.16.b): Prediction 5/GP2

Test	Item	% Incorrect	Transfer %task	Mean	% Correct	No Resp.
I	5	16%	12%		84%	-
II	1	8%	8%	13%	92%	-
III	25	24%	20%		76%	-

### Prediction 7

The wrong omission of the dummy case assigner of after determiners like all and some was predicted by this prediction. On the basis of my CA of MSA and ENG, I predicted that Syrian learners would produce such errors as :

(20) [\* All/some them] hate linguistics

I tested this prediction in 3 test sentences: in Test I, item 3; in Test II, item 12; and in Test III, item 3.



Table (7.18.a): Prediction 7/GP2

Test	Item	% Incorrect	Transfer% %task	Mean	% Correct	No Resp.
I	3	50%	33%		50%	1
II	12	40%	28%	36%	60%	-
III	3	52%	48%		48%	-

Table (7.18.b): Prediction 7/GP2

Test	Item	% Incorrect	Transfer% %task	Mean	% Correct	No Resp.
I	3	12%	8%		88%	-
II	12	12%	8%	10%	88%	-
III	3	16%	16%		84%	-

### Prediction 8

This prediction predicted the use of the incorrect word-order of subjects/possessors such as in the following sentence:

- (11) [\* Acceptance John of the new job offer]  
was expected

This prediction was tested 5 times: in Test I, item 18; in Test II, items 2 and 17; and in Test III, items 14 and 19.

Table (7.9.a): Prediction 8/GP1

Test	Item	% Incorrect	Transfer% %task	Mean	% Correct	No Resp.
I	18	33%	25%		66%	1
II	2 17	38%	32%	37%	62%	- -
III	14 19	52%	48%		48%	- -

Table (7.9.b.): Prediction 8/GP2

Test	Item	% Incorrect	Transfer% %task	Mean	% Correct	No Resp.
I	18	8%	8%		92%	-
II	2 17	14%	10%	13%	86%	- -
III	14 19	20%	18%		80%	- -

### Prediction 9

This prediction was concerned with the incorrect omission of the genitive 's determiner in noun phrases involving subjects/possessors, as is exemplified in the following sentence:

- (12) Yesterday, I went with my father to  
[\* my uncle house] for a visit

The above construction was elicited 5 times: in Test I, item 18; in Test II, items 2 and 17; and in Test III, items 14 and 19. Students' responses on items testing prediction 9 were as follows:

Table (7.10.a): Prediction 9/GP1

Test	Item	% Incorrect	Transfer% %task	Mean	% Correct	No Resp.
I	18	75%	54%		25%	1
II	2 17	68%	52%	58%	32%	- -
III	14 19	76%	66%		24%	- -

Table (7.10.b): Prediction 9/GP2

Test	Item	% Incorrect	Transfer% %task	Mean	% Correct	No Resp.
I	18	32%	28%		68%	-
II	2 17	28%	22%	31%	72%	- -
III	14 19	44%	42%		56%	- -

### Prediction 10

This prediction was concerned with the incorrect omission of the case-marker of before complement noun phrases. It predicted that students would produce/recognise errors of the following type:

- (19) [\* Arrest the murderer] was welcomed by all the villagers

Knowledge of this structure was examined 5 times: in Test I, items 15 and 20; in Test II, item 11; and in Test III, items 10 and 21.



Table (7.17.a): Prediction 10/GP1

Test	Item	% Incorrect	Transfer% %task	Mean	% Correct	No Resp.
I	15 20	43%	35%		56%	- 2
II	11	36%	28%	39%	64%	-
III	10 21	51%	48%		48%	- 1

Table (7.17.b): Prediction 10/GP2

Test	Item	% Incorrect	Transfer% %task	Mean	% Correct	No Resp.
I	15 20	14%	10%		87%	1 -
II	11	8%	8%	12%	92%	-
III	10 21	8%	16%		82%	- -

### Prediction 15

This prediction referred to the use of numerals. It predicted that students would write the following erroneous sentence:

- (14) [\* Two thousands people] attended the concert  
on Thursday

The use of numerals was elicited 4 times: in Test I, item 8; in Test II, item 4; and in Test III, items 20 and 22.

Table (7.12.a): Prediction 15/GP1

Test	Item	% Incorrect	Transfer% %task	Mean	% Correct	No Resp.
I	8	76%	64%		24%	-
II	4	80%	68%	65%	20%	-
III	20 22	74%	64%		26%	- -

Table (7.12.b): Prediction 15/GP2

Test	Item	% Incorrect	Transfer% %task	Mean	% Correct	No Resp.
I	8	44%	36%		56%	-
II	4	44%	36%	39%	56%	-
III	20 22	52%	42%		48%	- -

### Prediction 17

This prediction predicted the students' failure to use a partitive of-phrase after determiners like some and which. It predicted the incorrect use/recognition of a direct complement DP after these determiners instead of using the desired prepositional partitive of-phrase, thus resulting in erroneous responses like the following:

(17). [\* Some Mary's dresses] were made in France

The above structure was tested in 5 test sentences: in Test I, items 6 and 11; in Test II, item 9; and in Test III, items 5 and 6.

Table (7.15.a): Prediction 17/GP1

Test	Item	% Incorrect	Transfer% %task	Mean	% Correct	No Resp.
I	6 11	56%	48%		44%	- -
II	9	48%	48%	50%	52%	-
III	5 6	56%	54%		44%	- -

Table (7.15.b): Prediction 17/GP2

Test	Item	% Incorrect	Transfer% %task	Mean	% Correct	No Resp.
I	6 11	20%	18%		79%	1 -
II	9	16%	12%	21%	84%	-
III	5 6	30%	28%		70%	- -

### Prediction 18

This prediction was related to the use of postposed genitive structures. It predicted that Syrian students would commit errors such as the following:

- (13) Talal put [a picture of his pictures] on the wall  
(cf. Talal put a picture of his on the wall)

I tested the above structure in four items: in Test I, item 13; in Test II, item 8; and in Test III, items 9 and 24.



Table (7.11.a): Prediction 18/GP1

Task	Item	% Incorrect	Transfer% %task	Mean	% Correct	No Resp.
I	13	75%	66%		25%	1
II	8	68%	64%	63%	32%	-
III	9	62%	62%		37%	-
	24					2

Table (7.11.b): Prediction 18/GP2

Task	Item	% Incorrect	Transfer% %task	Mean	% Correct	No Resp.
I	13	41%	41%		58%	1
II	8	36%	32%		64%	-
III	9	36%	36%	36%	64%	-
	24					-

### 7.2.2. DISCUSSION of RESULTS

In section (7.2.1) I presented figures indicating the degree of validity of each positive and negative prediction as reflected in the test performance of the subjects in both groups. The degree of success of the transfer predictions (both positive and negative) was presented in percentages separately for each test testing the prediction and for each prediction as a whole. The degree of confirmation of each prediction was directly related to the frequency of occurrence of predicted responses.

In this section, I shall evaluate the significance of the above results for the first hypothesis being tested,

namely, the CAH. As was explained earlier in this chapter, this evaluation will be carried out by comparing the mean percentages of predicted answers to that of unpredicted answers.

I shall start my discussion in section (7.2.2.1.) by examining the validity of Hypothesis One in relation to the predictions of +TR, then in section (7.2.2.2) I shall estimate its success with regard to the predictions of -TR.

#### 7.2.2.1. +TR Predictions

The following table summarises the overall mean degree of success of each +TR prediction in both GP1 and GP2.

Table (7.19)  
Success of predictions of +TR (in %)

+TR Predictions	Group I		Group II	
	Success%	Mean	Success%	Mean
1	71%		84%	
6	82%		84%	
11	74%		88%	
12	69%	75%	82%	85%
13	78%		87%	
14	75%		83%	
16	78%		88%	

From the figures gathered in the above table, we notice that in both groups, the frequency of predicted correct responses was much higher than that of unpredicted correct/incorrect responses.

In GP1, for example, the mean degree of confirmation of positive predictions was 75%, and in GP2, it was 85%

In GP1, the most successful prediction i.e. the one

which had the highest degree of validity, was Prediction 6 (with a high confirmation coefficient of 82%). This prediction was related to the use of the determiner all co-occurring with other determiners such as demonstratives and the definite article. On the other hand, the least successful positive prediction in GP1 was Prediction 12, which predicted the use of the correct word-order of postnominal APs. This prediction had a confirmation coefficient of 69%, which is still pretty high.

On this prediction, learners produced a number of 'escape answers' (see originally Ickenroth, 1975: 10) on items testing this prediction. More precisely, in dealing with noun phrases containing postnominal APs, a number of students used an explicit postnominal relative clause instead of an AP postnominal complement. Thus, instead of producing/recognising the correct predicted response in (21) below, they produced/recognised responses such as that in (22):

(21) Talal lives in [a house next to mine]

(22) Talal lives in [a house which is next to mine]

Escape answers such as that in (22) in which the learner used a fully explicit form of the FL, are indicators of the learner having some difficulty in dealing with the tested TL structure. These difficulties might be attributed to the fact that postnominal APs are of lower frequency, i.e. are 'marked' structures, whereas



prenominal APs are more frequent hence 'unmarked' structures (see Radford, 1988: 40). Therefore, prenominal APs are emphasised at a later stage of the curriculum in Syria than prenominal APs. Thus, having previously learned that in ENG APs are positioned prenominally, students find it difficult to position them postnominally. This argument is further supported by the finding that in a number of cases students produced errors in which they used the AP with its complement in prenominal position (e.g. Talal lives in \* a next to mine house). Details of these errors will be found in the next chapter (see section 8.2).

In other words, the difficulty that some subjects experienced in dealing with postnominal APs was reflected in their 'underrepresentation' of these structures in their performance while at the same time 'overproducing' other unpredicted structures ( on 'underrepresentation' and 'overproduction' of linguistic items, see particularly Levenston, 1971 ).

In GP2, on the other hand, Prediction 11 scored the highest degree of validity: its confirmation coefficient was 88%. This prediction referred to the likelihood of the correct insertion of the dummy case-marker of in the relevant structures. As for the most weakly confirmed positive prediction in this group, like in GP1, in GP2, Prediction 12 had the lowest degree of confirmation 82%.

From table (7.19), we note that, generally speaking, there was little variation in the degrees of confirmation recorded on positive predictions by each group. They

varied within certain limits and there were no statistically significant differences between the various predictions. Prediction 12 in GP1 forms an exception. This prediction had a degree of success of 69%, which was relatively weaker than other predictions in this group.

In conclusion, there were high percentages of predicted correct target structures in both groups. One interpretation of these results is that Syrian students have actually transferred their isomorphic L1 knowledge to produce correct results in their learning of ENG as a FL.

There is an equally plausible explanation of the above results, however. That is, since there is no direct evidence of the claim that the learners' NL has actually played a facilitative role in their learning of these structures, then one might assume that learners who have produced correct responses which are isomorphic with the equivalent L1 structures, might quite simply have learned the TL structures in the strict sense of the term, i.e. directly without resource to their L1.

Nonetheless, it can be shown that the above two interpretations are partially interrelated. A comparison of learners' performance on items testing +TR predictions and items testing -TR predictions in both groups reveals that learners have learned isomorphic ENG structures more easily than anisomorphic ones. This claim is substantiated on the grounds that, in both groups, the mean scores of correct responses were much higher on items testing +TR

predictions than those on items testing -TR predictions. This denotes that there must have been a facilitative effect operating more potently in the first case than in the latter. This in turn strongly supports the conclusion that the existence of these structures in the students' NL has actually played a significant facilitative role in their acquisition of these structures. In other words, a strategy of NL transfer must have been involved in their production and recognition.

In conclusion, the above results strongly confirm the first part of Hypothesis One, namely, that FL learners positively transfer their isomorphic L1 structures into the new language, and as a result, they perform successfully in this language.

7.2.2.2. -TR Predictions

A summary of the degrees of validity of -TR predictions is provided in the following table.

Table (7.20)				
Negative Predictions	GP1		GP2	
	Success%	Mean	Success%	Mean
2	25%		9%	
3	62%		28%	
4	25%		9%	
5	36%		13%	
7	36%	47%	10	21%
8	37%		12%	
9	58%		31%	
10	39%		12%	
15	65%		39%	
17	50%		21%	
18	63%		36%	



A close examination of the students' scores on items for which -TR was predicted reveals that the degrees of accuracy of these predictions were much lower than those of +TR ones. As the scores show, not all the negative predictions were equally confirmed. In fact, there was a wide range in the degrees of confirmation of these predictions.

In GP1, for example, the degrees of validity of these predictions varied between 25% to 65%. The degree of confirmation of five of the predictions was well above 50%, whereas the confirmation coefficients of the remaining 6 predictions were lower than 44%.

One interpretation of the variation in the rates of success of the various negative predictions might be in terms of the relative difficulty of some of the target structures. In other words, a high score of interference errors on a given structure reflects the fact that learners were experiencing considerable difficulties in learning it. These difficulties were manifested not only in the high number of predicted erroneous answers, but also in the relatively higher percentages of unpredicted errors which learners committed in producing these structures. By contrast, a relatively lower percentage of errors suggests fewer learning difficulties.

The above claim is further supported by the fact that in both groups, the highest number of errors were recorded on the same structures.

The weakest prediction of -TR in GP1 was Prediction 4 whose degree of validity was 25%. This prediction involved the incorrect use of the definite article the directly after demonstratives.

This low success rate could be explained by taking pedagogical considerations into account. More particularly, demonstratives have a high frequency in ENG and are therefore sequenced relatively early in the teaching syllabus in Syria. This early exposure to demonstratives gives students a maximal opportunity to improve their linguistic performance on these structures. This would explain why students have committed the lowest number of errors on prediction 4.

On the other hand, the highest degree of -TR in this group was on Prediction 15. This prediction concerned the use of numerals and had a confirmation coefficient of 65%. The highest number of errors in this group were made in the use of numerals. This suggests that these constructions are inherently difficult to learn. This same line of argument can be extended to account for the performance of the students in GP2, who also produced a relatively high number of incorrect responses on this prediction.

It should be noted however, that a low degree of validity of a given -TR prediction is no guarantee that learners have actually learned the relevant structure. In some cases, instead of producing the target/predicted structure, learners produced a number of unpredicted

errors. The existence of such errors has contributed to the relatively lower degrees of validity of some predictions.

It is also important to add that complications have arisen in drawing reliable conclusions as to the degree of validity of certain predictions. This was due to the fact that some errors predicted for a given structure appeared in other structures as well. This was true for prediction 5, which tested the use of the definite article after the determiner some. Five of the incorrect responses on items testing this prediction were originally anticipated by Prediction 2. Similarly, among the erroneous responses on Prediction 6, there were 4 errors which confirmed Prediction 2 (see section 8.2 below for more details ).

As for GP2 , all the -TR predictions were unsuccessful. Their degrees of success varied between 9% and 39%. The mean score of success of all the negative predictions in this group was 21% of the total responses and 83% of the total incorrect responses. These figures show that GP2 students have actually made fewer errors than GP1. This is not an unexpected outcome, however. In actual fact, it forms the essence of Hypothesis Two, which I shall discuss in the next section. According to this hypothesis, the more advanced the learner is, the more successful his/her performance in the second language will be. This is because he/she will have maximised +TR and minimised -TR and/or. In sum, the low degrees of -TR



scored by the students in GP2 lend substantial support to this claim.

Recapitulating, the finding that the negative influence of the students' mother tongue was confirmed in at least 45% of the cases strongly confirms the second part of Hypothesis One, that is, CA is a fairly good predictor of potential -TRs from the learner's NL.

Another variable which merits attention in this investigation is related to the differences in the degree of transfer between the three test-types.

As far as the degree of transfer scored for each test in each prediction is concerned, the results show that, generally speaking, there was a good deal of symmetry between the three tests, i.e. the degree of validity of most predictions did not differ significantly from one test to another. These non-significant differences can be attributed to the fact that the three tests were all of the same type i.e. they were all performance tasks. Test III was both a performance and a judgment test. Thus, learners must have experienced similar difficulties when performing in the three tests. These difficulties, nonetheless, are by no means identical, for there were some cases in which transfer was more frequent in some tests than in others.

One might ascribe the significant differences between the tests in those instances either to the nature of the test itself or to the nature of the structure predicted and/or the form in which it was constructed and presented

to the subjects, as will be discussed below.

To test whether the differences between the mean scores of each prediction were statistically significant and so require explanation, I used the Cochran test, which measures the degree of difference in terms of an X-value (on this see Cohen & Michael, 1983). The higher the value of X, the less the likelihood of the no-significant-difference assumption will be. The chosen probability level is (.05). Thus, an X-value with a probability level of more than .05 indicates that the observed difference is not a significant one. On the other hand, an X-value with a probability level of less than .05 and more than .01 denotes that the difference is significant, whereas an X-value with a level of significance of less than .01 implies that a very significant difference is at stake.

Table (7.21) below presents the mean degree of transfer scored for each test in each +TR prediction, whereas Table (7.22) presents the mean scores for -TR predictions together with the associated values of X.

Table (7.21)  
Summary of the differences in X between  
the three tests in the degrees of +TR

+TR Prediction	No of Subjects	Test	Item	Transfer% item% task%	Difference in X
1	48	I	1	79%	5.4000
		II	7	85%	
		III	2	73%	
6	50	I	7	86%	0.7368
		II	14	80%	
		III	7	84%	
11	50	I	14	80%	0.5000
		II	19	84%	
		III	17	80%	
12	48	I	17	75%	5.000
		II	15	83%	
		III	11	77%	
			26	69%	
13	49	I	19	81%	18.640
		II	13	94%	
		III	12	75%	
			15	92%	
14	48		16	71%	16.478
		I	16	77%	
		II	18	91%	
		III	13	64%	
16	50		23	85%	2.000
		I	12	88%	
		II	5	84%	
		III	27	78%	



Table (7.22)  
Differences in X between  
the three tests in the degree of -TR

-TR Prediction	No of Subjects	Test	Item	Transfer%		Difference in X
				item%	task%	
2	47	I	9	19%	19%	4.521
		II	20	32%	32%	
		III	1	36%	36%	
3	48	I	2	39%		2.407
			10	41%	40%	
		II	3	44%		
			16	44%	44%	
		III	4	47%		
4	50		18	50%	49%	17.225
		I	4	22%	22%	
		II	6	8%		
			10	8%	8%	
		III	8	30%	30%	
5	49	I	5	24%	24%	4.933
		II	1	16%	16%	
		III	25	30%	30%	
7	49	I	3	20%	20%	5.200
		II	12	16%	16%	
		III	3	30%	30%	
8	49	I	18	16%	16%	13.840
		II	2	18%		
			17	24%	21%	
		III	14	30%		
			19	36%	33%	

Table (7.22) / continued

9	49	I	18	40%	40%	11.179
		II	2	30%		
			17	42%	36%	
		III	14	51%		
10	47		19	55%	53%	6.902
		I	15	21%		
			20	25%	23%	
		II	11	17%	17%	
15	50		21	25%	29%	2.210
		III	10	34%		
		I	8	50%	50%	
		II	4	52%	52%	
17	49		22	48%	53%	7.306
		III	20	58%		
		I	6	37%		
			11	30%	33%	
18	46	II	9	30%	30%	5.846
			6	34%	41%	
		III	5	49%		
			24	36%	45%	

Firstly, from Table (7 .21), we note that the obtained X-values at the .05 level of probability exhibit no real differences between the tests in all predictions except for Predictions 13 and 14. In most cases, the probability level was much higher than the .05 level of significance.

Nonetheless, the values of X obtained for predictions 13 and 14 denote that there were significant

differences between the three tests in respect to these predictions. In both cases, the probability level was well below .05. Moreover, in both instances, Test II, a translation test, had the highest percentage of transfer.

Both predictions were about word-order restrictions: Prediction 13 tested the relative word-order of complement PPs vs. adjunct PPs, whereas Prediction 14 referred to the word-order restrictions of long/heavy PPs relative to short PPs.

The higher degree of transfer in the Translation Test might be explainable on the grounds that these structures encouraged a word-for-word translation from MSA into ENG. On the other hand, the lower degree of transfer in the other two tests might be attributable to the form in which the items testing these predictions were constructed, which encouraged learners to make a number of unpredicted errors.

Secondly, from Table (7.22) we notice that apart from predictions 4, 8 and 9, learners' performance did not differ significantly from one test to another. In fact, the values of X reveal a high degree of consistency between the tests.

Significant differences were found in three predictions, namely, Predictions 4, 8 and 9. Prediction 8 was related to the word-order of subjects/possessors, Prediction 9 predicted the omission of the -'s genitive determiner, and Prediction 4 tested the incorrect use of



the definite article after demonstratives. In all these predictions, Test III, a judgment test, had the highest percentage of transfer. This percentage was 33% for prediction 8, 53% for prediction 9, and 30% for prediction 4.

Again, I would like to attribute the significant differences between the tests in these instances to the form in which these structures were presented to the subjects in the Judgment Test. The items testing these predictions were all given in their erroneous forms, which were based on learners' first language. Perhaps the way in which those errors were constructed made it difficult for the students to spot them, hence these high degrees of negative transfer. In turn, this would provide further support for Hypothesis One, viz. that learners will negatively transfer their L1 anisomorphic structures into the second language. This -TR is manifested (i) in their production of certain types of error reflecting their L1 structures, and (ii) in their inability to perceive ungrammatical sentences that display their NL features.

Considered overall, the order of the three tests in with regard to their degree of validity was as follows:

Table (7.23)

Order	+TR Predictions		-TR Predictions	
	Test	Transfer%	Test	Transfer%
1	II	86%	III	39%
2	I	81%	I	31%
3	III	77%	II	29%

This table shows that the highest mean percentage of +TR was 86% and was scored in Test II, a translation test. On the other hand, the highest score for -TR was 39% and was recorded in Test III, a judgment test. However, the overall differences between the tests in both positive and negative predictions were small and of no statistical significance.

Before I conclude my discussion of task differences, I would like to make a number of observations in this connection. One such observation, as the figures in Tables (7.21) and (7.22) show, is that the Translation Test encouraged more transfer on items testing word-order restrictions than Test I and Test III. This would account for the high degrees of transfer recorded on Predictions 12, 13, and 14.

Another interesting point to add in connection with the translation test is that it encouraged a number of escape answers which the students used to evade the difficulties they seemed to face in the use of certain target structures. This was true for Prediction 18 which

handled postposed genitive structures like the following:

(21) Talal put [a picture of his] on the wall

The above structure was predicted by CA to be a source of difficulty and hence error on part of the Syrian learner of ENG by virtue of the fact that their NL does not have parallel structures to this structure. The MSA counterpart of the ENG construction in (21) is the following:

(22) Talal put [a picture \* of his pictures]  
on the wall

However, contrary to CA predictions, Syrian learners made relatively fewer errors in using this structure in the translation test. This was because students avoided producing the structure in (21), and tried to cover up their avoidance behaviour by paraphrasing the tested structure by the partitive structure in (23):

(23) Talal put [one of his pictures] on the wall

The sequence one of his pictures conveys a similar though not identical meaning to the predicted genitive structure in (23) (on this see pp 155/fn.).

Direct evidence of the supposition that a deliberate avoidance strategy was operating in those instances and that difficulty was the motive behind this strategy, was supplied by the fact that on one occasion, a learner initially produced the predicted ill-formed structure



in (22), but later crossed it out and wrote the partitive structure in (23). We can account for this behaviour on the part of the learner by assuming that his knowledge of this structure was not complete enough to affect a perfect repair, so avoidance was the result (see pp 32-34 above for a discussion of 'avoidance' strategy).

The above examples of 'avoidance' are consistent with Kleinmann's finding that in addition to being a good predictor of errors, CA is also a fairly good predictor of avoidance (see Kleinmann, 1977). It is important to add that the way in which the above structures were constructed in the other two tests blocked the production of escape answers such as those exemplified above.

A further point to add relates to the internal consistency of each test. The results summarised in Tables (7.21) and (7.22) indicate that, generally speaking, there was a high degree of consistency in the learners' performance on items testing the same prediction in the same test, i.e. their scores did not differ substantially from one item to another. Such was the case for Tests I and II. Nevertheless, students were not consistent in their performance on items testing the same prediction in Test III, which was a judgment test. In this test, the form in which the test item was given affected their scores. More particularly, students identified correct structures more successfully than erroneous ones. This was true for both +TR and -TR predictions. For example, on

item 9 of prediction 18, subjects scored a mean degree of 54% -TR, whereas on item 25 of the same prediction, they scored a lower degree of transfer of 36%. This difference in the degree of transfer between the two items can be attributed to the fact that the first of these items was given in its incorrect form which was L1-based whereas the second one was given in its correct form . The same line of argument can be extended to the items testing predictions 15 and 14, see Tables (7.21) and (7.22) above.

### 7.3. HYPOTHESIS TWO

In this section, I shall address the second question in the present study. This question is related to the difference in performance between advanced vs. intermediate FL learners. It is hypothesised that learners' performance in a FL improves as their level of training in this language improves. This means that the more advanced students will produce more target-like structures and less ill-formed ones than less advanced students.

If we apply this argument to the students in the present investigation, we would expect GP2 students to perform more successfully in ENG than GP1 students. More successful learners have learnt to promote +TR and to suppress potential -TR and demonstrate more learning than less advanced learners.

In what follows, I shall estimate the success of the above claim in the light of the Syrian learners'

performance in the three tests. I shall carry out my investigation by comparing the group differences in transfer ( both positive and negative). I shall present the differences in the degree of transfer between the two groups in mean percentages. I shall furthermore state whether these differences are significant or not by referring to their associated T-values. In section (7.3.1), I shall discuss the differences in the degrees of +TR, whereas in section (7.3.2), I shall discuss these differences in the degrees of -TR.

#### **7.3.1. Differences in the Degrees of +TR**

The following table summarises both the differences in +TR presented in percentages with the associated T-values, and the differences in accuracy which are also given in mean percentages. Numbers preceded by a \$ symbol show that intermediate (GP1) students' score was higher than advanced (GP2) students'.



Table (7.24)					
(+TR)	Group	No.	Differences	Differences	
Prediction		Subjects	in Accuracy	in Transfer	
				%	T
1	I	23	13%	13%	-1.00
	II	25			
6	I	25	6%	2%	-0.20
	II	25			
11	I	25	14%	14%	-1.67
	II	25			
12	I	23	13%	13%	-1.09
	II	25			
13	I	24	9%	9%	-1.25
	II	25			
14	I	23	8%	8%	-0.87
	II	25			
16	I	25	10%	10%	-1.41
	II	25			

From Table (7.24) we notice that, firstly, as far as the degrees of positive transfer are concerned, GP2 did not perform significantly differently from GP1.

On all items testing +TR predictions, GP2 showed more +TR than GP1. But the differences between the two groups were very small and non-significant. The obtained T-values failed to reach the significance level of 2.02. The highest value of transfer was 1.67 and was recorded on prediction 11, and the lowest difference in T was 0.20 and was obtained for prediction 6.

Secondly, the students in GP2 also scored higher degrees of accuracy than the students in GP1 on all +TR items, i.e. they produced higher percentages of correct

responses than GP1 students. The highest difference in accuracy was recorded on prediction 11 and the lowest difference was recorded on prediction 6. However, the differences in accuracy between the two groups were all very small and statistically non-significant.

### 7.3.2. Differences in the Degrees of -TR

As for -TR predictions, GP2 students showed lower degrees of transfer than GP1 students. In all predictions, GP2 students performed significantly differently from the other group. This means that in all predictions, the T-values exceeded the critical value of 2.02.

On 7 of the -TR predictions, the differences in the degree of transfer were highly significant, i.e. with a probability level of less than 0.01. The highest T-value showing the highest difference in transfer was recorded on Prediction 3 and was 3.82. In turn, the lowest T-value showing the lowest degree of difference was 2.28 and was scored on Prediction 5.

The figures in Table (7.24) also show that GP2 scored much higher levels of accuracy than GP1, i.e. they produced more correct responses than GP1. The highest difference in accuracy was 41% and was scored for Prediction 3; in turn, the lowest degree of difference in accuracy was 18% and was scored for Prediction 4.

Table (7.25) summarises groups' differences in the degrees on -TR.

Table (7.25)

-TR Prediction	Group	No. of subjects	Differences in Accuracy	Differences in Transfer	
				%	T
2	I	22	32%	26%	2.91
	II	25			
3	I	23	41%	34%	3.82
	II	25			
4	I	25	18%	16%	2.32
	II	25			
5	I	24	30%	23%	2.28
	II	25			
7	I	24	34%	26%	2.71
	II	25			
8	I	24	27%	25%	2.89
	II	25			
9	I	24	37%	27%	2.82
	II	25			
10	I	23	31%	27%	3.36
	II	24			
15	I	25	28%	26%	2.43
	II	25			
17	I	25	30%	29%	3.32
	II	24			
18	I	22	30%	27%	2.42
	II	24			

The comparison above between the groups' differences in both the degrees of transfer and the degrees of accuracy lead to the following conclusions respectively:

(i). The students in GP2 showed more +TR than the students in GP1, whereas they exploited potential -TR less than the students in the other group. This conclusion was borne



out by considering the frequency of predicted responses in both groups. The overall mean score of +TR in GP2 was 85%, which was higher than that of GP1 whose average score was 75%. As for -TR, GP2 had an average score of 21%, which was much lower than the average score in GP1, which had a mean percentage of 74% .

(ii) GP2 students' performance was more successful than GP1 students', i.e. they produced more target-like structures than the students in GP1. This was true for both positive and negative predictions.

The validity of our second hypothesis is supported by these results. In other words, the two findings cited above are consistent with the assumption that the degree of NL -TR decreases as the level of training in the FL increases. This is equal to saying that advanced learners will commit fewer errors than the less advanced learners when performing in the second language. This claim was empirically confirmed by the finding that GP2 scored higher degrees of accuracy than GP1. Moreover, the significant differences in the degrees of accuracy between the two groups is attributable to the fact that GP2 students have had longer periods of exposure to the new language than the GP1 students i.e. they had more chances to improve their performance in the FL than the other group.

#### 7.4. Conclusion

To sum up, as the results assembled in this chapter have shown, there were numerous instances of NL transfer both positive and negative in the linguistic performance of Syrian students. The frequency with which NL transfer occurred varied from one prediction to another and from one group to another. The occurrence of both types of transfer (both positive and negative) lend support to the claim that CA is in fact a good predictor of L1 transfer, as was claimed by Hypothesis One.

The results have also shown that the degrees of accuracy were much higher in GP2 than in GP1 on both positive and negative predictions. On the other hand, the degree of confirmation of -TR was much lower in GP2 than in GP1. These two findings were originally predicted by Hypothesis Two.

## CHAPTER VIII

### FINDINGS, OUTSTANDING ISSUES & IMPLICATIONS

#### 8.1. Introduction

In this chapter, I supplement my analysis of Syrian learners' errors by embarking on an EA of unpredicted but nevertheless occurring errors within the DP-domain i.e. of attested errors which were not originally predicted by my CA of ENG and MSA. I shall also conclude this thesis with a summary of the findings of my research, an outline of the major shortcomings of the present work and highlight some of the outstanding issues which require further investigation by future research.

#### 8.2. Diagnosis of Unpredicted DP-Errors

One of the major findings of this thesis is the presence of a number of unpredicted errors, which Syrian subjects committed in their use of ENG DPs. In this section, I shall discuss the most recurrent among these errors. My discussion of these errors involves statements about their relative frequency, descriptive statements about the linguistic deviance involved, as well as an attempt to explain the causes of these errors in terms of plausibility.

Unpredicted errors occurred both in cases where +TR



was expected and cases where -TR was predicted. Sometimes, the same kind of unpredicted error occurred in both environments (compare for example Predictions 5 & 6 and Predictions 15 and 16). In what follows, I shall discuss the unpredicted DP-errors associated with each of the 18 predictions tested in this study.

### **Prediction 1**

This predicted the correct addition of the definite article. The total number of unpredicted erroneous responses on items testing this prediction in the three tasks was 21 in GP1 and 12 in GP2.

The unpredicted errors included (i) omission errors in which Syrian students failed to insert the definite article (see 1/a), and (ii) substitution errors in which the indefinite article was substituted for the definite article (see 1/b):

- (1) a. Yesterday, I met Mr. Jones, [\* new students' advisor]
- b. Yesterday, I met Mr. Jones, [\* a new students' advisor]

Given the above distinction between 'developmental' and 'intralingual' errors (see pp 58-59 above), we can call an error like the one in (1/a) a developmental error since similar errors have been noted in the developing speech of children learning ENG as a L1 (see Dulay & Burt, 1974a/b; Radford, 1990: Chapter 4, among others). On the other hand, errors like the one in (1/b)

are intralingual errors and are caused by the learners' ignorance of the restrictions governing the use of the articles. Errors like the one in (1/a) occurred mostly in the performance of the students in GP1, whereas most of the second type of errors were made by the students in GP2.

### **Prediction 2**

This predicted the wrong insertion of a complement UP (i.e. a phrase headed by determiners like all, and some) after the definite article. On this feature, GP1 students committed 4 unpredicted responses whereas GP2 students did not produce any unpredicted errors. Three of the unpredicted errors produced by the students in GP1 were of the following form:

(13) \* Some them believe that God does not exist

Instead of producing structures in which the definite article is followed by pronominal all and some, some Syrian learners used direct DPs after these determiners. Such erroneous responses are caused by interference from the learners' NL, as was originally predicted by Prediction 7.

### **Prediction 3**

This predicted that the wrong omission of the indefinite article in the appropriate contexts. In addition to the predicted transfer errors, students in both groups produced a number of unpredicted errors. In

GP1, there were 19 unpredicted errors and in GP2, there were 8 such errors.

The majority of these errors were substitution errors like the following:

(9) Her friends think that she is [\* the beautiful girl]

In (9), Syrian students incorrectly substituted the definite article the for the indefinite article a. This intralingual error has resulted from the learners' incomplete knowledge of the contexts in which the definite article in ENG is used as opposed to the indefinite article.

#### Prediction 4

The incorrect use of complement DPs instead of complement NPs after demonstratives was predicted by this prediction. No unpredicted errors were produced on items testing this prediction in both GP1 and GP2. The few errors which learners made were all predicted ones.

#### Prediction 5

This predicted the incorrect use of a complement DP instead of an NP after the general assertive determiner some. The total number of unpredicted erroneous responses on this prediction was 7 in GP1 and 2 in GP2. The majority of errors were like the following:

(15) I want to buy [\* the some presents] for my little brother.

The above error is similar to those committed in



relation to Prediction 6 below. It involves the wrong use of a complement UP after the definite article and is caused by interference from MSA, as was originally predicted by Prediction 2.

#### **Prediction 6**

The correct insertion of complement DPs after the universal quantifier all was predicted by this prediction. On items testing this prediction, the students in GP1 made 9 unpredicted errors and the students in GP2 produced 4 ones.

Among the most frequently committed errors are the following:

- (8) [\* The all stories] we read were written by  
the same author

The above error involved the incorrect insertion of a UP (i.e. a phrase headed by all) after the definite article. Such an error can be argued to have resulted from interference from the learners' NL where the definite article a can subcategorise a following complement UP. In fact, what we have here is an instance of errors which were originally anticipated by another prediction (see Prediction 2 above).

#### **Prediction 7**

This prediction referred to the wrong omission of the dummy case-assigner of after determiners like all and some. On this prediction, some of the students in GP1 committed 8 unpredicted errors and the students in GP2

made 2 ones. Among the most constantly occurring errors are the following:

- (17) a. [\* The all of them] admired her long beautiful hair  
b. [\* The all] admired her long beautiful hair

The above errors involve the incorrect insertion of a UP phrase after the definite article. Both types of error reflect interference from the learners' mother tongue and were originally anticipated by Prediction 2.

### Predictions 8 & 9

Prediction 8 handled the use of the incorrect word-order of Nouns+possessive DPs and prediction 9 predicted the incorrect omission of the genitive s determiner after possessive DPs. Since these two predictions were tested in the same test items across the three tasks, it follows that a discussion of the unpredicted errors which students made in relation to these test items will have implications for both predictions.

Overall, in GP1, there were 18 unpredicted erroneous responses on items testing the two predictions, and in GP2, there were only 4 such errors. The most frequent among these errors were sentences like the following:

- (9) [\* The acceptance of John] of the new job offer  
was expected

The above errors resulted from the wrong use of a postnominal of-genitive phrase, viz. of John, instead of the correct prenominal s-genitive phrase John's. This type

of error reflects the Syrian learner's difficulty in using the correct ENG possessor+Noun word-order. To evade this problem, Syrian students overgeneralised structures in which the possessive phrase can surface as an of-genitive phrase to structures in which only the s-genitive form of the possessor is used. To make this point more concrete, they overgeneralised the use of possessors in structures such as (10) to those in (9) above:

(10) [\* The attack of the enemy] on the city annoyed me

Such errors as the one in (9) above reflect the Syrian learner's insufficient knowledge of the conditions which determine when a possessive/subject phrase must be obligatorily case-marked by the genitive determiner 's and when it can be case-marked by of.

#### **Prediction 10**

The incorrect addition of a direct complement DP after the head noun was predicted by this prediction. Overall, there were 7 unpredicted incorrect answers in GP1 and 6 ones in GP2. Most of these errors involved the wrong addition of prepositions like in and from instead of moving the complement DP into the [Spec., DP] position to be case-marked by the genitive 's determiner. The following is an example of these unpredicted incorrect responses:

(16) [\* Arrest of/to the murderer] was appreciated  
by all the villagers

[\* Destruction on/from the city] worried me



The above intralingual error resulted from the learners' insufficient knowledge of the structure under investigation. It reflects the students' awareness of the fact that nouns in ENG are not case-assigning categories and that, therefore, cannot be directly followed complement DPs. However, instead of applying a CSM on this structure, the testees wrongly inserted the prepositions of, to, on and from before the complement phrase chemistry. This shows their insufficient knowledge of the mechanisms by means of which case is assigned to complement DPs in ENG nominal phrases.

#### Prediction 11

This prediction predicted the correct insertion of the dummy case-assigner of before complement DPs in noun phrases headed by the definite article. On this prediction, there were 19 unpredicted errors made by GP1 students and 9 ones produced by GP2 students. The most constantly recurring among these errors are the following:

(7) [\* The severe destruction the airport] annoyed me

The above error involved the wrong addition of a direct complement DP the airport after the head noun destruction instead of the corresponding complement PP of the airport. Learners here failed to insert the required dummy case-assigner of and instead, they used the simplified DS form of the structure. This error was caused by the Syrian learners' ignorance of the value of the RCAP for ENG. They have wrongly assumed that nouns in ENG are

case-assigning categories and thus, they can directly case-mark their complement DPs.

#### **Prediction 12**

This prediction was related to the correct use of postnominal APs. Students in GP1 produced 19 unpredicted errors and students in GP2 had 7 such errors.

The majority of the unpredicted errors were of the following form:

(5) She is [\* a proud of her son woman]

The above error involved the use of the wrong word-order of APs containing complement PPs. Instead of positioning them in postnominal position, Syrian learners used them in prenominal position, thus violating the UDBC.

We can plausibly regard errors like the one in (5) as errors of 'transfer of training'. Given that prenominal APs in ENG are of higher frequency or less 'marked' structures than postnominal ones, they are therefore introduced to Syrian learners of ENG at a relatively earlier stage than postnominal APs. Thus, having learned that ENG APs are prenominal modifiers, students found it difficult to position them postnominally overlooking the fact that these APs are obligatorily positioned after the noun they modify when they are followed by their complement PPs.

#### **Predictions 13 & 14**

Prediction 13 predicted the use of the correct-word

order of complement PPs vs. adjunct PPs, and prediction 14 involved the use of the correct word-order of adjunct PPs before long/complex PPs. The largest number of unpredicted responses in both GP1 and GP2 were committed in the use of postnominal PPs. On prediction 13, there were 27 unpredicted errors produced by GP1 and 16 ones produced by GP2. On prediction 14, on the other hand, the students in GP1 produced 24 unpredicted erroneous answers and the students in GP2 produced 17 ones.

Almost all of these unpredicted errors involved the use of the use of the wrong word-orders N+Adjunct PP+complement PP and N+long/complex PPs+adjunct PPs. The following is an example of these errors:

- (6) a. [\* The sudden attack in the morning on the city]  
surprised everybody in the town

A possible source of these errors is interference from the learners' colloquial SYA where complement PPs (both short and long) are freely used either before or after adjunct PPs.

#### **Prediction 15**

This predicted that Syrian learners of ENG would incorrectly inflect semi-numerals for Number (e.g. \* three thousands men). On items testing this prediction, there were 9 unpredicted incorrect answers in GP1 and 9 ones in GP2. Most of these errors were of the following type:

- (12) [\* Three thousand of students] passed the  
exam last term



Errors like the one in (12) above are of the same type as those committed in items testing Prediction 16 and , therefore, they will be discussed in the next section.

#### Prediction

16

This prediction involved the correct insertion of partitive of-phrases after numerals. Overall, there were 16 unpredicted errors in GP1 and 8 ones in GP2. The unpredicted errors included errors such as the following:

- (2) a. [\* Two millions these magazines] were distributed last month
- b. [\* Two million of these magazines] were distributed last month

The first error involved the wrong addition of a direct complement DP after the semi-numeral millions. This intralingual error was probably caused by the learners' incomplete knowledge of the subcategorisation properties of semi-numerals like millions.

On the other hand, errors like the one in (2/b) resulted from the wrong omission of the plural -s inflection after million. We can consider this type of intralingual error as a case of faulty 'overgeneralisation' of TL structures on part of the Syrian learners. In more concrete terms, Syrian learners have overgeneralised the use of numerals in structures like (3) to their use in partitive constructions:

- (3) [Two million magazines] were distributed last month

In examples like the one in (3), the semi-numeral

million has the syntactic function of an N-bar adjunct, which explains why it does not bear the number inflection of the matrix DP. By contrast, in (2), the semi-numeral million is itself the head constituent of the containing nominal phrase hence the fact that it carries the plural -s inflection of the whole phrase. Errors like the one in (2/b) have therefore resulted from the learners' overgeneralisation of the N-bar adjunct analysis of semi-numerals in ordinary noun phrases to their use in partitive nominal phrases, thus failing to inflect them with the Number inflection of the whole containing phrase.

Among the unpredicted erroneous responses on this prediction, there were errors like the following:

(4) [\* Two millions from these magazines] ....

For an analysis of similar errors to these, the reader is referred to Prediction 17 below.

#### **Prediction 17**

This prediction predicted the incorrect insertion of complement DPs directly after some and which instead of the desired partitive of-phrases. Students in GP1 committed 9 unpredicted erroneous responses and students in GP2 made 3 such errors. The following is an example of a constantly occurring unpredicted response:

(14) \* Which from these films have you seen before ?

The ill-formedness of the above sentence is due to the

selection of the wrong head preposition of the partitive phrase. Instead of using of, Syrian learners used from. Such errors like the one in (14) are instances of-TR on the lexical level since in MSA, a partitive phrase is headed by the preposition min which is the lexical counterpart of from in ENG, and not by li which corresponds to of. Such an error was beyond the scope of my predictions because it is lexical in nature whereas my CA of ENG and MSA structures has been executed at the level of syntax.

#### Prediction 18

This predicted the overinclusion of the lower N-bar use in postposed genitive phrases. In GP1, students produced a total of 4 unpredicted errors and in GP2, students had only 1 unpredicted error. The following is an example of these unpredicted errors:

(11) There was [a picture o Talal] on the wall

The above example represents a substitution error in which learners used a complement PP, viz., of Talal instead of the desired postposed genitive phrase of Talal's. Although (11) is superficially well-formed, it has nonetheless been analysed as erroneous on the basis that it does not convey the desired partitive meaning which the required postposed genitive phrase conveys. In other words, whereas the response in (11) is overtly well-formed, it is nonetheless covertly erroneous.

The use of a complement PP instead of a postposed



genitive phrase can be considered as a manifestation of an 'avoidance' strategy on part of the Syrian student. The use of structures like the one in (11) reflects the fact that some Syrian students were facing difficulties in producing and recognising the needed postposed genitive phrase of Talal's by virtue of the fact that their NL differs from ENG with regard to this type of nominal modifier. In order to cover up these processing difficulties, they produced the inappropriate superficially acceptable complement PP of Talal.

Summing up, so far I have given an account of the most frequent unpredicted errors found in the linguistic output of 50 Syrian students who have been the focus of the current empirical enquiry. The following table summarises the error count for both positive and negative predictions in both GP1 and GP2.

Table (8.1)

Prediction	No. of unpredicted Errors	
	GP1	GP2
1	21	12
2	4	-
3	19	8
4	-	-
5	7	2
6	9	4
7	8	2
8&9	18	4
10	7	6
11	19	9
12	19	7
13	27	16
14	24	17
15	9	9
16	16	8
17	9	3
18	4	1

From the above table, we note that students in both groups committed the highest number of errors on the same predictions (see Predictions 13,14,1,3,11). They also produced the least lowest number of unpredicted incorrect answers on the same predictions (see Predictions 2,4,18,5,7). Considering the error frequency in some of the predictions (e.g. Predictions 2,4,5,7,18) in the two groups, we would expect that the relevant structures will be mastered by the students in GP1 by the time they reach the level of GP2. By the same token, an examination of the frequency of unpredicted errors on Predictions 1, 13 and 14, indicated that they have fossilised in some of the students.

It should be noted however, that in some cases, the high number of unpredicted errors on some of predictions

is to be explained on the grounds that these predictions were tested in more test items than other predictions. This observation is particularly true for Prediction 3 which was tested in six test items, two in each test.

Another noteworthy point is that, generally speaking, students were consistent in their linguistic performance. This was reflected by the fact that in many cases, the same learner produced one and the same errors across all three tests.

There are a number of conclusions to draw from the above analysis of the Syrian learners' errors. Further support for the two hypotheses tested in the present study is provided by this analysis. On the one hand, we have seen many instances of transfer errors which learners produced in relation to predictions others than those which originally predicted them. On the other hand, a comparison of the number of unpredicted errors in both GP1 and GP2 shows that, apart from Prediction 15, the students in GP2 produced fewer errors than the students in GP1. This in turn provides support for the hypothesis that the more advanced the FL learner is, the more competent he/she will be in using the FL.

A further relevant point to mention in relation to the above analysis of Syrian learners' errors is that it supports the claim that the 'overgeneralisation' and 'avoidance' are two important strategies which FL learners engage when learning a FL. These strategies have been used



by Syrian learners in the present study in instances in which their knowledge of the FL constructions was not sufficient to produce correct target-like structures (see Predictions 8 & 9, 16 and 18). The recognition of an 'avoidance' strategy on part of the Syrian students has only been made possible by our a priori CA of ENG and MSA.

### 8.3. FINDINGS

This study has produced a CA of ENG and MSA noun phrases. The aim was to investigate the extent to which it is possible to predict by CA Syrian learners' errors and learning difficulties and non-difficulties of certain ENG structures. The basic hypothesis underlying this contrastive study is that Syrian learners will transfer their NL structures into ENG. It is hypothesised that when they transfer their anisomorphic L1 structures into ENG, learning difficulties and hence errors will occur, whereas when they transfer their isomorphic NL structures no errors occur; instead, their learning of the TL is facilitated and this is reflected by the production of the correct target forms.

In addition to the CAH outlined above, there has been another hypothesis which I have addressed in the present thesis. This hypothesis claims that the extent to which Syrian learners utilise the transfer strategy will vary in accordance with their stage of development. Accordingly, I predicted that the advanced students in GP2 would utilise +TR and suppress -TR more efficiently than the

intermediate students in GP1 and as a result, they would perform more successfully than those in GP1. This is explained on the grounds that because of their longer exposure to the target language, the students in GP2 have had more chances to improve their competence in the new language and increase their FL linguistic repertoire than the less advanced students in GP1.

The results of the empirical investigation conducted in the present thesis have yielded significant findings concerning the validity of the two hypotheses. On the one hand, the fact that Syrian learners' production and recognition of ENG DPs included a significant number of interference errors gives support to the claim that CA is a fairly good predictor of FL errors. This in turn strengthens the hypothesis that NL transfer is a natural phenomenon in FLL. Therefore, CA should not be abandoned as an indispensable tool in IL studies, because of its unique potential for being able both to predict and to account for a proportion of FL errors. However, the existence of a number of unpredicted errors in the Syrian students' linguistic performance indicates that NL transfer is by no means the only process responsible for their IL. Other processes included the strategy of 'overgeneralisation', 'transfer of training' and 'avoidance'.

On the other hand, the finding that the students in GP2 produced more target-like structures and less interference errors than the students in GP1 supports the

argument that the likelihood of relying on NL -TR decreases as the stage of development of the students increases, as was predicted by Hypothesis Two.

#### 8.4. Shortcomings of the Present Study

Although this study has yielded satisfactory results, yet it has a number of shortcomings. For one thing, the bulk of data used for the analysis is based exclusively on written production. More comprehensive results would have been obtained if both written and oral data were used. It is acknowledged that speech more directly reflects the language production/comprehension process than does writing. This is because the writing situation allows the students to be more conscious about their FL performance. They usually have more time to monitor the various steps in the production process. This will in turn lead to less natural performance in the FL. By contrast, speaking spontaneously reduces the amount of monitoring and as a result, spoken language provides access to automatised and implicit IL knowledge.

Another limitation of this work relates to the fact that the empirical investigation has been exclusively concerned with university students of ENG. The restriction to university students cannot provide data which can be regarded as a representative sample of Syrian learners' ENG/MSA IL system. The inclusion of less advanced learners (e.g. students of secondary schools) would have provided us with more insights into the nature of this complex



system.

### 8.5. Outstanding Issues & Implications

The present work has been limited to a CA of ENG and MSA noun phrases and the analysis of errors made by Syrian learners in using them. This analysis, however, was not exhaustive. There are still other aspects of the noun phrase to discuss in future research. The discussion of the noun phrase should be extended to include other types of nominal modifier which I have not been able to cover in this thesis. These include among other things clausal modifiers (e.g. relative clauses), determiners like none, whose and quantifiers like many/few. We need to know more about the syntax of these items: their constituent function i.e. whether they are complements, adjuncts etc., and the various principles which determine their relative distribution in a given noun phrase. A CA of these constituents between ENG and MSA with the aim of highlighting potential areas of difficulty on part of the Syrian learner, goes without saying. I intend to pursue further investigation in these areas.

A further outstanding issue which stems from this work concerns the unpredicted errors discussed in section (8.2) above. An investigation into the underlying causes of these errors and the conclusions which can be drawn from this into the validity of the hypotheses governing the learning process in general remain to be seen.

Another related issue which merits further

investigation relate to the question of what implications does the current investigation carries for the teaching of ENG DPs. It will be worthwhile to consider whether this study has any guidelines for both the selection (i.e. what to teach) and the grading (i.e. when to teach) of the target structures under scrutiny.

## Appendix I: Elicitation Instruments

### 1.1.A. Test I / Completion: Part I

#### Instructions

Put the word(s) between brackets in the spaces given below. Make extra alterations which you consider are necessary to produce 'good' sentences.

#### Examples:

- a. She is \_\_\_\_\_ her son. (fond)  
She is fond of her son.
- b. He is running ----- . (yesterday)  
He was running yesterday.

1. Yesterday I met Mr. Jones, \_\_\_\_\_ students' advisor.  
(new)
2. Her friends think that she is beautiful \_\_\_\_\_. (girl)
3. All \_\_\_\_\_ admired her long beautiful hair. (them)
4. \_\_\_\_\_ the house is ours. (that)
5. I want to buy ----- the presents for my little brother  
(some)
6. Which \_\_\_\_\_ films have you seen before? (these)
7. \_\_\_\_\_ the stories we read were written by the same  
author. (all)
8. Three \_\_\_\_\_ students passed the exam last term.  
(thousand)
9. \_\_\_\_\_ believe that God does not exist. (some)
10. London is \_\_\_\_\_ city. (big)
11. ----- Hassan's friends did not come to the party  
yesterday. (some)
12. Two million \_\_\_\_\_ magazines were distributed last  
month. (these)
13. Samir put ----- his pictures on the wall. (a picture)
14. The severe destruction \_\_\_\_\_ annoyed me. (the city)



1.1.B. Test I / Part II

Instructions

In each of the following sentences, put the word(s) between brackets in ONE of the spaces given below. Make extra alterations if you think are necessary to produce 'good' sentences.

**Example:**

These are \_\_\_\_\_ books \_\_\_\_\_. (good)

These are good books \_\_\_\_\_.

15. ----- the murderer ----- was appreciated by all the villagers. (arrest)
16. Have you heard of the attack \_\_\_\_\_ on the Prime Minister's new economic plans \_\_\_\_\_ ? (on TV.)
17. She is a \_\_\_\_\_ woman \_\_\_\_\_. (proud of her son)
18. \_\_\_\_\_ acceptance \_\_\_\_\_ of the new job offer was expected. (John)
19. The sudden attack \_\_\_\_\_ on the city \_\_\_\_\_ surprised everybody in the town. (in the morning)
20. ----- destruction ----- annoyed me. (the city)

## 1.2. Test II / Translation

### Instructions

Translate the following passage into good English.

ذهبت البارحة مع بعض الأصدقاء الى منزل نبيل لحضور حفلة عيد ميلاده .  
يسكن نبيل في منزل مجاور لمنزلي في مدينة صغيرة يبلغ عدد سكان عشرة الاف نسمة تقريبا . معظم هؤلاء السكان جاؤا للعمل من المناطق المجاورة .  
كان هناك في منزل نبيل عدد كبير من الأصدقاء ، معظم هؤلاء الأصدقاء هم طلاب فيزياء في الجامعة مثل نبيل ، وبعضهم مدرسين في الجامعة للغة الإنكليزية .  
على الحائط في غرفة نبيل كانت هناك صورة من صور نبيل وبجانبها صورة تمثل كل العائلة .  
خلال تلك الامسية ، تحدث البعض عن آخر أخبار اليوم . ولقد كان هناك هجوم شديد في الجريدة الرسمية على خطة رئيس الوزراء الاقتصادية الجديدة ، كما كان تدمير العدو للمطار في الصباح خبرا جديدا في ذلك اليوم .  
على العموم ، كانت امسية ممتعة ، الكل قضى وقتا جميلا ، وفي النهاية ، تمنينا كلنا لنيل عيد ميلاد سعيد .

### 1.3. Test III / Judgment

#### Instructions:

Put a tick alongside the sentence which you think is 'good', and a cross X along the sentence which you think is 'bad' correcting at the same time the 'bad' part of the sentence.

#### Example:

- She like sweets.  
She likes sweets.

1. The some like the cinema better than the theatre.
2. most people think that new president is better than than the previous one.
3. All them hate linguistics.
4. Her parents always say that she is naughty girl.
5. Which these pictures is your favourite?
6. Some Mary's dresses are made in France, some are made in England
7. I have already seen all these films.
8. This the car is a brand new one.
9. Talal put a picture of his pictures on the wall.
10. Destruction the city was condemned by the government.
11. While we were on holiday, she stayed in the room next to mine.



12. John and Andrew are both professors with red hair of linguistics.
13. Have you heard of the attack on Chomsky's latest book on applied linguistics in the press?
14. Yesterday, I went with my father to house my uncle for a visit.
15. Jane is our new teacher of English with blue eyes.
16. The sudden attack in the morning on the city annoyed me.
17. The severe bombing the airport annoyed me.
18. There is huge castle in Aleppo.
19. Attack the enemy on the peaceful city surprised me.
20. Two thousands people attended the concert on Thursday.
21. Imprisonment the famous actor surprised me.
22. Five million people live in my city.
23. They all heard of the attack on TV. on the Prime Minister's new social and economic plans.
24. Jane told me that Tom gave her a picture of his before he left.
25. He bought some the presents for his little sister on her birthday.
26. She bought a similar to mine dress.
27. Three millions of these magazines were distributed last month.

2.1.1. Test I/ GP1

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	18	19	20	Item
	1	3	7	4	5	17	6	15	2	3	17	16	18	11	10	14	12	8	9	13	10	Pred.
01	11	01	00	10	00	01	00	01	01	01	10	11	01	11	01	11	11	10	10	10	11	01
02	11	01	10	10	10	10	11	10	10	01	10	11	01	11	10	00	00	01	00	11	10	
03	11	01	10	10	10	10	10	01	10	01	10	11	01	00	01	11	11	10	01	00	10	
04	00	01	10	10	10	01	11	01	01	00	01	11	10	11	01	00	11	10	10	10	01	
05	11	00	01	01	01	10	11	00	**	**	01	00	01	00	10	11	00	01	00	00	01	
06	11	01	00	01	01	01	11	01	10	01	10	11	10	11	10	11	10	10	10	10	00	
07	00	10	00	10	00	00	11	00	00	10	01	11	01	11	01	11	**	01	01	11	01	
08	11	01	01	10	01	01	11	10	10	01	01	00	10	00	10	00	11	10	10	10	00	
09	00	01	10	01	10	01	11	00	01	01	01	00	**	11	10	11	11	**	**	00	01	
10	11	00	10	10	10	10	11	01	01	00	00	11	00	11	10	11	11	10	01	11	10	
11	00	**	01	10	10	01	11	01	**	01	00	11	00	11	10	00	00	10	01	11	10	
12	11	10	01	10	01	01	11	01	10	10	01	11	01	11	10	00	00	01	01	11	10	
13	11	10	10	10	10	10	11	10	10	01	01	11	01	11	01	11	00	01	00	11	01	
14	00	01	01	10	10	10	10	01	01	01	10	11	10	00	**	11	11	01	00	11	10	
15	11	10	00	01	01	01	00	01	**	10	01	00	01	00	00	11	11	10	10	01	10	
16	**	10	10	01	01	10	11	10	01	10	10	11	01	00	00	11	11	10	10	01	10	
17	00	10	01	10	10	01	11	01	10	01	01	11	01	11	10	00	00	00	00	00	10	
18	11	01	10	01	01	01	11	10	01	01	10	11	01	11	10	11	11	10	01	11	10	
19	11	00	01	10	00	01	11	01	10	00	01	11	01	11	**	11	11	10	10	01	10	
20	11	01	10	10	01	01	11	01	01	10	00	11	01	00	00	11	11	10	10	10	10	
21	11	01	01	01	01	10	11	10	10	01	10	11	01	11	10	00	11	10	01	11	10	
22	11	01	10	10	10	01	11	01	10	10	10	11	10	11	01	11	11	10	01	11	01	
23	00	10	10	10	01	01	11	01	10	01	10	11	01	11	01	11	11	**	01	01	11	01
24	11	00	**	10	10	01	11	01	10	00	10	11	01	11	01	11	11	10	10	10	10	
25	11	01	10	01	01	10	11	01	10	01	01	11	10	11	01	11	00	10	01	11	10	

2.1.2. Test 1 / GP2

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	18	19	20	Item
	1	3	7	4	5	17	6	15	2	3	17	16	18	11	10	14	12	8	9	13	10	Pred.
1	11	10	10	10	10	10	11	01	10	10	10	11	01	11	10	00	11	10	00	11	10	
2	11	10	00	10	10	10	10	10	10	10	10	11	10	11	10	11	11	10	10	10	11	10
3	11	10	10	10	10	01	11	10	10	10	01	00	01	11	10	11	00	10	10	10	11	10
4	11	01	10	10	10	*	11	01	10	01	10	11	*	11	10	11	11	10	10	10	11	10
5	11	01	10	10	10	10	11	10	10	01	00	00	10	11	10	11	11	10	01	11	10	
6	00	00	10	10	10	10	10	00	10	00	10	11	10	11	10	00	00	10	01	11	10	
7	11	10	10	10	10	10	11	10	10	10	11	01	00	00	00	11	11	01	01	00	*	
8	11	01	10	10	10	10	11	10	01	10	11	10	11	10	10	11	10	10	10	10	11	10
9	11	10	10	10	10	01	10	10	10	00	10	11	01	00	10	00	11	10	10	10	11	10
10	00	01	10	10	10	01	10	10	10	00	10	11	10	11	01	11	11	10	10	11	01	
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12	11	01	10	10	01	10	11	00	10	01	10	11	01	11	10	11	11	10	01	00	10	
13	11	10	10	10	10	10	11	01	10	10	11	10	10	11	10	11	10	10	10	11	10	
14	11	01	01	10	01	01	11	10	10	10	11	10	10	10	01	11	11	10	10	10	01	
15	11	10	10	10	10	10	11	10	10	01	11	10	10	00	11	11	11	10	10	11	01	
16	11	10	10	10	10	10	11	10	10	10	11	01	11	11	10	11	11	10	01	11	10	
17	11	10	10	10	10	10	11	10	10	10	11	10	11	11	10	11	11	10	10	11	10	
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22	00	10	10	01	10	10	11	01	10	01	11	10	11	11	10	11	11	10	10	11	10	
23	11	10	10	01	10	10	11	01	10	10	11	01	11	11	10	11	11	10	10	11	10	
24	11	10	10	10	10	10	11	01	10	10	11	01	11	11	10	11	11	10	10	11	10	
25	11	10	10	10	10	10	11	01	10	10	11	01	11	11	10	00	11	10	10	11	10	



### 2.2.2.1. Test II / GPI

	1	2	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	17	18	19	20	Item
	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-----	
	5	8	9	3	15	16	4	1	18	17	4	10	7	13	6	12	3	8	9	14	11	2	Pred.
	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-----	
1	00	10	10	01	10	11	10	11	00	01	10	01	00	11	00	11	01	10	01	11	00	10	
2	10	10	01	01	01	11	10	11	01	10	10	10	10	11	11	00	01	01	01	00	11	10	
3	10	10	10	01	01	11	10	11	01	10	10	10	10	11	11	11	10	10	10	11	00	01	
4	10	10	10	01	10	11	10	11	10	01	10	10	10	11	11	11	01	10	01	11	00	10	
5	01	10	01	00	00	11	10	11	01	10	10	10	10	00	11	11	01	01	01	11	00	01	
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7	00	10	01	01	00	11	10	00	01	10	01	01	00	11	00	10	01	01	01	11	11	10	
8	01	10	10	01	01	00	10	11	01	01	10	10	10	11	11	11	10	10	10	00	11	01	
9	10	10	01	01	10	11	10	11	01	11	10	10	10	11	11	11	10	10	10	11	11	10	
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11	01	01	01	00	01	11	10	00	10	00	10	10	10	11	11	00	00	01	01	11	11	10	
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14	10	01	00	01	00	11	10	11	10	10	01	01	01	11	11	10	01	01	00	11	11	01	
15	10	10	10	10	10	11	01	11	10	00	10	01	01	11	00	11	10	10	10	11	11	01	
16	10	10	01	10	01	11	10	00	01	10	00	10	10	11	00	11	01	10	01	11	11	10	
17	10	00	00	10	01	11	10	11	01	11	10	10	10	11	11	10	01	10	10	11	11	01	
18	10	01	01	01	10	00	10	11	10	10	10	10	10	11	11	11	00	01	01	11	11	01	
19	01	00	00	01	01	00	01	11	01	01	01	10	01	11	11	11	01	10	10	11	00	01	
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21	10	01	01	01	01	11	01	11	10	10	01	10	00	11	00	11	01	01	01	11	11	10	
22	10	10	01	01	01	11	01	11	01	10	01	10	01	11	11	11	01	10	01	11	11	01	
23	01	01	00	01	10	11	10	00	01	10	01	10	10	11	11	10	10	01	00	11	11	10	
24	01	01	01	00	01	11	10	11	10	11	10	01	01	11	11	11	00	01	01	11	11	01	
25	10	01	01	10	01	11	01	11	01	01	10	01	01	11	11	11	01	10	01	11	11	10	

2.2.2. Test IT / GP2

	1	2	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	17	18	19	20	Item
	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	-----
	5	8	9	3	15	16	4	1	18	17	4	10	7	13	6	12	3	8	9	14	11	2	Pred.
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1	10	01	01	10	01	11	10	11	10	10	10	10	10	11	11	10	01	01	01	11	11	10	10
2	10	10	10	10	10	11	10	11	10	10	10	10	00	11	11	10	10	10	10	11	11	10	10
3	10	10	10	10	10	11	10	11	01	10	10	10	10	11	00	10	10	10	10	11	11	10	10
4	10	10	10	10	10	11	10	11	10	10	10	10	10	00	11	01	10	10	10	11	11	01	10
5	10	10	10	01	00	00	10	11	10	00	10	01	10	11	11	10	10	10	10	11	11	10	10
6	10	10	10	00	00	11	10	00	10	10	10	10	10	11	10	01	10	10	10	00	11	10	10
7	10	10	01	10	10	11	10	11	01	10	10	10	10	11	11	10	01	10	01	11	00	10	10
8	10	10	10	01	10	11	10	11	00	10	10	10	10	11	11	11	01	10	10	11	11	01	10
9	10	10	10	10	01	11	10	11	01	10	10	10	10	11	11	10	10	10	10	11	11	10	10
10	10	10	10	00	01	11	10	00	10	10	10	10	10	11	11	00	10	10	10	11	11	10	10
11	10	01	00	01	10	11	10	11	01	10	10	10	10	11	11	10	01	01	01	11	11	10	10
12	10	00	00	01	01	11	10	11	01	10	10	10	10	11	00	11	00	10	10	11	11	10	10
13	10	10	10	10	10	11	10	11	10	10	10	10	10	11	11	10	10	10	10	11	11	01	10
14	10	10	10	10	01	11	10	11	01	10	10	01	10	11	11	11	01	10	10	10	11	10	10
15	10	10	10	10	10	11	10	11	10	10	10	10	10	11	11	11	10	10	10	10	11	10	10
16	10	10	10	10	10	11	10	11	10	11	10	10	10	11	11	11	10	10	10	10	11	10	10
17	10	10	10	10	10	00	10	11	10	11	10	10	10	11	11	11	10	10	10	11	11	10	10
18	10	10	10	10	10	01	10	11	10	11	10	10	10	11	11	11	10	10	01	11	11	10	10
19	01	10	01	01	10	11	10	11	01	10	10	10	10	11	11	11	01	01	01	00	11	10	10
20	01	10	10	10	10	11	10	00	10	01	10	10	10	11	11	11	10	10	10	11	11	10	10
21	10	10	10	10	01	00	10	11	10	10	10	10	10	11	00	11	01	10	10	11	11	01	10
22	10	00	00	10	10	11	10	11	10	10	10	10	10	11	11	11	10	10	10	11	11	10	10
23	10	10	10	10	10	11	10	11	01	10	01	10	10	11	11	11	10	10	01	11	11	10	10
24	10	10	10	10	01	11	10	11	10	11	10	10	10	11	11	11	10	10	10	01	11	10	10
25	10	10	10	10	10	11	10	11	10	11	10	10	10	11	11	11	10	10	10	11	00	10	10



2.3.1. Test IIR / GPI

1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	14	15	16	16	18	19	19	20	21	22	23	24	25	26	27
1	01	11	01	01	01	01	11	01	01	01	10	11	11	11	10	11	11	00	01	10	10	01	01	01	11	**	00	11	11
2	10	11	10	01	10	10	11	10	01	10	00	11	00	01	01	11	11	11	01	01	01	10	10	10	11	01	10	00	00
3	01	11	10	01	10	01	11	10	01	10	11	11	11	10	10	11	11	11	01	10	10	01	10	01	11	01	01	11	11
4	01	00	10	01	01	01	10	01	10	01	11	00	00	10	10	00	00	00	01	01	10	01	01	01	00	10	10	11	11
5	01	00	01	01	10	01	11	10	01	01	00	00	00	01	00	11	00	00	01	01	00	00	10	00	11	01	01	00	11
6	10	11	01	01	01	01	11	01	10	01	10	11	11	01	01	11	11	11	01	01	01	01	01	11	10	01	01	10	11
7	01	00	01	10	01	10	00	10	01	10	11	11	00	01	10	11	11	11	10	10	01	01	01	01	00	01	10	00	00
8	01	11	01	01	01	01	11	10	01	01	11	00	**	10	10	11	11	11	00	10	10	01	01	10	10	01	10	10	11
9	10	00	10	01	01	10	11	01	01	01	11	00	11	10	01	11	11	11	01	10	01	01	10	10	10	01	10	00	11
10	01	11	10	00	01	10	11	10	01	01	11	11	00	01	01	11	11	11	01	01	01	01	10	01	01	10	01	11	11
11	01	00	01	01	01	01	11	10	01	01	11	11	11	01	01	11	11	11	01	10	10	01	01	10	10	01	10	11	00
12	01	11	10	10	01	10	11	01	01	10	00	00	00	10	01	11	11	11	10	01	01	01	10	01	11	01	10	00	00
13	10	11	11	10	01	10	10	10	01	10	11	11	11	00	00	11	11	11	01	10	01	01	01	01	11	01	10	11	11
14	10	00	01	01	10	10	11	01	10	01	11	11	00	01	00	11	11	11	01	10	01	**	00	01	01	00	01	00	00
15	00	11	00	10	01	01	11	10	10	10	11	11	11	10	01	11	11	00	10	01	01	00	01	01	11	01	00	11	00
16	01	00	10	01	10	10	11	10	01	01	11	11	00	10	01	11	11	11	01	01	01	01	01	01	11	01	01	11	11
17	10	*	01	10	01	10	11	10	01	10	00	00	00	10	01	11	11	11	00	10	01	10	01	01	11	10	10	00	11
18	01	11	10	01	01	01	11	01	01	01	11	11	11	10	01	11	00	00	01	01	01	10	01	10	10	01	10	11	11
19	10	11	01	00	01	10	11	10	01	01	11	11	11	00	00	11	00	00	00	01	01	10	01	10	11	*	10	11	11
20	00	00	01	01	00	01	11	01	10	10	11	11	11	10	10	11	11	11	00	00	10	01	01	01	11	01	01	10	00
21	00	11	10	01	10	10	11	01	01	10	11	00	00	01	01	11	11	11	01	01	01	10	10	10	00	10	01	11	11
22	10	11	10	01	10	10	11	10	01	01	11	11	11	01	01	11	11	11	01	10	10	01	10	01	11	10	10	11	11
23	01	11	01	10	01	01	11	10	10	01	11	00	11	01	01	11	11	11	11	10	01	01	01	01	11	10	01	11	11
24	01	00	01	10	10	10	11	10	01	01	11	11	11	10	10	11	11	11	11	01	01	10	01	01	11	10	10	11	11
25	10	11	10	01	01	01	11	01	10	10	11	11	11	11	01	11	11	11	01	01	01	01	01	01	10	01	11	11	11



2.3.2. Test III / GP2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	14	15	16	17	18	19	19	20	21	22	23	24	25	26	27
1	10	11	10	10	10	11	10	10	10	10	11	11	11	01	11	11	11	10	01	01	01	10	01	11	10	10	11	11
2	10	11	10	10	01	10	10	10	10	11	11	11	10	10	11	11	11	10	10	10	10	10	10	11	10	10	11	11
3	10	11	10	10	10	11	10	01	10	11	11	11	10	10	11	11	11	10	10	10	10	10	10	11	01	10	00	11
4	01	00	01	01	10	10	10	01	10	11	11	00	10	10	11	11	11	01	10	01	01	10	00	11	01	10	11	00
5	10	11	10	01	00	10	10	01	10	11	11	00	10	10	11	11	11	01	10	10	00	10	11	10	01	10	11	00
6	01	00	10	01	01	01	10	01	10	11	11	00	10	10	11	11	11	00	10	10	00	10	11	10	10	10	11	11
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