Adjunction in Arabic, Case and Chain Theory

by

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B.A. University of Mosul, 1979
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THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

In the
Department
of
Linguistics

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SIMON FRASER UNIVERSITY

December 1990

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Abstract

In this thesis, I investigate constructions involving adjunction in Arabic within the theory of Principles and Parameters as synthesized in Chomsky (1981) and further developed in subsequent work.

I propose that the direction of Case-marking for all lexical and non-lexical categories in Arabic is uniformly rightward, corresponding to the head-initial parameter of X-theory. Although Arabic clauses are uniformly verb-initial at S-structure, I argue that the verb originates in VP at D-structure, and moves out of VP to COMP in the mapping from D-structure to S-structure. Thus, nominative, accusative and genitive Case are assigned by a head to its complement only when the head precedes its complement. Assuming that V-movement must obey the Head Movement Constraint, the verb first must raise to the intermediate head position in inflection; then the verb plus inflection moves together to comp. This derives the surface constituent VSO order of Arabic.

Constructions involving adjunction are structures in which an NP bears a government relation to a head to which it bears no thematic relation. They include Left-dislocation, Wh-questions, Topicalization, Exceptional Case-marking, and Non-thematic Subjects. Important principles of Universal Grammar appear to be violated in these constructions. Modifications and extensions are thus required to accommodate these constructions.

The Θ-Criterion which requires every A-position to be assigned a Ø-role and every Θ-position to be assigned an argument appears to be violated in Non-thematic Subjects. Since the subject A-position is generated at D-structure by the Projection Principle, that position must be a Θ-position by the Θ-Criterion. My resolution to this paradox is to reduce the first clause of the Θ-
Criterion to the Principle of Full Interpretation (FI), and propose a less restrictive notion of D-structure.

Case theory and the Visibility Hypothesis appear to be violated in the other constructions where an NP in an \( \bar{A} \)-position must be Case-marked contrary to the predictions of the theory. I extend the domain of Case requirement to include such positions as well, and reinstate Case as a condition on interpretability that makes all NPs visible not to the \( \Theta \)-Criterion as standardly assumed but to FI. Given adjoined NPs with Case, the domain of Case theory is not only A-positions, but rather \( \bar{A} \)-positions as well. Case and FI thus become intertwined facets of interpretability.
Acknowledgements

I was fortunate to have professor Richard DeArmond as a thesis adviser. His clarity of thought and keen insight into linguistic phenomena made me feel privileged to work with him. I am grateful to the members of my supervisory committee: Professor Heles Contreras and professor Donna Gerdts for their insightful comments and criticisms.

Professor Nancy Hedberg challenged and encouraged me, sharing her knowledge generously.
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<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>*</td>
<td>ungrammatical</td>
</tr>
<tr>
<td>*(X)</td>
<td>ungrammatical if X is not present</td>
</tr>
<tr>
<td>(*X)</td>
<td>ungrammatical if X is present</td>
</tr>
<tr>
<td>1</td>
<td>first person</td>
</tr>
<tr>
<td>2</td>
<td>second person</td>
</tr>
<tr>
<td>3</td>
<td>third person</td>
</tr>
<tr>
<td>acc</td>
<td>accusative</td>
</tr>
<tr>
<td>AGR</td>
<td>agreement</td>
</tr>
<tr>
<td>cl</td>
<td>clitic</td>
</tr>
<tr>
<td>C/COMP</td>
<td>complementizer</td>
</tr>
<tr>
<td>corrob</td>
<td>corroborative</td>
</tr>
<tr>
<td>CP</td>
<td>= C'' = S'</td>
</tr>
<tr>
<td>e/ec</td>
<td>empty category</td>
</tr>
<tr>
<td>ECM</td>
<td>Exceptional Case marking</td>
</tr>
<tr>
<td>ECM'd</td>
<td>exceptionally Case marked</td>
</tr>
<tr>
<td>ECP</td>
<td>Empty Category Principle</td>
</tr>
<tr>
<td>EPP</td>
<td>Extended Projection Principle</td>
</tr>
<tr>
<td>expl</td>
<td>expletive</td>
</tr>
<tr>
<td>f</td>
<td>feminine</td>
</tr>
<tr>
<td>fut</td>
<td>future</td>
</tr>
<tr>
<td>gen</td>
<td>genitive</td>
</tr>
<tr>
<td>gen cl</td>
<td>genitive clitic</td>
</tr>
<tr>
<td>l/INFL</td>
<td>inflection</td>
</tr>
<tr>
<td>ind</td>
<td>indicative</td>
</tr>
<tr>
<td>indef</td>
<td>indefinite</td>
</tr>
<tr>
<td>IP</td>
<td>= I'' = S</td>
</tr>
<tr>
<td>LD</td>
<td>left dislocation</td>
</tr>
<tr>
<td>Ld'd</td>
<td>left dislocated</td>
</tr>
<tr>
<td>LF</td>
<td>logical form</td>
</tr>
<tr>
<td>LF'</td>
<td>stage within logical form</td>
</tr>
<tr>
<td>m</td>
<td>masculine</td>
</tr>
<tr>
<td>N</td>
<td>noun</td>
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<tr>
<td>nom</td>
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<tr>
<td>NP</td>
<td>noun phrase</td>
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<tr>
<td>Abbreviation</td>
<td>Definition</td>
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<td>--------------</td>
<td>----------------------------------</td>
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<tr>
<td>ob cl</td>
<td>cobject clitic</td>
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<tr>
<td>pl</td>
<td>plural</td>
</tr>
<tr>
<td>P</td>
<td>preposition</td>
</tr>
<tr>
<td>PF</td>
<td>phonological form</td>
</tr>
<tr>
<td>PFI</td>
<td>Principle of Full Interpretation</td>
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<td>Projection Principle</td>
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<tr>
<td>sg</td>
<td>singular</td>
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<td>SPEC</td>
<td>specifier</td>
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<td>t</td>
<td>trace</td>
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<td>wh</td>
<td>interrogative</td>
</tr>
<tr>
<td>V</td>
<td>verb</td>
</tr>
<tr>
<td>$X^0$</td>
<td>lexical category</td>
</tr>
<tr>
<td>$X^{\text{max}}$</td>
<td>maximal projection</td>
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</table>
1 Preliminaries

The discussion below is intended to introduce the reader to the variety of Arabic under investigation, its main syntactic features and some of the works on this language.

1.1 Transcription and Transliteration Systems

The Arabic data and the Arabic grammatical terms in this dissertation are given in a phonemic system. The Arabic symbols with their phonemic equivalents are given below:

(1)

a. Arabic Consonants:

<table>
<thead>
<tr>
<th>Arabic Symbols</th>
<th>Phonemic System</th>
</tr>
</thead>
<tbody>
<tr>
<td>َب</td>
<td>b voiced bilabial stop</td>
</tr>
<tr>
<td>َت</td>
<td>t voiceless dental-alveolar stop</td>
</tr>
<tr>
<td>ْث</td>
<td>t voiceless emphatic dental stop</td>
</tr>
<tr>
<td>َد</td>
<td>d voiced dental-alveolar stop</td>
</tr>
<tr>
<td>ٌد</td>
<td>d voiced emphatic dental stop</td>
</tr>
<tr>
<td>َك</td>
<td>k voiceless velar stop</td>
</tr>
<tr>
<td>َق</td>
<td>q voiceless uvular stop</td>
</tr>
<tr>
<td>َ؟</td>
<td>? glottal stop</td>
</tr>
<tr>
<td>َش</td>
<td>ś voiced palato-alveolar affricate</td>
</tr>
<tr>
<td>َح</td>
<td>f voiceless labio-dental fricative</td>
</tr>
<tr>
<td>َث</td>
<td>θ voiceless interdental fricative</td>
</tr>
<tr>
<td>َج</td>
<td>γ voiced interdental fricative</td>
</tr>
<tr>
<td>َغ</td>
<td>d voiced emphatic interdental fricative</td>
</tr>
<tr>
<td>َس</td>
<td>s voiceless dental-alveolar fricative</td>
</tr>
</tbody>
</table>
b. Arabic Vowels:

<table>
<thead>
<tr>
<th>Arabic Symbols</th>
<th>Phonemic System</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>short low back unrounded vowel</td>
</tr>
<tr>
<td>a:</td>
<td>long low back unrounded vowel</td>
</tr>
<tr>
<td>u</td>
<td>short high back rounded vowel</td>
</tr>
<tr>
<td>u:</td>
<td>long high back rounded vowel</td>
</tr>
<tr>
<td>i</td>
<td>short high front unrounded vowel</td>
</tr>
<tr>
<td>i:</td>
<td>long high front unrounded vowel</td>
</tr>
</tbody>
</table>

Gemination is regularly indicated by identical double consonants (writing the character two times), e.g., tt, dd, ss, etc.
1.2 The Language

The language under investigation in this study is Modern Standard Arabic, a language that has been in use for over fourteen centuries. It is also referred to by some writers as Modern Written Arabic, or Modern Literary Arabic.

Modern Standard Arabic is the uniform variety of Arabic which is used all over the Arabic speaking world in contemporary literary works, as well as in the media, viz. magazines, newspapers, radio and television broadcasts, business, personal letters and in some songs. It is also used as the medium of oral communication on the stage, in formal and semi–formal speeches, such as sermons in mosques, public and university lectures, conferences and in scientific and literary debates. Moreover, it is used as a medium of instruction at all levels of school education.

Classical Arabic is the revered language of the Holy Qur’an, the prophetic tradition hadi:Θ, and medieval literature. It is also the language of pre–Islamic and early Islamic poetry (sixth–eighth centuries A.D.), literature, philosophy, theology and sciences. It is the language that was spoken throughout the Arab Peninsula with some dialectical variation during the sixth, seventh and eighth centuries A.D.

Arab children begin formally learning Standard Arabic at the age of five or six. By this time, they are already saturated in the language through news broadcasts, different types of programmes, debates and songs. Moreover, they communicates orally in this language in all formal and semi–formal contexts. These factors, coupled with the fact that many processes of the standard language are equally shared by the spoken dialects, qualifies any Arab with a reasonable amount of formal instruction in Standard Arabic as a native speaker of the language.
Except for a few examples, the data analyzed in this study are not taken from any particular written source. The author, as a native speaker of the language, born, raised and educated in Iraq has, by and large, supplied the data introspectively. As is generally the case, however, native speakers' judgments, as a test for grammaticality, do not seem to be always reliable because, except for the clear-cut cases, native speakers' judgments are often insecure and changeable. Therefore, to determine the degree of grammaticality, the author has considered the judgments of a number of other native speakers on some of the data which he produced from his own introspection. The other native speakers' consulted are: Mrs. Nagat Elesseily from Egypt, who received a Master's degree in Linguistics from the University of Ottawa; Mr. Muhammad Ezroua from Morocco, who is currently working on his doctorate in Comparative Literature at the University of British Columbia; Mrs. Nawal Sharif from Baghdad, who received a B. A. honours from the University of Baghdad, and worked as a high school teacher of Arabic in the city of Baghdad; and finally, Mr. Ra'ad Sharif from Baghdad, who received a Master's degree in economics from the University of Ottawa. All these consultants have a deep knowledge of Arabic since they were born and educated in their respective countries.

In this work, I shall simply use the term Arabic in the sense of Modern Standard Arabic. Where it is necessary, however, I shall make specific reference to Iraqi Arabic.

The next section deals with works related to the study of Arabic linguistics that are done mainly within generative grammar.  

1 The other major body of literature relevant to the student of Arabic linguistics is that of the traditional Arab grammarians. Historically, Arabic is one of the languages that have been studied most since the beginning of the seventh century A.D. The codification of classical Arabic took place at the hands of Muslim grammarians in the eighth century A.D.. To cite a few of them: Al-Khalil Ibn Ahmed Al-Farahidi, who died in the year 786, and who was aptly
1.3 Related Works


The above cited works will not be directly relevant to this study, since they use theories that employ construction-specific transformations, or deal with some aspects of Arabic syntax that are not of great concern to us here; hence they will only be referred to where appropriate.

described as the unmatched genius of the Basra school of Arabic grammar. His disciple Sibawayh, died in the year 793, wrote *Al–Kita:b* 'The Book' in the city of Basra towards the middle of the eighth century. *Al–Kita:b* is recognized in both modern and ancient sources as the most valuable grammar of Arabic for its thorough descriptions and its lucid explication of the syntax, semantics, phonology, morphology and phonetics of the Arabic language. It is the foundation on which practically all the Arabic grammatical tradition rests.

Later Medieval Arab grammarians maintained and enriched this grammatical tradition initiated by earlier grammarians. The result was an enormous output of linguistic analysis.
Another valuable source of information on various aspects of Arabic linguistics is *Readings in Arabic Linguistics*, edited by Al-Ani (1978). This reference contains numerous articles on the syntax, phonology, and morphology of the Arabic language written within both traditional and generative frameworks. Two works in particular deal with the phonology of Arabic. These are Michael Brame's Ph.D. dissertation: *Arabic Phonology* (1970), MIT, and Abbas Rahim's Ph.D. dissertation: *The Phonology of Spoken Iraqi Arabic From The Functional Point of View* (1980), The University of Leeds.

Among the traditional works on Arabic done by European Arabists is Wright's (1975): *A Grammar of the Arabic Language*, first published in (1874). Wright’s book is a translation from German of Caspari's work, and is based on the insights of the traditional Arab grammarians.

More recent work on the syntax of Arabic is Elesseily's (1985) M.A. thesis, written within the Government–Binding Theory. This work looks at extraction of subjects out of embedded clauses. Elesseily argues that the D–Structure of Arabic is SVO, VSO being derived by raising V and adjoining it to S at S-Structure. V takes the agreement element (AGR) along with it since the latter, being an affix, needs to be supported. I share with Elesseily the idea that the VSO order is derived from a D–Structure SVO by V–raising; but I differ with her in a crucial point, that is, V is not adjoined to IP, rather it moves to INFL to form the inflected verb V₁, and V₁ subsequently moves to COMP (C), yielding a VSO order at S–Structure. In fact, given the framework that I will assume in this dissertation—namely, the *Barriers* framework (Chomsky 1986b), V, being a head of VP can only move to a head position, such as INFL head of IP (=S) and then possibly to C head of CP; it can not be adjoined to a maximal projection, such as IP. Head movement will be dealt with in chapter 2 on word order.
1.4 Summary of Section 1

This preliminary section was an introduction to the language under investigation. First, it defined what variety of Arabic is being investigated, and then it cited some of the works on various aspects of Arabic, conducted within different theoretical frameworks.

1.5 Introduction to the Thesis

This thesis is composed of seven chapters which are organized as follows.

1.5.1 Chapter 1

The first chapter presents the theoretical framework on which this study is based: the theory of Government and Binding, outlined in Chomsky (1981, 1982, 1986). Linguistic theory, as it is conceived here, includes a highly structured theory of Universal Grammar (hereafter, abbreviated as UG), rather than construction-specific rules. This permits great simplification in the grammar, and generalization of the grammar across languages. In this conception, UG consists of various subsystems: X-theory, government theory, binding theory, Case\(^2\) theory, Θ-theory and bounding theory. In addition there are certain overriding principles, such as the Projection Principle, the Extended Projection Principle and the Principle of Full Interpretation.

1.5.2 Chapter 2

This chapter argues that Arabic is SVO at D-structure. The S-structure VSO order is obtained by head-to-head movement, as in Chomsky (1986b); V which heads VP moves to INFL, head of IP, forming the inflected verb V\(_I\), and V\(_I\)

\(^2\) Henceforth, the word Case, when used in its technical sense to designate morphological Case and abstract Case, will be capitalized, as has become a common practice, so as to avoid confusion with the word case as "in this case" meaning 'instance', or 'class of examples'.
subsequently moves to COMP, head of CP. This analysis is justified on two theoretical grounds: first, by the necessity of establishing a VP node for a universal definition of government, and, second, by the directionality parameter for government and Case-assignment in Arabic, which applies only rightward. I assume that direction of Case-marking for all Case-marking categories, lexical and non-lexical, is uniformly to the right. If the basic order of constituents in Arabic is assumed to be hierarchical; i.e. identical to that of SVO languages, it would enable us to express grammatical relations and Case-assignment in a universal manner.

1.5.3 Chapter 3

This chapter examines the structure of Left-dislocation in Arabic. It argues against a movement analysis of this construction and in favour of a base-generation analysis. The representative data of this construction are divided into three major sets. The first and second data sets represent Left-Dislocation in non-embedded contexts, and the third represents this construction in embedded contexts.

Unlike other languages, non-embedded Left-dislocation can be introduced by a complementizer in Arabic. For example Arabic may use the complementizer ?inna, in which case the Left-dislocated NP appears with accusative Case; otherwise, where no complementizer occurs the non-embedded NP always bears nominative Case. Section (3.16) argues that, while the nominative Case is a default Left-dislocation Case, the accusative Case is assigned by ?inna under government.

As for the D-structure position of the Left-dislocated NP, it will be argued that it is an A-position adjoined to IP or to CP, and in some cases to both simultaneously in the same clause. Section (3.9) argues that the feature
specific] is the relevant feature characterizing Left-dislocated NP's; definiteness being an instance of specificity.

Since the position in which a Ld'd NP appears is an $\overline{A}$–position to which no $\Theta$–role can be assigned, the NP cannot be interpreted thematically. However, the NP needs to be interpreted, as required by the Principle of Full Interpretation. Section (3. 8) proposes an approach where the interpretation is effected at LF in terms of predication by coindexing with a $\Theta$–position ($\Theta$–linking). As further cases of Left–dislocation are considered in chapter 5, the predication approach will be extended in that chapter to include $\Theta$–linking and "aboutness relation" with the rest of the sentence.

1.5.4 Chapter 4

This chapter examines the properties of constructions produced by move–$\alpha$. These constructions are wh–questions and Topicalization. Both of them may use the clitic strategy. First, it will be shown that the two constructions with their two versions: clitics and no–clitics are governed by Subjacency, concluding that their derivation is the product of move–$\alpha$, rather than base–generation.

Wh–elements move to the specifier position of CP [SPEC, CP], a position assumed to be reserved for wh–operators. This presumably follows from general conditions on LF interpretation, requiring that a wh–operator appear in the clausal specifier position to have scope over the variable, which it must bind. Section (4. 8.3) argues that the S–structure position of topicalized NPs is a position adjoined to IP and is thus an $\overline{A}$–position. Like wh–elements, topicalized NPs must bind a variable for purposes of interpretation at LF.
Based on extraction possibilities, this chapter presents arguments for the principles of Case inheritance and Case conflict. A lexical NP$^3$ in a Caseless position (a position that is not able to get Case by direct assignment) can pass the Case Filter if it is in a chain that contains a Case-marked element. As a property of chains, Case is inherited not only across A-chains (chains headed by an element in an A-position), as it is generally assumed, but also across A̅-chains (chains headed by an element in an A̅-position). This, I will motivate by the fact that the Case-marking of wh-moved and topicalized NP's is tightly bound to the Case of the NP from which extraction takes place. Put differently, the extracted element bears the Case of its extraction site.

The principle of Case conflict rules out structures in which an NP receives two Cases, whether different or identical, from two different sources.

The following sections present arguments for Case and mood adjacency. Case-assignment and mood-assignment are seen as being parallel in that the element assigning the feature Case/mood must be adjacent to the element to which it assigns that feature. It will be shown that the ungrammatical cases are precisely those which violate this adjacency condition.

1.5.5 Chapter 5

Chapter 5 turns to Exceptional Case-marking (ECM) and to the constructions of non-thematic subjects. It begins with a brief discussion of ECM structures in English, which are then contrasted against those of Arabic cases of ECM in an attempt to show that Arabic cases are not string vacuous, and that Arabic allows ECM to non-subject NPs.

The first sections argue that ECM structures are distinct from Left-dislocation in embedded environments. ECM will be compared to embedded

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3 "Lexical NP" simply means an NP that is assigned phonetic features in the lexicon.
LD and topicalization with a view to specifying the common properties of the three structures. It will be seen that they show the productive use of $\alpha$-adjunction sites that are available to Arabic as follows: IP and CP adjunction sites are the regular locus of Left-dislocated NPs; IP adjunction sites are the regular locus of topicaized NPs, and CP adjunction sites are the regular locus of exceptionally Case-marked NP's (ECM'd NPs), a position distinct from the specifier position of CP. All these NPs directly receive Case from an element from which they do not receive a $\Theta$-role.

ECM structures are defined as those structures in which an argument from within the embedded clause comes to act grammatically in ways similar to those of matrix objects. For example, the ECM'd NP can undergo object referring rules in the main clause, such as passivization, reflexivization and agreement. Following Al-Bayaty (1984), and Massam (1985), I will suggest that the ECM'd NP in Arabic is base-generated in a position adjoined to CP $[\alpha, \text{CP}]$. By being in this position, the particular NP is forced to behave as the grammatical object of the higher verb since it is governed and assigned Case by the governing verb. Based on the binding theory, it will be argued that the position $[\alpha, \text{CP}]$ is a governed position.

Next, I turn to the question of how the ECM'd NP, being in a $\tilde{\Theta}$-position, is interpreted and, thus, licensed. I argue for an approach which unifies both ECM and Left-dislocation with respect to interpretation and licensing. This is an extension of the predication approach suggested in chapter 3 to account for the coreference relation between the Ld'd NP in matrix and embedded clauses and its $\Theta$-pronoun. I will propose that both ECM'd NPs appearing in the adjoined position $[\alpha, \text{CP}]$, and left-dislocated NPs appearing in the adjoined positions $[\alpha, \text{CP}]$ and $[\alpha, \text{IP}]$ are interpreted either by deriving their $\Theta$-reference...
by Θ-linking (coindexation with an embedded Θ-pronoun), or by an "aboutness relation" with the rest of the sentence, involving no Θ-linking.

As stated above, the first sections of chapter (5) examine the phenomenon of non-arguments acting grammatically in ways corresponding to that of objects, or internal arguments. The remainder of this chapter will focus on a similar phenomenon, that of non-arguments acting grammatically in ways corresponding to subjects, or external arguments— hence non-thematic subjects.

The properties of non-thematic subject constructions are identical to those of the Arabic ECM constructions except that the latter involves Case-marking verbs, whereas, non-thematic subject constructions, involve non-Case-marking verbs. I analyze non-thematic subject constructions as involving movement from the \( \bar{A} \)-position \([\alpha, \text{CP}]\) to an A-position, that of subject. This I will do after discussing briefly the familiar cases of Raising-to-Subject in English.

Then, I compare the Arabic constructions with those of English involving the complementizers \textit{as if, as though and like}. It is seen that they have similar properties from those of Arabic non-thematic subject constructions. Non-thematic subject NPs in both languages can be coreferential with subjects or objects of embedded tensed complement clauses. The NP in question appears in a Θ-position, that of subject, deriving its Θ-reference by coindexation with an embedded Θ-position.

1.5.6 Chapter 6

In chapter 6, a Case and chain theory is developed which integrates the findings of the thesis. We will see that the Case and chain theory of chapter 1 must be modified and extended to account for the constructions examined in
this thesis. The traditional distinction between A-chains and A-chains is maintained and defended within the proposed theory. We see that chains are formed on A-positions and A-positions and that they are not necessarily Θ-based, i.e. chains are not necessarily interpreted thematically, as in Chomsky (1981, 1986), Stowell (1981), and Massam (1985), but can be interpreted non-thematically in ways discussed in chapter (5) and (6).

It is generally assumed that Θ-roles are assigned to A-chains and that an argument receives its Θ-role by virtue of being in an A-chain that includes an element in a Θ-position. Under the visibility hypothesis, the Case Filter is directly connected to the Θ-Criterion. The Case Filter is generally viewed as applying only to A-chains due to visibility of Θ-roles in the LF component, since only these chains contain a Θ-position. This reduces the Case Filter to a well-formedness condition on the assignment of Θ-roles at LF.

The constructions discussed in this study (Topicalization, Wh-questions, Left-dislocation, Exceptional Case-marking, and non-Θ-subjects) indicate that the visibility hypothesis in the strong sense, i.e., where the Case Filter is entirely derivable from the Θ-Criterion, cannot be maintained. We see that these constructions include NPs which are not in Θ-chains (as defined in chapter 1), but, in fact, require Case-marking. Topicalized, Ld'd, and ECM'd NPs are in A-adjoined positions to which no Θ-role is assigned. Furthermore, there are cases of ECM and LD to be discussed below in chapter 5, (5. 12), where the ECM'd NP and the Ld'd NP are not even coindexed with a Θ-position. Yet, these NPs must be Case marked.

This will lead us to propose that a Θ-interpreted chain is only one of the possible kinds of chains. A chain can be interpreted non-thematically by predication in the sense of the "aboutness relation" with the rest of the sentence,
a relation in which \(\Theta\)-indexing is possible but not obligatory as in Massam (1985).

\(\Theta\)-assignment is not always dependent on Case-marking. In other words, within this proposal \(\Theta\)-assignment is divorced from Case-assignment. The Case Filter is reinstated as a constraint on all aspects of LF interpretation, \(\Theta\)-assignment being one such aspect. Case is seen as a condition on interpretation at LF, making chains visible – not to the \(\Theta\)-Criterion, but to the Principle of Full Interpretation, which can be satisfied in a limited number of ways to be discussed in chapter (6). The Case Filter is restated as in (2):

\begin{equation}
\text{(2) Case Filter:}
\end{equation}

The head of an A-chain and an A-chain (X-chains) must be Case marked (for visibility).

Visibility is modified as follows:

\begin{equation}
\text{(3) Visibility}
\end{equation}

An X-chain is visible to the Principle of Full Interpretation if it is headed by a Case-bearing NP, or by PRO.

This is an extension of the traditional visibility hypothesis from being a condition on \(\Theta\)-role assignment to a broader condition on LF interpretation.

1.5.7 Chapter 7

This chapter is a conclusion to the thesis. It takes stock of some of the theoretical implications and results of this research for various sub-theories of UG.
Chapter 1

GB Theory: An Overview

Chapter 1 includes an introduction to the theory of Government and Binding, which underlies this thesis. The introduction to the theory, however, is not complete. For further details see Lectures on Government and Binding (1981), Knowledge of Language ... (1986a), Barriers (1986b) and references cited therein.

The discussion here consists of a presentation of the various sub-theories of the GB theory and, where relevant, an analysis of Arabic phenomenon covered by the sub-theory.

1.1 Introduction

1.2 Learnability and Variation

The overall organization of the research program on which this dissertation is based is a highly modular one. It includes a highly structured theory of Universal Grammar (UG) that aims at reducing the grammatical hypotheses that the child's mind must consider in the process of learning his language. The task of the language learner is, in a simplified sense, to fix the value of a restricted number of parameters on the basis of linguistic input from the surrounding speech community.

It differs from its predecessors in that it consists of a heterogenous system of well-formedness principles, rather than a homogenous system of transformations that encode the properties of specific constructions.
To account for the various constructions found in a given language, the earlier works in generative transformational approach\(^4\) posited different kinds of transformations, including those of the general form given in (1):

\[(1) \quad SD^5: \begin{array}{ccc} X & Y & Z \\ 1 & 2 & 3 \end{array} = \rangle \quad SC: \begin{array}{ccc} Y & X & Z \\ 2 & 1 & 3 \end{array} \]

The variables in (1) stand for some elementary constituents of a string (e.g. syntactic categories). Those to the left of the arrow limit the contexts where the transformations could apply. Earlier works in the generative model multiplied the number of such specific rules encoding constructions, increased their complexity, particularly in terms of their structural descriptions, their ordering with respect to each other, and their obligatory and non-obligatory character.

Recent developments in generative grammar, and more specifically in the realm of syntax, have shifted the focus from systems of rules to systems of independent, though interacting, principles. The focus is on placing the burden of explanation on general and (ideally) maximally simple principles rather than on construction-specific transformational rules that state the properties of the constructions.

One example of this shift concerns the transformational component. The construction-specific transformations have been reduced to the more general and simpler rule called 'Move-\(\alpha\)' where \(\alpha\) stands for any syntactic category and states "Move anything anywhere", or, alternatively 'Affect-\(\alpha\)', which states "do anything to anything." Any category is thus permitted to move anywhere, and over-abundant production is filtered out by principles of other sub-components of the grammar.

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\(^5\) SD and SC abbreviate structural description and structural change, respectively.
The natural question to ask now is what are the reasons that sparked off this new direction, namely, the shift in focus to general principles? What are the reasons for the proposal that specific properties of natural language be attributed to general fundamental principles? The answer to this question is, in part, due to the belief that some crucial aspects of language are common to all human languages. Other reasons are: the complexity of linguistic knowledge and the rapidity with which children attain knowledge of the rich and complex structures and rules of their native language on the basis of "degenerate and deficient data". That is, children acquire a knowledge of their language that goes far beyond what is presented to them by their linguistic community and under circumstances that are far from ideal (lack of direct negative evidence and lack of presorted and perfected data). These considerations have led to the hypothesis that there is some kind of innate knowledge available to the child -- that there is an innate language faculty represented by what is called Universal Grammar (UG).

UG is the language faculty that each human possesses as part of his or her mental equipment at birth — a system of principles common to the human species and available to each individual prior to experience. The task of linguistic theory is to provide an explanation for two intimately related issues: the learner's acquisition of the functioning principles of his language despite a "deficiency of data" (learnability), and to account, at the same time, for the existing and (seemingly tremendous) variation among individual languages.

Consider now how descriptive adequacy is handled in this model. It is posited that UG is a parametrized system composed of a set of universal principles. Each of these principles has associated with it a set of possible values expressing the range within which individual grammars may vary. The task of the language learner consists of fixing the values of these parameters on
the basis of available evidence -- that is, on the basis of linguistic input from the surrounding speech community. One such parameter is null versus non-null argument languages (see chapter 3, section (3.2.2) for some discussion).

Since the goal of linguistic theory is to account for the formal properties of natural language and how the language-learner acquires them in such a short time, a theory of grammar must be general and abstract, and yet restrictive enough to allow for all of and only the possible grammars of natural languages.

One linguistic theory that is making progress towards the ambitious goal of uncovering the properties of UG is the Government-Binding Theory developed in Chomsky (1981, 1986) and related work. Therefore, I have chosen this theory in my analysis of Arabic syntax.

1.3 Modularity

The GB theory, or, more appropriately the Principles and Parameters approach is a full-fledged modular theory of UG. It includes highly structured subtheories which themselves contain general principles that are (ideally) simple in form. The (apparently) superficial complexity of grammars results from the interaction between the independent subsystems of principles in UG.

As has already been indicated, the view of language adopted here is distinctly modular. Language is seen as resulting from the interaction of various independent modules of the human cognitive structure, such as perception, pragmatics and the language faculty. The central goal of linguistic research is to uncover the structure of the human language faculty (UG), what one must know in order to learn a language, what one knows when one knows a language, and what the range of possible human languages is.

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6 Chomsky (1988) prefers to use the term Principles and Parameters. Since Government and Binding are only two subtheories within UG, the term GB theory attaches undue prominence to these two subtheories.
It is hypothesized that the language faculty can be decomposed into a number of distinct subtheories and subcomponents (levels) that interact in a rather complex way to explain a given linguistic phenomenon. The subtheories will be introduced later; consider in this light the model in (2):

(2)

```
Lexicon
    D-structure
        move-α
    S-structure
        PF
        LF
```

It is hypothesized that UG includes the levels of representation or subcomponents in (2). The lexicon lists the words of the language; for each word it specifies at least three things: a phonological specification, an indication of its meaning, and the syntactic frame in which it occurs in the structure. D-structures are created by insertion of lexical items into sentential structure according to their lexical specifications. D-structures are then mapped onto S-structures by move-α. S-structures are assigned representations of PF (phonetic form) and of LF (logical form) by rules of these components, including move-α. UG also contains a series of subsystems of principles which specify the properties of the various subcomponents. UG, then, consists of a series of subsystems and of the interaction between principles within these subsystems. The subsystems of principles will be presented and discussed in the remainder of this chapter.

Now, I turn to a presentation of how the model of UG is constructed.
1.4 System of Rules

UG consists of a rule system and a system of principles. The subcomponents of the rule system are:

(A) Lexicon
(B) Syntax
   (I) Base component
   (II) Transformational component
(C) Interpretive components
   (I) Phonological form (PF) component
   (II) Logical form (LF) component

The lexicon specifies the abstract morpho-phonological structures of each lexical item, its categorial and contextual properties; in particular properties such as thematic and selectional specifications.

The base-component generate D-structures (i.e., configurational representations of the grammatical functions (GFs) associated with Θ-roles) by inserting lexical items into structures of a restricted type in accordance with their lexical specifications. The general rule move–α, (α being any set of categorial features), maps D-structures onto S-structures in which GFs are once again configurationally defined. Consider the instances of move–α in (4b and c):

(4)

a. ?aľay-tu Hind-an Xa:tam-an
   gave-1sg Hind-acc ring-acc
   "I gave Hind a ring"

b. ma:ľa:i ?aľay-ta Hind-an [NP e_i ]?
   what gave-2sgm Hind-acc
   "What did you give Hind?"

c. Xa:tam-an ?aľay-tu Hind-an [NP e_i ]
   ring-acc gave-1sg Hind-acc
   "A ring, I gave t_i to Hind"
Both (4b) and (4c) are produced by move–α, resulting in the coindexation indicated.

In (4b) move–α places the wh–element ma:ša: 'what' in the specifier position of CP. In (4c) it adjoins the element xa:tam 'ring' to IP, resulting in Topicalization. This process is indicated in (5):

(5)

(a) \[ [\text{CP } \text{ma:ša: } [\text{IP } \text{?aftay-ta } \text{Hind-an } [\text{NP } e_i ] ] ] \]
what gave-2sgm Hind-acc

(b) \[ [\text{IP } \text{xa:tam-an } [\text{IP } \text{?aftay-tu } \text{Hind-an } [\text{NP } e_i ] ] ] \]
ring-acc gave-1sg Hind-acc

The two moved elements are coindexed with and c–command the empty element [NP e].

Move–α also produces the structure in (6). [NP e ] in (4), however, is distinct from [NP e ] in (6) in that the latter is an anaphor:

(6) \[ \text{duriba } \text{Zayd-un } [\text{NP } e_i ] \]
was hit Zayd-nom

In (6) the antecedent of [NP e ] Zayd occurs in an A–position, that of subject; whereas, in (4b), the antecedent of [NP e ] occurs in an A–position, that of a specifier of CP (5a). In (4c) it also occurs in an A–position, but is adjoined to IP (cf. 5b), so in (6) the [NP e ] is A–bound, while in (4b, c) it is A–bound. If the antecedent occupies an A–position, we speak of A–binding. In contrast, if the antecedent is in an A–position, we speak of A–binding. The wh–phrase in (4b) and the non–wh–phrase in (4c) are in A–positions from where they A–bind their trace [NP e ], while the NP Zayd in (6) A–binds its trace.

---

7 That Topicalization in Arabic is a process of adjunction to IP, rather than to other nodes such as CP, will be argued for in section (4.8.3) below.
At S-structure an element bearing a Θ-role may move to a Θ-position leaving trace(s) coindexed with its/their antecedent(s), as in (6) above and as in the following:

(7)

a. bada: ʔamruni [\(\lambda p t\) saṭi:dan ]
appeared ʔamr happy
"ʔamr appeared happy"

b. *ʔara:da ʔamruni [\(\lambda p t\) saṭi:dan ]
wanted ʔamr happy
"*ʔamr wanted happy"

(8)

a. Billi seems \(t_i\) to have addressed the audience.
b. *Billi wanted \(t_i\) to have addressed the audience.

In (7a) the verb bada: both fails to assign Case to the subject of the small clause and fails to assign a Θ-role to the subject position. This results in NP-Movement, leaving NP-trace as the subject of a small clause complement. In (7a), the Θ-Criterion defined informally in (9) is satisfied:

(9) Θ-Criterion:
Each argument is assigned one and only one Θ-role, and each Θ-role is assigned to one and only one argument.

The subject of the small clause \(t\), which forms a chain with its antecedent ʔamr, receives only one Θ-role from the predicate saṭi:dan. In (7b), however, the Θ-Criterion is violated since the NP ʔamr moves to a Θ-position; unlike bada:, ʔara:da assigns a Θ-role to its subject position filled by ʔamr at S-structure. Another Θ-role is assigned to it by the predicate of the small clause thus, the sentence is ruled out by the Θ-Criterion.

In (8a) although the subject Bill is assigned a Θ-role by the embedded VP, it must move to acquire Case. Movement is permitted since the verb seem does not assign a Θ-role to its subject. However, movement is not permitted in
(8b) since both the verb want and the embedded VP assign Θ–roles; hence both positions must be filled at every level of representation.

S–structures are mapped onto PF by various rules, among them, movement operations, such as affix hopping, some deletion rules and a variety of stylistic rules.

S–structures are also mapped onto LF via the application of further movement rules such as Quantifier Raising (QR), May (1977), the rule assigning scope interpretation to Wh–phrases in situ. Thus, S–structure is an association between representations of form and representations of meaning, although the mappings of S–structure onto PF and LF are independent of one another. The organization of these levels of representation and the relationship among is shown in (2) above.

UG then consists of a series of independent sub–components. It also contains a series of subsystems of principles which specify the properties of the various levels.

1.5 System of Principles

The system of principles constitutes the internal organization of the grammar. The properties of the above levels of representation and their relationship to each other are constrained by further principles which fall into the following subsystems:

(9)

a. X–theory
b. Θ–theory
c. Case theory
d. Binding theory
e. Bounding theory
f. Control theory
g. Government theory
1.5.1 X-theory

The relationship between the lexicon and the syntactic levels, in particular the level of D-structure, is one of direct projection from the former to the latter; properties of lexical items, including subcategorization and Θ-marking properties, are projected from the lexicon into syntax, severely constrained by the Projection Principle and the schematic X-wellformedness conditions on syntactic trees.

The Projection Principle informally states that lexical properties (Θ-marking and subcategorization properties) are maintained at all relevant syntactic levels which are D-structure, S-structure and LF-structure. Thus, The projection of lexical items conforms to X theory (cf. Jackendoff, 1977). X-theory radically reduces the class of possible base components. Each lexical category X (X = N, A, V, P) heads a maximal projection $X^{\text{max}}$ ($X''$) consisting of a specifier, X, a head $X'$, and the complements of $X''$. $X''$ is, then, the maximal projection of $X$, and X is the head of $X''$ (and of X). I use the conventional symbols NP, VP, AP, and PP for the maximal projections of N, V, A and P respectively.

The phrase structure of all categories is specified as in (10):

(10) The X-schema:

(i) $X' = X \ X''$ (order irrelevant)

(ii) $X'' = X''' X'$

where $X'''$ stands for zero or more occurrences of some maximal projection.

The order of complements with respect to the head is subject to parametric variation. Thus in the head-initial setting the complements will follow their head, whereas in the head-final setting the complements will precede their head.\(^8\)

\(^8\) Koopman (1984) and Travis (1984) suggest that the structural position of the head may not be an independent parameter of linguistic variation, but might reduce to parameters of directionality of Case and Θ-role. In English for example, these parameters coincide since the
Before I proceed, it is important to make the notion of 'specifier' clear. The notion of specifier is strictly a relational one, used as a label for whichever maximal projections happen to appear in a given category as immediate daughters of $X''$. That is there is no node label 'specifier', and the right $X''$ which appears in the $\mathcal{X}$-schema (10ii) above is relationally defined as the 'specifier' of $X'$, whatever the node label of the $X''$ might be.

The version of $\mathcal{X}$-theory assumed in this thesis is the one developed in Chomsky (1986a, b) where the $\mathcal{X}$-system is extended to the non-lexical categories $C(\text{OMP})$ and $I(\text{NFL})$. $I$ consists of tense and AGR(eement) elements. The non-lexical category $C$ takes $I(\text{NFL})$ $P$hrase) (= S) as its complement and heads a maximal projection (= $X^{\max}$) $C(\text{OMP})$ $P$hrase). CP has a specifier position into which wh-elements may move. $I$ takes $V$P as its complement and heads an $X^{\max}$ IP. The specifier of IP is the NP subject of IP. The general structure of a clause thus created will be as in (11):

\begin{verbatim}
verb assigns both Case and $\Theta$–role to the right. Koopman and Travis cite Chinese as a language in which the two parameters do not converge. In Chinese Case assignment is to the right, but $\Theta$–role assignment is to the left. Under this proposal, a sentence in Chinese is as follows, where the first NP is the subject, the second NP is the object and $e$ is the trace of the object NP:

(1) \text{NP} ... e_1 \quad V \quad \text{NP}_i

To receive a $\Theta$–role, the object NP must be generated to the left of V, and to receive Case it must move to the right of V. One reason for this proposal is that it is only the object that appears in a position to the right of V; all other $\Theta$–marked elements appear in a position to the left of V.

If this analysis is correct, then the question of head-initial or head-final is reduced to other parameters of other subtheories, namely Case theory and $\Theta$–theory.
\end{verbatim}
1.5.2 Θ-theory

Θ-theory is concerned with describing thematic relations holding between arguments and predicates. A basic principle of Θ-theory is the Θ-Criterion. Informally stated, the Θ-Criterion requires that each argument be assigned one and only one Θ-role and that each Θ-role, determined by the lexical properties of a predicate, be uniquely assigned to an argument. Arguments are elements with referential properties. The notion of argument excludes elements which do not assume a Θ-role such as existential *there* or pleonastic *it* in English and null elements inserted to fill an obligatory syntactic position like pleonastic *pro* in Romance languages. The Θ-Criterion is defined more formally in (12) cf. Chomsky, (1981: 335):

(12) Θ-Criterion:
Given the structure S, there is a set K of chains, K = {C_i}, where C_i = (α_1, ..., α_n) such that:
(i) if α is an argument of S, then there is a C_i ∈ K such that α = α_j and a Θ-role is assigned to C_i by exactly one position P.
(ii) if P is a position of S marked with the Θ-role R, then there is a C_i ∈ K to which P assigns R, and exactly one α_j in C_i is an argument.
The \( \Theta \)-Criterion applies to the three non-phonological levels of representation: D-structure, S-structure and LF. Grammatical functions (GF's) such as subject of, object of and so on are relevant to the assignment of \( \Theta \)-roles. At the level of D-structure, where GF's are determined in terms of syntactic configurations under X-theory, each complement position is a \( \Theta \)-position. A \( \Theta \)-role may also be assigned compositionally by the verb through its VP to the subject position which is not subcategorized by a lexical head. Williams (1980) refers to the first type as internal argument and to the second type as external argument. Consider the following example:

(13) darab-a Zayd-un al-faras-a
    hit-3sg Zayd-nom the-horse-acc
    "Zayd hit the horse"

The verb daraba heads an \( X^{\text{max}} \) VP. It subcategorizes for an internal argument [NP, VP] al-farasu and directly assigns it (i.e. under government) the \( \Theta \)-role of theme. The VP compositionally assigns the \( \Theta \)-role of agent to the external argument [NP, IP]. The nature of the \( \Theta \)-role assigned by the VP is determined compositionally by the semantic content of the verb plus its complement. This is shown to be particularly evident in examples like:

(14) a. Mary broke John's arm.
    b. Mary broke her arm.

In these examples, the nature of the subject \( \Theta \)-role (i.e. the available interpretation for the subject NP) is dependent on the content of the VP. In (14a), Mary is interpreted as an agent, but in (14b) Mary can be interpreted either as an agent, in which case Mary and her are disjoint in reference, or as a goal, in which case Mary and her are coreferent. It is thus hypothesized that a \( \Theta \)-role is constructed compositionally from the semantic features of the verb and the complement, and then assigned to the subject.
One of the consequences of the Θ–Criterion, among other principles, such as the Projection Principle and the binding theory, is to exclude strings like (15):

(15) * ra?a: Zayd-un [\text{n}_e] 
    saw Zayd-nom 
    "Zayd saw"

No empty category can appear in this position. A variable cannot appear since it would not be (locally) bound by an operator. Nor can there be an anaphor in that position since it would lack a local antecedent. Similarly, if \([\text{n}_e]\) forms a chain with the NP Zayd-un (Zaydun \(i\) \(e\)), this chain would violate the Θ–Criterion since it would contain two argument positions, a subject position and an object position each receiving an independent Θ–role. \([\text{n}_e]\) cannot be filled by PRO since it is a governed position, and the presence of PRO in a governed position would violate the requirement that PRO be ungoverned. Finally, \([\text{n}_e]\) cannot be filled by the pronominal pro either since, although, it would be governed and assigned Case by the verb as required, pro's features of person, number and gender cannot by identified.

Movement from a Θ–position to a Θ–position is blocked since the moved element would acquire two Θ–roles (cf. (7b and 8b) above). NP movement in general is movement to \(\emptyset\) (non–Θ)position. The matrix subject position of a passive construction is a \(\emptyset\)–position since an NP can move into it, as in (16), in which the NP John moves from the object position of the passive verb into the subject position:

(16) John \(_i\) was believed \(_i\) to have left.

Now, I turn to an important principle of UG, the Projection Principle.
1.5.2.1 Lexical Features and the Projection Principle

The Projection Principle is closely associated with the Θ–Criterion. It is the hypothesis that categorial structure reflects thematic structure at all syntactic levels. Put differently, it requires that the Θ–Criterion must hold at every syntactic level of representation: D–structure, S–structure, and LF. In other words, it requires that all complement argument positions be projected from the lexicon and be represented uniformly at each level.

By virtue of the Projection Principle, the lexicon plays a central role in determining syntactic representations; it is put forth in Chomsky (1981) as follows:

(17) Projection Principle:
Representations at each syntactic level (i.e. LF, D–structure and S–structure) are projected from the lexicon, in that they observe the 'lexical' properties of lexical items.

Consider first what the lexical properties referred to in (17) include. The lexicon consists of a set of lexical entries containing information that represent what it is to 'know' a word by specifying the phonological, semantic and syntactic features of a given word. Phonological and semantic features allow for phonetic and semantic interpretation of the word respectively. The syntactic features indicate where the word may occur in a phrase —i.e, its categorial status (noun, verb, adjective etc.), the type of complements it may take, and what Θ–roles are assigned to these complements. The lexical entry for a verb like plant, for example, will express the fact that it is a verb and that it subcategorizes for an NP complement to which it assigns the semantic role of theme. What the Projection Principle requires is that lexical information about the verb plant be satisfied at all syntactic levels. That is, plant subcategorizes
for an NP complement at every relevant level, this complement must bear the θ-role of theme, etc.

What are the consequences of incorporating this seemingly innocuous principle—namely, the Projection Principle into UG? One desirable consequence is that it considerably reduces the unwanted redundancy between the rules of the categorial component and the lexicon in a grammar of the sort outlined in Chomsky (1965), (1970), Emonds (1976) and Jackendoff (1977). The base has traditionally been taken to consist of a lexicon and a categorial component. The categorial component is a set of rules like that in (18) which specify syntactic frames (phrase markers) in which lexical items could appear:

(18) VP \rightarrow V (NP) (PP) (S)

Now, the categorial status and the number of complements of a particular verb is a direct consequence of the Projection Principle. Given the Projection Principle and X theory, categorial rules like (18) are largely redundant. The information about the class of subcategorization that is dually represented are eliminated from the categorial component, a highly desirable result for its corresponding implications for the theory of language acquisition.

The ultimate result is to eliminate the phrase structure component entirely, apart from certain parameters of X-theory: for example, does the head precede its complement as in English–like languages, so that we have the constructions N–complement, V–complement, A–complement, and P–complement, or does it follow them, as in Japanese–like languages, so that we have the corresponding constructions complement–N, complement–V, complement–A, and complement–P? Subsequent work (Koopman, 1984 Travis, 1984) suggests that the order of complements can largely be determined by other subtheories of UG, in particular Case theory which involves a principle
of Case adjacency requiring that a Case-marked element be adjacent to its Case assigner (with some variations), so that if a verb takes an NP and a PP, the NP must be closer to the verb ("put [the book] [on the table]," "put [on the table] [the book])."

The implications for the acquisition problem appears to be that rules of phrase structure are not among the elements that have to be learned separately insofar as they merely restate once again, in another form, the essential content of lexical entries. Once learners know the subcategorization properties of lexical items, they have the information necessary to know the various syntactic configurations in which that lexical item appears. Knowledge of a language implies knowledge of the fact that a particular verb is a one, two, or three place predicates; verbs like dream, kill, and give are one, two and three place predicates respectively and that they assign respectively one, two or three Θ-roles.

Another important consequence of the Projection Principle is that traces must exist, in order for Θ-role assignment at S-structure to match Θ-role assignment at D-structure. Consider the following:

(19)  
a. e was hit John by Bill.  
b. Johni was hit ti by Bill.

(19a) is the D-structure of the S-structure (19b). Because of the trace at S-structure, the Θ-role assignments are the same in each case even though the NP John has moved to its S-structure position, thus allowing the Θ-Criterion to hold at both levels as required by the Projection Principle.

The derivation of the level of LF from S-structure is also constrained by the Projection Principle in the same manner as the derivation of S-structure from D-structure.
Another important principle of UG is the Extended Projection Principle (EPP) (Chomsky, 1982, 1986a). This principle stipulates that the subject position must be obligatorily universally present in a sentence. Following Rothstein (1983), Chomsky (1986a) suggests that EPP can be derived from the predicate-linking rule of Rothstein, which requires that all predicates must have subjects. That is the requirement that the subject position must be syntactically available follows from conditions of well-formedness on predication. In other words, a sentence is well-formed if both syntactic and thematic conditions are fulfilled. Thus, pleonastic elements like it appear to provide a formal subject for predicates like seem, as in (20):

(20) It seems that Sarah is here.

and weather verbs, which as a lexical property, do not assign a Θ-role to [NP, IP], as in (21):

(21) It snows

In Chomsky (1986a) the EPP is subsumed under the Principle of Full Interpretation (FI), a requirement of UG, specifying that every element that appears in a well-formed sentential structure must be licensed. The licensing options include, among others, the following: an argument is licensed by being in a position to which a Θ-role is assigned, or by participating in a chain whose terminal position is assigned a Θ-role. For a predicate to be licensed it must have a subject, either as an argument or an expletive; and if the predicate assigns a Θ-role as a lexical property, it needs an object as well, so that the object receives that Θ-role.
1.5.3 Case theory

Case theory has direct relevance to the central issues of this research, hence it will receive more discussion here than the other sub-theories. Case theory is concerned with the assignment of abstract Case such as nominative, accusative, genitive. Whether or not these Case features have phonological realization depends on the morphology of the particular language. Though not a lot of work has been done on the relation between abstract Case and morphological (surface) Case, it has been generally argued that the two do not necessarily coincide. It is hypothesized that NPs in all languages have abstract Case, despite the fact that only a subset of languages has morphological Case. Case is assigned or presumably checked at S-structure. The linchpin of Case theory is the Case Filter, proposed for UG (Rouveret and Vergnaud1980, Chomsky, 1981):

(22) Case Filter: *NP if NP has phonetic content and has no (abstract) Case.

The motivation for the Case Filter is extensive. It allows for a characterization of the distribution of lexical NPs and the appearance of semantically empty prepositions, such as of in English (23), bi 'of' (24) and li 'to' (25) in Arabic:

(23) a. The army destroyed *(of) the city.
    b. The army's destruction *(of) the city.

9 Case checking says that the Case features of lexical NPs inserted at D-structure are checked at S-structure. This hypothesis is due to Chomsky (1981) that lexical NPs are base-generated with Case features, which are then checked at S-structure by a filter (not to be confused with the Case Filter) to certify that the NPs are in an appropriate context to bear the Case they have acquired in the lexicon.

The Case checking hypothesis, however, does not assume that a lexical NP must have Case. Assuming only Case checking, an NP with no Case can end up in a position at S-structure to which no Case is assigned. The absence of Case features on the particular NP will match its Caseless position, and an ungrammatical sentence, like (1) is generated:

(1) *Mary to leave would be surprising.

(1) is only ruled out by the visibility hypothesis, discussed in sections (1.7.3.3), (5.10) and modified in chapter 6, since Mary has no Case, and it is the head of a one link A-chain.
Case theory, and the fact that only [-N] categories are able to assign Case in English (cf. 27 below) prohibits ' N NP' sequence from surfacing in (23b); therefore a so-called "dummy" Case marker of is inserted in order for the NP the city to receive Case.

Likewise, bi in (24) is inserted in order for the NP Hind to receive Case. Extensions of this reasoning can be applied to instances of clitic doubling constructions in Arabic exemplified in (25). The dummy Case marker li 'to' is inserted to assign Case to the NP famr in (25b). This is because it is hypothesized that clitics absorb the Case assigned by the head of the construction in which they appear; hence the need for this rescue technique. The insertion of dummy Case markers is rather widespread in languages of the world, and has been investigated by some researchers.10

The Case Filter also motivates obligatory movement in passive and raising constructions, illustrated in (26):

(26) Johni seems [ t'i to have been struck ti by a thunderbolt ]
(26) is derived by two applications of move-α. First John moves from the object position occupied by ti to the subject position of the infinitive, since the passive morphology does not assign Case, then it moves to the matrix subject position, since the infinitive also does not assign Case to its subject. John gets

---

Case in the matrix position as a subject of a predicate *seem* whose INFL contains the features of tense and AGR. Thus, passive and raising fall under the generalization captured by the Case Filter, and no longer need to be distinguished by construction–specific transformations.

The generalization captured by the Case Filter also extends to infinitival clauses. Consider the Case assignment rules proposed in (27) for English:

(27)  
a. NP is nominative when governed by [AGR]  
b. NP is accusative when governed by V  
c. NP is oblique when governed by P  
d. NP is genitive in the structure \[ NP \cdots X \]

Rule (27a) accounts for the assignment of nominative Case to the subject of a tensed (finite) clause (in English, [+Tense] and AGR must co–occur in the INFL node), and rule (27b–c) accounts for the assignment of Case to objects of verbs and prepositions respectively, and rule (27d) accounts for the assignment of genitive Case to possessor NPs (I will consider the appropriate formal definition of government relation later).

The Case Filter and (27) predict that NPs may occur as subjects of tensed clauses or as objects of transitive verbs, as (28a) illustrates; though they may not occur as subjects of tenseless clauses, as (28b) illustrates:

(28)  
a. Louise doesn't like the Qur'an.  
b. *Louise doesn't hope [CP John to read the Qur'an ]

Notice that Θ–theory does not rule out (28b), since the subject *John* has a Θ–role assigned to it by its predicate—the infinitival, and *John* 's Θ–role is separate from the one assigned to the superordinate subject. That this is so can be seen more obviously by comparing it with (29):

(29)  
It is obvious [CP whati [IP PRO to do ti ] ]
The matrix predicate in (29) does not assign a Θ-role to its subject, as shown by the fact that a non-experiencer expletive *it* appears in this position. On the other hand, the predicate *to do* *t₁* clearly does have an experiencer subject, symbolized as PRO, though *PRO* has an obviative reading. Therefore, it is the Case Filter which rules out (28b), since *John* is not assigned Case in that position. That the Case Filter is responsible for ruling out the sentence can be seen clearly by the fact that if a prepositional complementizer is available, then the subject of the infinitive will be assigned Case, and the sentence becomes grammatical:

(30) Louise doesn't prefer [CP for [IP John to read the Qur'an ] ]

Besides the government requirement which plays a central role in the Case-assignment relation, as it does in all sub-theories of UG, it has been argued (Chomsky 1981, Stowell, 1981) that there is also an adjacency restriction imposed on this relation. That is, Case assigners must not only govern the NP to which they assign the Case feature, but be adjacent to them. The adjacency requirement accounts for the respective ordering of the complements in the following examples:

(31) a. John bought the bone yesterday/for the dog
    b. *John bought yesterday/for the dog the bone

In order to be assigned Case the NP *the bone* must be adjacent to the verb *bought*. When *the bone* is not adjacent to *bought*, the sentence fails.

Several facts in Arabic argue that the adjacency requirement plays a role in Case assignment in Arabic. Three facts are given in (A), (B) and (C):

A. The occurrence of a corroborative element -- sentence emphaser -- *la*,

boldfaced and glossed in (32) as *corrob*.

(32) danan-tu (*la*)- Zayd-an ya-hlum-u
    believe-1sg corrob- Zayd-acc 3sgm-dream-ind
    "I believed Zayd to be dreaming."
The NP Zayd must be adjacent to the verb danna, in order to receive accusative Case signalled by -an. The sentence with la present would not obey this requirement, and thus would be ungrammatical, and vice versa.

B. The occurrence of an expletive ma: that appears boldfaced in (33)

(33) danan-tu (*ma:) Zayd-an qa:?im-an
believed-1sgm (expl) Zayd-acc standing-acc
"I believed Zayd was standing."

When Zayd is not adjacent to danna, the sentence fails, as it did in (32).

C. The occurrence of the adverbial bisur\Ra\Ratin 'quickly' between the verb jariba 'read' and its complement al\Ra\Ramra 'the wine':

(34)

a. jariba \Ra\Ram-un \Ra\Ram-a [Adv bisur\Ra\Ratin]
drank \Ra\Ram-nom the-wine quickly
"\Ra\Ram drank the wine quickly"

b. [Adv bisur\Ra\Ratin] jariba \Ra\Ram-un \Ra\Ram-a

c. *jariba \Ra\Ram-un [Adv bisur\Ra\Ratin] al\Ra\Ram-a

The adverbial can occur in final and initial position in the sentence, but it cannot separate the complement from its head, since it will induce an adjacency violation, and Case cannot be assigned to the complement.

If ordering of complements with respect to their heads can thus be reduced to other sub-theories of UG, then it will ultimately allow for elimination of the categorial component. This is naturally a desirable result, thereby reducing the task of the language learner, while at the same time accounting for the (apparently tremendous) diversity among individual languages.

Notice that the sentences in (32), and (33) can be rescued by the obligatory insertion of la and ma:, and by the assignment of nominative Case to the NP Zayd instead of an accusative Case. The nominative Case surfaces as -un, and is printed in *italics*.
(35)
a. danan-tu *(la)- Zayd-un ya-hlum-u 
believe-1sg corrob- Zayd-nom 3sgm-dream-ind
b. danan-tu *(ma:) Zayd-un qa:?:im-un 
believe-1sg expl Zayd-nom standing-nom

Adjacency will be further argued for in chapter 4 and will be extended to cover the domain of mood assignment.

The question to ask now is this: why does the insertion of the elements la and ma: in (35), in which Zaydun has nominative Case save these sentences; whereas, it induced ungrammaticality in (32) and (33)? An answer to the second part of the question is given above in terms of an adjacency requirement on the Case assignment relation. An answer to the first part is given below in terms of the notion "Case conflict". In effect, and in an interesting fashion, the presence of la and ma: in (35) blocks the assignment of accusative Case to Zayd by danna, thereby rescuing it from being assigned two Cases — accusative and nominative. The nominative Case could conceivably be assigned by default, or by AGR. Assume for now that it is assigned by default, an assumption to be defended in chapter 3. Before discussing the notion of Case conflict, I introduce the contexts in which Case is assigned in Arabic.

Case is assigned in the following contexts with the requirement of adjacency to the governor:

(36)
a. NP is nominative when governed by [+AGR].
b. NP is accusative when governed by V.
c. NP is accusative when governed the complementizer ?inna/?anna.
d. NP is genitive when governed by N, P.

Since whenever Case is assigned in Arabic it is always realized...
morphologically, I need to stipulate that Case must be realized. I thus introduce the Case Realization Condition for Arabic:

(37) Case Realization Condition (CRC):
Case must be phonetically realized where assigned.

I assume the following definition of 'phonetically realized':

(38) A Case feature K is phonetically realized if K is assigned (either directly under government, or through inheritance, or by default) to a lexical NP at S-structure

Every NP in Arabic is morphologically marked for a Case feature, which can be illustrated as follows:

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11 An argument for the CRC will be developed in chapter (3), (3.16.2) on the basis that an overt clitic is required in contexts where the complementizer ?anna assigns its accusative Case, and where ?anna is followed by a VSO word order.

12 Notice that Case in Arabic does not always have a surface realization, as the following examples illustrate:

(1)

a. waqat-a al-fata:-0
fell-3sgm the-guy
"The guy fell"

b. qa:bal-tu al-fata:-0
met-1sg the-guy
"I met the guy"

c. rakadt-tu maFa al-fata:-0
ran-1sg with the-guy
"I ran with the boy"

d. al-fata:i darab-tu t_i
the-guy-0 hit-1sg
"The guy, I hit"

e. al-fata:i darab-tu-hu_i
the-guy hit-1sg-objcl
"As for the guy, I hit him"

The form of the NP al-fata: “the guy” is invariant despite the fact that it is a subject in (1a), an object of a verb in (1b), an object of a preposition in (1c), a topicalized NP moved from a complement position of a verb in (1d) and a Left-dislocated (Ld'd) NP in (1e). This invariability is traditionally termed bina?:?, and ascribed to ?at-ta:thur "impossibility for phonological reasons". In other words, the traditional grammarians considered the NP al-fata: in the above examples to have nominative Case rafuf, accusative Case nasub, genitive Case jarr, an accusative Case inherited from its extraction site and a default Left-dislocation Case respectively, assigned to it by its appropriate governing head fa:ml.
1.5.3.1 Case Conflict

It is generally assumed that the notion of Case conflict is a property associated and regulated by the Case Filter. It is the proposal that structures in which an NP is assigned two conflicting (different) abstract Case features are universally ruled out. In other words, the relation between Case assigners and lexical NPs is a unique relation in the sense that there is a one-to-one correspondence between the two.

In English, the only way an NP can move to subject position is if the verb is passivized, and thus no accusative Case is assigned as it is absorbed by the passive morphology, or if the clause is infinitival, and thus nominative Case is not assigned at D-structure. In each instance of movement the requirement of Case uniqueness is preserved.

This uniqueness restriction on the Case assignment relations is analogous to the requirements of the $\Theta$-Criterion, informally stated in (40):

(40) The $\Theta$-Criterion:
a. Every argument must be assigned a unique $\Theta$-role.
b. Every $\Theta$-role must be assigned to a unique argument.

Now, suppose that a given NP is assigned nominative Case, Case conflict would arise, and the sentence would be excluded, if the same NP is assigned an accusative Case. This is precisely the situation in the sentences (35a) and (35b), where the Case-assignment requirements—government and adjacency are satisfied; and thus the matrix predicate assigns its Case to the
NP it governs Zayd leading to Case conflict since Zayd has also received nominative Case from a different source.

Suppose that an argument in a complement position has received an accusative Case by direct assignment, and the same argument were to move to a Case marked position at S-structure. A possible derivation for a D-structure like (41), is to move the NP alafsala 'the honey' and adjoin it to IP, a position directly follows the accusative Case assigning complementizer ?anna at the S-structure (42):

(41) danan-tu ?anna Zayd-an fariba al-fasal-a
    thought-1sg that Zayd-acc drank the-honey-acc
    "I thought that as for Zayd, he drank the honey"

(42) | danan-tu ?anna [IP al-fasal-a] [IP Zayd-n fariba ti]
    thought-1sg that the-honey-acc Zayd-nom drank

* How would (42) be ruled out? Suppose that ?anna is some sort of a prepositional complementizer like for in English, and that it assigns accusative Case obligatorily. The movement in (42) would then lead to a situation where the NP alafsala would receive two accusative Cases—one from ?anna by direct assignment under government at S-structure, and another from its D-structure position as a complement of the transitive verb fariba. The structure is then filtered out by Case conflict.

Notice that in order for this argument to go through, I must assume three things:

(43)

a. The notion of Case inheritance, and that lexical NPs in A-position inherit Case in the same way as lexical NP's in A-positions do.

b. Extending the domain of application of the Case Filter to include lexical NPs in A-positions and lexical NPs in X-positions.
c. Extending the notion of Case conflict to mean the prohibition against the assignment of two Cases whether conflicting (i.e. different) or identical.

This is a cluster of important principles of UG, that will figure prominently in the next chapters. These principles involve primitive relations with an interesting explanatory force, and provide a good illustration of the interaction of the primitive syntactic relations, as they are synthesized within a particular subtheory of UG—namely Case theory. The proposals in (43) will be explicitly developed and more fully argued for in the next chapters, specifically 3, 4, and 5.

1.5.3.2 Case, Chains and Visibility

Chomsky (1981, 1986a) states the Case Filter as a well-formedness condition on chains, where CHAIN is defined as "the S-structure reflection of a 'history of movement', consisting of the positions through which an element has moved from the A-position it occupied at D-structure" (Chomsky, 1986a: 95). The notion of CHAIN includes the vacuous case of the single-membered chain of an element that remains in its D-structure A-position and the expletive ... argument pair.

In (44) the sequence \( (\text{John}, \ t_1, \ t_2) \) makes a chain indicating that movement has been from the position of \( t_2 \) to that of \( t_1 \) and then to the head position occupied by John:

\[
(44) \quad \text{John seems [cp \ } t_{1i} \text{ to have been hit } t_{2i}] 
\]

The location of \( \Theta \)-roles and Case positions within a chain is restricted by the following descriptive condition:

\[
(45) \quad \text{Chain condition (Chomsky, 1986a: 137)} \\
\text{If } C = (\alpha_i, ..., \alpha_n) \text{ is a maximal CHAIN, then } \alpha_n \text{ occupies its unique } \Theta \text{-position and } \alpha_i \text{ its unique Case-marked position.}
\]
Given that both Case and Θ–roles are assigned to chains, Chomsky (1981, 1986), following essentially ideas by Aoun (1979), suggests that the Case Filter is derivable from the Visibility Condition. It is hypothesized that Case marking makes arguments visible for Θ–role interpretation at LF:

(46) Visibility Condition (Chomsky, 334)
Suppose that the position P is marked with the Θ–role R and C = (α₁, ..., αₙ) is a chain. Then C is assigned R by P iff for some i, αᵢ is a position P and C has Case or is headed by PRO.

According to (46) an argument must have Case, otherwise it will not receive a Θ–role and will not be licensed; thus the Case Filter is presumed to follow from the Visibility hypothesis. This notion will be discussed and revised in chapter (6), where Case theory and the associated notion of visibility will be extended to cover the constructions examined in this thesis.

1.5.4 Binding theory

The binding theory is the sub–theory which specifies the relationship of anaphors, pronominals, names and variables to possible antecedents within a domain D. The binding principles are stated in terms of a "local domain", in turn defined in terms of $X^{\text{max}}$ and GFs:

(47)
a. an anaphor is bound in a local domain
b. a pronominal is free in a local domain
c. an R–expression is A–free (in the domain of the head of its chain) (Chomsky, 1986a: 166)

where α binds β iff α and β are coindexed and α C–commands β and free means not bound. Bound is interpreted as argument bound (A–bound) when the antecedent of an element is in argument position (A–position). ¹³

¹³ It is assumed that the A–binding relation is the one that is relevant to the binding principles in (47) in text. This cannot be otherwise if I assume that A–bound variables are treated like R–
(48) Local Domain = minimal governing category:
- a governing category [for an anaphor or a pronominal α] is an
  $X^{\text{max}}$ containing both a subject [distinct from α] and a lexical
category governing α (hence, containing α). A governing
category is a "complete functional complex (CFX) (= domain in which all
grammatical functions (GFs) — subject and complements — compatible with the
head of α are realized)" (Chomsky, 1986a: 169).

The minimal governing category is a governing category α for β
such that there is no governing category for β that is included in α.

The binding theory accounts for the following:

(49)
a. \[\text{\textipa{[IP ya-htarim-u:naï ?anfus-a-humi_i]}}\]
   $\text{3m-respect-pl selves-acc-them}$
   "Thy respect themselves"

   $\text{3m-want-pl Zayd-acc that 3m-respect selves-acc-them}$
   "They want Zayd to respect themselves"

In (49a) no binding requirements are violated. The local domain, $X^{\text{max}}$ IP of the
anaphor ?anfusahum contains a governor for it, the lexical category V yahtarim,
and a subject, AGR which surfaces as $-u$: — attached to V. The anaphor is
bound in IP, and thus the sentence is grammatical. In (49b), however, the
binding requirements for the anaphor are not satisfied, since the anaphor is not
bound in its local domain. The local domain of the anaphor is the embedded IP
containing a governor for the anaphor and a subject, namely AGR displayed by
the embedded V. The CP, intervening between the matrix subject and the
reflexive, is a barrier by virtue of dominating a BC, IP. The sentence is correctly
barred since the anaphor is not bound by a c-commanding antecedent in the
lower IP.

expressions with respect to the binding principles, and are thus regulated by principle (C).
Since principle (C) requires R—expressions to be free, it would follow that all variables are
excluded by this principle, unless we take ‘free’ to mean ‘A—free’, and ‘bound’ to mean A—
bound.
In accordance with the binding theory, the lexical anaphors in Arabic
\textit{ba'duhum ba'dan} 'each other', \textit{nafsahu} 'himself' obey principle A, whereas
lexical pronouns obey principle B:

\begin{align*}
\text{(50)} & \quad \{ \text{?anfusahum} \\
& \quad \text{ba'thahum ba'dan} \\
& \quad ?\text{ahadahumu al?aaxar} \} \\
& \quad \{ \text{?iyaahum} \}
\end{align*}

\begin{align*}
\text{r?a:a: altula:bu} & \quad \text{fi lmir?a:ti} \\
\text{saw the students} & \quad \text{in the mirror}
\end{align*}

\begin{align*}
\text{(51)} & \quad \{ \text{?anfusu} \\
& \quad \text{hum} \} \\
& \quad \{ \text{?anfusu} \} \\
\text{yuri:du altula:bu} & \quad \{ \text{?an yanjah} \}
\end{align*}

\begin{align*}
\text{want the students that succeed} & \quad \{ \text{?themselves} \\
& \quad \*\text{each other} \\
& \quad \*\text{one another} \\
& \quad \*\text{them} \}
\end{align*}

\begin{align*}
\text{(52)} & \quad \{ \text{?anfusu} \\
& \quad \text{hum} \} \\
& \quad \{ \text{?anfusu} \} \\
\text{ya?rifu almudarisuna?annahum sayanjah} & \quad \{ \text{?an yanjah} \}
\end{align*}

\begin{align*}
\text{know the students that will succeed} & \quad \{ \text{?themselves} \\
& \quad \*\text{each other} \\
& \quad \*\text{one another} \}
\end{align*}

Generally speaking, then, anaphors and pronominals are in
complementary distribution; anaphors may appear in positions where
pronominals may not and vice-versa.

I turn now to Principle B of the binding theory. It accounts for the contrast
between (53a) and (53b):
(53)
a. *[[ip daraba-hui ðamr-an ña:l:lid-un ]
   hit-him ðamr-acc ña:l:lid-nom
b. ðamr-un ðamr-nom hit-him ña:l:lid-nom

(53a) is correctly ruled out by principle B of the binding theory which requires a
pronominial to be free in its local domain, the IP in this case. The pronoun is
bound in this domain, violating principle B, and thus the sentence is
ungrammatical; the desired result. (53b) is grammatical, despite the fact that the
pronoun is bound by the NP ðamrun. The grammaticality of (53b) might appear
to weaken the suggestion that (53a) is excluded by the binding theory.
Consider the structure of (53b):

(54) [[ip ðamr-un [ip daraba-hui ña:l:lid-un ]]]

The NP ðamrun with which the pronoun is coindexed does not occur in the
local domain of the pronoun, but rather in a position adjoined to IP. This is an
A–position to which no Θ–role is ever assigned. As the NP ðamrun occurs in an
A–position outside the local domain in which the pronoun must be free, the
pronoun is allowed to be bound by this NP.14 Thus, principle B predicts the
grammaticality of the sentence.

R–expressions can be overt such as the NP Zayd or empty: variables
bound by operators. Variables are A–bound (related via coindexing to a non–

14 In fact, the NP ðamrun in (54) must bind the embedded pronoun, as indicated by the
ungrammaticality of the following sentences. In (1a) the pronoun is missing (0), and in (1b)
the pronoun is replaced by the lexical NP Zaydun:
(1)
a. *[[ip ðamr-un [ip daraba-0 ña:l:lid-un ]]
   ðamr-nom hit-0 ña:l:lid-nom
b. *[[ip ðamr-un [ip daraba Zayd-un ña:l:lid-an ]]
   ðamr-nom hit Zayd-nom ña:l:lid-acc

This structure represents Left-dislocation in which the left-dislocated NP ðamrun is in an A–
position to which no Θ–role can be assigned. The NP must be coindexed with a pronoun to
derive its Θ–reference (cf. chapter 3 for much related discussion). The structure (54) represents
a Left–dislocation structure

48
A–position) by their operators. Variables share the essential properties of names in that they escape the binding conditions for NP–traces and anaphors.

1.5.5 Government theory

The concept of government plays a central role throughout the modules of UG. It is a basic structural notion that underlies many of the subsystems of UG. This concept is relevant to subcategorization, Θ–theory and Case theory. It plays an important role in licensing empty categories in concert with the Empty Category Principle (see below). An example of government relation is the one holding between the head of a projection and its projections. The definition of government assumed throughout our analysis is the one argued for in Chomsky (1986b):

(55)

a. government (Chomsky, 1986b):
   \[ \alpha \text{ governs } \beta \text{ iff } \alpha \text{ m–commands } \beta \text{ and there is no } \gamma, \gamma \text{ a barrier for } \beta, \text{ such that } \gamma \text{ excludes } \alpha. \]

In other words, \( \alpha \) cannot govern \( \beta \) in the following configuration where \( C \) is a barrier for \( \beta \) and \( C \) excludes \( \alpha \):

\[
\alpha \quad C \\
\quad \beta
\]

b. m–command
   \[ \alpha \text{ m–commands } \beta \text{ iff } \beta \text{ and every } \gamma, \gamma \text{ a maximal projection, that dominates } \alpha \text{ dominates } \beta \]

c. exclude
   \[ \alpha \text{ excludes } \beta \text{ if no segment of } \alpha \text{ dominates } \beta \]

With respect to the notion "segment" in (c), following work by May (1986), Chomsky(1986b: 7) proposes the following:
...in a structure of the form (56), a typical adjunction structure with \( \alpha \) adjoined to \( \beta \), \( \alpha \) is not dominated by \( \beta \); rather, \( \beta \) consists of two "segments", and a category is dominated by \( \beta \) only if it is dominated by both of these segments:

\[ (56) \quad [\beta \quad \alpha \quad [\beta]] \]

Chomsky introduces the concept "blocking category" (BC), and then defines "barrier" in terms of BC:

b. blocking category (BC):
\( \alpha \) is a BC for \( \beta \) iff \( \alpha \) is not L-marked and \( \alpha \) dominates \( \beta \)

c. I-marking:
where \( \alpha \) is a lexical category, \( \alpha \) L-marks \( \beta \) iff \( \beta \) agrees with the head of \( \gamma \) that is \( \Theta \)-governed by \( \alpha \).

d. \( \Theta \)-govern:
\( \alpha \) \( \Theta \)-governs \( \beta \) iff \( \alpha \) is a zero-level category that \( \Theta \)-marks \( \beta \), and \( \alpha \), \( \beta \) are sisters

\[ \begin{array}{c}
\alpha \\
\mid \\
X^0 \\
\beta
\end{array} \]

e. barrier:

There are two ways in which a category can be a barrier. First, a category can become a barrier by inheritance when it immediately dominates a blocking category. Second, blocking categories, except for IP (S), are themselves barriers. The two possibilities are given more formally in (i) and (ii) respectively:

\( \gamma \) is a barrier for \( \beta \) iff (i) or (ii)

(i) \( \gamma \) immediately dominates \( \delta \), \( \delta \) a BC for \( \beta \)

Hence in:
\[ \gamma \]
\[ \delta \]
\[ \beta \]

\( \gamma \) will be a barrier for \( \beta \) iff \( d \) is a BC for \( \beta \)

(ii) \( \gamma \) is a BC for \( \beta \), \( \gamma \) not equal to IP \([= S]\)

Hence in:

\[ \gamma \]
\[ \beta \]

\( \gamma \) will be a barrier for \( \beta \) iff \( \gamma \) is a BC for \( \beta \)

Immediate domination in (e) is a relation between maximal projections. \( \gamma \) immediately dominates \( d \) in (ei) if there is no maximal projection intervening between \( \gamma \) and \( \delta \); so that \( \gamma \) immediately dominates \( \delta \) even if a nonmaximal projection intervenes between \( \gamma \) and \( \delta \).

Chomsky's aim in formulating the definition of government as above is to unify the theory of government and the theory of bounding, the latter being a theory of locality constraints on movement as in (64) below. This is accomplished by appealing to the common notion of barrier which is a syntactic boundary blocking application of certain processes. The presence of a single barrier blocks government of \( \beta \) by \( \alpha \); the presence of two or more barriers between \( \alpha \) and \( \beta \) blocks movement from one of these positions to the other.

Barriers, determined on the basis of L-marking, are relevant for movement. Under L-marking, an \( X^{\text{max}} \) \( \gamma \) is a barrier by inheritance or inherently. \( \gamma \) is is a barrier by inheritance if the \( X^{\text{max}} \), it most closely dominates is a BC; it is a barrier inherently if it is a BC itself.

Barriers are also determined by the Minimality Condition. Under the Minimality Condition, barriers are relevant for the theory of government only, but not for the
theory of movement. The notion of m(inimality)–barrier is defined in Chomsky (1986b):

α is an m–barrier for β iff α includes γ and δ where γ is a maximal projection including β and δ is a head c–commanding β.

Thus in (57) α does not govern β, which is protected by the projection γ of its governor δ:

(57)  ... α ...  [γ ... δ ... β ... ]

Then in (58) see governs Bill but not Tom, just as a verb governs the specifier of its clausal complement:

(58)  They saw [NP Bill's [N picture of Tom ] ]

Chomsky (1986b :47) invokes the Minimality Condition to yield the that –trace effect, as in (59):

(59)  a. Who do you believe [CP t' [C: e [IP t would win ] ] ]
b. *Who do you believe [CP t' [C: that [IP t would win ] ] ]

In (59b) t is protected from antecedent government by C (= that ), by virtue of the Minimality Condition, but in (59a) this will not be the case assuming that e is featureless; and thus does not qualify as an appropriate choice for δ in (57).

The important aspect of the above definition of government in this thesis is that it allows a governor to govern into the specifier position of its complement. If a category α governs a maximal projection X", then α governs the specifier position and the head of X". Thus, a head α governs its complements. I will be concerned with the question of what constitutes a barrier for the purposes of Subjacency defined in (74) below.

Government theory also underlies the Empty Category Principle (ECP), a fundamental principle of UG, which requires every trace to be properly governed. Chomsky (1981) proposes to account in terms of the ECP for
subject–object asymmetries with respect to wh–movement, exhibited in English, for example, by the so–called [ that – t ] phenomenon in (60):

(60)
a. *who$_i$ do you think [$\text{CP}$ [$\text{CP}$ that] [$\text{IP}$ t$_i$ left ]] 
   b. who$_i$ do you think [$\text{CP}$ [t$_i$ that] [$\text{IP}$ Mary likes t$_i$ ]]

The subject–object asymmetry is viewed as a consequence of a difference concerning government: whereas the trace $t$ in the object position of the verb like is governed like, hence governed by a lexical category, which counts as proper government, the subject is not.

Subject extraction is possible when the subject is moved to a specifier of CP that contains no other constituent and thus allowing proper government of the trace by its antecedent:

(61):
   a. [CP [who$_i$] t$_i$ met Bill ]
   b. [CP [who$_i$] did you say [CP t$_i$ met Bill ]
   c. [CP man$_i$ [IP t$_i$ taraka almadi:nata ]
      who left the city

It is assumed that the subject trace in (61) is properly governed by the wh–phrase in the specifier of CP by virtue of being coindexed with it.

Chomsky, (1986b: 17) gives the following definition of proper government:

(62) Proper Government:
$\alpha$ properly governs $\beta$ iff a $\Theta$–governs or antecedent governs $\beta$.

In particular, an object NP is always properly governed by the head of the VP, but a subject NP or adjunct can only be properly governed in a chain by antecedent government.

Antecedent government is an instance of government, which is defined in (55) above. Chomsky suggests a reduction of proper government to extended
chain links, eliminating Θ–government. He suggests the following formulation of antecedent government:

(63) Antecedent government holds of a link (α, β) of a chain, where α governs β.

1.5.6 Bounding theory

The bounding theory accounts for locality conditions on movement "rules". The basic principle of bounding theory is Subjacency which constrains the application of move a, that is Subjacency is an S–structure condition on the kind of relations that may hold between antecedents and traces of moved elements. 15 Subjacency is defined as in (64) (cf. Chomsky, 1986b: 30):

(64) Subjacency:
   a. If (α_i, α_{i+1}) is a link of a chain, then α_{i+1} is subjacent to α.
      "Subjacent" in (a) is taken to mean 1–subjacent.
   b. β is n–subjacent to α iff there are fewer than n+1 barriers for β that excludes α.

As we shall see, Subjacency as defined in (64) unifies the classical cases of island violations (extraction out of complex NPs, wh–islands) with the cases subsumed under the CED (subject condition, adjunct condition) of Huang (1982).

with Subjacency taken to be an S–structure condition, now I consider Subjacency effects in Arabic, by examining some types of structures it is designed to account for. First, I consider some grammatical examples. (65) is

15 Subjacency was first introduced by Chomsky (1973) as in (1) to constrain the application of move–α (i.e. it is not a condition on representations), such that a moved constituent may cross no more than one bounding node for any given instance of movement:

(1) X [α [β Y ] ] X

No rule can relate X and Y if α and β are bounding nodes.

Freidin (1978) and Koster (1978), however, propose that Subjacency may in fact be a condition on representations. A proposal with similar effects appears in Bresnan and Grimshaw (1978). It is suggested in Kayne (1981) that Subjacency can be subsumed under the ECP, but he does not explain the wh-island effects, and he handles the CNPC by a special stipulation.
an S-structure indicating movement of the wh-phrase man 'who' to the specifier of CP; the corresponding D-structure is given in (66):

(65)

\[
\begin{array}{c}
\text{[cp man] [p [vp qa:bala t] Zayd-un]} \\
\text{who met-3sgm Zayd-nom}
\end{array}
\]

"Who did Zayd meet"

\[ t \]

is the trace of the moved wh-phrase man. But here it looks as if two barriers are crossed—namely, VP and IP; VP being a BC since it is not L-marked hence a barrier, and IP being a barrier by inheritance from VP—so the sentence should violate Subjacency. This is surely not the correct result given that the sentence is grammatical. Let us consider (65) more closely. The associated D-Structure representation is (66):

(66) \[ [cp [np e] [q C [ip Zayd-un [i [vp qa:bala man]]]]] \]

There are two cases of movement: movement of V from within VP to the head position I of IP, amalgamating with I to form \( V_I \), and then \( V_I \) moves to C, head of CP. This is shown in (67):

(67)

\[
\begin{array}{c}
\text{[cp qe [v \text{\_} [p \text{\_} np [t \text{\_} [vp t] ]]] ]]
\end{array}
\]

The movement of V to I is unproblematic, crossing only VP. The movement of \( V_I \) to C is unproblematic either, crossing only the BC IP, which is not a barrier. But the movement of man to the matrix specifier position crosses VP, a barrier since it is not L-marked, and IP, a barrier by inheritance from VP.

Note however that another option is possible—namely, successive cyclic movement of man to VP, then to the specifier of CP, yielding the structure (68):

---

Movement of *man* to the VP adjoined position does not cross the category VP (though it does cross one segment of VP), and the same is true of movement of *man* to the clausal specifier position from the VP adjoined position. Hence no barriers are crossed as required.\(^{17}\)

The basic concept of bounding theory, defined in terms of (64b) yields the desired results. In (68) \(t_k\) is 0-subjacent to \(t_{k'}\): There is no barrier including \(t_k\) and excluding \(t_{k'}\). Similarly \(t_{k'}\) is 0-subjacent to *man*. The same holds for V and its traces. Thus, (68) is an example of the best possible case of move–\(\alpha\).

---

\(^{17}\) I am assuming that the verb in (68) moves to INFL, and then to COMP forming the category \(\alpha\).
To further illustrate the application of the concepts of government and Subjacency, consider the following grammatical cases (suppressing head movement: V to I, and then together to C):

(69)

a. \[ [\text{cp} \text{ma}:\text{a}:i] [\text{i} [\text{vp} \text{ra}:\text{ay}-\text{ta} \text{ti}]] \]
   "What did you see"

b. \[ [\text{cp} \text{ma}:\text{a}:i] [\text{e} [\text{ip} \text{tu}-\text{ridu} [\text{cp} [\text{e} \text{?an} [\text{ip} [\text{vp} \text{yara: Zaydun} \text{ti}]]]]]]] \]
   "What do want that Zayd would see"

VP is not L–marked. Thus, if \text{ma}:\text{a}: in (69a) moves in one step from the position occupied by \text{t} to the specifier of CP, then this movement violates Subjacency, since it crosses VP and IP, both barriers. VP is a barrier since, by definition, it is a BC. IP is a barrier since it immediately dominates a BC, VP. This implies that \text{ma}:\text{a}: in (69a) moves to the specifier position of CP in two steps: first it adjoins to VP and then moves to the specifier position, as shown below:

(70) \[ [\text{cp} \text{ma}:\text{a}:i] [\text{e} [\text{i} [\text{vp} \text{t} [\text{vp} \text{rar}:\text{ay}-\text{ta} \text{ti}]]]] \]
   The VP is a BC, and hence, a barrier, for \text{t}. But since VP does not exclude the landing site of movement 1, it does not count as a barrier for the purpose of Subjacency (cf. 74) above. Thus, \text{t} is 0–subjacent to \text{t}' in the VP adjoined position. \text{t}' is also 0–subjacent to \text{ma}:\text{a}: in the specifier position of CP. The VP is not a BC, hence not a barrier, since it does not include the position adjoined to VP. IP is a BC, but not a barrier since it becomes a barrier only by

18 Subjacency in Arabic is discussed in Al–Bayaty (1984) where I argued that NP and S, not S are the bounding nodes for Subjacency. In the framework adopted in this thesis, namely that of Barriers, the theory of bounding is integrated with the theory of government by appealing to the common notion of barrier.
inheritance when it immediately dominates a BC. Thus, no barriers are crossed, and Subjacency is not violated.

Consider now an ungrammatical example illustrating extraction out of a subject NP:

(71)

\[
\begin{array}{l}
\text{\textit{?ar-rajulu\_cP alla\_d\_i\_i\_p sa:hiba t\_i}} \text{ fi l-madi\_nati} \\
\text{the-man who friend in the-city}
\end{array}
\]

"The man whose friend is in the city..."

The movement of \textit{alla\_d\_i} clearly crosses two barriers. The embedded subject NP is not L-marked by any lexical category and is therefore a barrier. It also makes the IP dominating it a barrier. Therefore, two barriers are crossed and the sentence violates Subjacency.

Many details have been omitted since the issue surrounding Subjacency will be taken up in chapter 4, where other constructions in Arabic will be examined which have wh-movement properties.

1.5.7 Control theory

Control is the subtheory which determines the distribution and reference of an empty category NP, symbolized as \textit{PRO}. \textit{PRO} is always the subject of a non-tensed clause, and can never appear in any other position. Lexical NPs cannot appear in the subject position of infinitives:

(72)  
a. John wants \textit{PRO} to leave.

b. *John tried Bill to leave.

---

\footnote{Various versions of the theory of control has been developed in the literature. To name just a few, Chomsky (1981, 74 ff.) outlines a theory based on the \textit{PRO} theorem in (74), Manzini (1983) who argues that \textit{PRO} is strictly an anaphor, and Bouchard (1984), who argues that \textit{PRO} cannot be both [+pronominal, +anaphor], but it is either a pronoun or an anaphor depending on the context. Bouchard suggests deriving control theory from the binding theory. I have nothing to say about the proper analysis of control theory, and will limit the discussion to an illustration of the kind of control found in Arabic.}
(72) is excluded by Case theory since the subject of the infinitive *Bill* lacks Case.

*PRO* has properties of both pronominals and anaphors, and can be proximate (anaphoric) and obviative (arbitrary in reference). The proximate and obviative uses of *PRO* are shown in (73a) and (b) respectively:

(73)  

a. John promised [*PRO* to go to college ]  

b. It's unclear [*who to *PRO* visit ]  

*PRO* is like a pronoun in that it has an independent Θ-role (as does its antecedent, if it has one), and it may have an independent reference, as in (73b). On the other hand, the fact that *PRO* may also lack an independent referent, as in (73b), and therefore its reference may be determined by an antecedent, indicates that it is anaphoric.

The distribution of *PRO* is derived from the fact that it is both pronominal and anaphoric, by the binding theory. Since *PRO* is both pronominal and anaphoric, it would be both bound and free in its minimal domain, which is impossible. This contradiction is avoided in the following way. *PRO* does not fall under the binding theory, since as a pronominal anaphor it can have no governing category, and must appear in ungoverned positions. This deduction is referred to as the *PRO* theorem:

(74)  

*PRO* theorem:  

*PRO* must be ungoverned.

The *PRO* theorem accounts for the impossibility of *PRO* in subject position of a subcategorized small clause (75a) and its possibility in subject position of a non–subcategorized (adjunct small clause) small clauses (75b). The notation SC stands for small clause:
a. We consider \[ \text{AP PRO intelligent} \]

b. John arrived home \[ \text{AP PRO drunk} \]

In (75a) consider governs and Case marks PRO in the subject position of the small clause; hence PRO cannot occur in this position by (74). In (75b), however, PRO can occur in the subject position of the adjunct small clause since it is an ungoverned position.

Now, I consider some of the contexts in which PRO in Arabic is instantiated. PRO appears in two constructions verbal nouns and small clauses. Consider verbal nouns first. In Arabic a verbal noun, like a finite verb, can have a lexical subject, \text{Taariq} in (76). The subject receives a Θ-role and a genitive Case, signalled by \(\text{-in}\), from the verbal noun. This is illustrated in (76):

\begin{align*}
(76) & \quad \text{yuqliqu-ni} & \text{[NP} & \text{[N} & \text{darb-u} & \text{Ta:riq-in} & \text{zami:l-a-hu} & \text{]} \\
& \quad \text{worry-me} & \text{[VP} & \text{beating-nom} & \text{Ta:riq-gen} & \text{colleague-acc-his} & \text{]} \\
& \quad \text{"Ta:riq's beating of his colleague worries me."}
\end{align*}

The subject of a verbal noun, however, like that of infinitives in English, can be non-lexical (an empty category void of phonetic matrix) with arbitrary reference (77); or obligatorily coindexed with its controller (78a). The empty subject is indicated as \([\text{NP } e]: \text{subj = subjunctive}\)

\begin{align*}
(77) & \quad \text{Ian} & \text{?u?ayyid-a} & \text{[NP} & \text{[N} & \text{[VP} & \text{tahti:m-a} & \text{al-madi:nat-i]} \\
& \quad \text{not approve-subj} & \text{to destroy-acc} & \text{the-city-gen} & \text{]} \\
& \quad \text{"I will not approve of destroying the city"}
\end{align*}

\begin{align*}
(78) & \quad \text{?arad-tu-AGR} & \text{[NP} & \text{[N} & \text{[VP} & \text{tahti:m-a} & \text{al-madi:nat-i} & \text{]} \\
& \quad \text{want-1sg} & \text{]} \\
& \quad \text{"I wanted to destroy the city"}
\end{align*}

\begin{align*}
(78b) & \quad \text{?arad-tu-AGR} & \text{[NP} & \text{[N} & \text{[VP} & \text{tahti:m-a} & \text{al-madi:nat-i} & \text{]} & \text{]} \\
& \quad \text{is ungrammatical since the empty subject \([\text{NP } e]\) of the embedded IP has an independent referential index, which mismatches that of the matrix subject}
\end{align*}
AGR. \([\text{np e}]\) bears the index \(k\), while AGR bears the index \(i\). \([\text{np e}]\) in (77–78) bears the same features of its controller, those of person, number and gender, as the contrast between (79a) and (79b) shows:

(79)

a. yu-ri:du Zayd-un \([\text{np e}]\) ?ilqa:?-a nafs-i-hi fi-l-bahr-i
3sgm-want Zayd-nom to-throw–acc self-gen-him in-the-sea-gen
"Zayd wants to throw himself in the sea"

b* yu-ri:du Zayd-un \([\text{np e}]\) ?ilqa:?-a nafs-i-ha: fi-l-bahr-i
herself

This empty category cannot be an NP–trace since it does not arise via the application of the rule move–\(\alpha\). It cannot be identified as a variable since it is not locally bound by an operator. It cannot be identified as an anaphor either since an anaphor cannot have an arbitrary reference (77). The referential disjunction between the subject \([\text{np e}]\) and the matrix subject will violate principle A of the binding theory, if the subject \([\text{np e}]\) is treated as an anaphor. It cannot be the non–anaphor pronominal pro, since there are no nominal features available to identify it. Hence, I assume that this category is PRO, an argument which, by definition, appears at D–structure in an A–position to which a \(\Theta\)–role is assigned.

The other construction in which there is an ungoverned NP symbolized as PRO in Arabic is that of small clauses. Small clauses with PRO subjects in Arabic are exemplified by the following sentences:

(90)

a. ?intalaqa ?amr-un, \([\text{np } \text{pro} ]\) ra:kib-an
departed ?amr-nom riding-acc
"Tame departed riding (a horse)."

b. rakiba ?amr-un al-faras-a, \([\text{ap } \text{pro} ]\) musraj-an
rode ?amr-nom the horse-acc saddled-acc
"Tame rode the horse saddled"
c. ʔintalaqa ʔamr-un [AP PRO_i ra:kib-an [AP PRO_i mubtasim-an]
departed ʔamr-nom riding-acc smiling-acc
"ʔamr departed riding (and) smiling."

d. ʔamr-un madrub-un [AP PRO_i qa?:im-an ]
ʔamr-nom beaten-nom standing-acc
"ʔamr was beaten standing."

e. raʔay-tu alʔami:rat-a [AP PRO_i mustid-an [AP PRO_k munhadir-at-an]
saw-1sg the-princess-acc going up(masc.)-acc going down-fem-acc
"I (while) going up saw the princess coming down."

I analyze the adjuncts under item (90) as predicates of small clauses with an empty category subject PRO as indicated by the brackets. These small clauses are not subcategorized for by the verb, i.e., they are not arguments, but adjuncts base-generated outside of the VP and the government domain of the verb, probably adjoined to IP. Hence, PRO is allowed as the subject of the predicate, which is the head in these clauses, since PRO is ungoverned. PRO is coreferential with the matrix subject (90a), (c), the passivized subject in (d), and with the the NP al-faras in the object position of rakiba in (b). In (e) PRO_k is coreferential with the object alʔamira, while PRO_i is coreferential with the matrix subject.

In contrast to adjunct small clauses, and by the PRO theorem, PRO is excluded from the subject position of a subcategorized small clause. Recall that since PRO has a dual status as a pronominal anaphor, its distribution follows as a theorem of the binding theory: if PRO is subject to both (A) and (B) of the binding conditions, it is subject to contradictory requirements whenever PRO has a governing category. Therefore, it can never have one and must be ungoverned; it may never appear either as the complement of a head or as the subject of a tensed clause, since these positions are governed positions. Hence PRO is normally in complementary distribution with lexical NPs:
The complementary distribution of PRO and lexical NPs observed above is determined primarily by the interaction of two subsystems of grammar, Case theory and binding theory each of which refers to government theory. A lexical NP may show up as subject of a lexical category if it were possible for an external Case assigner to govern into the subject position of that lexical category. The small clause boundary is transparent to government for the purpose of Case-assignment. I would then expect that the subject position of a subcategorized small clause complement to be properly governed by the verb which assigns Case to this position. The expectation is fulfilled:

(92)

(93)

Moreover, if the matrix verb is a raising verb, or a passive participle and therefore governs into the subject position without assigning Case, then NP-trace may appear as the subject of a small clause complement:

(93)
b. dahara ꞌi'amr-ûni ꞌi [AP ꞌi ꞌmut'abân ]
appeared ꞌi'amr-nom tired
"ꞌi'amr appeared tired"

c. tasabbab alfaras-û [NP ꞌi ꞌfaraqân ]
dripped the horse-nom sweat
"The horse dripped sweat"

d. dunna ꞌi'amr-ûni [VP ꞌi ꞌmadrubân ]
believed ꞌi'amr-nom beaten
"ꞌi'amr was believed beaten"

The small clauses in (91) are L–marked by the matrix verb, hence not barriers to government, and the verb governs the subject position, thus ruling out PRO from that position, while admitting a lexical NP in the subject position of the small clause. The subject is assigned accusative Case flagged morphologically by –an.

If we accept the view that Case is assigned under government, then the subject position in (91) must be a governed position in order for Case–assignment to take place. In addition to Case, there are two other facts that tell us that government crosses the boundary of the small clause structures. These are the occurrence of a reflexive (94a), and the objective form of the pronoun indicated by the object clitic –hu affixed to ꞌittabar 'consider' (94b), the nominative form is excluded:

(94)

a. yâftarîbir-û:nâ [AP ꞌanfus-a-hum ꞌa] athkiyâ:a?-a
consider-3mpl selves-acc-them intelligent-acc
"They consider themselves intelligent."

b. ꞌittabar-û-hu [AP ꞌprî thakiy-an]
consider-3mpl-ob cl intelligent-acc
"They consider him intelligent"

c. ꞌi?ittabar-uu [AP huwa thakiy-an]
consider-3mpl he intelligent-acc
"They consider he intelligent"
These facts, which follow entirely from the interaction of various subtheories of UG, among them government theory, Case theory, and binding theory may be taken as additional empirical support for these subtheories. For more on small clauses see chapter (5), section (5.2) and footnotes (2) and (3) of that chapter.

Finally a word is in order on the notion of licensing relations.

1.8 Licensing Relations

In the present stage of the GB theory, a considerable amount of discussion has been concerned with licensing, a notion that has recently obtained general acceptance. It is thus perhaps worthwhile to briefly put the theory into this perspective.

Many or most of the subtheories and principles are well-formedness conditions concerned with licensing of elements; every element in the structure must be licensed by performing a particular function in the structure, such that one really can wind up with a theory in which each bit of structure is there because some other bit of structure requires it to be there, or else the second substructure is dependent upon the first for its own well-formedness. The sentential structure is well-formed only if every element in it is licensed.

The subject position, for example, must be generated as an extension of the Projection Principle, in turn, derived from the the well-formedness condition that in order for a predicates to be licensed as a predicate, it must have a subject for predication.

A lexical head is licensed by projecting its phrasal categories; PRO must meet the licensing condition that it be ungoverned; pro has an additional well-formedness condition placed upon it that it must be licensed by some nominal features. The relation between the various subcomponents of the grammar are
regulated by the Projection Principle. By the Projection Principle Θ-roles must be assigned in the same way at each syntactic level, a hypothesis requiring the existence of argument traces, which then must be licensed by meeting the well-formedness conditions of the Θ-Criterion and the ECP. The conception of syntactic structure that comes out of the Projection Principle is that some position will exist in the structure only if some lexical item requires it to exist. In such case, the lexical item is said to license that category in the syntactic structure. Arguments are licensed through their relation to the verb, that is through the function they perform in the verb's Θ-structure. Traces, arguments or adjuncts, which are empty categories left by move-α, are licensed by being in a specific relation with the head of the construction in which they appear, or with their antecedent. This licensing relation is expressed by the ECP; wh-traces in addition are required by the constraint against vacuous quantification at LF. Then, it can be said that these traces are not only required but also licensed by these conditions. Their presence is in effect guaranteed by these well-formedness conditions.

Anaphors are licensed by being in a binding relation, that of A-binding, with their antecedents in a specified domain. The licensing structure, then is a structure in that it is a collection of relations, of which binding and Θ-relations are two examples. Full interpretation (FI) occurs if every element in a syntactic string is licensed so that at LF or PF all elements in the string can be identified for construal. Full licensing occurs if all elements in a representaton have been licensed for identification in accord with FI.

1.9 Summary

I now review briefly the basic subtheories of UG presented above. I assumed the "principles and parameters" approach to linguistic theory outlined
in Chomsky (1981) and subsequent work, revising extending and defending in the chapters to come. In this conception UG consists of various subsystems: X-theory, government theory, binding theory, Case theory, Θ-theory and bounding theory. Each of these subsystems contains certain principles with a limited degree of parametric variation. A particular (core) language is determined by fixing parameters in these subsystems. In addition, there are certain overriding principles such as the Projection Principle and the Principle of Full Interpretation.

This concludes our outline of the principles and subsystems of UG as conceived of in the GB model of syntax which underlies this research.
Chapter 2

Word Order

2.1 Introduction

This chapter addresses the issue of word order. It argues that the surface VSO order of Arabic is to be derived from a D–structure that resembles (1):

(1)

\[
\begin{array}{c}
CP \\
  \overset{\text{C}}{\text{IP}} \\
  \overset{\text{i}}{\text{NP}} \\
  \overset{\text{I}}{\text{VP}} \\
  \overset{\text{V}}{(NP)}
\end{array}
\]

I will claim that Arabic has a restriction on directionality of government and Case–assignment for all Case–assigning categories: INFL, V, P, N and complementizers which are Case assigners, such as ?anna and its morphological variant ?inna. In other words, the directionality parameter for government and Case–assignment in Arabic is set to apply strictly rightward. INFL, like the other categories must assign its Case rightward.

Since INFL is the category that assigns Case to the subject NP, and since Case is only assigned to the right, INFL must move left–ward to a position where it can assign Case to the subject to its right. I assume that it moves to COMP, head of CP. Since INFL has no full lexical status, it appears phonetically in surface structure as part of a verbal affix system. This triggers V movement to INFL and subsequently to COMP to provide a locus for INFL to cliticize to. This results in a VSO order at S–structure.
Another alternative is to assume that the subject in Arabic is generated in Spec VP in D-structure and it remains there at S-structure. The verb moves from within VP to realize INFL at S-structure, yielding a VSO order. If so, then VSO order could be derived even if the verb only moves to INFL. According to this view the subject in Spec VP will be assigned Case by INFL which is in the proper configuration for Case assignment and hence there is no reason for the subject to move to Spec IP. I will not however adopt this possibility here although it seems to have desirable consequences in various areas of Arabic grammar.¹

The movement that moves V to INFL, a pre-subject position, is a head-to-head movement (Chomsky, 1986b). Within GB theory this analysis is necessary given all explications of the theories of government and Case-assignment where V governs its complement and INFL governs the subject NP. In particular, there must be a structural, i.e., hierarchical, distinction between subcategorized complements of lexical categories, and specifiers (in the sense of Chomsky 1970) if they are to receive different Cases, and if Case-assignment is to be defined in structural terms.

A non-configurational structure as in (2) requires a linear definition of Case:

¹ The internal subject hypothesis --- that the subject of a clause originates in the specifier position of an inflectional head --- has been suggested in the literature by various people. Koopman and Sportiche (1988), Kuroda (1988) and Kitagawa (1986) have proposed this hypothesis. They suggest that the subject in English raises from within the projection of the lexical head to the specifier of IP where it can be assigned Case by Inflection. It is assumed that Inflection in English assignes Case to the right.
Case is typically not assigned by a particular syntactic category under the structural definition of government and c-command, but rather it is 'inherent', or lexical, i.e., is generated by the base–component on NPs.²

An analysis that maintains that Arabic clauses have a non-configurational structure necessarily predicts that phrases of the X–system in Arabic will have a single level of projection (apart from some operator–positions), and hence there will be no hierarchical distinction between subcategorized complements and specifiers. This prediction is false, in view of genitive NPs, gerundive NPs, PPs, and VPs within gerundive NPs. These categories have a configurational structure, in the same sense as clauses do in a language like English.

In the following section I propose an SVO analysis for Arabic.

2. 2 SVO Analysis

Emonds (1979), Sproat (1985) propose that languages with VSO surface orders be derived from SVO orders at D–structures. Sproat (1985) proposes that the subject of a sentence in a VSO language receives Case from a preceding governing INFL³. This requires INFL to be preposed to a pre–subject position taking the verb along for morphological support:

² See Hale (1982, 1983) for an elaboration of this idea with respect to Warlpiri.
³ It is interesting to note here that in Arabic grammatical theory it was held that "martabatu al-fa:milu qabla almatmu:li fi:ihi, maffu:dan bihi ?aw muqaddaran" Ibn as-sarra:j, (1973: 108).
The motivation for the verb movement analysis has appeared in the literature. Such an analysis is necessary assuming the following about UG:

(4)

a. V governs the object
b. INFL/AGR governs the subject
c. V is the head of VP
d. INFL is the head of IP

(a-b) follow from the definition of government; (c-d) follow from X–theory. I further suggest a restriction on the Case assigning properties of INFL and all other Case assigners. Case–assignment in Arabic only applies rightward and requires adjacency (the Case assigner must be adjacent to the Case assignee)\(^4\)\(^5\). The view that Case–assignment in Arabic applies to the right with an adjacency requirement imposed on it is a result of parametric variation.\(^6\) Like all other Case–assigning categories in Arabic such as V, P, N, and C, INFL must Case–assign rightward. Complements of Vs, Ps, Ns and Cs in Arabic must, canonically, follow their governors.

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Footnotes:

4 cf. Elesseily, (1985) who also makes the assumption of rightward directionality in Case–assignment for Arabic.

5 see chapter 4, (4.10.1) for arguments that Case–assignment in Arabic requires adjacency.

I further assume that the inflectional element INFL in Arabic must be morphologically supported; in other words INFL cannot be separated from a verb since it only includes the vocalic affixes encoding tense, AGR, aspect and voice. INFL contains the features [+tense], and the agreement element (AGR) which is nominal in character by virtue of having the features of person, number and gender. INFL is the element that governs and assigns Case to the [NP, IP].

With these assumptions I can account for the VSO order in Arabic. Since INFL is the element that assigns Case to the subject, and since Case is only assigned rightward INFL must move leftward to COMP. INFL is then in a position to assign Case to the subject NP to its right. Since INFL does not have a lexical status, it is realized phonetically as an affix attached to the verb in surface structure. This requires a rule of verb preposing so that the verb supplies a locus for INFL to cliticize onto. Sproat refers to this as "morphological support". I assume that the verb in Arabic, more appropriately the consonantal root, moves to the head position INFL forming an inflected V since it is now vocalically specified, then the inflected V moves to COMP (C). The movement proceeds via INFL, given the Head Movement Constraint. This head-to-head movement produces the structure in (5):
In (5) INFL is in the correct position at S-structure (to the left of the subject), and thus can govern and assign nominative Case to the subject NP to its right. I assume that the verb through its trace assigns Case to the object NP at S-structure.

The ascription of the verb movement rule to the setting of a parameter of linguistic theory involving directionality of government and Case-assignment by Case assigning categories make important predictions about word order in the gerundive construction. This is argued below.

In summary, I argued in this section that assuming an SVO structure for Arabic in the base is justified on theoretical grounds by the necessity of establishing a VP node for a universal definition of government. If the basic order of constituents in Arabic is assumed to be hierarchical; i.e. identical to that of SVO languages it would enable us to express grammatical relations and Case-assignment in a universal way, assuming a rightward setting for government and Case-assignment.
2.3 The Structure of gerundives

In the preceding discussion, I suggested that there is a base-generated VP in Arabic, and claimed that the VSO structure is derived from an SVO D-structure by the application of a verb fronting rule. I ascribed the motivation for this rule to a parameter setting of linguistic theory involving a rightward directionality of government and Case-assignment in Arabic. This hypothesis is supported by the construction of gerunds, as I shall proceed to explain.

I suggested in chapter (1) that nominative Case in Arabic is assigned to the subject NP whenever there is agreement. This raises the question of whether there exist any clauses in Arabic in which a nominative NP may not occur in subject position. If such clauses exist in Arabic, I should expect that they would lack agreement. This situation is attested in gerund clauses, which do not allow nominative subjects, as the sentences in (6) illustrate. The sentences are ungrammatical whether the subject is placed before the gerund (6a), or after it (6b):

(6)

a. *yu?limu-ni ʕamr-un darbu faras-i-hi
   sadden-me ʕamr-nom beating horse-gen-his

b. *yu?limu-ni darbu ʕamr-un faras-i-hi

Although lexical subjects of gerund clauses cannot receive nominative Case, since nominative Case is assigned by agreement in INFL, and since gerunds possess no agreement, they may appear in the subject position of gerund clauses with genitive Case:

(7) yu?limu-ni darbu ʕamr-in faras-a-hu
    sadden-me beating ʕamr-gen horse-acc-his
In Arabic, a gerund, like a transitive verb (8) can have a lexical subject as well as a lexical object (9, 7); the gerund must precede the subject, as shown by the ungrammaticality of (6a and 10) in which the gerund follows the subject:

(8) qra?amr-un at-taqri:r-a read amr-nom the-report-acc

"Tamr read the report."

(9) ?azTajat-ni qira:?at-u amr-in at-taqri:r-a annoyed-me reading-nom amr-gen the-report-acc

"Tamr's reading of the report annoyed me."

(10) *?azTajat-ni amr-un qira:?at-u at-taqri:r-a annoyed-me amr-nom reading-nom the-report-acc

When the gerund has a lexical subject and a lexical object, as in (7 and 9) it marks its subject with genitive Case which surfaces as -in, and its object with accusative Case, which surfaces as -an. The gerund can also have a lexical object, and have its subject as a phonologically empty category; in such case it marks its object with genitive Case. Following the same line of reasoning in chapter (1), I symbolize it as PRO, and as any other empty category:

(11) ?azTajat-ni PRO qira:?at-u at-taqri:r-I annoyed-me reading-nom the-report-gen

"Reading the report annoyed me."

Specifying a subject PRO for the gerund as in (11) suggests that I am assigning gerunds a clausal structure, which I do, and argue for below.

2.4 Gerundive Clausal Structure

I argue that the gerundive clausal structure consists of an NP that includes a predicate headed by the verbal noun, an N node (void of AGR and a tense operator) and a subject position which is either filled by a lexical NP as in (7, 9), or by PRO as in (11). The structure of a verbal noun clause is shown in (12):
The subject, NP₂, is immediately dominated by NP₃, the maximal projection of the non-lexical head N containing the vocalic affixes. The complement of N, VP, is immediately dominated by \( \bar{N} \). NP₁ is the complement of V and would be immediately dominated by \( \bar{V} \).

An argument for the clausal status of gerunds comes from the theory of binding. The fact that there is a subject NP in (11) is shown by the fact that it can function as a binder for the anaphor nafsihi 'himself', thus licensing the occurrence of the anaphor, which would otherwise be excluded by the binding theory:

(13) qarrara \( \text{famr-un} \); PROᵢ qatla nafsihiᵢ
decided \( \text{famr-nom} \) killing himself
"\text{famr} decided killing/to kill himself."

If there is no lexical subject in a gerund clause, what would the resulting structure be? We have seen that the gerundive structure contains a VP predicate: the verb and its complement. By the Extended Projection Principle, the requirement that every predicate must be an expression about something, the subject position is obligatory wherever there is a predicate, and must be
represented even if it is not filled by lexical material. It follows that gerunds must have a propositional (subject–predicate) structure.

If the subject is PRO, I would expect to find control–type structures in gerund clauses:

\[(14)\]

a. \text{yu-hibu} \text{\textasciitilde amr-un}\textsubscript{k} \text{PRO
\textasciitilde k} \text{qira:}\textasciitilde ata \text{al-qura:n-i} \\
3sgm-like \text{\textasciitilde amr-nom} \text{reading the-Qur\textasciitilde an} \\
"\text{\textasciitilde amr likes reading the Qur\textasciitilde an.}" \\
b. \text{Ian} ?\text{u-}\text{\textasciitilde ayid-}\textsubscript{a} \text{PRO
\textasciitilde k}\textsubscript{i} \text{tahdima} \text{al-manzil-i} \\
\text{neg 1sg-approve-sub demolishing the-house-gen} \\
"I will not approve demolishing the house."

In (14a), the subject of \text{read} must be \text{\textasciitilde amr}, the matrix subject, typical of proximate PRO; whereas in (14b), the subject of \text{demolish} must have an arbitrary interpretation, typical of obviative PRO.

Finally, the fact that purposive gerundive clauses (15a, c) have corresponding sentential subjunctive clauses (15b, d) suggests that the gerund phrases in these positions may also be propositional (a subject–predicate structure):

\[(15)\]

a. \text{jalasa} \text{tahta} \text{al-fajarat-i} \text{li-li-stira:hat-i} \\
sat under the-tree-gen for-the-rest-gen \\
"He sat under the tree for resting."

b. \text{jalasa} \text{tahta} \text{al-fajarat-i} \text{li-ya-starih-a} \\
sat under the-tree-gen so that-3sgm-rest-sub \\
"He sat under the tree to take a rest."

c. \text{\textasciitilde a-ra:da} \text{ziya:r}\textsubscript{a} \text{al-madi:nat-i} \\
1sg-wanted visiting-acc the-city-gen \\
"He wanted to visit the city"

d. \text{\textasciitilde a-ra:da} \text{\textasciitilde an ya-zu:}\text{r}\textsubscript{a} \text{al-madi:nat-a} \\
1sg-wanted so that 3sgm-visit-subjunctive the-city-acc \\
"He wanted to visit the city."

I assume that the gerund is a verbo–nominal element, that is it has both the properties of a noun and the properties of a verb. As a noun, the gerund
can be a first member of a construct state structure (genitival structure), a context in which genitive Case is assigned in Arabic, and thus the gerund assigns genitive Case to the second member of the construct state, as all nouns do.

Since the binding theory requires PRO to be ungoverned, it follows that the subject of the gerund PRO in (11) cannot be in a position to the right of the gerund, that is in the government domain of the gerund. Since government in Arabic applies only to the right, PRO can only occur in a position to the left of the gerund. Thus, while (11) is correctly admitted, (16) in which PRO occurs to the left of the gerund, a governed position, should be excluded by the PRO theorem:

(16) *azfajat-ni qira?:at-u PRO at-taqri:r-a

In light of these observations, let us consider the sentences in (9) and (10) repeated below in (17) and (18) respectively, in which the subject of the gerund, famr, has a phonological matrix:

(17) ?azfajat-ni qira?:at-u famr-in at-taqri:r-a
    annoyd-me reading-nom famr-gen the-report-acc
    "famr's reading of the report annoyed me."

(18) *?azfajat-ni famr-un qira?:at-u at-taqri:r-a
    annoyd-me famr-nom reading-nom the-report-acc

Since the subject is lexical, it must obey the Case Filter, as all lexical NPs do. Given the rightward governing and Case assigning requirements, the gerund in (18) does not govern the subject famr, nor does it assign Case to it. Government of the subject from outside is blocked by at least two intervening barriers. Gerunds have the structure of an NP dominating a VP. The NP is a barrier since it is not L-marked, thus making the dominating IP a barrier. This sentence is thus ruled out by the Case Filter; hence the ungrammaticality of (18), and the need to appeal to a verb fronting operation to generate the correct
sentence in (17). This operation yields the S-structure (20) from the corresponding D-structure (19):

(19) D-structure

```
CP
  /
 /  \
C  IP
  /
C  NP
  /
NP  I
  /
NP  YP
  /
NP  YP  NP
  /
NP  YP
  /
NP
```

- `samr`
- vocalic affixes
- `qara?a` 'read'
- `at-taqrira` 'the report'
- `?aziajani` 'annoy'
- `me`
On the other hand, if the subject is an empty category PRO, as in (11), then the movement which derives (20) from (19) does not apply, as a consequence of the binding theory, and PRO is generated to the left of the gerund in an ungoverned position, as required. Thus, the D-structure and S-structure of the sentence in (11) is (19) with the lexical subject of (19) written as PRO.

Notice that genitive Case assignment to the subject NP by the gerund in COMP at S-structure is problematic since there are two intervening barriers, IP and NP. Even if it is assumed that at S-structure IP is L-marked by [V+N] in (20), hence not a barrier, NP however is still a barrier blocking Case assignment to the subject NP. This problem can be avoided if the internal
subject hypothesis were adopted with the assumption that the subject in Arabic, unlike English, does not move to the specifier of IP. Instead, it remains within the projection of a lexical head, a position in which it receives Case. Then, the head N in (20) would assign genitive Case to the subject located in the specifier position of the complement of N. Assuming this hypothesis, the surface order of constituents in Arabic is obtained, if the verb moves to the inflectional head only—the head N in (20)—and therefore the need for head movement to COMP does not arise.

To summarize, it has been argued that the structure of gerunds in Arabic is clausal—consists of a subject and a predicate—, and suggested that the gerund clausal structure is an NP category. An overt subject may appear in the specifier position of NP, if an S-structure verb movement applies to place the gerund left of the subject so that the subject is governed and assigned genitive Case. There may never be an overt subject NP in the pre-N specifier position unless verb movement applies, since government in Arabic applies only rightward, and the verbal noun, being within VP, cannot govern nor assign its Case to its subject.

2.5 Case-assignment in Gerundive Clauses

Now, I provide an account of the gerund's dual categorial behaviour by assuming that the gerund projects lexically as a clausal VP. Let us assume that a gerund has the syntactic category of a verb at D-structure, and that the gerund's vocalic nominal features are generated under N within \( \bar{N} \). These features are affixed to the verb by the familiar process of verb raising to N, an instance of head-to-head movement. Accusative Case is assigned to the internal object position of gerundive clauses at D-structure before verb raising occurs, at a level where the syntactic category of the verb remains unaffected by
the attachment of the nominal features to the verb. Alternatively, I may assume that the verb's Case-marking capacity is maintained in the trace and that the verb through its trace assigns accusative Case to its complement at S-structure. The syntactic effect of head raising of V to N at S-structure where nominal features are attached to V is one of recategorization to N. Head raising moves the complex N + V to COMP from where N assigns genitive Case to the subject of the gerundive clause. Under the view that Arabic clauses are configurational categories, the apparently odd behaviour of gerunds would follow automatically from the structure of UG. The trees in (1) represent respectively the relevant structural properties of gerundives with a lexical subject at D-structure and after the application of verb raising and the attendant nominal recategorization:

(21)  a. 

![Tree Diagram](image)
Gerundive clauses of type (21a) permit either a lexical subject NP or PRO in the D-structure subject position. (21b) however permits only a lexical NP and excludes PRO from appearing in the S-structure subject position. The prohibition against PRO here is due to the interacting effects of binding theory and Case theory. Having a clausal structure, gerundives are subject to the EPP, which requires that they contain a structural subject. Structures of the type (21a) ungoverned subject positions, since government in Arabic applies only rightward. The binding theory permits PRO in subject position and disallows head raising to COMP since PRO would be governed. Note that head raising to N leaves the subject position ungoverned because of the rightward directionality setting parameter for Arabic. Note, however, examples of the
structural type (21a) with a lexical subject are excluded by Case theory since
the subject is not Case-marked. Now, consider the structure (21b),
representing a nominal gerundive after affixation at S-structure. The subject
position is governed by the nominal element in COMP exactly as the subject of
a tensed clause is governed by INFL. Thus, it is immediately to be expected
(since N is now in the correct position to govern and Case-assign its subject to
its right) that genitive Case will be assigned to the subject in a configuration
such as (21b). This has the effect of allowing lexical subjects and prohibiting
PRO.

Since agreement, which I assume to be the nominative Case assigner in
Arabic, is not present in gerund clauses, there can be no nominative subjects.
If the subject in the gerund clause is not overt, then it is PRO which must appear
only in an ungoverned position; then verb movement does not apply leaving the
subject position ungoverned, as required by the binding theory.

2.6 Summary of Chapter 2

I argued on the basis of construct state structures that genitive Case
assignment by a head noun is possible only under a strict configurational
condition of c-command. When this condition fails, a dummy Case assigner is
needed to assign Case to the complement, an entirely predictable phenomenon
given the Case Filter.

I suggested that, like all other Case-assigning categories in Arabic such
as V, P, and N, INFL must Case-assign rightward. Objects of Vs, Ps, Ns and
case-assigning complementizers must, canonically, follow their governors.
Since Case is only assigned to the right, I suggested that INFL moves to COMP,
and since INFL needs to be morphologically supported, V moves to INFL and
then to COMP to provide a locus for INFL to merge to. This head-to-head
movement results in a VSO order at S–structure. The analysis is supported by facts concerning the structure of gerunds.
Chapter 3

The Syntax of Left-dislocation

3.1 Introductory Remarks:

This chapter is primarily concerned with the syntax of Left-Dislocation (henceforth LD). To illustrate, consider the following sentences in which the NP ar-rija:lu corefers with the agreement element -u: suffixed on the verb:

(1)

a. ar-rija:l-u_i qa:m-u_i
c. the-men-nom stood up-3mpl
"The men stood up"

(2)

a. *ar-rija:l-u_i qa:m-u:
b. qa:m-a ar-rija:l-u

The pre-verbal NP in (1) requires full agreement with the verb. In (1a) the agreement is fully specified for number, person and gender and the sentence is grammatical. In (1b) however the agreement is only in gender and thus the sentence is ungrammatical. In contrast, the post-verbal NP in (2) requires agreement only in gender. Thus, it cannot co-occur with the third person plural agreement -u: suffixed on the verb in the same minimal domain as shown in (2a). I need to explain this contrast.

Similarly, consider the following paradigm where the initial NP is understood as the object of the verb:

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1 Coreference will be indicated by indexing throughout this thesis.
Note that (3a) has a clitic, (3b) does not, and that (3b) is ungrammatical. Compare it with (4a) which has no clitic, yet the sentence is grammatical. The only difference between (3) and (4) is that the initial NP is marked nominative in (3) but accusative in (4). In (3), where the NP bears nominative Case, the presence of a clitic is obligatory. In contrast, in (4), where the NP bears accusative Case, the presence of the clitic is possible but not obligatory.

I would like to point out here that Left-dislocation is not only a main-clause phenomenon in Arabic as the data in (9) below imply. In fact, Left-dislocation is possible in main-clauses without being introduced by a complementizer, as represented by (6) and (9) below, in main clauses introduced by the complementizer ?inna (7), and in embedded clauses of believe-type verbs introduced by the complementizer?anna (8). (5) is a regular non-left-dislocation structure. In (6-8), the NP alfāsala 'the honey' has been Ld'd:

(5) J'ariba camr-un al-ṭasal-a
drank camr-nom the-honey-acc
"Tamr drank the honey"
I have divided the data into three major sets corresponding to the three classes of Left–dislocation structures. The first two structures, in which an NP is left–dislocated in the main clause, will be the focus of sections (3.2) and (3.11) respectively. A detailed treatment of embedded Left–dislocation will be provided in section (3.19) in an attempt to determine the extent to which they are related to matrix Left–dislocation, relative clauses and topicalization.

The first section argues in favour of an analysis of these structures without movement. The second section addresses the issue of how the NP in sentence–initial position in (1-3) receives an interpretation. The third section extends the proposed analysis to the NP that immediately follows the complementizer ?inna and argues that the NP is adjoined to IP (=S). Section (3.16) argues in favour of ?inna as an accusative Case–assigning complementizer. Finally, (3.19) deals with embedded LD.

3.2 Matrix Left–dislocation Without a Complementizer

The initial NP in the following examples is related to a pronoun written as pro by coindexing, which in turn is coindexed with a clitic. It should be noted that since Arabic is a null argument language, resumptive subject pronouns and resumptive object pronouns are null just like non–resumptive ones may be null:
(9)
a. al-?awlad-u_i  na:m-u_i   pro_i
   the-boys-nom n:om-slept-3mpl
   "As for the boys, they slept"

b. al-?awlad-u_i  sa:rad-na-hum_i  pro_i
   "The boys-nom we helped them"
   "As for the boys, we helped them"

c. Aliy-un_i  ja?-at  ?umm-u-hu_i  pro_i
   Ali-nom came-3sf mother-nom-gencl
   "As for Ali, his mother came"

d. Aliy-un_i  ?a?-ta-hu_i  pro_i  Hasan-un al-kitab-a
   Ali-nom 1sg-give-obcl Hasan-nom the-book-acc
   "As for Ali, Hasan gave him the book"

e. ?ad-diuyuf-u_i  rahib-u  bi-him_i  pro_i
   the-guests-nom welcome-2mpl in-ob cl
   "As for the guests, give welcome to them"

f. *diuyuf-u  rahib-u  bi-him  pro
   guests-nom welcome-2mpl in-ob cl
   "* As for any guests, give welcome to them"

Now, I note the important features of LD structures exemplified above.

3.2.1 Range of LD:

As can easily be ascertained from the data in (9), the range of NPs that may be left-dislocated is quite wide in Arabic. The relation between the first lexical NP and the rest of the sentence changes in each case. In (9a), al-?awladu is coreferent with the subject position; in (9b) it is coreferent with the object clitic on the verb sa:rad ; in (9c) it is coreferent with the genitive position (possessor) of the NP ?um; in (9d) it is coreferent with the indirect object position, and in (9e) it is coreferent with the object of the preposition bi - . (9f) is ill-formed since the initial NP is indefinite. In (3.6), it will be seen that the coreference linkage between the NP in question and its site can go freely into complex and coordinate NPs.
3.2.2 presence of Null Pronouns:

One of the prominent features displayed by the data in (9) is that any left-dislocated non-subject NP leaves a resumptive pronoun pro behind, displaying its features of number and gender. Note that pro is always coindexed with the clitic attached to the lexical head.

Arabic is a null argument language, a term generally used to describe languages that allow a null subject, object or both. In other words, the term refers to languages which allow the absence of lexical NPs in argument positions in the surface realization of the sentence. Assuming the Extended Projection Principle (Chomsky, 1982), which requires that the subject position must be syntactically available universally, the Projection Principle and the Θ-Criterion, a Θ-marked position must be structurally represented, even if that position is not filled by any lexical material. Given these principles, an argument must appear in the subject and object positions to receive the Θ-roles assigned to these positions by VP, and V, head of VP, respectively. I assume that this argument-- when not expressed phonologically-- is represented by the pronominal non-anaphor pro.

This choice between null and lexical realization of subjects and objects is relegated to the internal structure of the INFL node and to the presence of clitics respectively. In Al-Bayaty (1989) I developed an account that establishes a relation between AGR in INFL and the clitic on one plane, and the null

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2 The pronoun in question is sometimes referred to in the literature as "replacive", "returning", or "resumptive". Within the indigenous grammatical tradition the terms arra:bīt literally, "the connector" and al-ra:?īd "the returning" are used to describe the pronouns in LD and relatives respectively. These pronouns are considered the defining features of the two constructions. In this thesis we have consistently used the term "resumptive" following recent literature on this topic. In this respect i.e., the use of resumptive pronouns, LD structures are similar to relative clauses discussed below in 4.2.6. Based mainly on the similar distribution of resumptive pronouns in both LD and relatives, Lewkowicz (1971) and Russell (1977) proposed that relative clauses in Arabic are transformationally derived from an underlying Topic-Comment (LD in our terminology) via a process of topic or theme deletion. Kuno (1973) suggested a similar analysis for Japanese relatives.

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argument pro on the other plane. AGR and the clitic, both being nominal, i.e.,
contain the set of features of person, number and gender, function as licensers
for pro (identify the content of pro in terms of person, number and gender).

This account is based on the discussion of clitic doubling. Clitic doubling
is the phenomenon where a lexical NP exists in a sentence together with a clitic
attached to the head of the phrase and coindexed with that NP, as seen in the
English translation "I hit him to/of Bill" which is unavailable in English. This
construction provides strong support for the view that the clitic is to be analysed
as a spell out of Case features of the head, and not as a complement of the
head of its phrase.

Consider in this respect the grammaticality of (10a) which displays a
resumptive pronoun, versus the ungrammaticality of (10b) in which a
resumptive pronoun is missing:

(10)
a. al-?am8al-uj na-drib-u-ha\ j pro\ li-qawm-in^3 ya-tafakkar-u:n
   the-similitudes-nom 1pl-set forth-ob cl for-people-gen reflect-3pl
   "As for the similitudes, we set them forth for people who reflect"

b. *al-?am8al-u na-drib-u li-qawm-in ya-tafakkar-u:n
   "As for the similitudes, we set forth for people who reflect"

\footnote{Most indefinite nouns in Arabic and consequently adjectives and adjuncts by agreement
display their Case morphologically by the following suffixes: un : nominative indefinite, an :
accusative indefinite, and in : genitive indefinite. These suffixal Cases are known as
"nunation". They are treated as indefinite because they are mutually exclusive with the definite
article (? ) al. To clarify their distribution, here are a few examples showing the mutual
exclusiveness of the accusative indefinite Case and the definite article:

1. qa:bal-tu al-wazi\ r-a
   met-1sg the-minister-acc indef
   "I met the minister"

2. qa:bal-tu *al-/wazi\ r-an
   met-1sg the/minister-acc indef}
3.2.3 Coreferentiality

The well-formedness of the sentence depends crucially on the coreferentiality of the pronoun and the ld'd NP. This pronoun is coindexed with a clitic. Ungrammaticality immediately results if the NP and its pronoun are assigned different indices. (11) illustrates this remark:

(11) *al-raj: simat-ui ban-a:-ha pro_k Ar-Rasjid-u the-capital-nom built-3sgf-ob-cl Ar-Rajid-nom

"As for the capital, Ar-Rajid built it"

The sentence is ill-formed since pro and the initial NP are assigned incompatible indices. pro is assigned the index k whereas the initial NP is assigned the index i

3.2.4 Specificity:

There are some semantic restrictions on LD that prevent non-specific NPs from being Ld'd. In some analyses of LD in Arabic, the feature [+ definite] has been used instead of specific to describe these restrictions. This is mostly because specific NPs can contain the determiner ?a/-, which marks definiteness. I shall argue in a later section that the use of the feature [+ definite] is not adequate for describing the semantic constraints on the Ld'd NP. It is true that all the Ld'd NPs in (9) are definite as the determiner ?a/- attached to the noun indicates, and that the sentences will be ruled out if the determiner is omitted from the NP as (9f) above shows. The following sentences are grammatical despite the absence of the determiner ?a/-:

(12) rajul-un tuhibu-hu Layla qa:bala-ni
    a man-nom like-3sgm ob cl Layala interviewed-3sgm-1sg ob cl
    "A man Layala likes him interviewed me"

(13) rajul-un salih-un qa:bala-ni
    a man-nom fair-nom interviewed-3sgm-1sg ob cl
    "A fair man interviewed me"
The NP *raju-un* in (12-13) is not definite, but what it denotes is made more specific by adding relative clauses as an individual who belongs to the class of people whom Layla likes (12), and who are fair (13). Thus, the feature [+ definite] is not sufficient for describing these facts, and it is more appropriate to say that the Ld'd NP must be specified with the possible utilization of the feature [α specified]. This approach to the semantic constraints on LD will be further discussed in section (3.9), where it will be argued that it is compatible with the predication approach developed in section (3. 8).

3.2.5 Nominaive Case:

In each of the examples under (9), the Ld'd NP is nominative regardless of the role it seems to play in the sentence, and of the argument position with which it is coindexed. In (9b, c, d, and e above) V, N, V, and P assign respectively accusative, genitive, accusative, and genitive Case. This becomes clear when a lexical NP occurs as a complement of V, N, V, and P in a simple sentence:

(14)

b. *sa?ad-na al-?awlad-a*  
helped-1pl the-boys-acc  
"We helped the boys"

c. *ja?-at ?umm-u faliyy-in*  
came-3sf mother-nom Ali-gen  
"Ali's mother came"

d. *?an-a Hasan-un faliyy-an al-kitab-a*  
give-sg Hasan-nom Ali-acc the-book-acc  
"Hasan gave Ali the book"

e. *rahib-u bi al-diyuuf-i*  
welcome-3pl in the-guests-gen  
"Give welcome to the guests"

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4 The feature of nominative Case distinguishes LD from structures produced by move–α to be discussed below. Bakir (1979) cites this feature as one of the arguments for a base–generation analysis of LD.
I will assume that this nominative Case is a default LD Case that is not assigned to the Ld'd NP under government, such as by AGR in INFL. In other words, in Arabic, nominative Case is the Case that an ungoverned NP receives in the absence of a governor, a notion supported by the facts of Arabic. I consider the Ld'd NP to be an adjunction by base-generation. It can be adjoined to IP or to CP as will be discussed and argued for in sections (3.15).

In (15a) there are two Ld'd NPs Zayd and ?aΧ both of which bear nominative Case, signalled by -un and -u respectively. In (15b) there are two left-dislocated NPs Zayd and ?al-?awlaad. Zayd is governed and assigned accusative Case by the matrix verb. ?al-?awlaad, however, cannot be assigned accusative Case by that verb, since it is not governed by it, and thus appears bearing nominative Case signalled by -u:

(15)  
   Zayd-nom  brother-nom-his  honored-1sg-him  
   "As for Zayd, his brother, I honored him"

b. hasib-tu  Zayd-an  ?al-?awla:d-u  daraba-hum  
   believed-1sg  Zayd-acc  the-boys-nom  hit-them  
   "I believed that Zayd, as for the boys, he hit them."

I thus formulate rule (16) for nominative Case-assignment:

(16) Nominative Case Assignment:
Assign nominative Case to an NP iff:

i. NP is not in the government domain of a Case assigner.

ii. NP cannot inherit Case.5

The idea expressed by this rule is that if direct Case-assignment and Case inheritance are no longer possible, then an NP receives Case by default. Thus, conforming to (16), the initial NP in (9), the NPs Zayd and ?aΧ in (15a) and ?al-?awla:d in (15b), acquire nominative Case.

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5 On Case inheritance cf. section (3.16.4) below.
Although Arabic seems to have a default nominative Case mechanism to license the occurrence of Ld'd NPs, this option is not freely available in the grammar but crucially tied to particular structural positions in Arabic sentences. This can be seen from facts of Case-assignment within NPs:

(17)

a. qasf-u al-ṣaduw-i al-madi:nat-a
   bombing the-enemy-gen the-city-acc
   "the enemy's bombing of the city"

b. *qasf-u al-ṣaduw-u al-madi:nat-a
   nom

c. kita:b-u ʿamr-in
   book-nom ʿamr-gen
   "ʿamr's book"

d. *kita:b-u ʿamr-un
   nom

The only Case allowed for the NPs al-ṣaduw and ʿamr in this context is the genitive Case, the Case assigned by head nouns under the structural condition of government. The NPs cannot receive a default nominative Case, an option sometimes available, hence (17b and and d) are excluded. This shows that Case assignment in configurational terms (under the structural conditions of government and C–command) has priority over default Case, and that the latter is not an option in governed contexts.6 It is thus plausible to have hierarchical structures constant across categories, and to marginalize linear ones.

The D–structure of the gerundive structure in (17a) is (18):

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6 As for the subject position before I movement to C, it still cannot receive default Case since it is a position governed by C.
At S-structure the verb *qasafa* in (18) moves to the head N after it has assigned accusative Case to its complement, the NP *al-madinata*. The N *qasfu*, the amalgamation of the verb and the N, moves to the head position C. Recall that the parameter for government and Case assignment in Arabic is set to apply rightward. N is now in the correct position to assign genitive Case to [SPEC, NP] in (18), on analogy with nominative Case assignment by INFL to
subjects in [SPEC, IP]. The N *kita:bu* in (19) assigns genitive Case to the NP
*famr* within *N.*

3.3 Chopping and Copying Rules:

Structures similar to the ones given above are attested in other languages and have been discussed under the name of "topicalization" and "left-dislocation". Generative grammar since Ross (1967) has distinguished at least two different formal processes: left-dislocation and topicalization -- processes in which an NP occurs in an initial position in a string without being a subject. For Ross, topicalization and left-dislocation are two rules of movement: a chopping rule moves a syntactic category from a position α to a position β without leaving an overt category behind in α; a copying rule moves a syntactic category from α to β, and simultaneously inserts a pronoun in position α, which agrees with the moved category in person, number, and gender. The structures illustrated above share certain characteristics with left-dislocation in that the initial NP in the string has a pronoun inside the string displaying its features of gender, person, and number and that the behaviour of these structures, as I will see later, is identical to that of left-dislocation in English with respect to Ross's constraints. These properties -- the presence of a resumptive pronoun which is necessarily coreferential with the NP, the specified character of the NP, and nominative Case -- serve provisionally to identify this structure.

3.4 Base-generation Analysis:

In later works within Generative Grammar (cf. Hirschbuhler (1975); (1974); Chomsky (1977); Cinque (1977) linguists cast doubt on the claim that copying rules exist and treated structures involving copying rules as base-

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7 Here, I note again the problem raised in chapter (2) regarding NP being a barrier to government of the subject from COMP, hence to Case assignment. I point out the advantages of assuming the internal subject hypothesis.
generated, i.e., not involving movement of any category. It is assumed in these works that the presence of specific features in a system of data indicates that the derivation of the pertinent system of data is the product of movement. These features are the presence of a gap, and sensitivity to Ross’s constraints, such as the Complex NP Constraint (CNPC) (Ross 1967) subsumed under subjacency (cf. Chomsky 1981). Conversely, the lack of these features in a data system is taken to indicate that the data system in question is base-generated. According to the base-generation analysis, the initial NP in (9–10) is generated outside the S-node in its S-structure position i.e., no rule of movement is involved in the derivation of these structures. In what follows, I will argue that the base-generation analysis is more adequate for describing the facts in (9–10). By convention, I will call the NP in question a left-dislocated NP, henceforth (Ld’d NP). I will argue that the Ld’d NP is base-generated in an A–position adjoined to IP.

3.6 Left-dislocation is not Movement

I shall assume that the features cited in the previous section, the presence of a gap and sensitivity to Ross’s constraints on movement, now subsumed under subjacency, are indicative of movement. Their absence in a given construction will serve as a diagnostic for base-generation. By using Subjacency, I shall argue that LD structures are base-generated and not derived by movement. All movement rules should obey Subjacency. LD violates it:

(20)

a. Hasan-un$_i$ ʃa:had-tu al-fatat-a allati tu-hibu-hu$_i$ pro$_i$
Hasan-nom saw-1sg the-girl-acc who 3sgf-like-ob cl
"As for Hasan, I saw the girl who likes him"
b. *manî $a$:had-ta al-fatat-a allati tu-hibu $t_i$
   who saw-2sg the-girl-acc who 3sgf-like
   "Who did you see the woman who likes?"

   Hasan-nom asked-I who saw-3sgm the-yesterday
   "As for Hasan, I asked who saw him yesterday"

In (20a), the NP Hasan is coindexed with a resumptive pronoun pro inside a complex NP. The sentence will not be predicted to be grammatical if one assumes that LD is derived by movement. This is demonstrated by the ungrammaticality of (20b) where the wh-phrase has been extracted from inside a complex NP. Likewise, as (20c) shows, the NP Hasan can be coreferent with a pronominal which is inside a wh-island.

In addition, NPs can be left-dislocated arbitrarily far from their source clause. There is no limit on the amount of material that may intervene between the Ld'd NP and the pronoun representing it. As seen in (21a), the relation between the Ld'd NP Hasanun and its pronoun can hold across more than one complex NP, and as seen in (21b), the pertinent NP is coreferential with a pronominal from which it is separated by many cyclic nodes:

(21)

   Hasan-nom saw-1sg the-woman-acc who 3sgf-know-ind
   [al-fatat-a [allati tu-hib-u-huî $pro; III]
   the-girl-acc who 3sgf-like-ind-ob cl
   "As for Hasan, I saw the woman who knows the girl who likes him"

(b) Hasan-unî hasaba $tamr-un [?anna Zayd-an qa:la
   Hasan-nom believed $tamr-nom that Zayd-acc said
   [?anna $Xa:lid-acc za?ama [?anna-huî yaqu:mu $yadan ]]]
   that $Xalid-acc claimed that-exp cl stand up tomorrow
   "As for Hasan, $tamr believed that Zayd said that Xalid claimed that he will stand up tomorrow"
This is a feature that Arabic shares with other languages that use resumptive pronouns as a LD strategy. An analysis by movement, which moves the Ld'd NP from its D-structure position, will claim that movement in Arabic does not respect island constraints. However, there are reasons to believe that movement in Arabic obeys such constraints. I will make this clearer in chapter (4) by considering two types of processes: Wh-movement and topicalization.

DeArmond (p. c) suggests that LD can also be analyzed as involving movement leaving a pronoun instead of a trace. He defines the moved NP as a super-operator that leaves a pronoun in the original position and is impervious to barriers. This analysis can be extended to the Arabic Exceptional Case Marking structures to be discussed in chapter 5. Under the theory of barriers adopted here, a super-operator analysis, however, raises a problem of Case conflict in context where the moved NP would be assigned two Cases by different Case assigners: one at D-structure and the other at S-structure. The problem of double Case-marking is not insurmountable though. I leave this as an open issue and adopt a base-generation analysis.

As for determining the position in which the Ld'd NP is base-generated, I argue for adjunction to IP.

3.7 Adjunction to IP

If LD is a base-generated structure, the position in which the Ld'd NP is base-generated needs to be specified. It is important to distinguish between two types of positions: those which are projected and those which arise from adjunction. While projected positions can either be A or A̅-positions, adjoined positions are always A̅-positions. A further distinction is between two types of rules: substitution and adjunction, each having different properties, which follow naturally from the interaction of various sub-theories of UG (cf. Chomsky
Concerning adjunction, I assume the following principles, based on Chomsky's theory of segment in which adjunction creates A–positions:

(22)

a. Adjunction is structure–preserving in that it creates segments of an adjoining category (cf. May (1985), Chomsky (1986b: 7))

b. Adjunction is possible only to maximal projections NP, VP, IP, and CP that are nonarguments as a consequence of the Θ–Criterion (cf. Chomsky 1986b: 6).

Following these ideas, I propose that the Ld'd NP in the data considered so far is base–generated in a position adjoined to IP (dominated by IP and sister to IP) as in (23). The adjoined position is termed [α, IP] 8:

(23)

I shall argue in section (3.15.2) that LD can also be adjunction to CP and that it is possible to adjoin Ld'd NPs multiply to CP (each NP is in a position sister to CP and is dominated by CP) and to IP (each NP is in a position sister to IP and dominated by IP) simultaneously in a single clause. Here I show that a complementizer can precede a Ld'd NP arguing partly for the IP adjunction hypothesis. In fact, in all the examples in (9), an accusative Case assigning

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8 Further assumptions are needed to block the Ld'd NP from being in the COMP positions, or the specifier position of CP. This we will do when we return to LD in section (3.15) below.
complementizer ?inna can appear to the left of the Ld'd NP (cf. the data in (59)) below. To illustrate this, consider sentence (21) in which the NP Zayd-un is Ld'd in a position adjoined to IP:

(24) \[
\begin{array}{l}
Zayd-un \\
Zayd-nom
\end{array}
\begin{array}{l}
\text{darab-tu-hu} \\
\text{hit-1sg-ob cl}
\end{array}
\]"As for Zayd I hit him"

When the complementizer ?inna is realized, (25) results, a non-embedded sentence, with the Ld'd NP surfacing in the accusative -an instead of nominative Case -un:

25. \[
\begin{array}{l}
\text{?inna} \\
\text{as for}
\end{array}
\begin{array}{l}
Zayd-an \\
Zayd-acc
\end{array}
\begin{array}{l}
\text{darab-tu-hu} \\
\text{hit-1sg-ob cl}
\end{array}
\]"As for Zayd-acc I hit him"

Note that this process of adjunction to IP can be multiple, as is evidenced in the following, where the NPs Zaydun and sadiquhu are Ld'd each in a position adjoined to IP. The NPs are identified as being Ld'd (base-generated) since they exhibit the typical properties of LD. They are in the nominative Case, necessarily bound to a pronoun denoted by the clitic -hu, necessarily definite and specific, and under further embedding, their coreference with the bound pronoun would be impervious to barriers, as expected since I analyse them as base-generated. These properties are not attested in topicalization, a structure derived by movement, as will be seen in the next chapter:

(26) \[
\begin{array}{l}
\text{Zayd-un} \\
\text{Zayd-nom}
\end{array}
\begin{array}{l}
\text{sadi:q-u}_k\text{-hu pro}_i \\
\text{friend-nom-his}
\end{array}
\begin{array}{l}
\text{darab-tu-hu pro}_k \\
\text{hit-1sg-ob cl}
\end{array}
\]"As for Zayd, his friend, I hit him"

---

9 cf. section (3.16) for arguments that ?inna subcategorizes for an NP to which it assigns accusative Case. ?inna is one of a number of complementizers with these properties of subcategorization and Case-marking.
When the complementizer ?inna is specified, (27) results, in which ?inna appears to the left of the NP Zayd.\(^8\) Again, the NP Zayd in the first adjunction site appears in the accusative Case:

(27) \(?\text{inna} [_{iP} \text{Zayd-an}_{i} \quad [_{iP} \text{sadiq-u-hu pro}_{i} \quad \text{darab-tu-hu pro}_{k} ]]\)

Suppose, then, that Ld'd NPs are adjoined to IP, an issue to be discussed further in section (3.13). Now I turn to the interpretation of Ld'd NPs.

### 3.8 Interpretation of LD

This section is concerned with the question of how a LD'd NP is interpreted. Consider the following sentence:

(28) \(\text{Zayd-un}_{i} \quad \text{sa\text{"a}d-na-hu pro}_{i}\text{r}_{k}\)

Zayd-nom help-1pl-ob cl

"As for Zayd, we helped him"

Notice that the index assigned to the NP Zayd-un must be identical to the index assigned to the resumptive pronoun. (28) is ungrammatical if the two elements bear different indices. This fact can be explained by the principle of Full Interpretation (PFI) of Chomsky (1986a), and the analysis that the NP Zayd-un is generated in an \(\bar{A}\)–position at the periphery of IP (adjointed to IP), as in (29):

(29) \([_{iP} \text{Zayd-un } \quad [_{iP} \text{sa\text{"a}d-na:-hu} \quad \text{pro} ]\]

The PFI requires that every element of PF and LF be interpreted. An argument, for example, is interpreted by virtue of being in a \(\Theta\)–position, and a wh–phrase in the specifier position of CP is interpreted by binding a variable. How is a Ld'd NP in the \(\bar{A}\)–adjointed position interpreted? As will later be explained, it is

---

\(^8\) In fact, ?inna can also appear in a position immediately following the first Ld'd NP Zayd as (1) illustrates. In such cases, the NP Zayd-un may be analyzed as a base–generated Ld'd NP adjoined to CP:

(1) \([_{CP} \text{Zayd-un } \quad [_{CP} \quad \text{?inna } \quad [_{iP} \text{sadiq-a-hu pro}_{i} \quad \text{darab-tu-hu pro}_{k} ]]\]

Zayd-nom that friend-acc-gen cl hit-1sg-gen cl
interpreted by a phenomenon of predication which may involve coindexation with a $\Theta$-position.

A position adjoined to IP is an $\bar{A}$-position. It is not a position to which a $\Theta$-role can be assigned at D-structure. The NP in this position does not assume a grammatical function, nor is it subcategorized, nor selected by a lexical head. Furthermore, the pronoun it binds acts like a variable in that it is assigned a $\Theta$-role and its binder must be in an $\bar{A}$-position. Put differently, the position of the Ld'd NP is not a $\Theta$-position, defined as a position where at D-structure a $\Theta$-role is assigned to it by a lexical head.

That the position adjoined to IP is an $\bar{A}$-position to which no $\Theta$-role is assigned, is supported by certain facts of Arabic -- notably the possibility of left-dislocating non-referential (pleonastic) pronouns in the IP adjoined position. Arabic has a recourse to the use of clitics to regularize structures of type (30). Following the analysis of clitics developed in Al-Bayaty, 1989, cf. also 3.2.2 and 3.2.3 above), the clitic -hu in (30b) licenses the pronoun pro:

(30)
a. *?inna [p qa:ma $\text{famr-un}$] that stood up $\text{famr-nom}$
b. ?inna-hu [p pro [p qa:ma $\text{famr-un}$]] that-expl-cl $\text{famr-stood up.}$

(31) *?inna-hu$_i$ [p pro$_i$ [p qa:ma $\text{famr-un}_i$]] that-expl-cl $\text{famr-stood up}$
Principle C of the binding theory requires R-expressions to be free, which is not the case in (31) since the NP *famrun* is bound by *pro* in the more inclusive IP. Hence, the only interpretation available for *pro* in (31) is that of being non-referential. If there is no lexical subject but, instead, a pronoun (AGR), it will be correctly coindexed with *pro* in the IP adjoined position, making the latter referential:

(32) ?inna-hu$_i$ [P pro$_i$ [P qa:ma-AGR$_i$ ]] 
    "(It is true that) he stood up."

The element *pro* in the IP adjoined position in (30b) is pleonastic -- i.e., it does not assume a Θ-role, like existential *there* and pleonastic *it* in English, nor null elements inserted to fill an obligatory syntactic position, like pleonastic *pro* in Romance languages.

Assume that the Ld’d NP is assigned the index of the pronoun in the Θ-position by an interpretive rule, the "predication rule" of Chomsky (1982) that maps LF to LF'. The predication rule determines that the clause following the A-position, taken as an open sentence, is predicated of the NP in that position via identifying the indices on the NP and the resumptive pronoun. I assume that this is the general principle of LD and relative clause interpretation. Such an analysis will be extended to free and headed relatives which will be discussed briefly in chapter (4).

The predication rule can be subsumed under the PFI in the following way. The PFI requires (among other things) that, in order to be interpreted, the Ld’d NP be uniquely associated with a position which is assigned a Θ-role. In other words, PFI associates one to one R-expressions and Θ-positions, and prevents two NPs from being linked to a single Θ-position. For example, the following association between R-expressions and Θ-positions is excluded:
This violates the unique coindexation requirement of the PFI. A noun phrase at the level of Logical Form must be uniquely identified. That is it must be possible to specify what semantic relation an NP fulfills with which predicate. It could be claimed that at LF each NP must be identified by a unique Case feature. These requirements can be deduced from a single general condition which states that interpretation is a unique characterization. While nothing prevents an NP with independent reference from filling the IP adjoined site, the requirement that the Ld'd NP be uniquely linked with a Θ-bearing argument rules out a sentence such as (35a) below, and it correctly rules in (35b). The sentence contains two NPs multiply adjoined to IP:

(35)

a.  * Zayd-un Xa:lid-un darab-tu-hu/-hum
Zayd-nom Xa:lid-nom hit-1sg-him/them
"As for Zayd, as for Xa:lid I hit him/them"

b.  Zayd-un_i Xa:lid-un_k darab-a_k-hu_i
Zayd-nom Xa:lid-nom hit-3sgm-him
"As for Zayd, Xa:lid hit him"

(35b) is grammatical since the NPs Zayd-un and Xa:lid-un are coindexed with different thematic position; Zayd-un is coindexed with the pronoun pro, denoted by the clitic -hu, which is filling an object position. Xa:lid-un is coindexed with AGR in the INFL node of the IP. Hence, they derive their Θ-interpretation from two different sources.

The multiple LD structure in (36) below is interpreted in a similar fashion:

(36)  Zayd-un_i sadi:qat-u_k-hu_i jalas-tu fi bayt-i-ha_k
Zayd-nom friend-nom-gen cl sat-1sg in house-gen-her
"As for Zayd, as for his friend, I sat in her house"
The two NPs Zayd-un and sadi:qat-u are Θ-indexed with two different genitive sites, thereby deriving their Θ-interpretation, as required by the PFI.

What cases (31) and (35a) illustrate is that while the adjunction site is open at D-structure, the licensing conditions at S-structure and LF intervene to block ungrammatical derivations.

If a base-generation analysis of LD and the predication rule outlined above are assumed to be a way of satisfying the PFI, the obligatory presence of a resumptive pronoun in LD is immediately explained. In effect, the contrast between (3a) and (3b) above, repeated in (37), is explained:

(37)

a. al-rijal-ui safad-na-hum_ii pro_i
   the-men-nom help-1pl-obcl
   "As for the men, we helped them"

b. *al-rijal-ui safad-na t_i
   the-men-nom helped-1pl
   "As for the men, we helped"

(37a) has an object clitic which licences a resumptive pronoun pro and the sentence is grammatical. (37b), on the other hand, lacks a clitic; thus a resumptive pronoun is not licensed in the object position. The NP al-rijal:lu 'the men' in both sentences bears nominative Case. I attributed this Case to a default nominative mechanism available to Arabic (cf. 16 above) to license NPs in Ld'd and right dislocated positions. This mechanism is used in contexts where there is no structural governor, i.e. as a last resort. There is a trace instead and the sentence is ruled out. Since LD is not the result of a movement rule, there cannot exist a trace in (37), and, since there does not exist a resumptive pronoun in (37b), the predication rule cannot operate violating the PFI. This raises the question of why LD can not be derived by movement. Observe that topicalization is derived by movement:
If LD is derived by movement, Case conflict would arise since a Ld'd NP is assigned nominative Case by default and since it would inherit another Case -- accusative in (37b) -- from its source. No Case conflict arises in (38) since the topicalized NP is assigned a single Case.

I can make the Case Filter and hence Case conflict follow from the PFI on the assumption that NPs whether in A-positions or A-positions must be Case-marked in order to be visible to the PFI. Visibility can be defined as a one Case chain. PFI filters out structures with no Case or with more than one Case feature. If this is true, then the Case Filter is eliminated as an independent principle of the Government and Binding theory. This approach will be discussed further in chapters 5 and 6.

3.8.1 Null Resumptive Pronouns:

It was suggested in the preceding section that the Ld'd NP is interpreted via a predication rule which uses a resumptive pronoun. If this approach is correct, it does not seem to account for cases in which a subject NP is Ld'd as there is not a resumptive pronoun in the subject site, nor is there a clitic marking it. Although sentences with Ld'd subjects, such as (9a) above, have no overt resumptive pronouns, a unified account of LD can be maintained by assuming that these sentences have null resumptive pronouns. The motivation for null resumptive pronouns comes from the following sentences in non-emphatic contexts. The sentences can optionally contain a lexical resumptive pronoun huwa:

(39) al-furat-u, ya-fidu (huwa) fi-l-sfta?-i
the-Euphratese-nom 3sgm-flood it in-the-winter-gen
"The Euphratese, it floods in the winter"
Notice that (39) can also be introduced by the complementizers ?amma: 'as for' and ?inna in (40) and (41) respectively. The latter has an emphatic overtone; thus I shall gloss it as 'that' and translate it as 'it is true that'. The morpheme fa - in (40) is an enumerator\(^{11}\) (enum.):

\[(40) \ ?amma\ al-furat-\text{ui} \ fa-ya\text{-}fidiu \ (\text{huwa}) \ fi-l\text{-}fita?\text{-}i \ as\ for \ the-Euphratese-nom \ enum-3sgm-flood \ it \ in-the-winter-gen\]

\[(41) \ ?inna\ al-furat-\text{ai} \ ya\text{-}fidiu \ (\text{huwa}) \ fi-l\text{-}fita?-i \ that \ the-Euphratese-acc \ 3sgm-flood \ it \ in-the-winter-gen\]

\text{huwa} is a resumptive pronoun coindexed with the Ld'd NP \text{al-furat-}\text{u} and the third person agreement element ya -. On the basis of (39), it is plausible to propose null resumptive pronouns in sentences such as (9a). The presence of null resumptives allows the interpretation of Ld'd subjects by coindexing.

Further support comes from the fact that a Ld'd subject can be linked to a null subject inside a syntactic island. In (42) the NP at-tula:bu is Ld'd in an \text{\AA}-position, and is linked to the subject pronoun \text{u}: with which it must agree in person, number and gender. Thus, (43) is ungrammatical since the verb agrees with the Ld'd NP only in gender:

\[(42) \ at-tula:b-\text{ui} \ ?afrifu \ l\text{-}usta:x-\text{ai} \ alla\text{\i} \ qa\text{-}bal-\text{ui} \ -\text{hu}_k \ the-students-nom \ I \ know \ the-teacher-acc \ whom \ met-3plmasc-obcl \ "The \ students, \ I \ know \ the \ teacher \ whom \ they \ met"\]

\[(43) * \ at-tula:b-\text{u} \ ?afrifu \ l\text{-}usta:x-\text{a} \ alla\text{\i} \ qa\text{-}bal-a\text{-}hu \]

3.9 On the Notions Definiteness and Specificity:

In section (3.2.4), a semantic prohibition against non–specific NPs was mentioned -- namely, non–specific NPs cannot be Ld'd. Only specific NPs can be Ld'd. I suggested that the term specific, rather than definite, is more

\(^{11}\) The morpheme \text{fa}- may be rendered 'and so' or 'thereupon, and consequently'. It is used for conjunction \text{harf tatif}, or, more accurately, for classification and gradation \text{harf tartib} indicating that the objects or clauses enumerated follow one another in time and that they are linked by some factors, such as those of cause and effect.
appropriate for referring to this constraint. However, this type of constraint has yet to be accounted for. In particular, an explanation is needed for the different constraints bearing on the initial NP, as in (44-45):

(44)
a. \texttt{ ar-rajul-\textit{u}_i \ qa:bal-tu-hu_i} \\
the-man-nom met-1sg-ob cl \\
"As for the man, I met him"

b. \texttt{ rajul-un \ qa:bal-tu-hu} \\
a man-nom met-1sg-ob cl \\
"As for any man, I met him"

(45)
a. \texttt{ at-taqri:r-\textit{a}_i \ qara?-tu \ \textit{t}_i} \\
the-report-acc read-1sg \\
"The report, I read \textit{t}_i"

b. \texttt{ taqri:r-\textit{a}_i \ qara?-tu \ \textit{t}_i} \\
a report-acc read-1sg \\
"A report, I read \textit{t}_i"

In (44a-b), the NP (\textit{ar}\texttt{-}rajul-\textit{u}_i) is Ld'd. However, (b) is ungrammatical since the NP is non-specific. In (45), the NP (\textit{at}\texttt{-}taqrir-\textit{a}_i) is topicalized from the object position occupied by the trace \textit{t}_i. The two sentences in (45) are grammatical although the topicalized NP in (b) is non-specific. Topicalization will be dealt with in Chapter (4). The question is how can we characterize the feature of specificity in the grammar and, at which level of representation? If I assume the thesis of the autonomy of syntax, then syntactic principles applying prior to LF cannot have access to such semantic information. They can be adequately accounted for only at LF which contains rules assigning scope interpretation, such as quantifier raising (QR) (May, 1977). The approach to the semantic constraints that I will propose is very much compatible with the predication approach outlined in the preceding section.

The account of semantic constraints on LD that has been suggested in the literature has been a functional one, based on the concepts of theme and
rHEME of the Praguian School of Linguistics (Danesh, 1964, Benesh 1968). The restriction on what can become a Topic is explained in terms of functional considerations. The Praguians were committed to the belief that the structure of sentences is to be analyzed in terms of two functionally-based notions: theme and rheme. Theme is that part of the sentence which indicates information already known to the speaker and the listener from preceding context. The rheme, on the other hand, represents new information which the speaker intends to introduce. The Ld'd NP constitutes old information that is known by both speaker and listener. Thus, "only objects and concepts that have been mentioned and recorded in the registry of the present discourse can become themes of sentences. Nouns of unique reference in this universe of discourse, such as the sun, the moon, my wife, my children, seem to be in the permanent registry. Once their entry in the registry is established, they do not have to be reentered for each discourse" (Kuno, 1973: 39).

Reinhart (1982) argues that topichood cannot be defined as old information, both on theoretical and empirical grounds, nor can the topic role of an expression be identified on referents. The details of Reinhart's arguments are not relevant here, so the discussion will be limited to the following remarks. She points out that indefinite NPs can be used as specific and generic; in which case, they notably behave as referential expressions denoting an individual or a set. She provides examples, such as the following:

(46)
a. When she was five years old, a child of my acquaintance announced a theory that she was inhabited by rabbits.
b. He told us about a child of his acquaintance that, when she was five years old, she announced a theory that she was inhabited by rabbits.
By the old information approach, the underlined expression in (a) cannot be a topic since it represents new information. In other words, the referent cannot be assumed to exist in the hearer's immediate awareness.

Now, consider the following sentence of LD:\(^{12}\):

\[
\text{(47) rajul-un } [\text{ADJ salih-un }] \text{ ja:?a-ni}
\]
\[\text{a man-nom fair-nom came-1sg ob cl}
\]

"A fair man came to me"

The sentence is perfectly grammatical and productive in the language. One cannot say that the speaker has already referred to the Ld'd NP such that the listener knows what the speaker is talking about. Of course the adjective is not sufficient to identify the man in question to the extent that he is a particular individual who is known to the listener, but it does specify him in that he is a member of the class of people categorized as being fair. In this sense, it is more specific than the NP in (44b). Notice that neither the NP in (44b), nor the NP in (47 ) are definite, yet only the latter is left-dislocatable; (44b) is barred.

Furthermore, the Ld'd NP can be specified morphologically. Thus the following sentence is grammatical:

\[
\text{(48) rujayl-un}
\]
\[\text{a little man-nom came-me}
\]

"a little man came to me"

As the translation indicates, the diminutive morphology has the same force and effect as a syntactic category in the specification of the Ld'd NP.

In some cases, a number of factors make Ld'd NPs specific, such as contrastiveness and belonging to a defined class. Consider the following sentence taken from Sibawwayh, P. 87.

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\(^{12}\) The discussion here draws on Ayoub (1981).
(49)
the-people-nom man-dual: a man-nom honoured-2sg-ob cl
wa-rajul-u ?ahan-ta-hu
and-a man-nom despised
"People are of two types: those whom you honour and those whom you
despise."

It is clear that the specified character of the two Ld'd NPs is not effected by the
internal structure of the NPs themselves but on the global interpretation of the
sentence – the relation of the Ld'd NP with the predicate, the contrastive values
of the predicates, and the relation of the predicates with the preceding
existential predication. With respect to the notion of predication, consider the
examples in (50) where the Ld'd NP in (a) is an indefinite specific NP and not a
representative of a defined class. The sentences are taken from lbin Hisham, p.
613.
(50)
a. baqarat-u n takallam-at
   a cow-nom spoke-3sgf
   "A cow spoke"
b. *rajul-u n ma:t-a
   a man-nom died
   "*any man died"

In (50a and b), the Ld'd NP is indefinite specific. However, only (50a) is
grammatical; (50b) is not. The relation between the Ld'd NP and the predicate
is revealing for understanding the contrast between the two examples in (50).
The oddity and exceptionality of the event denoted by the predicate in (a), and
its naturalness in (b), suggest an underlying contrastive value which allows the
Ld'd NP in (a) to pick out a more or less determinate object or set of objects.
The contrastiveness is between animate non-humans and animate humans.
The fact that the former does not possess language makes it unnatural for a cow
to speak, which renders the NP specific. In contrast, in (b), death is normal
among humans. Thus, the predicate does not make the NP specific; therefore, the sentence is ruled out.

It follows from the preceding discussion that it is incorrect to say that an NP must be [+definite] to be left-dislocatable. What determines whether an NP is left-dislocatable or not depends on whether the pertinent NP is specific -- not on whether it is definite. I suggest that the feature \([\alpha \text{ specific}]\) be used and that the term definite be reserved for referring to the syntactic feature that determines the presence or absence of the determiner ?al - "the".

The question to ask is, why should the Ld'd NP always be [+specific]? Is it because of functional constraints on the sentences, or because of grammatical reasons? In what follows I argue in favour of the second hypothesis. Before I proceed, however, I briefly discuss the relevant features of topicalization as they are crucial for the argumentation to follow.

Topicalization in Arabic is obtained in two ways -- with clitics and also without clitics. The latter is illustrated in (45a) above and repeated in (51a):

(51)

a. taqrir-an\textsubscript{i} qara?-tu ti
   a report-acc read-1sg ti
   "A report\textsubscript{i} I read ti"

b. ?at-taqrir-a\textsubscript{i} qara?-tu-hu\textsubscript{i} ti
   the report-acc read-1sg-ob cl ti
   "The report\textsubscript{i} I read ti"

The topicalized NP in each case is moved from the complement position of V leaving a trace \(t\) with which it is coindexed as an automatic result of move-\(\alpha\).

It will be argued in Chapter (4) that this movement is adjunction to IP; (b) has a clitic coindexed with \(t\), together coindexed with the topicalized NP.
The example in (44b), repeated below as (52), illustrates a contrast, which has not been hitherto explained, between LD and topicalization with no clitics (51a):

(52) *rajul-un qa:bal-tu-hu
any man-nom met-1sg-ob cl
"As for any man, I met him"

It is important to note here that in all examples which illustrate the operation in (51b) (topicalization with clitics), the topicalized NP must be specified. Thus (53), parallel with (51b) but with no determiner attached to the topicalized NP, is barred:

(53) *taqri:r-an qara?-tu-hu t
report-acc read-1sg-ob cl
"Any report I read"

The constraint that the topicalized NP with clitics, as opposed to that without clitics (cf 51a), must be [+specific] has been noted by Ibin Hishaam (1964), p. 783, as follows:

lir-rafi bi-l-ibtida:?i"

The translation reads as follows: "the condition by which I can assign accusative Case to a noun phrase by ?ishti:ra:li 'Topicalization' can also assign it nominative Case by ?ibtida:? 'Left-dislocation'. In other words, the same semantic constraints apply to the Ld'd NP and to the topicalized NP with a clitic. Both must be specified. The topicalized NP with no clitic, on the other hand, is not subject to these constraints. It does not have to be specified. How can this contrast be explained?

Notice that what is common between LD (44a), repeated in (54),

(54) ar-rajul-u_i qa:bal-tu-hu_i
the-man-nom met-1sg-ob cl
"As for the man, I met him"
and topicalization with clitics (51b), is the presence of a clitic that is coindexed (marked coreferential) with the NP. In section (3.9), it was suggested that a clitic is nominal in nature since it possesses the features person, number, and gender which are the required features for licensing the pronominal element pro. Let us suggest that clitics and pronominals are also marked [+specific], and that, since their antecedent is assigned the same index, the antecedent must be compatible with them in terms of features (person, number, gender, specificity, etc.). This is a matching condition on nominal elements which are assigned the same index. Thus, a clitic and a pronoun would have the features person, number, gender, and [+specific]. And, by the matching condition, their antecedent could not be unspecified, at least in cases where the antecedent is interpreted by predication -- coindexation with the empty category (ec) pro or trace that is governed and licensed by the clitic (cf. Al–Bayat 1989 for details). In (51b) and (54), the lexical NP antecedent is interpreted by coindexation with a Θ–position, which is also coindexed with a clitic. This position is occupied by t in (51b) and by pro in (54).

This approach has a certain plausibility because, in a sense, the antecedent depends on the clitic coindexed with an ec. The antecedent and the clitic constitute a discontinuous element, a single and same occurrence. This is why there should be an agreement in specificity and in other features between the antecedent and the clitic. Notice that although clitics and pronouns do not have the same properties, clitics do have the same semantic function as pronouns in that both refer to objects or concepts.

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14 The Arab grammarians considered clitics and pronouns as being [+specific]. The following are also considered [+specific]: proper nouns, nouns bearing the determiner ?al-, relative pronouns of the ?alla?y-type, demonstratives, and NP's in genitive constructions (construct phrase). The attachment of the determiner ?al- to a noun is considered the marker, par excellence, of definiteness and specificity.
Assuming this to be the case, the contrast between (51a, topicalization with no clitics) and (52) on one hand, and (51b, topicalization with clitics) and (54, LD) on the other hand, is immediately explained. The semantic constraints bearing on the NP in (53-54) result from the agreement constraints between the values of the clitic and the values of the antecedent. In (51), there is no clitic; hence, there is no pronoun in the Θ-position coindexed with the antecedent. Instead there is $t$ in that position. Thus the antecedent is allowed to be unspecified.

As for (52) repeated below:

(55) * rajul-un qa:bal-tu-hu
   a man-nom met-1sg-ob cl
   "As for any man, I met him"

Note that this utterance is ungrammatical as a sentence but is perfectly grammatical as a complex NP in a relative clause where the complex NP forms a constituent of predication:

(56)

a. rajul-un qa:bal-tu-hu fi bavdada ja?:-a ?ila: haflati-na
   a man-nom met-1sg-ob cl in Baghdad came-3sgm to party our
   "a man I met in Baghdad came to our party"

b. ja?:-a rajul-un qa:bal-tu-hu fi bagdada ?ila: haflatina
   came-3sgm a man-nom met-1sg-ob cl in Baghdad to party-our

Notice that the same sentences (56) without clitics are also grammatical. The absence of a clitic is indicated by $0$:

(57)

a. rajul-un qa:bal-tu-0 fi bavdada ja?:-a ?ila: haflati-na
   a man-nom met-1sg in Baghdad came-3sgm to party our

b. ja?:-a rajul-un qa:bal-tu-0 fi bavdada ?ila: haflati-na
   came-3sgm a man-nom met-1sg in Baghdad to party-our

The sentences in (56-57) are termed indefinite relative clauses because their head is indefinite and their surface form lacks the definite relative
complementizer (?) * allaḥi. These sentences are interpreted by the rule of predication at LF in a way similar to LD. Their head, although indefinite, is in fact always rendered specific by the rest of the sentence. Thus the sentences do not pose a problem to this analysis of the semantic constraints in LD and topicalization with clitics.

To summarize this section, I argued that it is incorrect to describe the semantic constraints in LD by using the feature [α definite] and that it is implausible to ascribe these constraints to functional considerations (old versus new information). I suggested instead that the feature [α specific] be used and accounted for these semantic constraints in terms of the presence versus absence of a clitic, in line with the predication analysis developed in the preceding section.

Since non–specific NPs are not dislocatable, one would expect that idiom chunks would not be dislocatable since they have no independent reference outside their particular constructions and are, therefore, non–specific. The next section examines idiom chunks.

3.10 Idiom Chunks

Idiom chunks are non–referential and thus non–specific (non–referentiality being a special case of non–specificity). The unacceptability of the sentences in (58) indicates that idiom chunks are not dislocatable. The (a) sentences corresponding to the non–left–dislocation form are grammatical:

(58)
a. Our goose seems to be cooked.
b. *Our goose, it seems to be cooked. (We seem to be in trouble)

(59)
a. ṭaḥ-tu bi-لاقة hunayn
"I returned empty handed"
b. *hunayn-u raja-tu bi-Xufay-hi
Hunayn-nom returned-1sg with-slippers-gen-cl
"As for empty handed, I returned that way"

(60)

a. darab-a bi-hi ?arda ?al-ha?:iti
"He totally rejected/ruined it"

b. *?al-ha?:iti-u darab-a bi-hi ?arda-hu
the-wall-nom hit-3sgm in-ob cl middle-gen cl
"As for it, he totally rejected it"

(61)

a. tariif-tu-hu haqqa ?al-murfat-i
"I knew him for sure"

b. *?al-murfat-u tariif-tu-hu haqqa-ha
the-knowledge-nom knew-1sgm-ob cl truth-gen cl
"As for him, I knew him for sure"

(62)

not 3sgm fill up eye-acc-his soil-nom the-earth-gen
"The more he gets, the more he wants"

the-earth-nom not 3sgm fill up eye-acc-his soil-nom-its
"As for the earth, its soil doesn't fill up his eyes"

The reason the (a) sentences are ungrammatical is that the lexical NPs
Hunayn-u, ?al-ha?:iti-u, and ?al-murfa?at-u, are in a Ld'd position which is a
non-Θ-position (no Θ-role is assigned to it). These lexical NPs are not
referential expressions and hence are non–specific. They are part of a single
R-expression to which a single Θ-role is assigned, as in the (b) sentences. No
idiomatic interpretation is possible in the (b) sentences since the elements
forming the idiom have been split.

The same reason explains the ungrammaticality of (63a) in which the

construct phrase --the sequence 'N NP' is a fixed construction:

(63)

a. *?al-Xubz-u ?akal-tu ra?iif-a-hu
the-bread-nom ate-1sg loaf-acc-gen cl
"As for the bread, I ate its loaf"
b. ?akal-tu ráyi:f-a ?al-Xubz-i
   ate-1sg loaf-acc the-bread-gen
   "I ate the loaf of bread"

The preceding discussion focused on the non-left-dislocatability of non-specific items, including idiom chunks. Left-dislocating a lexical NP which is part of an idiom produces ungrammaticality since the NP will be in a non-Θ-position, and since there will not be a Θ-position available with which the NP can be coindexed.

3.11 LD and the Complementizer ?inna

In what follows I shall examine a few additional sets of data which illustrate an aspect of Arabic LD that I have not yet investigated. In all of the cases of LD previously examined no complementizer appeared in the main clause, and the Ld’d NP was invariably nominative. I suggested that the nominative Case is a default LD Case. Now, I discuss this phenomenon -- main clause LD introduced by the complementizer ?inna.

3.11.1 Introductory Remarks

In sections (3.7), (3.13), (3.15.1), and (3.15.2), I proposed and argued that the Ld’d NP is base-generated in a position adjoined to IP. In the present section, I argue for this proposal by examining the status of the NP that immediately follows the complementizer ?inna.

In Arabic, a lexical [-wh] complementizer can be realized in a single sentence:

(64) ?inna Hasan-aní ya-f-stabtinu
   that Hasan-acc 3sgm-introspect
   "(It is true that) Hasan is introspecting"

In other words, the complementizer ?inna does not only introduce an embedded sentential complement, but can introduce a structure consisting of a
single clause as in (64) above. There are two basic facts to note about this complementizer: first, it must be followed by an NP which bears accusative Case, signalled by -an. The NP Hasan-an in (64) bears accusative Case. Second, the sentence has the order ?inna–NP–V. The order ?anna–V–S(subject)–O(object) is excluded. Thus, while (64) is acceptable, (65a) where ?inna is followed by a verb, is excluded. (18b) where ?inna is followed by an NP marked nominative, is also rejected:

(65)
a. *?inna ya-stabtinu Hasan-un
   that 3sgm-introspect Hasan-nom
b. *?inna Hasan-un ya-stabtinu
   nom

One question to raise here concerns whether the NP that obligatorily follows ?inna is moved or base-generated in the pre-IP position. In the following sections, I will discuss the status of this NP, but first will provide essential data that needs to be considered.

3.11.2 Data Sets:

(66)
a. ?inna al-?awlad-a\textsubscript{i} na:m-u\textsubscript{i} pro\textsubscript{i} (subject)
   that the-boys-acc slept-3mpl
   "As for the boys, they slept"
b. ?inna al-?awlad-a\textsubscript{i} sa:fad-na-hum\textsubscript{i} pro\textsubscript{i} (object)
   "As for the boys-acc we helped them"
c. ?inna Aliy-an\textsubscript{i} ja?-at ?umm-u-hu\textsubscript{i} pro\textsubscript{i} (possessive)
   that Ali-acc came-3sf mother-nom-his
   "As for Ali, his mother came"
d. ?inna Aliy-an\textsubscript{i} ?a-\textsubscript{t}a:-hu\textsubscript{i} pro\textsubscript{i} Hasan-un al-kita:b-a (indirect obj)
   that Ali-acc 1sg-give-obcl Hasan-nom the-book-acc
   "As for Ali, Hasan gave him the book"

(obj. of a prep)
3.11.3 Comments and Analysis:

The only difference between the paradigm (9) and the paradigm (66) lies in the presence versus the absence of the complementizer ?inna, and in the Case assigned to the initial NP; it is nominative in the former and accusative in the latter. This difference aside for the moment, the paradigm (66) is simply a repetition of (9), as I shall proceed to verify immediately.

3.11.4 Range of Distribution, Specificity and Resumptives

It is easy to show that the NP following ?inna can be identified with the Ld'd NP with no ?inna preceding it. First this NP can be coindexed with a wide range of thematic positions. Thus, note the direct parallels between (66) and (9-10) above. Distributionally, the initial NP in the two paradigms functions quite similarly. It has the same range of distribution. This means that it can be coreferent with a pronoun in the position of subject, object of a verb, possessive, indirect object, and object of a preposition, as illustrated in (66). Resumptive pronouns are displayed in the usual manner. The same semantic constraints --- definiteness and specificity --- apply to the NP following ?inna; thus (67) is excluded since the NP diuf-an is not specific:

(67)  *?inna diuf-an  rahib-u:   bi-him
that guests-acc welcome-2mpl in-ob cl
"As for the guests, welcome them"

Like the LD structures in (9), the structures in (66) will be ungrammatical if the NP after ?inna has no coreferential pronoun. The argumentation presented in the preceding sections can be directly applied to the structures in (66). The NP that immediately follows ?inna is in a pre-IP A-position interpreted by coindexation with an element which is, in the above examples, a
pronoun. Similar to LD structures without *?inna* as in (9), the relation between the lexical NP and its coindexed resumptive pronoun can be unbounded as (68) shows:

(68)

*?inna al-?amirat-ai*  
that the-princess-acc  

*dann-at ?anna*  
that thought-3sgf  

*Hasan-an qa:l-a*  
that said-3sgm

*?inna Zayd-an zafam-a ?anna-ha*  
that Zayd-acc  

*tu-hibu al-malik-a*  
that 3sgf-li  

*Hasan-an*  
that the-king-acc

"(It is true that) the princess thought that Hasan said that Zayd claimed that she likes the king"

3.12 Subjacency Violations

The behaviour of the structures in (66) vis-a-vis constraints on movement is identical to that of (9). The coreferential linkage between the initial NP and the resumptive pronoun may freely penetrate syntactic islands such as Complex NPs and coordinate NP structures, as shown by (69) and (70) respectively:

(69)

*?inna al-?amirat-ai*  
that the-princess-acc  

*[IP qabal-tu al-malik-a [CP allat*š* i u-hibu-ha*  

*pro*]]  
that met-1sg  

*the-king-acc who 3sgm-like-her*  

"As for the princess, I met the king who likes her"

(70)

*?inna bârda:d-ai j*  
that Baghdad-acc  

*ha:had-tu-ha*  
who saw-1sg-ob cl  

*pro*  
and  

*dawa:hi-ha*  
pro

"As for Baghdad, I saw it and its suburbs"

(64)

*?inna Zayd-an*  
that Zayd-acc  

*tasa:* [man [ ra*?a:-hu*  

*al-ba:rihata ]]  
who saw-3sgm the-yesterday  

"As for Zayd, I wondered who saw him yesterday"

In (69) the relation between the NP *al-?amirat-u* and the resumptive pronoun holds across a complex NP (two barriers: CP and IP). CP is a barrier since it is not Θ-marked. IP is a BC, and it inherits barrierhood from CP which it
immediately dominates. In (70) the relation between the NP barda:d-a and pro holds across a coordinate NP, and in (71) the coreference relation holds across a wh-island. From this, one can conclude that movement is not involved and that this NP is base-generated in a position following the complementizer. I suggest that it is adjoined to IP.

3.13 Adjunction to IP

The IP-adjunction of Ld'd NPs that appear after ?inna is illustrated in (65):

(72)

Since the structures with ?inna and those without it are similar in the ways discussed above, a descriptively adequate generalization can be made relating the two structures. Let us hypothesize that the expansion of C(OMP) is optional. In the former structures, C expands and is realized as ?inna.
Notice that the striking difference between the LD'd NPs in the two structures is that the NP immediately to the right of the complementizer is assigned accusative Case, while the LD'd NP with no complementizer preceding it is assigned nominative Case. Earlier it was assumed that the nominative Case assigned to the LD'd NP is not related to the AGR node, but rather it is a default Case assigned by rule (16) of section (3.2.5). Incidentally, this hypothesis is compatible with the indigenous grammatical tradition as expressed by the Basra School of Arabic grammar.

The accusative Case will not be treated in this section, but I will be reviewed in a later section.

3.15 Multiple Left-dislocation:

Arabic allows multiple adjunction of LD'd NP's to IP. It also allows LD'd NPs to be adjoined to CP, as I shall proceed to illustrate.

3.15.1 Multiple Adjunction to IP

An Arabic sentence can contain multiple LD'd NPs as long as they are fully licensed and can be interpreted at LF as required by the Principle of Full Interpretation. Both must be assigned a default nominative Case when the structure in which the particular NPs appear does not contain the accusative Case assigning complementizer ?anna. If the particular NPs appear with accusative Case indicated as -an, or, if the Case of either NP is not morphologically realized, the sentences in which they occur are rendered unacceptable. This is shown in (73) below. 0 indicates the absence of Case. Pronouns must be displayed in the usual manner. The absence of pronouns, as indicated by @, leads to ungrammaticality:
The two pre-verbal NPs in (73) display the typical properties of Ld'd NPs. When the complementizer ?inna is realized, a sentence structure like that of (74) is derived. Notice that the first Ld'd NP Hasan-an must bear accusative Case, and the second Ld'd NP ?umm- must bear the default nominative Case:

(73) [\text{ip Has-an} \, \text{nom}] [\text{ip ?umm-} \, \text{nom-} \, \text{his met-1sg her}]

"As for Hasan, his mother I met her."

(74) [\text{ip Has-an} \, \text{acci}] [\text{ip ?umm-} \, \text{nom-} \, \text{cl met-1sg-obcl}]

"As for Hasan, his mother I met her."

(73) and (74) illustrate multiple adjunction to IP.

The possibility of iteration (or recursion) can be deduced from the structure of UG. The assignment of nominative Case to the Ld'd NP is purely non-structural, perhaps similar to ga-marking in Japanese. It is non-structural in the sense that it is independent of government and Θ-marking, and in particular it has nothing to do with the syntactic head of IP, I. Roughly speaking, once the head has jettisoned every position in its Case-grid, unmarking takes place as a default process assigning un to any NP that is a sister to IP or CP in an ungoverned context, hence the possibility of iteration. If this is true, no principle requires the uniqueness of the Ld'd NP and thus it can be repeated like other adjuncts and modifiers as long as other licensing conditions are not violated. does not violate any principle of UG.

Now, adjunction to CP and IP in the same structure will be illustrate.
3.15.2 Adjunction to CP and IP

Arabic also permits a LD'd NP to occur in a position to the left of the complementizer \( ?\text{inna} \) (adjoined to CP) with another LD'd NP adjoined to IP simultaneously in a single clause (75a). It is possible to have a base-generated LD'd NP adjoined to CP and base-generated LD'd NPs iteratively adjoined to IP in a single clause, as in (75c). This NP must always be specified; thus (75b) is ungrammatical. The relation between the NP and the resumptive pronoun is unbounded (75c) and violates the CNPC (75d) and the wh-island constraint (75e):

(75)

a. \[
\text{[cP al-}\text{?amirat-u} \text{,}\text{inna [IP Hasan-an}\text{k}\text{[IP pro}\text{k ta-zawwaja-ha proi]]}\text{the-princess-nom that Hasan-acc 3sgm-marry-obcl}
\]

"As for the princess, It was Hasan who married her"

b. \[
\text{[IP ?amirat-un inna Hasan-an ta-zawwaj-a-ha}
\]

"As for a princess-nom"

c. \[
\text{[cP al-}\text{?amirat-u} \text{,}\text{inna [IP Hasan-an}\text{k}\text{[IP pro}\text{k qa:l-a}\text{,}\text{inna [IP the-princess-nom that Hasan-acc said-3sgm that Zayd-ank [IP za\text{\textasciitilde}ama ?anna-ha}\text{i [IP pro}\text{i proi tazawwaj-at ]]]]]}
\]

"As for the princess, (It was) Hasan who said (It was) Zayd who claimed that got married"

d. \[
\text{[cP al-}\text{?amirat-u} \text{,}\text{inna [IP Hasan-an}\text{k}\text{[IP pro}\text{k qabal-a}\text{[IP ar-raju}\text{\textasciitilde}l-a the-princess-nom that Hasan-acc met-3sgm the-man-acc [cP alla\text{\textasciitilde}i [IP the-princess-nom that Hasan-acc asked who 3sgm-marry-acc-her ]]]]]}
\]

"As for the princess, (It was) Hasan who met the man who married her"

e. \[
\text{al-}\text{?amirat-u inna Hasana-an tasa:}\text{\textasciitilde}ala [\text{IP man [ tazawwaja-ha]} the-princess-nom that Hasan-acc asked who married-her] \]

"As for the princess, (It was) Hasan who asked who married her"
Now consider the site of base-generation of the Ld'd NP *al-?amirat-u* in (75). Notice that it appears in a position to the left of the complementizer. According to the Structure Preserving Constraint of Emonds (1986), a maximal projection cannot be in COMP. Since a Ld'd NP is a maximal projection and COMP is the head of CP (cf. Chomsky 1986b), the NP cannot be in COMP. There are two other possible positions in which the NP may be placed -- namely [SPEC, CP], or a position adjoined to CP. Following Chomsky (1986), I assume that [SPEC, CP] is reserved for Wh-operators. Since a Ld'd NP is not such an operator, it cannot be in [SPEC, CP]. Hence, I assume that the Ld'd NP *al-?amirat-u* in (75) occurs in [α, IP], an adjoined position hanging from IP and sister to IP, as shown in (76):

(76)

```
CP
 /   ↗
C   IP
 |   / ↗
[α, IP] IP
   /   ↗
  NP  
```

(75c) illustrates a single adjunction to CP and iterative adjunction to IP, as its structure (77) shows:

(77)

```
```

In addition, the following configuration exists in Arabic:
(78) is illustrated in (79-80):

(79) \[ \text{[Cp al-?amirat-}\text{-u}_i \text{ ?inna [Ip Hasan-}\text{-an}_k \text{ [Ip sahib-}\text{-u}_m-\text{hu}_k} \\
\text{the-princess-nom that Hasan-acc companion-nom-his} \\
\text{[Ip tazawwaja-}\text{-ha}_i \text{ pro}_i ]]] \\
\text{argued-3sgm with-obcl} \\
\text{As for the princess, Hasan, it was his companion who argued with her} \]

(80) \[ \text{[Cp al-?amirat-}\text{-u}_i \text{ ?inna [Ip Hasan-}\text{-an}_k \text{ [Ip sahib-}\text{-u}_m-\text{hu}_k} \\
\text{the-princess-nom that Hasan-acc companion-nom-his} \\
\text{[Ip tazawwaja-}\text{-ha}_i \text{ pro}_i ]]] \\
\text{married-her} \\
\text{As for the princess, Hasan, it was his companion who married her} \]

"As for the princess, Hasan, it was his companion who argued with her"

"As for the princess, Hasan, it was his companion who married her"

To summarize, I have argued in this section that the lexical NP after \text{?inna} is Ld'd in a position dominated by IP and sister to IP. This process can be iterative. I have also argued that Ld'd NPs can be adjoined to CP. No movement rule is involved in the derivation of these constructions.
As I remarked in the preceding sections, and as can be seen from the data given above, the Ld'd NP immediately following the complementizer \textit{?inna} invariably appears in the accusative Case.

3.16 \textit{?inna} is an Accusative Case Assigner

The purpose of the following section is to argue that \textit{?inna} governs the Ld'd NP and assigns it the accusative Case.

3.16.1 Introduction

In this section, I argue that the Ld'd NP which must immediately follow the complementizer \textit{?inna} receives its accusative Case from \textit{?inna}. Notice that the Ld'd NP in this context, in all the preceding examples, is assigned accusative Case. To explain this, I assume that the complementizer \textit{?inna} and the other related complementizers (henceforth \textit{?inna})\textsuperscript{15} is a type of preposition specified for the feature \([+V]\). As such, it assigns accusative Case to the NP it governs. Structural confirmation of \textit{?inna}'s verbal quality may come from the fact that they can occur with the direct object clitic. A full clitic paradigm attached to \textit{?inna} is given below. The same paradigm can also occur with the other complementizers given above in this section.

\begin{equation}
\text{(81)}
\end{equation}

\text{?inna-ni '1sg', ?inna-na '1pl and dual', ?inna-ka '2sgm', ?inna-kuma: '2m dual',}
\text{?inna-ki '2fsg', ?inna-kunna '2fpl', ?inna-haa '3mf', ?inna-hunna '3fpl'}

This hypothesis is consistent with the indigenous grammatical tradition where \textit{?inna} is described as \textit{haruf mu\textsuperscript{f}abbah b-il-fifl} 'a verb resembling particle' to the extent that it assigns the accusative Case, governs specifically

\textsuperscript{15} These complementizers are \textit{?inna}, \textit{?anna}, \textit{la:kinna} "but", and \textit{ka?anna} "as though/as if". They all assign accusative Case to a Ld'd NP which they subcategorize.
NPs, precedes the governed NP, invariably ending in the vowel -a like past tense verbs, and it is triliteral, quadriteral and quinquiliteral like the number of radicals in verbs.

I further propose that ?inna subcategorizes for an IP complement requiring an NP to which ?inna must assign its Case. The NP is Ld'd in an A–position adjoined to IP, and the IP, to which the NP is adjoined, is predicated of (says something about) that NP. I use the term Predication here in the sense of "an aboutness relation" with the rest of the sentence. The IP constituent to which the Ld'd NP is adjoined is a statement about the Ld'd NP. This notion of predication ensures that the Ld'd NP is assigned the same index assigned to the Θ–pronoun in the embedded clause (cf. Chomsky, 1982, footnote 11).

In section (3.16.4), I will argue for the notion of Case inheritance and for the view that Case-assignment takes place under government with an adjacency condition imposed on it. The notion of government that I have adopted and will argue for is the one proposed in Chomsky (1986b) which allows a governor to govern into the specifier position of its complement. (See the discussion in chapter one.)

3.16.2 Subcategorization for IP with an adjoined NP

If one accepts the hypothesis that ?inna subcategorizes for an IP clausal complement which requires an adjoined NP, then one would expect that only NPs can directly follow ?inna. This prediction is borne out, as shown in (82). (82a) is grammatical since an NP immediately follows ?inna. (82b) shows that a verb cannot occur in a position immediately following ?inna. (82c) shows that a PP cannot appear in that position, and (82d) illustrates the same point for an adverb: 16

16 Ibn Hisham notes that ?inna can be followed by a PP, as in the following case:
(82)
a. ?inna Hasan-an ya-hlumu
   that Hasan-acc 3sgm-dream
   "(It is true that) Hasan is dreaming"
b. *?inna ya-hlumu Hasan-un
   nom
c. *?inna fi l-qaryat-i ya-hlumu Hasan-un
   in the-village
d. *?inna da:?iman ya-hlumu Hasan-un
   always

Notice that PPs and adverbs can be ordered after the NP Hasan, as
shown in (83a-b); they can also appear in sentence-final position, as shown in
(84a-b). The PP appears in boldface, and the adverb in italics:
(83)
a. ?inna Hasan-an fl l-qaryat-l ya-hlumu
b. ?inna Hasan-an da:?iman ya-hlumu
(84)
a. ?inna Hasan-an ya-hlumu fl l-qaryat-l
b. ?inna Hasan-an ya-hlumu da:?iman

The subcategorization and Case-assigning properties of ?inna stated
above account for the marked word order after ?inna. I have already argued cf.
chapter (2) that the word order of Arabic is VSO at S-structure -- an order
derived from a D-structure SVO. Note that a VSO order is not admitted after
?inna. (85a) is excluded:

(1)
?inna tinda-ka Zayd-an ya-na:m-u
   with-2sgm cl Zayd-acc 3sgm-sleep-ind
"It is with you that Zayd, he sleeps with you"

Notice, in the first place, that this sentence is unproductive and that the grammaticality of the
sentence declines if a PP like fl l-da:r-i "in the house" which has no clitic, is used instead of
?inda-ka "with-2sgm clitic. This is shown in (2)
(2) ? ?inna fi l-da:r-i Zayd-an ya-na:m-u
    in the-house Zayd-acc 3sgm-sleep-ind
   "It is in the house that Zayd, he sleeps in the house"
Cases like these can be accounted for if it is assumed that the PPs in (1) and (2) are preposed
to the position immediately following ?inna by a rule of scrambling which operates at PF.
Thus, the PPs in question are moved after ?inna assigns its accusative Case to the NP
Zayd at S-structure.
(85)
a.  *?inna  [IP ya-drus-u  INFL Hasan-un ]
    that  3sgm-study-ind  Hasan-nom
    "(It is true that) Hasan is studying"

b.  ?inna [IP Hasan-an  [IP pro  INFL ya-drus-u ] ]
    "(It is true that) Hasan, he is studying"

The reason why (85a) is excluded is that ?inna has no NP following it to which
?inna can jettison its Case. ?inna can be treated as an exceptional Case
assigner similar to for assigning accusative Case to [NP, IP] in situ. This
violates the subcategorization properties of ?inna. (85b) is admitted since the
NP Hasan-an which bears the Case of ?inna functions as a licenser for ?inna's
clausal complement.

The sentence in (85a) can be "rescued" via the insertion of a clitic -hu,
which appears attached to ?inna (86), or by the insertion of a lexical NP ma: 'it'
as in (87). Otherwise, these examples are "unredeemable":

(86)  ?inna-hu ya-drus-u Hasan-un
    that-expl-cl 3sgm-study-ind Hasan-nom
    "(It is true that) Hasan, he is studying"

(87)  ?inna ma: ya-drusu Hasan-un
      it

The grammaticality of (86), resulting as a consequence of the insertion of the
the clitic -hu, follows at once from the proposed analysis. Recall that I proposed
that the clitic in base-generated structures is coindexed with a 'silent' pronoun
pro. Assuming this analysis, the clitic in (86) is coindexed with pro; and,
assuming the adjunction to IP analysis of LD (sections (3.7, 3.13), pro appears
adjoined to IP as the the licenser of the IP predicate subcategorized by ?inna:

(88)  ?inna-hu, [IP pro  [IP ya-drus-u Hasan-un ] ]
    that-expl-cl 3sgm-study-ind Hasan-nom
The clitic in (88) is required to absorb the Case assigned by ?inna and to license pro, which is adjoined to IP. pro in (89) is an expletive (non-referential) pronoun\(^\text{17}\), as indicated by the fact that it cannot be coreferent with the subject NP Hasan-un:

(89) \[ ?\text{inna-hu, pro, } [p \text{ ya-drus-u } Hasun-nom,] \]

The occurrence of pro in the IP adjoined position, with the only interpretation possible as being pleonastic (non-referential), i.e., does not assume a \(\Theta\)-role, argues for the non-thematic nature of this position. The IP predicate does not assign a \(\Theta\)-role to the position adjoined to it as is evidenced by the fact that expletive empty categories pro and ma: 'it' appear in the subject position.

According to the analysis of clitics which I am still assuming, the clitic governs the empty category (ec) associated with it. Hence, PRO cannot appear in this position since PRO is always ungoverned due to the binding theory. Given the fact that PRO always counts as an argument and thus whenever it appears, it must be the unique argument of a \(\Theta\)-chain, the \(\Theta\)-Criterion also excludes PRO from the IP adjoined position since no \(\Theta\)-role is ever assigned to it.\(^\text{18}\) If expletive PRO is non-existent in (88), then the natural candidate is expletive pro (locally) governed by the clitic.

The proposal that an empty category subject exists in the IP adjoined position in (88) is entirely consistent with the Extended Projection Principle ---

\(^{17}\) This pronoun is termed \textit{damlr al-fa\text{?}n} 'the pronoun of the matter' by the Arab Medieval grammarians, and is described as anticipating a whole subsequent clause. However, in those grammarians' view, the clitic -hu itself is the NP pronoun that is subcategorized by ?inna -- not the empty category symbolized as pro.

\(^{18}\) This is so unless we were to assume the existence of another ec with all the properties and distribution of PRO, except that it does not count as an argument with respect to the \(\Theta\)-Criterion; such an ec would be an expletive PRO as suggested in Chomsky (1981) and which plays a crucial role in his analysis of the PRO-drop phenomenon. I assume that expletive PRO does not exist due to the PRO theorem and the \(\Theta\)-Criterion.
that in UG the subject position is always obligatory in the base expansion of IP. Since the subject position is independently needed, I am forced to the most natural conclusion with respect to the structures in this section and similar ones that the subject position is governed by the clitic in (88) and by \textit{?inna} in (87). Thus, governed expletive elements \textit{pro} and \textit{maa} 'it' are the elements that appear when an expletive empty element is required to provide a formal subject for an IP predicate.

Notice that when a full referential subject NP is \textit{Ld'd} in the IP adjoined position, it must agree with the verb, arguing that the NP acts as a subject of its clause. This is also true for Arabic ECM constructions to be examined in chapter 5, where the ECM'd NP is adjoined to CP, receiving Case but not a \(\Theta\)-role from a higher verb.

To summarize, then, an expletive \textit{ec} exists in structures like (88). It is not a variable since it is not bound by an operator; it is not PRO since it is in a governed position with no \(\Theta\)-role assigned to it. \textit{pro} lacks Case whereas \textit{maa:} is assigned Case by \textit{?inna}. Both are governed by a clitic and \textit{?inna} respectively. When there is an expletive clitic, expletive \textit{pro} must exist to fill in the subject position, thus licensing the IP predicate. In the absence of a clitic, \textit{maa:} 'it' is inserted in the subject position, thus meeting the subcategorization requirements of \textit{?inna} and of the Extended Projection Principle.

Other evidence in support of \textit{?inna} as a Case assigner derives from facts concerning topicalization, which will be discussed below.
3.16.3 Topicalization

Arabic does not allow a topicalized NP to occur in a position after ?inna at S-structure.\(^{19}\) (90a), in which the NP kitab is topicalized, is ungrammatical. However, the same sentence without ?inna is grammatical (90b):

(90)

a. *?inna kita:b-an\(i\) qara?-a Hasan-un \(t\) _i_ 
   "That book-acc read-3sgm Hasan-nom"

b. kita:b-an\(i\) qara?-a Hasan-un \(t\) _i_

The question is why can a Ld'd NP be adjoined to IP in structures with ?inna but a topicalized NP cannot in the same structure? In other words, why can ?inna be followed by a Ld'd NP in a position adjoined to IP but not by a topicalized NP adjoined to the same position? The same question can be raised with respect to the embedded sentences introduced by this complementizer\(^{20}\). (91), in which the object NP kitab is topicalized, is also excluded:

(91)

*danan-tu ?anna kita:b-an\(i\) qara?a Hasan-un \(t\) _i_ 
   "believed-1sg that book-acc read Hasan-nom"

"I believe (it is true) that a book Hasan read"

Note that the ungrammaticality of (90a) and (91) could be attributed to the indefiniteness of the NP kitab-an; however, both sentences remain ungrammatical even if the pertinent NP is definite. This is demonstrated by (92) in which the NP al-kitab-a "the book" is definite:

(92)

a. *?anna al-kita:b-a\(i\) qara?a Hasan-un \(t\) _i_ 
   b. *danan-tu ?anna al-kita:b-a\(i\) qara?a Hasan-un \(t\) _i_ 

---

\(^{19}\) Topicalization will be treated in chapter 4.

\(^{20}\) See section (3. 19) for a discussion and analysis of LD in embedded contexts.
As shall be subsequently argued, the contrast between the sentences in (92) can be explained if the notions of Case inheritance, Case conflict, and ?inna as being a [+V, -N] Case assigning element are assumed.

3.16.4 Case Inheritance and Case Conflict

It has been generally assumed that Case is uniquely assigned to Case-bearing elements and that Case theory prohibits the assignment of two distinct Cases to a single NP. This has been developed in various forms into a principle known as Case conflict (cf. Vergnaud (1979), Sportiche (1983)) whereby a structure is ruled out if it contains an NP in a position where it could receive two different (i.e. conflicting) Cases:

(93) *NP, if NP has Case$_A$ and Case$_B$, where A is not equal to B.

It is generally assumed, however, that the domain of the principle of Case conflict is restricted to A-chains only -- that is, there cannot be more than one Case feature in an A-chain. I will argue here for a generalized version of this principle which would extend its domain of application to cover A-chains and $\overline{A}$-chains as well. Secondly, I am proposing that a structure containing an NP (whether in an A-position or in an $\overline{A}$-position) with a conflicting or identical Case features will be ruled out. Such a generalized version of (93) can be formalized as follows:

(94) *NP, if NP has Case A and Case B, where A = B, or A is not equal to B.

Turning to the examples given in the preceding section, the NP (?al) *kitab-an in (90a), (91) and (92) receives two Cases from two different sources: one from the verb in its D-structure position as a complement of the verb and
one from ?inna in its S-structure position, governed by ?inna. This produces Case conflict which consequently rules out these sentences.

Notice that a topicalized object NP can appear after a Ld'd NP governed by ?inna. Both of them are assigned the accusative Case, but in different fashions. The Ld'd NP Hasan in (95) below is governed and assigned Case by ?inna, and the topicalized NP Zayd is assigned Case by inheritance:

(95)

a. ?inna Hasan-an Zayd-an?i qa:bala t\_i that Hasan-acc Zayd-acc met
"As for Hasan, it was Zayd who he met"

b. za\repar?anna Hasan-an Zayd-an?i qa:bala t\_i claim-2sgm that Hasan-acc Zayd-acc met
"You claimed as for Hasan, it was Zayd who he met"

The sentences in (95) are grammatical since no Case conflict arises. This indirectly supports an analysis in terms of Case conflict. The view of Case inheritance will be further argued in the next chapter.

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21 The analysis presented here predicts that topicalization should be possible to a position adjoined to IP with a non-Case assigning complementizer, such as ?an. Unlike ?anna and its morphological variant ?inna, ?an is not a Case assigner; thus, in principle, it should permit a topicalized NP to occur in a position immediately to its right (adjoined to IP) since no Case conflict would arise in this context. The topicalized NP receives only one Case by inheritance from its D-structure site. That is, we should be able to get sentences like (1b and 1c) in which the NP Zaydan is topicalized from the non-topicalized form (1a). (1b) and (1c) represent topicalization with and without a clitic, respectively:

(1)

"I wanted that I would meet Zayd."

b. *?aradtu [CP ?an [IP Zayd-an?i [IP ?uqa:bil-a-hu?i t\_i ]] obj cl

However, this process is unavailable as both (1b) and (1c) are ungrammatical. Although the complementizer ?an does not assign a Case feature, it does and must assign a subjunctive mood indicated by the morpheme -a on the embedded verb ?uqa:bil- a and by the English glossary. As will be argued in chapter 4, the assignment of subjunctive mood, like Case-assignment, requires government and adjacency. The requirements for subjunctive mood-assignment in (1b and c) are violated since the NP Zaydan at S-structure intervenes between the mood assigner and the assignee. Thus, the sentence is ruled out. What this case illustrates is that while the adjunction site is open at S-structure, and Case theory does not prevent an NP from being in that position, other licensing conditions intervene to block overgeneration.
The relation between Case features and NPs, like Θ-role, is a unique relation in that for each X₀ with a Case feature A there may be one and only one XP bearing A and for each XP there may be one and only one Case assigner. Thus, this proposal of uniqueness consists of two parts: the idea that a Case assigner may directly assign one Case feature only and that NPs may not have Case via more than one Case assigner.

Taking up our discussion of Θ–theory in chapter 1, I assumed the Θ–Criterion given informally in (96) as a minimal semantic well–formedness on arguments at LF:

(96) Θ–Criterion (Chomsky 1981: 36)
Each argument bears one and only one Θ–role, and each Θ–role is assigned to one and only one argument.

(96) ensures that arguments be associated with one and only one Θ–role. Given the Projection Principle which requires lexical properties to be present at all relevant syntactic levels, the Θ–Criterion must hold at both D–structure and S–structure. Notice that the Θ–Criterion rules out two situations: one in which an argument bears more than one Θ–role, and one in which an argument bears no Θ–role. A sentence like (97)

(97) *Mary loved t
cannot mean Mary loved herself --- that is it is impossible for Mary to simultaneously bear the agent and the patient Θ–roles of the verb love. This would be a case of one argument Mary with two theta-roles. Likewise, the A–chain consisting of the argument John and its trace t is assigned a Θ–role by the matrix predicate consider and by the embedded predicate qualified:

(98) *We consider John, [t ] qualified for the job
Likewise, a single Θ–assigner cannot have two agent arguments. In effect, (99) is not a grammatical sentence:
(99) *Mary hit Nancy by Bill

since the verb hit, which assigns a single agent Θ-role has two agent arguments, Mary and Bill.

A situation in which an argument bears no Θ-role is exemplified by the impossibility of (100a):

(100)
a. * Mary seems [the peas overcooked]
b. Mary likes [the peas overcooked]

A lexical property of seem is that it takes a clausal complement, and unlike like, assigns no Θ-role to its subject. Therefore, Mary in (100a) has no Θ-role, and the sentence is barred as a Θ-Criterion violation.

The one-to-one restriction on Θ-roles and arguments is parallel to the relation between Case features and NPs in that both relations are unique. In the domain of Case theory, there is only one Case-assigner for each Case-bearing and vice-versa. Thus, there is only one Case per NP and only one NP per Case.

Consider, now, how an NP may come to bear more than one Case feature. One way is for the NP to appear in a context where it is governed by two Case assigners, as exemplified by (101). The NP Mary is assigned Case by the prepositional complementizer for, and by AGR/Tense of the embedded clause:

(101)
a. *We were hoping [c for [i Mary would win]]
b. We were hoping [c for [i Mary to win]]

Structures of type (101a) are excluded because of Case conflict. Tensed clauses contain tense and agreement (which cooccur in English), and may not occur with the complementizer for, since the subject NP Mary would be in a context to receive two distinct Cases -- nominative Case for AGR/Tense and
oblique Case from *for*. Tenseless clauses (101b), on the other hand, need the presence of the Case-assigning complementizer *for* in order to assign Case to the subject of the infinitival clause which cannot be assigned nominative Case since such clauses lack AGR and tense. This can be seen from the fact that the substitution of *for* by *that*, which does not assign Case, redeems (101a) and destroys (101b):

\[(102)\]

a. We were hoping that [Mary would win]
b. *We were hoping that [Mary to win]

The Case Filter provides a stipulation-free account of the contrast under the natural assumption that the complementizer *that*, unlike *for*, is not a Case assigner.

It is also true that a single Case assigner may not assign the same Case to more than one NP:

\[(103)\] *John liked Nancy Bill*

To summarize, I argued for the notion of Case conflict and its resemblance to the Θ-Criterion, the latter being a minimal semantic well-formedness on arguments at LF which prohibits two states of affairs: one in which an argument bears more than one Θ-role, and another in which an argument bears no Θ-role. The observed resemblance is put together by a condition that requires the relation between Case assigners and Case bearers, on one hand, and Θ-role assigners and Θ-role bearers, on the other hand, to be one-to-one in character.
3.18 Summary of section (3.16)

To summarize the preceding discussion, I argued that ?inna is an accusative Case–assigning complementizer which must assign its Case to an NP. The NP is in an A–position external (adjoined) to IP to which no Θ–role can ever be assigned. The arguments are drawn from word order after ?inna, topicalization, and LD structures. I indirectly defended the notions of Case conflict and Case inheritance and finally, turned to a discussion of the properties of complementizers related to ?inna.

The remainder of the present chapter will investigate LD in the sentential complements of believe–type verbs, ?antaqidu, ?adunnu.

3.19 Embedded Left–Dislocation

LD is usually thought to be a main–clause phenomenon, but in Arabic LD can in fact be introduced in subordinate clauses embedded under believe–type verbs. The next sections will focus on the structure of embedded LD and will be guided by our previous proposals concerning their syntactic properties. The similarities which these structures share with main clauses is a point of major concern in the discussion below.

While embedded LD constructions are marginal or ungrammatical in English, the embedding of LD constructions is a fully productive process in Arabic, as the data in (104) below illustrate. In order to be interpreted, the Ld’d NP, being in a Θ–position, must be coindexed with a pronoun which is assigned a Θ–role. As can be seen from the data, embedded LD structures are introduced by the complementizer ?anna, a phonological variant of the accusative Case assigning complementizer ?inna of main clauses. As we shall subsequently see, this analysis is essentially an extension of the analysis of non–embedded LD developed in the preceding sections. I will argue that the
initial NP in the sentential complement of believe-type verbs in Arabic is base-generated in a position adjoined to IP. The S-initial NP in embedded position always bears accusative Case, as the reader can easily verify from the data given below:

(104)

a. danan-tu Hasan-ani sa'far-a ?aX-u-hui proi
believed-1sg Hasan-acc travel-3sgm brother-nom-gen cl
"I believed that as for Hasan, his brother travelled"

b. danan-tu Hasan-ani ra'a-a-hui proi Zayd-un
believe-1sg Hasan-acc saw-3sgm-obcl Zayd-nom
"I believed that as for Hasan, Zayd saw him"

c. danan-tu Hasan-ani 'a-rta-hui proi Zayd-un kita:b-an
believe-1sg Hasan-acc 3sgm-give-obcl Zayd-nom book-acc
"I believed that as for Hasan, Zayd gave him a book"

d. danan-tu Hasan-ani marr-a bi-hi proi Zayd-un
believe-1sg Hasan-acc call-3sgm in-obcl Zayd-nom
"I believed that as for Hasan, Zayd called on him"

(105)

a. danan-tu ?anna Hasan-ani sa'far-a ?aX-u-hui proi
believed-1sg that Hasan-acc travel-3sgm brother-nom-his
"I believed that as for Hasan, his brother travelled"

b. danan-tu ?anna Hasan-ani ra'a-a-hui proi Zayd-un
believed-1sg that Hasan-acc saw-3sgm-obcl Zayd-nom
"I believed that as for Hasan, Zayd saw him"

c. danan-tu ?anna Hasan-ani 'a-rta-hui proi Zayd-un kita:b-an
believed-1sg that Hasan-acc 3sgm-give-obcl Zayd-nom book-acc
"I believed that as for Hasan, Zayd gave him a book"

d. danan-tu ?anna Hasan-ani marr-a bi-hi proi Zayd-un
believed-1sg that Hasan-acc call-3sgm in-obcl Zayd-nom
"I believed that as for Hasan, Zayd called on him"

3.19.1 Range of Embedded LD

In the same way as a matrix LD, an embedded Ld'd NP can be coindexed with a wide range of thematic positions in the embedded sentence. The Ld'd NP Hasan in the paradigms (104) and (105) is coindexed with a
genitive complement of N (a), with a complement of a V (b), and with an indirect object (c), with an object of a preposition (d).

3.19.2 Presence of a Resumptive Pronoun

The NP Hasan in the above paradigms is obligatorily coindexed with a resumptive pronoun. Ungrammaticality immediately results in the absence of such a pronoun, as (106) shows, or in the face of a non-coreferential reading between the NP and the pronoun, as (107) shows:

(106) *danan-tu ?anna Hasan-anî safar-a ?aX-u-0
believed-1sg that Hasan-acc travel-3sgm brother-nom
"I believed that Hasan, his brother travelled"

(107) *danan-tu ?anna Hasan-anî safar-a ?aX-u-hu_k pro_k
believed-1sg that Hasan-acc travel-3sgm brother-nom-his
"I believed that Hasan, his brother travelled"

3.19.3 Accusative Case

One of the prominent features of the NP that immediately follows the complementizer ?anna is that it bears accusative Case. The only difference between the two data sets in (104) and (105) is that the complementizer ?anna is overtly specified in (105) but not in (104). The NP Hasan appears to the right of the complementizer as shown by the paradigm (105) where ?anna is lexically specified. ?anna must precede the NP Hasan to which it assigns accusative Case; if it follows that NP, the sentences will be ungrammatical. Compare, in this respect, the following with (104a) above:

(108) *danan-tu Hasan-anî ?anna safar-a ?aX-u-hu_i pro_i
believe-1sg Hasan-acc that travel-3sgm brother-nom-his
"I believed that Hasan, his brother travelled"

The only difference between (105a) and the sentence (108) lies in the position of ?anna in the sentence relative to the Ld'd NP Hasanan. It is to the left of the
NP in (104a) but it is to the right of the NP in (108), resulting in ungrammaticality in the latter case.

When *anna is not lexically realized, as in (104) above, I would assume that it has been deleted at PF after it has assigned its Case to the NP at S-structure. Alternatively, one could assume that there is a null complementizer at both D-structure and S-structure which assigns accusative Case to the NP.

3.19.4 Specificity

Like matrix LD, the embedded Ld'd NP cannot be indefinite, as shown below:

(109)

knew-1sg princess-acc arrive-3sgf
 "I knew a princess, she arrived"

knew-1sg that princess-acc arrive-3sgf

3.19.5 Island Constraints

Again like matrix LD, the island conditions are also freely violated in these structures. The Ld'd NP is coreferent with a resumptive pronoun that originates inside a complex NP (110a), inside a coordinate NP structure (110b), and inside a genitive NP structure (cf. 104–105a). Theoretically, the amount of material that may separate the Ld'd NP and the resumptive pronoun is unlimited:

(110)

a. alim-tu (?anna) al-?amirat-ai wasal-a ar-rajul-u allañi
knew-1sg that the-princess-acc arrive-3sgf the-man-nom who
yu-hib-u-haì
3sgm-like-ind-obcl
"I knew that the princess, the man who likes her arrived"
b. *dan-an-tu (?anna) Zayd-an shahad-tu-0 wa sadiqad-t-a-0

I have already mentioned in connection with main-clause LD and relatives that the ability to reach down into complex NPs is a direct product of the resumptive pronoun strategy. Ungrammaticality immediately results if a resumptive pronoun is not present within the complex NP. This is shown below by the sentences in (111) where a trace t rather than a pronoun appears in the complex NP; otherwise, the sentences are exactly the same as the ones in (110):

(111)
a. *falim-tu (?anna) al-?amirat-a wasal-a ar-rajul-u alla?i yu-hib-u-0
b. *dan-an-tu (?anna) Zayd-an shahad-tu-0 wa sadiqad-t-a-0

From this, I conclude that the embedded Ld'd NP is base-generated.

3.19.6 Base-generation Site

My thesis is that in sentences such as (92-93) above, the Ld'd NP is base-generated in a position adjoined to IP and, as in all LD constructions in Arabic, it is associated with a resumptive pronoun in the source clause. Thus, the difference between Arabic and English lies in Arabic's productive use of base-generated adjunction sites. In English LD is mainly restricted to sentence peripheral position as the contrast between (112a) and (112b) illustrates:

(112)
a. The book, I know that Mary put it on the table.
b. ? I know (that) the book Mary put it on the table.

In Arabic, however, Ld'd NPs can be base-generated sentence internally (adjunction to IP), as we saw above. This process of adjunction to IP is diagrammed in (113):
3.19.7 Raising-to-Object Analysis

Another possible analysis of the data in (104–105) might be the traditional Raising-to-Object. Consider the sentence in (114):

\[(114)\]
\[
\text{dann-a Hasan-un [}_{\text{IP}} \text{Zayd-an, [}_{\text{IP}} \text{yu-safiru pro, } \text{yadan]}\]
\[
\text{believed-3sgm Hasan-nom Zayd-acc 3sgm travel tomorrow}
\]

"Hasan believed that Zayd will travel tomorrow"

Under my analysis, the NP \textit{Zayd} in (114) is base-generated in the adjoined position and is coindexed with the embedded subject pronoun \textit{pro}.

Salih, (1985), arguing in the framework of Relational Grammar, considers structures of this type and the ones to be discussed in chapter (5) to be cases of Raising-to-Object. Raising-to-Object is a rule that would raise the NP from within the complement clause into the VP of the matrix clause. Such an

analysis is not possible within the Government-binding theory. The allegedly raised NP is in a Θ–position in D–structure, then this NP would be doubly Θ–marked at S–structure and LF, violating the Θ–Criterion. The reason is that the position to which the NP moves is subcategorized, and therefore would be Θ–marked, as each subcategorized position is a Θ–position (subcategorization entails Θ–marking). According to the Raising analysis, the NP Zayd would be moved from its D–structure position which could either be the IP adjoined position (115a) or the embedded subject position (115b), to the object position of the matrix verb:

(115)

\[
\begin{align*}
\text{a.} & \quad \text{danna Hasan-un Zayd-ani } [\text{IP } t_i \text{ [yu-safir- } u \text{ pro] } \text{yadan} ] \\
\text{b.} & \quad \text{danna Hasan-un Zayd-ani } [\text{IP } yu-safir- } u \text{ t_i yadan} \\
\end{align*}
\]

In this dissertation, I am assuming the GB theory and will not attempt to evaluate analyses that are incompatible with this theory, in particular, the class of Raising-to-Object analyses. A raising analysis is not compatible with a restrictive theory of grammar like the GB framework that maintains both the Θ–Criterion and the Projection Principle. At S–structure, the verb danna 'believe' would select (directly Θ–mark) the NP Zayd but not at the other levels. Hence, I reject Raising-to-Object on theory–internal grounds and reject the structures in (115) as representations of the sentence in (114).

As in main clause LD constructions discussed above, I consider the NP Zayd in (115) a Ld'd NP base–generated in a second specifier of IP, following the line of argumentation developed for main clauses.
3.19.8 Multiple Embedded Left-Dislocation

Multiple Ld'd NPs can also be found embedded under believe-type verbs, as shown in (116), where the NPs al-?amirata and ar-rajulu are Ld'd:

(116) danan-tu (?anna) al-?amirat-ai ar-rajul-uk yu_k-hibu-ha_i believe-1sg that the-princess-acc the-man-nom 3sgm-like-obcl
"I believed that the princess, the man, he likes her"

As for the position in which the embedded Ld'd NP is base-generated, I suggest that it is a position adjoined to IP, following the same line of argumentation given for LD in main clauses. I propose that the Ld'd NP is required to license the IP complement subcategorized by ?anna. The obligatory coindexation between the Ld'd NP and the Θ-position follows from the principle of full interpretation (PFI) which requires every element in the sentence to be interpreted. The Ld'd NP is an R-expression in an A-position to which a Θ-role is never directly (under government) assigned. It is interpreted by coindexation with an embedded pronoun.

To summarize, I have briefly discussed the main properties of LD in embedded contexts. The Ld'd NP is base-generated in a position external to IP, and can be multiple.

In the next section, I will look at possibilities of wh-extraction out of various positions in embedded clauses and show that they directly fall out of the general principles of GB theory, specifically Subjacency and the ECP.

3.19.9 Wh-extraction out of Embedded Clauses

As has already been shown, Subjacency explains the impossibility of extraction from a complex NP:
(117)
a. hasib-tu ?anna al-?amirat-a tu-hibu ar-rajul-a believe-1sg that the-princess-acc 3sgf-like the-man-acc
al allathi yu-hibu al-xayl-a who 3sgm-like the-horses-acc
"I believed that the princess, she likes the man who likes horses"
b. *ma:6a? hasib-ta ?anna al-?amirat-a tu-hib-u ar-
what believe-1sg that the-princess-acc 3sgf-like-ind the-
rajul-a alla6i yu-hib-u-(ha) ti man-acc who 3sgm-like-ind

(117b) in its two variants, with or without a clitic, is excluded by Subjacency.

Again, here, the ECP correctly rules out the extraction of an NP from the complement position of N (118a) and P (118b) since N and P are not proper governors. It correctly rules in extraction from the same positions if a clitic is realized on N and P, as the clitic functions as a proper governor for the trace left by movement. The ECP also correctly predicts the possibility of extraction from the object position of V (118c):

(118)
a. mani dana-ta ?anna Hasan-an darab-a-*(hui) t who think-2sgm that Hasan-acc hit-3sgm associate-acc-him "Whose associate did you think that Hasan hit?"
b. mani danan-ta ?anna Hasan-an marr-a-bi-*(hii) t who think-2sgm that Hasan-acc call-3sgm-in-obcl "Who did you think that Hasan called on?"
c. mani danan-ta ?anna Hasan-an darab-a (hui) t who think-2sgm that Hasan-acc hit-3sgm-obcl "Who did you think that Hasan hit?"

A distinction needs to be made between two types of complementizers which introduce sentential complements of believe -type verbs in Arabic, ?anna and ?an. Though they both introduce sentential complements of the same class of verbs, the complements have different structures. As argued in this chapter, ?anna must be followed by a Ld'd NP base-generated in a position adjoined to IP. On the other hand, ?an is followed by a regular
declarative clause that is a non-Left-dislocation structure, as shown by the fact that it is followed by a verb:

(119)

a. hasiba ṯamr-un (?anna)  [Ip Zayd-an [Ip kata:ba al-taqri:r-a]]

thought ṯamr-nom that Zayd-acc wrote the-report-acc
"ṯamr thought that as for Zayd, he wrote the report"

b. hasiba ṯamr-un ?an [Ip kata:ba Zayd-un al-taqri:r-a]

thought ṯamr-nom that wrote Zayd-nom the-report-acc
"ṯamr thought that Zayd wrote the report"

I have assumed that the complementizer ︖anna exists at D–structure and S–structure to assign its accusative Case to the NP it subcategorizes for. Thus, ︖anna ‘s optional deletion at PF after it has assigned its Case to the NP does not alter the status of the NP; the NP remains a Ld’d NP in an Α–position and not an A–subject of the embedded IP. The distinction between a Ld’d NP and a subject NP is crucial here because it distinguishes between extraction from a position adjoined to IP, that of a Ld’d NP (120a, cf. 119a), and extraction from an argument position, that of subject of IP(120b, cf.119b):

(120)

Let us now look at more examples illustrating the extraction possibilities of a Ld’d NP from the IP adjoined position. First, consider the sentence in (121) where no NP extraction has taken place yet. The complementizer ︖anna does not appear, although its presence is assumed at S–structure for purposes of Case–assignment to the NP ṯamr and also at D–structure for purposes of subcategorization:
danna Hasan-un [IP ʕamr-an_i [IP yu-hibu pro_i the-al-Xayl-a] ]
believe Hasan-nom ʕamr-acc 3sgm-like horses-acc
"Hasan thinks ʕamr that he likes horses"

Notice that the subject of the embedded predicate hib 'like' is a pronoun symbolized as pro , and not a trace. It should be emphasized that the Ld'd NP 9amr is not placed in the position adjoined to IP by move-α from the embedded subject position; rather, it is base–generated in the IP adjoined position. This is so since, as argued earlier in this chapter, the Ld'd NP is linked to a pronoun and not to a trace since this linkage goes down into islands. (122) illustrates the extraction possibilities from the IP adjoined position:

(122)

\[
\text{a. man}_i \text{ dann-}a \text{ Hasan-un } [\text{IP } t_i \text{ [IP yu-hibu pro}_i \text{ al-Xayl-a] } ]
\]
who believe-3sgm Hasan-nom 3sgm-like the-horses-acc
"Who_i did Hasan think t_i he likes horses?"

\[
\text{b. man}_i \text{ dann-a-hu}_i \text{ Hasan-un } [\text{IP } t_i \text{ [IP yu-hibu pro}_i \text{ al-}
\text{Xayl-a] } ]
\]
who believe-3sgm-obcl Hasan-nom 3sgm-like the-
horses-acc
"Who_i did Hasan think t_i he likes horses?"

\[
\text{c. man } \text{ dann-a Hasan-un } ?\text{anna} [\text{IP } t_i \text{ [IP yu-hibu pro}_i \text{ al-}
\text{Xayl-a] } ]
\]
who believe-3sgm Hasan-nom that 3sgm-like the-
horses-acc
"Who_i did Hasan think that t_i likes horses"

\[
\text{d. man } \text{ dann-a Hasan-un } ?\text{anna-hu[IP } t_i \text{ [IP yu-hibu pro}_i 
\text{al-Xayl-a] } ]
\]
who believe-3sgm Hasan-nom that -cl 3sgm-like 
the-horses-acc

Extraction of the NP adjacent to the complementizer?anna requires an obligatory clitic to appear attached to ?anna; (122d) in which the clitic -hu appears is grammatical. If no clitic appears, the derivation is barred. Thus,
(122c) which is the same as (d) but without a clitic, is ungrammatical. If I assume that ?anna, like for in English (cf.123 below), is not a proper governor (although it is a governor), then the extraction of the particular NP will leave a trace that fails to be properly governed, a violation of the ECP:

(123) * Leslie; was preferred [CP for [IP ti to have married Joe]]

Since for is not a proper governor, the trace ti is not in a properly governed position. Leslie fails to antecedent govern its trace by the Minimality Condition. In effect, the presence of for, a closer governor for ti, creates a barrier, blocking this antecedent government. Thus, the derivation is ruled out by the ECP.

Like for, ?anna is not a proper governor for the adjacent trace; hence a clitic is necessary in order to properly govern the trace, in accord with the ECP. Antecedent government of the trace in (122c) by man 'who' fails exactly like (123) by the Minimality Condition. The presence of ?anna, a closer governor and a Case assigner for the trace, blocks antecedent government. The sentence is thus ruled out as an ECP violation. But, then, why is the same sentence redeemable if the complementizer ?anna is not overtly specified, as in (122a)? The sentence is repeated in (124) with further structure and with 0 (= phonetically empty ?anna):

(124)

\[
\begin{align*}
\text{a.} & \quad \text{man}(1) \quad \text{dann-a} \quad \text{Hasan-un} \quad [\text{CP} \quad [C:0 \quad [IP \quad ti \quad [IP \quad yu-hibu \quad pro_i \quad al-Xayl-a] ]]]] \\
\text{b.} & \quad * \quad \text{man} \quad \text{dann-a} \quad \text{Hasan-un} \quad [\text{CP} \quad [C: ?anna \quad [IP \quad ti \quad [IP \quad yu-hibu \quad pro_i \quad al-Xayl-a] ]]]
\end{align*}
\]

In (124b), by virtue of the Minimality Condition, C (= ?anna) protects ti from antecedent government by man; but in (124a), this will not be the Case, if I make the natural assumption that 0 is featureless and therefore not a closer governor for purposes of the ECP. The sentence, then, is not an ECP violation.
since \( t_i \) is antecedent governed. This becomes clearer by comparing it with (125):

(125)

a. who do you think \([_{\text{CP} \ t_i \ [_{\text{IP} \ t_i \ \text{will win the race } \ ]]}^{\text{O}}]\]  \\
b. *who do you think \([_{\text{CP} \ t_i \ [_{\text{that} \ [_{\text{IP} \ t_i \ \text{will win the race} \ ]]}^{\text{that}}]}^{\text{IP}}]\]

(125b) is ruled out for the same reason that rules out (124b); (125a) is ruled in for the same reason that rules in (124a) -- namely, the presence versus the absence of an \( M \)-barrier conditioned by the features of COMP.

Furthermore, since \(?anna\) is a Case assigner and it assigns accusative Case to the adjacent NP, it must jettison its Case. Since Case is generally morphologically realized, I stipulate in the grammar that whenever Case is assigned, it must be realized (cf. chapter 1). Given this assumption then, a clitic must appear for two reasons: to properly govern the trace left by movement and to absorb the Case jettisoned by \(?anna\).

The ECP correctly predicts the grammaticality of (122a, b, and d) since the trace \( t \) in the IP adjoined position is properly governed in each case: by V in (a) and by the clitic-\( hu \) in (b and d). The sentence in (c), which is the same as (d) but without a clitic on the complementizer \(?anna\) is ungrammatical since \(?anna\) is not a proper governor fort.23

Finally, compare against (124) extraction of subjects embedded under believe -type verbs hasiba 'to think'; (120b) is repeated in (126) with a more detailed structure:

\[\text{\underline{23 On proper government by the clitic cf. chapter 4, section (4.3) dealing with Wh–movement.}}\]
(126)  

\[
\begin{array}{c}
\text{man} \quad \text{hasiba famr-un} \\
\text{CP} \quad t'_i \\
\text{IP} \quad [\text{?an}]_i \quad \text{kataba} \\
\text{CP} \quad t_i \quad \text{al-taqri:r-a} \\
\end{array}
\]

Each link here leaves a trace meeting the ECP; \( t'_i \) antecedent governs \( t_i \), \text{man} in the matrix specifier position of \text{CP} antecedent govern \( t'_i \).

Movement will be examined in detail in the next chapter; hence, this concludes discussion of this topic in this chapter.

3.20 Final Summary and Conclusions:

In this chapter, I have considered the range of LD constructions in Arabic. This included main clauses that are not presented by a complementizer, main clauses presented by a complementizer, and those in embedded environments. I accounted for the features of LD noted at the beginning of this chapter: violations of Subjacency, Case features, specificity, and coindexation with an embedded NP pronoun.

I advanced arguments for a base-generation analysis of LD in all these contexts, according to which the Ld'd NP can be adjoined to either CP or IP, or to both simultaneously in the same clause. The adjunction process to either node can be multiple. The position is an \( A \)-position since it arises from adjunction, no \( \Theta \)-role is assigned to it, and it binds an embedded pronoun, which acts like a variable.

Given that Case is an abstract relation between governors and NPs, the nominative Case feature on the Ld'd NP is not assigned by direct assignment since, in this instance, the NP is ungoverned. Case transfer is inapplicable either since the relation of coreference between the Ld'd NP and its pronoun is not established by move–\( \alpha \). Under this circumstance, the Ld'd NP acquires nominative Case by default and thus avoids a Case Filter violation. On the
other hand, the accusative Case on the Ld'd NP is assigned to it directly by the complementizer ?inna/?anna under government.

I presented an account of the specificity phenomenon constraining LD and topicalization with clitics by relegating it to the presence of a clitic. The clitic affixed to the head of its construction, is a licenser for two types of empty categories: pro in LD and a trace in topicalization. In passing, I discussed topicalization in its two versions, with and without clitics.

The coindexing requirement between the Ld'd NP and the embedded NP position is a way of satisfying the Principle of Full Interpretation (PFI). The coindexing can be viewed as an interpretive rule of predication which assigns the Ld'd NP and its pronoun identical indices. It is predication in the sense of "aboutness relation" with the rest of the sentence; the IP constituent is a statement about the Ld'd NP.

I advanced arguments for the notion of Case inheritance and Case conflict on the basis of the accusative Case assigning complementizer ?inna/?anna.

The obligatory appearance of a clitic affixed to the complementizer ?inna/?anna in case the NP to its right is extracted follows straightforwardly from the ECP -- if we accept that this complementizer, like for, is not a proper governor. The fact that extraction from the same position is possible in case a clitic is phonetically spelled out on the complementizer also follows automatically from the ECP if we accept that the clitic acts as a proper governor for the trace left by movement.
4.1 Overview of chapter 4

In this chapter, I will examine constructions involving extraction. This includes Wh–questions and Topicalization -- both of which may utilize clitics. Wh–questions move to the specifier position of CP, [SPEC, CP]. I assume that this property follows from general conditions pertaining to questions of scope at LF, which require that wh–questions move to [SPEC, CP]. Topicalized elements adjoin to IP. Both of these positions are A–positions since no Θ–role can ever be assigned to them and the trace they bind acts like a variable. By the Principle of Full Interpretation (PFI), operators in these positions must be interpreted by binding a variable. PFI requires that every element that appears in a well–formed sentential structure must be licensed by performing a particular function in that structure. The structure is well–formed only if every element in it receives an appropriate interpretation. A wh–operator is interpreted at LF by appearing in the clausal specifier position from which it must bind a variable. Similarly, a topicalized operator in the IP adjoined position is interpreted by binding a variable.

Adapting features of the analysis of Lasnik and Saito (forthcoming), this chapter attempts to account for complement/non–complement asymmetries in Arabic. With the proposal that adjunction to IP creates a barrier blocking antecedent–government, the possibility of extracting subjects from certain positions and not from others will be accounted for in a straightforward manner.

Based on extraction, this chapter also argues for the view of Case inheritance and the notion of Case conflict. As we shall see, extracted elements
bear the Case of their extraction site. The last part of this chapter argues for adjacency as the notion was suggested in Chomsky (1981) and discussed in more detail in Stowell (1981) -- that Case is assigned only to an adjacent element.

I will also examine in detail the various manifestations of syntactic movement in Arabic and the island effects subsumed under Subjacency, focusing on surface violations of these constructions.

4.2 Move-$\alpha$ and Bounding Theory

The postulation of a general rule schema "move-$\alpha$" illustrates the attempt to reduce the expressive power of transformations and to shift the descriptive burden from construction–specific transformations to highly general universal principles that are optimally simple in form. It is an interesting hypothesis about the core of the syntactic component of UG -- that it contains no individual language–specific or construction–specific transformations, but a single general rule "move-$\alpha$" which says "to D–structure, move anything anywhere to create S–structure". As a result of the modular nature of UG, however, the principles within the various subtheories of UG interact to impose severe limitations on where move-$\alpha$ may move a category to, what category it may move and what happens when move-$\alpha$ occurs. The Projection Principle and the $\Theta$–Criterion restrict many logically possible cases of movement. Given the Projection Principle, once an argument position exists in a certain structural configuration at one level, it must continue to exist at all relevant levels; thus, movement must leave a trace in the original position of the moved argument and create a chain between the trace and the moved element. The Projection Principle and the $\Theta$–Criterion restrict movement to $\emptyset$–positions only (1); movement to a $\Theta$–position is ruled out (2) since it violates the requirements of the $\Theta$–Criterion, which by the
Projection Principle must apply at the relevant syntactic levels. The verb *?ara:da* 'wanted' in (2) indirectly (through its VP) assigns an experiencer Θ-role to its subject:

(1) *asbaha fämr-unánchez t marid-an [t] sick-acc
"Famr became sick"

(2) *?arada fämr-unándose t marid-an [t] sick-acc
"Famr wanted sick"

Movement to an \(\overline{\alpha}\)-position is always permitted, while movement to an \(A\)-position is allowed only if the position is a \(\Theta\)-position. This results in two "types" of movement: "wh-movement" and "NP-movement". Movement to an \(\overline{\alpha}\)-position is typically to a peripheral position such as \([\text{SPEC, CP}]\). This position may serve as an "escape hatch" for movement allowing for apparently "unbounded dependencies" between the wh-phrase and its trace by virtue of successive cyclic movement:

(3)

\[
\begin{align*}
[\text{CP man } & \text{ yuridu fämrun } [\text{CP t4 } \text{ ?an yadda\text{"iya } Hasanun } [\text{CP t3 } \text{ ?an yadinna } \text{ x"alidun } [\text{CP t2 } \text{ ?an tazawwajat Hindun } [\text{CP t1 } ] ] ] ]] \\
\end{align*}
\]

"who does fämr want that Hasan would claim that x"alid thinks that Hind married"

The relation between the trace and and the wh-phrase is that of variable-binding, the wh-phrase being interpreted as an operator-like element at LF. NP movement is always to an \(A\)-position, that of \([\text{SPEC, IP}]\), establishing an anaphor-like relation between the moved NP and its trace.

Suppose that move-\(\alpha\) is restricted, as suggested in Chomsky (1986b), so that maximal projections may be moved only to specifier positions and heads only to head \((X^0)\) positions. Further suppose that scope is expressed at LF by the C-command restriction (May, 1977). It then follows that wh-phrases and
focused constituents land in [SPEC, CP], while INFL lands in COMP, head of CP:

(4)

\[
\begin{align*}
\text{CP} & \quad \text{SPEC} \quad \mathcal{C} \\
\quad \text{XP}_1 & \quad \\
\quad \text{C} & \quad \text{IP} \\
\quad \text{V}_1 & \quad \text{NP} \\
\quad & \quad \text{t} \\
\quad & \quad \text{VP} \\
\quad & \quad \text{NP}
\end{align*}
\]

Suppose that there is a semantic feature FOCUS in UG and that wh-phrases must receive this feature in order to be interpreted as non-echo questions at LF. Suppose that in Arabic the feature FOCUS is assigned only to [SPEC, CP] such that only phrases appearing in this position will bear this feature:

(5)

a. *ra?ay-ta man
   saw-2sgm who
   "you saw who"

b. *man ra?a: ma:x:a:
   "who saw what"

In other languages, such as English, which allow in situ wh-constructions to be questioned, the feature FOCUS may be freely assigned to any category.

4.2.1 Syntactic Movement in Arabic

There are several constructions in Arabic which display the properties of wh-movement: they contain a gap, movement may be from SPEC to SPEC,
and as will be shown in sections (4.2.5 and 4.8.1), conditions on movement (Subjacency) are obeyed. Wh-interrogation (3), relativization, and topicalization in Arabic are all clear examples of wh-movement. The latter two are illustrated in (5) and (6), respectively:

(5)  
\[\text{al-dulaaru} \ 	ext{alla} \text{i} \_i \ 	ext{faqad-tu} \_i \ 	ext{alyauma} \_i \ 	ext{ka} \_\_a\na\]  
the dollar which lost-1sg today was  
\[\text{\_a} \text{z} \text{i} \_z\text{un} \_i \ 	ext{\_a} \text{l} \text{\_a} \text{y} \text{a} \_y\text{a} \_a \text{k} \text{\_a} \text{h} \text{i}: \text{ran}\]  
dear to me very  
"The dollar which I lost today was very dear to me"

(6)  
\[\text{al-dula:r-a} \_i \ 	ext{faqad-tu} \_i \ 	ext{alyawma}\]  
the-dollar-acc lost1sg today  
"The dollar I lost today"

Wh-interrogatives can be derived as involving movement of a questioned word from its D-structure argument position to [SPEC, CP]. Relative clauses can be given the same description, though notice that the form of the wh-phrase in relatives *alla*\text{\_i} is different from that found in wh-interrogatives (compare (5) with (3) above).

### 4.2.3 Bounding Theory

In the following subsections, I will look in detail at the properties of these constructions, providing an analysis of the locality conditions on move-\(\alpha\) in Arabic as compared with other languages. After further discussion of the way bounding theory works, the relevant array of data in Arabic will be considered. The peculiarities of relativization (versus other types of movement) with respect to Subjacency will be one major focus of the succeeding discussion of Arabic. It will be shown that a seemingly odd and conflicting set of data is in fact quite orderly once the relevant subtheories of UG and parameters of Arabic grammar are taken into account.
4.2.3.1 Outline

Bounding nodes have traditionally been accepted to be NP for all languages and either CP or IP. Thus, research in languages such as Italian (Rizzi, 1982, first published 1978), French (Sportiche, 1981) and Arabic (Al-Bayaty, 1985) has parameterized the set of bounding nodes for Subjacency in these languages.

Note that CP does not act like a bounding node to block movement when governed by a specific set of verbs called bridge verbs, such as think or say. Compare (7) with (8):

(7) who [ did you think [CP (that) [ Bill saw t ]]]
(8) *who [ did you whisper [CP (that) [ Bill saw t ]]]

The facts are exactly the same in Arabic as (9) versus (10) shows:

(9) man [ yadunnu ?amrun [CP (?an) [ qa:balat Hindun t ]] who think ?amr that met Hind
"who does ?amr think that Hind met"
(10) *man [ yahmisu ?amrun [CP (?an) [ qa:balat Hindun t ]]
who whisper ?amr that met Hind

Stowell (1981) proposed that bridge verbs assign a Θ-role to their object complements, whereas non-bridge verbs do not. Assuming that this is the case, then clauses embedded under non-bridge verbs are like adjuncts in that they are islands to extraction.

Chomsky (1986b) develops a formal definition of barrier which integrates bounding theory and binding theory (see chapter 1 for discussion. The idea is that the presence of a single barrier blocks government of α by β, while the presence of more than one barrier (bounding node) blocks extraction from position α to position β. The definition entails that in all languages maximal

---

1 This explanation does not seem to be correct, as whisper must assign a theme Θ-role (that which is whispered) to the CP complement. It is unclear to me why non-bridge verbs behave this way.
projections not governed by a lexical head (not L-marked) such as NP, VP, PP, etc., are barriers. IP can never be an inherent barrier, and when immediately dominated by the projection of comp, can never be Θ-marked. It is CP which bears the clausal Θ-role. Among other things, this allows a coindexed antecedent in [SPEC, IP] to govern a subject trace. And, in general this means that the head and the specifier of a Θ-marked X_{max} may be governed from "the outside". Comp may thus be governed by a verb if this verb Θ-marks CP, the projection of comp. Likewise, [NP, IP], the specifier of IP and INFL, the head of IP may be governed by a verb if this verb subcategorizes, hence Θ-marks IP. Maximal projections which are potential barriers are barriers wherever they immediately dominate a barrier. So, for example, since CP is a barrier, NP in a complex noun phrase is also a barrier since it immediately dominates CP. This is so regardless of the fact that NP may be lexically governed.

The parametric variation may involve distinctions of tense versus infinitive, or indicative versus infinitive–subjunctive, or perhaps some factor involving phonologically unrealized subjects. Consider the following wh–island violations:
(11) what might he ask where I hid

CP

IP

what

might he ask

CP

IP

where

I

VP

hid

VP
For many speakers (11) is less acceptable than (12). IP is a blocking category (BC), and it makes the CP immediately dominating it a barrier. Movement of *what* in both examples out of the embedded CP crosses one barrier. The marginal acceptability of wh–island violations in some idiolects of English can be attributed to the status of tensed IP as a bounding node, a parameter restricted to the bottommost tensed IP. Thus, I assume with Chomsky (1986b) that the deeply embedded tensed IP in English is an inherent barrier (possibly weak) to wh–movement over and above the system of barriers outlined above. Under this assumption, movement 2 in (11) will cross two barriers (IP and CP) whereas in (12) it crosses one barrier (CP).
The intuitive idea is that judgements become worse as more barriers are crossed in each link of move–α. Lessened acceptability suggests that violations have cumulative effects; such cases will be shown shortly below.

The traditional approach envisaged wh-movement as being movement to Comp, which serves as an "escape hatch" (allowing for successive cyclic movement) whether or not the complementizer that is phonetically present. Stowell (1981) and Lasnik and Saito (1984) suggest that this is due to free insertion/deletion of that (7-8) which have no intrinsic semantic content and hence are not required by the Projection Principle to be present at D–structure. This fact falls out from the X–bar system, proposed in Chomsky (1986b) and assumed here, in which complementizers head CP while wh-phrases move to the specifier slot of CP. Cyclic movement, then, allows for movement out of an embedded clause without crossing two barriers (bounding nodes).

The core cases that can be deduced from the Subjacency condition are those involving extraction out of relative clauses and other complex NPs (the complex NP constraint):

(13) *[\text{CP} [\text{which book}]_{i} \text{ did John visit} \ [\text{NP} \text{the store} \ [\text{CP} \text{that} [l_{i} \text{ had } t_{i} \text{ in stock}]]]]

those involving extraction out of sentential subjects (the sentential subject constraint):

(14) *[\text{who}]_{i} \text{ did} [l_{i} [\text{NP} \text{that} [l_{i} \text{ Mary was going out with } t_{i} \text{ bothered John}]])]

and those involving extraction out of embedded questions (Wh–Island Constraint in 12 above). These facts are accounted for in terms of Subjacency as tightly knitted into the theory of government by appealing to the notion of barrier with CP, NP, and the most deeply embedded tensed IP as being bounding for movement. A tensed IP is the English value of the parameter, with the lowest tensed IP adding a barrier.
Research on other languages within the earlier framework has established the parameters of Subjacency for those languages (cf. Rizzi, 1982 for Italian, Sportiche, 1981, for French). Rizzi has argued that Italian systematically violates the Wh–Island Constraint, and hence Subjacency. Thus, Italian freely allows wh–movement out of embedded indirect questions, as will be shown shortly below. Similar violations have been noted by Sportiche and have been used to parametrize the bounding nodes for Subjacency as including NP and CP, but not IP. Based on data from relativization, I shall argue that Arabic, like Italian and French, tolerates certain violations of the Wh-Island Constraint and that the configuration of complex data considered can be adequately accounted for by the fact that movement in Arabic, like English, Italian and French, does obey Subjacency. I will attempt to show that the parametrization of CP and IP, the projections of the non-lexical categories in Arabic, is to be deduced from the notion of barrier.

4.2.4 Relativization

The arguments here are modelled on Rizzi (1982). As (15) shows Arabic, like Italian (16), French (17), and other languages, is subject to the Complex NP Constraint:

(15) *[\[\text{CP} \text{ma}:\text{n}:\text{a} :i \text{ra}:\text{ayta} [\text{NP} \text{al-ra}:\text{jula} [\text{CP} \text{alla}\ddot{\text{n}}:i^2 [\text{IP} \text{kasara} \text{t}_1]]]]
what saw the-man who broke
"**what did you see the man who broke"

(16) (Rizzi 1982: 51)
"Questo inarico, che non sapevo la novita che ovrebbbero affidato a te, ...
"**This task, that I did not know the news that they would entrust to you, ..."

---

2 The relative pronouns of Arabic are morphologically distinct from the regular personal or demonstrative pronouns of the language, just like English. Furthermore, the form of relative pronouns is also distinct from the set of interrogative pronouns, unlike English.
Movement of the NPs, *ma:då:* (15), *Questo inarico* (16), *Qui* and (17), from their D–structure positions in the lowest IP will have to cross two barriers, CP and NP. CP dominates IP, which is a BC; thus CP becomes bounding and so does NP since it inherits a bounding feature by virtue of dominating CP.

Arabic also patterns with Italian and French in that it exhibits examples violating wh-island constraint:

(18) aldularu allå:di la ?ata:kakaru liman a:taytu ka:na
the dollar which not I remember to whom I gave was
dear to me
"The dollar which I do not remember to whom I gave was dear to me"

(19) La nuova idea di Giorgio, di cui immagino che cosa pensi, diverrà presto di pubblico cominio.
"Giorgio's new idea, of which I imagine what you think, will soon become known to everybody."

(20) C'est a mon cousin que je sais lequel offrir.
"It is to my cousin that I know which one to offer."

Now, consider the S–structure (21) of (18) with its corresponding D–structure (22):

(21) S–structure:

\[
[\text{NP} \text{aldula:ru} \left[ \text{CP} \text{a} \text{lla:di} \right] \left[ \text{IP} \text{la} \text{ata:kakaru} \right] \left[ \text{IP} \text{liman} \text{a:taytu} \right] \text{ka:na} \quad \text{fazizun falayya} \quad t_i \quad t_k \quad ]]
\]
Given the D-structure (22), how can (21) be derived? In other words, how can \( \text{wh}_\alpha \) 'allathi' end up in \( \text{SPEC}_1 \), and \( \text{wh}_\beta \) 'liman' in \( \text{SPEC}_2 \)?

Let us consider two possibilities for deriving (21):

A. Allowing a SPEC position to contain more than one wh-phrase at some stage in the derivation.

B. Not IP (as in English), but CP is the bounding node for Subjacency in Arabic.

According to (A), both \( \text{wh}_\alpha \) and \( \text{wh}_\beta \) move simultaneously into \( \text{SPEC}_1 \), on the lower cycle, the \( \text{wh}_\alpha \) 'allathi' moves up alone into \( \text{SPEC}_2 \) the higher cycle without violating Subjacency. According to (b), which I will adopt, \( \text{wh}_\alpha \) moves directly into \( \text{SPEC}_2 \) without violating Subjacency since only one CP node is crossed, and \( \text{wh}_\beta \) moves into \( \text{SPEC}_1 \). If the English value of the parameter is taken with the lowest IP as a barrier, the movement \( \text{wh}_\alpha \) would be ill-formed as
two bounding nodes would be crossed; this prediction is incorrect since the sentence is perfectly acceptable.

There is empirical evidence that leads to rejecting hypothesis (A):

(23)

   not I know who asked to whom I gave
   "I do not know who asked to whom I gave the dollar."

   the dollar which not I know who asked to whom I gave
   "The dollar which I do not know who asked to whom I gave was dear to me"

(24)

   not I know how many teachers know where
   ya?kulu ?amrun alta?a:ma
   eat ?amr the food
   "I do not know how many of the teachers know where ?amr will eat food."

   the food which not I know how many teachers
   know where eat ?amr delicious
   "The food which I do not know how many of the teachers know where ?amr will eat is delicious."

(25)

   think ?amr who ask when rode the teacher
   alfarasa
   the horse
   "?amr is thinking who to ask when the teacher rode the horse."

b. *alfarasu allati yufakkiru ?amrun man yas?alu mata: rakiba
   the horse which think ?amr who ask when rode
   almu?alimu sari?atun
   the teacher fast
   "The horse which ?amr is thinking who to ask when the teacher rode is fast."
The grammatical status of the (a) sentences of (23-25) show that the predictions of hypothesis (A) are incorrect, whereas those of hypothesis (b) are correct. The (b) sentences of (23-25) have exactly the D-structure (26) and can be derived from (26) by assuming, as in hypothesis (A), that [SPEC, CP] can be doubly filled. The fact that the sentences are ungrammatical means that hypothesis (A) should be rejected. Hence, the only way to derive the (b) sentences would be to move \( \text{wh}_\alpha \), which stands for the relative pronoun \textit{allathi} directly into \( \text{SPEC}_3 \), thereby crossing two CP nodes. If CP is a barrier (= bounding node) for
Subjacency in Arabic, then the (b) sentences violate this principle and are therefore correctly ruled out.

The counterpart of the (b) sentences, where null resumptive pronouns rather than traces occur in the most deeply embedded sentences, is much better although the complex nature of these sentences makes them somewhat difficult to process perceptually:

(27)

a. aldullaru allathi la ?afrifu man sa?ala liman ?aftaytuhu ka:na
   fazi:zan falayya
b. altayamu allah la ?afrifu kam min almu?alimiina yafrifu:n ?ayna
   ya?kuluhu famrun ladhun

c. alfarasu allat yufakkiru famrun man yas?alu mata: rakibaha
   almu?alimu saridatun

It is not uncommon for languages to have two relativization strategies, one which involves resumptive pronouns and violates Subjacency, and one which involves traces and obeys Subjacency. See, for example, Chomsky (1977) and Borer (1984) for Hebrew. English, as has often been noted, also has a resumptive pronoun strategy for relativization, though it is considered marginal. It should be pointed out that the resumptive pronoun in Arabic is null and is (locally) identified by a clitic. Recall that Arabic is a null argument language: subject and object pronouns are null. Thus, one expects that resumptive pronouns to be null in Arabic, as all pronouns may be null. The Subjacency violations of relativization structures in Arabic, then, follow from the assumption that relativization structures may be base-generated and the fact that Arabic allows null subjects and objects.

There is a class of structures which give more empirical support for hypothesis (B). The structures are represented in (28a) and (28b), which differ minimally in the order in which the declarative and interrogative clauses are embedded:
(28a)

NP

NP

CP3 relative clause

SPEC3

IP

CP2 declarative clause

SPEC2

IP

CP1 interrogative clause

SPEC1

IP

wh_α ——— wh_β

allathi liman

'which' 'to whom'
(28b)

(29)

the dollar which I think know ?amr

"The dollar which I think ?amr knows to whom I lent was new."

the dollar which I know to whom thinks
?

"The dollar which I know to whom ?amr thinks I lent was new."
Hypothesis (A), which allows a specifier position to be doubly filled at a given link of movement, predicts that the sentences in (b) are derivable, and falsely predicts that they would be grammatical. Since they are not, hypothesis (A) is
not a viable solution and is thus rejected. I now pursue the other alternative, hypothesis (B).

The derivation of the (a) sentences is consistent with structure (28a). The element $wh_{\beta}$, representing the interrogative pronoun, moves into $\text{SPEC}_1$ (movement 1); the element $wh_{\alpha}$ representing the relative pronoun moves directly into $\text{SPEC}_2$ (movement 2), and then climbs up to $\text{SPEC}_3$ (movement 3). Movement 2 crosses one barrier, namely $CP_1$, whose specifier position is occupied by $wh_{\beta}$. The (a) sentences derived in this manner are grammatical, though they do not involve the best case of movement the crossing of zero barriers.

Now, consider the derivation of the ungrammatical sentences in (b) which are consistent with the structure (28b). $wh_{\alpha}$ (the relative pronoun) moves into $\text{SPEC}_1$ (movement 1) and $wh_{\beta}$ (the interrogative pronoun) moves directly into $\text{SPEC}_2$ (movement 2) and continues to move from $\text{SPEC}_1$ into $\text{SPEC}_3$ (movement 3). Under this mode of derivation, movement 2 crosses $CP_1$, a barrier by virtue of dominating a BC, $IP_1$, from which it inherits barrierhood. Movement 3 adds a second barrier by crossing $CP_2$, which inherits barrierhood from the non-L-marked $IP_2$. Then there are two links of movement crossing a total of two barriers, suggesting that Subjacency effects gradually increase in severity by successive additions. The degraded nature of the (b) sentences, compared to the acceptable (a) sentences is presumably due to the gradual building up of the effects of Subjacency. This is expected if we view Subjacency as a processing constraint applying at S-structure.

Another mode of movement is possible which is shown in (33), and that is to move $wh_{\beta}$ to $\text{SPEC}_1$ (movement 1), and $wh_{\alpha}$ to $\text{SPEC}_2$ (movement 2) from the bottommost $IP$:
Then move \( \text{wh}_b \) from SPEC\(_1\) to SPEC\(_2\) (movement 3), and once again move \( \text{wh}_a \) from SPEC\(_2\) to its goal SPEC\(_3\) (movement 4). Link two crosses CP\(_1\) which inherits barrierhood from the non-L-marked IP. Therefore, one barrier is crossed. The degraded sentences in (b) suggest that a barrier is crossed more than once under (33). Suppose, then, that the bottommost CP, CP\(_1\), is an inherent barrier to wh--movement over and above the barrier system outlined above and in Chomsky (1986b). Then link 3 also crosses CP\(_1\), yielding degraded sentences.

This suggests that the parametric difference between Arabic and English relates to the choice of the deeply embedded CP versus IP; that is, in Arabic the "additional barrier" is the lowest CP, and in English it is the lowest tensed IP. In both languages the parameter is restricted to the lowest clause in the structure.

It should be emphasized that choice of CP rather than IP as the value of the parameter adds no new barrier to the system in cases (28a) and (28b) since the lowest CP is already a barrier by inheritance from a non--L--marked IP, a BC. This is generally supported by the facts of Arabic.

Consider the example in (34) in which a wh--island is violated twice, yielding an ungrammatical sentence:
(34) "what did you wonder who knew how hit"

(34) is formed by movement of *matha* 'what' from $t_i$ to VP (movement 1), then by movement 2 to VP, and finally by movement 3 to the matrix specifier of CP obviously through adjunction to VP again. There are two links of movement that
cross a single barrier: link 2, which crosses CP (a barrier by inheritance since it dominates IP), link 3 crosses CP (a barrier for the same reason that makes the lower CP a barrier). This provides additional support for the idea that violations are cumulative. Note that considering the lowest CP a barrier, being the value of the parameter in Arabic, adds no extra barrier in (34) since CP is already a barrier. If the English value of the parameter is taken with the lowest tensed IP adding a barrier, link 2 would cross two barriers namely, IP and CP.

Since Arabic allows both null subjects and null objects, one should expect that both subjects and objects should be available for relativization out of a syntactic island. This is verified by the following data. While wh-questions out of relative clauses are disallowed, relativization of both subjects and objects out of relative clauses is permitted. It is perhaps worth noting at this point that variation in judgement might exist over the array of data considered here due to its complex nature. This is not surprising for Subjacency violations, as it is known that Subjacency violations are weak --- Subjacency being an S-structure processing constraint in comparison with the severe ECP violations --- ECP being an LF (logical) constraint. The relevant contrast here is that between (35) and (36):

\[
(35)
\begin{align*}
\text{a. } & \text{**mani qa:balta [NP al?ami:rata [CP allati tatifu Layla [NP albinta [CP allati la who met the woman who know Layla the girl who not} \\
& \text{tatasawaru [CP kayfa_k sariqa t_i alfarasa t_k ]]])]]]}
\end{align*}
\]

"who did you meet the woman who Layla knows the girl who does not imagine how stole the horse"

"who met the woman who know Layla the girl who not imagine how stole the horse"
One should also expect that relativization of arguments other than subjects out of a syntactic island should be prohibited unless there is an overt clitic. The sentences in (37) show that relativization of complements of V, N, and P must obey Subjacency and that Subjacency violations can be "saved" if a clitic is attached to the head of the construction, (cf. also 36b):

(37)
a. ?istaqa:la al?amiiru [CP allañi [IP staqalat alfurtatu] [NP almar?ata] resigned the prince who arrested the police the woman [CP allati [IP darabat*(hu)] ]]])
"The prince who the police arrested the woman who hit (him) resigned"
b. ja:?a [NP alsuhufiyu [CP alla?i [P nafarat almadrasatu came the journalist who published the school [NP maqa:la-[NP*(hu)]]]]]] "The journalist whose article the school published came"

c. kasar ?amrun almindadata [CP allati wada?at alkita:ba [PP ?alay-[NP*(ha:)]]] broke ?amr the table which put the book on *(it) "?amr broke the table which I put the book on *(it)"

The Subjacency facts within relativization receive a natural and systematic explanation given the possibility of base-generation of relatives with null resumptive pronouns and the fact that we independently know that pronouns in Arabic may be null.

We see then that the complex constructions of relativization provide strong support for the principle of Subjacency as the principle is extended to seemingly conflicting and very different data in Arabic.

4.2.5 Wh–questions in Arabic

Arabic utilizes two strategies of forming wh-constructions: one employs clitics while the other does not. The two possibilities are given below in (38–39) where the (a) sentences illustrate the no–clitic strategy and the (b) sentences the clitic strategy:

(38)

a. mani ra?a Hasan-un ti who saw-3sgm Hasan-nom "Who did Hasan see?"

b. mani ra?a-hu Hasan-un who saw-obcl Hasan-nom "Who did Hasan see?"

(39)

b. mani qa:l-at Zaynab-un ?anna Hasan-an ra?a-hu
who said-3sgf Zanab-nom that Hasan-acc saw-obcl
"Who did Zaynab say that Hasan saw?"

The two strategies are subject to Subjacency, as seen from the fact that the use of a clitic in (40b) does not save the structure where extraction has taken place from a complex NP (cf. also section (4.8.1)) below for similar facts in Topicalization).

(40)
who saw-2sgm the-woman-acc who 3sgf-like-ind
"Who did you see the woman who loves?"
"Who did you see the woman who loves?"

It is also useful to note that the strategy with clitics patterns with the one without clitics in that the distance between the wh-phrase and its extraction site can theoretically be infinite. This is illustrated in (41) where the accusative clitic -hu indicates third person singular masculine object:

(41)
who believed-2sgm that Zayd-acc said that Hind-acc
za?am-at ?anna Hasan-an daraba(-hu) ti
claim-3sgf that Hasan-acc hit (obj cl)
"Who did you believe that Zayd said that Hind claimed that Hasan hit"

The alternation between clitics and no-clitics is consistent and free. Prima facie, one would assume that the two versions would behave differently with respect to Subjacency. One would expect that the presence of a clitic makes extraction out of a complex NP possible as it allowed a Ld'd NP to have a coreferent linkage with a resumptive pronoun across a complex NP. However, this does not seem to be the case, as the two strategies are governed by the CNPC, as demonstrated by the ungrammaticality of the sentences in (40) where the extraction has taken place from inside a complex NP. The crucial point is
that the utilization of a clitic does not rescue the structure, as (40b) shows. This raises questions regarding the role of the clitic in Wh-constructions. We observed cases where its insertion makes the structure grammatical and cases where this insertion does not have such an effect. If it is assumed that Wh-formation is derived via move-α where the category a leaves a wh-trace in its original position, we would predict that extraction out of syntactic islands is prohibited. This prediction is born out as shown in (40). In effect, I am assuming that what we have in (40b) is a trace sensitive to the CNPC and not a base-generated resumptive pronoun. This assumption correctly predicts the ungrammaticality of (40b) in which a clitic does not regularize the derivation.3

I now consider Subjacency effects on Wh-questions.

### 4.2.5.1 Wh-questions and Subjacency

Wh-question constructions with man ‘who’, in its two forms --- with and without clitics obey Subjacency, the CNPC (42) below, and the wh-island constraint (43). I conclude that their derivation is obtained via movement:

(42)


   who saw-2sgm the-king-acc who met

   "Who did you see the king who met?"

b. * man[i [ip ra?ay-ta [np al-malik-a [cp al là:i [ip qa:bala-hu_i ti ]]] ]]]

   -obj cl

(43)

a. ?? man[i [ip la: ta:nifu [cp lima:ža [ip qa:bala al-malik-u ti ]]] ]]

   who not know why met the-king-nom

   "Who don’t you know why the king met?"

---

The sentences in (43) are both degraded suggesting that successive movement to the matrix specifier of CP crosses one barrier, and a weak Subjacency violation results. The barrier involved is CP. This is so because CP inherits barrierhood from IP. Again, the fact that the sentences in (43) are marginal shows that Subjacency is at work here, regardless of the presence versus the absence of a clitic.

4.2.5.2 Wh–questions by Base-generation

Now, I argue that Wh–questions may also be base–generated. In contrast to topicalization (cf. above) and wh-questions with man 'who', both of which can be derived only by movement, question formation with ?ayy -NP 'which NP', can utilize two strategies. The first is by movement, therefore obeying Subjacency (44); (44a) contains no clitic, and is ungrammatical, (44b) contains a clitic (boldfaced), but is still ungrammatical:

(44)


"Which man did you see the king who met ?"


"Which man did you see the king who met him ?"

The other strategy is by base–generation, therefore violating Subjacency: CNPC (45b), wh–island (45c), and in which the presence of a clitic is required;
hence, (45a) is barred since it does not include a clitic. Notice that the wh-element \(?ayy-u\) in (45) bears nominative Case, signalled by \(-u\), similar to a Ld'd NP. Contrastively, the same element in (44) bears accusative Case, signalled by \(-a\):

\[(45)\]
\[
a. \quad \text{[NP] ?ayy-u rajul-ini} \quad \text{ra?ay-ta al-malik-a alla?i qa:bala ti} \\
b. \quad \text{[NP] ?ayy-u rajul-ini} \quad \text{ra?ay-ta al-malik-a alla?i qa:bala-hu_i nom-obj cl} \\
c. \quad \text{[NP] ?ayy-u rajul-ini} \quad \text{?arad-ta ?an taf?ifa man qa:bala-hu_i nom wanted-2sg that know who met-obj cl nom-obj cl} \\
\]

"Which man did you want to know the man who met him?"

If the sentences in (44) and (45) are all the result of move-\(\alpha\), they should be equally ruled out by Subjacency since movement of the wh-phrase to [SPEC, CP] would take place from inside a complex NP and a wh-island. The grammaticality of (45b-c) argues that movement is not involved.

The same properties are attested in clefted questions, which are not subject to Subjacency:

\[(46)\]
\[
a. \quad \text{man alla?i qa:bal-ta al-marr?at-a allati yu-hibu-ha} \\
\quad \text{who that met-2sg the-man-acc who 3sgm-like obj cl} \\
\quad \text{"Who is it that you met the woman who likes her?"} \\
b. \quad \text{man allati darab-ta al-rajul-a alla?i Xaraqa huqu:q-a-ha} \\
\quad \text{who that hit-2sg the-man-acc who violated rights-acc-gen cl} \\
\quad \text{"Who is it that you hit the man who violated her rights?"} \\
\]

It is evident that Subjacency violation in questions with \(?ayy\) in (45), and clefted questions, is not due to the presence of the clitic. Wh-questions with man 'who' (cf. 42-43) and topicalization (47), always observe Subjacency independently of the presence or absence of a clitic. (47a) has no clitic, (47b) has a clitic and yet both sentences are ungrammatical:
The base-generation of interrogatives with ?ayy and clefted questions with clitics is supported by the facts of Case. The interrogative element always bears the nominative Case, as we will see in the following subsection.

4.2.5.3 Base-generated Wh-phrases and Nominative Case

In this respect, consider (48) and (49). In (48) ?ayy binds an object clitic. ?ayy in (48a) bears the nominative Case. In (48b), however, it bears accusative Case inherited from its trace in spite of the presence of a clitic. In (49) ?ayy binds a trace. In (49a) it bears nominative Case and the sentence is ungrammatical. It bears accusative Case in (49b) but the sentence is grammatical:

(48)

a. ?ayy-u maqa:l-in nafa:rtahu
   which-nom article-gen publish-obj cl
   "Which article did you publish?"

b. ?ayy-a maqa:l-in nafa:rtahu
   acc

(49)

a. *?ayy-u maqa:l-in nafa:rtat
b. ?ayy-a maqa:l-in nafa:rtat

Alli in clefted constructions must bear nominative Case (50a), and it cannot bear accusative Case, as evidenced by the ungrammaticality of (50b):

(50)

a. man alla:b-a:-ni ?ahanta-huma:
   who they-nom-dual insulted-them(dual)
   "Who are those whom you insulted?"
b. * man allað-ay-ni ?ahanta-huma:
    acc

One way to ensure that the moved Wh–NP receives its accusative Case is to assume that Case is assigned to the NP before it is moved to [Spec, CP] so that it carries Case along. The Wh–NP in (49b) is moved from an object position, thus inheriting the accusative Case assigned by V. Notice that if the Wh–NP is not moved from an object position but is base–generated in [Spec, CP], as in (48a) (cf. the discussion around 45), it will not bear the Case assigned to that position. This is precisely the case in base–generated constructions utilizing resumptive pronouns, such as LD. Since the Ld'd NP is not moved, it does not bind a trace from which it can inherit Case. Thus, conforming to the default rule of nominative Case assignment (chapter 3) repeated below in (51), it always bears nominative Case, even if it refers to an object position:

(51) Nominative Case Assignment:
    Assign nominative Case to an NP iff:
    i. NP is not in the government domain of a Case marker
    ii. NP cannot inherit Case.

Notice that if the constructions in (48a) and (50) are derived by move–α, the clitic would not absorb the accusative Case but would transmit it to the clitic's antecedent, as in topicalization (52a) and wh–questions (52b). Both sentences include object clitics:

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4 Topicalization, discussed in the following section, provides further empirical support for Case inheritance.
5 On Case inheritance cf. section (4.8.6) of this chapter, cf. also chapter (3), section (3.16.4).
6 I shall subject topicalization to further investigation in section (4.8) below in an attempt to determine how they are interpreted and the extent to which they are related to the other constructions discussed in this thesis.
In order for the moved NP in these constructions to receive Case, Case must be released from absorption by the clitic. The clitic need not absorb the Case feature of the head to which it is affixed. Case can thus be inherited by the moved NP. Recall that based on the analysis of the clitic-doubling data where the grammatical features of a lexical NP in argument position are reproduced by a coindexed clitic, I argued that clitics absorb Case. Thus, the Lexical NP is left without Case in violation of the Case Filter. The semantically empty preposition *li* 'of' is inserted to Case-mark that NP, and thus the Case Filter is satisfied. Topicalization and wh-questions with clitics, however, suggest that Case absorption by clitics needs to be parameterized language-internally, or perhaps cross-linguistically.

(53) Case absorption parametrized:
A clitic may absorb Case based on some data, the language learner narrows down the possibilities open to him and sets the value for (53). That is based on whether the construction encountered is derived by movement or by base-generation, the learner determines the value of (53).

I conclude with a distinction between two empty categories: a base-generated resumptive pronoun and a trace. Both may occur as arguments of lexical heads. Their property, among others, is to be assigned Case (cf. 48 and 50). Since the pronoun is null its features must be identified by the clitic through...
coindexing, and since the pronoun and the trace are arguments they need to be Case-marked to be visible to the PFI at LF. The constructions in which these arguments are not a clitic doubling context, therefore *li-insertion* -- the equivalence of *of-insertion* in English -- is not available to assign Case to the arguments. Thus the only option available is for the clitic to transmit the Case assigned by the head to the complement. The trace transmits the Case to its antecedent (the head -- i.e. the highest member -- of the $\overline{A}$-chain) in lines with Case theory (cf. 52). In chapter 6, I will extend the notion of chain to cover $A$-chains (whose head is in an $A$-position) and as well as $\overline{A}$-chains (whose head is in an $\overline{A}$-position). On the other hand, the pronoun does not transmit Case to its antecedent since the two elements are not in a single chain that is formed by move-$\alpha$. Thus, the wh-word $\text{?ayy-}\text{u}$ in (48a) and $\text{?alla\text{"a}:ni}$ in (50a) are in the nominative Case despite the fact that they refer to object sites. This is so since the construction in which they appear is base-generated and therefore Case transfer does not apply. The presence of both, the pronoun and the trace, is forced by the Projection Principle to satisfy the complementation requirements of the head of the construction.

With respect to the role of the clitic, it is pertinent to point out an important difference between wh-extraction and relative clauses. Like wh-extraction, two strategies are available for effecting relatives in Arabic, as will be elaborated upon in the following section.
4.2.6 Relative Clauses:7

Relative clauses in Arabic can be derived in two ways: one utilizes resumptive pronouns coindexed with the head of the relative construction, and the other utilizes gaps.8 The occurrence of resumptive pronouns and gaps are illustrated in the following examples of non-subject relatives:

Consider the sentences in (54):

(54)

a. Jahad-tu [NP al-?ahram-aii [CP allati tu-hibu-hai proi]]
   saw-1sg the-pyramids-acc which(fem) 2sgm-like-obcl
   "I saw the pyramids that you like them i."

b. Jahad-tu [NP al-?ahram-aii [CP allati tu-hibu tii]]
   saw-1sg the-pyramids-acc which (fem) 2sgm-like
   "I saw the pyramids that you like tii"

c. ?aqabal-a [CP alla?ii tu-hib-u-hui proi ]
   came-3sgm who(masc) 3sgf-like-ind ob cl
   "The one whom i she likes him i came"

d. ?aqabal-a [CP alla?ii tu-hib-u tii ]
   came-3sgm who(masc) 3sgf-like-ind
   "The one whom i she likes tii came"

In each of the sentences above, an object NP has been relativized. In (a and c), the relativized site is marked by a resumptive pronoun pro, displaying the grammatical features of the head NP, which is lexical in (a) and empty in (c). In (b and d), however, the resumptive pronoun is missing. In other words the slot of the relativized NP appears as a gap t.

One may assume that the utilization of the two strategies in relatives is similar to that in wh-extraction. In fact, this similarity is only apparent. Notice, in

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7 There is no intention to discuss relative clauses in any detail. The discussion here will aim to establish that whenever a clitic is present the gap of the relativized NP is filled with a base-generated resumptive pronoun. For an indepth analysis of relative clauses within an EST model, the reader is referred to Suaieh (1980) and Awwad (1973).

8 One of the major differences between Standard Arabic in one hand and Iraqi Arabic dialects and most of the other Arabic dialects on the other hand is that the dialects have lost the option of a trace instead of a clitic in relatives and topicalization.
this respect, the derivation of the (a and c) sentences of (54); the version with clitics, under further embedding, is not subject to Subjacency while that of the (b and d) sentences, the version with a trace, is subject to Subjacency:

(55)
a. sahad-tu al-?ahram-a; allati saddaq-tu za?ma Zayd-
saw-1sg the-pyramids-acc which(fem) believed-1sg claim Zayd-
in ?anna al-malik-a yu-hib-u-?a; pro^ *t
   gen that the-king-acc 3sgm-like-ind-ob cl
   "I saw the pyramids which I believed Zayd's claim that the king liked them/t"

came-3sgm who(fem) believed-1sg claim Zayd-gen that
   al-?amirat-a tu-hib-u-?a; pro^ *t
   the-princess 3sgf-like-ind-ob cl
   "The one who I believed Zayd's claim that the princes like him/t came"

The sentences in (55) show that relative clauses in Arabic can be obtained via base-generation and via movement.9 The function of the clitic in (54a and 54c), on one hand, and in wh-questions, on the other hand, is not the same. In the first case, the clitic licenses (identifies in terms of features such as person, number and gender) and governs a base-generated resumptive pronoun.10 In the second case, the clitic properly governs a trace.11

9 See Borer (1984) for a similar analysis of Modern Hebrew relatives. Borer reports that Modern Hebrew does not have a relative pronoun. Relative clauses in Modern Hebrew display resumptive pronouns in a way similar to relatives in Arabic. Unlike Arabic, however, resumptive pronouns in Hebrew relatives are fronted and later optionally deleted from the COMP position as Borer argues.

10 For a development of these ideas, cf. among others Jaeggli (1982), and Hurtado (1985).

11 The early Arab grammarians analyzed the object gap in relatives as the result of an optional process of deletion which they termed ?al-ta:?id deletion, the deletion of the resumptive pronoun. Similarly, Bresnan and Grimshaw (1978) accounted for the gap in relatives in terms of controlled pro-deletion rules which delete overt pronouns.

It should be recalled from chapter (3) that I assume with Williams (1980), and Chomsky (1982) that the relation between the head of the relative clause and its modifying phrase is one of predication and that this is formalized by coindexing between the wh-operator and the head of the relative which is the result of an interpretation rule of LF'.
4.3 The ECP and Clitics:

In what follows, I provide an account in terms of the Empty Category Principle (ECP) of the extraction possibilities from the complement position of the lexical categories N(oun), P(reposition) and V(erb).

The principle of Subjacency, as we have seen, imposes a locality condition on empty categories whereby the distance crossed at S–structure by the element originating in the position of the empty category may not include more than one barrier. Subjacency ensures then that the distance between a trace and its antecedent will be sufficiently "close". Further study of the properties of empty categories has led to the suggestion that the presence of a trace must be sanctioned in other ways as well. The ECP is intended to sanction the occurrence of traces in this way.

The ECP states that a non–pronominal empty category must be properly governed, where proper government is defined as follows:

(56) \(\alpha\) properly governs \(\beta\) iff \(\alpha\) \(\Theta\)–governs or antecedent governs \(\beta\) (Chomsky, 1986b: 17)

Antecedent government holds of a link \((\alpha, \beta)\) of a chain, where \(\alpha\) governs \(\beta\). A simplified version of government is given in (57), cf. chapter 1 for a more detailed definition:

(57) Government:
\(\alpha\) governs \(\beta\) iff \(\alpha\) c–commands \(\beta\), and \(\beta\) is not protected by a barrier. \(\alpha\) is an \(X^0\).

In particular, an object is properly governed by \(V\), head of VP, but a subject or adjunct can only be properly governed in a chain by antecedent government.

Arabic has a recourse to the use of clitics to regularize derivations which are in violation of the ECP. Thus, and in accord with the ECP, the clitic which appears in boldface is obligatory in (58–60), where movement is effected from
non-properly governed positions: from a complement position of a noun (N) (58), from an object position of a preposition (P) (59), and from the position adjacent to the complementizer ?anna in (60). Movement from an object position of a verb (V) is possible with or without a clitic (61):

(58)

a. *man ?a-kram-ta ?aX-a t
   who reward-2sgm brother-acc
   "whose brother did you reward?"

b. man ?a-kram-ta ?aX-a-hui ti

(59)

a. *man sallam-ta ?al t
   who greeted-2sgm on
   "who did you give greetings to?"

b. man sallam-ta ?al-hi ti

(60)

a. *man tadunnu ?anna t ?akram Zayd-an
   who believe-2sgm that honored Zayd-acc
   "Who do you believe that honored Zayd?"

b. man tadunnu ?anna-hui ti ?akram Zayd-an

(61)

a. man ?a-kram-ta ti
   who 2sg-reward-2sgm
   "who did you reward?"

b. man ?a-kram-ta-hui ti

The ECP will correctly predict the ungrammaticality of the (a) sentences in (58–60) if I propose that the categories N, P, and the complementizer ?anna are not proper governors. The empty category trace in the these sentences is not properly governed in violation of the ECP. The (b) sentences, which are parallel to those in (a) except that they contain a clitic, are grammatical. The ECP can also account for the grammaticality of these sentences if I propose that the clitic is a proper governor for the trace of the moved NP man. Extraction from the complement position of V (cf. 61) is possible with or without a clitic
since the trace in that position is always properly governed by V. Thus (61a) is grammatical.\(^{12}\)

The ECP, with the hypothesis that the clitic is a proper governor for the trace of the extracted NP, also accounts for the contrast between the following sentences in which the subject of a gerund is extracted:

\[(62)\]

a. \([_{\text{IP}} \text{NP} \kata:bat-u \at-taqri:r-a] \at-taqri:r-a \text{VP} \text{tu\djibu-ka}] \]
writing-nom \at-taqri:r-a \the-report-acc please-you
"\text{\amr's writing the report pleases you.}"  

b. *\(\text{mani} \at-taqri:r-a \text{VP} \text{tu\djibu-ka}] \]
who writing-nom the-report-acc please-you
*\text{who writing the report pleases you?}"

c. \(\text{man \at-taqri:r-a \text{VP} \text{tu\djibu-ka}] \]
\text{who writing-nom-gencl the-report-acc please-you}
"Whose writing the report pleases you?"

Movement of \text{man} in (b) to the matrix specifier position of CP crosses NP, a barrier since it is not L–marked, and IP, also a barrier by inheritance from NP. Thus, \text{man} fails to antecedent–govern its trace. Since the gerund is specified for the feature [+N], and since nouns are not proper governors, it cannot properly govern the trace of its subject. Hence (62b) is ungrammatical. The movement also violates Subjacency since it crosses two barriers, however, the possibility of the same movement but with a clitic in (c) shows that the ECP is at work here rather than Subjacency. This explains the obligatory presence of a clitic in (62c), which is to satisfy the ECP. In other words, the clitic in (62c) properly governs the trace of the subject, conforming to the ECP.

The same phenomenon can be found in the context of topicalization to be discussed in section (4.8.2) below. While topicalization of a complement of \(V\) generates a well-formed structure with or without a clitic (63), topicalization of

\(^{12}\) The facts are strictly the same in Iraqi Arabic where the categories N, P, and the complementizer \(\text{?innu}\) are not possible proper governors.
a possessor (64) and of a complement of P (65) without the presence of a clitic yields an ill-formed structure. In effect, the empty category left by movement will not be properly governed:

(63)
a.  'amr-an_i  'akram-tu  t_i  
'amr-acc  honored-1sg  
"'amr I honored"
b.  'amr-an_i  'akram-tu-hu  t_i  
(64)
a.  * 'amr-an  qa:bal-tu  sadi:q-a  t  
'amr-acc  met-1sg  friend-acc  
"'amr I met friend"
b.  * 'amr-in  qa:bal-tu  sadi:q-a  t  
-gen  
c.  'amr-an_i  qa:bal-tu  sadi:q-a-hu_i  t_i  
(65)
a.  * 'amr-an  ji?-tu  maf  t  
'amr-acc  came with  
"'amr I came with"
b.  'amr-an_i  ji?-tu  maf-hu_i  t_i  

The preceding discussion shows that the impossibility of movement of the object of N, P, and of the NP adjacent to ?anna follows uniformly from the same general principle, ECP.

4.4 Subject/Object Asymmetries

In Arabic the agreement element (AGR) can be rich enough for the identification of the null subject in terms of the features person, number and gender. Thus (66b) is a grammatical sentence:

(66)
a.  'akrama  'amr-un  Zayd-an  
honored  'amr-nom  Zayd-acc  
"'amr honored Zayd"
b.  'akrama  Zayd-an  
honored  Zayd-acc  
"He honored Zayd"

Arabic seems to share another property with null argument languages --- that of a violation of the [*that e] filter of Chomsky and Lasnik (1977). This filter
is subsequently reduced to the ECP, which correctly blocks subject extraction in (67a) and correctly allows object extraction in (67b):

(67)

a. What do you believe \[ CP \ t' \ [ \_C \ that \ [ \_IP \ Leslie \ would \ win \ t ] ] ]

b. *Who do you believe \[ CP \ t \ [ \_C \ that \ [ \_IP \ t \ would \ win \ ] ] ]

In (67b) the wh-trace t in the embedded subject position is not properly governed by INFL since INFL is not lexical and, hence, not a proper governor.\(^{13}\) It is not governed by the embedded verb either, which does not m-command it, nor by the matrix verb since CP, a barrier by inheritance from the BC IP, intervenes between the two. Finally, by the Minimality Condition, the presence of the complementizer that, a closer governor, creates an M-barrier preventing t’ from antecedent-governing t. In contrast, in (67a), t is properly governed by both the embedded verb win and through antecedent government by t’.

The contrast illustrated in (67) does not seem to be pertinent in Arabic since both (68a) and (68b) are equally grammatical:

(68)

a. man\(_i\) ?arad-ta ?an yadriba \(t_i\) Hind-an ?
who wanted-2sg that hit-3sgm Hind-acc
"Who, did you want that \(t_i\) would hit Hind?"

b. ma:Śa:\(_i\) ?arad-ta ?an tadriba Hind-un \(t_i\) ?
what wanted-2sg that hit-3sgf Hind-nom
"What, did you want that Hind would hit \(t_i\)?"

This could lead to the following conclusion:

(69)

Argument traces in subject and object positions are equally properly governed.

\(^{13}\) Huang (1982) assumes that INFL is a proper governor for the subject position in Chinese because of the lexical nature of INFL in this language. The fact that Chinese displays no that-trace, no ... personne, or superiority condition effects, although it does display other ECP effects, is taken to be a result of the fact that INFL in Chinese is a proper governor. This view is supported by the fact that INFL in Chinese "has more lexical content to it than the INFL in English" (Huang, 1982: 482). For example, aspect markers are derived from lexical categories in Chinese and may appear as independent words.
Evidence from embedded LD will show that the subject of a finite clause is unextractable across a Ld'd NP in contradistinction to the object since the subject trace cannot be properly governed. To see whether (69) holds in Arabic, I need to examine another type of complement --- that which is optionally introduced by the complementizer ?anna. As has been mentioned in chapter (2), there are two types of [-wh] complementizers in Arabic: ?anna /?inna and ?an. Their occurrence is determined by matrix predicates. Believe-type verbs (yadunnu, yafqada, etc.) require ?anna; want-type verbs (yuriidu, yatamanna, etc.) generally require ?an. ?an assigns a subjunctive mood muda:rifs mansu:bi, a mood that is assigned to an adjacent verb. Like for in English, ?anna assigns accusative Case to a Ld'd NP which must be adjacent to it. This NP is base-generated and is always coindexed with an embedded pronoun in various thematic positions (cf. chapter (3) for discussion and argumentation). In (70), the Ld'd NP (boldfaced) is coreferential with a pronominal subject, AGR of INFL (70a), a direct object (70b), an object of a preposition (70c), and a complement of a noun (possessor) (70d):

(70)

a. ?adinnu ?anna Hind-an, darab-at, Zayd-an
believe that Hind-acc hit-3sgf Zayd-acc
"I believe that as for Hind, she hit Zayd"

b. ?adinnu ?anna Zayd-an, darab-at-hu, Hind-un
believe that Zayd-acc hit-3sgf-obcl Hind-nom
"I believe that as for Zayd, Hind hit him"

c. ?adinnu ?anna Zayd-an, wasal-at Hind-un ma:la-hu
believe that Zayd-acc arrived-3sgf Hind-nom with-obcl
"I believe that as for Zayd, Hind arrived with him"

d. ?adinnu ?anna Zayd-an, darab-at Hind-un zamil-a-hu
believe that Zayd-acc hit-3sgf Hind-nom colleague-acc-gen cl
"I believe that as for Zayd, Hind hit his colleague"
If (69) is a true generalization, the extraction of the subject NP from complements introduced by the complementizer ?anna should be possible. However, this is not the case, as the sentences in (71) are ungrammatical:

\[(71)\]
\[\text{a. } \text{man}_i \text{ danna } \text{?amr-un}_k \text{ ?anna Zayd-an}_k \text{ ya-dribu-hu}_k \text{ ti, } \]
\[\text{who}_i \text{ believed } \text{?amr-nom} \text{ that } [\text{ip} \text{ Zayd-acc}_k [\text{ip} \text{ ti sgm-hit-him}_k]] \]
\[\text{"Who}_i \text{ did } \text{?amr believe that as for Zayd}_k \text{ } \text{ti } \text{hit him}_k ?" \]

\[\text{b. } \text{man}_i \text{ hasib-ta } ?anna \text{ Hind-an}_k \text{ qa:bala-} \text{ha:}_k \text{ ti, } \]
\[\text{who}_i \text{ believed-2sgm that } [\text{ip} \text{ Hind-acc}_k [\text{ip} \text{ ti met-3sgm-her}_k]] \]
\[\text{"Who}_i \text{ did you believe that as for Hind}_k \text{ } \text{ti } \text{has met her}_k ?" \]

\[\text{c. } \text{man}_i \text{ danna } \text{?amr-un}_k \text{ ?anna Hind-an}_k \text{ qa:bala sadi:qa} \text{t-a-} \text{ha:}_k \text{ ti, } \]
\[\text{who}_i \text{ believed } \text{?amr-nom} \text{ that } [\text{ip} \text{ Hind-acc}_k [\text{ip} \text{ ti met3sgm friend-acc-her}_k]] \]
\[\text{"Who}_i \text{ did } \text{?amr believe that as for Hind}_k \text{ } \text{ti } \text{met her}_k \text{ friend ?"} \]

\[\text{e. } \text{man}_i \text{ danna } \text{?amr-un}_k \text{ ?anna l-rij} \text{a:l-a}_k \text{ ja:} \text{?a } \]
\[\text{who}_i \text{ believed } \text{?amr-nom} \text{ that } [\text{ip} \text{ the-men-acc}_k [\text{ip} \text{ ti came-3sgm}] \]
\[\text{maFa-hum}_k \text{ ti, } \]
\[\text{with-them}_k ] \]
\[\text{"Who}_i \text{ did } \text{?amr believe that as for the men}_k \text{ } \text{ti came with them}_k ?" \]

(71a), for example, is ungrammatical because the trace is in subject position. The sentence would be grammatical if the trace were in object position with \textit{man} and \textit{-hu} coindexed, in which case the assignment of indices would be as (72a). The sentence would be interpreted as (72b):

\[(72)\]
\[\text{a. } \text{man}_i \text{ ?amr-un}_m \text{ Zayd-an}_k \text{ hu}_i \text{ ti, } \]
\[\text{b. } \text{?amr believed that as for Zayd, who did Zayd hit ?} \]

The interpretation that is not obtainable is (73):

\[(73) \text{ ?amr believed that as for Zayd, who hit Zayd ?} \]

It is interesting to note that \textit{wh}-movement from positions other than subjects over a Ld'd NP is always possible:
That the NP in the IP--adjoined position is a Ld'd NP is confirmed by the general properties of Left-dislocation examined in chapter (3). The NP is obligatorily [+specific]. The sentences in (75) corresponding to paradigm (74), and in which the NP is non--specific, are excluded:

(75)

a. * mani tadinnu ?anna [IP ?imra?at-an_k [IP tazawwaj-at_k t_i ]] a woman-acc

b. ma:xa; i tadinnu ?anna [IP ?amr-an_k [IP ?asta:-hu_k Zayd-un t_i ]] rajul-an_k [IP ?asta:-hu_k Zayd-un t_i ] a man-acc

c. * mata;i hasib-ta ?anna [IP jamal-an_k [IP daraba-hu_k Zayd-un ] t_i ] a camel-acc


Moreover, as indicated above, the NP adjacent to ?anna is obligatorily coreferent with a pronominal in the interior of the embedded IP. In effect, (76),

[14] Here, I assume crucially that the trace of the adjunct is hanging from the first specified IP node in the structure, rather than from the one immediately below it. Let us assume that this structure is possible as an option. The reason for this will become relevant only in section (4.6). See also Chomsky (1986a : 19) who applies the same reasoning and proposes as an option that the D-structure of the adjunct is not within VP.
which corresponds to (74b), is ungrammatical since the NP adjacent to ?anna is not coreferent with any pronoun in the embedded IP. This will be the same for all sentences which correspond to the rest of the sentences in (74) and in which such a pronoun does not occur:

(76)

It seems that it is precisely the presence of a Ld'd NP that makes the difference between (71) and (68a). Similarly, in Iraqi Arabic, the extraction of an embedded subject over a Ld'd NP optionally preceded by the complementizer 'innu is excluded:

(77)

a. *minu, tdin 'innu [IP al-beyt [IP ra:yd t₁ yi-ʃtari-i b-ha:ʃ a-as-ʃiʃir ]] who believe that the-house want 3sgm-buy-it in-this the-price

"Who, do you believe that as for the houseₜ, t₁ wants to buy itₜ at this price?"

b. *minu, tiʃtaqid 'innu [IP mihfaddt-ak [IP siraq-haₜ] t₁] who believe that wallet-your stole-it

"Who, do you believe that, as for your walletₜ, t₁ stole itₜ?"

c. *minu, tiʃtakir 'innu [IP hal kita:b [IP mazzaq t₁ xila:ʃ-faₜ]] who think that this book tore its cover-its

"Who, did you think that as for this bookₜ, t₁ tore itsₜ cover?"

d. *minu, gilit-i-i 'innu [IP al-ʃimaraₜ [IP zira-xalt-haₜ jlar]] who said-to-me that the-building planted behind-it trees

"Who, did you tell me that as for the buildingₜ, t₁ planted trees behind itₜ?"

Once more, the contrast between (77a-b) and (78a-b) is clear:

(78)

a. keʃ, tdin 'innu [IP al-beyt [IP ra:yd yi-ʃtari-i] t₁] how believe that the-house want 3sgm-buy-it

"How, do you believe that as for the house, he wants to buy itₜ?"

b. shinu, tiʃtaqid 'innu [IP Ali [IP ?ab-u: siraq t₁]] what believe that Ali father-his stole

"What, do you believe that as for Ali, his father stole t₁?"
The only possible way to question the subject is to effect extraction from the IP adjoined position. In this process a clitic obligatorily surfaces attached to the complementizer and is coindexed with the wh-trace t, which it properly governs:

\[
\text{who believe that-cl want 3sgmbuy the-house in-this the-price } \text{?}
\]

"Who do you believe that he wants to buy the house at this price?"

b. \[\text{ who believe that-cl stole wallet-your } \text{?}\]

"Who do you believe that he stole your wallet?"

c. \[\text{ who think that-cl tore cover this book } \text{?}\]

"Who do think that t tore the cover of this book?"

d. \[\text{ who said-to-me that-cl planted trees behind the-building } \text{?}\]

"Who did you tell me that he planted trees behind the building?"

The question that I need to answer next is the following: why does the presence of a Ld'd NP block extraction uniquely from subject position but not from complement position? This phenomenon can be explained in terms of the ECP.

The ECP is a principle that deals with non-pronominal empty categories requiring them to be properly governed. Its formulation, given in (56) above and repeated in (80) below, consists of two disjoined conditions:

15 It should be noted that there are ways to unite the two forms of proper government, at least technically. One way to achieve this unification is suggested in Lasnik and Saito (forthcoming) where lexical government and antecedent government are defined identically. Assuming, following Stowell (1981), that θ-role assignment and Case assignment result in coindexation between the Case assigner and the element that is assigned Case, they state lexical government as in (1) and define proper government as in (2):

(1) Lexical government
α lexically governs β if
a. α binds β, and
b. there is no γ (γ an NP or S) such that α c-commands γ and γ dominates β, unless β is the head of γ

(2) Proper Government
\( \alpha \) properly governs \( \beta \) iff \( \alpha \Theta\)-governs or antecedent governs \( \beta \) (Chomsky, 1986b: 17)

Antecedent government holds of a link \((\alpha, \beta)\) of a chain, where \(\alpha\) governs \(\beta\). In particular an object is properly governed by \(V\), head of VP, but a subject or adjunct can only be properly governed in a chain by antecedent government.

The subject/object asymmetry, illustrated by the contrast between (71) and (74), and between (77) and (78), can be accounted for in terms of the ECP, if I can show that the embedded subject in these cases is not properly governed, lexically nor through antecedent government.

### 4.4.1 The Position of Subject

Subjects in main clauses are governed by INFL, which is not a lexical category, and therefore are never lexically governed. Assuming that verbs properly govern an element only when they also assign a \(\Theta\)-role to that particular element (hence \(\Theta\)-govern), a subject position will never be lexically governed either.\(^{16}\) This is because subjects are assigned a \(\Theta\)-role by VP, AP, or NP, but never by a lexical element. Returning to the data in (71, 74, 77, and

\begin{align*}
\alpha \text{ properly governs } \beta & \text{ if } \\
a. \alpha \text{ binds } \beta, \text{ and } \\
b. \text{there is no } \gamma \text{ (} \gamma \text{ an NP or S'} \text{) such that } \alpha \text{ c-commands } \gamma \text{ and } \gamma \text{ dominates } \beta, \text{ unless } \\
\beta \text{ is the head of } \gamma. \\
\end{align*}

By (2), NP and S' are absolute barriers to antecedent government. This definition makes proper government totally independent of the notion of government. The definition of proper government implies that the locality requirement for proper government resembles Subjacency and that it is independent of government.

Another approach to unify the two forms of proper government is pursued in Chomsky (1986b), where he takes the definition of lexical government (3) as basic and attempts to modify the definition of antecedent government:

(3) Lexical government

\begin{align*}
\alpha & \text{ lexically governs } \beta \text{ if } \\
a. \alpha \text{ governs } \beta, \text{ and } \\
b. \alpha & \text{ is a lexical category, } X^0 \text{ (} X = [+/N, +/-V] \text{), and } \\
c. \alpha & \text{ assigns Case or a } \Theta\text{-role to } \beta. \\
\end{align*}

Chomsky attempts to unify antecedent government and lexical government under a strict locality condition similar to government, and proposes that the same locality is needed for Subjacency.

\(^{16}\) This idea was originally put forward by Stowell (1981:383).
78), I propose that adjunction to IP, as in (81), creates a barrier for antecedent government. The initial NP is the Ld'd NP adjoined to IP:

(81)

```
   IP
  /   \   
 NP    NP
   \    \  
    i      
```

Thus, extraction of an element that is dominated by the configuration in (81) will leave a trace that is not antecedent governed from outside this configuration. In this light, consider the sub-structure (82) showing subject extraction in the data (71) and (77):

(82)

```
   CP
  /  \  
 man  IP
   \ /  
  'who' t
   \  
    IP
   /  
 NP  i
```

In (82) is the trace of the extracted subject. Given that adjunction to the \( X^{\text{max}} \) IP creates a barrier which blocks antecedent government, \( t \) is not antecedent governed by \( \text{man} \). \( t \) is not lexically governed by INFL (I) either since I is non-

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lexical. This is a violation of the ECP.\textsuperscript{17} (71a), for example, is now directly excluded. The embedded subject in (71a) repeated in (83):

(83) * man danna fəamr-un ?anna Zayd-an ya-dribu-hu \( t \) ?
is dominated by the barrier \[ [\text{IP} \quad [\text{IP} \quad ]] \], and its extraction will cross this barrier. Thus, the antecedent fails to properly govern its trace. The structure of (83) roughly corresponds to (84), suppressing V movement to I and possibly subsequently to C:

\ref{footnote:17} Given that adjunction to IP blocks antecedent government, the ECP will remain violated even if another trace \( t' \) is created in the specifier of the embedded CP since \( t' \) will also fail to antecedent govern \( t \).
Now the ungrammaticality of (83) follows automatically from the ECP. The empty category $t_k$ in subject position is not properly governed. INFL, being
non-lexical, cannot serve as a proper governor for $t_k$. The intermediate trace $t_{k'}$ in the specifier position of CP is separated from $t_k$ by the barrier $[\text{IP} [\text{IP} ]]$. Hence antecedent government fails in this case. Government of $t_k$ by the matrix verb also fails for the same reason, namely the intervention of the barrier $[\text{IP} [\text{IP} ]]$. $t_{k'}$ on the other hand, is antecedent governed by $t_{k''}$, and, similarly, the latter trace is also antecedent governed by the wh-element man 'who' in the matrix specifier of CP since no barrier intervenes. Thus, $t_k$ must be the offending trace barring (83).

Turn now to the application of the ECP to sentences like (68a), repeated in (85) in which it is possible to extract an embedded subject, in contrast with (83) which prohibits it:

(85)

```
man, ?arad-ta ?an yadriba t_i Hind-an ?
who wanted-2sg that hit-3sgm Hind-acc
"Who, did you want that $t_i$ would hit Hind ?"
```

(85) is grammatical in spite of the fact that the embedded subject has been moved with $t$ as the trace of the moved subject NP. The question is why is (85) grammatical and (83) not ? I accounted for the ungrammaticality of (83) by suggesting that the adjunction to IP structure is a barrier for proper government. Movement of an embedded subject across this barrier leaves a trace that is not properly governed, violating the ECP. If such a movement does not cross any barrier, no ECP violation would be incurred and the sentence would be predicted to be grammatical. This is precisely the case in (85). Consider its S-structure (86) below with head movement suppressed:
No ECP violation is incurred in (86), and subject extraction from the position occupied by \( t_1 \) is correctly permitted. \( t_1 \) is antecedent governed (hence properly governed) by \( t_2 \). \( t_2 \), in turn, is antecedent governed by \( t_3 \) since CP, being \( \Theta \)-governed by the verb ?aradta, is not a barrier. The barrierhood of VP is void by adjunction to VP, and IP is a BC but never a barrier. Therefore, \( t_3 \) is also properly governed by man in the specifier position of CP.

With the assumption that adjunction to IP creates a barrier, the contrast between extraction of subjects in (83) and (85) is accounted for in a straightforward manner. There are cases, however, in which movement across the barrier \([_{IP} [_{IP} ]]\) is permitted, thus apparently contradicting the conclusion that adjunction to IP creates a barrier for purposes of the ECP. These cases include movement from object position and movement of adjuncts, and will now be examined.

### 4.4.2 The Position of Object

The possibility of extraction of objects over the structure \([_{IP} [_{IP} ]]\) can be seen in (74a) and (74b), repeated below as (87):

\[
\begin{align*}
\text{(87a)} & \quad \text{mani} \ tadin \ ?anna \ [_{IP} \ Hind-an, \ [_{IP} \ tazawwaj-at, \ t_1 ] ] \\
& \quad \text{who believe hat Hind-acc married-3sgf} \\
& \quad \text{"Who do you think that Hind married?"} \\
\text{(87b)} & \quad ma: \ ?anna \ [_{IP} \ famr-an, \ [_{IP} \ ?arta:-hu, \ Zayd-un \ t_1 ] ] \\
& \quad \text{what believe that famr-acc gave-him Zayd-nom} \\
& \quad \text{"What do you believe that Zayd gave to famr?"}
\end{align*}
\]

The S-structure representation of (87a) is as in (88):

\[
\begin{align*}
[l_{CP} \ l_C \ l_{IP} \ l_{IP} \ l_{VP} \ t_4 \ l_{VP} \ l_{CP} \ t_3 \ l_C \ ?anna \\
[l_{IP} \ l_{IP} \ l_{VP} \ t_2 \ l_{VP} \ t ] ] ] ] ] ] ] ] )]
\end{align*}
\]
The initial trace clearly satisfies the ECP by virtue of Θ-government by the embedded verb, and it is also antecedent governed by $t_2$ in the most deeply embedded VP adjoined position. $t_2$ must be antecedent governed if intermediate traces are subject to the ECP. But, this is clearly impossible if $t_2$ is created in the derivation of the sentence because the barrier [$\text{IP [IP]}$] intervenes, blocking antecedent government of $t_2$ by $t_3$. Thus, if intermediate traces are subject to the ECP, (87a) should be ruled out by this principle, an incorrect result since the sentence is grammatical. This derivation must be prevented.18

Note that what makes the S-structure representation (88) ECP violation is the intermediate trace $t_2$, if it is present. An intermediate trace is required in order to satisfy the ECP by antecedent governing the nearest downstairs trace which it c—commands. $t_4$ for instance, is required to antecedent govern (hence properly govern) $t_3$. If $t_4$ is not present, then $t_3$ will be the offending trace in violation of the ECP. If $t_2$, however, is not present, no ECP violation is incurred since the initial trace $t$ is Θ—governed (hence properly) governed by V, and the sentence in (87a) will be predicted to be grammatical, as desired. A viable solution along this line of reasoning is embedded in the analysis of Lasnik and Saito (forthcoming). The relevant features of their analysis are summarized below.

4.5 Lasnik and Saito's Analysis

I assume the mechanism proposed by Lasnik and Saito (1984) for determining satisfaction of the ECP: a assigns the feature [+γ] to b (b is a trace)

---

18 Note that $t_3$ is in a configuration of proper government, being antecedent governed by $t_4$, which is, in turn, antecedent governed by the wh-phrase man 'who' in the specifier position of CP. $t_2$. However, it is not properly governed, since it is separated from its nearest antecedent $t_3$ by a barrier. The sentence in (87b) receives precisely the same analysis in relevant respects.
if it properly governs b, and b receives \([-\gamma]\) if it is not properly governed. Lasnik and Saito distinguish between arguments and non-arguments and assume the following:

\[(89)\]

i. \(\gamma\)-assignment applies at S-structure and LF.

ii. At S-structure, \(\gamma\)-assignment applies only to arguments.

iii. At LF, \(\gamma\)-assignment applies only to adjuncts.

To satisfy the ECP a non-pronominal empty category must be marked \([+\gamma]\) at LF.

Lasnik and Saito offer an interpretation of the ECP in terms of the assignment of a feature \([+\gamma]\) under certain circumstances and the assignment of \([-\gamma]\) otherwise. A trace \(t\) is \([+\gamma]\) when lexically or antecedent governed, but is \([-\gamma]\) otherwise. Representations containing traces that are assigned \([-\gamma]\), that is, for which proper government did not obtain, are barred. They further assume that only argument traces receive \(\gamma\)-features at S-structure. \(\gamma\)-marking will apply to the S-structure (90) to give (91):

\[(90)\]

Who \([_{iP}\, do\, you\, believe\, [{_{NP}\, the\, claim\, [{_{CP}\, that\, [{_{iP}\, John\, said\, [{_{CP}\, t_2\, [{_{iP}\, t_1\, saw\, Mary}]})}]})]

\[(91)\]

Who \([_{iP}\, do\, you\, believe\, [{_{NP}\, the\, claim\, [{_{CP}\, that\, [{_{iP}\, John\, said\, [{_{CP}\, t_2\, [{_{iP}\, t_1\, saw\, Mary}]})}]})]

The subject trace \(t_1\), being an argument trace, is assigned \([+\gamma]\) as it is antecedent governed by \(t_2\). If \(t_2\) remains at LF, then it is assigned \([-\gamma]\) at this level, and consequently, violates the ECP. This predicts that the sentence is ungrammatical, which is an incorrect result. Notice that if another trace is created in the specifier position of the second higher CP, then \(t_2\) will not receive \([+\gamma]\) features since it is an intermediate trace. Since the subject trace received its \([+\gamma]\) features at S-structure, there is no reason for the presence of \(t_2\)
at LF. Hence, it must delete as it is no longer required by independent principles. After deletion of $t_2$, we obtain the representation (92) which conforms to the ECP:

(92)
\[
\text{Who}_{[\text{IP}} \text{do you believe}_{[\text{NP}} \text{the claim}_{[\text{CP}} \text{that}_{[\text{IP}} \text{John said}_{[\text{IP}} \text{t}_{[\text{IP}} \text{saw}_{[\text{IP}} \text{Mary}]]]]]]
\]

Following Lasnik and Saito (forthcoming), I assume that \textit{move-} needs not produce a trace unless that trace is required by independent principles --- e.g., the ECP and the Projection Principle.

Now, let us return from our slight digression to the examples that most interest us here, the examples in (87), illustrating object extraction across two instances of IP nodes. The representative example (87a) is repeated as (93) with its structure in (94):

(93)
\[
\text{man}_i \text{ tadinnu}_i \text{ ?anna}_{[\text{IP}} \text{ Hind-an}_k \text{ tazawwaj-at}_k \text{ t}_i \text{ ]}
\]

"Who do you think that Hind married?"

(94)
\[
[\text{man}_{\text{C}} \text{ [IP t}_4 \text{ [VP t}_3 \text{ [CP t}_i \text{ [IP t}_i \text{ [VP t}_2 \text{ [VP t}\]
\]
\]
\]

Given this assumption, \textit{move-} need not leave the intermediate trace $t_2$ in the bottom-most VP adjoined position in structure (94) as it is not required by any principle. Indeed, the initial trace $t$ does not need the presence of $t_2$ for antecedent government since it satisfies the ECP by virtue of being properly governed by $V$. In fact, its presence serves nothing other than yielding a representation not conforming to the ECP. Here, I adopt Stowell's (1981) proposal that intermediate traces can freely delete. Under this proposal, while deletion itself is unconstrained, the result of such deletion is ultimately
constrained by general principles, among them, the ECP. This means that if an intermediate trace is required for proper government of a lower trace, the intermediate trace must of course be present or an ECP violation will ensue. We will see an example of this case in (99). Given this assumption — that intermediate traces can freely delete — (93) is no longer an ECP violation. Its LF representation is shown in (95):

(95)

\[
\text{[CP man [C: [IP t_1 [VP t_3 [VP t_2 [C: ?anna [IP [IP [VP [VP t ]]]]]]]]]]}
\]

There is no trace in the lowest VP adjoined position in (95), and the ECP is satisfied. Now consider the S-structure (96) illustrating adjunct movement:
Recall that under Lasnik and Saito's analysis, which I have assumed, for adjuncts, $\gamma$-assignment takes place at LF; whereas, for arguments it takes place at S-structure. Thus, while argument traces can freely delete at LF after being subjected to the ECP (receive $\gamma$-marking) at S-structure, all intermediate adjunct traces must be present at LF to properly govern the traces of the adjunct. In (96), the initial trace $t$ is an adjunct (not an argument) trace. Hence,
it is not assigned a γ-feature at S-structure, but is assigned a γ-feature by the intermediate trace $t_2$ at LF. If $t_2$ did not exist at this level, the initial trace would be $[-\gamma]$. $t_2$, in turn, would be marked $[+\gamma]$, since it has an antecedent governor $t_3$. But now, $t_3$ is not antecedent governed by kayfa 'how', CP being a barrier by inheritance from IP; and hence must be assigned $[-\gamma]$. Thus, (96) violates the ECP at LF, and the sentence is ruled out.

4.6 Movement of Adjuncts

In the ECP analysis of the complement/non-complement asymmetry discussed above, I assumed that traces in object positions are Θ-governed while subject traces and adjunct traces are not and, hence must be antecedent governed. This implies that adjunct traces, like object and subject traces, fall under the ECP. However, as noted by Huang (1982), adjuncts do not display that-trace effects. For example, (98a) and (98b) do not contrast:

(97) a. Who [ do you think [ $t'$ [ $t$ left early ]] b. *Who [ do you think [ $t'$ [ that [ $t$ left early ]] ![Image](https://via.placeholder.com/191x191.png)

(98) a. Why [ do you think [ $t'$ [ he left early $t$ ]] b. Why [ do you think [ $t'$ [ that [ he left early $t$ ]] ![Image](https://via.placeholder.com/191x191.png)

Similarly in Arabic, subject extraction in (99) contrasts (99a is grammatical, but 99b is not), while adjunct extraction in (100) does not (both sentences in (100) are grammatical):

(99) a. ma:šα, trudu [CP $t'_i$ [ ?an [IP yahdutuša $t_i$ l-šamr-in]]] what want that happen to-šamr "What do you want that would happen to Šamr?"

b. *ma:šα, tadunnu [CP $t'_i$ [ ?anna [IP šamr-an [IP hadaša $t_i$ la-hu ]]]] what believe that Šamr-acc happened to-him "What do you believe that as for Šamr happened to him $t_i$?"
a. "Why did you want that whatever happened to Tamr to happen?"

b. "Why do you believe that as for Tamr, whatever happened to him happened?"

Since movement of subjects over the barrier \([IP, IP]\) is prohibited (99b), whereas, that of adjuncts is permitted, one might assume that, unlike subject traces, adjunct traces lack ECP effects and thus do not fall under the ECP. This is, however, not the correct conclusion, as indicated by the contrast in (101) which is attributed to the ECP:

\[(101)\]

a. "Why don't you know whether Tamr won the race?"

b. "Whom don't you know whether Tamr hit?"

In (101a), extraction of the adjunct is blocked because antecedent government of \(t\) is blocked by the wh-island, violating the ECP. Extraction of object in (101b) is possible, because \(t\) is lexically governed by \(V\), conforming to the ECP. Thus, I must assume that both subject traces and adjunct traces fall under the ECP.

That traces of adjuncts are not exempt from the ECP is further confirmed by the impossibility of adjunct extraction across two instances of \(IP\) nodes, which I have taken to be a barrier. This is demonstrated by the examples in (102):
The ungrammaticality of the sentences in (102) demonstrate that movement of adjuncts over a Ld'd NP is generally excluded.

I argued that adjunct traces are not exempt from the ECP requirements. With this in mind, let us consider examples (74a), (74d), and (78a), illustrating adjunct trace. These sentences are grammatical, but they would be otherwise, if the D-structure of the adjunct were within VP or hanging from the lower IP node, such that the trace at S-structure is exclusively dominated by a barrier as follows:

\[
[IP \quad [IP \quad t \quad ]] 
\]

As the structure of (74a), (74d) and (78a) shows, I crucially assumed the trace of the adjunct to be adjoined to the IP node and not to the VP node. That is, I assume structure (103) and not (104) (irrelevant details omitted):

19 I further assume that the adjunct in such cases is not generated under the lowest VP at D-structure since movement of adjunct to the matrix specifier position through adjunction to VP would still leave a trace in the lowest VP adjoined position which fails to be antecedent governed by the higher trace. This is because the two would be separated by two IP nodes as shown below:

\[
[CP \quad [CP \quad wh-phrase \quad [VP \quad t_3 \quad ] \quad [CP \quad t_2 \quad ] \quad [IP \quad [VP \quad t_1 \quad ] \quad [VP \quad t \quad ] \quad ] \quad ] \quad ] \quad ] \quad ]
\]
Movement of the adjunct in (103) from its D–structure position does not cross the category IP to which it is adjoined (though it does cross one segment of IP).

Since the IP to which the adjunct is adjoined does not exclude the site of the adjunct, it does not count as a barrier for the purpose of Subjacency. This is so since categories are defined in terms of segments, and domination by a category is defined as domination by every segment of this category. The relevant clause from the definition of dominance is as follows:
\(\alpha\) is dominated by \(\beta\) if it is dominated by every segment of \(\beta\).

Extraction of the adjunct in (103) will leave a trace that is antecedent governed since extraction will cross one IP node, which, not being a barrier, allows the adjunct to properly govern its trace, conforming to the ECP, the desired result. On the other hand, adjunct extraction in (104) will cross two IP nodes, which I have taken to be a barrier blocking antecedent government. Thus, if (104) is the proper sub-structure of the sentences in (74c), (74d) and (78a), adjunct extraction would induce ECP violation, and the sentences would be predicted to be ungrammatical. Surely, this is incorrect since the sentences are grammatical. The structure (103), however, yields the correct result with respect to the ECP; I thus have opted to generate the adjunct in these cases in a position adjoined to the lower IP node.\(^{20}\) The structure in (104) corresponds to the sentences in (102) and gives the desired result that adjunct movement is blocked by the ECP (cf. footnotes 19 and 20).

4.7 Summary

To summarize, I presented the general properties of Wh-questions in Arabic and discussed them with respect to the ECP and Subjacency. Wh-questions are derived by movement only, except for the construction with \(\textit{ayy}\), meaning "which", which is base-generated when assigned nominative Case, but derived by movement when assigned accusative Case. I argued that the

\(^{20}\) For similar reasons, Chomsky (1986b) assumes that the D-structure position of the adjunct \textit{how} in the sentences in (1) is not within VP but outside it, dominated directly by the IP:

(1)

a. How did [\text{IP you} [\text{VP ix the car}] \text{t}]

b. How does John think [\text{CP t} [\text{IP you} [\text{VP fixed the car}] \text{t}]]

In (1a), the adjunct moves to the specifier of CP. In (1b), the adjunct moves to the specifier of the lower CP, then to the matrix specifier of CP through the matrix VP. In each case, there is only one relevant BC that includes the trace but not its antecedent --- namely, IP, but this is not a barrier. Note that it is crucial that the D-structure position of \textit{how} is not within VP; otherwise, movement would cross VP, which, not being L-marked, is a barrier to government and hence to proper government.
Clitic in Wh-constructions does not appear to license a base-generated resumptive pronoun, but to properly govern and identify a trace. This correctly predicts the impossibility of extraction out of syntactic islands. The array of Subjacency facts appeared rather complicated at first glance, it was shown, however, that they are quite systematic when considered within the context of the wider range of parameters of Arabic grammar. This will be further supported by facts of topicalization structures to be discussed in the next sections.

I proposed an account in terms of the ECP of the impossibility of subject extraction from within an IP adjunction configuration, as opposed to the possibility of subject extraction from contexts lacking such an adjunction configuration. In this regard, I suggested that adjuntion to IP results in the formation of a barrier blocking antecedent-government of the trace of the extracted subject. Extraction of objects in constructions containing an IP adjunction configuration is correctly allowed, as an object trace will be properly governed by the verb. I allowed generation of adjuncts outside the domain of the barrier arising from adjunction to IP, and thus an adjunct trace can be properly governed through antecedent-government.

4.8 Topicalization

Now, I turn to topicalization. In this section, I shall distinguish between LD constructions examined in chapter 3 and constructions which involve extraction, such as topicalization. Although there is never an overt wh-phrase in Topicalization structures, they display all the typical properties of wh-movement and are particularly distinguishable from left-dislocation structures which do not have the same properties.
The most obvious surface difference between the two constructions is that, while the Ld'd NP always has nominative Case regardless of the argument position to which it is related, the topicalized NP has the Case of its extraction site. Secondly, a Ld'd NP must be specific, whereas, a topicalized NP may be non-specific. Thirdly, while LD needs not obey Subjacency, Topicalization does. The first two differences are illustrated in (105-106):

(105)

a. Hasan-nom tu-hib-u-hu al-bint-u
   "Hasan, the girl likes him"

b. Hasan-acc tu-hib-u al-bint-u ti
   "Hasan, the girl likes"

(106)

a. ?al-faras-u rakiba-ha Hasan-un
   the-horse-nom rode-ob cl Hasan-nom
   "As for the horse, Hasan rode it"

b. faras-ani rakib Hasan-un ti
   horse-acc rode Hasan-nom
   "a horse, Hasan rode"

Another distinguishing factor is that the use of clitics to license resumptive pronouns is obligatory in left-dislocation but optional in topicalization. It should be noted, however, that since Arabic is a pro-drop language (null argument language), resumptive pronouns in subject and object positions are null, just like non-resumptive pronouns are null.

Finally, while the left-dislocated NP must be definite-specific, there is no such restriction on the topicalized NP with a non-clitic version.

The above sentences illustrate some of the properties which differentiate the two constructions. There is a difference in Case: the NP Hasan in (105a) and (106a) is marked nominative, while the same NP in (105b) and (106b) is marked accusative. A resumptive pronoun is present in (105a) and (106a), but
absent in (105b) and (106b). A further difference is that the NP in LD can only be specific (106a), whereas, in topicalization, it can also be non–specific (106b).

I accounted for the difference in specificity in terms of the presence versus the absence of a clitic, in line with the rule of predication developed in chapter 3. A clitic is marked for the features person, number, gender and specificity. Since the clitic is coindexed with its antecedent, its values must agree with that of its antecedent and hence the antecedent must be specific. When there is no clitic, the antecedent can be non–specific.

In the following section, I argue for a movement analysis of topicalization. As I indicated in section (4.3), topicalization in Arabic can be effected in two ways -- with clitics and without clitics. I shall subsequently argue that both are the product of move–α. In contrast, LD is base–generated and hence may violate Subjacency (cf. chapter (3) for argumentation).

The difference in Case between LD and Topicalization will be the subject matter of section (4.14) below. This difference will be accounted for by appealing to the notion of Case inheritance, which operates only in constructions involving extraction (Wh–Movement and Topicalization), but not in constructions which involve no movement (LD).

4.8.1 Topicalization is Movement

Notice that the process of Topicalization illustrated in (105b) and (106b) is a syntactic process operating at the level of S–structure and is not a purely stylistic one whose input is the configuration obtained at S–structure. To this effect, consider (107):
In (107a), the coreferential reading between the genitive clitic on the subject and the object NP renders the sentence ungrammatical. In contrast, this coreferential reading is grammatical in (107b). This supports a movement analysis of topicalization because the binding theory requires a pronominal to be free in its local domain, which is the IP node in (107). (107a) is barred since the pronominal is bound in IP. Thus, it follows from the binding theory that the NP al-bint-a "the daughter" must be outside IP in an A–position. This position is adjoined to IP (cf. 4.8.3 for argumentation).

This movement appears to be governed by the CNPC, as illustrated by the ill-formedness of (108b):

In (108), the relative clause CP is a BC and a barrier, and the NP, though not a BC because it is Θ–governed by the verb ja:hada, inherits barrierhood from CP. Thus, two barriers are crossed, and a Subjacency violation results. The intermediate status of the sentence however suggests that Subjacency effects are weaker and more variable when compared with the more severe ECP

---

21 Recall that I analyze Topicalization as movement that proceeds through adjunction to IP. (108) and (109) do not include the IP adjunction sites. I have eliminated these positions purely for simplicity; no theoretical claim is implicit in this omission.
violations. Moreover, Subjacency effects are S–structure effects which presumably do not arise in LF.

Wh–Island Condition violations produce similar effects in the following case:

(109)
a. 
\[
\text{tasa:}^{\text{a}}\text{al-tu} \, [c_p \text{man}_i [i_p \text{yazu:ru} \, t_i \, \text{Hind-an kulla masa:}^{\text{a}}\text{in}] \\
\text{askeded-1sgm who visit Hind-acc every evening} \\
\text{"I wondered who visits Hind every evening"}
\]

b. 
\[
\text{?? Hind-an}_i \, [i_p \text{tasa:}^{\text{a}}\text{al-tu} \, [c_p \text{man}_i [i_p \text{yazu:ru} \, t_i \, \text{kulla masa:}^{\text{a}}\text{in}]] \\
\]

Arabic also allows a clitic to mark the topicalized site, as in (110) which forms a minimal pair with (105b), and which is also derived by movement:

(110) 
\[
\text{Hasan-an}_i \, \text{tu-}^{\text{a}}\text{hib-}^{\text{a}}\text{u-hui} \, t_i \, \text{al-bint-u} \\
\text{Hasan-acc 3sgf-like-}^{\text{a}}\text{ind-obcl the-girl-nom} \\
\text{"Hasan}_i, \text{the girl likes} \, t_i\n\]

The occurrence of a clitic, however, does not save the structure in cases of extraction from inside an island, as demonstrated in (111), which forms a minimal pair with (108b):

(111) 
\[
\text{?? al-}^{\text{a}}\text{amirat-ai} \, \text{\}a:}^{\text{a}}\text{had-tu ar-rajula alla}^{\text{a}}\text{ni yu-}^{\text{a}}\text{hib-}^{\text{a}}\text{u-hai} \, \text{obcl} \\
\text{"The princess}_i, \text{I saw the man who likes} \, t_i\n\]

This situation is reminiscent of the occurrence of a clitic in Wh–constructions discussed in (4.2.5.1) where the clitic did not change the grammaticality of the sentence in contexts violating the CNPC. I analyzed that construction as having no resumptive pronouns. The clitic there licensed a Wh–trace rather than a resumptive pronoun. I extend this analysis to the topicalization structures with clitics in (110–111). In other words, the topicalized NP is coindexed with a trace, sensitive to Subjacency, and not with a base–generated resumptive pronoun. I take these properties and those discussed in
the preceding sections to indicate that both Wh-constructions and topicalization in their two versions, with clitics and no-clitics, are instances of the gap-producing rule move-α.

4.8.2 Proper Government By Clitic

In what follows I examine the possibility of topicalization from positions governed by N and P.

Recall the assumption that N and P are not proper governors; hence, the following sentences are excluded by the ECP:

(112)

Hasan-acc 1sg-honored-1sgm brother-acc
"Hasan, I honored brother ı"

b. * Hasan-anı sallam-tu ʕal tı
Hasan-acc greet-1sgm to
"Hasan, I gave greetings to"

(112a) and (112b) illustrate extraction of an NP from a position governed by the lexical heads N and P, respectively. The same sentences, however, will be grammatical if a clitic appears attached to the lexical heads:

(113)

Hasan-acc honored-1sgm brother-acc-obcl
"Hasan, I honored his brother"

b. Hasan-anı sallam-tu ʕalay-hıı tı
Hasan-acc greet-1sgm to-obcl
"Hasan, I gave greetings to"

I argued previously that topicalization with clitics, where the topicalized NP is moved from a complement position of V, involves movement as this process obeys Subjacency. In the same way, the cases in (114), which involve clitics, obey Subjacency:
(114)
Hasan-acc reward-1sgm the-man-acc who saw brother-acc-his
"Hasan, I rewarded the man who met his brother"

b. *Hasan-an, ?a-kram-tu ar-rajul-a allaði sallam
Hasan-acc rewarded-1sgm the-man-acc who greet-1sgm
Falay-hi, ti
to-obcl
"Hasan, I rewarded the man who gave greetings to"

The ungrammaticality of the sentences in (114) suggests that sentences such as (113) involve movement.

To summarize, I argued for a movement analysis of topicalization with its two strategies, clitics and no-clitics. When extraction takes place from the complement position of V, the trace will be properly governed by V. As N and P are not proper governors, a clitic must appear attached to them to properly govern the trace in cases of extraction from complement position of N and P.

4.8.3 Topicalization is Adjunction to IP

Having argued for a movement analysis of Topicalization, the question that arises is: where does the topicalized NP move to? Is it adjoined to IP, to CP? or is it moving to COMP ?, and what is the nature of that position? Is it an A-position or an Ā-position? I shall argue that it is adjoined to IP. In this section, I argue for the last hypothesis – i.e., adjunction to IP.

The approach that I assume to determine the position that the extracted NP moves to at S-structure is that movement is never determined by specific rules, but rather results from the interaction of general principles and various sub-theories of UG.

Notice, in the first place, that the S-structure position of the extracted NP can never be a θ-position. This is excluded by the Projection Principle and the θ-Criterion. Following Chomsky (1986), and in line with the Structure
Preserving Constraint as in Emonds (1985), only $X^0$ can move to the head position. One major case of such movement is that of V to INFL, forming the inflected verb $V_i$, which then possibly moves to COMP, head of CP. A maximal projection, such as a topicalized NP, cannot be in COMP which is a head position. Since a topicalized NP is a maximal projection, and since COMP is the head of CP, a topicalized NP cannot be in COMP.

I further assume that the specifier of CP is reserved as a landing site for Wh–operators (Chomsky, 1986b). There is empirical support for this assumption, as we will see in chapter (5). The support comes from the fact that along with a wh–phrase, an NP can appear adjoined to CP receiving Case from a higher verb. It is possible to state this as a condition on LF interpretation — that is, Wh–phrases and other elements of this type are not adjoined to IP but are in the pre–IP position, specifically in the specifier of CP [SPEC, CP] with scope over IP (cf. Chomsky, 1986 for further discussion of this topic). Since the topicalized NP is a non–Wh–operator, it then follows that it cannot be moved to [SPEC, CP].

It is of interest that when a topicalized NP appears in embedded contexts, it may occur with an overt relative pronoun or a complementizer to its left only. The topicalized NP's $\text{?aXahu} \ "\text{his-brother-acc.}"$ in (115a) below, $\text{Hasanan} \ "\text{Hasan-acc.}"$ in (115b) and $\text{Zaydan} \ "\text{Zayd-acc}"$ in (115c) appear after $\text{alla\dh\i}$, $\text{man}$ and $\text{mima}$ respectively (the complementizer appears in Italics):

(115)

a. $\text{ja?a ar-rajul-ui alla\dh\i ?aX-a-hu, ?a-kram-ta ti}$
   came-3sgm the-man-nom who brother-acc-his honored-2sgm
   "The man whose brother you honored came"

b. $\text{qabal-tu man Hasan-an, qabala ti}$
   met-1sg who Hasan-acc met
   "I met whoever met Hasan"
c. dami?-tu fasharib-tu Xamr-an ?aktara mima Zayd-an; thirsty-1sg drank-1sg wine-acc more what Zayd-acc

?a-9tay-tu ti ma?-an
1sg-gave-1sg water-acc
"I became thirsty and drank wine more than what I gave Zayd water"

The sentences will be ungrammatical if the topicalized NPs are placed in a position preceding the complementizers (again the complementizer appears in Italics):

(116)

b. *qabal-tu Hasan-an; man qabala ti

c. *dami?-tu fa-sharib-tu Xamr-an ?aktara Zayd-an; mima

Topicalization in English also behaves in a similar way in that the topicalized NP in embedded contexts shows up after the complementizer only:

(117)

a. John says that Mary, Paul doesn't love.
b. *John says Mary, that Paul doesn't love.

I propose, therefore, that adjunction of a topicalized NP to CP in the cases above are generally ruled out by the following restriction adapted from Chomsky (1986a: 6); cf. also 19, chapter 3:

(118)

adjunction is possible only to a maximal projection NP, VP, IP, CP that are not L-marked, where L-marking is defined as follows: (cf. chapter 1)

(119) L-marking:
α L-marks β only if α is a lexical category that directly Θ-marks β, and α directly Θ-marks β if β is the complement of α in the sense of X-bar theory.

---

22 Many speakers find the same sentence without an overt complementizer to be ill-formed; compare (a) and (1):
(1) *John says Mary, Paul does not love.

23 This definition of L-marking is based on the discussion in Chomsky (1986a :13 ff.).
Consider also the following sentence where the topicalized NP can only appear in a position following the complementizer ?amma at S–structure:

(120)

a. ?amma al-yatim-a_i fala ta-qhar t_i 
   pertaining the-orphan-acc don't 2sgm-oppress
   "Pertaining to the orphan, don't oppress"

b. *al-yatim-a ?amma fala ta-qhar t

(120b) is ungrammatical since the topicalized NP al-yatim-a follows the complementizer, which leads me to conclude that topicalization arises from adjunction of elements to IP as in (121):

(121)

The movement can be iterated (from adjunction site to adjunction site), and each movement is governed by Subjacency. (122) illustrates iterative movement:

---

24 This derivation cannot be ruled out by the restriction on adjunction in (118). I have nothing to say about this sentence, but simply note that this construction involving ?amma 'as for' might have some properties different from other topicalization constructions. It does, however, arise by movement since the moved NP binds a trace, and it has inherited accusative Case, as all topicalized NPs do.
I wanted you to hit.

"Zayd, I wanted you to hit."

IP is no longer a BC, since it does not exclude the landing site of link 2, just like VP does not exclude the landing site of link 1. Since IP is not a BC in this case, CP cannot inherit barrierhood from IP, and CP, being L-marked by the matrix verb, is not an inherent barrier. Thus, each link in (122) conforms to O-Subjacency, and the sentence is correctly predicted as fully grammatical.

If Topicalization is to be analyzed as adjunction to IP, then the following derivation will be permitted with every link satisfying O-Subjacency, exactly like

(123):

The pyramids wondered how they built.

This is true since the sentence is fully grammatical, although it is a Wh–Island Constraint violation.

In the following subsection, I examine the interaction of topicalization with wh-movement more precisely, movement across a topicalized NP. It will be seen that this movement results in ungrammaticality, providing further support that extraction over two instances of IP is excluded.

4.8.4 Wh movement across a Topic

Recall in section (4.5), it was seen that adjunction to IP results in a barrier blocking subject and adjunct extraction. If we accept the IP adjunction analysis for Topicalization, we would expect it to block wh–movement. This
prediction is verified in the grammar as it is not possible to have a topicalized NP (with or without a clitic) adjoined to IP and a wh-phrase moved across the IP adjunction structure to the specifier position of CP simultaneously in a single clause. This is illustrated by the ungrammaticality of the sentences in (124) where the NP *famr* is topicalized:

(124)

a. *[^CP man [IP famr-an [IP daraba-(hu) t t ]]]

b. *[^CP man [IP famr-an [IP ja:?-at t ma:fa-(hu) t ]]]

c. *[^CP man [IP famr-an [IP daraba t ?ax-aa:(hu) t ]]]

d. *[^CP kafa [IP famr-an [IP daraba-ta-(hu) t t ]]]

e. *[^CP mata: [IP famr-an [IP daraba-(hu) t Zayd-un t ]]]

As argued in the previous chapter, the presence of a Ld'd NP, which is base-generated in the IP-adjoined position (cf. chapter 3 for argumentation) also blocks wh-extraction. Thus, parallel to (124), we have (125):

(125)

a. *[^CP man [IP famr-un [IP daraba-hu t ]]]

b. *[^CP man [IP famr-un [IP ja:?-at t ma:fa-hu]]]

c. *[^CP man [IP famr-un [IP daraba t ?ax-aa-hu ]]]

d. *[^CP kafa [IP famr-un [IP daraba-ta-hu t ]]]

e. *[^CP mata: [IP famr-un [IP daraba-hu Zayd-un t ]]]

If LD is adjunction to IP, then the adjunction resulting from LD will correctly block wh-movement; the wh-phrase would have to move over two IPs to reach [SPEC, CP].
Against this, compare the unproblematic movement in (126) which involves crossing only one IP since (126) includes neither a topicalized nor a Ld'd NP:

(126)

a. man ʔamr-un daːrib-un t
   who ʔamr-nom hitting-nom
   "Who has ʔamr hit?"

b. kayfa ʔamr-un t
   how ʔamr-nom
   "How is ʔamr?"

c. mataː ʔamr-un qaːdim-un t
   when ʔamr-nom arriving-nom
   "When is ʔamr arriving?"

If Topicalization arises through movement where the topicalized NP is adjoined to IP, it is necessary to determine the nature of this position: is it an A–position or an Ā–position? and how does the topicalized NP receive an interpretation?

4.8.5 Interpretation by Variable Binding

The trace left by move–α in wh–constructions (38 above repeated in 127) and topicalization (128) is in an A–position:

(127)

a. manʔi raʔa Hasan-un ʔi
   who saw-3sgm Hasan-nom
   "Who did Hasan see?"

b. manʔi raʔa-huʔi ʔi Hasan-un
   who saw-ob cl Hasan-nom
   "Who did Hasan see?"

(128)

a. Hasan-anʔi tu-hib-u al-bint-u ʔi
   Hasan-acc 3sgf-like-ind the-girl-nom
   "Hasan, the girl likes"

b. Hasan-anʔi tu-hib-u-huʔi ʔi al-bint-u
   Hasan-acc 3sgf-like-ind-ob cl the-girl-nom
   "Hasan, the girl likes"
Unlike the usual case of NP-movement, the trace in (127 and 128) is not bound by an A-position. Consider the following structure:

(129) \text{John} \text{ was hit } t_i

The NP \text{John} has moved from its D-structure position as an object of V to the subject position at S-structure. The trace in (129) behaves like an anaphor in that it is A-bound (the NP \text{John} is in an A-position, that of subject) in its local domain, viz. IP. Moreover, the trace of \text{John} does not bear Case since the passive morphology does not assign Case (Rouveret and Vergnaud (1980), Chomsky, (1981)) forcing movement of \text{John} to subject position. In contrast, the trace left by extraction of a wh-word (127) and of a topicalized NP (128) behaves as a variable, i.e., bound by an operator (A-binding) in \[\text{SPEC, CP}\] and adjoined to IP respectively. I adopt the following definition of variable:

(130) \alpha \text{ is a variable iff } \\
\alpha \text{ is locally A-bound }

As a variable, the trace is A-free (not bound by an A-position), and it has Case, assigned to it by its governing head. Case is transmitted to the A-binding in accord with Case theory. On Case inheritance see below section (4.14).

The question to ask now is the following: How do these operators receive an interpretation within a modular approach to grammar which conceives of UG as a virtually rule-free system? (cf. chapter 1 for a presentation of this approach). In line with the shift from language-specific rules to a system of principles which constitute the internal organization of UG, I assume that the interaction between the various elements of a sentence is to be accounted for in terms of general principles. One such principle is the Principle of Full Interpretation (PFI). This principle requires every element of PF and LF that appears in a well-formed structure to be interpreted and, thus, licensed. Among
the licensing options in UG is the following: An operator is licensed by binding a variable. Therefore, to satisfy PFI, the operators, i.e., the wh–phrase man in (127) and the topicalized NP Hasan-an in (128), each must bind a variable. In the absence of a variable, the same structures will be excluded since the operator in each case will be unlicensed, as shown in (131) and (132) where the variable t is replaced by the lexical NP Zady-an:

(131)
a. *man ra?a Hasan-un Zayd-an
b. *man ra?a-hu Zayd-an Hasan-un

(132)
a. *Hasan-an tu-hib-u al-bint-u Zayd-an
b. *Hasan-an tu-hib-u-hu Zayd-an al-bint-u

I examined the properties of the trace left by extraction of wh and topicalized NPs with respect to various sub–systems of UG. It was determined that the trace is a variable which must be bound by an operator as a consequence of the Principle of Full Interpretation.

4.8.6 Case Inheritance

A salient feature of topicalization, viz. the extracted NP always bears the Case of its extraction site has not been accounted for as yet. Below is an explanation of this phenomenon in terms of Case inheritance.

In On Binding (1980), Chomsky assumed that wh-phrases must be assigned Case to avoid a Case Filter violation. The Case Filter requires that every lexical NP must have Case at S–structure. Since direct Case–assignment to the wh–phrase in COMP is not possible, and in order to assign it Case appropriately, Chomsky assumed in that work that Case is assigned by the rule move–α itself so that the wh–phrase receives the Case of the position it vacated. Thus, Case–assignment was incorporated into the formulation of the
rule move-α when a wh-phrase is moved from what is otherwise a Case-marked position. The notion that a wh-phrase inherits its Case from its D-structure position was assumed to follow from the assignment of indices as move-α applies.

In each of the sentences in (110), (113a) and (113b) the lexical heads V, N, and P assign the accusative (110), or genitive (113a and 113b) Case. This is clear in non-topicalized sentences where the trace of (110-113b) is replaced by a lexical NP:

(133)

a. tu-hib-u Hasan-an al-bint-u
   3sgf-like-ind Hasan-acc the-girl-nom

b. ?akram-tu ?ax-a Hasan-ln
   honored-1sg brother-acc Hasan-gen

c. sallam-tu ʕala Hasan-ln
   greeted-1sg on  Hasan-gen

Assuming that a topicalized NP inherits the Case of the trace it binds, the topicalized NP Hasan-an in (113) would be expected to inherit the genitive Case assigned to the trace by N and P. However, Hasan-an must bear accusative Case. If it bears genitive Case (signalled by -in ending), the sentences will be rendered ungrammatical:

(134)

a. * Hasan-lni ?akram-tu ?ax-a-hu  t̂i
   Hasan-gen honored-1sg brother-acc-obcl

b. * Hasan-lni sallam-tu ʕal-ḥ̂i  t̂i
   Hasan-gen greet-1sgm to-obcl

(135) is excluded for the same reason --- the topicalized NP Hasan bears genitive Case:

(135) *Hasan-lni ?akram-tu [NP sadiq-a ?ax-i-hi, t̂i]
   Hasan-gen 1sg-honored-1sgm friend-acc brother-gen cl
   "*Hasan, I honored  t̂i friend's brother"
This behaviour requires an explanation. It should be recalled that an NP receives a Case feature as a result of one of the modes of Case assignment outlined above: through direct Case assignment under government, through inheritance, and through a rule of lexically triggered default Case-marking. It was suggested that the essential property of default Case-marking, as the term implies, is that it applies only when the first two options are unavailable. However, these are not necessarily the only ways the Case relations are expressed. In languages with morphological Case as in Arabic, a noun or an adjective may be marked for a Case feature as a lexical property. Thus since the NP *Hasan* in (134-135) is lexically marked for accusative Case, it cannot inherit another Case feature, namely genitive from its trace.

The Case-marking of the topicalized NP is tightly bound to the Case of the NP from which extraction takes place. Thus we have the paradigm in (136):

(136)

a. *Hasan-anājahada[NP sadiq-u-hu ṯi] al-?amir-a
Hasan-acc saw friend-nom-ob cl the-prince-acc
"*Hasanī, ṯi friend saw the prince"

b. *Hasan-anājahada[NP sadiq-a-hu ṯi] al-?amir-u
Hasan-acc saw friend-acc-gen cl the-prince-nom
"*Hasanī, the prince saw ṯi friend"

Hasan-nom saw friend-nom-gen cl the-prince-acc
"As for Hasan, his friend saw the prince"

Hasan-nom saw friend-acc-gen cl the-prince-nom
"As for Hasan, the prince saw his friend"

(136a) is ungrammatical due to the fact that the topicalized NP *Hasan* is marked accusative while the NP from which *Hasan* has been extracted is marked nominative. (136b), on the other hand, is grammatical since *Hasan* bears the same Case assigned to the NP from which it has moved, namely the
accusative Case. The contrast between the two sentences shows that the NP Hasan acquires its Case by inheritance from the argument of the verb *jahada" saw" which is the NP containing the trace of the NP Hasan.

(136c) is a LD structure generated at the base so that Case inheritance does not apply. It could also be analyzed as involving movement in which case it inherits its nominative Case from the subject NP containing its trace at S-structure. (136d) can only be a base-generated LD structure for the same reasons that exclude (136a).

That Case inheritance is available in the grammar as a mechanism which ensures the assignment of Case to lexical NPs is also established by wh-constructions. Consider to this effect (137):

(137)  *?ayy-a malikin ra?ay-ta t
       which-acc king saw-2sgm
       Which king did you see?

The NP *?ayy-a in (137) bears accusative Case signalled morphologically as -a. It is extracted from a complement position to which V assigns accusative Case. The NP must inherit the same Case assigned to its trace. If it has a different Case, viz. nominative signalled by -u, or genitive signalled by -i, the sentence will be ungrammatical, as (138a) and (138b) illustrate respectively:

(138)
a. *?ayy-u malikin ra?ay-ta t
b. *?ayy-i malikin ra?ay-ta t

If the NP is extracted from subject position, it must have nominative Case (139a), which surfaces as -u, and not accusative Case (139b), which surfaces as -a, or genitive Case (139c), which surfaces as -i:

(139)
a. ?ayy-u malik-in t ra?aa-ka
   which-nom king-gen saw-ob cl
   "Which king saw you?"
Thus, Case inheritance accounts for the pattern of ungrammaticality.

If, by the Case Filter, a wh-phrase must have Case, then I would expect ungrammaticality to result if the variable that the wh-phrase is bound to lacks Case, since the wh-phrase would not be able to inherit Case. This expectation is fulfilled:

(140)

a. who, seems [ ti to like Mary ]
b. *who, does it seem [ ti to like Mary ]

(141)

a. John, is believed [ ti to have left ]
b. *who, is it believed [ ti to have left ]

A natural account of these facts is that a wh-phrase needs Case just like an NP in an A-position. who in the (b) sentences cannot inherit Case from its trace, which, while governed by seem and the passive form of believe, is not assigned Case; so that the sentences are blocked by the Case Filter.

Further support for the view of Case inheritance and Case conflict may derive from the contrast between cases like the following:

(142)

a. *inna al-humma: Zayd-an, ta-?Xω-u ti that the-fever Zayd-acc 3sgf-take-ind "(It is true that) the fever, it has affected Zayd"

b. *inna Zayd-an, al-humma: ta-?Xουθ-u ti

The NP Zayd-an in (142) has been extracted from an object position. Only (142a) is grammatical and (142b) is not. This contrast can be explained by assuming that the NP inherits the accusative Case assigned to it in its D-Structure position and by the notion of Case conflict which prohibits the assignment of two Cases to a single NP. No Case conflict arises in (142a), since the NP receives only one Case, the one by inheritance; thus, the sentence
is grammatical. (b) is ungrammatical because the NP has received two cases --
one by inheritance and the second by virtue of being governed by the
accusative Case assigning complementizer ?inna.

Case inheritance can also be argued for on the basis of extraction
involving independent pronouns. Consider the following:

(143)
a. ?iyya:ka<i> akram-tu <t_i>
you(acc.) honored-1sg
"You, I honored"
b. *?anta<i> akram-tu <t_i>
you(nom.), I honored"

Note that only (143a), in which the accusative form of the pronoun appears, is
grammatical; (143b), in which the pronoun appears in the nominative form is
not. The pronoun must inherit the Case assigned to its trace by the governing
verb. That it is governed and assigned accusative Case comes from the fact
that it can only appear as ?iyya:ka, not ?anta at D-Structure:


Finally, consider the contrast between (145a) and (145b) which
illustrates the conspiracy between Case inheritance and Case conflict. -hu in
(145b) is expletive:

(145)
a. *danan-tu tafa:m-a-ka<i> ?a:kilan <t_i>
believed-1sg food-acc-your Zayd-nom eating
"I believed Zayd to have eaten your food."
b. danan-tu-hu tafa:m-a-ka<i> ?a:kilun <t_i>
believed-1sg-expl cl food-acc-your Zayd-nom eating

In (145) the NP tafa:maka has been moved from the object position occupied
by t. (145b) which has the clitic -hu is grammatical, (145a), however, which
lacks this clitic is not grammatical. In (145a) the NP tafa:maka is assigned
two accusative Cases --- one by inheritance and another by the matrix verb which governs it, thus a Case conflict is incurred.

In (145b), on the other hand, no Case conflict is incurred. The Case of the matrix verb is absorbed by the clitic, the NP *tate:maka* is assigned a single Case, the one by inheritance, and thus the sentence is grammatical.

Chomsky (1981), among other advocates of the visibility hypothesis (see below) assume that the Case Filter is not relevant for NPs in \(A\)-positions because these NPs are not arguments, and thus it is assumed that they do not require Case-marking. But they clearly do as was seen in this chapter and in chapter (3). ECM constructions to be discussed in the next chapter argue convincingly that the NP adjoined to CP must be assigned Case, although it is in an \(A\)-position. In what follows, I extend the Case Filter to NPs in \(A\)-positions.

4.9 Extending the Case Filter to \(A\)-Positions

Chomsky (1981) assumes that lexical NPs in \(A\)-positions [SPEC, CP] and adjoined positions do not undergo the Case Filter since such NPs are not in argument position. This is because Chomsky assumes that the Case Filter is entirely derived from the visibility hypothesis, which is a condition on \(\Theta\)-role assignment to \(A\)-chains. Therefore, he assumes that the domain of Case inheritance is restricted to \(A\)-chains due to the visibility of \(\Theta\)-roles. \(A\)-chains are not assigned a \(\Theta\)-role, and thus it is assumed that they are not within the domain of the Case Filter. It remains, however, most unclear why a filter based in abstract morphology should be sensitive to the distinction between \(A\) and \(A\)-positions.

The constructions discussed in this study indicate that this approach is inadequate. It was argued in the previous chapter that Ld'd NPs and wh-prase must be Case-marked. As argued in this section, topicalized NPs require
Case-marking. Base-generated NPs in an A–position adjoined to CP (ECM'd NPs), which will be investigated in the next chapter, must be assigned Case. None of these NPs are part of A–chains, but nevertheless, they have to be Case–marked.

To account for Case–assignment to the NPs in these constructions, the Case Filter has to hold for lexical NP's in spite of the fact that they are not part of an A–chain. I expand the domain of the Case Filter and thus Case inheritance to include A–chains, informally defined as chains whose head (the structurally highest member) is in an A–position. An A–chain is a chain whose head is in an A–position. Case inheritance is as follows:

(146) Case Inheritance:
If a lexical NP_x is in a chain (A–chain or A–chain) containing a Case–marked position, then NP_x has Case.

Case inheritance is thus a property of chains; an NP in a Caseless position (not assigned Case directly) can pass the Case Filter if it is in a chain that contains a Case-marked position. This property is Case inheritance.

A chain in the sense that I shall be using the term is informally defined as follows: A chain is a sequence of categories at S–structure coindexed by move–α, each member except the head (the first member) is a trace of the first member. I restrict the categories relevant to the construction of chains to NPs.

Details of the theory of chains need to be worked out, and aspects of the theory of Case, as it relates to other sub–theories, remain to be discussed. This will be done in chapter (6), wherein I shall detail an approach to chains and Case that takes a quite different tack from those generally assumed.

Now, I turn to another Case related property --- that of adjacency. I argue for an adjacency condition on Case and mood assignment.
4.10 Adjacency

It is suggested in Chomsky (1981), and discussed in more detail in Stowell (1981), that Case is assigned only to an adjacent element. Stowell proposes the parameter of Case adjacency to account for the position of elements. Case adjacency simply states that adjacency of some sort is a condition on Case-assignment. In other words, if an NP is not adjacent to a Case assigner, Case may not be assigned, the NP will receive no Case, and the Case Filter will be violated. Stowell's basic argument in favour of this condition is that an unextraposed NP complement must precede a PP complement (147a), and in English, adverbs may not intervene between a verb and the bare NP that follows it (147b, and 148).

(147)
a. *John removed from the trash can the cups.
b. *John opened quickly the door.

The value of the adjacency parameter may be set differently for different languages. In Warlpiri, for example, no adjacency is involved in the assignment of Case (Travis 1984).

Stowell suggests that that the exact definition of the notion 'adjacency' may vary across languages, as adverbs may intervene between Case assigners and Case assignees in French (149a). Languages that require adjacency for Case-assignment may require strict adjacency, as in English, or argument adjacency, as in French:

(148)
a. I like books very much
b. *I like very much books

(149)
a. J'aime beaucoup les livres.
   "I like very much the books"
   "I like books very much"
b. *J’ai mis sur la table les livres
   I have put on the table the book
   "I put the book on the table."

In (148), we see that an adverb cannot be interpolated between the Case assigner and the Case assignee. In French, however, an adverb may be interpolated, but not another argument. It is strict adjacency, then, that is crucial for English, and only argument adjacency that is crucial for French.

Like French, Italian allows adverbs to intervene between Case assigners and assignees:

(150) Mario ha letto attentamente un libro
   "Mario has read attentively a book"

Thus English on one hand and French and Italian on the other have slightly different definitions of adjacency; for the latter two languages adjuncts are not taken into consideration in determining adjacency.

Case-assignment to a lexical subject NP in English is also not subject to a strict adjacency condition since adverbs may intervene between the Case assigner which is the tensed INFL, and the subject. The adjacency condition on Case-assignment is thus a somewhat variable notion and should not be taken to always mean strict adjacency.

I shall argue that Case-assignment, as well as mood-assignment for Arabic, observe a condition of strict adjacency. In other words, \( \alpha (\alpha = \text{a Case assigner or a mood assigner}) \) must be adjacent to \( \beta (\beta = \text{NP or V}) \) to which it assigns the feature \( \gamma (\gamma = \text{Case or mood}) \).

4.10.1 Case Adjacency

A number of facts in Arabic provide evidence that an adjacency requirement is imposed on the assignment of Case in Arabic. The facts are based on the following:
A. The occurrence of a corroborative element -- a sentence emphizer -- *la*, boldfaced and glossed in (151b) as corrob. Compare (151a) and (151b):

(151)

a. danan-tu Zayd-an ya-hlum-u
   believe-1sg Zayd-acc 3sgm-dream-ind
   "I believed Zayd to be dreaming"

b. danan-tu *la*- Zayd-un/*-an ya-hlum-u
   believe-1sg corrob-Zayd-nom/-acc 3sgm-dream-ind
   "I believed Zayd to be dreaming."

B. The occurrence of a pleonastic pronoun *ma:* after psych-verbs. The pronoun appears (boldfaced) in (152b); compare (152a) and (152b):

(152)

a. danan-tu Zayd-an qa:?im-an
   believe-1sg Zayd-acc standing-acc
   "I believed Zayd to be standing."

b. danan-tu *ma:* Zayd-un/*-an qa:?im-un/*-an
   it nom/-acc nom/-acc
   "I believed Zayd to be standing."

c. The occurrence of a negator *la:* that appears in boldface in (153b); compare (153a) and (153b):

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25 Note that INFL does not assign Case to the left, as is clear from the contrast between (151a) in text and the following sentence where the NP Zayd bears nominative Case:

(1) danan-tu Zayd-un ya-hlum-u
   believe-1sg Zayd-nom 3sgm-dream-ind
   "I believed Zayd to be dreaming"

The NP Zayd appears in [spec, IP] in both sentences. It is assigned accusative Case by the matrix verb in (151a), whereas it is assigned nominative Case in (1) and the latter is ungrammatical. This shows that INFL in Arabic does not assign Case leftward, thus [spec, IP] is not in the Case-assignment domain of INFL. This situation is in contradistinction with English:

(2) a. John believes [ she is a cultured woman ]
   b. *John believes [ her is a cultured woman ]

Unless I make a highly dubious assumption that INFL is not a Case assigner in Arabic, I am left with the reasonable assumption that INFL, like other Case assigners, assigns its Case to the right. The contrast noted here supports the assumption that direction of Case-assignment is subject to parametric variation across languages, and perhaps language-externally. In English, for example, the relative order of the verb and its subject follows from the constraint that the functional element, INFL, may assign Case to the left. The relative order of the verb and its complement follows from the fact that lexical heads assign Case to the right.
(153)

a. َالِمُتِّع ْزَيْدَان ْؤُمَارَان
knew-1sg Zayd-acc standing-acc and ūmar-acc
"I knew Zayd and ūmar were standing."

b. َالِمُتِّع ْلا: ْزَيْدَان/(-ان) ْؤُمَارَان/(-ان)
not and
"I knew neither Zayd nor ūmar were standing."

d. The occurrence of the interrogative element ؟أ (boldfaced) and glossed as 'did' in (154b); compare (154a) and (154b):

(154)

a. َالُنِت ْزَيْدَان ْؤُمَارَان
believed-1sg Zayd-acc standing-nom
I believed Zayd to be standing-nom

b. َالُنِت ْأ-ْزَيْدَان/(-ان) ْؤُمَارَان/(-ان)
did-2sgm
"Did you believe Zayd to be standing?"

e. The occurrence of an expletive pronoun ما: 'it' (boldfaced) with the accusative Case assigning complementizers ؟ينّا 'that' (155), and َانّا 'as though' (156):

(155)

a. ؟ينّا ْزَيْدَان ْأسدَان
that Zayd-acc lion-nom
(It is) as if Zayd is a lion."

b. ؟ينّا ما: ْزَيْدَان/(-ان) ْأسدَان
it nom
(It is that) Zayd is a lion."

(156)

a. َانّا ْزَيْدَان ْأسدَان
as if Zayd-acc lion-nom
"(It is) as if Zayd is a lion."

b. َانّا ما: ْزَيْدَان/(-ان) ْأسدَان
nom
"(It is) as if Zayd is a lion."

In all the (a) sentences above, the NP ْزَيْدَان is governed and assigned accusative Case by the governing head; the accusative Case
surfaces as -an. In the (b) sentences, however, the accusative Case cannot be assigned and the NP must appear in the nominative Case, signalled by -un. In (151b) the corroborative element la - intervenes between the verb and the NP, in (152b) ma: intervenes; in (153b) la: intervenes; in (154b) the question element ?a - intervenes; in (155) and (156) the expletive pronoun ma: intervenes between the accusative Case assigning complementizers and the NP Zayd so the Case assigner can no longer assign accusative Case to the NP since the two elements are not adjacent. Thus the sentences fail. Interestingly, the insertion of these elements, and the fact that Ld'd NPs in Arabic has a recourse to a default nominative Case in the absence of a Case assigner save these sentences. As the morphology indicates, the NP is assigned the default nominative LD Case, signalled by -un instead of the accusative Case which is assigned in the (a) sentences.

In an intriguing manner, the intervening elements rescue the structure from Case conflict – that is, the assignment of two Cases to a single NP --- one accusative by the verb and the other nominative by default. See chapter 3, section (3.16.4) on Case conflict.

The condition of Case adjacency also accounts for the contrast between the sentences in (157):

(157)

a. ka:na Zayd-un ?a:kilan tafa:m-a-ka
   was Zayd-nom eating food-acc-your
   Zayd was eating your food."

b. *?a:kilan ka:na Zayd-un tafa:m-a-ka
   eating was Zayd-nom food-acc-your

c. tafa:m-a-ka, ka:na Zayd-un ?a:kilan ti
   food-acc-your was Zayd-nom eating

(157a) is a well-formed sentence since no Case adjacency violation is incurred. Each of the Case assigners, INFL, which assigns nominative Case to
the subject NP Zaydun and ?a:kilan, which assigns accusative Case to the object NP ta:famaka are adjacent to the Case recipients. (157b), however, is not a well-formed structure since ?a:kilan is not adjacent to ta:famaka. In (157c), the object ta:famaka is extracted, leaving t in its D-Structure position. The sentence is well-formed although the NP ta:famaka is not adjacent to its Case assigner ?a:kilan at S-Structure. In this Case I am assuming that ?a:kilan assigns the accusative Case to t, which is adjacent to it, and that the Case is inherited by the extracted NP.

4.10.2 Mood Adjacency

In the section to follow, I will attempt to show that mood assignment in Arabic also requires adjacency.

There are three complementizers in Arabic which assign a subjunctive mood muda:rif mansuub to a following verb, in addition to the negator lan 'not', which is also a subjunctive mood assigner. The subjunctive mood surfaces as -a. The complementizers are: kay 'so that', ?%an 'then', and ?an 'that'. They appear in boldface in the data below. The verb must immediately follow these complementizers. Similarly, the verb must be adjacent to lan. Consider the following sentences introduced by the negator lan (subj = subjunctive):

(158)

a. lan ?adrib-a Zayd-an wa-lla:hi
   not hit-subj Zayd-acc by-Allah
   "I shall not hit Zayd by Allah."

b. wa-llaahi lan ?adrib-a Zayd-an
   by-Allah not hit-subj Zayd-acc

c. *lan wa-lla:hi ?adrib-a Zayd-an
   not by-Allah hit-subj Zayd-acc
(158a-b) are grammatical since the oath phrase *walla:hi* appears in final and initial positions respectively. (c) is ungrammatical since the mood assigner *lan* is separated from the verb *?adrib* by the oath phrase, giving rise to an adjacency violation, and thus the sentence is ruled out.

Similarly, *lan* cannot be separated from the verb by a conditional phrase, as illustrated below:

(159)

a. *?in tadrib-ni lan ?adrib-a-ka*
   
   "If you hit me, I will not hit you."

b. *lan ?adrib-a-ka ?in tadrib-ni*
   
   not hit-subj-you if hit-me

c. *?lan ?in tadrib-ni ?adrib-a-ka*
   
   not if hit-me hit-subj-you

The conditional phrase *?in tadrib-ni* in (159a) is placed in initial position. In (159b) it is placed in final position. Both sentences are grammatical. In (159c) it is placed between the subjunctive mood assigner *lan* and the mood assignee, namely the verb *?adrib*, blocking the assignment of subjunctive mood. Thus, the sentence is ruled out.

Another argument for the adjacency condition on mood-assignment comes from Topicalization with a conditional mood *jazm* assigning complementizers, such as *?in 'if'.

As I argued in (4.8.3), topicalized NPs move to a position adjoined to IP (a position which immediately follows the complementizer). They cannot be adjoined to CP (a position which precedes the complementizer). All the complementizers used in (4.8.3) to illustrate Topicalization were non-mood assigners. Since they are non-mood assigners, they can be directly followed by a topicalized NP; in other words, a topicalized NP can intervene between the complementizer and the verb.
Now, I will argue that when a mood assigning complementizer is used, the topicalized NP must be adjoined to CP, not to IP; i.e, the topicalized NP cannot be interpolated between the complementizer and the verb since this will result in an adjacency condition violation on mood-assignment. Consider the following sentences: (160a) is a regular non-topicalized sentence; (160b) illustrates topicalization to CP, (160c) illustrates the impossibility of topicalization to IP, since the conditional mood assigner ?in is not adjacent to the verb. This mood is marked morphologically by the deletion of a final vowel sukû:n:

\[(160)\]

\[\begin{array}{llll}
\text{a.} & \text{?in} & \text{tukrim} & \text{Zayd-an} & \text{yu-krim-ka} \\
& \text{if} & \text{honour} & \text{Zayd-acc} & \text{3sgm-honour-you} \\
& & & & "If you honour Zayd, he will honour you"
\end{array}\]

\[\begin{array}{llll}
b. & [\text{CP} \text{Zayd-an}_i [\text{CP} \text{?in} [\text{IP} \text{tukrim} \text{yu-krim-ka} \text{t}_i ]] \\
& \text{Zayd-acc} & \text{if} & \text{honour} & \text{3sgm-honour-you}
\end{array}\]

\[\begin{array}{llll}
c. & *[\text{CP} \text{?in} [\text{IP} \text{Zayd-an}_i [\text{IP} \text{tukrim} \text{yu-krim-ka} \text{t}_i ]] \\
& \text{if} & \text{Zayd-acc} & \text{honour} & \text{3sgm-honour-you}
\end{array}\]

(160c) is ungrammatical since the NP Zayd-an intervenes between the subjunctive mood assigner ?in and the verb tukrim, violating the mood adjacency condition.

Recall in sections (3.16.3 and 4.14), it was argued that a topicalized NP cannot move an adjoin to IP if at S-structure, the NP would be governed and assigned Case by the accusative Case assigning complementizer ?inna/?anna (a process that is generally possible otherwise). This is because the NP would receive two Cases, one from its D-structure position by inheritance, and the second time from the governing complementizer. This is illustrated in the contrast between the sentences in (161), repeated below, in which the NP Zayd has been topicalized:
a. ʔinna al-hummaa Zayd-anī ta-ʔxuth-u ti
that the-fever Zayd-acc 3sgf-take-ind
"(It is true that) the fever, it has affected Zayd"

b. *ʔinna Zayd-anī al-hummaa ta-ʔxuth-u ti

I ascribed the contrast in (161) to Case conflict; in effect, the NP Zayd in (a) receives only one Case, while in (b) it receives two Cases from two different sources, once from its trace which is a complement of a transitive verb, and once again from the complementizer ?anna by direct assignment.

At this point, it seems that adjunction to IP would be possible, if it does not involve Case conflict -- that is if the NP at S-structure receives only one Case. This is precisely the context in (162) with the complementizer ?an, which unlike ʔinna/?anna, is not a Case assigner:
The structure in (162), however, is not available, as (163) illustrates.

Topicalization with clitics (b) and without clitics (c) are both excluded; (a) a regular non–topicalized sentence, is available:

\[(163)\]

a.  ?arad-tu  ?an  ?adrib-a  Zayd-an
    wanted1sg that hit-subjunctive Zayd-acc
    "I wanted that, I would hit Zayd"

b.  *?arad-tu  ?an  [i̱  Zayd-an  [i̱  ?adrib-a  t  ]]  
    wanted1sg that Zayd-acc hit-subjunctive
    "I wanted that, Zayd I hit"

c.  *?arad-tu  ?an  [i̱  Zayd-an  [i̱  ?adrib-a-hu  ]]  
    obcl

While Case theory does not rule out (163b, c) since Case conflict does not arise, the requirement that the mood assigner be adjacent to the assignee is
violated, and the sentences are thus barred. What this shows is that while the
adjunction site is open at S-structure, the licensing condition of adjacency
intervenes to bar ungrammatical derivations.

I have presented arguments for Case and mood adjacency. Case-
assignment and mood-assignment are parallel in that the element assigning the
feature Case/mood must be adjacent to the element to which it assigns that
feature. The ungrammatical cases are precisely those in which a violation of
the adjacency condition is incurred.

4.11 Final Summary and Conclusions

This chapter focused on constructions involving movement: Wh-
questions and topicalization. The landing sites of wh-movement and
topicalization are distinct. wh-phrases move to the specifier of CP; topicalized
NPs move and adjoin to IP. Topicalization, however, can also be adjunction to
CP by movement.

Complement/non-complement asymmetries in Arabic were discussed,
and accounted for in terms of the notion barrier as incorporated into the ECP,
together with using features of Lasnik and Saito's analysis (forthcoming). Then
the discussion focused on subject/subject asymmetries and were accounted for
by the same principle. With respect to the ECP, the principal consequence of
the reasoning in this chapter is that adjunction to IP raises a barrier blocking
extraction over a topic from properly ungoverned positions. Another important
result relevant to the ECP is that the obligatory presence of an overt clitic
coidxed with a variable trace. The ECP forces the presence of the clitic to
permit the variable to be properly governed.

There are essentially two important results emerging from this chapter
with respect to Case theory. First, there is evidence from the analysis of wh-
questions, as well as from the analysis of topicalization that Case inheritance plays a significant role in the grammar. The domain of Case inheritance has been extended to cover lexical NPs in $\bar{A}$–positions, thus extending the domain of application of the Case Filter. NPs in $\bar{A}$–positions inherit Case in the same way as NPs in A–positions do.

Secondly, two properties which are regulated by the Case Filter have been defended in this chapter—Case conflict and Case adjacency. These properties provide strong empirical motivation for Case theory involving such primitive syntactic entities.

Finally, a condition of adjacency on mood–assignment has been introduced and defended, a condition which is analogous to Case adjacency requiring that the mood assigner be adjacent to the mood assignee in order for the latter to properly receive a mood feature.

Based on extraction, I argued in favour of the principles of Case inheritance and Case conflict. Finally, I argued that Case–assignment and mood–assignment in Arabic require adjacency.
5.1 An Overview of Chapter Five

In this chapter, I examine the phenomenon of Exceptional Case Marking (ECM) constructions. I define Arabic ECM as those constructions in which an NP within an embedded complement clause is acting in some respect more like an object of an immediately higher verb than a subject of the following verb. The object–like behaviour of this NP (ECM’d NP) concerns the fact, for example, just like the object of a typical verb, it is assigned accusative Case by the higher verb. Moreover, just like the object of a typical verb, it may undergo "object–referring" rules in the main clause. For example, the ECM’d NP can be passivized, and can surface as a reflexive whose antecedent is the main clause subject. This will be shown in sections (5.2) and (5.4.4). ECM structures in Arabic are not string vacuous, and, unlike English, generally permit ECM to non–subject NPs. This will be illustrated by the data in section (5.3.1). It will be argued in section (5.4.2) that ECM in Arabic involves the base–generation of an NP in an A–position [α, CP], and, as in all non–string vacuous ECM structures and LD in Arabic, the ECM’d NP is coindexed with an NP pronoun in a Θ–position. Characteristically, this relation is unbounded and not subject to Subjacency, as will be argued in section (5.5).

Next, this chapter examines non–thematic subject constructions. These are constructions in which a non–thematic NP comes to act as a subject of a VP, and is coindexed with an embedded thematic NP position. I consider this NP to arise through movement from its D–structure position [α, CP] to the matrix subject position, rather than being base–generated in the subject position. This
movement is triggered by Case theory in the following way. Since the verbs involved in this construction are non-Case-marking verbs, which do not have a Θ-subject, then A-movement, essentially like Raising-to-Subject, can take place from the [α, CP] position to the matrix subject position.

5.2 ECM in English

In this section I briefly look at the phenomenon of ECM in English, which - as it has generally been assumed recently -- I consider to be the result of the subcategorization of certain verbs for IP complements. Consider the following sentences:

(1)
a. I consider John to be competent.
b. I expect John to do well.

It has been argued (Postal, 1974) that these sentences are best analyzed as involving Raising-to-Object, a process whereby the thematic subject of the embedded clause John is raised to a subcategorized non-thematic position to become the non-thematic object of the matrix verb. The Raising-to-Object analysis is incompatible with the Projection Principle, whose interaction with the Θ-Criterion excludes non-thematic complement positions. One of the fundamental hypotheses of the principles and parameters approach (GB theory) is that subcategorization entails Θ-marking, that is a lexical head may select for a complement only if it also assigns a Θ-role to it. This hypothesis limits the types of available lexical entries, which in turn restricts possible rule types. Movement of an argument from a Θ-position to another Θ-position is excluded since the moved argument ends up with two Θ-roles; hence Raising-to-Object is excluded. In order for John to appear as the subject of the embedded VPs to be competent and to do well, these VP's must assign to it a Θ-role (since the Θ-Criterion holds at D-structure). If expect has a direct object position, it must
Θ–mark it. Given the Projection Principle and the Θ–Criterion, then the NP John in (1) above cannot be considered an object of the matrix verb in the sense of being a sister to it. It must therefore be the subject of the clausal complement from which it receives a Θ–role. Since a Raising–to–Object analysis is unavailable within GB, Chomsky (1981) proposed an ECM analysis, whereby verbs like consider and expect trigger S–bar deletion and hence the embedded subject is governed and assigned Case by the governing verb 🅰. This is so because under Chomsky’s (1981) proposal, IP is not a maximal projection. However, this proposal is unworkable in a related case:

(2)  
a. *I consider [IP John being unscrupulous] to be unpleasant]  
b. I consider [IP PRO being unscrupulous] to be unpleasant]

The subject of the complements to consider in (2) are clausal gerunds, specifically IPs:

(3)  
a. I remember [IP him telling a story]  
b. I left without [IP him explaining the story]

If IPs are not maximal projections and are thereby always transparent to government, then John in (2a) should be able to receive Case from consider. This is apparently not possible, as the contrast between (2a) and (2ba) suggests.

---

1 Another reason for the S–deletion proposal was provided by facts pertaining to Subjacency. Since the clausal complement $X^{max}$ (5) does not block extraction, it is theoretically necessary to delete it. Under the proposal that S–deleting verbs in fact subcategorize for an IP complement, and under the version of Subjacency outlined in chapter 1, IP will not act to block extraction from within, since it is Θ–governed, hence not a barrier, and Subjacency facts are explained. S–deletion was also generally assumed in Raising predicates (i.e. predicates which have a clausal complement and a Θ–subject) in order for the subject trace to be properly governed by the matrix predicate:  
Louise seems [IP t₁ to have read the Quran]
But see the discussion around (2) in text.
Chomsky (1986b) solves both these problems with a definition of
government that not only correctly distinguishes between (2) and (4) but also
allows antecedent government to be defined in terms of government. The
leading idea behind his proposal is to define maximal projections as barriers to
government only when they fail to be in a particular relation with a Θ–marker.
See chapter (1) of this thesis for details.

If I assume that ECM in English is actually subcategorization by believe–
type verbs for IP as their clausal complements, then the structure of (1a) is as in
(4):

(4) They consider [IP John to be competent ]

This makes the S-bar deletion of Chomsky (1981) unnecessary since, assuming
the definition of government (cf. chapter 1), a governor α is able to govern into
the specifier of its governed category β. In (2) IP is a category governed by
consider and so is its specifier John. Since Case is assigned under
government, a verb taking an IP complement is able to assign Case to the
specifier of IP containing the clausal subject. In this view, the term ECM is a
misnomer, nonetheless, I will continue using it since it has become established.
In (5) below the matrix verb will govern the specifier of IP (the embedded
subject NP John) and will assign to it accusative Case as diagramed below:
That the subject John of the lower clause is assigned accusative Case is shown in (6a) where it appears as him, not he. That him is governed by the matrix verb is demonstrated by the fact that the embedded subject can be a reflexive coindexed with the subject of the matrix clause as in (6b). The reflexive must be bound in its local domain, so it must have a governor, and the local domain must be the IP containing expect: The ECP requires the trace of John to be properly governed, so proper government must be possible across IP in (6c):

(6)
a. They consider him/*he to be competent.
b. John expects himself to do well.
e. John is expected [IP ti to do well ]

The theory of Barriers outlined in chapter (1) interacts with the theory of small clauses (Chomsky, 1981, Stowell, 1983). In certain interesting respects,

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(5)

[+CA] = Case assigner

\[ \text{Case-assignment} \]

\[
\begin{array}{c}
\text{VP} \\
\downarrow \\
\text{V} \\
\downarrow \\
[+CA] \\
\downarrow \\
\text{IP} \\
\downarrow \\
\text{NP} \\
\downarrow \\
\end{array}
\]

That the subject John of the lower clause is assigned accusative Case is shown in (6a) where it appears as him, not he. That him is governed by the matrix verb is demonstrated by the fact that the embedded subject can be a reflexive coindexed with the subject of the matrix clause as in (6b). The reflexive must be bound in its local domain, so it must have a governor, and the local domain must be the IP containing expect: The ECP requires the trace of John to be properly governed, so proper government must be possible across IP in (6c):

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The theory of Barriers outlined in chapter (1) interacts with the theory of small clauses (Chomsky, 1981, Stowell, 1983). In certain interesting respects,

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2 Chomsky (1981: 107) defines a small clause structure as "a clausal structure lacking INFL and the copula". In the theory of small clauses of Chomsky (1981) and Stowell (1983), small clauses of type (7) in text are considered projections of their predicates. AP is considered a projection of intelligent and John its subject, receiving its q-role from the A head of AP, and its Case from consider. The verb in (7) subcategorizes for an AP, with the subject NP John analyzed as the specifier of AP. The subject, being in a specifier position, is by definition governed and assigned accusative Case by the verb (cf. the contrast between (7b) and (7c) in text above. Since the subject position is governed, PRO is excluded from such a governed position:

(1) *They consider [AP PRO [A intelligent]]
subjects of small clauses behave like a main clause object, thus sharing many of the properties of ECM clauses. For example they may undergo "object referring rules" in the main clause, such as accusative Case-assignment, reflexivization and passivization. Thus, Parallel to (1,3) we have (7), a typical small clause construction:

(7)

a. They consider \[ AP \] John \{ A intelligent \} 

b. They consider \[ AP \] him \{ A intelligent \} 

c. They consider \[ AP \] he \{ A intelligent \} 

d. They consider \[ AP \] themselves \{ A intelligent \} 

e. They are considered \[ AP \] I intelligent 

The main verb consider selects a proposition so that the bracketed AP should be clausal of some sort. Consider does not select the subject of AP John (John is not considered in this example), and pleonastic elements such as non-referential it may appear as the subject as in (8):

(8) They consider it obvious that John is intelligent.

This suggests that the bracketed AP complement in (7) is a subject–predicate structure.

Since consider Case–marks John, AP must not be a barrier for Case–marking, hence not a barrier for government if Case–marking takes place under

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The other type of small clause is the adjunct small clause, as in (2) with the structure

(3): John arrived nude.

(3) John, \[ VP \] arrived \[ AP \] PRO \{ nude \} 

They are not subcategorized for by the verb, but are adjuncts outside of the VP and outside of the government domain of the verb. This is why PRO is allowed as their subject, since it is an ungoverned position. The VP in (3) assigns a Θ-role to the matrix subject, while PRO receives its Θ-role from the predicate nude.

Williams (1980, 1983) develops a theory of predication to account for these structures. The main difference between the predication theory and the small clause theory is that while the small clause theory defines subject as \{ NP, X \}, the predication theory defines it as the external argument of a maximal projection. The latter theory does not view the subject and the predicate as forming one unit (clausal or otherwise), as in the small clause analysis.
government.\textsuperscript{3} This is so because \textit{consider} $\Theta$-governs the $X^{\text{max}}$ AP, voiding the barrierhood of AP, hence a reflexive and an NP trace are permitted in the subject position of AP.\textsuperscript{4}

5.3 Non-string Vacuous ECM

I will now turn to ECM in Arabic. Before the theoretical discussion of this construction, I will first present some of the data to be considered below.

5.3.1 The Data

Like English, Arabic allows ECM of subjects. However, unlike English, Arabic also allows ECM to a wide range of non-subject NPs.\textsuperscript{5} (8) below is a regular declarative clause. Notice that the ECM'd NP in all the examples below

\begin{enumerate}
\item\textsuperscript{3} Not surprisingly, the corresponding small clauses in Arabic behave in the same fashion:
\begin{enumerate}
\item a. \textsuperscript{(1)}
yatazibr-uuna [AP $\text{famr-an} [_{A} \text{fiakiy-an}]$
\text{consider-3mpl $\text{famr-acc intelligent-acc}$}
\text{"They consider $\text{famr}$ intelligent"}
\item b. \textsuperscript{b.}
yatazibr-u
[AP $\text{pro} [_{A} \text{fiakiy-an}]$
\text{consider-3plm-obj c1 intelligent-acc}
\text{"They consider him intelligent"}
\item c. \textsuperscript{c.}
yatazibr-u [AP $\text{huwa} [_{A} \text{fiakiyy-an}]$
\text{consider-3plm he intelligent-acc}
\text{"They consider he intelligent"}
\item d. \textsuperscript{d.}
yatazibr-u $\text{famr-un}[_{A} \text{nafs-a-hu} [_{A} \text{fiakiy-an}]$
\text{consider-ism $\text{famr-nom self-acc-him intelligent-acc}$}
\text{"famr considers himself intelligent"}
\item e. \textsuperscript{e.}
yustabar $\text{famrun}_{i} [_{A} \text{fiakiyy-an}]$
\text{is considered $\text{famr}$ intelligent}
\text{"$\text{famr}$ is considered intelligent"}
\end{enumerate}

The accusative Case, signalled morphologically by -\textit{an} is assigned by the matrix verb to the subject of AP, as AP does not act as a barrier for government of the subject by the matrix verb, since AP is L-marked by this verb. As expected, (b) is excluded because the nominative pronoun appears in the subject position of the AP small clause in stead of the accusative form. Since the subject position of AP is governed, it can be filled by a reflexive pronoun (d); no barriers intervene between the reflexive and its antecedent, and the reflexive is correctly bound in its local domain (the whole IP), in conformity with Principle A of the binding theory. By the same logic, assuming the ECP (1e) is permitted.

\textsuperscript{4} For a definition of the concepts of government and barrier cf. chapter 1.

\textsuperscript{5} Salih (1985) examines similar structures within Relational Grammar. My judgments differ from Salih's.
must be coindexed with a pronoun; the absence of a pronoun gives an ungrammatical result:

(8) hasib-tu ?anna Hind-an hadar-at il-ijtima:t-a
    thought-1sg that Hind-acc attended-3sgf the-meeting-acc
    'I thought that Hind attended the meeting'

(9) illustrates ECMing of subjects:
    (9) hasib-tu Hind-an ?anna-*(ha) hadar-at il-ijtima:t-a
    thought-1sg Hind-acc that-cl attended-3sgf the-meeting-acc
    'I thought, as for Hind she attended the meeting'

(10) illustrates ECMing of direct objects:
    (10) hasib-tu il-ijtima:t-a, ?anna Hind-an hadar-at-*?(hu,)
    thought-1sg the-meeting-acc that Hind-acc attended-3sgf-ob cl
    'I thought, as for the meeting Hind attended it'

(11) illustrates ECMing of oblique objects:
    (11) hasib-tu il-ijtima:t-a, ?anna Hind-an hadar-at ?ilay*(hi,)
    thought-1sg the-meeting-acc that Hind-acc went-3sgf to-ob cl
    'I thought, as for the meeting Hind went to it'

(12) illustrates ECMing of possessors:
    (12) hasib-tu Hind-an, ?anna sadiq-a-*(ha,) hadara il- ijtima:t-a
    thought-1sg Hind-acc that friend-acc(his) attended-3sgm the-meeting-acc
    'I thought, as for Hind her friend attended the meeting'

Where the ECM'd NP in the data above is a non-subject (an object or a possessor), it is coindexed with a phonologically null pronoun, which is itself coindexed with a clitic. However; when a subject receives ECMing as in (9), no clitic appears. The ECM'd subject NP is coindexed with AGR.


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6 I have coindexed the ECM’d NP with the clitic, although the clitic itself is not the pronoun. Recall how I briefly analyzed clitics in chapter 3.
There are some differences between B-verbs and W-verbs with respect to the type of complementizers they select to introduce sentential complements. There are two types of complementizers in Arabic: the accusative Case assigner ?anna and the mood assigner ?an. B-verbs select ?anna only except for hasiba and ra?a:, which can also select ?an. W-verbs normally select ?an, but they may also occur with ?anna.

ECM and embedded LD structures differ in a number of respects, an issue which I explore directly.

5.4 Differences between ECM and LD

In this section I will establish clear criteria for distinguishing ECM and LD. The criteria are based on the following differences between the two constructions.

5.4.1 Adjunction Sites

5.4.2 ECM is Adjunction to CP

Consider now the site of base-generation of the ECM'd NP (see section (5. 5) below for arguments that this NP is base-generated). Following the assumptions of sections (3. 7) and (3. 13) of chapter 3 regarding the position of the embedded Ld'd NP, the site of the ECM'd NP cannot be the specifier position of CP, SPEC, since SPEC is reserved as a landing site for wh-operators, and the ECM'd NP is not such an operator. That the aspecifier position of CP is reserved as a landing site for wh-operators can be seen from the fact that a wh-operator can appear in it alongside an ECM'd NP in the CP adjoined position:

---

7 This list is not necessarily an exhaustive list of ECM verbs in Arabic. The verbs listed here are those I have found to take ECM construction; other verbs may exist that I am unaware of at this time.
(13) ?a-danan-ta [CP Zayd-an, [CP kam marratan, [IP pro duriba t_1 t_k ]] did-know-2sgm Zayd-acc how many times was hit "Did you know Zayd how many times he has been hit"

Notice that the ECM'd NP Zayd can be coindexed with an embedded pronoun in positions other than subject. In (14) it is coindexed with an object; in (15) it is coindexed with a possessor:

(14) ?a-danan-ta [CP Zayd-an, [CP kam marratan, [IP daraba-hu pro Ali-un t_k ]] did-know-2sgm Zayd-acc how many times hit-3sgm-obcl Ali-nom "*Did you know Zayd how many times Ali hit him"

(15) ?a-danan-ta [CP Zayd-an, [CP kam marratan, [IP daraba Ali-un ?ab-a:-hu pro Ali-nom t_k ]] did-know-2sgm Zayd-acc how many times hit-3sgm Ali-nom father-acc-his "*Did you know Zayd how many times Ali hit his father"

The Structure-Preserving Constraint (Emonds, 1985) prevents a maximal projection from being in COMP. Since the ECM'd NP is a maximal projection, and since COMP is the head of CP, the ECM'd NP cannot be in COMP. I propose that the ECM'd NP is base-generated in a position adjoined to CP, [α, CP].

This position is dominated by CP and is sister to CP as shown in the structure (16). Thus, for an Arabic ECM sentence such as (10), I propose the following D-structure 8:

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8 The node "SPEC" in the structure (16) is represented only for ease of reference. It is not intended that the particular node "SPEC" exists as a grammatical entity. The notion of specifier is relationally defined. The term SPEC denotes a position that is immediately dominated by the X_max of a syntactic category. In other words, SPEC is merely a node label for parts of the structure of the phrase that may be filled by syntactic categories. It is not synonymous with the term specifier which denotes the class of determiners, quantifiers and possessors.
The position \([\alpha, \text{CP}]\) is an A-position, since no \(\Theta\)-role is ever assigned to it. An NP appearing in \([\alpha, \text{CP}]\) will be (by definition) governed by the matrix verb, and hence will be Case marked by this verb.\(^9\) That this NP is governed by the higher verb is evidenced by the fact that the NP can be an anaphor, a reflexive (17a) and a reciprocal (15b):

(17)

\begin{align*}
\text{danna} & \quad \text{\(\text{\textsc{Xa:lid-un}}_i\) \(\text{\textsc{nafs-a-hu}_{i,k}}\) \(\text{\?annahu} \quad \text{\textsc{ya-hlumu}}\)} \\
& \quad \text{believed} \quad \text{\(\text{\textsc{Xa:lid-nom}} \quad \text{self-acc-him}\)} \quad \text{that} \quad \text{\(3\text{sgm-drem}\)} \\
& \quad \text{"\textsc{Xa:lid} believed himself to be dreaming"}
\end{align*}

---

\(^9\) Shlonsky and Sigler (1986) examine similar structures in Berber. They argue that ECM’d NP’s in Berber are base-generated in a position adjoined to CP (\(\S\) for them), where the ECM’d NP receives Case-marking but not \(\Theta\)-marking from a higher verb.
b. danna al-qawm-u bard-u-hum bard-an "anna-hum yahlumuna dream
"The people believed each other to be dreaming.

Government and Case-marking of the specifier position falls under the definition of government and the conditions for Case-marking outlined in chapter 1. Hence I need not discuss it further here, but see section (5.7) below for arguments that the NP in the adjoined position [α, CP] must receive Case in conformity with Case theory. Since Case is assigned under government, [α, CP] must be a governed position.

5.4.3 Left Dislocation is Adjunction to IP

I argued in section (3.13) of chapter 3 that a Ld'd NP is base-generated in a second specifier position [α, IP], a position adjoined to IP. This is an A-position, since no Θ-role can be assigned to it. Of interest is that an embedded Ld'd NP always appears to the right of the complementizer, as shown by the examples under (105) in chapter 3. All those examples will be rendered

\[10 \text{ There are two basic constructions for expressing reciprocity in Arabic. The first structure exhibits two occurrences of the reciprocal } \text{bard}. \text{ The first occurrence of this expression is a construct phrase (genitive construction) to which a clitic in the plural form is attached. Further; it may independently have a GF (1a), or may be an appositive to another NP (1b). The second part is always indefinite, as indicated by the morpheme zero, and always has a GF different from that of the first:}

(1)

a. nadara bard-u-hum ?ilaalaa batd-in
looked some-nom-them to each other-indef
"They looked at each other"

b. nadara al-qawm-u bard-u-hum ?ilaalaa batd-in
looked the-people-nom some-nom-them to each other-indef.
"The people looked at each other"

The second construction involves a single occurrence of the expression bard, to which a clitic is optionally attached. (2a) contains the third person plural clitic -hlm, (2b) lacks a clitic:

(2)

a. nadara al-qawm-u ?ilaalaa ba9d-i-hlm
looked the-people-nom to each-gen-them
"The people looked at each other"

b. nadara al-qawm-u ?ilaalaa ba9d-in
looked the-people-nom to each other-indef.
"The people looked at each other"
ungrammatical if the Ld'd NP is placed to the left of the complementizer. This is in contrast to ECM, where we saw that the ECM'd NP always appears to the left of the complementizer. I proposed the following structure for embedded LD in which the Ld'd NP occurs in the position $[\alpha, \text{IP}]$:

\[(18)\]

5.4.4 Passivization and Reflexivization

The ECM'd NP can undergo passivization and reflexivization; a Ld'd NP cannot. ECM is shown in (19), where (a) shows a non-ECM'd NP structure, and (b) shows the same structure with an ECM'd subject, (c) shows passivization of (b), and (d) shows reflexivization, (e) and (f) illustrate a case of a passivized and a reflexivized ECM'd NP coindexed with a genitive site, (g) and (h) illustrate a case of a passivized and a reflexivized ECM'd NP coindexed with an object site:
a. danan-tu  [CP  ?anna [iP Hind-an [iP tahlum-u ]] believed-1sg that Hind-acc dream-3sgf-ind I believed that Hind is dreaming' 

b. danan-tu  [CP  Hind-an [CP ?anna-ha [iP pro [iP tahlum-u ]] believed-1sg Hind-acc that-cl dream-3sgf-ind 'I believed, as for Hind she is dreaming' 

c. dunnat Hind-un_i  [CP  t_i  [CP ?anna-ha [iP pro [iP tahlumu ]] believed Hind-nom that-cl dream-3sgf Hind was believed, that she was dreaming' 

d. dann-at  Hind-un_i  [CP  nafs-a-ha:; [iP (?anna-ha) [iP pro [iP tahlumu ]]] believed-3sgf Hind-nom self-acc-her that-cl dream-3sgf 'Hind believes herself that she is dreaming' 

e. dunnat Hind-un_i  [CP  t_i  [CP ?anna [iP sadiq-a-ha: ya-hlumu believed Hind-nom that friend-acc-her 3sgf-dream Hind was believed, that her friend was dreaming' 

f. dann-at  Hind-un_i  [CP  nafs-a-ha:; [iP (?anna [iP sadiq-a-ha: [iP believed Hind-nom self-acc-her that friend-acc-her ya-hlumu ]] 3sgm-dream 'Hind believes herself that she is dreaming' 

g. dunnat Hind-un_i  [CP  t_i  [CP ?anna [iP Zayd-an yu-hibbu-ha:] ] believed Hind-nom that Zayd-acc 3sgm-like-ob cl Hind was believed, that Zayd likes her' 

h. ?iflabar-at  Hind-un_i  [CP nafs-a-ha:; [iP (?anna [iP Zayd-an considered-3sgf Hind-nom self-acc-her that Zayd-acc yu-hibbu-ha: ]] 3sgm-like-ob cl 'Hind considered herself that Zayd likes her' 

LD is given in (20), where (a) is a structure with a Ld'd subject, (b) shows that the Ld'd NP cannot be passivized, and (c) shows that it cannot be reflexivized, (d) and (e) show the impossibility of passivizing and reflexivizing a Ld'd NP which refers to a genitive site, (f) and (g) show the impossibility of passivizing and reflexivizing a Ld'd NP which refers to an object site:
'I believe that Zayd is dreaming'

b. *yuṭṭaqadu Zayd-un, [%c p ?anna [%p t i [%p ya-hlumu ]]] believed Zayd-nom that 3sgm-dream
'Zayd is believed that he is dreaming'

c. *yaṭṭaqadu Zayd-un, [%c p ?anna [%p nafs-a-hu [%p ya-hlumu ]]] believe Zayd-nom that self-acc-his 3sgm-dream
Zayd believes that himself is dreaming'

d. *yuṭṭaqadu Zayd-un, [%c p ?anna [%p t i [%p ya-hlumu sadiq-u-hu ]]] believed Zayd-nom that 3sgm-dream friend-nom-his
'Zayd is believed that his friend is dreaming'

e. *yaṭṭaqadu Zayd-un, [%c p ?anna [%p nafs-a-hu [%p ya-hlumu sadiq-u-hu]]] believe Zayd-nom that self-acc-his 3sgm-dream friend-nom-his
Zayd believes that himself his friend is dreaming'

f. *yuṭṭaqadu Zayd-un, [%c p ?anna [%p t i [%p tu-hibu-hu Hind-un]]] believed Zayd-nom that 3sgm-like-cl Hind-nom
'Zayd is believed that Hind likes him'

g. *yaṭṭaqadu Zayd-un, [%c p ?anna [%p nafs-a-hu [%p tu-hibu-hu Hind-un]]] believe Zayd-nom that self-acc-his 3sgf-like-ob cl Hind-nom
'Zayd believes that himself Hind likes him'

5.4.5 The Behaviour of Pronominals

ECM structures also differ from LD in that when a pronoun (represented below as pro) is ECM'd, i.e. occurs in the position [α, CP], the pronoun must be disjoint in reference with the matrix subject, but when the pronoun is LD'd, i.e. occurs in the position [α, IP], it may or may not be disjoint in reference with the matrix subject:

(21) ECM
a. danna-hu Zayd-un [%c pro [%c p ?anna [%p Hind-an tu-hibbu-hu [%p ]]] believed-ob cl Zayd-nom that Hind-acc 3sgf-like-ob cl
'Zayd believed him, that Hind likes him'
To summarize, as a diagnostic test, I rely on the distinct properties of ECM and LD: while an ECM'd NP appears in a position to the left of the complementizer, a Ld'd NP appears to the right of the complementizer. I designated the position of an ECM'd NP as \([\alpha, \text{CP}]\), and the position of a Ld'd NP as \([\alpha, \text{IP}]\). An ECM'd NP can be passivized and reflexivized; a Ld'd NP cannot. An ECM'd pronoun (a pronoun in the position \([\alpha, \text{CP}]\) cannot be coindexed with the matrix subject; but, a Ld'd pronoun (a pronoun in the position \([\alpha, \text{IP}]\) can be coindexed with the matrix subject.

The facts concerning passivization and reflexivization are accounted for in the following way: the ECM'd NP can be passivized and reflexivized, since the NP is governed by a lexical head, the matrix verb. An ECM'd anaphor is also c-commanded and coindexed with the matrix subject in its minimal domain as required by principle A of the binding theory (cf. 1. 7. 4) chapter (1) for the definition of minimal domain). The Ld'd NP cannot be passivized, nor reflexivized because the anaphor (the NP-trace and the reflexive), being in the IP adjoined position will not be bound in its minimal domain — the domain containing the anaphor and its governor, the complementizer. This violates principle A of the binding theory. The facts concerning the behaviour of pronominals follow from principle B of the binding theory, which requires a pronominal to be free in its minimal domain. This correctly rules out coindexation between the ECM'd pronominal and the matrix subject, and it correctly rules in coindexation between the Ld'd pronominal and the matrix subject, since the two elements do not occur in the same minimal domain.
Having argued that the ECM'd NP occupies a second specifier position of CP, [α, CP], the question arises as to whether the ECM'd NP is moved to this position at S-structure or base-generated in it. In the following section, I argue that, like LD, ECM constructions are base-generated; i.e. no movement rule is involved in their derivation.

5.5 ECM is not Movement

First, consider the fact that ECM violates the complex NP constraint of Ross (1967), now subsumed under subjacency (Chomsky, 1981):

(22)

a. ?a'taqidu [CP Hindan [CP ?anna-hu [IP1 wasal [NP ar-rajulu
believe-1sg Hind-acc that-expl cl arrived the-man
[CP alla'ti [IP2 yuhibu-ha ]]]]
who 3sgm-like-ob cl
"I believe of Hind that the man who likes her arrived"

think-1sg Zayd-acc that-expl cl arrived the-woman
[CP allati [IP2 tuhibu sadi:qa-hu ]]]]
who 3sgm-like friend-gen cl
"I think of Zayd that the woman who likes his friend arrived"

In (22), the ECM'd NPs Hindan and Zaydan are linked to the clitics -ha and -hu respectively inside a relative clause. The coreferential linkage between the NPs and their Θ–position holds across two barriers (cf. chapter 1 for the definition of barrier), the bottommost CP, NP and IP₁. IP₂ is a BC, making the CP dominating it a barrier. NP is also a barrier since it is not L–marked, thus two barriers are crossed; yet the sentences are grammatical. The sentences will not be predicted to be grammatical, if one assumes that they are derived by movement, since they would violate Subjacency.

In addition, ECM'd NPs can be ECM'd arbitrarily far from their source clause. As seen in (23), the relation between the ECM'd NPs Hindan and Zaydan and their pronoun can hold across more than one complex NP:
I thus have evidence that ECM is not an instance of move-α. Rather the ECM'd NP is base-generated in the CP adjoined position. Since this position is an adjoined one, it is an Α–position. No Θ–role can be assigned to it, since it is structurally inaccessible to Θ–role assignment by the higher verb.

The Principle of Full Interpretation requires every element that appears in a well-formed sentential structure to be interpreted. Now I would like to ask the following question: how does the ECM'd NP, which bears no thematic relation to the verb, which governs it, receive an appropriate interpretation? This I address in the following section.

5.6 Interpretation of the ECM'd NP

I have already stated that the ECM'd NP, base-generated in a Θ–position, must be coreferent with a pronoun in a Θ–position within the embedded clause. The obligatory coreference relation should be clear from the data set under item (8-12), where the obliteration of the pronoun yields ungrammaticality. The presence of a lexical NP instead of a pronoun still gives a bad sentences, as shown by the contrast between (24a) and (24b):
(24)
a. danan-tu Hind-an, ?anna Xa:lid-an finda-ha, pro,
believed-1sg Hind-acc that Xa:lid-acc with-cl
"I believed of Hind that Xa:lid is with her"

b. *danan-tu Hind-an ?anna Xa:lid-an finda Zayd-in
believed-1sg Hind-acc that Xa:lid-acc with Zayd-gen
"*I believed of Hind that Xaalid is with Zayd"

(24a) is grammatical, since it contains a pronoun coindexed with the ECM'd NP Hindan. (24b), however is barred, since a lexical NP (boldfaced) appears instead of a pronoun.

The property of obligatory coindexation could be explained, if I assume the Principle of Full Interpretation, which says that every element must receive an interpretation in some manner, such as by being in a Θ–position or by being an operator binding a trace. Since the ECM'd NP is not in a Θ–position, nor is it a wh–operator, and since it must be interpreted, it needs to derive its Θ–reference by coindexation with a pronoun in a Θ–position within the embedded clause. Θ–connectedness appears to be the licensing factor in ECM constructions.

5.7 [α, CP] is a Case position

I shall now show that verbs which subcategorize for sentential complements, assign accusative Case to the NP base-generated in [α, CP]. A (partial) list of verbs which take sentential complements (ECM verbs) is given in (5. 3. 1) above with some representative sentences embedded under the verb hasiba 'think'. What is interesting about the examples in (9–12) is that the NP in [α, CP] is assigned Case by a verb, which is not its object. Put differently, the matrix verb Case–marks an NP which lies outside its Θ–grid, as illustrated in (25):
Consider what happens in case there is no sentential complement, just an NP object. The verb *samifa* 'hear' in (26a) has just an NP object, *Hind-an* to which it assigns accusative Case, signalled as -an. In (26b), however, it has a clause which includes an additional specifier position [α, CP] filled by the lexical NP *Hind-an* assigned accusative Case by the particular verb:

(26) 

a. *samif-tu* Hind[-an] 
heard-1sg Hind -acc

"I heard Hind"

b. *samif-tu* [CP Hind,[-an] [CP ?anna χa:lid-acc qa:bal-a-ha,]]
heard-1sg Hind, -*0* that χa:lid-acc met-acc-ob cl

"I heard of Hind that χa:lid met her"

Since Case shows up on the NP *Hind-an* in both sentences in (26), it is clear that the CP node dominating it and separating it from the verb *samifa* in (26b), is not a barrier for Case-marking, and hence cannot be a barrier for government, if Case marking takes place under government. This supports the definition of government in terms of exclusion and domination (cf. chapter 1).

I now show that the NP in [α, CP] must receive Case in conformity with Case theory. In (27a), the verb *farifa* 'know' appears in it detransitivized (passive) form. Accusative Case is absorbed by the passive morpheme *tu-* and so cannot be assigned to the object NP. In (27c) the NP *Hind* is adjoined to CP. The sentence is ungrammatical because the verb does not assign Case, yet the NP *Hind* is in a Case position; this constitutes a violation of Case theory. The sentence can be rescued if *Hind* moves to subject position, where it receive nominative Case from INFL, as in (27d):
We see, then, the NP in \([\alpha, CP]\) must be assigned Case by V. Under the definition of government outlined in chapter 1, a matrix verb governs its complement, and also the specifier and the head of this complement. Let us propose that while ECM predicates subcategorize IPs as a lexical property, Arabic predicates subcategorize CPs with an additional specifier position \([\alpha, CP]\). In other words, Arabic ECM verbs map their propositional argument onto a CP complement which then by the EPP require an NP that acts like a subject. Since Case is assigned under government, CP1 in the structure (30b) below should not constitute a barrier to government of NP by V:11 In this view of government and Case–marking, there is nothing exceptional about the Case–marking itself in constructions such as the following:

(28) They consider \([ip, John to be intelligent]\)

(29) danan-tu \([cp, \text{\textamr-an}}\] \([cp, \text{\textamr-an}}\] \([cp, ?anna \text{\textab-a:-hu} \text{\text\textakiyy-un}]\]

11 In the Barrier framework of Chomsky (1986b) assumed in this study, adjunction to a category \(\alpha\) voids the barrierhood of \(\alpha\). (30b) is an adjunction structure where NP is adjoined to CP, thus technically speaking, CP1 in the structure (30b) cannot be a barrier for government of NP by V.
The sub-trees in (30a) and (30b) illustrates: \([+CA] = \text{Case assigner}, (-\rightarrow = \text{Case-assignment})\):

(30)

a. English:

```
  VP
 / \  \
   V [+CA] NP
      \   \
       \ i
```

b. Arabic:

```
  VP
 /  \\
  V [+CA]  CP1
 /  \\
\[\alpha, CP\]  CP2
     \   \
      \ i
```

The presence of (30b) in Arabic versus its absence in English is a parameter of UG on which the two languages vary. The English setting for the parameter may be unmarked, the Arabic setting marked, in which case Arabic learners need positive evidence to set the value for the parameter away from the unmarked position. Note that the definition of government given in (chapter 1) would allow any number of NPs to be adjoined to CP and they would all be governed by the matrix verb as in (31). This, however, gives an ungrammatical output:

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Since the NPs in the CP adjoined positions must be Case-marked and the governing verb has only one Case to assign, such multiple ECM adjunctions are ruled out by Case theory, as illustrated by the unacceptability of the sentences in (31).

It should be recalled that this proposal and Case theory in general is concerned with abstract Case and not morphological Case. There are in fact examples of double morphological Case marking, as in Quechua, Russian (cf. Koopman 1984: 147) and Walpiri (Vergnaud, 1982, chapter 2, footnote 17). Lefebvre and Muysken (1988) argue that "subject to object Raising" construction in Quechua involves double Case-marking. They define this phenomenon as "move CASE" and argue that it does not result in Case clash since only one of the Cases is Θ-related. The rarity of such examples suggests that, in the unmarked Case, morphological Case marking follows from abstract Case marking. (cf. Vergnaud, 1982) for elaborate discussion of this topic.

One prediction made by this analysis is that a category which cannot receive Case should not surface in the CP adjoined position. This turns out to be true, as examples (32a) and (32b) demonstrates: The second CP node together with the complementizer ?anna are suppressed:

(32)

"I believe of Hind, of ?anna, he likes her"

"I thought of the report, of ?anna that his friend wrote it"
I can account for these facts straightforwardly with Stowell's Case Resistance Principle (CRP). Stowell proposes that a node of a Case-assigning category, i.e., a projection of P, V or AGR may not itself be Case-assigned, and formulates the CRP as follows:

(33) Case Resistance Principle (Stowell, 1981)

Case may not be assigned to a category bearing a Case-assigning feature.

This means that PP, VP and a tensed clause (the latter is the projection of AGR) may not appear in Case-marked positions at S-structure.12

Based on the binding theory, I now provide support for the view that the matrix verb governs the ECM'd NP.

5.8 The Binding Domain of the ECM'd NP

I now show that the binding domain for NPs in the CP adjoined position is the matrix IP, thereby further supporting the view that a matrix verb governs the ECM'd NP.

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12 Stowell's evidence for the CRP is as follows. PPs do not appear in the following Case-marked positions. Subject of a sentence with a Case-assigning complementizer:

(1) *It would be nice for on the counter top to have a nice paint job.
Affixed with I-/s/:
(2) *Paul protested in the park's having been chosen for the rally.
Undergoing of -insertion:
(3) *Paul's shooting of at the bear.
Stowell, however, concedes that PPs occur in the subject position of a copular clause, which is a Case-marked position in the following examples, which he cites on page 225:
(4)
a. Under the stars is a nice place to sleep.
b. Is under the stars a nice place to sleep?
As such, the CRP is not without exceptions in its application to PPs.
In (34a) below, the reflexive pronoun must be bound in the matrix IP. The ungrammaticality of (34b) is due to the gender mismatch between the antecedent and the reflexive:

(34)
a. "?iftabar-a Zayd-un, nafs-a-hu, anna Hind-an tu-hibu-hu consider3sgm Zayd-nom self-acc-him that Hind-acc 3sgf-like obcl "Zayd considered himself that Hind likes him"
b. "*?iftabar-at Hind-un nafs-a-hu ?anna Zayd-an yu-hibu-ha considered-3sgf Hind-nom self-acc-him that Zayd-acc 3sgf-like-her "Hind considered himself that Zayd likes her"

Now, I turn to the interpretation of the data under discussion with respect to the theory of chains and Case in UG. To account for the Arabic data, I propose that some aspects of the theory need to be modified and expanded upon slightly. The modifications will supplement and reinforce the underlying principles of the GB theory.

5.10 Visibility

Now, I would like to ask two related questions. The first one, which I raised in section (5.6), concerns how non–thematic NPs (ECM'd, Ld'd, topicalized and Wh-questioned NP's) are interpreted, since the position in which they appear is not assigned a Θ–role. The other question is why do the NP's in question require Case, since in the Case and chain theories of Chomsky (1981, 1986a,) and Stowell (1981) chains are formed on A–positions and the Case Filter applies only to such chains as a requirement on the visibility of Θ–roles. This is because, it is generally assumed that only A–chains include Θ–positions.

Chomsky proposes principle (35) for Case–assignment and the Case Filter as in (36):
The chain $C = (\alpha_1, \ldots, \alpha_n)$ has the Case K iff for some $i$, $\alpha_i$ occupies a position assigned K by $\beta$.

(38) Every lexical NP is an element of a chain with Case.

$\Theta$–role assignment is determined by the principle (43):

(39) Suppose that the position P is marked with the $\Theta$–role R and $C = (\alpha_1, \ldots, \alpha_n)$ is a chain, then C is assigned $R$ by P iff for some $i$, $\alpha_i$ is in an A-position P and C has Case or is headed by PRO.

There are two basic assumptions underlying the Case and chain theory outlined above. The first one is that the Case Filter (38) applies only to A–chains (cf. also Stowell, 1981) due to visibility requirements since these are chains which will be visible for $\Theta$–role assignment in the LF component. Thus, the Case Filter is derived from the visibility hypothesis. The visibility hypothesis is the assumption that A–chains are invisible to $\Theta$–role assignment unless they bear the feature of Case, or are headed by the phonologically empty element PRO.

Chomsky (1986a: 94) puts the notion of visibility as follows: an NP "can receive a $\Theta$–role if it is in a position to which Case is assigned or is linked to such a position" as in the following where the non–Case–marked NP man is linked to the Case marked expletive there:

(40) There, is a man, in the room.

The linked elements of the expletive-argument pair (there, a man) behave in the manner of a chain with respect to the Visibility condition and other aspects as well. The first member is in a Case–marked position and the final member is in a theta-position. The Case is transferred from the first member to the final

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13 Notice that PRO is a problem for the visibility hypothesis since it is made visible by stipulation. The definition in (39) encompasses an unnatural disjunction between the feature of Case and PRO.
element which is now visible for $\Theta$-marking, as in the case of a chain. The 
expletive argument pair then has the properties of chains with respect to Case 
theory, theta-theory and the binding theory. The head of the chain is Case-
marked, the chain terminates in a $\Theta$-position, and the expletive there binds the 
argument man.$^{14}$

In terms of this theory, the visibility hypothesis subsumes the Case Filter, 
which is now viewed as a condition on the assignment of $\Theta$-roles at LF. An 
argument must have Case, otherwise it will not be receive a $\Theta$-role and will not 
be licensed. Thus, the Case Filter follows from the Visibility Condition. Notice 
that this crucially entails that the Case Filter holds for A-chains only since $\bar{A}$-
chains are never in a context of $\Theta$-role assignment.

The constructions discussed in this study indicate that the visibility 
hypothesis in the strong sense - i.e. where the Case Filter is entirely derivable 
from the $\Theta$-Criterion cannot be maintained. I have shown previously that 
ECM'd NP's which are not in $\Theta$-chains do in fact require Case- marking. The 
same holds for Ld'd and topicalized NPs. These NP's are in $\bar{A}$-adjoined 
positions to which no $\&$role is assigned. Furthermore; there are cases of ECM 
and LD, to be discussed below in section (5. 12), where the ECM'd NP and the

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$^{14}$ As noted by Chomsky, such a chain violates principle (C) of the binding theory, since it 
involves binding of an R-expression a man by there in an A-position. Thus such a chain 
in which the argument is not the head of the chain, and in which the argument is A-bound 
by a non-argument has to be treated in a special way. Notice that expletive-argument pair 
chains also violate principle (B) of the binding theory, since pronouns should be A-free in 
their governing category.

One could also imagine a case where principle (A) would be violated, in case the 
initial element is an anaphoric trace (NP-trace) that is assigned a $\Theta$-role. This gives rise to 
an argument anaphor bound by a non-argument head.

There are at least two ways to circumvent the effects of the binding theory. One is to 
stipulate that binding of an argument by an expletive does not fall under the binding theory. 
The other way is to argue that principle (C) should be eliminated, or to assume that principle (C) 
does not apply to expletive argument chains, and thus a violation of principle C is avoided. 
But then the same assumption and similar arguments would have to be made for principles 
(A) and (B).
Ld'd NP are not even coindexed with a Θ–position. Yet, these NPs must be Case-marked.

In all explications of Case and chain theories, A–adjoined positions do not form an A–chain with a Θ–position. So by the theory above, these NPs should not need to be assigned Case, but they do, as I argued above. I take this false prediction to be a flaw in this theory, and conclude that since the Case Filter (38) is not directly related to the Θ–Criterion, the strong visibility hypothesis must be dispensed with.

In the next chapter, I will suggest an extension of the visibility hypothesis from being a condition on Θ–role assignment to a broader condition on all aspects of LF interpretation.

Now, I present an account by Massam (1985) of ECM and LD constructions. First, I simply state her account of these structures, and in section (5. 11. 2) and (5. 12), I argue that it is insufficiently general as it cannot account for Arabic.

5.11 Massam’s Account
5.11.1 [α, CP] 15 is a Projected Subject Position

Massam (1985) presents a cross-linguistic analysis of ECM and LD structures. Following Haik (1985), and Taraldsen (1983), Massam assumes that the site of the ECM'd NP [α, CP] is a projected subject position of a CP predicate, and that it is required by the Extended Projection Principle of Chomsky (1982) and Rothstein (1983).16 The EPP requires that all subject and

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15 Massam uses the term [SPEC2, CP] to refer to this position, a term I refrain from using since the term specifier can also refer to an A–position. For Massam "[SPEC2, CP]" is an A–position and an A–position–with properties of both. I consider it a strictly A–position since it is an adjoined position.

16 cf. also Al–Bayaty (1984) for a similar suggestion. In that work I suggested that Case assigning epistemic verbs in Arabic subcategorize for S predicates, and that these predicates require subjects. The subject of the S predicate is in an A–position external to S, and is dominated by the node S-double bar. Assuming a definition of government as in Rizzi and Belletti (1981), the subject is governed and assigned Case by the matrix verb.
complement positions be present at all levels of the grammar. In this way, Massam claims, an ECM'd position is different from a Ld'd position, which can either be [α, CP], or [α, IP] in Arabic; the former is projected and the latter is derived by adjunction (Massam, 1985: 135). A Ld'd position is not considered a subject of predication.

In Massam's analysis of string non-vacuous ECM constructions in Principally Fijian and Niuean, the position of the ECM'd NP is considered an ambiguous position with properties of both A and A-positions: "this position is an A-position, since no Θ-role is ever assigned to it" (Massam, 1985:99-100). Nevertheless; it must be Case-marked by the governing verb; hence it behaves like an A-position. Since the ECM'd NP is a subject of a CP predicate, it requires Case, in the same way as an argument, for purposes of Visibility at LF. Since no Θ-role is assigned to this subject, in order for it to be interpreted and thus satisfy the Θ-Criterion, it must be coindexed with a Θ-bearing chain in the embedded clause, forming a composed chain (see below)

5.11.2 Chain Composition

Massam also claims that ECM, Topicalization and LD structures differ in another crucial way. Projected positions, i.e.; positions which are present by virtue of the Projection Principle, such as ECM'd positions, are interpreted at LF according to Θ-licensing, whereas; positions which are not projected, such as topicalized and Ld'd positions, are not interpreted at LF, but in some other way. Massam does not say how, nor where this interpretation takes place, presumably outside sentence grammar. An element in a projected position can be Θ-licensed either by being in a Θ-position, or by forming a composed chain (association with a Θ-position by coindexing). Note that chain composition takes place at LF to license projected subject positions only, which include
ECM'd positions, but not Ld'd nor topicalized positions, since the latter two, under Massam's analysis, arise through adjunction (Massam:142-43).

Massam suggests that while an ECM'd NP must have Case assigned to it by the governing verb, Ld'd and topicalized NPs are not assigned Case. In Arabic all these NPs must be Case-marked, as we saw above. I suggested that there are various mechanisms available for NPs by which they receive Case: directly under government by a head, by inheritance or by default.

As explained above, Massam assumes that while the ECM'd NP, being in a projected subject position, is interpreted according to ω-licensing, the Ld'd NP is not in a projected subject position and, therefore, must be interpreted differently. She does not discuss how this interpretation takes place.

If the ECM'd NP is a subject of predication, then there is no reason why a Ld'd NP in Arabic should not be considered a subject of predication since the two are identical, at least apparently, with respect to the notion of predication that Massam appeals to. Massam (p.c.) assumes that ECM structures differ from LD structures in that only the former are lexically selected. She assumes that ECM verbs take predicates as arguments, and that these predicates must then have subjects by the Extended Projection Principle. Since LD structures are not lexically selected, they are not predicate/subject structures. However; in Arabic both ECM and LD structures are lexically selected. Verbs of cognition and volition, which are Case assigners, take ECM structures. LD structures are selected by the accusative Case assigning complementizers ?inna, ?anna, la:kinna ... , which can appear in main and embedded contexts. The Ld'd NP in Arabic is followed by an IP predicate in the same way as an ECM'd NP is followed by a CP predicate. The different behaviour of the NPs in question with respect to undergoing "object referring rules", passivization and reflexivization
are derivable from the structural configuration, government and the binding theory (cf. section 5.4.5 above).

In the following section, I will argue for an approach, which unifies both ECM and LD with respect to licensing. This is an extension of the predication approach suggested in chapter 3 to account for the coreference relation between the Ld'd NP in matrix and embedded clauses and its Θ–pronoun.

5.12 Predication

I consider the positions of both an ECM'd NP and a Ld'd NP to be A–positions, since they are adjoined positions to which a Θ–role is never assigned. Following an idea originally suggested by Al-Bayaty (1984), I consider that ?inna type complementizers subcategorize for an IP predicate, which requires a subject. The subject is the Ld'd NP, which is governed and assigned Case by the complementizer. Both NPs appearing in these positions are A–subjects interpreted at LF by "predication": relative to the CP and IP predicates respectively. This notion of predication is an "aboutness relation" - the CP and IP constituents are propositions about the NP's in question, and contain an element, not necessarily a pronoun, in a Θ–position.17 It subsumes the cases discussed above involving coindexation between the NP in the position [α, XP] and an embedded pronoun (Θ–indexing), and cases of true "aboutness" (such as the ones noted in footnote 18) in which such coindexing

17 The following cases of LD do not contain a pronoun to be coindexed with the Ld'd NP:
(1)  
a. ?amaa misra ya-fiidu ≠an-niil-u fi s-sayf-i
    regarding Egypt 3sgm-flood the-nile-nom in the-summer
    "Regarding Egypt, the Nile floods in the summer"

b. As for the Θ–Criterion, the sentence is grammatical.

c. As for David, I hope Teresa would like the new apartment. (where David and
   Teresa are close associates, viz. husband and wife)

d. As for fish, I think judge Buller is crazy.

relation does not seem to be required. More examples of true aboutness are
given in (41):

(41)
a. As for the weather, I don't think I'll need my umbrella today.
b. As for my new glasses, I need to visit the optometrist today.
c. As for my broken ankle, I just got the bill from the hospital today.

Cases of ECM involving an aboutness relation; i.e., cases where the
ECM'd NP is not coreferent with a θ-chain, are available in Iraqi Arabic, and
are given in (42) below. Recall that, according to Massam's analysis of ECM,
the ECM'd NP must be coindexed with a θ-chain for θ-licensing. Given the
type of data she analyzes from Fijian and Niuean, this appears to be the case.
Massam (p.c.) has expressed doubt as to whether, upon further investigation of
ECM in these languages, the above coindexation requirement would hold. It
does not hold in Iraqi Arabic, as evidenced by the data in (42) and (44) below:

(42)
?a-rid Ali Muna$_k$ t$_k$-duuj ?idma Hasan$_m$ y$_m$-hchi wiyya
1sg-want Ali Muna 3sgf-upset when Hasan 3sgm-speak with
?um-ha$_{k/i}$ mother-her
"I want of Ali, that Muna$_k$ would be upset, when Hasan speaks to her$_{k/i}$ mother"

In (42) the NP Ali is ECM'd by the verb ?a-rid of the matrix clause. The
sentence in (42) demonstrates that the pronoun denoted by the third person
feminine clitic -ha can only be coindexed with the NP Muna or with another
feminine individual, but never with the ECM'd NP Ali, since the pronoun is
feminine and the ECM'd NP is masculine. The sentence will be ungrammatical
if the pronoun and the NP Ali bear the same index:

(43) *?a-rid Ali$_i$ Muna t-duuj ?idma Hasan$_m$ y-hchi wiyya ?um-ha$_i$

consider also the ECM structures in (44):
In none of the sentences above is the ECM'd NP licensed by being coindexed with a Θ-chain. In (44a) the ECM'd NP is not coindexed with a chain which contains a Θ-position since a full NP instead of a pronoun appears in an A-position in the embedded clause. (44b) shows that the ECM'd NP Ali need not be coindexed with the embedded pronoun. The pronoun can be coreferent with the ECM'd NP Ali, or with the subject Hasan, or with a third individual determined in discourse.

Similarly, LD does not require that the Ld'd NP be coindexed with a Θ-position as shown by (45), where a lexical NP appears in the embedded clause instead of a pronoun:

(45)

a. sima⁻it (?inna) Ali Muna t-zawwajat Hasan
heard-1sg that Ali Muna 3sgf-married Hasan
"I heard that as for Ali, Muna married Hasan"

b. ?a-din (?inna) Ali Muna t-hib Hasan
1sg-believed that Ali Muna 3sgf-like Hasan
"I heard that as for Ali, Muna likes Hasan"

Admittedly, cases where the ECM'd NP/Ld'd NP is coindexed with a Θ-pronoun, such as (8-12) above are interpreted in a straightforward manner. Cases like (44-45) where no coindexation occurs might appear difficult to interpret since the nature of lexical NPs do not lend themselves so easily to this type of interpretation. Placed into an appropriate context, though (e.g. where Ali knows or is related to Muna or Hasan), the sentence becomes perfectly acceptable.
In such cases the ECM'd NP is not in a chain which is assigned a Θ-role. Furthermore; the ECM'd NP does not constitute a chain which itself includes a Θ-position, since no Θ-role can be assigned to the position [α, CP]. Also, these cases do not involve what might be considered an ellipted NP or the familiar "part–whole" relations to be given below, i.e. where one NP is part of the other which is a whole as in the English form "I want that as for the house, Ali should paint the kitchen for you today". How does the ECM'd NP receive licensing? Obviously, for such cases, I cannot say that it is licensed by a chain composition (Θ–indexing).

Pursuant to the above discussion, I assume the Principle of Full Interpretation (FI) which requires every element of PF and LF be interpreted. Every element in a syntactic string must be licensed so that at LF or PF all elements can be identified for construal. If all elements in a representation have been licensed for identification in accord with FI, then full licensing has occurred. An element α can satisfy the PFI by being either an argument or the trace of an argument in an A–chain with a Θ–role as in (46):

(46)

a. Johni seems [ti to be sick]

b. Johni was hit ti

c. John is sick

or by Θ–indexing, i.e. by being coindexed with a Θ–chain as in the LD constructions examined in (chapter3), and ECM constructions in (8-12) above, or by an "aboutness relation" with the rest of the sentence as in (41, 42, 44-45), or by being in a part–whole relation as in (47), and as in the Japanese sentences in (48) 18:

18 I am grateful to Bruce Bagemihl for his help with the English data, and to Mamiko Toji for the Japanese data.
(47)  

a. As for the desert, I should find a good recipe for chocolate cake.
b. As for the plants, I'm going to get a new hanging pot.
c. As for the laundry, I want to buy some detergent.

(48) wa is a topic marker

a. watashi wa sashimi wa maguro ga oishii to omimoasu  
   "I think that as for sashimi (raw fish), tuna is the most delicious"

b. watashi wa bankuubah wa sushi ga oishii to kiiteimasu  
   "I heard that as for Vancouver, sushi is delicious"

c. so no kohsu wa anata no sensei ni hanasu bekidesu  
   "As for the course, you'll have to talk to your teacher"

If $\alpha$ is a predicate it must assign a $\Theta$–role, if it is an operator it must bind a variable (cf. Chomsky, 1986: 101).

To summarize, I tried to show that Arabic exhibits a productive use of $\bar{\alpha}$—sentence–internal base–generated adjunction sites. CP adjunction sites, I have argued, are the locus of NPs ECM'd under government by verbs to which they bear no thematic relation. IP adjunction sites are the regular locus of Ld'd NP's from which they are governed and assigned Case by COMP. I provided supporting evidence that Case can be assigned to the specifier position of CP and IP. I argued against the visibility hypothesis, and concluded that the Case Filter is not directly connected to the $\Theta$–Criterion; thus non-reducible to it. I suggested that non-thematic NP's in the position [\(\alpha, XP\)] are interpreted at LF non-thematically by predication. This includes an "aboutness relation" with the rest of the sentence and $\Theta$–indexing, the latter being a species of the "aboutness relation".

In the remainder of this chapter I will discuss another construction in Arabic, in which an NP appears in a $\bar{\alpha}$–position, that of subject, deriving its $\Theta$–reference by coindexation with an embedded $\Theta$–position.
5.13 Non-thematic Subject Constructions

In this section I discuss constructions with non-thematic subjects. I begin with a brief discussion of the familiar cases of Raising-to-Subject in English. Then, I examine Arabic non-thematic subject positions. It is seen that they have different properties from those of English Raising-to-Subject constructions. The properties are, however, identical to those of the Arabic ECM constructions. The sole difference being that the latter involve Case-marking verbs, whereas, the non-thematic subject constructions, involve non-Case-marking verbs. I analyze these constructions as involving movement from the Α-position [α, CP] to an A-position, that of subject.

The following section briefly discusses the well-known cases of Raising-to-Subject in English.

5.13.1 Non-thematic Subjects Via Raising

A fundamental asymmetry exists between subjects (i.e. sisters of I') and complements (i.e. sisters of V). A verb (or VP) does not subcategorize for a subject as it does for an object. The Projection principle rules out non-thematic objects, and requires them to be present at all relevant levels, but it does not rule out non-thematic subjects, nor does it require thematic subjects to be present. Rather, the apparent obligatory presence of the subject position is made to follow from other considerations, from the Extended Projection Principle (EPP) of Chomsky (1981). The EPP requires every predicate to have a structural subject for purposes of predication at LF -- a requirement on predicates that they must be predicated of something.

What follows from the fact that the subject position has nothing to do with subcategorization is that the subject position is not necessarily a Θ-position.

Rothstein (1983) deduces the effects of the EPP from predication.
The result is the possibility of non-thematic subject position in clauses with verbs with no external argument. This means that non-arguments may appear in subject positions of verbs which do not (directly or indirectly) determine a subject Θ-role, and that movement into such subject positions is possible, as the sentences in (49) illustrate for raising predicates and verbs with passive morphology:

(49)

a. It seems that John is happy.
b. There were several friends at the party.
c. It is believed that John is happy.
d. John seems to be happy.
e. several people were at the party.
f. John is believed to be happy.

We saw in reference to wh-movement that movement from a Θ-position to a Θ-position is permitted by the Θ-Criterion, I should expect it to be allowed to θ-subject positions as well. This is verified in (49d–f). The result is the process of Raising-to-subject.21

Verbs such as seem, appear, etc. are considered to have a lexical entry with a single propositional argument, which appears as an internal argument at D-structure:

(50)  [ Ip [ [VP seem [CP (that) John was hit on the head ] ] ] ]

The structure above is rendered grammatical by the insertion of the expletive element it:

(51)  [ It [ seems [ (that) John was hit on the head ] ] ]

21 For more detailed discussions of Raising-to-subject constructions, see M. Anderson (1979) and Chomsky (1986b).
Another option for verbs such as *seem* is to appear with an IP internal argument, rather than a CP:

(52)  \[ [\text{IP} \ [\text{VP} \ \text{seem} \ [\text{IP} \ \text{John was hit on the head }]]] \]

Due to the Case Filter, a derivation by "it-insertion" is not available for (56), since the embedded subject would not receive Case in its clause. As with passive objects, the particular NP needs to move to matrix subject position to receive Case from INFL, as in (49). When the embedded complement is IP, this movement does not violate Subjacency, nor does the relation between the raised NP and its trace violate the binding theory; hence this movement results in a well-formed chain.

In Arabic, we find non–thematic subject constructions with different properties than the familiar English Raising–to–Subject constructions. I turn to these now.

5.13.2 Non–thematic Subjects in Arabic

At the outset of this chapter, I examined the phenomenon of non–arguments acting grammatically in ways corresponding to that of objects, or internal arguments. In this section, I look at a similar phenomenon, that of non–arguments acting grammatically in ways corresponding to subjects, or external arguments.

Arabic has raising predicates (i.e. predicates which have a clausal complement and a \( \Theta \)--subject). These predicates include: dahara 'to seem', bada: 'to appear', tabayyana 'to appear', tara:?:a: 'to appear'. It is uncertain though as to whether actual movement has taken place since, in most cases a clitic, and pro appear in an imbedded \( \Theta \)--position. Nevertheless, I refer to this construction as Raising–to–Subject and claim that it arises through movement.
I argue in section (5.14) that movement to subject appears to involve movement from a position adjoined to CP [α, CP].

Non-thematic subjects in Arabic can be coreferential with subjects or objects of embedded tensed complement clauses, as illustrated in (53-57) below. (a) sentence shows the sentence before Raising; (b) illustrates the same sentence after Raising. The NP that has undergone Raising appears in boldface in the matrix subject position, and is coindexed with a θ-position in the embedded sentence:

Raising from subject position:
(53)

a. yabdu ṭanna Xa:lid-an ṭakal-a ṭaxi-f-a l-Xubz-i seem-it that Xa:lid-acc ate-3sgm loaf-acc the-bread-gen "It seems that Xa:lid has eaten the loaf of bread"

b. yabdu Xa:lid-un, ṭanna-hu ṭakal-ai ṭaxi-f-a l-Xubz-i seem Xa:lid-nom that-cl ate-3sgm loaf-acc the-bread-gen "Xa:lid seems to have eaten the loaf of bread.

Raising from object position of a verb:
(54)

a. tabayyana ṭanna Xa:lid-an qa:bal-a al-:?ami:rat-a appeared that Xa:lid-acc met-3sgm the-princess-acc "It appeared that Xa:lid has met the princess"

b. tabayyana-ṭ al-:?amiirat-u ṭanna Xa:lid-an qa:bal-a-ḥai appeared-3sgf the-princess-nom that-cl met-3sgm-obj-cl "The princess appeared that Xa:lid has met her"

Raising from object position of a preposition:
(55)

a. yadharu ṭanna ar-rajul-a ṭaṭ-aa al-hadiyyat-a li-l-walad-i look like that the-man-acc gave-3sgm the-present-acc to-the-boy-gen "It looks like that the man gave the present to the boy"

b. ya-dharu l-walad-u ṭanna ar-rajul-a ṭaṭa: al-hadiyyat-a la-ḥu 3sgm-look like the-boy-nom that the-man-acc gave the-present-acc to obcl "The boy looks like that the man gave the present to him"

Raising from an indirect object position:
(56)

a. yatra:τa: ṭanna ar-rajul-a ṭaṭ-a: l-bint-a al-hadiyyat-a seem that the-man-acc gave-3sgm the-girl-acc the-present "It seems that the man gave the girl the present"
b. 

\[ \text{b. yadharu } \text{al-mudarris-u, ?anna Xa:lid-un qara?a kita:b-a-hu} \]

"The teacher looks as though Xa:lid read his book"
The third feature exhibited by the above data is that the raised NP is obligatorily coindexed (i.e. marked as coreferential) with a Θ-pronoun pro in the embedded clause. pro in turn is coindexed with a clitic denoting its nominal features under government along the lines of the discussion on pro licensing in chapter 3. A sentence like (54b) will be rendered ungrammatical if the NP and its pronoun are assigned different indices (61a), or if there is a feature mismatch between them (61b). Again the raised NP is boldfaced. The clitic -hu in (61b) is the realization of the features third person singular masculine, which conflict with that of the raised NP al-?amiirat-u in the gender feature, al-?amiirat-u being feminine:

(61)


In the following section, I consider the appropriate derivation of the data illustrating non-thematic subjects in Arabic. Our claim is that they are derived by NP-movement from a base-generated position [α, CP], a position adjoined to CP under a non-Case-assigning verb to the subject position of the matrix VP.

5. 14 Movement from [α, CP] Position

There are at least two possible analyses of the data above illustrating non-thematic subjects in Arabic. One is a base-generation analysis which considers the non-thematic subject NP to be base-generated in the matrix subject position. According to this analysis, then, the construction involves a coindexing relation that is not established by movement between a base-
generated subject NP and an embedded Θ–position. This analysis seems plausible given the fact that a clitic coindexed with the matrix subject necessarily appears in the embedded clauses, which suggests that movement is not involved. Furthermore, if the construction results by movement (specifically A–movement), the moved NP would be assigned two Cases: one from its D–structure A–position as a complement of a head, and the other from its S–structure A–position as it will be governed by INFL. This produces a chain with two Cases in violation of Case theory. Thus Case theory argues against an analysis by movement and for an analysis by base–generation.

However, one can suggest an alternative analysis, and I do, whereby the subject NP moves from a base–generated position adjoined to CP to the matrix subject position. Let us call this position [α, CP], a position of adjunction through base–generation. I propose that raising predicates in Arabic can subcategorize for a CP predicate complement, and hence for a complement with an adjoined [α, CP] position. This is like English raising predicates. They can map their propositional argument onto a compless clause, namely IP. Or, they can map it onto a CP which then by the EPP require the non–argument it as a subject. [α, CP] is the D–structure position of the non–thematic subject embedded under non–Case–assigning raising verbs, which also lack the property of marking their subject for a Θ–role. But since this class of verbs do not assign Case, and since the the subject NP in [α, CP] needs Case, NP–movement is forced by the Case Filter from [α, CP] to the matrix subject position, where the NP is assigned Case by INFL at S–structure. Then, a process, essentially like Raising–to–Subject converts the D–structure in (62a) to the S–structure in (62b):
That is, I consider movement to subject verbs in Arabic to be identical in their subcategorization for complements to the Arabic ECM verbs. As a lexical property, both can map their propositional argument onto a CP complement which by the EPP require an NP for purposes of predication at LF. They differ only in that Raising-to-subject verbs do not assign Case to their complement, and also do not assign a Θ-role to their subject. Our claim that movement to subject in Arabic occurs from an adjoined position [α, CP] is supported by sentences with passivized ECM verbs (cf. Massam, 1985, and 5.4.4 above). Here, "ECM" refers to the ability of the verb to take a CP complement which includes an additional position [α, CP] arising from adjunction through base-generation, and not to the verb's Case-marking ability, since as a passive morphology, it has none. It should be recalled that I proposed that clauses embedded under ECM verbs in Arabic are CPs to which the position [α, CP] is adjoined by base-generation. As noted in (5.4) an NP in [α, CP] of a passive verb can move from [α, CP] to the subject position of the passive ECM verb, as (63-64) illustrates. (63) shows the active form, and (64) shows the passive form:

(63)  
\[
\begin{align*}
\text{danan-\text{tu} \ [CP \ Hasan-an \ [CP \ ?annahu \ [IP \ kataba \ al-taqri:ra \ ]] ]}
\text{believed-I} & \text{Hasan-acc} \text{that} \text{wrote the-report} \\
\text{"I believed Hasan, that he wrote the report"}
\end{align*}
\]

(64)  
\[
\begin{align*}
\text{dunna \ Hasan-un_i \ [CP \ t_i \ [CP?annahu \ [IP \ kataba \ al-taqri:ra \ ]]]}
\text{is believed Hasan-nom} & \text{that} \text{wrote the-report} \\
\text{"Hasan was believed that he wrote the report"}
\end{align*}
\]

ECM movement illustrated in (64) is identical to subject movement illustrated in (62b) and both occur for the same reason: the NP in [α, CP] needs Case which it can only get in the subject position of the matrix verb.
It should be noted that the proposed movement of the NP from $\bar{A}$-position $[\alpha, \text{CP}]$ to the matrix subject $A$-position raises questions regarding the status of NP-trace as an anaphor in a $\Theta$-position. Also the resulting chain is not assigned a $\Theta$-role violating the requirement of the $\Theta$-Criterion that every $A$-chain must be assigned a $\Theta$-role. This violation can be avoided if this requirement is relaxed and subsumed under the Principle of Full Interpretation (FI) on the basis that a chain with no $\Theta$-role directly assigned to it must be coindexed with a chain with a $\Theta$-role. FI is satisfied in passivized ECM and movement to subject. The chain being formed is an $A$-chain defined as a chain whose head is in an $A$-position. The head of the chain -- that is, the non-thematic subject NP is related via its terminus $[\alpha, \text{CP}]$ to a $\Theta$-position in the lower clause. The terminus of the chain is an intermediate position which exists in D-structure. It is embedded under a non-Case-marking verb in passivized ECM and non-$\Theta$-subject constructions. The theory of chains will be discussed further in the next section and in the chapter. I assume that the relation between the NP and its modifying clause is one of predication and that this is formalized by coindexation between the NP, $[\alpha, \text{CP}]$ and the embedded $\Theta$-position, which is the result of an interpretive rule of LF$^\prime$.

I conclude this section noting that Arabic seems to allow movement to subject from the position $[\alpha, \text{CP}]$ in both passivized ECM and non-thematic subject constructions.

5. 15 'Seem as If' Constructions

Now, I will examine comparable sentences in English in which the complement clauses of seem and appear are introduced by the complementizers as if, as though and like. These structures lend further support for the proposal that the $\Theta$-Criterion be relaxed to allow subject NPs to
appear in non-thematic positions in D-structure. There is a class of verbs or predicates that do not assign a thematic role to their subjects in English. These are predicates that take the semantically empty expletive it as their subject:

(65)
a. It seems [CP that [IP John has been chasing Mary]]
b. It appears [CP that [IP there has been a riot]]
c. It is likely [CP that [IP Mary has been chased]]

In all these cases the NP that occurs as the subject of the complement clause can appear in the matrix subject position, as attested in 'seems to be' constructions examined in section (5.13.1) above and in the following:

(66)
a. John, seems [IP ti to have been chasing Mary]
b. There, appears [IP ti to have been a riot]
c. Mary, is likely [IP ti to have been chased]

This is because the matrix subject position is not assigned a Θ-role, i.e. it does not fulfill any semantic role of its own with respect to the matrix predicate (in contrast to cases like John wants to leave, where John is both the wanter and the leaver). (65) are generated by the insertion of non-argument it in the empty subject position. (66) are derived by the movement of John, there, and Mary from the embedded subject position to the matrix subject position. Verbs like want, which do assign Θ-roles to their subject position, cannot take non-referring there as subject (*There wants to be a riot). As it is a non-argument (a non-referring expression), and a Θ-role is assigned to the position of embedded subject, the Θ-Criterion is satisfied in all of these cases.

Now, I consider cases in which the complement clauses of seem and appear are introduced by the complementizers as if, as though, and like:
(67)

a. \( \text{Bill}_i \) seems \{ as if \\
like \} \( \text{he}_i \) is upset

b. \( \text{Bill}_i \) appears \{ as if \\
like \} \( \text{Mary}_i \) likes \( \text{him}_i \)

c. \( \text{Bill}_i \) appears \{ as if \\
like \} \( \text{Mary}_i \) has been hitting \( \text{him}_i \)

d. \( \text{Bill}_i \) \{ seems \\
appear \} \{ as if \\
like \} \( \text{Mary}_i \) has been travelling with \( \text{him}_i \)

e. \( \text{Bill}_i \) \{ seems \\
appear \} \{ as though \} \( \text{Mary}_i \) has been doing the house work for \( \text{him}_i \)

f. \( \text{Bill}_i \) seems \{ as if \\
like \} \( \text{Mary}_i \) has been giving \( \text{him}_i \) a lot of money

g. \( \text{Bill}_i \) seems \{ as though \\
like \} \( \text{his}_i \) car needs repairing again

h. \( \text{Bill}_i \) seems \{ as though \\
like \} \( \text{his}_i \) arthritis is acting up again

The pronoun in the embedded CP complement in (67) can only be bound by \( \text{Bill} \). As was evidenced in Arabic, the constructions in (67) permit the bound pronoun to occur in positions other than embedded subject: subject (a), object of a verb (b-c), object of a preposition (d-e), dative (f), genitive (g-h).

The bound interpretation of the pronoun can be seen from the fact that an NP with a unique referent cannot replace the pronoun, again similar to Arabic:

(68)

a. *\( \text{Bill}_i \) seems as if \( \text{Mary}_i \) is upset

b. *\( \text{Bill}_i \) appears as if \( \text{Mary}_i \) likes \( \text{John}_i \)

That the pronoun is necessarily bound to the matrix subject is also indicated by the fact that the pronoun can be coindexed with a negative quantifier:

(69)

a. No one \{ seems \\
appears \} as if he is upset

b. No one appears as if \( \text{Mary}_i \) likes \( \text{him}_i \)
The fact that the pronoun refers to *no one* shows that the pronoun has no independent referent but covers the members within the scope of the negative quantifier.

The subject position in (67) is a non-Θ-position as in (53). This can be seen from the fact that a non-argument *it* can be inserted in this position:

(70) It seems as if he is upset
(71) It appears as if Mary likes him

However, (67) cannot be derived by moving *Bill* out of the embedded subject position, which is already filled by a pronoun, but must be generated with *Bill* in the matrix subject in S-structure and in other levels of syntactic structure as well.

5.16 A Revised Θ-Criterion

Chomsky (1981) suggests the Θ-Criterion as in (72):

(72) Θ-Criterion:
Given the structure S, there is a set K of chains, \( K = \{ C_i \} \), where \( C_i = (\alpha^i_1, \ldots, \alpha^i_n) \), such that:

(i) if \( \alpha \) is an argument of S, then there is a \( C_i K \) such that \( \alpha = \alpha^i_j \) and a Θ-role is assigned to \( C_i \) by exactly one position P.

(ii) if P is a position of S marked with the Θ-role R, then there is a \( C_i K \) to which P assigns R, and exactly one \( \alpha^i_j \) in \( C_i \) is an argument.

Clause (i) requires that every argument position be a Θ-position. Clause (ii) requires arguments to be present in all Θ-positions, that is, it requires that for every Θ-role, assigned at D-structure, there should be an argument in the position to which the Θ-role is assigned in order to receive that Θ-role. This requirement is in fact follows from the Projection Principle. In other words, the Θ-Criterion specifies a one-to-one correspondence between arguments and thematic roles, and given the Projection Principle, it holds at all levels of syntactic structure. It follows from the Projection Principle (i.e. roughly, from
lexical information) that the types of configurations that appear in syntactic structure of the various levels are predictable and severely limited. As a logical consequence of the \( \Theta \)-Criterion, the level of D-structure is viewed in Chomsky (1981) as the level where only thematic NPs appear, a level of "pure representation of GF-theta".

Clause (i) is plainly violated by non-thematic subject constructions in Arabic that I have discussed in section (5.13.1), and by the English non-thematic subject constructions in which complement clauses are introduced by the complementizers as if, as though, and like, discussed in section (5.14). The subject A-position in these constructions is bereft of a \( \Theta \)-role.

To account for these constructions, I propose a relaxation of the \( \Theta \)-Criterion and a view of the level of D-structure as a less pure representation of GF-\( \Theta \) structure. I argue that the \( \Theta \)-Criterion as formulated in (72) is bound to be too strong, and that I want to allow the base-generation of NPs in non-thematic subject positions (A-positions) and positions that are \( \bar{A} \), such as ECM'd and Ld'd positions.

Base-generation of NPs in non-thematic positions is allowed provided that interpretation is possible at LF to satisfy the Principle of Full Interpretation, a principle of UG requiring every element to be interpreted, and which I have thus far assumed. Adjoined NPs, that is ECM'd NPs, Ld'd NPs and matrix subjects of raising predicates all enter in the same way into interpretation at LF. There are at least two ways for NPs in non-thematic positions to receive interpretation and thus licensing. The first is by being in a chain which is assigned a \( \Theta \)-role, the second is by coindexing with a chain that is assigned a \( \Theta \)-role.

The relaxed version of the \( \Theta \)-Criterion requires every \( \Theta \)-position to be assigned an argument at D-structure, but says nothing about non-thematic positions, such as \( \bar{A} \)-positions, and in some cases A-positions, such as subject
positions. The revised Θ–Criterion consists of clause (ii) only, but not clause (i) of (72). This appears as a relaxation of the Θ–Criterion, dealing with cases where a lexical expression is not inserted into a Θ–position, and is designed to overcome the problems noted earlier.

Since I have claimed that the Θ–Criterion does not exclude the insertion of lexical expressions in non–thematic positions at D–structure, I need to ensure that such expressions are interpretable at LF. I assume the Principle of Full Interpretation of Chomsky (1986a), which requires all positions to be interpreted. I propose, as it is usually done, that all complements, arguments, A–positions must form chains, complement chains are always Θ–chains. Single–membered A–chains are attested in left–dislocation and ECM constructions, where the Ld'd NP and the ECM'd NP are adjoined to IP and to CP, respectively. Each NP heads its own A–chain. See chapter (6) for an elaboration of this theory of chains.

All chains must be licensed in a particular way. A chain is well–formed, and thus can be licensed by including a position to which a Θ–role is assigned. This corresponds to clause (i) of the Θ–Criterion in (72). A chain is well–formed with respect to the Θ–Criterion, and thus can be licensed if its head operator–binds a Θ–position. Operator–binding, in the sense used here, is roughly a more general term for wh–interpretation, including left–dislocation, topicalization, non-string vacuous ECM, and relativization. What it basically means is that a lexical expression, not in a Θ–position, or alternatively, in terms of chains, an A–chain is nevertheless well–formed if it terminates in a position to which a Θ–role is assigned, or if it is coindexed with a Θ–position, that is by being Θ–linked. As typical examples of thematic and non–thematic chains, let us consider the following structures:
Movement of the wh-phrase in (73) to the specifier of CP results in an $\bar{\alpha}$-chain consisting of who, that is its head, and the trace $t$, that is its tail. who has moved into a non-$\Theta$-position, as a consequence of the $\Theta$-Criterion, which prohibits movement into a $\Theta$-position, nonetheless the chain is licensed since it contains a position to which a $\Theta$-role is assigned, namely $t$ in the object position of like. Similarly, John in (74) has moved into a non-$\Theta$-position, but this time the position is an $\alpha$-position, that of the subject position of seem, which does not mark its subject for a $\Theta$-role. John forms an $\alpha$-chain with the trace it binds in the subject position of the small clause. Again, the resulting chain is well-formed as one of its members, the subject position of the small clause receives a $\Theta$-role from the predicate upset. Now, consider (75) in which John appears at D-structure in a non-$\Theta$-position as the subject of seem. Since John does not arise from movement, it forms a trivial chain (a chain of one link, consisting of only John), and since seem does not mark the position of its subject for a $\Theta$-role this chain is not a $\Theta$-chain, that is not assigned a theta role by some element. It should be noted, however, that the pronoun he in the subject position of the complement clause is necessarily bound to John. This can be seen from the fact that an independently referring expression can not be substituted for he:

(76)

*John seems \{ as if as though \} Mary is upset

(75) is a perfectly well-formed structure. John is a lexical expression that appears at D-structure in a non-$\Theta$-position forming a chain of one link to which no $\Theta$-role is assigned. It is linked to a chain that contains a $\Theta$-position, namely
the NP pronoun *he*. Thematic linking thus appears to be the licensing device for non-thematic NPs, for Ld'd, ECM'd, Ld'd NPs, Topicalization and wh-questions, though in the latter two constructions the NP obligatorily binds a trace, and not a pronoun.

It should be recalled that I assume that the relation between the lexical expression that is not in a @-position and the @-position in the complement clause is one of predication, where predication is taken in a broad sense, including the case of a chain of coindexing, i.e. a chain $X_1, X_2, ..., X_3$ of NPs where $X_1$ binds $X_2$, $X_2$ binds $X_3$, etc. and only $X_3$ is a @-position. This predication relation is assumed to be formalized by coindexation between the NP bereft of of @-role and the embedded @-position which is the result of an interpretive rule of LF. Then, the claim made here is that a lexical expression does not have to be inserted into a @-position at D-structure, nor at any level of syntactic structure to satisfy the @-Criterion, under the proviso that it links to a @-position, or it be followed by a clause saying "something about" that lexical expression. The latter is attested in cases like "As for the weather, I don't need to take an umbrella today". This is the kind of relaxation of the @-Criterion that enables us to account for constructions where an NP is deprived of @-role, and that are dealt with in this thesis.

Summarizing, I pointed out that the @-Criterion defined in Chomsky (1981) as a condition on D-structure is bound to be too strong in a number of cases. I suggested that that the @-Criterion be relaxed so as not to prohibit lexical expressions from appearing in @-positions. This is combined with a view of D-structure as a less pure level of GF-@. However, NPs with no @-roles must meet the requirements of FI at LF, so that a well-formed structure will be generated.
5. 17 Some Alternative Proposals

There are other ways in which one might attempt to preserve the requirement that every A-position be a Θ-position, contrary to our proposal. One possibility is that one could claim that the position of the matrix subject in (67-71) is, in fact, a Θ-position, and so Bill and it are assigned Θ-roles. This view would require the verbs in question to have dual lexical entries, corresponding to their different meaning: one in which they assign a Θ-role to their subject, and another in which they do not. Thus, despite the fact that seem and appear assign no external Θ-role in (65-66), would have to assign a Θ-role in (67-71).

There are good reasons, however, for rejecting the claim that seem and appear do mark their subjects for Θ-roles in (67-71) but not in (65-66). This would lead to an arbitrary multiplication of argument structure in the lexical entries of these verbs. The question arises as to why it in (65-66) is not treated as an argument. One could claim that there are two kinds of it, an argument it in the matrix subject of (70-71) and a non-argument it in the matrix subject of (65-66). The claim that the subject position of (67-71) bears a Θ-role undermines the raising analysis of (66). On the other hand, if the S-structure subject and the D-structure subject of these verbs in (65-66) and (67-71) respectively is considered non-thematic, then the thematic argument structure of these verbs remains constant, and the raising analysis of (66) remains intact. This holds all across the lexicon.

The other possibility is to claim that the subject of the matrix clause has moved to the matrix subject position leaving not a pronoun but a lexicalized trace in its D-structure position. The subject NP could not have originated in the embedded Θ-position and then moved to subject position, since direct movement is ruled out by condition A of the binding theory. The NP-trace is an
anaphor that would not be bound in its governing category, violating condition A. Movement via the specifier position of CP is also ruled out by condition C (improper movement). Thus, the trace would be an $\lambda$–bound R–expression that is $\lambda$–bound in the domain of the head of its chain.

Another possibility is to insist that Bill in (67) is, in fact, moved into the matrix subject position, and that the movement leaves a pronoun in the complement clause instead of a trace. This view, however, would also assume that the movement involved is impervious to barriers, Subjacency, and Case theory so that no Subjacency violation nor Case conflict arise. It is unnecessary to make these assumption since it introduces a kind of movement that is not governed by conditions on movement, as in Topicalization or Wh–questions.

The other possibility is to claim that the lexical NP in subject position does not arrive there by movement, but in this case the insertion of the matrix subject is at S–structure, not at D–structure. This view, however, would allow lexical insertion to operate freely at both D–structure and S–structure. Furthermore, the only reason for such an ad hoc claim is to preserve the strong version of the $\Theta$–Criterion in (72) and the conception of D–structure as a pure GF–$\Theta$.

On our analysis such problems are avoided as it claims that it is possible to insert lexical NPs into positions bereft of $\Theta$–roles at D–structure under the proviso that they receive an interpretation at LF. The sentences in (67) receive an interpretation at LF by virtue of the fact that the matrix subject binds (thus coindexed with) a $\Theta$–pronoun in the complement clause. In sentences like (67) the subject NP appears in matrix subject position at D–structure to which no $\Theta$–role is assigned, and is licensed by coindexing with a $\Theta$–pronoun in the complement. It seems, then, that $\Theta$–coindexing is the licensing factor for
subjects deprived of a Θ-role, as it is for NPs base-generated in adjoined in the constructions discussed in this thesis.

5. 18 Conclusion

This chapter discussed two related constructions in Arabic, ECM clauses and non-thematic subject clauses. In the former a Case-marking verb is involved, assigning its Case to a non-sister NP in [α, CP], and hence the result of this is ECM, giving the effects of the putative Raising-to-object operation. In the latter a non-Case-marking verb is involved, which does not Θ-mark its subject position, hence the NP in the non-Case position [α, CP] is raised to the non-Θ-subject position of the matrix clause to satisfy the Case Filter. I proposed that the two constructions are parallel in that the verb concerned takes as a lexical property a CP complement clause with an additional position [α, CP] adjoined to CP. [α, CP] is an A-position by definition since it is an adjoined position. Its presence seems to follow from the Extended Projection Principle, which is the Projection Principle plus the requirement that clauses must have subjects for purposes of predication at LF. I considered the NP filling the [α, CP] position in ECM and non-thematic subject constructions to be in a position of prominence on which the CP clause is predicated. This is parallel to Left-dislocation structures discussed in the previous chapter, where the Ld’d NP is in A adjoined positions, [α, IP] or [α, CP]. In brief, NPs filling these positions, [α, XP], all act in parallel ways grammatically as prominent or external NPs for the XP clausal complement.

Then, I discussed comparable non-thematic subject constructions in English of "seem as if" type structures, and concluded that the NP is base-generated in in a non-thematic A-position as a subject of the matrix clause. As with Arabic non-thematic NP’s in [α, XP], English non-thematic subjects in
"seem as if" structures derive their Θ-reference by coindexation (or alternatively Θ-sharing) with subject or non-subject of embedded tensed complement clauses.

I suggested that a conception of the Θ-Criterion as in Chomsky (1981) that envisages the level of D-structure as the level whereby only thematic NPs appear is bound to be too strong. I proposed a more relaxed conception of the Θ-Criterion that allows lexical expressions to be inserted in non-thematic positions at D-structure under the proviso that these expressions are interpretable at LF. FI which can be satisfied in various ways to be discussed in the next chapter, ensures that all positions are interpreted, and thus licensed. I want to propose that all NPs whether in Θ or non-Θ-positions require Case to be visible to FI, thus licensed, since wh-operators, topicalized NPs (cf. chapter 4), Ld'd NPs (cf. chapter 3), adjoined ECM'd NPs and non-thematic subjects need Case-marking. This is the topic of the next chapter.
6.1 Introduction

In this chapter, I outline aspects of Case and chain theory which will accommodate the constructions discussed in the previous chapters.

6.2 A-chains and Visibility

It is generally assumed that chains are formed on A-positions, and that the Case Filter applies only to such chains due to the visibility of Θ-roles at LF, since these are chains which will contain Θ-positions.¹

A central distinction between A-movement (1) and A-movement (2-3) is that A-movement is triggered by necessity due to the Case Filter:

1. Mary was kissed
2. [CP Who, ip did you meet ti]
3. [CP Who, [IP did you think [CP t', [IP Leslie met ti]]]

This has led to the characterization of A-movement as "movement as a last resort" (Chomsky, 1986a). In the chain theories of Chomsky (1981), Rizzi (1982b) and Brody (1983), and in Levin and Massam (1985), it has been stated as a condition on A-chains that the head of a chain must be Case-marked, and that there may be only one Case in an A-chain.

On the other hand, variables, or A-bound traces, in these theories, make up and head their own chain; t_i in (2-3) heads its own A-chain, and is necessarily Case-marked. Chomsky (1981) attributes this necessity to the Θ-Criterion in the following way. If the Case Filter is to be subsumed under the Θ-

¹ On the notion of Visibility cf. chapter 1 and 5 of this thesis; cf. also Chomsky (1981), chapter 6 specially PP. 336-344.
Criterion (cf. Chomsky 1981, Stowell 1981, and Levin and Massam, 1984), then all θ-marked NP's must receive Case in order to be visible to θ-role assignment at LF. Since, in these theories, a variable trace is always the head of its A-chain, it must be Case-marked to satisfy the θ-Criterion.

6.3 The Problem

The data which was examined in previous chapters argue that certain aspects of the theory of Case and of chains outlined above must be modified. We have seen that in several cases, NPs which are not in θ-chains (defined as A-chains which include a θ-position), do in fact require Case. First, we saw that Ld'd and ECM'd NP's require Case. These NP's are in A-positions (i.e. they are never assigned a θ-role, and they do not form A-chains with the θ-position with which they are coindexed. So clearly, by the theory above, they should not need to be Case-marked. We saw that topicalized and Wh-questioned NPs which are in θ-positions must inherit the Case of their extraction site. And finally, it is clear that non-thematic subjects need Case. Here, the NP in question is in an A-position, but this particular position is a θ-position; the NP does not make up a θ-chain with the embedded position with which it is coindexed, and hence, the NP should not require Case-marking for Visibility of θ-roles. However; non-thematic subjects do require Case, as I argued in chapter 5. Furthermore; there are cases of ECM and LD, discussed in chapter 5, where the ECM'd NP and the Ld'd NP are not even coindexed with a θ-position. Yet, these NPs must be Case-marked.

If the proposed analysis is on the right track, as it appears to be, then the notion of chain outlined above is inadequate for Case-assignment to NPs in [α, CP] (ECM'd NPs), [α, IP] (topicalized NPs), [SPEC, CP] (wh-questioned NPs),
and non-thematic subjects. Modifications and extensions are thus required to accommodate the constructions discussed in this thesis.

6.4 A-chains and X-chains

Since the constructions discussed in the previous chapters include NPs which are not in A-chains, but they clearly require Case, I propose that the domain of the Case Filter (see below) be expanded to include not just A-chains (chains headed by an NP in an A-position), but also X-chains (chains headed by an NP in an X-position)². I assume that move-α results in the formation of a chain, consisting of the trace(s) and the moved NP. If the NP is moved to a position which is characteristically assigned a Θ-role, the chain is called an A-chain (argument chain, because the position is an argument position). If the NP is moved to a position which is never assigned a Θ-role, eg. an adjoined position, or [SPEC, CP], the chain is called an X-chain.

The notion of chain, in the sense that I am using the term here, was first introduced in Chomsky (1981). Chomsky introduced 'Grammatical Function Chains' as abstract records (abstract representations) of derivational history after the application of Move-α. In (4) below, for example, we have the chain [(John, e₂, e₁)], indicating that movement has been from the position of e₁ to that of e₂ and then to the head position (the moved NP) occupied by John:

(4) John seems to have been hit by a thunderbolt

(4) is formed by two applications of move-NP (passive followed by raising). A pair of successive elements in a chain are described as a link of the chain. Thus, the chain (John, e₂, e₁) has two links; (John, e₂) and (e₂, e₁). The chain is an abstract representation of John that is its head. Each position in the chain (e₁, and e₂) records a point of the derivation at which the head bears some

² See (13) below for a precise definition of the notion chain.
grammatical function (subject of, object of etc.) that it may not directly bear at S-structure.

In our perception, the notion of chain is not limited to instances of move-\( \alpha \), but it also includes NP's that remain in their D-structure position at S-structure, as in cases of \( \overline{A} \)-subjects (Ld'd and ECM'd NP's) which are base-generated and do not arise by move-\( \alpha \).

An informal characterization of chain as revised here is provided below:

(5)

b. An NP in an A-position that is not coindexed with a trace forms an A-chain of one member.
c. An NP in an \( \overline{A} \)-position and its trace form an \( \overline{A} \)-chain.
d. An NP in an \( \overline{A} \)-position that is not coindexed with a trace forms an \( \overline{A} \)-chain of one member.

The following illustrates (a–d) of (5). The subject position of a passive clause (6) is not a \( \Theta \)-position, as evidenced by non-arguments that appear in this position (6):

(6) John, was hit \( t_1 \)

(7) It was surmised that Mary kissed John

Thus, in (6) where the argument John appears in a non-\( \Theta \)-position, John and \( t_1 \) make up a single chain -- an A-chain -- which is assigned a \( \Theta \)-role because the trace in the object position of kiss is assigned a \( \Theta \)-role. The same is true of the subject position of Raising predicates such as certain in (8). The argument Mary in (8a) is in a non-\( \Theta \)-position, as indicated by the fact that a non-referential element, such as it can appear in this position (8b):

(8)

a. Mary is certain [ \( t_i \) to win the race ]
b. It is certain that Mary will win the race
With respect to the Θ–Criterion, the representation *Bruce* ... *t* is well-formed; because, although *Mary* is in a non-Θ–position, it participates in an A–chain which terminates in a Θ–position.

In (9) below *Mary* and *John* each form a vacuous (one link) A–chain, each of which is assigned a distinct Θ–role:

(9) Mary met John.

The two arguments in (9), each constituting an A–chain, are in Θ–positions; they receive their Θ–roles by virtue of being each a member of a one link chain. If an argument participates in a chain, then it receives its Θ–role only by virtue of its membership in the chain, not by virtue of the position that it occupies.

I assume that move–α in (10) and (11) result in the formation of an A–chain:

(10) a. \[ [\text{CP} \text{Who}_i \ [\text{IP} \text{did Mary meet } t_i ] ] \]
    b. \[ [\text{CP} \text{Who}_i \ [\text{IP} \text{did you think } [\text{CP} t_i' \ [\text{IP} \text{Mary met } t_i ] ] ] ] ]\]

(11) a. \[ [\text{IP} \text{Mary}_i \ [\text{IP} \text{we really like } t_i \ \text{Because she is so pleasant } ] ] \]
    b. \[ [\text{IP} \text{Mary}_i \ [\text{IP} \text{we really like } [\text{IP} t_i' \ [\text{IP} \text{to visit } t_i \ \text{Because she is so pleasant } ] ] ] ] \]

In (10a) *who* and *t* constitute an A–chain where the head of the chain, *who*, is in an A–position. Likewise, in (9b) *who*, *t′*, and *t* make up an A–chain headed by *who*.

In (11a) *Mary* and *t* make up an A–chain, since the head of this chain *Mary* ends up in an A–position adjoined to IP as a result of move-a. Likewise, in (11b) *Mary*, *t′*, and *t* forms an A–chain headed by the NP *Mary*.

An A–chain consisting of one member is illustrated in (12):

(12) John Mary likes him

The NP *John* in (12) is in an A–position and it heads its own A–chain which consists of one member, namely the NP *John* itself.
The above discussion entails that the distinction between A–position and ̄A–position occupied by the head is crucial for defining the type of chain being formed. Whether the head of the chain is in an ̄A–position or not determines whether the chain in question is an A–chain or an ̄A–chain.

Chains are thus derived by A–movement, that is, movement to an A–position, or by ̄A–movement, that is, movement to an ̄A–position, or they are trivial, or they are derived by movement from an ̄A–position. Movement from an ̄A–position is instantiated by movement of non-thematic subjects in Arabic from a CP adjoined position--an ̄A–position to the matrix subject position. It was argued in chapter 5 that this movement occurs under non-Case assigning verbs; the NP adjoined to CP fails to receive Case in this position, hence the need for Case forces the NP to move to get Case in the matrix subject position from INFL. See the structure (7) below in chapter (7).

I define the notion chain as follows:

(13)
\[ C = (\alpha_1, \ldots, \alpha_n) \] is a chain if and only if:

(i) \( \alpha_1 \) is an NP (the head of the chain is an NP, as are its other elements).

(ii) \( \alpha_m \) locally X-binds \( \alpha_{m+1} \) (X-bind = A-bind or ̄A-bind) by the application of move-α.

(iii) for \( m \) where \( m \) is greater than 1, \( \alpha_m \) is a non-pronominal empty category.

(iv) C is maximal, i.e., is not a proper subsequence of a chain meeting (i-iii).

(V) \( \alpha_1 \) and only \( \alpha_1 \) is assigned Case.

The basic idea expressed by this definition is that the head (the highest member) of the chain must be an NP, and that the set of positions relevant to the
chain be maximal, and must arise through the application of move–α. The definition also requires that the head of the chain be the only member in the chain that 'has Case', and that all members of the chain bind the lowest position (the position bound by every other member of the chain), as a result of move–α.

It is necessary to state what it means 'to have Case':

(14) 'Has Case':
An NP α has the Case K if α is in a chain containing an NP to which the Case K is assigned.

I now make a formulation of Case-assignment:

(15) Case-assignment:
A chain is assigned Case when it includes a position governed by a Case-assigner, or a position having Case inherently (by default).

The essential property of default Case marking, as the term implies, is that it applies only where no other Case is available. I propose that an NP receives a Case feature as a result of one of the modes of Case-assignment. Default Case-marking then is another way Case features may appear on an NP, a proposal justified by Case-marking of adjuncts. Adjuncts in Arabic always receive lexically-triggered default accusative Case. I can state this in the following generalization:

(16) Default Case-marking Convention:
NPs are assigned nominative Case provided that they are ungoverned and that they do not inherit Case. Adjuncts are assigned accusative Case.

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3 The requirement that a chain be maximal is designed to circumvent a problem that would otherwise arise quite generally for any chain that has more than one link. Without this requirement, the derivation of the sentence in (1)
(1) John was beaten ti
could result in two chains, one consisting of two links John and its trace ti, and the other consisting of just ti in the object position of the passive verb. Since the definition of chain requires that every chain must have one Case, it would follow that, assuming that chains do not have to be maximal, (1) is ruled out, since the chain ti lacks Case.
An example in English where this proposal seems plausible is that discussed in Larson (1985) where it is suggested that certain adverbial NPs, which are termed "bare NP adverbs", receive default oblique Case.

It should be noted that some elements of the definition of chain in (13) are similar to Chomsky's (1981) definition of chain, though definition (13) does not correspond to Chomsky's definition. Chomsky's definition requires that the set of positions in a chain be A-positions, as a consequence of his visibility hypothesis (to be revised below), and that the lowest position be a Θ-position. On the other hand, our definition of a chain is not necessarily Θ-based, since it does not stipulate that the structurally lowest position be assigned a Θ-role (see below for discussion).

Chomsky (1981: 334) assumes the principle (17) for Case-assignment to chains and the Case Filter (18):

(17) The chain \( C = (\alpha_1, \ldots, \alpha_n) \) has the Case K if and only if for some i, \( \alpha_i \) occupies a position assigned K by \( \beta \).

(18) Every lexical NP is an element of a chain with Case.

It is important to mention again that there is a difference between the theory of Case and chains presented here and the one presented in chomsky (1981). Chomsky restricts the domain of the Case Filter to A-chains, and thus also restricts the domain of Case inheritance to these chains. This is because he assumes that lexical NP's in \( \overline{A} \)-positions do not need to be Case assigned, since they are not part of A-chains.

It should be clear that in the theory presented here \( \beta \) in (17) is taken to refer to either an \( X^0 \), or to the default rule assigning nominative Case to adjoined NPs in Left-dislocation structures. It is also important to note that I am assuming the notion of Case inheritance as a property of both A-chains and \( \overline{A} \)-chains; hence when \( \beta \) assigns Case to \( \alpha \) ( \( \alpha \) is a head of a chain consisting of
more than one link, i.e., a moved NP), \( \alpha \) inherits the Case assigned by \( \beta \) to its D–structure position.

Another aspect of the theory of grammar is the visibility of elements in a sentential structure for interpretation. The constructions discussed in this study indicate that the visibility hypothesis in the strong sense—i.e. where the Case Filter is entirely derivable from the \( \Theta \)–Criterion cannot be maintained. In the following section, I propose a revision of the notion of visibility, which makes the property of having Case a crucial syntactic property for licensing and interpretability.

6.5 A Revised Notion of Visibility

6.5.1 'Having Case' and Visibility

The theoretical implications of LD, ECM and non–\( \Theta \)–subjects lead us to propose that a \( \Theta \)–interpreted chain is only one of the possible kinds of chains. The notion that every chain must contain exactly one \( \Theta \)–position needs to be revised to include the data discussed in earlier chapters. I suggest that a chain can be interpreted non–thematically by predication in the sense of "aboutness relation" with the rest of the sentence, a relation in which \( \Theta \)–indexing is possible but not obligatory as in Massam (1985).

The restriction I propose on the assignment of "the aboutness relation" is that the NPs that would receive this interpretation must be assigned Case. Case is a feature that makes NPs visible not to the \( \Theta \)–Criterion at LF, but to the Principle of Full Interpretation. In other words, within this proposal, the Case Filter is extended from being a condition on \( A \)–chains to being a condition on both \( A \)–chains and \( \bar{A} \)–chains. It is reinstated as a constraint on all aspects of LF interpretation, \( \Theta \)–assignment being one such aspect. Case is seen as a condition on interpretation at LF, making chains visible not to the \( \Theta \)–Criterion,
but to the Principle of Full Interpretation, which can be satisfied in a limited number of ways to be discussed below. This extended Case Filter is as in (19):

(19) Case Filter
The head of an A-chain and an X-chain (X-chains) must be Case-assigned.

The mechanism of Case inheritance will ensure that, if the tail of the chain (the lowest position) is Case-assigned, it will transfer its Case to the head of the chain, and in this way the head is appropriately Case-assigned.

The Case Filter can be motivated by relating it to considerations of LF interpretation. I state the X-chain visibility condition as follows:

(20) X-chain visibility condition:
An X-chain must be visible. An X-chain is visible to the Principle of Full Interpretation when it is Case-assigned.

There is a phonologically empty NP PRO, which is never Case-assigned; nevertheless, a chain consisting of PRO, is visible. The same is true of the trace that PRO binds, as in (21) where a Θ-role is assigned to the trace t and transferred to the head PRO of the chain (PRO, t):

(21) It is time [ PRO t, to be introduced t, to the visitors ]

Thus, the element PRO, which is an argument is visible to the PFI even though not Case-marked, a direct counterexample to the Visibility Condition in (20). Thus, I modify the second part of the condition to: "An X-chain is visible to the Principle of Full Interpretation if it is Case-assigned or is PRO." Note, however, that the Visibility Condition in (20) extends to PRO, and the chain (PRO, t ) in (21) without modification if I assume that PRO has inherent Case.4

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4 Note that non-arbitrary PRO has features for gender and number, as shown by agreement (a clause-bound phenomenon) in control structures:

(1)
a. Mary tried [ PRO to become a pilot (*pilots) ]
b. The men tried [ PRO to become pilots (*a pilot) ]

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Under the Visibility hypothesis (20), an NP may receive interpretation if it is Case-marked, or more precisely in terms of chains, if it is in a Case-marked chain, or if it is PRO. I can now state that for every chain (A-chain and $\bar{A}$-chain) there must be a Case-marked position, and still have this derivable from the visibility condition, redefined as a condition on LF interpretation which includes $\Theta$-interpretation and other types of interpretation. This is an extension of the traditional visibility hypothesis from being a condition on $\Theta$-role assignment to a broader condition on all aspects of LF interpretation (hence licensing).

6.6 Interpretation and Licensing

I assume the Principle of Full Interpretation (PFI) of Chomsky (1986a). The PFI requires that every element of PF and LF be interpreted. An element $\alpha$ can satisfy the PFI by being "either an argument, or the trace of an argument, a predicate or an operator. If an argument, $\alpha$ must be assigned a $\Theta$-role; if a predicate, $\alpha$ must assign a $\Theta$-role; and if an operator, $\alpha$ must bind a variable." (Chomsky, 1986: 101).

Ld'd and ECM'd NPs in Arabic are in $\bar{A}$-adjoined positions to which no $\Theta$-role is assigned, nor do they in all cases in Iraqi Arabic bind a variable. I propose that ECM'd NPs and Ld'd NPs are interpreted non-thematically by an "aboutness relation" with the rest of the sentence. Within this proposal, Case is viewed as a condition on all aspects of LF interpretation (cf. 24)

Unlike LD and ECM in which variable binding is not strictly required, the requirement on topicalized and wh-moved NPs is very tight in that they must

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I might assume that non-arbitrary PRO inherits its features from its antecedent; alternatively, I might assume that non-arbitrary and arbitrary PRO have inherent number; thus arbitrary PRO is plural in Italian, but singular in Spanish, as adjectival agreement shows.
bind a variable. I do not believe that there exists a functional difference between a topicalized NP and a wh-moved NP; the two maintain an operator-variable relation. Both sentences in (22) are grammatical:

(22)

a. kita:b-an, hasib-tu ṭamr-an qara? a t_i
book-acc thought-1sg ṭamr-acc read
"A book, I thought ṭamr read."

b. ma:ša, hasib-ta ṭamr-an qara? a t_i
what thought-2sgm ṭamr-acc read
"What did you think ṭamr read?"

The topicalized NP in (22a) is in an A–position since it is an adjoined position. The NP does not acquire its Case nor its Θ–role directly (assigned to it by a lexical head), but rather by inheritance from its trace by virtue of its membership in an A–chain, of which the topicalized NP is the head. The same holds for the wh-phrase ma:ša in (22b). ma:ša is the head of the A–chain consisting of ma:ša and t, with its Case inherited from its variable trace. The chain bears a single Θ–role, since its tail is assigned a Θ–role by the verb qara? a . Both sentences in (23) are ruled out by the same general principle, the PFI which requires every operator to bind a variable at LF for purposes of interpretation:

(23)

a. ṭamr-an, daraba ?aX-u:-hu_i t_i
ḥamr-acc hit brother-nom-his
"Ṭamr, his, brother hit t_i."

b. ṭan daraba ?aX-u:-hu_i t_i
who hit brother-nom-his
"Who, did his, brother hit t_i?"

At LF, the topicalized NP would therefore have the status of an operator, like the wh-phrase. In the class of operators, one distinguishes between those marked for the feature [−wh], and those which are not.
To summarize, I note the following facets of licensing:

(24)

a. an argument is licensed by being in a Θ–position.

b. A wh–operator is licensed by appearing in the specifier of CP at S-structure, from where it must bind a variable, conforming to the condition against vacuous quantification.

c. A topicalized NP is licensed by binding a variable at S-structure.

d. A Ld'd NP is licensed by predication. This notion of predication subsumes the "aboutness relation" with the rest of the sentence, and coindexation with a Θ–position.

e. An ECM'd NP is licensed by predication in the sense of (23d).

f. A non–Θ–subject is licensed by coindexation with a Θ–position, a facet of predication, as in (23d).

6.7 Summary of Chapter 6

In this chapter I have modified and extended the standard view of chains and Case. The standard view of chains restricts the domain of chain formation and Case assignment to A–chains. This is due to the Visibility hypothesis since, under this view, A–chains are the only chains which contain Θ–positions. I have extended the Case Filter to apply to A–chains and to A–chains as well. This is because NPs which are not in A–chains require Case just like those in A–chains.
Chapter 7

Conclusion

This chapter is a conclusion that will bring the thesis to a close by summarizing and integrating the important results embedded in the analyses of the constructions discussed in this study, and that are relevant to the various sub-theories of UG.

7.1 Range of Constructions

This dissertation centered on the analysis of constructions involving A-/A-position relations in Arabic within the principles and parameters approach embodied in the Government-Binding Theory. Now, I briefly review the possibilities for A-/A-position NP relations examined in the previous chapters. First, it is possible for an NP to be base-generated in a position adjoined to IP [α, IP], (possibly multiply) and to be coindexed with (an) NP (pronoun(s)) in (an) A-position(s), as in LD:

(1)

\[
\begin{array}{c}
\text{IP} \\
\text{[α, IP]} \\
\text{NP_1} \\
\text{NP_k} \\
\text{I} \\
\text{IP} \\
\text{pro_1} \quad \text{pro_k}
\end{array}
\]
A second instance of this type of relation is possible, but with adjunction to CP, as in (2):

(2)

```
 CP
  /\  \
 [α, CP] CP
      /\  \
     NP_i C
        /\  \
       C IP
    ... pro_i...
```

It is also possible for an NP to move and adjoin to IP, (possibly successively), as in topicalization:

(3)

```
 IP
  /\  \
 [α, IP] IP
     /\  \
    NP_i t_i
      /\  \
     IP t_i
```

A second instance of Topicalization is possible with adjunction to CP as diagrammed in (4):
It is also possible for an NP to be base-generated in a position adjoined to CP, [α, CP], and to be coindexed with an embedded subject, object, or oblique NP (pronoun) in an A-position. This position is an A-structure dominated by the node CP and is sister to it. This process is seen in Exceptional Case-marking constructions, where NP, in (5) receives Case from a governing non-thematically related verb to which it is not a sister:

The non-sisterhood relation between NP, and V in (5) is dictated by the Projection Principle, the hypothesis that syntactic structure must reflect lexical
properties (thematic structure) at all levels. In other words, the Projection Principle characterizes the mapping between thematic structure and grammatical structure. Grammatically, NP acts as an object (although NP is a non-sister to V) of the matrix clause due to government relation holding between the matrix verb and NP, which induces Case-assignment to NP, and the possibility of undergoing object-referring rules in the matrix clause, such as passivization and reflexivization.

There is also the straightforward movement of wh-phrases to the specifier position of CP:

(6)

Finally, there is the obligatory Case-triggered movement of an NP from the position [α, CP] to the matrix subject position of non-Θ-assigning predicates, such as yabdu 'seem', yadharu 'appear', with coindexation relation with an embedded subject, object or oblique object NP (pronoun). This relation is expressed by non-thematic subject constructions, as in the diagram (7):
It was shown that Arabic exhibits a productive use of A–IP-initial and sentence-internal base-generated adjunction sites. D-structure embedded IP adjunction sites are the regular locus of Ld'd NPs from which they are governed and assigned accusative Case by the Case assigning COMP ?anna. D-structure matrix IP adjunction sites, which are not introduced by a complementizer are also a possible locus for Ld'd NPs. In this case the Ld'd NP acquires the default nominative Case. IP adjunction sites, arising at S-structure, also provide a locus for topicalized NPs (an instance of move–α) inheriting the same Case assigned to their D-structure position. D-structure CP adjunction sites are the regular locus of NPs ECM'd under government by verbs to which they bear no thematic relation. I provided supporting evidence that Case is routinely assigned to the specifier position of IP and CP, thus
arguing for the definition of government as in chapter (1), if Case-marking is to take place under government.

Another central concern of current syntactic theory is licensing of elements within sentential structures. A number of results that emerged from the last three chapters have special relevance to the theory of licensing. Arguments are licensed by being in Θ–positions. A–positions which are not Θ–positions are licensed by either forming chains bearing a Θ–role, or by predication -- coindexing with an embedded Θ–position. Arabic Non–thematic subjects is an example of the latter case. X–positions are licensed by being in chains with a Θ–role, as in wh-phrases and topicalized NP’s, or by predication (having a coindexing relation with a Θ–chain, and the "aboutness relation" with the rest of the sentences, as in Left-dislocation).

7.2 Theoretical Implications for UG

In this dissertation, I have investigated a wide range of constructions and analyses. Now, it is time to take stock of some of the theoretical implications and results of this research for various subtheories of UG.

7.2.1 Case Theory

There are a number of important results that are directly relevant to Case theory. I provided strong empirical motivation for Case theory involving the primitive syntactic relations of configurationality, directionality and adjacency.

The bulk of chapter 2 has been devoted to defending the hypothesis that the VSO order of Arabic is obtained from an SVO D–structure configuration by fronting INFL and V to the left of the subject NP. The motivation for this rule has been ascribed to the setting of a single parameter of linguistic theory involving a rightward directionality of Case–assignment by INFL and other Case assigning
categories. For Arabic, this parameter is set to apply rightward. The behaviour of gerunds is a case in point. The ascription of the verb fronting rule to a rightward parameter setting for government and Case-assignment made an important prediction about word order in the gerundive construction.

The analysis presented in chapter 4 of topicalization and wh-questions constructions provided strong support for Case inheritance, and shows that it plays a significant role in the grammar. Case inheritance is a property regulated by the Case Filter, as the Case Filter forces Case inheritance by lexical NP's which fail to receive Case by direct assignment.

Moreover; the manner in which Case is assigned has been shown to be significant, as direct assignment of Case has been distinguished from Case inheritance, and from Case-assignment by default. The latter is relevant to a subset of Ld'd NPs, which gets nominative Case in the absence of an obvious Case assigner, thereby circumventing the effects of the Case Filter.

The domain of application of the Case Filter has been extended to include NPs in A-positions and NPs in A-positions. The principal sort of cases that justified this approach are topicalized, ECM'd and wh-NPs, in addition to Ld'd NPs. Moved NPs to an A-position inherit Case at S-structure in the same way that NPs in an A-position do. ECM'd NPs are in A-position, yet they must get accusative Case by direct assignment by a governing verb in the matrix clause, that is not by inheritance. Ld'd NPs are in an A-position, yet they must by assigned accusative Case directly by a governing complementizer; in the absence of a Case assigning complementizer, they must default to nominative Case.

Another important property regulated by the Case Filter is the principle of Case conflict. Case conflict, as generally conceived of, is a prohibition against the assignment of two different (i.e., conflicting) Cases to a single NP.
alleviated the notion of Case conflict to a principle of UG, and generalized it to rule out structures containing an NP such that the NP has received two Cases conflicting or otherwise from two different sources.

These properties provide further evidence that Case plays an important role in a variety of contexts, and supports in general our claim that having or not having Case is more significant than which particular Case feature an NP has acquired. This point will be further discussed in the following subsections.

7.2.2 Chains, Case and Θ–Theory

I suggested an approach to chains that takes a quite different tack from those generally discussed in the literature. All of the chains discussed in the works cited in section (6.2), are chains that consist exclusively of A–positions, that is to say, positions to which a Θ–role can be assigned by some predicate. One of the results based on the analysis of adjoined NPs and constructions involving extraction from an A–position to and A–position has particular relevance to the theory of chains.

The domain of construction of chains should not be limited to A–position, as it is widely assumed. But rather it should be extended to include A–positions as well. The principal motivation for this revision of chains is based on constructions involving NPs base–generated in A–positions and constructions involving extraction.

In my approach, whether the head of the chain (the structurally highest member) is an operator or not determines whether the chain in question is an A–chain or an A–chain. This means the distinction between A–position and an A–position that the head ends in defines the kind of chain being formed. Elements in A–positions, if they are lexical NPs, can count as the only Case-bearing head of the A–chain, just like elements in A–positions do in A–chains.
In chapter 6, I presented a theory of chains that attempts to accomplish this task.

On the basis of the analysis of adjoined NPs and non-thematic subjects in chapter 5, a principal outcome of this theory of chains has been the introductions of non-Θ-chains, that is, chains that do not receive a Θ-role directly assigned to them by a lexical head V, nor by a maximal projection such as VP. As argued in chapter 5, non-Θ-chains must be assigned Case, the presence of such chains in the grammar violates the standard hypothesis that reduces the Case Filter to a well-formedness condition on the assignment of Θ-roles at LF. This hypothesis is known as the visibility condition, the requirement that to be assigned a Θ-role, a chain must have Case, or be headed by PRO. I proposed an account in which the Case Filter is reinstated as a broad condition on LF interpretation including Θ-marking and all aspects of Interpretation. This approach can be reconciled with the traditional notion of visibility, as I shall explain in the next section.

I examined the status of the Θ-Criterion and the notion of D-structure as the level where only thematic NPs appear. The evidence presented in chapter 5 shows that part of the Θ-Criterion: every argument position must be a Θ-position can in fact be derived from a more general principle of the Principles and Parameters Theory: the principle of Full Interpretation (FI). FI requires that every grammatical entity be assigned an interpretation at PF (if present at the level of analysis where the phonological/phonetic interpretation is assigned to a sentence) and at LF (the component that assigns a semantic interpretation to a sentence). Thus FI forbids uninterpretable phonemes, free variables, vacuous operators, as well as uninterpretable arguments.
7.2.3 The Visibility Hypothesis Revised

The visibility hypothesis, the requirement that having Case is a requirement on the assignment of θ-roles to A-chains has been revised in chapter 6 to an X-chain visibility condition:

(8) X-chain Visibility Condition:
An X-chain must be visible. An X-chain is visible to the Principle of Full Interpretation, if it is Case-assigned, or is PRO.

I motivated the Case Filter by relating it not to the θ-Criterion, as it is commonly done, but to the Principle of Full Interpretation, a general principle of UG that requires elements in sentential structures to receive an appropriate interpretation and to be licensed in a finite number of ways. I suggested an extension of the visibility condition from being a condition on the assignment of θ-roles at LF to a broad condition on LF interpretation including θ-role assignment, and other forms of interpretation. This is accomplished by expanding the domain of the Case Filter, the linchpin of Case theory. The Case Filter has been revised to be a requirement on lexical NP's in A-positions and A-positions, rather than a requirement on θ-chains reducible to the θ-Criterion. In this revision Case, essentially the abstract relation holding between NPs and governors, is a feature that makes chains (A-chains and A-chains) visible to the principle of Full Interpretation, and not to the θ-Criterion. I maintained the classical distinction between A-chains and A-chains, but required the Case Filter to apply to both types of chains, as a consequence of the Principle of Full Interpretation.

The property of Case is a crucial component of interpretability, and thus must be assigned in some manner to make chains visible for LF Interpretation. Having Case, or not having Case (be it nominative, accusative, genitive, or otherwise) whether assigned directly, inherited, or by default, is a syntactically
significant property beyond simply having a particular Case feature in some context, and in some manner, and not some other Case feature.

7.2.4 The ECP

Some important results emerged from this research with respect to the ECP, a principle of UG requiring empty categories to be properly governed. I suggested that a clitic may appear as a result of move-a to properly govern the trace that fails to be properly governed. In other words, the clitic is a proper governor for a trace that is not in a configuration of proper government. The obligatory presence of an overt clitic, coindexed with the trace left by move-a in complement position of N, P and the preposition-like complementizer ?anna in Arabic is forced by the ECP to permit the trace in question to be properly governed. This is so, because the categories N, P, and ?anna are not proper governors, (although they are governors and are able to assign Case) and thus movement from the position that immediately follows these categories would leave a trace that is in violation of the ECP.

Another important result concerning the ECP is that two instances of IP counts as a barrier blocking antecedent government, hence proper government. Strong empirical motivation for this approach came from the interaction of wh-movement with topicalization and left-dislocation structures. Adjunction to IP blocks further extraction uniquely from the positions of subjects and adjuncts, while extraction from object position is generally permitted. The ECP provided a principled and an elegant account of this asymmetry: further extraction of subjects and adjuncts over two instances of IP nodes is ruled out since it leaves a trace that fails to be properly governed by its antecedent or otherwise. In contrast, extraction of objects leaves a trace in a properly governed position, a position lexically governed by the verb conforming to the ECP.
Bibliography


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Koopman, H., and D. Sportiche 1988 "Subjects" ms. UCLA.


