Sentential Complementation in Modern Greek

by

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**Submitted in partial
fulfillment
of the requirements for the
degree of**

Doctor of Philosophy

at the

Massachusetts Institute of Technology

June 1981

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May 27, 1981

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This thesis is dedicated
with love and respect
to those who have contributed to the
advancement of linguistics as a science--
"& their heads shall be crowned with laurels in oblivion"

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Abstract

This thesis makes two contributions to linguistic theory. The first is a technical contribution--the defense of the position that Finiteness, properly defined is the principle behind the difference in syntactic behavior between "tensed" and "non-tensed" clauses. The second is descriptive: a careful synchronic syntactic analysis of the Modern Greek language, with particular emphasis on the syntactic behavior of complement sentences. These two contributions are closely related in that the definition of Finiteness adopted here is utilized in an examination of Modern Greek sentential complementation. It is shown that, although rules of sentence grammar seem to "penetrate" certain Modern Greek complement clauses, the process which is operative in these constructions is actually part of discourse grammar (Chapter 4). Specifically, the construal of matrix nominals with complement Noun Phrase positions is shown to be effected by the normal discourse rule which selects the antecedents of pronouns. To bolster this analysis of the constructions in question, Modern Greek relative clauses are also examined and the same discourse process is shown at work in the interpretation of relative clauses introduced by the Complementizer *pu* (Chapter 3). To prepare for the discussion of these clausal complements, the Modern Greek Pronominal, Auxiliary and Complementizer systems are examined (Chapter 2). In the course of this examination, an analysis of the "clitic-doubling" phenomenon of Modern Greek is presented which ties differences in the behavior of clitic-doubling in Modern Greek and other languages to other, more wide-reaching differences between the languages.

Thesis Supervisor: Kenneth Hale
Title: Professor of Linguistics

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Acknowledgments

Say there, baroun loosadoor, who in halhagal wrote the durn thing, anyhow?

--James Joyce, *Finnegans Wake*

As is always the case, a great many people have contributed to the writing of this thesis. I can only offer my thanks to:

- Noam Chomsky, Ken Hal and Paul Kiparsky, the members of my committee, for many useful comments and probing questions which have helped me understand better what I've been trying to do in this thesis all along;

- George Savidis, for reading over the Greek examples in Chapters Two, Three and Four and offering many suggestions and examples which improved my understanding of the phenomena; and also, thanks to George Savidis, simply for *being* George Savidis;

- Leland George, who has been like a fourth member of my thesis committee all during the time I've been working on it: offering innumerable comments, criticisms and suggestions, which have helped make this thesis substantially better than it might otherwise have been;

- Bill Hawkins, Phil LeSourd and Jaklin Kornfilt for friendship, comraderie and various rants (late-night and otherwise) over the subject matter of this thesis;

- Craig Thiersch, for his kindness to me when I was a simple first year student and didn't know anything about linguistics, and for his friendship since;

- Donca Steriade, Julia Horvath, Maria-Luisa Zubizaretta, Osvaldo Jaeggli and Guglielmo Cinque for helping me put my own work in perspective with discussions of similar problems in the languages that they were working on;

- Ann Farmer, Ken Safir, Mark Baltin, Wilson Grey, Amy Weinberg for making the linguistics department a sociable place;

- Jim Harris, Wayne O'Neill, Jay Keyser and Haj Ross for being part of my linguistics education;

- Joan Bresnan, Morris Halle and Miss Togar for teaching me my most valuable academic lessons;

- Kirk Wilson, Lyn Bates and the other members of the ILIAD Project for making me do English syntax, even while I was absorbed in Modern Greek, and for forcing me to come up with *rules* to deal with syntactic phenomena;

- Robert Marasco, who taught me Ancient Greek, little knowing what it would lead to, and Rev. Robert G. Kelly, S.J., James Bradley, Anthony Macro and John Williams, for being part of my subsequent education in things Hellenic;

- Michael Avgerinos, who taught me Modern Greek and got me interested in some of the syntactic peculiarities of that marvelous language even before I was interested in linguistics;

- Effie Voutira, Philip Kargopoulos, Leo Papademetre and Dia Philippides, who served as informants;

- Eddie Mason, Bill Pooler, Ron Havern, Amy Pitter, Rasa, and the other members of the west bank kibbutz and its suburban extensions for friendship;

- My parents, for their support;

- Bob May, Jan Walker, EMACS, Scribe and the Dover, without whom this physical document would not exist.

And now, hah, "The game's afoot!"

"In a morass, Watson?"
"I am at my wits' end."
"Tut, tut, we have solved some worse problems. At least we have plenty of material, if only we can use it."

--Arthur Conan Doyle
"The Adventure of the
Priory School"

Chapter One

Introduction

"We must study our language since we don't know it. What hidden treasures it contains, what treasures! Our thought ought to be how we are to enrich it, how to bring to light what it has hidden in it."

---Constantine P. Cavafy

1.0 By way of a Preface...

Perhaps the first question a reader might ask when confronted with a study such as this is: why Modern Greek? There are two answers to this question. First of all, to my knowledge, there exists no detailed analysis of the syntax of Modern Greek within the framework of generative grammar. Modern Greek has, indeed, been studied within the generative framework, but such large-scale generative research as has been conducted has examined Modern Greek either from the point of view of areal linguistics (as in Kazazis (1965)) or from that of diachronic inguistics (as in Joseph (1978)). There have also been several papers and articles dealing with particular problems in Modern Greek syntax (e.g. Drachman (1970), Joseph (1975; 1976) Kazazis and Pentheroudakis (1976), Maling (1977), Warburton (1977); also Andrews (1975, 154-159) and Perlmutter and Soames (1979, 154-171), among others) since the first generative treatment of Modern Greek by Koutsoudas (1964). But a generative treatment of the overall syntax of Modern Greek remains lacking. This study is intended to fill this gap.

A second and even more important reason for studying the syntax of Modern Greek is that Modern Greek contains phenomena that appear to violate certain

universal principles that have been proposed in the linguistic literature. For example, the corpus of Modern Greek contains sentences such as the following:

(1) o Yanis fenete na[1] fiyi
the John seems-Imperfective-Non-Past-3SG
leave-Perfective-Non-Past-3SG
"John seems to be leaving"

In this sentence *o Yanis*--"John"--in the matrix clause is construed as the subject of the complement clause. Note that the complement clause is finite in that *fiyi*--"leave"--is marked with Imperfective Aspect and Non-Past Tense and bears the same person and number agreement markings that can appear on any matrix verb. Thus, it appears that the rule of Raising has "applied into" a finite clause. If this construal has indeed been effected by the rule of Raising, this example, and others like it, which are abundant in Modern Greek, is a clear-cut counterexample to various proposals which have been made concerning the conditions which govern the application of such rules as Raising, EQUI,[2] Control, etc.

Chomsky (1973;1976) has proposed that the Tensed-S Condition (later reformulated as the Propositional Island Condition (1977) and, more recently, as the Nominative Island Condition (1978 [=(1980)])) blocks rules of sentence grammar from applying into finite clauses.[3] Postal (1974, 6, n. 8) (following Kiparsky and Kiparsky (1970, 159-161)) put forth a theory that rules such as Raising and EQUI which leave a "punctured" clause, by removing the subject, universally de-finitize

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[1]For the syntactic classification of the formative *na* see Section 2.5

[2]I follow here Chomsky and Lasnik (1977) who distinguish Control--coindexing of a PRO subject--from EQUI--which is taken to be deletion of the element PRO-self--rather than earlier theories (e.g. Postal (1974)) in which Control is a special (and obligatory) case of EQUI.

[3]I ignore here the question of whether the appropriate constraint should be taken as a condition on rules or as a condition on binding. For further discussion of this question see Section 1.2.3.

the clause remnant. (Postal does, however, express some reservations regarding the universality of this condition (*op. cit.*, 60, n. 7).) Bresnan (1978) has ascribed this limitation on the application of rules of Raising, etc. to a property of the complement system. Under her proposal non-finite clauses are actually VP's (or $\bar{\bar{V}}P$'s) whose "missing" subjects are restored at the level of lexical functional structure by lexical rules. Brame (1979) has proposed a theory similar to Bresnan's. All these analyses would be counterexemplified if examples such as (1) were produced by rules of sentence grammar: Chomsky's, in that the rule of Raising will have applied into a finite clause; Postal's, in that a subjectless clause would have been produced without being de-finitized; and Bresnan and Brame's, in that the missing subject of the lower clause would have been replaced in a sentence, rather than in a VP.

It is to this class of phenomena that this thesis will be devoted. As we shall see below, Modern Greek almost totally lacks non-finite clauses: the infinitive has utterly disappeared, except in a few lexicalized expressions, and the remnants of the Ancient Greek participle never appear as clausal complements, but only as adjuncts to sentences (See Section 4.5). Hence, any actual application of rules of sentence grammar such as Raising, EQUI, Control, etc.--which must crucially apply into a complement clause--will contradict the principles cited in the preceding paragraph. I will attempt to show that the apparent counterexamples to the principles are in reality not counterexamples at all. I will examine and evaluate two hypotheses which can explain these phenomena and which claim that sentences such as (1), when properly analyzed, either support the principles in question or are actually irrelevant to their validity.

The first hypothesis, which will eventually be rejected, is similar to that proposed in Kim (1976) for a certain class of "disjoint reference" phenomena in Korean. According to this hypothesis the clauses which appear to violate the finiteness

restriction on rule application outlined above are actually infinitives from the standpoint of universal grammar (henceforth, UG). As we shall see, most of the clauses which appear to violate the finiteness restriction contain the verbal particle *na* (see example (1)). Thus, it might be proposed that *na* serves to de-finitize these clauses, or to make them accessible to the rules in question, at least under the proposals of Postal or Chomsky.[4] However, as will be seen in Section 1.3 (and more clearly in Section 2.5), under the precise definition of "non-finite" that I shall adopt for the purposes of this study, *na* cannot serve to mark the clauses in question as infinitives.

The second hypothesis, whose correctness this thesis is intended to demonstrate, proposes that, while the clauses which are to be examined are, indeed, finite, the rules which apply to mimic the effects of Raising, etc. are actually rules of discourse grammar. To be more precise, they are the rules which effect the interpretation (and, in some cases, the "deletion"--see Section 2.1.4) of resumptive pronouns. Given this analysis, it is only natural that conditions on sentence grammar--such as the Tensed-S Condition, in the system proposed by Chomsky--should be irrelevant to the operation of these rules. Indeed, part of my demonstration that this second hypothesis is the correct one will consist in showing that the Modern Greek analogues of rules such as Raising violate *all* the conditions which have been proposed on rules of sentence grammar, and not merely the finiteness restriction. To further substantiate the correctness of this analysis, I shall also examine Modern Greek relative clauses, where the use of the discourse interpretation of resumptive pronouns to ape the effects of a rule of sentence grammar--in this case, WH-Movement--is, perhaps, even clearer.

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[4]The Bresnan and Brame VP proposal concerning infinitives cannot possibly hold of Modern Greek, however, since clauses containing *na* can take overt subjects--and, occasionally, Complementizers as well. Hence, they must be Sentences, not VP's. See Section 2.5.

1.1 Theoretical Preliminaries

1.1.1 General Assumptions

Having outlined the problem which it is the task of this thesis to confront, I will now turn to the theoretical framework in which my investigations will be conducted. Though I noted various syntactic theories in Section 1.0 in which the finite/non-finite distinction is crucial, I shall be concerned with only one of them in this thesis: namely, the theory of classical transformational grammar (cf. Chomsky (1955 [=(1975)];1957), Bach (1977, 151-152)) as modified and restricted by theoretical devices more recently proposed by Chomsky (1964a;1964b;1968--the A-over-A condition; 1970a [=(1972, 11-61)]--the X-bar theory; 1973;1976--the Strict Cycle, the Tensed-S Condition, the Specified Subject Condition, the Superiority Condition). Specifically, I assume that a grammar contains the following components:

- a **base component**--which includes a lexicon, rules of word formation (cf. Aronoff (1976)), and a categorial component, which is a version of the X-bar theory (Chomsky (1970a [=(1972, 11-61)])). I assume, following Jackendoff (1974;1977) and Williams (1974), among others, that the category traditionally labelled as S or S is actually a projection of V. However, in opposition to Jackendoff, and following arguments of George (1980a;1980b), I further assume that the "Uniform Level Hypothesis" is incorrect and that various categories are of greater structural complexity than others, V being the most complex, N the next most complex, while P and A have very little internal complexity. Finally, I adopt the notation "$X^{\neg}$" (read "X-corner") from George (1980a;1980b) to indicate the highest projection of an X-bar category. Thus, $V^{\neg}$ corresponds to the traditional "Sentence" or "S/S," $N^{\neg}$ corresponds to "NP," etc. I will, however, occasionally use the term VP to refer to a Verb and it complements; in this use VP is distinct from $V^{\neg}$ and does not refer to the maximal projection of V;

- a **transformational component**--which consists of a small number of

transformational rules, governed by the principle of the Strict Cycle (Chomsky (1973) and Williams (1974), whose arguments that syntactic rules are assigned to various domains--e.g. V, V, $\bar{V}$, etc.--may be reformulated as a proposal that all nodes are cyclic) and other conditions on rules such as the A-over-A Condition, the Tensed-S Condition, the (Specified) Subject Condition and the Superiority Condition. The transformational component includes rules such as WH-Movement (which produces questions and relative clauses, among other constructions), N^1-Preposing (which produces Passive and Raising constructions, among others), Bound Anaphora and Reciprocal Interpretation (for some discussion of "interpretive" rules as transformations which contain a null elementary, see Section 1.1.2.1 and Ingria (to appear)); and

- a **phonological component**--which incorporates a distinctive feature system, such as that presented in Chomsky and Halle (1968) and modified by more recent work (e.g. Halle and Stevens (1971)), and whose rules apply in accordance with the principle of the strict cycle (see, e.g. Mascaro (1976)).

Note that, in distinction to more recent pictures of grammar (e.g. Chomsky (1977; 1978 [=(1980)])), there exists no separate "logical form" component in this grammar. This omission is deliberate. The outline presented here is essentially that of classical transformational theory. I have not changed the organization of the grammar postulated by this theory, I have only incorporated more recent theoretical devices--such as the X-bar theory, the strict cycle and other conditions on rule applications--which have refined and further restricted the classical theory. I defer a full discussion of my reasons for rejecting the standard assumptions of current syntactic theory until a later date. (However, I take the fact that this thesis, which makes use of none of these devices, is able to provide an explanatory analysis of a wide variety of syntactic phenomena in Modern Greek to demonstrate the utility of the framework assumed here and the feasability of using its constructs to do serious syntactiic analysis.) For the present, I merely note that the framework adopted here does not contain a level of logical form in the sense of recent syntactic work (i.e. a

single level of linguistic representation at which grammatical relations, coreference relations, and scope of logical operators is indicated) nor does it posit the existence of "hyperindexed" traces; that is, traces which bear indices which are objects in derived structural interpretations and which are subject to analysis by rules of syntax. I use the term "trace" exclusively in this sense throughout this thesis.

Within this modified or "augmented" version of classical transformational theory, the condition most germane to the present study is the Tensed-S Condition (henceforth, TSC). This is the condition that, properly formulated, will determine whether the complement clauses containing *na* in Modern Greek are actually finite or non-finite from the standpoint of UG. In Section 1.2 I examine the various formulations of the TSC that have been proposed in the literature in order to determine the correct--and most precise--formulation of this condition.

1.1.2 Theoretical Elaborations

However, before turning to this discussion, it is necessary to elaborate on some points in the general theoretical framework which I am assuming here. I assume that the transformational component of grammar consists of a small number of fairly general rules and that these rules are constrained by a number of conditions, which make up the definition of proper analysis. An important point must be made about the interaction between these rules and the conditions. Contrary to more recent proposals (see e.g. Rizzi (1977)) I assume that the conditions (the components of the definition of proper analysis) are universal (although their phenomenal effects may differ from language to language, albeit in a predictable way, given a grammar of a particular language; cf. definition of Finiteness in Section 1.2.3) and that the specific rules which an individual language possesses are determined by the language learner on the basis of positive evidence and that, consequently, different languages may have different transformations. This differs sharply from the

position of the Revised Extended Standard Theory, in which it is postulated that there is a single universal transformational rule, "Move α", and that the conditions are "parameterized" and may vary in defined ways from language to language.

(However, Chomsky has suggested on at least one occasion (Class Lecture, Thursday, March 13, 1980) that "Move α" is, in fact, not a single transformational rule, but, rather, a cover term for a family of diferent transformations:

> ...And, in fact, how could we interpret this [Move α] altogether as a transformation? It doesn't have the properties of a transformation.
>
> Well, the way to do it would be to take [Move α] to constitute what was called a family of transformations in, say, *LSLT*. That is to say, "Move α" is really...the description of a category of transformations, any one of which meets certain conditions. And the conditions that any one of these transformations must meet is (1) it's either substitution or adjunction; and (2) its structural description is of the form $(\alpha_1,\alpha_2,\alpha_3)$ understood as above [i.e. α_2 is the term affected by the rule and implicit variables are permitted--RJPI], where α_1 and α_3 can be freely associated with anything that you like...That doesn't mean that they're end variables; they're not variables. If they were variables, for example, you couldn't adjoin something to them, because you can't adjoin to a variable. They're constants, but just any constant you like. [Within the theory of restricting classes adopted here, this is equivalent to saying that α_1 and α_3 are category variables; see discussion below--RJPI]
>
> ...Taking it in *this* way, if we say that a language has the rule "Move α", we're really saying not that it has the transformation "Move α" but that it has the family of transformations "Move α"; meaning it has any actual transformation that meets the condition that it's either substitution or adjunction and that its structural description is of the form $(\alpha_1,\alpha_2,\alpha_3)$ where $\alpha_1,\alpha_2,\alpha_3$ are arbitrary constants and can be interpreted along the lines already given...
>
> So I think that would be the way to interpret that sort of limiting possibility.

Crucially, this proposal seems to allow the "actual transformations" to differ from language to language, and, thus, is compatible with the position adopted here.)

Thus, I assume that differences among the derived phrase markers permitted in languages which are otherwise similar, e.g. in the PS component, are due to the existence of different transformations in those two languages, rather than due to the differences between the values which have been fixed for the conditions. (See George (1980a, 67-80; 1980b, 63-74) for a discussion of the differences in the WH-Island phenomena in English and Italian from this perspective.) This position makes an empirical prediction: that there exist differences between languages which are best ascribed to postulating different transformations for the two languages, and which can be described only with difficulty or not at all as the result of differences in fixing the parameters in various multi-valued conditions. In the analysis of the Modern Greek data to be presented below I hope to show that there are such cases.

As in the classical theory, I take a transformation to be the pair (Q,t), where Q is a restricting class (or structural description, in more recent parlance) and t is an elementary transformation; further, following more recent proposals (e.g. Chomsky (1978 [=(1980)]), I assume that compounding of elementaries is not allowed. The theory of restricting classes and permissible elementaries adopted here differs in some particulars from more familiar theories of transformations. With regard to restricting classes, I distinguish (following George (1980a, Section 3; 1980b, Section 3) two different types of variables: *cat* and *str*, where *cat* is a category variable, or variable which ranges over categories, and *str* is a string variable, or variable over strings. To give a concrete example, if the rule of WH-Movement were formulated as in (2)

(2) COMP cat WH str

Adjoin 3 to 1

this rule could only move those WH-Phrases which were separated from COMP by a single constituent. The proper formulation of WH-Movement in the present

framework would be:

(3) COMP str WH str

Adjoin 3 to 1

This rule would allow the target WH-Phrase to occur arbitrarily distant from COMP.

In regard to elementary transformations, in addition to substitution and adjunctions, I permit transformations to contain the null elementary, i.e. the "identity transformation" of Chomsky (1955 [=(1975)]). In effect, such rules consist of a structural description without a structural change. Such transformations serve two functions within the framework assumed here. First, they serve as an indexing mechanism, reconstructing indexing as a relational notion. (This proposal is based on a suggestion by George (1980a, 62-63; 1980b, 59-60; personal communication) that the only notion of indexing required in generative grammar is that defined, and successively refined, by the (independently necessary) concepts of "occurrence", "proper analysis", "root" (in the sense of Chomsky (1955 [=(1975)]), and "derived phrase structure interpretation" [= "derived phrase marker"]. See also Chomsky (1953; 1955 [=(1975)]) on the definition of occurrence and Goodman (1951) on the "at" and "togetherness" relations. These latter relations correspond, roughly, to the linguistically relevant relational notions of "root" and "occurrence"/"indexing", which trace theory treats as the objects "trace" and "index", respectively.) Second, they serve as "sanctioning" transformations and play a crucial role in the theory of case assignment which I will outline below.

1.1.2.1 Relational Indexing

Before turning to this system I first will expand upon the idea that indexing as a relational notion. The notion of index, as an element which is subject to proper

analysis, remains a vacuous notion until a valid definition of what an index *is* is given. Given this fact and given also that co-indexing is a necessity of generative grammar, it is necessary to postulate some mechanism that serves this function. Crucially, the indexing relation can exist non-locally. Thus, a bound anaphor, like a reciprocal, need not be adjacent to its antecedent, and, in fact, typically will not be. This fact immediately suggests that transformational power is required to effect this co-indexing. Following George (personal communication), I take co-indexing to be the relation that exists between two constituents which are mentioned by the same rule, i.e. which are terms in the same proper analysis. I further distinguish a particular subcase of co-indexing so defined and characterize it in the following way: "binding" is said to exist between two constituents if both include minor specifiers (i.e. specifiers which are members of minor categories) which are terms in the same proper analysis. (I use binding as a more neutral term than "coreference", which binding subsumes, since there is assuredly binding in a sentence like *Nobody hates himself* although it would be ludicrous to speak of coreference in this case, since *nobody* is not a referential expression.) I restrict binding to this particular subcase of co-indexing for the following reasons:

1. There may be cases in which two elements are co-indexed in the broader sense but in which they are not bound; e.g. a rule which mentions a Noun Phrase as part of the context of the movement of another Noun Phrase. See Rule (50) in Section 2.1.2 below for an example of a rule which would (wrongly) assign binding between two $N^{\neg}$ complements if this restriction were not adopted.

2. In the examples which I have examined in light of this relational notion of indexing, in all those cases in which binding has existed between two $N^{\neg}$s, the rule in question has mentioned a minor specifier of each $N^{\neg}$. (I give examples below.)

3. Restricting binding to this class of cases as the unmarked situation, may provide an interesting explanation of a variation in the possible antecedents for reflexives in English and other languages.

I will now provide examples which illustrate the latter two points. In Ingria (to appear) I note that the antecedents of "restricted possessives" (term due to Helke (1971; 1973)) are unambiguously determined by selectional information. Restricted possessives are Noun Phrases which contain an obligatory possessive pronoun which must be bound to an antecedent. Examples are *lose one's mind, nod one's head, blink one's eyes*, etc. Note that in each case the antecedent is subject to selectional restrictions.

(4) John lost his cool

(5) *The book lost its cool

(6) *Sincerity lost its cool

I assume that the rule responsible for the insertion of the verb *lose* in such cases is:

(7) V → lose / ANIMATE __ PRO cool

Several comments must be made about this rule. First, I follow George and Hoffman (1979) and George (in preparation) in treating lexical insertion rules as being insertion transformations (though I have written this rule as a rewrite rule for expository purposes). The reason behind this move is that lexical insertion rules require transformational power in that they can refer to more than one line in a phrase marker.

Second, I follow Emonds (1976) and George (1980a, 38; 1980b, 36) in assuming that transformational rules need to mention only the heads of the phrases they affect--that is, that transformational rules need not mention the rank of an X-bar category; by the A-over-A principle, the highest projection will be chosen. (In the case of rules that affect a non-maximal projection, it is assumed that the restricting class contains a (minor) specifier of that phrase as a constant term.)

Third, I follow George and Hoffman (*op cit*) and George (*op cit*) in treating

inherent features essentially as specifiers, and eliminating binary features from the selectional system. (See the references cited for a full discussion of the motivation for this treatment of selection.) It is for this reason that the Subject $N^{\neg}$ in (7) is specified as being simply ANIMATE, rather than [+ANIMATE].

Finally, I follow Postal (1966) in treating pronouns as specifiers of $N^{\neg}$ rather than as the head of $N^{\neg}$. (See Ingria (to appear) for some justification of this analysis; see also Section 2.1.1 below for evidence that a similar analysis holds for Modern Greek.) Under the definition of binding, and given these assumptions, this insertion rule will effect co-indexing and binding between the subject of *lose* and the possessive pronoun in the $N^{\neg}$ headed by *cool.*

This may seem like a great deal of theoretical machinery just for a single case like the above. However, each of the principles is independently motivated and moreover, utilized in this fashion they explain an interesting property of restricted possessives. Even in those cases where there are two possible antecedents, they can be interpreted unambiguously. Thus, in (8), *his* can only refer to *Harry.*

(8) Bill is driving Harry out of his mind.

Note that the expression *drive one out of one's mind* imposes selectional restrictions on the object position, but not on the subject position, which may be human:

(9) Mortis is driving me out of my mind

or simply animate:

(10) This cat is driving me out of my mind

or concrete:

(11) The pain is driving me out of my mind

or abstract:

(12) The Committee's stupidity is driving me
out of my mind

The object on the other hand must be animate:

(13) The pain is driving the poor cat out of
its mind

(14) *We will drive the pain out of its mind

These facts may be explained by postulating the lexical insertion rule:

(15) V → drive / ___ ANIMATE out of PRO mind

(The expression *drive one out of one's mind* which requires binding between the object and the possessive pronoun and which has the interpretation "cause to become crazy" should not be confused with superficially similar sentences such as the following:

(16) I am unable to drive the faculty's
stupidity out of my mind

In such cases, there are no selectional restrictions on either the subject or the object, an antecedent is not necessary for a possessive pronoun when it occurs, the possessive pronoun is not necessary, and the interpretation of such sentences is not idiomatic. Compare the following with (8)--(14).

(17) Tricia helped drive the bouncer's arrogance
out of my mind

(18) Lots of rest has finally driven the fear
out of his mind

(19) The faculty has driven Daphne out of the department)

Finally, note that the binding relation between an antecedent and a possessive

pronoun in a restricted possessive must be established in deep structure and that (c-)command (or, at least, precedence) plays a role in determining the antecedent, as well as selectional restrictions. Consider the following sentences.

(20) John gave his word to Bill

(21) John gave Bill his word

In each case *his* must refer to *John*. However, selectional restrictions alone cannot determine the antecedent of this pronoun, in that *give* imposes selectional restrictions on both its subject and indirect object; both must be HUMAN. However, if it is assumed, as it was in traditional transformational grammar, that there is a transformational relation between (20) and (21), and that (20) reflects the deep structure order of constituents, then given the definition of binding adopted here and the precede and/or command condition on binding, the non-ambiguous reference of *his* is explained, by positing the following insertion rule.

(22) V → give / HUMAN __ PRO word to HUMAN str

(It might be objected that this solution is impossible because recent work has shown that the Dative alternation is "lexical". However, Hoffman (1980) has convincingly argued that the Dative alternation is in fact transformational and has shown that the process which effects this alternation is productive; independant subcategorization facts predict which Verbs allow the productive Dative alternation and which do not.)

I hedge on whether it is command or precede-and-command that is operative here because of an uncertainty in the analysis of the *to* phrase in datives. George (1980a, 33-36; 1980b, 32-35) argues that some grammatical elements that have previously been analyzed as prepositions (such as *to, for, of*) are actually case markers, and that, in fact, there is no syntactic category of Prepositional Phrase, but rather a series of different major (e.g. Locative Phrase) and minor (e.g. case)

categories that replace the elements previously analyzed as PP's. Under his analysis, then, the dative phrase in (22) would actually be an $N^{\neg}$ and it would be precede-and-command (rather than command alone) that would be relevant. Hoffman (1980), while accepting George's proposal that there is no uniform category of PP and extending his analysis by examining some of the properties of the various categories into which PP may be divided, differs slightly in his analysis of such *to* phrases, positing a separate major category of Dative Phrase. If this latter analysis is correct, then simple command alone, without any need for precedence, is relevant here. Thus, I suspend any final judgment of this question until the analysis of *to* phrases is settled. (I will, however, say that George's proposal seems more plausible, in that many of the verbs which take dative phrases impose selectional restrictions on the "object" of such phrases; see George (1980a, 35; 1980b, 33). This would be unusual, in that selection is typically "local" in the sense that heads of constituents impose selectional restrictions on their complements but not on the complements of their complements. However, this fact would be explained if dative phrases are actually Noun Phrases with the case marker *to*.)

In all cases of bound anaphora that I have considered, the rule binding the two elements which are bound has mentioned a minor specifier of each of the phrases. There is only one counter example that I know of. This is the English reflexive. In Ingria (to appear) I argue that the rule binding a reflexive to its antecedent is one of the following.

(23) N → self / N str PRO ___

(24) N str PRO self

This analysis assumes that reflexives are of the form $[_{N^{\neg}}$ PRO $[_{N}$ self]]; i.e. that they consist of the aparadigmatic head noun *self* plus the specifier element PRO. (In contrast, ordinary pronouns are analyzed as Noun Phrases with a null head and a PRO specifier.) This rule has several interesting features. Unlike (15) and (22),

which are lexical insertion rules, and, consequently, are ordered (intrinsically) before all other rules, (23)/(24) may apply at any point in a derivation, subject to the Strict Cycle. Moreover, the antecedent in other cases was specified by some selectional feature. In this case, only the category is specified.

Given these two facts, the ambiguity of coreference of English reflexives follows. Thus, as Helke (1971, 57) points out, in the following sentence *herself* may have either *the rich girl* or *the poor girl* as its antecedent, depending on whether (23)/(24) applies on the S cycle or the VP cycle (using the traditional names for these constituents).

(25)(=28) The rich girl talked to the poor girl about herself

In contrast, the German sentence (26), which is point by point parallel with (25), is unambiguous.

(26)(=30) Die reiche Frau hat mit der armen Frau über sich gesprochen

Here, *sich* can only be bound to the subject *die reiche frau.* Thus, there are two facts to explain: first why (23)/(24) makes no reference to any specifier element of the antecedent of the reflexive and why German displays no ambiguity in choosing the antecedent of a reflexive, uniformly choosing the subject. A possible explanation might be found in George's (1980a, 35-36; 1980b, 34) suggestion that case is normally neutralized, if not totally absent, in English Subjects and Direct Objects. German, on the other hand, has a vigorous case system. If it could be shown that the German equivalent of (23)/(24) makes use of the case (which I treat as a minor specifier; see discussion below) to select a possible antecedent, then the answer to both of the questions posed above would follow fairly straightforwardly. German would use case to disambiguate in instances of conflicting possible antecedents,

whereas English, because of its (relative) lack of case, would not be able to do the same, and, consequently, would allow for ambiguity with respect to the selection of antecedent. English would also be required to posit a marked (under the analysis of binding proposed here) rule which established a binding relation with a Noun Phrase which was not marked by a specifier in the restricting class of the rule setting up that binding relation. This proposal, then, perhaps falsely, claims that the unmarked situation among languages of the world is for reflexives to have unambiguous antecedents and that it is only in the case of languages which lack a specifier element to provide this disambiguating function that reflexives are unambiguous. Certainly this is an interesting claim, although I am not sure that it is true.

One of the consequences of such an analysis of indexing and binding, is that the notion "bound anaphor" is made a relational, rather than a subcategorial notion. Treating bound anaphors as a relational notion, based on the application of lexical insertion rules, makes for just the right analysis. Where a pronoun is treated as a bound anaphor on the basis of lexical information, this fact is captured by the postulation of a lexical insertion rule for that particular context, which is independently necessary, in any case. In cases where a particular formative is *always* treated as a bound anaphor, this fact is captured by a rule particular to that formative, such as (23)/(24), but applicable in a wide range of syntactic configurations (subject to general conditions on proper analyzability, of course). In the discussion of Modern Greek Pronouns in Section 2.1.2 I show another instance in which it is the involvement of a pronoun in a particular rule that determines whether it is interpreted as a bound anaphor, or as a non-anaphoric pronoun.

A final fact about bound anaphors which needs to be discussed before we turn to consideration of sanctioning rules is a constraint on the elements which are bound by the application of a binding rule. Note that the following examples are ill-

formed.

(27) *I saw himself

(28) *John nodded her head

(29) *They expressed his support for the proposal

In these cases, the utterances are ill-formed because the reflexive or bound pronoun does not agree with its antecedent either in person, or number, or gender. There are two ways to explain the requirement that bound anaphors agree with their antecedents in person, number and gender. The first would be to build this requirement into each of the rules effecting this binding. This would miss the generalization that this condition holds of every application of a rule which produces a binding relation, and would predict (falsely) that individual binding rules might or might not be subject to this condition. The second approach would essentially be a filtering proposal; i.e. that there is a condition on structures to which binding rules have applied such that the elements which are bound to one another must agree in person, number and gender (and perhaps other features, depending on the language internal analysis of pronouns; see Section 2.1.2 for some discussion of this point.)

1.1.2.2 Generalized Filters

Consideration of this particular filter leads naturally into a discussion of filters and filtering in general, a discussion which is necessary before I can turn to the second type of null transformations: the sanctioning rules. In this discussion I will draw a distinction between what I will call *ad hoc* filters, following the practice of Postal (1972), and what might be called general filters. The clearest discussion of *ad hoc* filters is in Chomsky and Lasnik (1977). They state that filters have transformational power, in that they impose a proper analysis and that they "assign

*" to certain offending structures (Chomsky and Lasnik (1977, 463). Thus, like all transformations, they consist of a restricting class, which, in each case, identifies a particular syntactic structure, and an elementary transformation: "assign *".

Let us first consider the proposed elementary. Note that this elementary is in fact a reification of the notion "ungrammatical utterance". That is, "*", as an orthographic convention, is an indication of what is essentially a relational notion. It indicates an utterance which is ill-formed on at least one linguistic level. Looked at in a "the opposite direction", as it were, it indicates an utterance that does not meet the definition of the concept "generate", which is also expressed succinctly by George (1980a, 82; 1980b, 75) as the

(30) *Fundamental Law of Spelling*

> Each utterance must be represented by a normal string on every grammatical level, and these representations must be properly linked by the mappings Φ.

See also sources cited at the places indicated. Recourse to *ad hoc* filters, then, rather than explaining the ungrammaticality of an utterance by showing that there is one or more linguistic levels on which that utterance is ill-formed, designates a *specific* configuration which is "ungrammatical". (Note that the specification of the level or levels at which a particular utterance was deviant was stated to be the function of an explicit grammatical theory, in the earliest work on the subject; see Chomsky (1955 [=(1975)], etc.) Thus, there are several arguments against filters, in the currently accepted sense of the term.

- They reify the notion of ungrammaticality.

- They make use of the undefined elementary "assign *". (See George (1980a, 80; 1980b, 74).)

- They are *ad hoc* in that they designate *specific* syntactic configurations as ungrammatical and, hence, are unexplanatory in that they do not reduce

the ungrammaticality of certain syntactic configurations to more general theoretical principles but simply *stipulate* such configurations as ungrammatical.

- They violate all versions of Minimal Factorization (see George (1980a, 80-81; 1980b, 74-75)); this is a particularly ironic fact, considering that Strong Minimal Factorization, as a powerful restriction on the type of restricting classes permissible to transformations was adduced as an argument for the postulation of the "Move α" framework (See George (1980a, 41-45; 1980b, 39-43) and Chomsky (1976) for discussion).

Given these considerations, I reject *ad hoc* filters of the sort found in Chomsky and Lasnik (1977), which are so familiar today. However, it does seem that there are "output conditions". That is, there are conditions which play a part in determining the well-formedness of syntactic derivations which may not be reduced to conditions on rules and which can only be stated on the output of syntactic rules. George (personal communication) has proposed that filters of this sort are, in actuality, part of the definition of the concept "generate". That is, they keep the concept "generate" from being merely a sum of the level-pariticular well-formedness conditions of grammatical theory. To clarify this point, we can distinguish utterances which are *generated from those which are generated. Those utterances are *generated which meet level-particular well-formedness conditions (e.g. movement rules in such derivations observe Subjacency, bound anaphora observe Opacity, lexical items are inserted by local rules, etc.); only those utterances are generated which are *generated and which also meet additional conditions. These conditions, then, make up the definition of generate proper. Moreover, they are distinguished from *ad hoc* filters in that they do not designate *specific* syntactic configurations as ungrammatical, but, rather, impose general well-formedness conditions which apply in a wide variety of cases. Among the filters of this sort may be included:

(31) Feature Conflict Filter

If the values [+F] and [-F] percolate to the same node, then assign * [=George (1980a, (5), 54; 1980b, (5), p. 53)].

(With regard to the use of "assign *" in the formulation of this condition and in that of Filtering by Analogy, George (1980b, 158) comments "Just as for the Feature Conflict Filter (Section 4.1 *supra*), we use the pseudo-elementary 'assign star" to state this principle, although we have denied (Section 4.3) that there is any general sense to such an operation. We keep to this paradoxical usage deliberately to stress the unsatisfactory state of our understanding here." Given the suggestion made in the text, it is likely that this condition can be reformulated without recourse to this usage, but I retain the original formulation of this filter and Filtering by Analogy as a matter of historical interest, if nothing else.) and:

(32) Filtering by Analogy

Assign * to any structure if it has a strictly simpler grammatical cognate [from George (1980a, 171; 1980b, 158)].

This latter filter may be best discussed by illustrating its effects. Consider the following paradigm (from George (1980b, 158):

(33)(=(12))[5] I regret your reading the diary

(34)(=(13)) I regret reading the diary

(35)(=(14)) *I regret my reading the diary

(36)(=(15)) I regret our reading the diary

The problem here is the ungrammaticality of (35). This cannot be explained by appeal to Disjoint Reference because, as (36) shows, overlapping reference *is*

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[5]Throughout this thesis, whenever I refer to examples or definitions which have appeared elsewhere in the literature, I will indicate the original numeration of the example or definition within a second set of parentheses.

permitted between a matrix $N^{\neg}$ and a Subject pronoun in the complement position is such structures. Filtering by Analogy would rule out (35) by virtue of the fact that there is a strictly simpler equivalent (34). (34) is simpler because it it contains a non-overt pronoun ("PRO") whereae (35) contains a phonetically overt pronoun.

These examples help clarify the notion of "grammatical cognate" which is so crucial to (32) and which must be fairly well-defined if Filtering by Analogy is not to be a meaningless principle. (34) and (35) share the same base structure. In particular, they both contain a first person singular pronoun in the complement Subject position. However, in (35) this pronoun not only bears the person and number features, it also contains phonological material. (Given the analysis of pronouns as specifiers adopted here, we can say that PRO in (34) dominates no terminal material, whereas that in (35) does.) In light of this contrast, the following definition of "grammatical cognate" can be made: two structures are grammatical cognates if they have identical base structures, except for terminal material. Under Filtering by analogy, a "simpler grammatical cognate" will mean a structure which contains the simpler or less marked values of minor specifiers, in those instances where alternation is possible. For example, in the subject position of a gerund, there is the option of expanding PRO to dominate terminal material. When this pronoun is identical to the "controller" $N^{\neg}$ in the matrix clause, the option of not expanding PRO is available. Hence, a derivation in which PRO *is* expanded to dominate terminal material is ruled out by Filtering by Analogy, since a simpler derivation is available. However, when overlapping reference exists between the matrix subject and the complement subject, PRO must be expanded to dominate terminal material, since the control option is not available in such instances. I return to the idea that Filtering by Analogy rules out derivations in which the marked value of a specifier has been inserted in Section 2.1.2. Note that, because the notion of "grammatical cognate" requires identity of base structures, Filtering by Analogy will *not* rule out the "more complex" (longer) "everyone of the men", even though the "simpler"

(shorter) variant "every man" is available, because, presumably, there are different base structures in the two phrases.

To the above list may be added the filter discussed in the text above.

(37) Antecedent-Anaphor Agreement Filter

A (bound) anaphor must agree with its antecedent in all relevant features.

Here the notion of "relevant feature" must be explicated and expanded. For example, it is generally not necessary for a bound anaphor to agree with its antecedent in case. This point in further discussed in Section 2.1.2.

It is worthwhile to point out that two of these filters (31) and (37) are either explicit in the work of generative linguists or are implicitly assumed. (31) is accepted by all proponents of the X-bar theory of phrase structure, and this filter may be said to constitute the heart of that system. Similarly, EST workers who have proposed analyses of reflexives have accepted (37), in principle (e.g Jackendoff (1969, 45))). Also, in recent work, Chomsky (Class Lectures, Spring and Fall, 1980) has proposed a condition that is a special subcase of (32): Avoid Pronoun, a condition that, essentially, states that given syntactic configuration in which either PRO or an overt pronoun is possible, PRO will be chosen. Thus, such filters are not completely outrageous, and (31) and (37) are, in fact, rather commonly accepted.

1.1.2.3 A Theory of Case

Given the above framework, I will propose the following theory of case. The case system consists of three interrelated parts.

1. Case is inserted in the base.

2. Case is sanctioned (or "checked") during the course of a syntactic derivation.

3. Case is spelled in the morphophonemics.

It might seem to be desirable to collapse two of these components, since all theoreticians agree that a least two of them are necessary. That is, case must be assigned to a noun phrase and case must be spelled. Given that these are the minimum devices which are necessary to produce case on a noun phrase, it might seem to be desirable to collapse the additional rule type proposed here--the sanctioning rules--with one of the other two components. That is, we might make case sanctioning equivalent to case spelling: case would freely be assigned to Noun Phrases but would only be spelled in particular configurations. Alternatively, we could collapse the sanctioning rules with the case insertion rules: case would not be assigned freely, but would only be assigned in specific configurations, or by specific elements, etc. Case would then be (freely) spelled in the morphophonemics. However, there are theoretical and empirical considerations which argue against each of these reductions, even though they seem, initially, to represent a simplification of grammatical theory in that they eliminate a seemingly unnecessary type of rule.

Let us first consider the collapse of the sanctioning rules with the spelling rules. Note that, in any language, but particularly in a highly inflected language, there will be a variety of spelling rules. To reduce the sanctioning rules to the spelling rules would be to miss a generalization: that despite the variety of morphological realizations of a particular case, there would only be a restricted way (or number of ways, in the situation of cases such as Accusative, which appears in a number of configurations) for a given case to be sanctioned, only a small number of syntactic configurations in which that case could appear. To collapse the sanctioning rules with the assignment rules would be to miss the generalization that certain cases are the default cases in particular configurations whereas others are marked. Collapsing both types to a single type of rule would be to assign the same status to both types of

rule and not to distinguish the markedness of one type of rule from the regularity of the other. A concrete example will illustrate this. In Ancient Greek, the usual case of direct objects is Accusative. However, certain verbs assign oblique cases--Genitive or Dative--to their direct objects. (This type of unusual case marking is occasionally referred to as "quirky" or "kinky" case marking.) I would distinguish these two situations as follows. The normal default case would be handled by a sanctioning rule of the following form:

(38) V Accusative

whereas the "kinky" cases would be made part of the rule inserting a particular verb, as in (39), where *sunoida* is the Ancient Greek Verb meaning "know", "be conscious of".

(39) V → sunoida / ___ Dative

In Section 2.1, I demonstrate that this case system is not only empirically adequate to describe various case marking phenomena, but also makes a number of interesting predictions which are borne out.

1.1.2.4 What Spelling Rules Are

I conclude this section by discussing the category of spelling rules which were mentioned in passing above. I first show what I mean by spelling rules; I then justify the claim that such rules exist. Finally, I state some general conditions governing the form of such rules.

By "spelling rules" I mean rules which map grammatical formatives into morphophonemic representations. Some representative examples of such rules are found in the work of Chomsky (1955 [=(1975)]).

(40) *wh^he → who*
wh^him → whom

(Chomsky (1955, Chapter IX, Section 91.1, p. IX-529 (51))
=(1975, Chapter X, Section 95.1, p. 434 (51)))

(41) *wh^it → what*

(Chomsky (1955, Chapter IX, Section 91.4, p. IX-535 (59))
=(1975, Chapter X, Section 95.4, p. 438 (69)))

(42) *wh^the → what*
wh^there → where
when^then → when
etc.

(Chomsky (1955, Chapter IX, Section 91.5, p. IX-536 (71))
=(1975, Chapter X, Section 95.5, p. 439 (71)))

In these examples the spelling rules are treated as "context-free"; i.e. they contain implicit end variables. However. there is striking empirical evidence from Ancient Greek that spelling rules do not, in fact, permit implicit end variables. This same data also supports the more general assumption that there *are* spelling rules.

Ancient Greek displays several very interesting pronominal paradigms. It distinguishes between three separate categories of WH-words: (Direct) Interrogatives, which are used in ordinary WH-questions--Indirect Interrogative and Relative forms do not appear in these positions; Indirect Interrogatives, which appear in indirect questions--the Direct Interrogative and Relative forms do not appear in these positions; and Relatives, which are used exclusively in relative clauses--Direct Interrogatives cannot appear in these positions and Indirect Interrogative forms usually do not (see discussion below). Moreover, these three WH-forms are transparently related to demonstrative forms. I list here some representative examples of this phenomenon. In this table, I transliterate the examples from Ancient Greek, rather than transcribing them, as I do throughout this thesis. I also include dialect alternates to show how widespread this sort of

paradigm was.

Direct Interrogative	Indirect Interrogative	Relative	Demonstrative
pe:	hope: hoppe: (Epic)	he:	te:
ke: (Ionic)	hoke: (Ionic)		
pa: (Doric)	hop(p)a: hopei (Doric) oppa (Aeolic)		
"which way?"	"which way"	"which way"	"here, there"
pe:likos	hope:likos	he:likos	te:likos ta:likos (Doric)
"how great, how old?"	"how big"	"so big as, as old as"	"so great so old"
pe:mos	hope:mos ope:mos (Ionic)	he:mos	te:mos
		a:mos (Doric)	ta:mos (Doric)
"when?"	"when"	"when"	"then"
pe:nika	hope:nika hopa:nika (Doric)	he:nika ha:nika (Doric) anika (Aeolic)	te:nika ta:nika (Doric)
"at what time?"	"at what time"	"at the time"	"at that time"

poios	hopoios hoppoios (Epic)	hoios	toios
koios (Ionic)	hokoios (Ionic) oteios (Cretan)		
"of what kind?"	"of what sort"	"of what sort"	such as, like"
posakis "how many times as, how often?"	hoposakis "as many times as, as often"	hosakis "as many times as, as often"	tosakis "so many times as, so often"
posaplasios	hoposaplasios- oun	hosaplasios	tosaplasios
"how many fold?"	"how many fold soever"	"as many times as"	"so many fold
posakhos "in how many ways?"	hoposakhos "in as many ways as"	hosakhos "in as many ways as"	tosakhos "in so many ways"
posos	hoposos hopposos hopossos (Epic)	hosos hossos (Epic)	tosos
kosos (Ionic)	hokosos (Ionic)		
"how great, how much?"	"as many, as long"	"as great as, as many as"	"so great, so much"
pothen	hopothen hoppothen (Epic)	hothen	tothen
kothen (Ionic)	hokothen (Ionic)		
"whence?"	"whence"	"whence"	"thence"

pothi	hopothi hoppothi (Epic)	hothi	tothi
"where?"	"where"	"where"	"there"
pote	hopote hoppote (Epic)	hote	tote
kote (Ionic)	hokote (Ionic)		
poka (Doric)		hoka (Doric)	toka (Doric)
	hop(p)oka (Cyrenaic)		
		ota (Aeolic)	tota (Aeolic)
"when?"	"when"	"when"	"then"
po:s	hopo:s hoppo:s (Epic)	ho:s	to:s
ko:s (Ionic)	hoko:s (Ionic)		
"how?"	"how"	"as"	"so, thus"
poi	hopoi hokoi (Ionic)	hoi	
	hopui	hui	
	hopus (Doric)	hus	
"whither?"	"whither"	"whither"	
pose	hopose hoppose (Epic)		
"whither?"	"whither"		

pou	hopou	hou
kou	opou	
(Ionic)	(Ionic)	
"where?"	"where"	"where"

These examples make two points simultaneously. First, they show that spelling rules are necessary; second, they show that these rules are sensitive to context. They show that spelling rules are necessary because of the following theoretical considerations. It is currently assumed that there is a single rule of WH-Movement which is responsible for the production of Direct Questions, Indirect Questions and Relative Clauses. (In fact, this assumption is quite old, and is found in the earliest work in generative grammar.

> The basic interrogative sentences are the yes-or-no questions ("did you come", etc.), with inversion. If we apply the *wh*-transformations, with a second inversion, to these questions, we derive a second class of interrogatives, including many types ("who was here", "whom did he see", "what plane did you take", etc.) The *wh*-transformation, applied to declaratives, gives relative clauses.
>
> (Chomsky (1955, Chapter IX, Section 114, p. IX-711)
> (=(1975, Chapter X, Section 118, p. 569))))

Given that there is a single WH-Movement transformation, the differences between the overt forms of the various WH-Pronouns cannot be due to differences in the underlying formatives for the distinct Interrogative and Relative forms, since they all presumably contain *WH*. Moreover, even if an alternative approach were accepted, which posits two separate WH-transfomations, one for relatives and another for interrogatives, there should be at most two overt distinctions between WH-Pronouns. I will assume that the simpler theory, which posits a single WH-transformation is correct and that the overt distinctions between WH-pronouns is due to the existence of separate spell out rules for various positions in the sentence. The first spells out WH as *p-* when it is in sentence initial position. A second spells out WH as *hop-* in embedded interrogative contexts. The last rule spells out WH as

h- in relative contexts. I assume that the rule which spells out WH as *h-* requires a particular left context; e.g. in the case of simple relative clauses, it will require a projection of N. I also assume that the rule spelling out Indirect Interrogatives simply specifies that WH be sentence internal. These two assumptions are justified by the following configuration of facts. The Indirect Interrogative forms occasionally double as Relative pronouns, while the Relative pronouns do not double as interrogatives. This follows, if we assume that the rule spelling WH in the Indirect Interrogative forms simply specifies that WH be flanked by syntactic material; this rule will also be satisified when WH occurs in a relative construction. However, if the rule spelling out WH in the relative requires a particular left context, this rule will only be satisfied in a limited number of cases and, hence, will not generalize to all sentence internal positions. The schematic forms of these different classes of spell out rules are shown in (43)--(45).

(43) WH → *p* / ___ cat

(44) WH → *hop* / cat ___ cat

(45) WH → *h* / X ___ cat
(where "X" represents a specific category for individual relative pronouns)

(In fact, the right context in these examples might be COMP, given that WH adjoins to COMP. However, the exact specification of the right context is not at issue in the present discussion.)

In individual instantiations of these general schemata, the spelled item would presumably be the concatenation of WH with a following formative, e.g.

(46) WH^*(t)othi* → *pothi* / ___ cat

(47) WH^*(t)othi* → *hopothi* / cat ___ cat

(48) WH^*(t)othi* → *hothi* / N ___ cat

(*T* is placed in parenthesizes in these examples in that it might be desirable to split Demonstrative Pronouns into the morpheme *t* specifying "Demonstrative" and a second morpheme specifying this further; e.g. *ou*, place where; *othen*, place from which; *e:* place to which, etc. For a discussion of a similar analysis of forms such as "hither", "thither" and "whither" in English, see Harris (1951, Appendix to 12.22, p. 177). However, problems of detail aside, these paradigms show that spelling rules are indeed necessary. Moreover, rules such as (46) show that spelling rules cannot be "context-free"; i.e. cannot contain implicit end variables. If implicit end variables were allowed, then it would be possible to spell *WH* as the Direct Interrogative form (*p-*) in any position in a sentence.

The elimination of implicit end variables from spelling rules and the more general characteristic that spelling rules may mention specific contexts presents the following problem for linguistic theory: what general principle allows the language learner to posit context-sensitive rules in the first place? If the (markedness) principle(s) governing such rules stated that the least marked spelling rules are those containing end variables (whether implicit or explicit), then the language learner would *never* posit context specific rules. Let us consider this argument in some detail. The least marked rule is that which the language learner will posit first, in the basis of positive evidence. If the least marked formulation of a spelling rule were the most general (i.e. the form containing end variables) then the language learner would posit the most general spelling rule for *any* formative he heard spelled out. This is so because only positive evidence is required in creating a grammar; negative evidence plays no part. Thus, under the markedness convention under consideration, the language learner would never be able to learn a language such as Ancient Greek. The mere fact that he heard a *WH* pronoun spelled in the Direct Interrogative form in sentence initial position would lead him to posit a rule spelling *WH* in this form anywhere in the sentence. The fact that sentences containing the Direct Interrogative forms in clause-internal position did not occur in the corpus

presented to him would not prevent this, since only *positive* evidence is required. Thus, a markedness convention that stated that the least marked form of a spelling rule is the most *general* form predicts that there are no context specific spelling rules at all, since the language learner will never be able to posit such rules on the basis of positive evidence. Clearly, then, what is needed is a principle that states that the least marked form of a spelling rule is the most specific form.

Such a principle has, in fact, been proposed by George (1980a; 1980b). This is the:

(38) *Spec-Spec Constraint*

> A rule mapping a (minor) Specifier into morphophonemic representation must mention (adjacent) categorial terms on both sides of the changed element in its restricting class [from George (1980a, 82; 1980b, 76)].

Note that this principle is not quite correct, in this exact formulation, owing to the existence of rules such as (46). Here, there is no left context at all. This objection can easily be circumvented, however, by taking the Spec-Spec Constraint to state that spelling rules cannot contain implicit end variables. This formulation of Spec-Spec, in conjunction with the evaluation metric for the complexity of transformational rules proposed by George (1980a, Section 3; 1980b, Section 3) will yield the desired results. This evaluation metric treats the overall complexity of a rule to be a sum of the complexity values assigned to the individual terms appearing in the restricting class of that rule. The values assigned to different types of terms are weighted so that (categorial) primes are least "expensive", *cat* slightly more so, and *str* most expensive of all. Given Spec-Spec and this evaluation metric, the language learner will posit the most specific rule type as the least marked (since this will be the least "expensive" rule under this evaluation metric), and will only posit a more general formulation of a spelling rule when driven to this formulation on the basis of positive evidence, since the most general rule will be the most expensive. As

we have seen, this is exactly what is required.

In addition to the necessity of the Spec-Spec Constraint as a markedness convention on spelling rules in general, there is also a limiting subcase of Spec-Spec which is of great theoretical utility. This is the:

(39) *Stuttering Prohibition*

> Local repetition of a (minor) Specifier is ungrammatical (up to the effects of morphophonological reduplications) [from George (1980a, 82; 1980b, 76)].

This latter principle subsumes the "*that*-trace" filter, among others, (see George (1980a, 84-87; 1980b, 76-80) for a fuller discussion) and a discussion of how it derive the effects of this filter is a good illustration of the general effects that filters, as they are to be understood in this framework, are meant to have.

We can derive th "*that*-trace" phenomenon in the following manner. In each case in which the analysis of Chomsky and Lasnik (1977) would propose a *that* followed by a trace, it may be observed that there is in reality a sequence of COMP followed by AUX. Now by Spec-Spec and the Stuttering Prohibition, there will normally be no way of spelling such a sequence. In languages which possess Subject Pro-Drop, in order for this rule to apply in the subject position of embedded sentences, the grammar must possess a spelling rule of the marked type which spells a COMP AUX sequence. Moreover, the overt evidence of the application of this rule will provide positive evidence to the language learner that such a rule exists. However, in the absence of such evidence he will not posit such a rule, in accordance with the Stuttering Prohibition.

This analysis of the *that*-trace phenomena is superior to that which simply explains the difference with regard to the extractability of embedded subjects by tying this difference directly to the operation of Subject Pro-Drop. That is, it is not the case that the extractability of embedded subjects is permitted only in those cases

in which Subject Pro-Drop is permitted. For instance, in Hebrew, verbs in the Present tense do not permit Subject Pro-Drop, in either matrix or embedded clauses, while other tenses do. However, even clauses containing verbs in the Present tense permit the extraction of WH-subjects. This follows from the analysis presented here.

Given that Subject Pro-Drop applies in any complement clause, the language learner will postulate the existence of a rule spelling COMP AUX sequences. This rule, then, will apply whenever such sequences are produced, no matter how they are produced. Thus, even though subjects of embedded Present tense clauses are not susceptible to Subject Pro-Drop, when the operation of WH-Movement extracts the subjects of such clauses, the necessary spelling rule is available for the derived COMP AUX sequence. Any theory which ties the extractability of embedded WH-subjects to the ability of Subject Pro-Drop to apply in such positions clearly makes the wrong position. Consider, for instance, the analysis of Chomsky and Lasnik (1977), under which the applicability of Subject Pro-Drop is correlated with the extractability of embedded WH-subjects in the following way. Their hypothesis that, in languages possessing it, the Pro-Drop Rule is able to delete an offending subject trace, thereby circumventing the filter, would predict that, since Present tense clauses do not permit Subject Pro-Drop, they also do not permit extraction of WH-subjects.

1.2 The Meaning of the "Tensed" vs. "Tenseless" Distinction in UG

1.2.1 The Precursor of the TSC: The Insertion Prohibition

Before examing the history of the TSC proper, it is probably worthwhile, for historical purposes at least, to examine the Insertion Prohibition.[6] This condition is posited in Chomsky (1965).

(51) The Insertion Prohibition

> No morphological material ... can be inserted into a configuration dominated by S once the cycle of transformational rules has already completed its application to this configuration. (p. 146)

At first glance, it might seem that the Insertion Prohibition has nothing to do with the TSC. However, notice that one of the fundamental effects of the TSC was to replace the clause-mate condition on certain syntactic rules, while deriving the effects of this condition. (See Chomsky (1973, 255, especially n. 34) and Postal (1974, 43-54) for some discussion of this point.) Similarly, the Specified Subject Condition was used to explain cases of grammaticality and ungrammaticality which were previously handled by a combination of the clause-mate condition and a pruning convention. (See Chomsky (1973, 157).) In a similar manner, various investigators, before the advent of the "Conditions" framework, attempted to use the Insertion Prohibition to derive the effects of the clause-mate condition.

Kayne (1969, 95-96) used the Insertion Prohibition to explain the inability of his rule of R-Tous to float quantifiers into a lower clause. There, the condition rules

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[6]Chomsky (1965) does not give this condition any name. The term is due to Helke (1971, 42; 1973, 14); Chomsky (1973, 234) later adopted this name for (51). (Helke (1973, 14) also reports that Dougherty called this condition the Universal Movement Constraint.)

out examples such as:

(52)(=44) * *Mes amis* laisseraient ce garcon manger
tous de la salade.

(53)(=48) * Ils enverront Jean parler tous à Marie.

Kayne comments further (*op. cit.*, 96)

> This proposed universal in fact receives internal confirmation in French, in the sense that even in dialects which permit the raising of "tous" into higher sentences, the dropping of "tous" into lower sentences is still impossible. Thus, while there are speakers who accept sentences like:
>
> (50) Il faut *tous* que tu *les* manges.
> Il faut *tous* qu'*ils* partent.
>
> nobody accepts:
>
> (51) * *Ils* veulent que tu ailles *tous* à Paris.
> (52) * *Elles* savent que Jean est *toutes* parti
> il y a 10 minutes.

Later, in the same work Kayne (1969, 168, n. 8) raises the possibility that the difference in grammaticality between the sentences in (54) is due to the Insertion Prohibition. (Note that Kayne assumes that *même* is transformationally inserted.)

(54)(=3) * *Jean* voudrait que tu parles de *lui*-même.
Jean voudrait que tu parles de *lui*

Helke (1971; 1973) attempted to derive the clause-mate condition on English reflexives from the Insertion Prohibition. Recall that Helke analyzes English reflexives as possessive NP's headed by *self* which are generated in the base with an empty possessive position. This position is later filled by a transformation which

inserts a pronominal copy of the antecedent of the reflexive. It is this copying transformation that is subject to the Insertion Prohibition, since it inserts morphological material (a pronoun) into a lower clause. Helke derives reflexives in the subject position of infinitives by a subsidiary process, which does not make use of such a copying transformation. He assumes that they derive from forms consisting of a pronoun plus an intensive reflexive (such as is used in the sentence "I myself will do that"), and that the pronoun is deleted under identity with the antecedent in the upper clause. Though Helke's work is ultimately seriously flawed (for example, to prohibit this subsidiary process from applying to the subject position of a finite clause, he invokes Perlmutter's (1968) constraint that English clauses must occur with a superficial subject, interpreting it in a most unnatural manner[7]), it does show the seriousness with which some researchers treated the Insertion Prohibition[8] and that the manner in which they applied it in analyses of specific languages was analogous to that in which later investigators applied the TSC.

Before closing this section I will note, as a matter of historical interest, that Harris (1965) (the "discoverer" of picture Noun Phrases) also expressed dissatisfaction with the clause-mate condition and made an observation which foreshadowed the Specified Subject Condition. She closes this paper with the comment:

> Thus it seems that the "S principle" [=clause-mate condition--RJPI] discussed above may not be a sufficient condition for the appearance of the reflexive. Indeed, an examination of all the sentences discussed thus far reveals that those in which the reflexive form does not appear all have one thing in common: that is, there is an intervening noun between the identical noun and its antecedent. [Recall that Harris derived reflexives

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[7]See also Ingria (forthcoming) for more detailed criticisms of Helke's general approach.

[8]Gamahuche (1971, 113) however, comments: "I can see no justification for Chomsky's suggested constraint that would prohibit the insertion of material into an already processed clause", so we can observe that there was already some controversy over such principles.

via a process of transformational reflexivization of nouns under identity--RJPI.] This middle noun turns out to be the subject of the embedded sentence. When, on the other hand, the subject of the constituent sentence is the identical noun, the reflexive form results. This is true whether it appears as the underlying subject or the derived subject after passivization. With this in mind, note (27) and (28):

(27) a. John heard himself being discussed by Mary.
b. John heard Mary discussing him.

(28) a. John saw a picture of himself by Mary.
b. John saw Mary's picture of him.

Here, I believe, lies the direction for further study.

1.2.2 The Evolution of the TSC I: The Original TSC and PIC/NIC

1.2.2.1 The Original Tensed-S Condition

The first formulation of the TSC proper appears in Chomsky (1973).

(55)(=19) items cannot be extracted from a tensed sentence.

This condition is almost immediately reformulated as:

(56)(=20) No rule can involve X, Y in the structure

$$...X...[_{\alpha}...Y...]...$$

where α is a tensed sentence.

and given the title the "Tensed-S Condition." Though its original formulation (6) referred only to movement rules, Chomsky gives evidence that it also applies to interpretive rules. After a series of revisions, the TSC is given in its final form in

Chomsky (1973) as:

(57)(=123)
No rule can involve X, Y (X superior to Y)
in the structure

$...X...[_{\alpha} ...Z...-WYV...]...$

where (a) Z is the subject of WYV and
is not controlled by a category
containing X
or (b) α is a subject phrase properly containing
MMC(Y) and Y is subjacent to X
or (c) Y is in COMP and X is not in COMP
or (d) Y is not in COMP and α is a tensed S.

Clause (a) is the Specified Subject Condition (henceforth, SSC); clause (b)--or an equivalent proposal--will be discussed in Section 1.2.2.3; clause (c) is the "COMP to COMP" condition on movement rules, while clause (d)--which incorporates the specification of COMP as an "escape hatch" from a tensed S--is the TSC proper.[9] Chomsky (1973, 271) makes a final note on this formulation of the TSC: "...Though relevant examples are few, to my knowledge, it seems plausible to adopt the general working hypothesis that there is no left-right asymmetry at all with respect to the conditions that have been discussed here."

In Chomsky (1976) the dropping of this asymmetry from the formulation of the TSC is made explicit:

[9]Note that, as this joint formulation of the TSC and the SSC shows, the Tensed-S Condition and the Specified Subject Condition have always been treated as closely related, parallel conditions in the linguistic literature. It is only with Chomsky (1978) that they are separated in a fundamental--rather than a purely analytic--manner. Hence, though the SSC proper will not be discussed in any detail in this study, any comments on the domain of application of the TSC--e.g. as a condition on surface structure rather than as a condition on rules--will also hold true of the SSC.

(58) "Consider a structure of the form

(11) $...X...[_{\alpha} ...Y...]...X...$

Then no rule can involve X and Y in (11) when α is a tensed-S (the *tensed-S Condition*)"

However, whereas the TSC was considered to be a condition on rule application in Chomsky (1973), in Chomsky (1976), 317) the possibility is raised that "We might reformulate the conditions in question [TSC and SSC--RJPI] as conditions on an enriched surface structure involving traces, instead of conditions on the application of rules." In Section 1.2.3 I shall return to the question as to whether the TSC is a condition on rules or a condition on surface structure (or a "condition on binding," as more recent proposals--e.g. Chomsky (1978)--have put it). For the moment I only note that, since the syntactic theory assumed here does not permit the use of hyperindexed traces, the latter option is not available to me.

1.2.2.2 The Propositional Island Condition

In Chomsky (1977) the TSC is renamed the Propositional Island Condition (henceforth, PIC) and is first formulated as follows:

(59)(=11) $...X...[_{\alpha} ...Y...]...X...$

"PIC (the 'tensed-S condition' of the references cited) asserts that no rule can 'involve' X and Y where α is a finite clause (tensed-S)."

As we shall see in Section 1.2.3 below, this final formulation of the TSC is, indeed, the correct one, when "finiteness" is properly defined. However, soon after presenting this definition, Chomsky proposes the following two modifications of PIC. The first stipulates that "α is the cyclic node immediately dominating the

category of *Y*" (1977, 75). The second involves the condition on α. Chomsky bases his reformulation on Kim (1976), where it is claimed that in Korean a rule similar to Disjoint Reference observes PIC except in those cases where α is the complement of an "assertive" verb (in the sense of Hooper (1975)). This claim is taken to show that the relevant distinction in Korean is "complement of assertive verb" vs. "complement of non-assertive verb" rather than "non-finite" vs. "finite," as in English. Accepting this analysis of Korean, Chomsky (1977, 75) states: "thus we can formulate a variant of PIC for Korean, with the condition on a modified, and we can suggest a somewhat more abstract formulation of PIC of which English and Korean are special cases." In effect, the condition on α is taken to be a language-specific parameter, whose possible values are not delimited. Finally, PIC is taken to be a "filter" (Chomsky (1977, 77)) on the output of transformational rules. That is, the suggestion of Chomsky (1976) is adopted in Chomsky (1977) as correct.

I will now discuss these two modifications in detail. The first restricts PIC to apply "only to full subjects of tensed sentences" (cf Bach (1977, 145-147)). This restriction is based on examples such as:

(60) *the men expected that pictures of each other
would be on sale

which are supposed to be "fully acceptable" (Chomsky (1977, 73)), as opposed to the ungrammatical (61).

(61) *the men expected that each other would win

However, I find both of these sentences to be ungrammatical, though they do differ in relative acceptability. (60) is, indeed, more acceptable than (61), though it is, nevertheless, ungrammatical as well. Other native speakers of English with whom I have discussed these sentences share these judgements. Therefore, I take the arguments for restricting PIC in the indicated manner, as based on examples

such as (60), to be without force. However, the relative acceptability of (60) as compared with (61)--which, presumably, is responsible for some linguists' acceptance of (60) as fully grammatical--is worth some discussion. Consider the following pair of sentences:

(62) *the men expected that pictures of themselves would be on sale

(63) *the men expected that themselves would win

Once again, both sentences are ungrammatical, though they differ in relative acceptability in the same direction as the previous pair: (62) is more acceptable than (63). Here, however, a clue to the reason for this difference in relative acceptability overtly appears. Note that *themselves* is morphologically Accusative and that, in fact, Accusative is the only form in which this reflexive occurs. Compared to the paradigm of the third person plural (non-reflexive) pronoun--which contains Nominative (*they*), Genitive (*their*) and Accusative (*them*) forms--that of the third person plural reflexive is defective. This paradigmatic defectiveness offers a possible explanation for the decreased acceptability of (63) as compared with (62) along the following lines. Both (62) and (63) violate PIC, while (63) also violates the Spec-Spec Constraint. (Recall that I treat pronouns, including reflexive and reciprocal pronouns, as minor specifiers (see Ingria (to appear) for more details of the internal analysis of English reflexives); as such, the rules spelling them are subject to the Spec-Spec Constraint.) Because of the TSC, reflexives and reciprocals will never appear in the subject position of finite clauses. Therefore there will be no rules spelling them in such positions, since the language learner will never be given the positive evidence to postulate such rules. Hence, (61) and (63) are worse then (60) and (62) because they violate two conditions. The TSC will prohibit the bound anaphors in the subject positions of finite clauses from receiving their required antecedents; moreover, there will be no way of spelling these pronouns in such

positions. (60) and (62), on the other hand, will violate only the TSC, since reflexives and reciprocals may be spelled within $N^{\neg}$ in English.

Moreover, treating all four of the above examples as ungrammatical, provides a clue to another curious fact. Namely, that (62) is noticeably more acceptable than (60). On the assumption that all both of these examples are fully grammatical, this difference in acceptability is not explained, since reciprocals are normally acceptable in the same configurations in which reflexives are acceptable (modulo some constraints on the plurality of Noun Phrases that affect reciprocals but not reflexives). (64) and (65), for example, are equally acceptable.

(64) The men told stories about each other

(65) The men told stories about themselves

Postal (1970, 70), who first adduced picture noun reflexivization examples as counterexamples to Chomsky's hypothesis that clause-boundedness could be replaced by the TSC, also noted that there is a difference in acceptability between examples with reciprocals and those involving reflexives: reflexives more freely violate the TSC than do reciprocals.

Finally, Bach suggests that it is an unwise move to limit PIC to the subject position of tensed clauses, merely to handle case like those just discussed, and that a different solution might be preferable. "Alternatively, one could assume that besides the rule for interpreting reflexives and reciprocals that are part of sentence grammar, there are also rules not part of this system at all (cf. Chomsky's remarks on pronouns on pp. 80-81). *This would appear to work better for reflexives than for reciprocals*" (Bach (1977, 146), emphasis added). Bach also presents the following examples, which show perfectly acceptable uses of reflexive pronouns without overt antecedents.

(66)(=25) This paper was written by Ann and myself

(67)(=26) Physicists like yourself are a godsend

Let us note then that English reflexives have this antecedentless usage, which I will designate as the "honorific" usage (term due to George (personal communication)). English reciprocals, on the other hand, have no parallel use. Given this subsidiary usage of reflexives, but not reciprocals, the analysis of the examples (60)--(63) is complete. Examples (61) and (63), in which a bound anaphor appears in the subject position, are the least acceptable because of the TSC and the Spec-Spec Constraint. Example (60), in which a reciprocal occurs inside a noun phrase in the subject position of a finite clause is more acceptable, because it violates only the TSC. Finally, examples (62) is the most acceptable because it violates only the TSC and because it can be interpreted by analogy with the honorific usage of English reflexives.

(Noam Chomsky (personal communication) has pointed out a potential problem for the treatment of these picture Noun Phrase examples which correlates the degree of relative acceptability with the number of conditions violated. He notes that this proposal predicts that the (68) and (69) should be on a par with (60) and (62) since only one condition (in this case, the SSC) is violated in these examples.

(68) The men want John to like each other

(69) The men want John to like themselves

In fact these examples seem to be worse than the parallel cases of bound anaphors internal to a subject $N^{\neg}$ in a Finite clause. Thus, such examples present a problem for the general treatment of bound anaphors in complement clauses sketched out here, though perhaps not an insoluble one. Note that, in example (69) there are two

possible (mis-)derivations: one in which *themselves* is bound to *John*, which is ruled out by the Antecedent-Anaphor Agreement Filter; and one in which *themselves* is bound to *the men*, which is ruled out by the SSC. Thus, it might be proposed that the degree of perceived (un)acceptability of (69) is in some way the sum of the unacceptability of each of these possible analyses. Though this is not an uncontroversial solution to this objection, it is not *a priori* implausible.)

In examining the second proposed modification of PIC--or, rather, the restatement of TSC as PIC, which is, in effect, what the second modification amounts to--there are two factors which need to be considered. The first is the empirical motivation for this change; the second is the precise nature of this change and what it entails for linguistic theory. Before turning to Kim (1976), whose data provide the empirical motivation for PIC as opposed to the TSC, it will be instructive to consider the following quotes from Chomsky (1977).

> Phenomena may be suggestive, but strictly speaking, they tell us nothing. (p. 77)

> To find evidence to support or to refute a proposed condition on rules, it does not suffice to list unexplained phenomena; rather, it is necessary to present rules, i.e., to present a fragment of a grammar. The confirmation or refutation will be as convincing as the fragment of grammar presented. This is a simple point of logic, occasionally overlooked in the literature. The status of conditions on rules is empirical, but evidence can only be indirect and the argument, one way or another, is necessarily rather abstract and "theory bound." (p. 74)

In light of these comments, let us turn to Kim (1976). The sole argument for the reformulation of the TSC as PIC is based on the behavior of the "non-reflexive pronoun" *kɨ*. She proposes that the coreference possibilities of *kɨ* may be explained by a rule similar to Disjoint Reference, which she states as in (70).

(70)(=2(32)) Mark *kɨ* as non-coreferential with a full NP.

She further states that the operation of this rule is constrained by the TSC, except in the case of the complements of certain "assertive" verbs, which do not block (70). In light of this, and also taking into account the fact that Korean has no infinitives, she proposes that these clauses be treated, in effect, as infinitives and proposes (71) as the Korean equivalent of the TSC.

(71) No rule may involve X and Y in

$$...X...[_{\alpha} ...Y...]...$$

where α is an embedded S, unless α is a complement of an assertive predicate.

It is the assumption that this language specific modification of the TSC is, indeed, necessary for Korean that leads Chomsky (1977) to postulate an "abstract" PIC which is realized as (71) in Korean and as (59) in English. However, a close examination of the facts about Korean anaphora which Kim presents shows that (71) is not required at all. In discussing the class of "assertive" verbs which motivate (71), Kim (1976, 138, n.9) states that they are distinguished by the fact that they all take complement sentences introduced by the complementizer *kow*. Given this fact, I will put forth the following analysis of *ki*, assuming, for the moment, that Kim is correct in treating the non-coreference possibilities of *ki* as part of sentence grammar.

Chomsky (1977, 76) proposes that, for the purposes of a condition such as (59), two elements are "involved" in a rule only if they are adjacent in the structural description of that rule, where "adjacent" means either strictly adjacent or separated only by variable terms, but not by constant terms. Therefore, it is possible to construct a rule which specifically violates a condition such as (59) by including a constant term in the restricting class of the rule. The cost of violating the condition, then, will be the added complexity of the rule. I maintain that, if the rule

interpreting *ki* as non-coreferent with another N⌝ is a rule of sentence grammar at all, it is a rule of this marked type. That is, given that all the verbs which are subcategorized for *kow* clauses allow (70) to apply into their complements (as Kim implies), it is possible to reformulate (70) as the following two rules and to leave the TSC as in (59).

(72) N⌝ vbl *ki*

(73) N⌝ vbl *kow* vbl *ki*

In (72) and (73) mark the third term as disjoint in reference with the first.

(72) covers the clause internal application of the *ki* "disjoint reference" rule, while (73) covers the "assertive" complement cases. (Two rules are required rather than a single rule whose restricting class is N⌝ vbl (*kow*) vbl *ki* since the theory of structural descriptions adopted for the present discussion (which is that of Chomsky (1977, 74ff.)) does not permit the use of parenthesized elements. But see George (1980a, 39-40; 1980b, 37-38) for a different position.) Formulating Kim's "disjoint reference" rule as (72) and (73) in effect implies that the TSC is in force in Korean but that the *ki* "disjoint reference" phenomena are themselves marked from the standpoint of UG. That is, the analysis proposed here maintains that there is enough language-internal evidence in Korean to establish the existence of rules (72) and (73) but not enough to force a modification of the TSC. Judging by Kim's data this does, indeed, seem to be the case.

Kim presents an analysis of three Korean pro-forms: *caki*--a reflexive pro-form, *ki*--a "non-reflexive" pronoun, in Kim's own words--and ø, a pro-form which is interpreted as co-referent with another N⌝ in the sentence. In the third chapter of her thesis Kim notes that the coreference possibilities of ø violates the conditions on the rules of sentence grammar freely and proposes that the rule which selects an

anaphor for ø is a stylistic rule (pp. 178 ff.). A similar analysis seems plausible in the case of *caki*, since the rule marking *caki* as coreferent with another $N^{\neg}$ is unlike the rule of sentence grammar which co-indexes a reflexive with an antecedent. For instance, *caki* co-reference violates the TSC and the SSC, and also violates the c-command restriction on the antecedents of reflexives. Moreover, Chang (1977, 47) points out that there are instances "where occurrences of *caki* are often not sentence-bound". The only rule which Kim presents which obeys--or is purported to obey, see discussion below--all the rules of sentence grammar except the TSC is (70); all the other processes which she presents violate all conditions on sentence grammar fairly freely. Thus, if the data presented in Kim (1976) are a representative sample of those presented to the language learner, it would seem that the language learner of Korean is not presented with a large and varied array of facts which forces the modification of the TSC proposed in (71) (or, more properly, forces the language particular instantiation of PIC represented in (71)). Rather, he or she is presented with just enough data to posit rules (72) and (73).

The preceding analysis of *ki* was based, as noted above, on Kim's assumption that the rule interpreting *ki* as non-coreferent with another $N^{\neg}$ is a rule of sentence grammar. However, there seems to be sufficient evidence in Kim's thesis to show that this rule is actually a rule of discourse grammar. First of all, though Kim speaks of the rule interpreting *ki* as non-coreferent with another $N^{\neg}$ as a species of Disjoint Reference, there are significant differences between *ki* non-coreference and Disjoint Reference. For instance, Kim states that, within a clause, *ki* is non-coreferent with a non-pronominal $N^{\neg}$ when that $N^{\neg}$ is a subject (which is indicated in Korean by Nominative case). She then reformulates (70) as (74).

(74)(=2(34)) Mark *ki* as non-coreferential with a full NP subject.

(74) is most unlike the usual rule of Disjoint Reference in that it must make reference either to a grammatical relation (Subject) or to a morphological feature (Nominative) whereas Disjoint Reference proper refers only to the structural configuration in which two N$^{\neg}$'s appear--cf. Lasnik (1976), Reinhart (1976). Kim gives examples where the SD of Disjoint Reference would be met--e.g. sentences containing a direct or indirect object N$^{\neg}$ and a *ki* in a postpositional phrase--but where her (74) does not require disjoint reference, in which (74) makes the correct prediction. Next, the specification "full NP" in (70) and (74) is meant to exclude pronominal N$^{\neg}$'s from being subject to these rules. To justify this restriction, Kim cites cases where *caki* is coreferential with *ki*, even though it is a subject (i.e. is marked Nominative) and is in the appropriate configuration with respect to *ki* (i.e. it is either a clause mate of *ki* or is separated from *ki* by a assertive verb). Again, the normal rule of Disjoint Reference can apply to any pair of N$^{\neg}$'s in the specified configuration, regardless of whether or not either is a pronoun. Finally, it seems that rule (74), contrary to Kim's implicit line of reasoning in reformulating the TSC as (71) for Korean, violates not only the TSC, but also various other conditions on rules of sentence grammar. She cites examples where the SSC does not block the application of (74) (pp. 129 ff.), as well as examples where her modified TSC (71) should allow (74) to apply, but where coreference is possible (pp. 190 ff.).

Moreover, Kim herself shows that non-syntactic factors, such as grammatical relations, string proximity, pragmatic information, etc., influence the (non-)coreference possibilities of *ki*, in exactly the same manner in which they govern the choice of anaphors for *caki* and ø (see her Chapter 4). All these factors are more properly dealt with in the realm of discourse grammar, rather than in that of sentence grammar. Also, placing the interpretation of *ki* within discourse grammar unifies the treatment of the pronominal system of Korean. That is, by treating the interpretation of *ki* as a discourse process, it is possible to say that all pronominal coreference and non-coreference possibilities in Korean are handled at

the level of discourse grammar. Under the analysis outlined above, in which *caki* and ø are discourse anaphors and *ki* is a "non-reflexive" pronoun interpreted by rules of sentence grammar, the essential unity of the Korean pronominal system pointed out by Kim--namely that the same factors (grammatical relations, hierarchical and string proximity, etc.) govern the interpretive possibilities of *caki*, *ki* and ø--is unexplained. Therefore, I reject *ki* non-coreference phenomena as having any bearing on any condition on rules of sentence grammar and, consequently, reject PIC, and such instantiations of it as (71), in favor of a version of the TSC stated in terms of Finitenes, rather than Tense.

Having examined the factual evidence for the reformulation of the TSC as PIC and finding it to be without force, I now turn to the theoretical implications of reformulating the TSC as PIC. First of all, note that PIC proper is never stated. Given (59) as the instantiation of PIC in English and (71) as its realization in Korean, Chomsky (1977, 75) states: "We can suggest a somewhat more abstract formulation of PIC of which English and Korean are special cases." However, this more abstract, over-arching PIC is never formulated, nor is any concrete suggestion made as to the manner in which it could be. Bach (1977, 144) provides what is undoubtedly the best criticism of this undefined PIC:

> The tensed sentence constraint was a nice constraint because you could test it. The propositional island constraint is not so nice because the definition of a propositional island can vary from language to language.

Furthermore, it is totally unclear to me how one might go about creating an abstract PIC which could subsume (59) and (71). The notion of "assertive predicate" utilized by Kim in (71) is taken from Hooper (1975), where "assertiveness" is taken to be a semantic feature of certain verbs which governs various syntactic processes. This proposal goes against the general assumption of the theoretical framework assumed here (and in Chomsky (1977)) under which semantic factors may not directly affect the operation of syntactic rules, although

they may lead to anomalous interpretations of various syntactically permissible constructions. Moreover, even granted that we might reformulate Hooper's assertive/non-assertive distinction as a formal syntactic property--e.g. by positing a syntactic feature [± assertive] on verbs which could be analyzed by a syntactic rule (already a rather dubious move)--it seems highly unlikely that the assertive/non-assertive distinction and the non-finite/finite distinction could be collapsed. To do so, it would be necessary to formulate a condition that could subsume (75)--which I present as a formal, syntactic version of Kim's (71)--and (59)--repeated here as (76).

(75) No rule can involve *X* and *Y* (V minimal, α maximal)[10] in the structure

$$...X...[_{\overline{V}}.....V.....[_{\alpha}...Y...]...X...]...X...$$

where V is [-assertive]

(76) No rule can involve *X* and *Y* in the structure

$$...X...[_{\alpha}...Y...]...X...$$

where α is finite

Note that, though (75) and (76) both refer to formal syntactic properties (provided that syntactic rules are allowed to analyze feature values and that features such as [±assertive] may appear as part of the syntactic feature specification of an X-

---

[10]The specification "(V minimal, a maximal)" is required to insure that this condition applies only to the constituent α which is the complement of the verb prohibiting or sanctioning the application of the rule. *X* must appear twice to the right of α to insure (1) the symmetry of the condition; and (2) that all *X* whether inside of, or outside of V are equally affected by (75). Alternatively, (75) could utilize the notion of "government" from Chomsky (1978, 33). In this case, the specification "(V minimal, a maximal)," the V phrase, and one of the occurrences of *X* to the right of a, may be replaced by the condition "where V governs α."

bar category) the properties are of two radically different sorts. (75) refers to the internal feature composition of a constituent which may be analyzed as part of a variable term of a rule, while (76) refers to the structural configuration in which a constant term in the SD of a rule appears. Thus, the pivotal elements in the two formulations are drawn from irreconcilable formal levels. Moreover, in (75) the conditioning factor appears outside of the affected domain a, whereas in (76) the conditioning factor occurs within a. And so we see that our abstract PIC will need to be abstract, indeed, in that it must be able to refer to (an) abstract element(s) which can be realized either as a feature value or as a structural configuration and which can occur either inside or outside of the affected domain a. Such abstract elements are not definable within the theory of transformational grammar adopted here. I conclude, therefore, that PIC, as outlined by Chomsky (1977), is valueless in that it is not formulated and that, given the current state of linguistic theory, it is impossible to formulate a PIC of the required form. Hence, I reject PIC and accept the TSC as stated in (59) (for the definition of "finiteness," see Section 1.2.3.

1.2.2.3 The Nominative Island Condition

In Chomsky (1978 [=(1980)]) the interpretation of the TSC as a "filter" on surface structure suggested in Chomsky (1977) is formalized and TSC is collapsed with SSC. After defining the "domain" of a node α as including all those nodes which α c-commands (thus, if α c-commands a node β, then β is in the domain of α), Chomsky gives the following formulation:

(77) "Consider now a structure of the form (22);

(22) ... $[_{\beta}$ ... α ...] ...

We can formulate SSC and PIC as in (23):

(23) If α is an anaphor in the domain of the tense or the subject of β, β minimal, then a cannot be free in β, β = NP or S.

We return to the notion 'anaphor' below. Lexical Nps are not anaphors; PRO, trace and reciprocal [and reflexive as well--RJPI] are anaphors."

This collapse and modification of the TSC and the SSC is dubbed "the opacity condition". However, the opacity condition itself is soon modified and split into two separate parts. The reason for this move is twofold. First, examples such as (60) are, once again, treated as fully grammatical and taken to indicate that the TSC is to be restricted to full subjects of tensed clauses. Secondly, this split is made in order to eliminate a redundancy created by the existence of both the TSC and the SSC (or, in the case of (77), of two subconditions equivalent to the TSC and the SSC). When an anaphor is free in the object position of a tensed clause, the structure is ruled out by both the TSC and the SSC. Chomsky further notes that the subject position of a finite clause is distinguished in another respect in that it is assigned Nominative case. In light of this observation, Chomsky reformulates opacity as (78)--essentially limiting it to the former SSC--and the former TSC as (79)--which is given the title the "Nominative Island Condition" (henceforth, NIC). Taken together, (78) and (79) are called the "binding conditions".

(78)(=27) If α is in the domain of the subject of β, β minimal, then α cannot be free in β.

(79)(=103) A nominative anaphor cannot be free in $\bar{S}$.

NIC is treated as an advance from the TSC in two respects. First, under the assumption that PRO in the subject position of a finite clause is assigned Nominative case (cf Chomsky (1978, n. 30)), NIC explains why PRO cannot appear in the subject position of a finite clause--it will be a Nominative anaphor free in $\bar{S}$. Secondly, given NIC and given the general convention that WH-movement leaves behind a case-marked trace in the position in which it occurred in the base--but not in intermediate trace positions, in the case of iterated WH-movement--COMP need not be specified as an "escape hatch" from a finite clause. This will follow from NIC. If the subject of a finite clause is extracted by iterated WH-movement, a Nominative trace will be left in subject position. This Nominative trace will be properly bound by the WH-trace left behind in COMP, and so will not be free under NIC. This trace in COMP will not be bound by any element within $\bar{S}$. However, it will not violate NIC--since it does not bear Nominative case--nor will it violate opacity (78)--since it is not in the domain of a subject. A similar argument will allow COMP to function as an "escape hatch" for WH-phrases moved from non-subject position, under the formulation of SSC as opacity (78).

I will restrict my comments on this final reformulation of TSC (as of this writing) to the following. I have already argued, in Section 1.2.2.2 that examples such as (60) do not, in fact, motivate the restriction of the TSC to the full subject position of a finite clause. Regarding the reformulation of the TSC as NIC in order to eliminate cases in which a structure is ruled out by both the TSC and the SSC, it should be noted that the elimination of the redundancy affects not only the elegance and simplicity of the theory of grammar as a whole, it also makes certain empirical predictions as well, under failry reasonable assumptions concenring grammaticality and acceptability. If the effects of the TSC and the SSC should not, in fact, overlap,

then utterances which would be ruled out by both the TSC (in a formulation such as (59) and the SSC, should be no worse than utterances which are ruled out by either condition alone. However, if utterances which will be ruled out by the TSC and the SSC together are noticeably worse than utterances rule out by either condition by itself, then the TSC should not be restricted to affecting only subject positions. Otherwise, these differences in relative ungrammaticality will not be explained. George and Kornfilt (1978) suggest that certain examples in Turkish indicate that this "redundancy" of the TSC and the SSC is, indeed, justified by just such differences in acceptability between utterances ruled out by the two conditions and those ruled out by a single condition. (George (1980a, 68; 1980b, 64) argues for the general position that utterances which are ruled out for several reasons are more unacceptable than those ruled out by a single grammatical principle.) Thus, it does not seem that restricting the TSC to apply only to full subject positions is well motivated. As for the other effects of revising the TSC as NIC, I will comment on them as they become relevant to my analysis: on the TSC as a condition on binding rather than as a condition on rules, in Section 1.2.3; on the ungrammaticality of PRO in the subject position of a finite clause in Section 2.1.4, in a discussion of subject pro-drop; and on the derivation of COMP as an "escape hatch" (and on the derivation of the "COMP-to-COMP condition") in Section 1.2.3.

1.2.3 The Evolution of the TSC II: The Finiteness Condition

In discussing the revision of TSC as (59) above, I noted that the emphasis in (59) on finiteness, rather than on tense, was essentially correct and that this would be the formulation of the TSC that would be adopted here, under a precise formulation of "finiteness". In this section, I return to and expand upon this observation.

I accept the essential insight of the TSC--namely, that rules of sentence grammar can "apply into" non-finite clauses but not into finite clauses--as correct. However,

by concentrating on one aspect of the English-particular realization of finiteness--namely, tense marking--the TSC was open to immediate "falsification". There are languages which clearly possess the finite/non-finite distinction yet whose non-finite forms nevertheless are marked for tense. For example, in Ancient Greek, infinitives and participles are marked for tense. However, since infinitival and participial clauses are non-finite, processes like Raising, EQUI and Control may freely apply to these clauses, whereas they cannot apply to finite clauses, which also bear tense.

(80) eu su legein phainei
Present-Infinitive
well you to-speak you-seem
"You seem to speak well"

(81) ho Assurios eis te:n kho:ran autou embalein
Future-Inf.
the Assyrian to the country of-him to-invade

aggelletai
is-reported
"the Assyrian is reported to be about to make an incursion into his country"

(82) oimai eidenai
Perfect-Inf.
I-think to-know
"I think that I know"

Conversely, there are languages such as Turkish, in which certain finite clauses are unmarked for tense. (See George and Kornfilt (1978) for discussion.)

By comparing English and Greek, we see that whereas non-finite clauses are distinguished from finite clauses in English by the lack of tense, and also the lack of person and number marking, non-finite clauses are distinguished from finite clauses in Greek only by the lack of person and number marking. This observation immediately raises the question of the definition of finiteness in UG. The Greek

examples show that tense cannot be taken as an element that universally marks a clause as finite. Is there any other element which might be taken to be a universal marker of finiteness? As George and Kornfilt (1978, 17) point out, in connection with analogous Turkish structures:

> This conclusion [That "finiteness" rather than "tense" is the operative notion in the TSC--RJPI] makes it an urgent matter to define "finiteness" in general, since the claim that the "tensed S" Condition is in some sense universal would lose its "empirical content" if each language were free to substitute arbitrarily an idiosyncratic parameter for "tense" in its definition of finiteness.

Indeed, my rejection of PIC as a theoretical entity was based on just such an observation: that PIC allowed each language to define a "propositional island" in an unconstrained manner. Clearly, if the TSC is to be rescued from such a fate, it is imperative to define finiteness precisely. This conclusion, in turn, leads to a search for the existence of some other element (besides tense) which might serve to universally mark a clause as finite.

George and Kornfilt discuss just this point. They examine many examples in Turkish which are parallel to those in (80)--(82) above. Like Ancient Greek, Turkish possesses various non-finite clauses which are distinguished from their finite counterparts only by the lack of person and number agreement. As in examples (80)--(82) the subjects of clauses which bear no person agreement are subject to a number of processes--Passivization, Disjoint Reference, Reciprocal Interpretation, Reflexive Interpretation, Control and a "stylistic" rule of Scrambling/Leaking--while the subjects of clauses which bear person agreement are not. After noting that these examples show that finiteness rather than tense is the relevant principle for a proper definition of the TSC, George and Kornfilt consider a number of possible definitions of finiteness. They first examine the possibility of substituting person and number agreement for tense as the universal marker of finiteness. Ancient Greek and Turkish are alike in that all finite clauses contain

person and number agreement while their non-finite counterparts do not; this is also, in general, true in English. However, George and Kornfilt reject this proposal on the following grounds: even in Standard English, there are many cases in which no overt person and number agreement marking appears, e.g. the Subjunctive. Thus, various abstract markers would have to be introduced which would be neutralized in the morphophonemics. Moreover, there exist some dialects of English which have no overt person and number marking at all. In these dialects, then, the required agreement markers would be totally abstract. As they note:

> Again we have no objection *in principle* to such a move, but in practice claims of this kind have proved false frequently enough that it is wise to provide a "fallback" position which would make it possible to maintain our universal without committing ourselves to the claim that finiteness *always* means "having personal agreement".(p. 18)

After expressing this reservation about treating person and number agreement *per se* as defining finiteness in UG, George and Kornfilt make this observation: that Tense in English and person and number agreement markers in Turkish are structurally parallel in that, in each language, the element marking a clause as finite appears as the superior (in the sense of Chomsky (1973, 246)) specifier element of the verb in construction with the subject. This leads them to formulate a structural definition of finiteness.

(83) Finiteness Condition (First Formulation)

> We can say that a clause is opaque unless the superior verbal specifier (properly governed by the subject) is a designated element.(p. 18)

They then proceed to define "designated element" as follows: "In English, the element of AUX not showing tense or modal; in Turkish, the element of the final slot of verb inflection not showing person or number" (p. 18). They conclude with the observation that taking $\bar{S}$ as a projection of V (i.e. setting $\bar{S}$ as $V^{\neg}$, see Section 1.1) makes it possible to unify the TSC and the SSC, since both involve specifier

elements, in the sense of X-bar theory.

(83) is clearly an advance over the previous definitions of the TSC discussed above in that finiteness is made to rest on a single factor: designated command relations of phrasal specifiers. However, the *general* notion of "specified element" in this connection is not itself defined by George and Kornfilt. George (personal communication) has since defined a "specified element" as an element which is aparadigmatic, where "aparadigmatic" means neutralizing distinctions that occur in that same structural position, elsewhere in the paradigm. Thus, in English, "to" in infinitives and "-*ing*" in gerunds are aparadigmatic in that they neutralize the tense and modal contrasts that occur elsewhere in the verbal paradigm. Thus, it is possible to formulate the Finiteness Condition, parallel to the TSC ((56),(57),(58)) and PIC (59) as in (84), given the definition of "main specifier" as the superior specifier of an $X^{\neg}$ category which is c-commanded by the subject of that category.

(84) Finiteness Condition (Second Formulation)

No rule may involve *X* and *Y* in the structure

$...X...[_{\alpha} ...Y...]...X...$

where the main specifier of α is not aparadigmatic

However, I reject (84) in favor of a formulation which supplants the SSC as well as the TSC. In George (1979), the proposal made in George and Kornfilt (1978), that, given the X-bar notion of specifier, it is possible to unify the TSC and the SSC, is made explicit. This condition, which subsumes the TSC and the SSC, is stated as a condition on the factorization of a phrase marker or derived interpretation with respect to a rule. Given the definition of factorization in (85) (from George (1980a, Section 4.2, 58, (11); 1980b, Section 4.2, 56, (11)):

(85) Factorization

Let $q = (W_1,...,W_r) \in Q$, a restricting class. Then $(Y_1,...,Y_r)$ is a *factorization* of K by q iff both (i) and (ii) hold:

(i) $Z = Y_1 \hat{} ... \hat{} Y_r$ is the terminal string of K

(ii) $E_0(Y_j,W_j,K)$ for each j, $1 \leq j \leq r$.

In this case we also say that $(Y_1,...,Y_r)$ is a **factorization* of K by Q.

Finiteness may be stated as in (86).

(86) Finiteness (from (George (1979))

A factorization is infinitive iff for all $A \prec Z(K)$ and ranking primes $P^{\neg}$ of P, if $E(A,P^{\neg},K)$, $W_i \neq str$, and $Y_i \prec A$, then either
there is a minor specifier C of A and a j, $1 \leq j \leq k$, such that $W_j \neq str$ and $E(C,W_j,K)$ or
the main specifier C of A is aparadigmatic in K
and
either A has no Subject or
$Y_i \preceq$ Subj(A).

This may be stated slightly less formally as (87):

(87) Finiteness Condition (Final Formulation)

A factorization of a phrase marker K by a restricting class Q is infinitive iff
for all A, where A is some $P^{\neg}$ properly included in K, and
Y_i is properly included in A;
(a) there is a minor specifier C of A such that C is a term in the restricting class Q; or
(b) the main specifier C of A is aparadigmatic; and
either A has no subject or
Y_i is included in the subject of A.

This condition is an integral part of the definition of proper analysis:

(88) Only infinitive factorizations are proper analyses.

Clause (b) of definition (87) is the crucial one with regard to the present discussion of the history of the TSC. The first clause of this conjunction subsumes the old TSC; the second clause subsumes the SSC. I will illustrate how this condition applies with a concrete example. Let us take the rule of $N^{\urcorner}$ Preposing to be the following:

(89) N str N str

Substitute 3 for 1

Finiteness allows this rule to apply to the structure in (90) but not to that in (91).

(90) $N^{\urcorner}$ seems [$_{V^{\urcorner}}$ John to like Mary]

(91) $N^{\urcorner}$ seems [$_{V^{\urcorner}}$ John TNS like Mary]

The simple factrorizations of these structures with respect to rule (89) are as in (92) and (93), respectively.

(92) $N^{\urcorner}$ seems [$_{V^{\urcorner}}$ John to like Mary]

N | str | N | str

(93) $N^{\urcorner}$ seems [$_{V^{\urcorner}}$ John TNS like Mary]

N | str | N | str

Only the factorization in (92) satisifes the definition of proper analysis. In this factorization, *John* is Y_i, the complement $V^{\urcorner}$ is A, and *to*, which is the main specifier of the complement $V^{\urcorner}$, is aparadigmatic (for reasons already discussed). On the other hand, the factorization in (93) is not a proper analysis. Once again *John* is Y_i, and the complement $V^{\urcorner}$ is A. In this case, however, the main specifier of $V^{\urcorner}$ is TNS,

which is not aparadigmatic. The factorization in (93) does not satisfy clause (b) of Finiteness, then. Also, there is no minor specifier of the complement $V^{\neg}$ which is a term in the restricting class of (89), so that (93) does not satisfy clause (a) of Finiteness, either. Thus, (93) is not a proper analysis.

From Clause (a) may be derived the function of COMP as an "escape hatch" for WH-movement, under the assumption that there is an explicit *rule* of WH-movement and that this rule specifies COMP as the target of WH-movement. That is, I assume that the rule of WH-Movement is as in (94). (See also George (1980a, 39, 66-67; 1980b, 37-38, 63) for more discussion.)

(94) COMP str WH str

Adjoin 3 to 1

The same assumption explains the "COMP-to-COMP" condition on WH-movement. WH-phrases in Comp may only move to COMP because the only rule which could move them from this position is that of WH-movement, which, by mentioning COMP, allows the WH-phrases to escape to a higher clause. (See George (1980a, 62; 1980b, 59) for some discussion of this assumption). Note, however, that this clause is not merely included as an *ad hoc* way of deriving the unbounded character of WH-movement. The effect of this clause is to provide an "escape hatch" from a phrase for the operation of *any* rule which includes a specifier of that phrase in its restricting class. That is, we reconstruct the notion of COMP as an "escape hatch" with the quite general notion of SPEC(ifier) as "escape hatch". In Section 2.2 I present an example of another rule which utilizes this property to permit elements to escape from the phrases in which they originate. For the present, it is only necessary that the reader be aware of the implications of this formulation of finiteness. In effect, this condition states that *all* $X^{\neg}$ categories are normally islands, but that rules may "penetrate" these islands when certain

conditions obtain with regard to the specifiers of phrases. Thus, this condition brings together the effects of the TSC and the SSC and the unbounded character of WH-Movement and various other "escape hatch" phenomena and unifies them by showing that they are all alike in making reference to phrasal specifiers in some way. A question now arises as to how the difference in grammaticality between utterances which, under previous linguistic theory, violated both the TSC and the SSC, and those which violated either condition alone, may be obtainable under this theory. I propose that utterances which violated both conditions under the old framework more severely violate Condition (87), in that they violate both conjuncts of clause (b), whereas former "single condition" violations violate (87) less severely in that they only violate a single conjunct of this clause. However, the correctness of this proposal is not obvious and remains to be demonstrated.

One final point is worth noting about this condition. It is stated as a condition on analyzability, rather than as a condition on the structures derived by the operation of transformational (movement) rules. This latter interpretation treats the operation of transformational rules as somehow "free": that is, rules operate freely, but the derived interpretations produced by these rules are subject to filtering by certain conditions. Thus, in the case of (prohibited) Raising out of a finite clause, the rule of Raising (whether this is treated as a more general rule or as construction-specific) is free to analyze the subject position of the finite complement clause and the target subject position of the dominating clause. In such a case, then, the blocking of the rule is treated, in a certain sense, as external to its operation. It *can* apply in the prohibited configuration, but something comes along and discards the ill-formed result. Treating the conditions (like (87)) as conditions on analyzability, however, makes such conditions an integral part of the operation of a transformation, though not of the rule statement. Thus, it would be as impossible for the rule responsible for the creation of Raising structures to analyze the subject of a finite clause as the element to be moved as it would be for the rule of WH-Movement to analyze a

constituent that did not contain the feature [+WH]. This view, then, puts conditions such as (87) and Subjacency (which I also interpret as a condition on analyzability) nearly on a par with relations such as E ("is a"); that is, such conditions and relations make up the definition of "proper analysis" so central to transformational theory. Moreover, given the non-existence of hyperindexed traces in the framework assumed here, this is the only possible interpretation of such a condition, since derived structure will not in general recapitulate the syntactic configuration which sanctions or disallows the application of a particular rule.

1.3 The Relevance of the Finiteness Condition to Modern Greek Complementation

As was stated in the opening paragraphs of this chapter, this thesis will examine various sentential complements in Modern Greek. Specifically, it will concentrate on complement clauses which contain the element *na*. It will be the goal of this thesis to show that:

1. Clauses containing *na* are finite.

2. Consequently, any cases in which such clauses appear to be affected by normal sentence grammar rules constrained by finiteness, such as Raising, EQUI, Control, must, in fact, be instances of the operation of discourse grammar rules, which, by definition, are not subject to sentence grammar constraints, like Finiteness.

3. Given this analysis, it will be expected that the Modern Greek analogues of Raising, EQUI and Control, will violate *all* the conditions of sentence grammar, though the discourse processes involved may be subject to independent constraints of their own.

The demonstration that this analysis is correct will be divided up as follows.

In Chapter 2, various morphological and syntactic features of Modern Greek

which are of relevance to the central problem of this thesis are presented. The most important section of this Chapter is Section 2.5, in which it is demonstrated that *na* occurs as the main specifier of V in Modern Greek and that *na* is not aparadigmatic. Consequently, it is to be expected that a discourse process will be responsible for those Greek cases in which an $N^{\neg}$ in a matrix clause appears to "bind" an $N^{\neg}$ (whether overt or not) in a complement clause. It is proposed that this process is the discourse rule which binds pronouns (as in the discussion in Section 1.1.2.1, I use the term "binding" rather than "coreference" since there are surely cases where non-referential expressions are bound, in the relevant sense).

In Chapter 3, this rule is shown in operation in the Modern Greek relative clauses. It is demonstrated that Modern Greek possesses two sorts of relative clauses: those which are produced by the operation of WH-movement of an inflected relative word (*o opios*) and those introduced by the invariant complementizer *pu*. The former type of relative obeys the island constraints whereas the latter does not, inasmuch as the head of these *pu* introduced relatives is linked to the relative not via WH-Movement but via discourse binding with a resumptive pronoun contained in the relative. Since this binding is established by a discourse rule, it is to be expected that the island conditions will be violated.

In Chapter 4, complement clauses introduced by *na* are examined and it is shown that such clauses do, indeed, behave like finite clauses rather than infinitives: they permit overt lexical subjects which are marked with Nominative case, which is the normal case of the subjects of finite clauses in Modern Greek, overlapping reference is permitted between the subjects of these clauses and $N^{\neg}$'s in the matrix clause, the rule of discourse grammar which assigns positive binding to pronouns plays a part in the interpretation of these clauses *all* conditions of sentence grammar are violated in their interpretation (e.g. "Raising" from non-Subject positions is found).

Chapter Two

Morphological and Syntactic Preliminaries

> There is no language that can render the flavor and the beauty of modern Greek... *We've got a language*...We're still making it.
>
> --George Katsimbalis, as quoted by Henry Miller, *Colossus of Maroussi*

In this chapter I present various morphological and syntactic features of Modern Greek which interact with the main subject matter of this thesis: Modern Greek relative clauses (Chapter 3) and clausal complements to verbs (Chapter 4). This chapter, then, is presented partly as a convenience inasmuch as Modern Greek is probably unfamiliar to many of the readers of this thesis. It introduces the basic facts about Modern Greek pronouns (Section 2.1), prepositions (Section 2.3), complementizers (Section 2.4), verbal particles such as *θa* and *na* (Section 2.5), and some of the syntactic peculiarities of Modern Greek Noun Phrases (Section 2.2). However, the purpose of this chapter extends beyond the scope of a simple morphological and syntactic introduction. In several cases, the analyses to be presented are of crucial importance to the general theoretical issues examined in this thesis. This is particularly true of Section 2.5. Given the analysis of *na* proposed there, as well as the definition of Finiteness adopted in Section 1.2.3, a particular analysis of complement clauses containing *na* will be forced and certain predictions will be made concerning the behavior of various syntactic processes involving such clauses. (These predictions are examined in Chapter 4.) Section 2.2 also presents some facts concerning the extraction of Genitive $N^{\neg}$'s from $N^{\neg}$'s which are amenable to an analysis consistent with this definition of Finiteness.

Before proceeding any further, it is necessary to discuss the nature of the

language which I am presenting in this chapter, and which it is the task of this thesis to analyze. As is well known, Modern Greek presents a classic example of diglossy, being divided into: *Katharevousa*, the so-called "purified" language, which contains many syntactic, morphological, phonetic and lexical properties of Ancient Greek which are not present in the spoken language, and *Dhimotiki* or *demotic*, the "popular" language, which includes not only the features of the common spoken language, but also various dialectal features. Between these two poles lies what may be called standard spoken Greek, a language which uses the syntax, morphology and phonology of demotic, but which admits various lexical items and other expressions from Katharevousa. It is this spoken language which will be explored in this thesis, although I do not hesitate to mention data from various non-standard dialects when it seems that such examples may help illuminate the problems under discussion.

For some discussion of the "language question" in Greece, see Pappageotes and Macris (1964), who present a brief history of Modern Greek diglossy and some discussion of the spectrum of the forms of written and spoken Greek which fall between the poles of Katharevousa and Demotic; Browning (1969, 103-118), who describes some of the major differences between Katharevousa and Demotic; Householder and Kazazis (1974), who provide a longer discussion of the same issues; see also Thumb (1964, vii-xiii), for some discussion of the problems of writing a grammar of the spoken language, rather than the Katharevousa prescribed by various grammarians; and Mandilaras (1972), especially Lectures 3 and 5 through 7; see also pages 178-179 of the same work for further references on this topic. For treatment of Modern Greek diglossy within the generatove framework, see Babiniotis (1979) and Warburton (1980), among others.

Finally, I note that whenever I cite a judgement as to the grammaticality of a Modern Greek utterance, in this and the following chapters of this thesis, this

judgement is either drawn from my informant work or from articles in the linguistic literature. When an example is taken from the latter, I indicate the source, abbreviating according to the following table:

A	= Arpojolu (1964)
C&H	= Cole and Hermon (1979)
D	= Drachman (1970)
DI	= Dzardzanos (1946)
HKK	= Householder, Kazazis and Koutsoudas (1964)
J76	= Joseph (1976)
J78	= Joseph (1978)
J80	= Joseph (1980a)
K65	= Kazazis (1965)
K80	= Kakouriotis (1980)
M-P	= Moser-Philtsou (1966)
NEA	= Ta nea ellinika ya ksenus, sinerγasia ton δiδaskalisson tis ellinikis tu Aristoteliu Panepistimiu θessalonikis, θessalonika, 1979
P&S	= Perlmutter and Soames (1979, Chapter 43, pp. 154-171)
T	= Thumb (1964)
W70	= Warburton (1970, Section II.5, pp. 37-47)
W77	= Warburton (1977)

Examples are presented in a broad phonetic transcription; moreover, though I indicate word-internal sandhi phenomena, for the benefit of those who are unfamiliar with Modern Greek, I do not indicate sandhi across word boundaries; i.e. I transcribe the Accusative of "the father" as *ton patera*, rather than *tom batera.*

2.1 The Modern Greek Pronoun System

Pronouns in Modern Greek are declined for Person (First, Second or Third), Gender (Masculine, Feminine or Neuter), and also, like Nouns, for Number

(Singular or Plural) and Case (Nominative, Accusative and Genitive; the last Case collapses the functions of the Ancient Greek Dative (indirect object and benefactive) and Genitive (possessor)). Greek further distinguishes between strong and weak (or "clitic") forms of pronouns. The declensions of these forms is given in (1). (The order of Cases in the diagram is Nominative, Genitive and Accusative.)

(1) Third Person

Strong

Singular			Plural		
M	F	N	M	F	N
aft-os	-i	-o	aft-i	-es	-a
aft-u	-is	-u	aft-on	-on	-on
aft-on	-in	-o	aft-us	-es	-a

Clitic[1]

Singular			Plural		
M	F	N	M	F	N
(t-os)	(-i)	(-o)	(t-i)	(-es)	(-a)
t-u	-is	-u	t-us	-us	-us
t-on	-in	-o	t-us	-is/-es	-a

[1]The inflection of the definite article is the same as that of the third person clitic pronoun, save that the singular masculine and feminine Nominative forms are *o* and *i*, respectively; the plural Nominative masculine and feminine forms are both *i*; and the Genitive plural of all genders is *ton*.

First Person		Second Person	
Singular		Singular	
Strong	Clitic	Strong	Clitic
eγo	—	esi	—
emena	mu	esena	su
emena	me	esena	se
Plural		Plural	
Strong	Clitic	Strong	Clitic
emis	—	esis	—
emas	mas	esas	sas
emas	mas	esas	sas

There are several facts about the distribution of strong and weak forms which must be noted and which it is the task of this section to explain.

First, strong and clitic forms of a pronoun generally appear in different positions in a sentence: the former may appear freely in any position in which a non-pronominal N⌉ may appear, while the latter usually appear only in "Wackernagel's position"--i.e. second position, in a sense to be made clear, in the phrase in which they occur.

Second, the distribution of the parenthesized Nominative clitic pronouns is much more restricted than that of Genitive and Accusative clitic pronouns. These forms are rarely employed, and then only in conjunction with *na*--"here is", parallel to French *voilà*--or the expression *pu'n'*--"where is"--as in the following:

(2) na tos
"here he is"

(3) pu'n'ti[2]
"where is she"

Thus, there is no clitic form which can alternate with the strong subject pronouns. Nominative pronouns alternates between the strong form and ø while Genitive and Accusative pronouns alternate between strong and clitic forms. That is, Modern Greek possesses "Subject Pro-Drop". In both cases, the strong forms are used only emphatically.

Finally, the most notable fact about Modern Greek clitic pronouns is the phenomenon of "redoublement de complement" or "clitic doubling". As Householder, et al (1964, 82-83) observe: "very often the clitic and the strong forms [of the personal pronouns--RJPI] are both present in the same sentence". Moreover, "sometimes the clitic forms of the 3rd person pronoun are used in the same sentence as the noun to which they refer". In both cases, the doubling of a Nominal functions as a form of emphasis.

Here are some examples of the doubling of a pronoun:

(4) o petros me filise emena
ACC ACC
the Peter me kissed me
"Peter kissed me" (D 1.11.a)

---

[2]By assimilation, the actual pronunciation is *pu'n'di*, *t* voicing to *d*, as is usual with voiceless stops in Modern Greek following a nasal.

(5) su to eδosa to vivlio esena
GEN ACC ACC GEN
to-you it I-gave the book to-you
"I gave you the book" (W (54))

(6) tis to zitisa aftis
GEN GEN
from-her it I-asked from-her
"I asked her for it" (HKK, p.82)

and of the doubling of a full, non-pronominal N[7]:

(7) to iδane to kastro
ACC ACC
it they-saw the castle
"they saw the castle" (K&P (3))

(8) o kiniγos ton skotose ton liko
ACC ACC
the hunter him he-killed the wolf
"the hunter killed the wolf" (D 1.2)

(9) tu tilefonises tu patera
GEN GEN
to-him you-called to-the father
"did you phone father" (HKK, p.83)

(10) o Yanis tis to eδose tis marias
GEN GEN
the John to-her it he-gave to-the Mary
"John gave it to Mary" (W (7))

(11) o Petros tu pire to krasi tu Mixali
GEN GEN
the Peter from-him he-took the wine from-the Michael
"Peter took the wine from Michael" (D 1.9.b)

Before turning to the analysis of these three phenomena, I will first present an analysis of the categorial status of pronouns.

2.1.1 The Categorial Status of Modern Greek Pronouns

Recall that, in Section 1.1.2.1 above, it was suggested that Postal's (1966) analysis of pronouns as specifiers should be adopted.[3] In Modern Greek, there is a good deal of evidence that this analysis is, in fact, correct. It should first be noted that the strong forms of the pronouns double as demonstratives. Thus, compare:

(12) aftos to ekane
NOM
he it he-did
"he did it"

(13) aftos o anθropos to ekane
NOM NOM NOM
this the man it he-did
"this man did it"

Note that demonstratives in Modern Greek, unlike their counterparts in English and other modern European languages can co-occur with the definite article, and, in fact, must. Similarly, the demonstratives *ekinos* "that" and *tutos* "this" may also be used as pronouns. Like *aftos*, they appear with a definite article obligatorily.

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[3]Postal, in fact, treats pronouns in English as a form of definite article; I reconstruct this notion in terms of the X-bar theory by treating pronouns as specifiers of N.

(14) ekinos o anθropos to ekane
NOM NOM NOM
that the man it he did
"that man did it"

(15) tutos o anθropos to ekane
NOM NOM NOM
this the man it he-did
"this man did it"

From their occurrence in such constructions, it is clear that *aftos*, *ekinos* and *tutos* appear as specifiers of N, at least in their non-pronominal usages. Similarly, first and second person pronouns may occur in the same configuration; i.e. in the context [__ Definite Article N]. Note the following:

(16) eγo o kaymenos
I the wretch
"wretched me" (T, 42)

(17) esi o kakomiris
you the wretch
"wretched you"

(18) emis i elines
we the Greeks
"we Greeks"

(19) esis i δistixizmeni
you the unlucky
"you wretches"

From these facts, I hypothesize that Modern Greek pronouns are specifiers of N that appear in the configuration:

(20) [$_{N}$] PRO DET N]

where PRO stands for the minor category that pronouns belong to and is not to be confused with the notation "PRO" which is used to refer to the non-overt pronoun which appears in the Subject position of infinitives. The Phrase Structure rules, then, for N in Modern Greek contain at least the following rules:

(21) $N^{\urcorner} \rightarrow PRO\ N^{\urcorner\text{-}1}$

(22) $N^{\urcorner\text{-}1} \rightarrow DET\ N^{\urcorner\text{-}2}$

I assume, further, that in all contexts in which a PRO specifier appears, a Definite Article is present, even if not overtly. (This assumption will play a crucial role in delimiting the syntactic domain of clitic doubling.) Thus, Modern Greek differs from English in that, whereas PRO is in complementary distribution with DET in English, in Modern Greek the two specifiers can (and must) co-occur.

Given this analysis of Modern Greek pronouns, I will begin my analysis of their external distribution with an explanation of the facts concerning clitic doubling in Modern Greek.

2.1.2 Clitic Doubling in Modern Greek

Modern Greek differs in a striking manner from other languages which possess clitic doubling, in that an $N^{\urcorner}$ may be doubled by a clitic pronoun and retain the Case which it normally would receive in the position in which it occurs. Thus, in the preceding examples, direct object $N^{\urcorner}$'s were Accusative and indirect object $N^{\urcorner}$'s were Genitive. In other languages which possess clitic doubling, however, the nominal which is doubled receives some special marking. In Spanish, for instance, the $N^{\urcorner}$ which is doubled must be preceded by *a*, which Jaeggli (1980) argues is a preposition.

(23)(=(1.9)b.) Lo vimos a Guille
him we-saw Guille
"we saw Guille"

(24)(=(1.1)) Miguelito *le* regaló un caramelo *a Mafalda*
Miguelito it she-gave a candy to Mafalda
"Miguelito gave Mafalda a (piece of) candy"

(Examples are from Jaeggli (1980). Note that animate direct objects in Spanish must, independently of clitic doubling facts, be preceded by *a*, so that the contrast sought here is less sharp than might be desired.)

In Modern Greek on the other hand, not only is clitic doubling permitted with $N^{\neg}$'s which receive no special marking (e.g. which are not preceded by a preposition), as in (4)--(11) above, it is prohibited when a preposition like *se* or *apo does* appear. Thus, while an indirect object may appear either as a Genitive $N^{\neg}$ or introduced by *se*, only the former may be doubled by a clitic pronoun, as is shown by the grammaticality of (25) as compared with the ungrammaticality of (26).

(25) tu to δosane tu Yani
GEN GEN
to-him it they-gave to-the John
"They gave it to John" (W (22))

(26) tu to eδosa to vivlio sto Yani
GEN
*to-him it I-gave the book to-the John
"I gave the book to John" (W (25))

According to Warburton (1977), this last example is grammatical under a reading in which *tu* is not linked to *Yani*, but, rather, is taken as an "ethical dative" or "benefactive"--"for him"--where "him" refers to someone other than John. This may be translated as "I gave the book to John for him". (I return to the subject of

the "ethical dative" below.) Other speakers, however, find (26) to be ungrammatical. Such speakers can only interpret this example as meaning "I gave the book to him *at* John's". However, for (26) to be well-formed with this reading would require *stu Yani* "at John's" to be substituted for *sto Yani* "to John".

(Newton (1964, 63-64), however, notes a different configuration of facts with respect to clitic doubling in Cypriot Greek. In this dialect, the Feminine Genitive plural of the strong form of the third person pronoun is only used as a possessor. It cannot be used as an indirect object. In cases of clitic doubling of Feminine plural indirect objects, then, the form introduced by *se* is obligatory. Compare:

(27) en tus ipun tutus nartusin
GEN GEN
NEG to-them I-told to-them NA they-come
"I didn't tell those people (Masc. or in-
determinate) to come"

(28) en tus ipun se tutes nartusin
GEN ACC
NEG to-them I-told to them NA they-come
"I didn't tell those people (Fem.) to come")

Moreover, though clitic doubling is permitted within VP in Modern Greek, it is not permitted in $N^{\neg}$ or PP, though clitic pronouns may occur in these phrases, Thus, (29) and (30) are grammatical, while (31)--(33) and (36) are not.

(29) to vivlio tu
GEN
the book of-him
"his book"

(30) mazi tus
GEN
together to-them
"together with them"

(31) *tu Yani to vivlio tu
GEN GEN
of-the John the book of-him
"John's book"

(32) *to vivlio tu tu Yani

(33) *tu Yani tu to vivlio

(Thumb (1964, 90) and Dzardzanos (1946, 132) give examples of apparent clitic-doubling inside $N^{\neg}$ such as:

(34) emas i aγapi mas
GEN GEN
of-us the love of-us
"*our* love" (T, 90)

(35) katalaveno osa δe vani o nus su esena
GEN GEN
I-understand as-much-as NEG it-puts the mind of-you of-you
"I understand things *your* mind can't conceive of"

However, native speakers find examples such as (34) and (35) archaic, if not absolutely ungrammatical. Moreover such examples can only involve the doubling of a pronoun, not that of a full $N^{\neg}$. Nor is it clear that the doubled pronoun appears within $N^{\neg}$.)

(36) *mazi tus tus filus mu
ACC ACC
together to-them to-the friends of-me
"together with my friends"

(Dzardzanos (1946) offers an apparent example of clitic doubling inside PP:

(37) m'olus mas emas
ACC ACC
with all us us
"with all of *us*"

However, whatever the analysis of this example may be, it can not be taken as indicating the existence of a general process of clitic doubling within PP since similar examples in other persons are ungrammatical:

(38) *m'olus tus aftus
ACC ACC
with all them them)

I will attempt to explain these two restrictions on clitic doubling together, in light of the following facts.

First, Modern Greek marks temporal N┐'s with Accusative Case. Such phrases may occur freely with any verb.

(39) ti δeftera exome sxolio
ACC
the Monday we-have school
"we have school on Monday" (A, 67)

(40) eftase ta mesanixta
ACC
he-arrived the midnight
"he arrived at midnight" (M-P, 247)

Second, Modern Greek marks "ethical dative" or "benefactive" phrases with Genitive Case. These are phrases which indicate the person who is benefited or injured by a given act; again, such phrases may occur freely with any verb.

(41) to skilo mu mu (TO) patise en' aftokinito
GEN
the dog of-me for-me it-ran over a car
"a car ran over my dog [on me]" (HKK, 83)

(42) filise mu tin
GEN
kiss for-me her
"kiss her for me" (HKK, 82)

Because of their free occurrence, such phrases cannot be treated as part of the subcategorization frames of individual verbs.

Analogous structures do not exist in $N^{\neg}$ or PP. That is, both $N^{\neg}$ and PP may contain only one Case marked $N^{\neg}$. Modern Greek does not permit $N^{\neg}$'s of the form "the enemy's destruction of the city." The equivalent examples in Modern Greek substitute for the Genitive subject of such English examples either an agent phrase, introduced by *apo*, as in (43), or an adjectival equivalent, as in (44).

(43) i katastrofi tis xoras ap'tus exθrus
GEN ACC
the destruction of the country from-the enemies
"the country's destruction by the enemy"

(44) i romayiki katastrofi tis xoras
NOM GEN
the Roman destruction of the country
"Rome's destruction of the country"

(45) *tis Romis i katastrofi tis xoras
GEN GEN
of-the Rome the destruction of-the country

And Modern Greek Prepositions, though they may permit "stacking" of other PP's within each other, and various premodifiers, only permit a single complement.

The obvious move, then, would seem to be to tie the doubling of clitic pronouns within $V^{\neg}$ to the existence of subsidiary Case marking processes in $V^{\neg}$ and the non-existence of such doubling in $N^{\neg}$ and PP to the absence of such subsidiary processes within these domains. That is, clitic doubling exists within $V^{\neg}$ because there exist two Genitive sanctioning rules and (at least) two Accusative sanctioning rules in $V^{\neg}$. Thus, a pronoun and a non-pronominal $N^{\neg}$ can appear in $V^{\neg}$ bearing the same Case, since this Case can be sanctioned on each $N^{\neg}$ separately. However, in PP and $N^{\neg}$ there exits only a single Case sanctioning rule; hence, only one $N^{\neg}$ complement can

appear in these categories.

There is an alternative analysis of these phenomena, however, as was pointed out to me by Ken Hale (personal communication). This alternative approach links the difference between Modern Greek and a language like Spanish to a further difference between such languages. As was shown above, in Section 2.1.1, pronouns in Modern Greek are actually specifiers which do double duty as demonstratives. Moreover, unlike the situation in English, Spanish and many other languages, demonstratives in Modern Greek can and, in fact, must, co-occur with the Definite article, as was already noted. Given this difference, then, clitic doubling in Modern Greek could be analyzed along the following lines: Clitic doubles of $N^{\neg}$'s would originate in the Demonstrative specifier "slot" from which they would be moved by a Clitic placement transformation. (This rule would not violate Finiteness because it would, presumably, mention the adjacent definite article as a context predicate, allowing the rule to apply under clause (a) of Finiteness.)

Though this analysis would explain the difference between clitic doubling in Spanish and Modern Greek, it would leave various aspects of clitic doubling internal to Modern Greek unexplained. First, it would not explain why clitic doubling may take place in $V^{\neg}$ but not in $N^{\neg}$ or PP. (Though it might be proposed that this restriction followed from the absence of additional spell-out rules in $N^{\neg}$ and PP.) Second, it would not explain why pronouns can be clitic doubled (as in examples (4)--(6) above). Since this analysis postulates that the Demonstrative slot in which pronouns appear is the position from which clitics originate, it would not explain how a pronoun could be clitic doubled, since the Demonstrative slot from which the clitic would originate would be filled by the strong pronoun. Similarly, this approach would not explain why $N^{\neg}$'s containing demonstratives could be clitic doubled (see examples (77), (78) and (80) below) since, again, the demonstrative slot would be already filled. Because of these problems, I reject Hale's proposed

alternative.

To make my own approach explicit, I posit the following phrase structure rules:

(46) $V^{\neg 1} \rightarrow N^{\neg} V^{\neg 2} N^{\neg *}$

(47) $VP \rightarrow V\ N^{\neg}\ N^{\neg}$

(48) $VP \rightarrow V\ N^{\neg}$

Rule (46) is the rule which inserts benefactive and temporal $N^{\neg}$'s in a sentence. For concreteness, I propose that these phrases are complements to $V^{\neg 1}$ (i.e. the traditional S). However, for the purposes of the present discussion, it does not matter whether these phrases are indeed complements at this level or at a lower projection of V, nor that benefactive and temporal $N^{\neg}$'s be sisters. The important point is that they must *not* be complements within VP (see discussion below). (47) and (48) are two particular instantiations of the general Phrase Structure schema introducing Verbal complements. (47) inserts a direct object and indirect object, while (48) creates a simple transitive VP. (These two rules may be collapsed, of course, under the usual notational conventions.)

In addition, I posit the following Case sanctioning rules, which operate within the VP in Modern Greek, and which sanction Accusative Case on direct objects and Genitive Case on indirect objects. (For some justification of the order direct object, indirect object as the basic order of Verbal complements in Modern Greek, see Thumb (1964, 202-203) and Drachman (1970); for the opposite view, see Kazazis (1967).)

(49) V Accusative

(50) V N Genitive

These rules say, as is true, that the unmarked situation in Modern Greek is for the direct object (the first $N^{\neg}$ following V) to be marked Accusative and for the indirect

object (the second $N^{\neg}$ following V) to be marked Genitive. In addition to these Case sanctioning rules, I also posit the following rules, which sanction the Cases appear on the temporal and benefactive $N^{\neg}$'s.

(51) V str Genitive

(52) V str Accusative

Finally, I posit the following two binding rules, whose function I describe below.

(53) Genitive str Genitive

(54) Accusative str Accusative

These rules interact in the following manner in the analysis proposed here. Clitic pronouns are base generated in $N^{\neg}$ positions and are moved by a rule of clitic pronoun movement (whose formulation I consider below) to a position immediately preceding the verb. Such clitics can occur in direct or indirect object position, as a normal non-pronominal $N^{\neg}$ can. However, non-clitic $N^{\neg}$'s may also be generated in tandem with clitic pronouns. In such instances, the Cases borne by the clitic pronouns and by the non-clitics will be sanctioned by the rules given above. Thus, an Accusative clitic pronoun may "double" an Accusative non-clitic because both may receive Accusative Case: this Case may be sanctioned in either of two positions: immediately following the Verb in direct object position, by Rule (49) and separated from it, outside VP, in the position in which a temporal $N^{\neg}$ normally appears, by Rule (52).

So far, then, the postulation of additional Case sanctioning mechanisms (as given in rules (51)--(52) above) explains why clitic pronouns may double non-clitic $N^{\neg}$'s in Modern Greek without the operation of some special Case marking on the doubled item. Since there are two Accusative sanctioning rules, Accusative may appear on the non-clitic and on its clitic double; similarly, for the case of doubled Genitives.

What is not explained by the Case sanctioning rules proposed above is the binding of the clitic pronouns and the non-clitics. This is what rules (53) and (54) are meant to effect. Rule (54) binds an Accusative clitic pronoun to a following Accusative $N^{\neg}$. Rule (53) binds a Genitive clitic pronoun to a following Genitive.

These two binding rules apply freely; independent principles rule out those cases in which they misapply. Presumably, when Rules (53) and (54) apply, the $N^{\neg}$ which is bound to a clitic pronoun is interpreted as bearing the grammatical relation that is assigned to that pronoun (this anticipates the solution to the question of the underlying order of clitic pronouns and doubled $N^{\neg}$'s to be given below). This explains why the application of rule (54) is obligatory in clitic doubling constructions. If a non-temporal $N^{\neg}$ were generated external to VP, in a temporal $N^{\neg}$ position, it could not be interpreted in this position. However, if it were bound to an Accusative clitic pronoun it could be interpreted as a Direct Object.

A note of clarification is in order here. I have been using the terms "temporal phrase" and "temporal $N^{\neg}$" ambiguously in both a structural and a functional sense. To be more precise: I propose that there is an $N^{\neg}$ position which is generated outside of VP by the base rules of Modern Greek. The $N^{\neg}$ which occupies this position is marked with Accusative Case. Depending on the actual (lexical) Noun which occurs in this position (i.e. depending on whether this Noun is "temporal" or not) it may be interpreted adverbially, as a temporal modifier. If the head is *not* temporal, however, it must be linked, via binding rule (54) to a (clitic) pronoun within VP. It is then interpreted as bearing the grammatical relation (Direct Object) associated with this pronoun. Conversely, when a temporal $N^{\neg}$ appears, it cannot be clitic doubled. Compare (55) and (56):

(55) tis sixenome tis kiriakes
ACC ACC
them I-hate the Sundays
"I hate Sundays" (K80, (9b))

(56) spania tis troo tis kiriakes
ACC ACC
seldom them I-eat the Sundays
"I seldom eat them on Sundays" (K80, (10b))

In (56), *tis* cannot double *tis kiriakes*, since *tis kiriakes* cannot be interpreted as the Object of *troo*, "I eat", though it could refer to an appropriate, previously mentioned Feminine Noun; e.g. *tis patates* "the potatoes".

In the case of Genitives, there is an extra wrinkle. As Warburton (1977) points out (following an observation by Wayles Browne), whenever two Genitive N⌝'s occur in a Sentence (excluding possessive Genitives internal to N⌝) one of these must be a clitic pronoun bound to a non-clitic N⌝. Utterances in which a full Genitive indirect object and ethical Genitive appear together are ungrammatical, as are those in which a Genitive clitic pronoun appears followed by a Genitive N⌝ that it is not bound to. (This restriction does not extend to mulitiple occurrences of Accusative N⌝'s; cf. example (56).)

(57) *mu eδose ena kalo vivlio tu peδyu
GEN GEN
to/for-me he-gave a good book to/for the child
(W, (28))

In order to explain why this restriction obtains it is first necessary to consider the proper formulation of the principle of Filtering by Analogy, mentioned in Section 1.1.2.2 above. Enlarging upon the suggestion made there that Filtering by Analogy most likely refers to minor specifiers, I propose the following tentative and highly

informal formulation of Filtering by Analogy. (Recall that the notion of "grammatical cognate sketched out in Section 1.1.2.2 delimits the domain of applicability of Filtering by Analogy.)

(58) Filtering by Analogy (Reformulation)

> In a derivation, if it is possible to insert a less marked form of a minor specifier do so. For these purposes, "less marked" covers the following three alternations:
>
> 1. If the choice is between inserting a marked form of a specifier or an unmarked form of a specifier, insert the unmarked form.
>
> 2. If the choice is between expanding a minor specifier into terminal material or not expanding it, don't.

To see how this applies in the instance of Modern Greek clitic doubling, the following facts must be borne in mind. Recall that, as in Section 1.1, I take pronouns to be minor specifiers of $N^{\neg}$. Recall also that I treat Case as a minor specifier. Finally, note that sanctioning rules of the type discussed in Sections 1.1.2.1 and 1.1.2.3 are meant, in a sense, to "circumvent" Filtering by Analogy. That is, a derivation in which a more marked form of a minor specifier has been inserted may be "rescued" if a rule applies which explicitly mentions that minor specifier. Conversely, it could be stated that one of the effects of Filtering by Analogy is to make such sanctioning rules obligatory. For example, given the statement of Filtering by Analogy in (58), if such sanctioning rules did not apply, then the dummy carrier Case could not expanded. However, since Case is, presumably, a necessary morphological element for the spell-out of each Nominal, such derivations would be ruled out.

Filtering by Analogy, as stated in (58), provides an explanation on the ban against two (or more) Genitive $N^{\neg}$s in $V^{\neg}$ in conjunction with the following facts. Although Genitive $N^{\neg}$'s in Modern Greek may alternate with phrases introduced by specific

formatives (e.g. indirect objects alternate with *se*--"to"--phrases, sources alternate with *apo*--"from"--phrases, benefactives alternate with *ya*--"for"--phrases, etc.), it is preferable to use the latter forms, rather than the Genitives alternates. In fact, there are only two instances in which Genitives are either preferred or obligatory: when the $N^{\urcorner}$ in question is a clitic pronoun (in such cases, no alternation is possible, since, as will be shown in Section 2.3, clitic pronouns do not occur with *se, apo, ya,* etc.); when the $N^{\urcorner}$ in question is a non-clitic $N^{\urcorner}$ which is clitic doubled (as was shown in example (26), the prepositional alternates of Genitive $N^{\urcorner}$'s cannot be clitic doubled).

This additional fact can be utilized to explain the obligatoriness of Rule (53), and the prohibition of double Genitives outside of clitic doubling contexts, as follows. First, I consider the case of two non-clitic $N^{\urcorner}$'s. In such instances, there is a simpler derivation in which one, or (preferably) both appear in their non-Genitive alternates. (Such a derivation would be simpler in the sense of Filtering by Analogy (58) in that the less marked variants of the Genitive phrases would appear, rather than the marked Genitive forms.) In the instances in which one is a Genitive clitic and the other is a non-clitic Genitive $N^{\urcorner}$, there is, again, a simpler derivation in which the non-clitic $N^{\urcorner}$ occurs in its non-Genitive variant. (And for the same reason as in the previous case.) (The clitic pronoun cannot be so replaced for the reasons just stated). However, such a structure could be saved if Rule (53) were to apply. Note that Rules (53) and (54), under the definition of binding given in Section 1.1.2.1, will establish binding between the two $N^{\urcorner}$'s affected by them. Therefore, at least one of these two $N^{\urcorner}$'s must be capable of being bound, i.e. must be a pronoun. This observation completes the required explanation of the phenomenon in question. The only derivations in which two Genitive $N^{\urcorner}$'s appear are those in which Rule (53) applies. However, because this rule establishes binding between the two Genitive $N^{\urcorner}$'s, one of them must be bindable, i.e. must be a pronoun. Note, finally, that the postulation of the rules (53) and (54) to establish

the binding of clitic pronouns to the appropriate antecedents is in line with the assumption made in Section 1.1.2.1 that "anaphor" is a relational notion and that a pronoun is an anaphor whenever it is part of a binding rule.

The facts concerning the doubling of Genitive N⌉'s strongly support the analysis of clitic doubling proposed here. Similar support could be obtained from the doubling of Accusative N⌉'s if it could be shown that there is some limit on the number of Accusative temporal N⌉'s which appear in a sentence. The heart of the present analysis of clitic doubling is the hypothesis that clitic doubling is permitted only in those syntactic configurations in which a "spare" Case sanctioning rule for a given Case exists, so that this Case may be assigned to a non-clitic N⌉ and to its clitic pronoun double. Therefore, this analysis predicts that, if such a limitation exists on the number of temporal Accusative N⌉'s in a Sentence, it would be impossible to get clitic doubling of an Accusative object if the maximum number of temporal Accusative N⌉'s appeared. This is so because one of the Accusative N⌉'s would not have its Accusative Case sanctioned. Unfortunately, there does not seem to be such an upper limit; any number of temporal Accusative N⌉'s may appear in a clause.

(59) θa paw sto sinema
FUT I-go to-the movies

tin erxomeni kiriaki
ACC
the coming Sunday

tin erxomeni evδomaδa tin kiriaki
ACC ACC
the coming week the Sunday

ton erxomeno mina tin kiriaki ikosi Fevruariu
ACC ACC ACC
the coming month the Sunday twenty of-February

"I will go to the movies

next Sunday
Sunday of next week
next month, on Sunday the twentieth of February"

Clitic doubling may occur in the presence of any number of Accusative temporal N┐'s:

(60) θa ton sinandiso to Yani
ACC ACC
FUT him I-meet the John

tin erxomeni kiriaki
ACC
the coming Sunday

tin erxomeni evδomaδa tin kiriaki
ACC ACC
the coming week the Sunday

ton erxomeno mina tin kiriaki ikosi Fevruariu
ACC ACC ACC
the coming month the Sunday twenty of-February

"I will meet John

next Sunday
Sunday of next week
next month, on Sunday the twentieth of February"

Thus, it appears that Rule (52) may apply an unlimited number of times in a given clause. (Though how this is to occur without violating Superiority/Priority is unclear. (See Chomsky (1973), George (190a, 71; 1980b, 66-67)). I discuss Superiority/Priority effects below.)

Having established the above analysis of clitic doubling, I will now return to the question of the relative order of the doubled elements in the base. There are four logical possibilities, as shown in (61)--(64) (where NP indicates a non-clitic and CL a clitic pronoun). (Actually, of course, there are quite a few more possibilities. In (61) and (62), for instance, the clitic pronouns and non-clitic N$^{\neg}$'s could be intermixed. In (63) and (64) one clitic pronoun could occur VP internally and the other could be external to VP. However, (61)--(64) illustrate the point I wish to make here, namely, that clitic pronouns and the N$^{\neg}$'s which they double do not all occur internal to VP

and that clitic pronoun doubles do not command the N$^{\neg}$'s which they double.)

(61) [$_{VP}$ V NP NP CL CL]
ACC GEN GEN ACC

(62) [$_{VP}$ V CL CL NP NP]
ACC GEN GEN ACC

(63) [$_{VP}$ V NP NP] CL CL
ACC GEN GEN ACC

(64) [$_{VP}$ V CL CL] NP NP
ACC GEN GEN ACC

The first two possibilities may be ruled out at once. As was already noted, temporal and benefactive phrases are not part of the subcategorization frame of a verb, but, rather, occur freely. Under the usual assumption (e.g. Chomsky (1965, 96 and 99ff) that only elements which are part of the subcategorization frame of a Verb may occur inside VP, (61) and (62) are inadmissible as possible analyses. (63) also looks rather dubious for the following reason. The clitic pronouns which will be bound to the non-clitic N$^{\neg}$'s command them in this analysis. Surely, however, it would be odd for a bound anaphoric pronoun to command its antecedent, even if only in the base. Finally, (64), the remaining possibility, has empirical support. Warburton (1977) notes that there are some verbs in Modern Greek (a very few, in fact) that take a double Accusative complement in addition to an Accusative plus Genitive complement; thus, they resemble Dative Movement examples in English.

(65) δiδaskune γramatiki sta peδya
ACC
they-teach grammar to-the children (W (71))

(66) δiδaskune ta peδya γramatiki
ACC ACC
they-teach the children grammar (W (73))

An interesting fact about such constructions is that, though the first of the two N⌝'s in the double Accusative construction can be Passivized, it may not be clitic-doubled. This is a general fact about Passivization in Modern Greek; the Passivized N⌝ may not be doubled:

(67) *to parasimo to δoθike ston stratioti
NOM ACC
the medal it it-was-given to-the soldier

apo ton proθipurgo
by the prime-minister (D, 3.2.)

However, the remaining Accusative in double object constructions may be doubled:

(68) ta peδya ti(n) δiδaskonde ti γramatiki
ACC ACC
the children it they-are-taught the grammar
"the children are taught grammar"

though it may not be Passivized:

(69) *γramatiki δiδaskete ta peδya
grammar it-is-taught the children (W, (75))

These facts may be explained by positing the following base structure:

(70) N⌝ [$_{VP}$ V ta peδya tin] ti γramatiki

On the VP cycle the clitic pronoun is preposed before V, producing the structure shown in (71).

(71) $N^{\neg}$ [$_{VP}$ tin V ta peδya] ti γramatiki

On the S cycle Passivization occurs; binding by Rule (54) takes place on the $\bar{S}$ cycle.

(72) ta peδya [$_{VP}$ tin V] ti γramatiki

Binding cannot take place on the VP cycle between *tin* and *ta peδya* because binding rule (54) specifies that the two elements involved in it must be Accusative. However, it is unlikely that *ta peδya* is ever marked Accusative. It appears on the surface with Nominative Case; if it appeared in the VP with Accusative Case, this would necessitate postulating a Case changing rule that changed the Accusative Case of this $N^{\neg}$ to Nominative. However, to my knowledge there is no need for Case changing rules. Even in instances of languages which possess so-called "Case attraction" phenomena (in which a moved WH-relative bears a different Case on the surface from that appropriate to the position from which it was moved), it can be shown that no Case changing rule is involved. (I base this statement on research I am currently conducting concerning predicate agreement in Ancient Greek.) Thus, it is very unlikely that this $N^{\neg}$ ever bears Accusative Case. Presumably this $N^{\neg}$ either bears Nominative Case or is Caseless. Hence, it is only on the S cycle that the binding rule (54) can apply, properly linking *tin* and *ti γramatiki.* The other two logically possible base structures are ruled out by general conditions.

(73) $N^{\neg}$ [$_{VP}$ V tin ta peδya] ti γramatiki

(74) $N^{\neg}$ [$_{VP}$ V ta peδya ti γramatiki] tin

(73) is ruled out by the following considerations. By the Superiority Condition of Chomsky (1973) (or the Priority Condition, if Superiority cannot be maintained; see George (1980a, 71; 1980b, 66-67) for discussion), *tin* must be the element moved by Passive. (Recall that the Superiority Condition "requires that a rule must select the superior term when that rule is ambiguous in application" (Chomsky (1973, 246). George (1980a; 1980b) presents examples that indicate it may be the prior term

which is selected, rather than the superior term.) However, as was shown above, subject clitic pronouns have a very restricted distribution. In particular, they cannot be spelled in the subject position of an ordinary finite clause. Hence, the derivation resulting from assuming (73) as a base structure is ruled out by Superiority/Priority and the Fundamental Law of Spelling. (74) is ruled out by the Strict Cycle. It is not until the S cycle that either *ta peδya* or *tin* can be moved: *ta peδya* will be moved into subject position and *tin* will be moved into place before V by the clitic movement rule, producing the structure in (75).

(75) ta peδya [$_{VP}$ tin V ti γramatiki]

Once this configuration is created, the structural description of binding rule (54) is met. However, it cannot apply at this point because of the Strict Cycle, since it would apply wholly within the VP domain on the S cycle. Therefore, this sentence will be ruled out by Filtering by Analogy, since there would be a strictly simpler derivation in which *tin* did not appear. (*tin* also cannot be interpreted as a temporal N$^{\neg}$, since the pro-form of temporal phrases is *tote*, not *tin* or any other of the personal pronouns, strong or clitic.)

Up to this point, I have attempted to describe the external distribution of clitic pronouns. I will now turn to a discussion of what properties characterize those N$^{\neg}$'s which may be clitic-doubled. Before doing this, it is necessary to reconsider the "internal structure" of pronouns in Modern Greek.

Under the analysis of Modern Greek pronouns proposed above in Section 2.1.1, they will *always* be definite in that they always occur with a definite article. Recall that, in Section 1.1.2.2 the Antecedent-Anaphor Agreement Filter was proposed, which required a (bound) anaphor to agree with its antecedent in feature make-up. Given that Modern Greek pronouns are definite, it is predicted by a theory incorporating this filter that clitic-doubling should only be permissible in those cases

in which the antecedent is definite, where "definite" means, as it does quite generally in Modern Greek, occurring with the definite article.

This prediction is, in fact, borne out, as may be seen from the grammaticality of the following examples (recall that, as was mentioned above, clitic doubling is *always* emphatic; hence, examples such as (79) are quite emphatic):

(76) ton miso ton anθropo
ACC ACC
him I-hate the man
"I hate the man"

(77) ton miso ekino ton anθropo
ACC ACC
him I-hate that the man
"I hate that man"

(78) ton miso tuto ton anθropo
ACC ACC
him I-hate that the man
"I hate that man"

(79) tus miso olus tus anθropus
ACC ACC
them I-hate all the men
"I hate all the men"

(80) tus miso olus aftus tus anθropus
ACC ACC
them I-hate all these the men
"I hate all these men"

(81) θa paw na tus to po olonon
GEN GEN
FUT I-go NA to-them it I-tell to-all
"I'll go and tell it to them all" (HKK, 100)

(82) t'alla t'vran kinii
ACC ACC
the others them they-found the hunters
"the hunters found the others" (T, 86)

(83) ton eafto tis poli liγo ton loγariazi
ACC ACC
the self of-her very little him she-considers
"she reckons herself very little" (NEA, 210)

and the ungrammaticality of these:

(84) *δen ton exo δi tetyo anθropo pote
ACC ACC
NEG him I-have seen such man ever
"I've never seen such a man"

(85) *{ton / tus} rotisa kaθe anθropo

ACC ACC

{him / them} I-asked every man

"I asked every man"

(86) *δen ton iδa kanena
ACC ACC
NEG him I-saw no-one
"I saw no-one"

(87) *pyon ton iδate
ACC ACC
who him you-saw
"who did you see"

(88) *ton iδa kapyo eki
ACC ACC
him I-saw someone there
"I saw someone there"

(89) *tus iδa polus anθropus
ACC ACC
them I-saw many men
"I saw many men"

In each case, the grammatical instances of clitic-doubling are those in which the doubled $N^{\neg}$ either contains an overt definite article or may be analyzed as having an underlying definite article. In these latter cases, the postulation of an underlying definite article is motivated by the fact that, whenever the specifier in question occurs in an $N^{\neg}$ with an overt head, a definite article must appear. Hence, there is positive evidence to postulate the existence of a definite article. Thus, pronouns may be doubled, as may the quantifier *olos*, "all", which always appears with the definite article when it occurs in an $N^{\neg}$ with an overt head. (See e.g. Householder, Kazazis and Koutsoudas (1964, Section 4.34, p. 100, for discussion). In contrast, the $N^{\neg}$'s which cannot be clitic-doubled do not occur with an overt definite article and, in fact, the specifiers which appear in such $N^{\neg}$'s *never* appear with a definite article.

(Drachman (1970, 23) treats the definiteness condition on clitic doubling as essentially "semantic", and not as syntactically governed by the presence of a definite article. Thus, under his analysis, it it unexpected that *generic* $N^{\neg}$'s, which he treats as indefinite, may be doubled:

(90) δen to xonevo to mosxari
ACC ACC
NEG it I-stand the veal
"I can't stand veal" (D, 5.13.b.)

though the analysis proposed here predicts the grammaticality of clitic doubling in such cases. Moreover, his analysis predicts that while (91) is grammatical, (92) is not.

(91) o Petros ton kani ton Perikli orea
ACC ACC
the Peter him he-makes the Pericles well
"Peter plays (the part of) Pericles well"

(D, 29, n. 31)

(92) o Petros ton kani ton yatro
ACC ACC
the Peter him he-makes the doctor
"Peter pretends to be a doctor" (D, 5.12.b.)

And, in fact, Drachman states that (92) *is* ungrammatical. In fact, it is grammatical. Though, owing to the emphatic nature of clitic doubling, (92) may be made more felicitous if the subject is placed at the end, as in (93), or if a modifier appears, as in (94), (92) is nonetheless grammatical.

(93) ton kani ton yatro o Petros

(94) o Petros ton kani ton yatro kaθe vraδi
"Peter plays a doctor every night"

Moreover, (91) is worse if *orea* is removed, and, in fact, is just as odd as (92). The reason seems to be, simply, that it is unusual to utilize the emphatic clitic doubling construction in such cases. However, in more "vivid" contexts, this emphasis is more natural. Thus, there is no evidence that there is a semantic notion of definiteness, independent of that defined syntactically by the presence of a definite article, that plays a role in defining the proper domain of clitic doubling.)

There is, however, one instance in which indefinite $N^{\neg}$'s can be clitic-doubled.

This is the instance in which the indefinite $N^{\neg}$ contains the indefinite article and is somehow interpreted as "specified". Kazazis and Pentheroudakis (1975, 399) say that while sentences in which an $N^{\neg}$ containing an indefinite article "do indeed appear ungrammatical if one limits oneself to sentence syntax, ignoring the relation of the sentence to the preceding discourse as well as to the (non-linguistic) context of situation. We hope to show, however, that DOR [Direct Object Reduplication, RJPI] can be adequately stated only if discourse and context of situation are brought to bear". They distinguish between two types of indefinite objects: those which have been previously mentioned which they designate as "specified" and those which constitute new information and which they term "non-specified". They propose that only the former may be clitic doubled, and give various examples of contexts in which such doubling can occur. Their examples include:

(95) to pino efxaristos ena wiskaki
ACC ACC
it I-drink with-pleasure a little-whiskey
"I wouldn't say no to a nice glass of whiskey"

(K&P, (10))

Such an example is interpreted as if the speaker had previously been offered a glass of whiskey. Similar interpretations are required in other cases which they present. (I note, in passing, that an informant who I asked about such examples offered another type of interpretation. He interpreted an example such as (95) to mean "I'll drink one whiskey, but not two" and noted that *ena* in such examples had a numerical force. The indefinite article in Modern Greek, it should be noted, also serves as the numeral "one", parallel to the situation in the Romance languages.)

Kazazis and Pentheroudakis (p. 401) note, in conclusion, that "It may well be that reduplication of indefinite direct objects is considered exceptional because of the relatively low statistical frequency. That low frequency may in turn be the result of

the rather loaded contexts of situations in which sentences containing such reduplication are likely to occur." In addition to the "loaded contexts" necessary for the occurrence of such sentences, there are curious restrictions on the way such sentences are interpreted. Kazazis and Pentheroudakis (p. 400) state: "It should be noted that the present tense used [in such examples] corresponds to a future tense. In fact, a true present tense precludes reduplication in such instances." (One of my informant disputes this claim; however I will accept it for the moment.) Moreover, past tense also precludes such reduplication (at least for some speakers). Thus, while the following case of reduplication of a definite direct object is fine:

(96) ta ipya afta ta wiskakya
ACC ACC
them I-drank those the little-whiskeys
"I drank those whiskeys"

the parallel case with an indefinite is ungrammatical (for some speakers, at any rate):

(97) *to ipya ena wiskaki
ACC ACC
it I-drank a little-whiskey
"I drank a whiskey"

and, moreover, doubling of plural indefinites is ungrammatical:

(98) *θa tis δiavaso efemeriδes avrio
ACC ACC
FUT them I-read newspapers tomorrow
"I'll read newspapers tomorrow"

Because of these restrictions I will propose, contra Kazazis and Pentheroudakis, that clitic doubling of indefinite N$^{\neg}$'s is never fully grammatical and that such examples are to be derivatively generated. (For further discussion of the notion of

derivative generation, see George (1980a, Section 6; 1980b, Section 6).) I offer the following proposal for how this is done. Independently of this construction, the indefinite article can appear preceded by the definite article in certain constructions in Modern Greek, most notably in the reciprocal expression *o enas, o allos*--"the one, the other".

(99) zilevun o enas ton allo
they-envy the one the other
"they are envious of each other" (HKK, p. 87)

(100) o enas mikros θeos pano ston allo pefti
the one little god upon to-the other he-falls
"the little gods fall over each other"
C.P. Cavafy, "The Footsteps"

However, there is no analogous case with plural indefinites, since there is no plural indefinite article. Thus, I postulate that in examples of apparent clitic doubling of an indefinite $\bar{N}$, the $\bar{N}$ which is doubled contains a sequence of the definite article and the indefinite and that a marked rule deletes the definite article in this context.

(101) o → ∅ / cat ___ ena N

(Because of the restrictions on the interpretation of Tense in such examples, it might be necessary to add Present Tense as a left context to Rule (101). Alternatively, this restriction might be an effect of the marked nature of this rule.)

This analysis of such cases has the advantage that it assimilates them to the normal case of clitic doubling inasmuch as it postulates that even in these cases a definite article is present. However, it also distinguishes these examples from normal instances of clitic doubling in that it permits these cases to be generated only by recourse to the marked Rule (101). Finally, it explains why there are no cases of

clitic doubling of indefinite plural $N^{\neg}$'s. Since there are no structures analogous to (101) for plural $N^{\neg}$'s (there is no plural indefinite article in Modern Greek) there will never be a structure like that in (101) for the rule to apply to. Moreover, this analysis also explains why singular indefinite Nouns which do not contain an indefinite article cannot be doubled. Presumably in such cases there is no indefinite article present at any level of representation. Hence, it is impossible for rule (101) to apply in such examples. (I am grateful to Joseph Pentheroudakis for pointing out this fact to me.)

In sum, then, this treatment of clitic doubling captures a fact that any analysis of this phenomenon must express in some way; namely, that the only $N^{\neg}$'s in Modern Greek which double are those which contain either a definite article or a specifier which co-occurs with a definite article. When co-occurence between the specifier and the definite article is obligatory, the doubling of an $N^{\neg}$ containing this specifier is free, whether a definite article appears overtly or not; when co-occurence is optional, then doubling of an $N^{\neg}$ which contains such a specifier but which lacks an overt definite article is marked. These are simply the facts. The analysis of clitic doubling presented here explains these facts and does so, I believe, in a rather elegant manner.

This analysis of clitic doubling assumes implicitly that the "feature" which determines which Noun Phrases in a given language can be doubled (provided that that language *has* clitic doubling in the sense of the present work) will be determined by the language particular analysis of pronouns. In Modern Greek, since pronouns are definite, they can only double definite Noun Phrases. This analysis also assumes, implicitly, that apparent "parameterization" in the feature which determines clitic doubling is, in fact, non-existent. That is, though it may *appear* that various languages "select" a given feature to determine what types of Noun Phrases may be clitic doubled, a close examination of a given language will

reveal what (sub)category of Noun Phrases pronouns belong to, thereby determining the clitic doubling possibilities of that language. For instance, in Spanish, only definite animate Noun Phrases may be doubled. A parameterization approach would say that Spanish has selected these features to govern clitic doubling; an approach such as that outlined here would propose that an analysis of Spanish pronouns would show that they are, in fact, "animate" in the required sense.

A similar analysis should also hold for cases of clitic doubling cited by Browne (1971a; 1971b). He notes that languages like Macedonian, in which only definite $N^{\neg}$'s double contrast with languages like Persian in which specific $N^{\neg}$'s double. In languages of the latter type, all definite $N^{\neg}$'s double, as do members of that subclass of indefinite $N^{\neg}$'s which are specific. Presumably an internal analysis of the pronouns of these languages would show that Macedonian pronouns are definite whereas Persian pronouns are specific. (Persian uses "specific" as a grammatical category, marking *all* definite $N^{\neg}$'s as well as specific, indefinite $N^{\neg}$'s with the marker *râ*; see Brown (1971b, 360-362). This contrasts sharply with the Modern Greek case of such doubling, which I have treated as a marked phenomenon, in which context alone determines specificity.)

Note, however, that in proposing that a language-internal analysis of the pronouns of a language similar to that provided for modern Greek will automatically delimit the class of $N^{\neg}$'s subject to clitic doubling, I do not also claim that the overall analysis of clitic doubling proposed here may be simply "carried over" to other languages. On the contrary, there are many features which differentiate clitic doubling in Modern Greek from "clitic doubling" in other languages. For instance, clitic doubling in Modern Greek is completely optional, while in other languages (e.g. Spanish, Rumanian, etc.) it is obligatory in at least some instances; Prepositional phrases may be clitic doubled in other languages (e.g.

Spanish) but they do not double in Modern Greek, etc. Each language which possesses clitic doubling must be analyzed separately, to determine exactly what is going on there. However, I *do* predict that in those languages where "clitic doubling" really is doubling of a clitic pronoun, and where there is also a restriction on the class of $N^{\neg}$'s which may be double, examination of the pronouns of that language will show that they fall into the same subclass of $N^{\neg}$s. Thus, this analysis makes a rather strong prediction, one which is quite interesting.

2.1.3 Clitic Movement and "Wackernagel's Position"

In this section I consider the proper formulation of the rule of clitic movement. Recall that I began this Section by contrasting the behavior of clitic pronouns with that of strong pronouns: whereas the latter appeared in the normal positions in which an $N^{\neg}$ appeared, the former appeared in "second position". I will now clarify this statement by showing where clitic pronouns appear in the phrasal categories in which they occur. Further, I will try to tie the motivation for the restrictions on their appearance to the Spec-Spec Constraint of Section 1.1.2.4.

Within $V^{\neg}$, clitics appear pre-verbally in non-imperative sentences, as was evident from the examples given above. In PP's, clitic pronouns appear following the P, as in example (30) above and the following:

(102) mazi mas
together-with us
"together with us"

(103) brosta tu
before it
"in front of it"

(104) yiro tus
around them
"around them"

In $N^{\neg}$ on the other hand, the behavior of clitic pronouns is not so straightforward. When an $N^{\neg}$ appears unmodified by an adjective, the clitic must appear following the head.

(105) o filos mu
the friend of-me
"my friend"

However, when an adjective appears, the clitic pronoun may cliticize to the adjective.

(106) o kalos mu filos
the good of-me friend
"my good friend"

The fact that cliticization in such cases is to the adjective is revealed by the behavior of stress on the adjective. Standard Modern Greek, like Ancient Greek, observes the "Rule of Limitation". The stress accent of Modern Greek must occur on one of the last three syllables of a phonological word. When cliticization forces the stress of the word to which it is cliticized back beyond this limit, an extra stress is added. Compare the following two examples.

(107) éksipnos
smart

(108) o éksipnós mu filos
the smart of-me friend
"my smart friend"

(W70, 8.)

Similar stress facts show that when a clitic pronoun follows its head noun, it cliticizes to that Noun.

(109) to aftokínito
the car

(W70, 1.a.)

(110) to aftokinitó mu
the car of-me
"my car" (W70, 1.b.)

There are two further interesting facts about clitic movement inside $N^{\neg}$. First, it is optional, as opposed to clitic movement inside $V^{\neg}$, where it is obligatory. Both of the following examples are grammatical.

(111) o kalos filos mu
the good friend of-me
"my good friend"

(112) o kalos mu filos
the good of-me friend
idem

Second, there are interesting minimal pairs concerning the lexicality of the modifier which appears preceding the Noun. When this modifier is lexical, clitic movement is permitted. However, when it is a minor specifier, clitic movement is not permitted. Parallel to example (112) there exists an example which contains the adverb *poli*, "very". In such examples, clitic movement is not permitted. (113) is grammatical, while (114) is not.

(113) o poli filos mu
the very friend of-me
"my good friend"

(114) *o poli mu filos

This entire spectrum of facts is very suggestive of the Spec-Spec Constraint and Stuttering Prohibition of Section 1.1.2.4. Recall that the Spec-Spec Constraint posited that minor specifiers, in the unmarked instance, would be spelled out by rules which contained constant contexts on both flanks. Given that clitic pronouns are minor specifiers, as was argued above, the restrictions on the positions in which they can appear then begin to make sense. Within $V^{\neg}$ there is always one position in

which non-null adjacent categorial material may be found. This is pre-Verbally. Since the subject $N^{\urcorner}$ of $V^{\urcorner}$ is an obligatory position, it will always be present underlyingly, even if not superficially, to serve as a left context to match the right context provided by the Verb. (Recall that *lexical* contexts are required because of the Stuttering Prohibition which rules out sequences of minor specifiers, except in those cases in which a special spell-out rule is provided.) Because of the obligatory presence of this $N^{\urcorner}$, then, the normal spell-out position for clitic pronouns in $V^{\urcorner}$ is before the Verb. In the case of $N^{\urcorner}$, however, there will not always be two adjacent lexical items. Given this fact, then, in order for clitic pronouns to appear inside unmodified $N^{\urcorner}$'s at all it would be necessary for the language learner to postulate a marked rule which has a variable as its right context. (The fact that such structures *do* appear in the language provides him with the positive evidence to motivate this rule.) This, then explains why clitic movement is optional inside $N^{\urcorner}$ while it is obligatory in $V^{\urcorner}$. In $N^{\urcorner}$, there exist two spelling rules for clitic pronouns: that spelling it following the head Noun of $N^{\urcorner}$ and that spelling it between an Adjective and the head Noun. Since it can be spelled "in place", there is no need for it to move and cliticize to the Adjective.

(In fact, I have found that some of my younger informants dislike examples in which a clitic pronoun is cliticized to an Adjective in $N^{\urcorner}$, save in examples such as (106), which are so common that they might be taken to be lexicalized. Thumb (1964, Section 142, p. 89), on the other hand, seems to indicate that at the time he was writing (1910), the second position in $N^{\urcorner}$ was the preferred position and the unmoved position was marked. No informant that I have asked about such examples, however, has ever rejected examples in which the clitic pronoun appears post-Nominally nor has any informant judged such examples to be less acceptable than their moved counterparts. Perhaps, then, clitic movement in $N^{\urcorner}$ and/or the attendant spelling rule are gradually being phased out, since the post-Nominal spell out rule already exists.)

In $V^{\neg}$, on the other hand, the only position in which a clitic is guaranteed to have flanking lexical material is in pre-Verbal position. Presumably, therefore, the only position in which there are spell out rules for clitic pronouns is pre-Verbal position, between $N^{\neg}$ and V, whether $N^{\neg}$ overtly appears or not. (This is the case in Standard Spoken Modern Greek; in Cypriot Greek, on the other hand, judging from the report of Newton (1972), the rule is that clitic pronouns are spelled out in superficial second position.) In PP, the situation is much the same as in $N^{\neg}$: in order for clitic pronouns to appear in PP at all, a marked spelling rule must exist to spell it following a Preposition and before a variable right context.

This explanation of the "second position" restriction on clitics pronouns explains a good deal of their behavior, though their are some aspects of the syntax of clitic pronouns in Modern Greek that do not follow so straightforwardly. First, as is usual in languages which possess clitic pronouns, though clitic pronouns precede the verb in finite clauses, they follow it in non-finite clauses. Thus, in imperatives and in participial clauses, clitic pronouns must follow the verb and cliticize to it.

(115) δóse mú to
give to-me it
"give it to me" (W70, 2.c.)

(116) mílisé mu
speak to-me
"speak to me" (W70, 3.b.))

(117) antikrízontás ton
facing him
"facing him" (W70, 6.)

Although it is *possible* to explain the behavior of clitic pronouns in imperatives by postulating that the subject pronoun in such cases follows the verb rather than preceding it (as was proposed for English, by Chomsky (1955, Chapter IX, Section

110.2, pp. IX-691--IX-694 and Section 114, p. IX-711; 1975, Chapter X, Section 114.2, pp. 553-556 and Section 118, p. 569)), no such analysis is available for the case of participles. In fact, judging from parallel behavior of clitic pronouns in Italian and Spanish (where clitic pronouns follow infinitival verbs), there seems to be a tendency for clitic pronouns to follow non-finite verb forms, whether these are infinitival, participial or imperative. Note, however, that this can be no more than a *tendency* because clitic pronouns in French precede infinitives as they do finite verbs, though they follow imperatives. Thus, the Spec-Spec explanation of the restrictions on the positions in which clitic pronouns may appear seems promising and fairly straightforwardly explains a good portion of these restrictions. However, it does not, as yet, provide a complete explanation of all such restrictions, either within a single language (Modern Greek), or across languages (contrast French with Italian and Spanish).

Given this discussion then, I will propose the following formulation of the clitic movement rule.

(118) cat str PRO str

Adjoin 3 to 1

That is, I assume that the rule adjoins a Pronoun to any category. The category need not be specified because of the fact that, if the clitic pronoun is adjoined to the wrong category, there will no rule spelling it in that position, ruling out that derivation (by the Fundamental Law of Spelling). The question then arises, need the pronoun be specified any further? Since strong pronouns are not subject to this rule while clitic pronouns are, it might seem that a further specification of the third term of this rule might be necessary. But, in fact, this does not seem to be so.

In the case of pronouns in $V^{\neg}$, non-clitic pronouns could not be moved into clitic position, preceding the verb. In fact no other elements besides clitics, whether

pronouns or verbal particles, may freely occur between the Subject of $V^{\neg}$ and V. As Drachman (1970, 24) points out, Objects may not freely intervene here:

(119) o aγrotis ton liko skotose
the farmer the wolf he-killed
"the farmer killed *the wolf*" (D, 6.4.)

This sentence is unacceptable unless extra stress is placed on *ton liko*, "the wolf". To some extent, this must be an independent restriction, since it cannot be completely explained by the Spec-Spec Constraint. However, in other instances, Spec-Spec *does* seem to be relevant. These are the cases in which one of the verbal particles *θa, na* and *as* (discussed im more detail in Section 2.5) immediatley precedes the verb. In such structures, no lexical elements may intervene between the paricle and the Verb, nor may any non-clitic pronouns. (See Householder, Kazazis and Koutsoudas, Section 3.253, pp. 37-38 for further discussion of this point.) Presumably, this is because verbal particles are clitics and they all require a context-specific spell-out rule. That is, spell-out rules for the verbal particles *θa, na* and *as* will only spell them out when they immediately precede the verb or a clitic group preceding the verb.

In $N^{\neg}$, if a strong pronoun were moved to a position between the Determiner and the head, the resulting structure would be ruled out, since there would be no rule spelling the Determiner when it is not adjacent to the head or an $A^{\neg}$ modifier of N. Hence, there is no need to specify that the element moved by (119) is a clitic.

What, then, *is* a clitic? I assume that the notion of "clitic" is purely a relational one and that clitics are those elements which can only be spelled when they constitute part of another word phonologically. (This may be so either because such elements may only be spelled when they are adjoined to another word, or it may be that the rule spelling them out adjoins them to a particular (lexical) item.) Note that this is the only reasonable idea of what it means to be a clitic as the notion "clitic"

cannot be a categorial notion since it cuts across categories. As Perlmutter (1971, 78) notes:

> Furthermore, it is just an accident of Spanish that all the clitics happen to be NPs. In the South Slavic languages, for example, the so-called "auxiliary verbs" are clitic as well, and undergo clitic movement transformations. It is therefore necessary for linguistic theory to provide the grammar of particular languages with a means of identifying certain lexical items as clitics and referring to them in rules.

In addition to the Auxiliary verbs of South Slavic mentioned by Perlmutter, other clitic elements include various Prepositions in different languages (for instance, some of the primary simple prepositions mentioned in Section 2.3 below are clearly clitics), also various minor categories (e.g the particles of Ancient Greek (add ref). In the case of Cypriot Greek, even Verbs and Nouns, two major categories, are clitic under certain circumstances, as is pointed out by Thumb (1964, Section 39, n. 2, p. 29):

> The principle of enclitics is carried much further in the dialects. In Cyprus the verb becomes enclitic after the negative or after adverbs, the noun after its adjective and (in the voc.[ative]) after the exclamations e, u, o, a, vre.

Compare:

(120) papás priest	kalós papas good priest
(121) afĕndis mister	é afendi ho, mister
(122) ĭrtamen we-came	épses irtamen we came yesterday
(123) parpatĭ he-goes	ém parpati he does not go

As for the need for rules to be able to refer to clitics (as mentioned by

Perlmutter), I assume that there is no feature [±CLITIC] that rules may analyze. Rather, it is the fact that a spelling rule analyzes a particular terminal element as one which may only be spelled out as part of a larger phonological word that establishes that a given element is a clitic. Thus, under this analysis, *aftos* is not a clitic in Modern Greek because none of the rules spelling it out require that it be part of a larger phonological word, while *tos is* a clitic because all of the rules spelling it out make this proviso.

This relational approach to the analysis of clitic pronouns contrasts sharply with proposals which have been made recently in the generative literature under which clitic pronouns (or "clitics" as they are misleadingly called, since such analyses only deal with clitic pronouns and not with all the clitics of the language(s) in question) are inserted by base rules in the positions in which they are spelled out on the surface under a "clitic" node. Cf. the rules proposed by Rivas (1977) and Jaeggli (1980), respectively.

(124) $\bar{V} \rightarrow \bar{C}\bar{L}\ V$ (Rivas (3.2.1))

(125) $\bar{C}\bar{L} \rightarrow CL^*$ (Rivas (3.2.5))

(126) $\bar{V} \rightarrow$ clitic + V (Jaeggli (i), p. 98)

Such proposals, if taken literally, are meaningless, in that, as was just pointed out, "clitic" is a relational notion, not a categorial notion, and, as such, cannot be referred to by syntactic rules, whether phrase structure or transformational. At best, such proposals may be taken as rather misleading analyses which treat elements traditionally labelled as "clitic pronouns" as elements of some other category, e.g. Object Agreement Markers. (Though Jaeggli (1980, n. 10, pp. 98-100) denies that "clitics" are object agreement markers.) However, such an analysis must be argued for. This type of analysis is more likely in the case of Spanish, which allows clitic doubling, then it is in the case of French, which does not. Under the proposal that

clitic pronouns are object agreement markers, it would be truly unusual for French to permit object agreement markers only in those instances in which the object does not appear! Moreover, such an analysis is dubious on other grounds. French allows clitic pronouns which are complements to verbal complements to appear on the verb. Cf. this example from Kayne (1969, p. 32, (30)).

(127) Jean leur est fidèle
Jean to-them is faithful
"John is faithful to them"

Here it is the object of the adjective *fidèle* which is marked by an agreement marker on the verb.

Finally, there is the proposal that "clitics" are the "spell out of subcategorization features". That is, such proposals assume that there are rules of the following form:

(128) $[V, +F_i] \rightarrow [_V \text{clitic} + V]$

(Rule (128) is from Jaeggli (1980, 98, n 10), who discusses this proposal and rejects it.)

Notice, however, that subcategorization features are precisely *not* literal features of this sort, if the theory of selection discussed in Section 1.1.2.1 is correct. Recall that the theory of selection adopted here makes two crucial assumptions:

1. Inherent selectional features are single-valued, rather than binary.

2. Contextual subcategorization features constitute the specification of the context into which a particular lexical item is inserted but are not literal features (i.e. do not make up complex symbols).

If this theory is correct, as seems likely, then this proposal concerning "clitics" cannot be correct.

2.1.4 Subject Pro-Drop and Another Pronoun Deletion Rule

I conclude this section by considering the rule of Subject Pro-Drop. Following recent proposals of Chomsky (Class Lectures, Spring and Fall, 1980), I assume that "PRO" is a pronoun, which bears all the features of an overt pronoun, but which is distinguished by the fact that it is not phonetically realized. Within the framework assumed here and the analysis of pronouns adopted here, I assume that this amounts to saying that the minor specifier PRO dominates no terminal material in the case of "PRO" whereas it dominates the appropriate terminal element in the case of overt pronouns. Thus, the difference in the internal structure of the subject positions in the following two examples would be as in (131) and (132).

(129) to ekane
it he-did
"he did it"

(130) aftos to ekane
he it he-did
"*he* did it"

(131) $[_{N}\neg$ PRO N]

(132) $[_{N}\neg [_{PRO}$ aftos] N]

Given the Spec-Spec Constraint, which requires that minor specifiers be mapped into morphophonemic representation by particular spelling rules, and given this analysis of empty subjects, the analysis of Subject Pro-Drop is as follows. The languages possessing Subject Pro-Drop are those languages which possess spelling rules for structures such as (131) in subject position (of a finite clause) whereas those languages which do not possess Subject Pro-Drop do not possess such a spelling rule. That is, such languages possess a rule mapping PRO into morphophonemic representation as ø, as in Rule (133).

(133) PRO → ø / COMP ___ $N^{\neg 1}$

$N^{\urcorner-1}$ is required as a right context because of the existence of sentences such as (134).

(134) i aksiomatiki ine δili ma
the officers they-are cowards but

(esis) i stratiotes iste yeney
NOM NOM
you the soldiers you-are brave
"the officers are cowards but you soldiers are
brave"

In this example, *esis* may optionally not appear. This shows that only the PRO portion of $N^{\urcorner}$ is deleted by Subject Pro-Drop, rather than the whole $N^{\urcorner}$. If the latter had been the case, the rule could have been formulated as (135):

(135) $PRO^{\frown}N^{\urcorner-1} \rightarrow \emptyset$ / COMP ___ AUX

Given the reformulation of Filtering by Analogy adopted here, this analysis of Subject Pro-Drop explains why, in languages which possess Subject Pro-Drop, subject pronouns may appear in subject position only under special discourse conditions, e.g. emphasis, contrast, etc. Since the Minor Specifier PRO may occur in subject position without being expanded to dominate terminal material, those derivations will be ruled out in which this expansion occurs unless some additional rule (presumably one interpreting such overt pronominal subjects as emphatic) applies. This analysis may also explain the fact, noted by Thumb (1964, Section 287, 201) that overt pronominal subjects tend to appear post-verbally. Presumably the rule moving these subjects serves to emphasize and, hence, to sanction the presence of the overt pronoun.

The Subject Pro-Drop construction should be contrasted with another situation in Modern Greek in which pronouns may optionally not appear. This is in the case of Accusative pronouns which are interpreted as co-referential with a preceding $N^{\urcorner}$ in

the discourse. Householder, Kazazis and Koutsoudas (1964) note the application of this rule in contexts in which the intensive pronominal element *o iδios*, parallel to the intensive use of English *self* forms, appears.

> *O iδios* is also used for the third person, the presence of the third person pronoun strong form being optional, as well as with the N[ominative, RJPI] of the first and second person pronouns, where there is no contrast between strong and clitic forms. (p. 82)

> Whenever the context is clear, the noun or personal pronoun may be left out. (p. 87)

They give the following examples of this.

(136) tilefonise (aftos) o iδios
NOM NOM
he-telephoned he the same
"He himself phoned"

(137) tu tilefonisa (eγo) o iδios
NOM NOM
to-him I-telephoned I the same
"I phoned him myself"

(138) an ine eki o kirios δiefθindis,
if he-is there the Mr. director

boro na miliso me ton iδio
ACC
I-can NA I-speak w/ the same
"If the director is in, may I speak directly
to him?"

Their exposition and examples seem to indicate that pronouns may be absent under the following circumstances with *o iδios*:

1. When the pronoun which is absent is Nominative, with or without any

preceding antecedent for the absent pronoun.

2. When the pronoun is third person, but not first or second person, in a Case other than Nominative in which an overt antecedent appears previously in the discourse.

These restrictions are born out by informant work:

(139) boro na miliso me *(esena) ton iδio
ACC ACC
I-can NA I-speak me you the same
"can I speak with you personally"

(140) θelune na milisun me *(mas) tus iδius
ACC ACC
they-want NA they-speak with us the same
"they want to speak with us personally"

Significantly, these two examples are ungrammatical when the parenthesized personal pronouns are omitted even when the context makes it clear who is being referred to. Moreover, in the case of third person pronouns, Genitive pronouns may not be absent.

(141) ine to tetraδio *(aftu) tu iδiu
GEN GEN
it-is the notebook of-him of-the same
"is this the notebook of the same man"

Because the presence of an antecedent and the person and Case of the missing pronoun play a role in determining the well-formedness of examples in which non-Nominative pronouns are left out, I will analyze such examples as (138) as cases of deletion and propose that there exists a rule which deletes an Accusative, Third Person pronoun (subject to recoverability, i.e. the presence of an antecedent). Moreover, I take this rule to be a rule of discourse grammar because the antecedent

which sanctions the application of this rule may be separated from the deleted pronoun by syntactic configurations which observe no conditions of sentence grammar. This rule will play an important part in the analysis of Modern Greek relative clauses to be presented in Chapter 3, where it is suggested that this rule may apply in certain "emphatic" syntactic contexts, including some which do not contain *o iδios.*

2.2 The Internal Syntax of Noun Phrases in Modern Greek

As is evident from examples (13)--(15) above, Modern Greek is distinguished from English in that, whereas the presence of a demonstrative precludes the appearance of a determiner in English, demonstratives in Modern Greek not only can, but must, occur with a following definite article. A similar situation obtains with regard to preposed possessive $N^{\neg}$'s within $N^{\neg}$. Although a possessor $N^{\neg}$ in a Noun Phrase in Modern Greek normally occurs post-nominally, it may also appear in $N^{\neg}$ initial positions. In such cases, the definite or indefinite article may also appear, following the initial Genitive.

(142) tis Aθinas to krasi
GEN
of-the Athens the wine
"the wine of Athens"

(143) ekinis o andras
GEN
of-that (fem.) the man
"the husband of that (woman)" (T, 92)

(144) tis Aθinas ena aksioθeato
GEN
of-the Athens a worth-seeing
"a site worth seeing in Athens"

Interestingly enough, Modern Greek also allows Genitive phrases to be extracted from $N^{\neg}$'s, as may be seen in the following example.

(145) to skeδio θa paro tu spityu
GEN
the plan FUT I-take of-the house
"I will get the plan of the house" (T, 205)

And, moreover, the possibility of extracting Genitive phrases extends to WH-

Phrases, as well.

(146) tu Yani aγapo tin kori
GEN
of-the John I-love the daughter
"I love John's daughter"

(147) pyanu aγapas tin kori
GEN
whose you-love the daughter
"whose daughter do you love"

(148) tu Yani aγapo mia kori
GEN
of-the John I-love a daughter
"I love a daughter of John's"

(149) pyanu aγapas mia kori
GEN
whose you-love a daughter
"who do you love a daughter of"

Though these may not be the normal way of questioning these Genitive phrases, nevertheless they are possible questions. And, under special circumstances, as, for example, in instances of contrast and emphasis, they are perfectly fine, as in (150).

(150) pyanu aγapas tin kori ke
GEN
whose you-love the daughter and

pyanu misis to yo
GEN
whose you-hate the son
"whose daughter do you love and whose son do you hate"

Given that, in those cases in which extraction of Genitive N$^{\neg}$'s is possible, an overt definite or indefinite article appears, and given that Genitive possessor phrases

inside $N^{\neg}$ may appear before the article, the following analysis of these Genitive extraction facts is suggested. I posit the following rule to effect the extraction of Genitive phrases from $N^{\neg}$.

(151) str N DET str cat

Substitute 2 for 5

Several points must be made about this rule. (151) will allow the preposed Genitive phrase to "escape" from $N^{\neg}$ by virtue of the fact that it mentions the minor specifier DET of $N^{\neg}$. Thus, under the definition of Finiteness adopted above in Section 1.2.3, the factoriztion of a string containing a preposed Genitive $N^{\neg}$ and a target position for which it is to be substituted with respect to rule (151) will be Finite. (This is so, recall, because the definition of Finiteness allows a rule to "penetrate" a phrase when it mentions a minor specifier of that phrase.) The position for which term 1 is substituted need not be specified as an $N^{\neg}$ because, by the principle of recoverability of deletion, $N^{\neg}$ will only be able to substitute for another $N^{\neg}$. (But see George (1980a, 38; 1980b, 37) for some discussion of the relative weighting by the evaluation metric of variables and categories in restricting classes.) I write the rule as a substitution rather than as an adjunction (e.g. to VP) for several reasons. First, I propose that in cases in which a Genitive WH-Phrase has been extracted from an $N^{\neg}$, it was not extracted from this $N^{\neg}$ directly, but, rather, was first extracted by the application of rule (151). Such extracted Genitive phrases, under this analysis, must be first moved to a position from which they can be moved by subsequent application of WH-Movement. Note particularly that, in examples (145)--(149) Genitive Wh-Phrases were extracted from object $N^{\neg}$'s. Hence, under the assumption that transformations can only analyze strings of categories (or variables) and that labelled bracketings are not permitted in restricting classes (see e.g. Chomsky (1976) for discussion), it would be impossible for a transformation to analyze both a category and the constituent containing that

category. Hence, it would be impossible for the necessary intermediate adjunction to VP to take place.

Secondly, there has been much discussion in the literature of the "frozen" nature of adjoined structures. (See Culicover and Wexler (1977) and references cited there for some discussion.) It is usually the case that adjoined structures are islands for movement. Hence, even if the adjunction to VP were possible, it would seem questionable to propose that adjunction to VP did in fact take place, given the frozen nature of such configurations. Where, then, does the $N^{\neg}$ position appear, for which the extracted Genitive phrase is substituted? I propose that the extracted Genitive $N^{\neg}$ substitutes for an empty $N^{\neg}$ which appears in the position of the "adverbial" $N^{\neg}$'s already discussed in Section 2.1.2. Thus, I propose the following derivation of an example such as (147).

(152) $[_S\ [_{VP}$ aγapas pyanu tin kori$]\ N^{\neg}\ ]$

(By Rule (151))

(153) $[_S\ -\ \text{COMP}\ [_S\ [_{VP}$ aγapas tin kori] pyanu]]

(By WH-Movement)

Within the framework adopted here, this analysis is fairly plausible. Moreover, this treatment of the extraction of Genitive phrases from $N^{\neg}$ predicts that this extraction will not take place unless an overt article appears in the containing $N^{\neg}$. This prediction is borne out.

(154) *tu Yani aγapo kori
GEN
of-the John I-love daughter

(155) *pyanu aγapas kori
GEN
whose you-love daughter

(156) *tu Yani aγapo kores
GEN
of-the John I-love daughters

(157) *pyanu aγapas kores
GEN
whose you-love daughters

The predictive power of this analyis constitutes additional support for the definition of Finiteness presented here.

2.3 The Modern Greek Prepositional System

In modern Greek there exist two sorts of Prepositions: simple Prepositions--which introduce what I shall call "simple PP's"--and adverbial Prepositions--which introduce what I shall call "compound PP's". Simple Prepositions are further subdivided into two classes: primary and secondary.[1] The primary simple Prepositions are these:

[1]I have adopted the terms "simple Preposition" and "adverbial Preposition" from Andrews (1975, 156-157) and have coined the labels "simple PP" and "compound PP" on analogy with Householder, et al's (1964, 146-147) terms "simple Preposition" and "compound Preposition" for the same two types of Prepositions, respectively. The terms "primary" and "secondary" simple Prepositions are also taken from Householder, et al (1964, Sections 3.233-3.234, p. 34).

(158)

se - "to", "toward", "at", "on", "in" (i.e. a general locative/directional Preposition)
apo - "from"
me - "with" (in both the comitative and instrumental senses)
ya - "for", "about" (= "concerning")

The primary simple Prepositions are distinguished from the secondary simple Prepositions both in terms of frequency of occurrence (these four Prepositions are by far the most frequently used Prepositions in modern Greek) and in terms of place of occurrence (these Prepositions may form compound PP's with adverbial Prepositions, whereas other simple Prepositions do not). Further, *se* and *apo* alone all the simple Prepositions cliticize to a following definite article by dropping their last vowel:

(159) se + ton → ston; se + to → sto, etc.

(160) apo + ton → ap'ton; apo + to → ap'to, etc.

(I note in passing that the second elision is not always noted in writing. Moreover, it is not clear that, synchronically, forms in which *s'* appears should be analyzed as derived from the underlying form *se* by the deletion of the final vowel. It could be proposed, on the contrary, that on those occasions when *se* overtly appears, it is derived by means of the suffixation of *e* on the underlying form *s*. This Preposition derives from the Ancient Greek *is*. During the medieval period this form became susceptible to a rule deleting unstressed initial vowels, producing forms such as *sto* from *isto*. Thus, it is possible that *is* was relexicalized as *s*, since this form is the most frequent form in which this Preposition appears, rather than as *se*, which occurs infrequently. (Note that *se* and *s* are not in free variation; *s* appears before vowels and before the definite article; *se* appears elsewhere. However,

though there are more phonological contexts in which *se* may appear, *s* occurs more often in actual speech.) However, I have no clear-cut arguments for either position, and merely present the two alternative analyses, in light of the historical origins of *se*.)

The most common secondary simple Prepositions are:

(161)

andi(s) - "instead of"
kata - "according to; towards"
meta - "after"
dixos - "without"
xoris - "
pros - "towards"
mexri - "until"
os - "like"
(o)san - "
eos - "up to"
isame - " "
osme - "

The main characteristics which distinguish simple Prepositions from adverbial Prepositions are the following: simple Prepositions govern the Accusative Case and may be followed only by non-pronominal N⌉'s or the strong forms of the personal pronoun.[2] They may not be followed by clitic pronouns. Examples of the simple PP's so formed are given in (162)--(164).

(162) ap'tin Maria
ACC ACC
from-the Mary

---

[2]With the exception of *meta* which may take non-pronominal N⌉ objects immediately following it, in the Accusative, but can only take personal pronoun objects in the compound form *meta apo*. Cf. Householder, et al (1964, Section 6.62, p. 150; Section 6.6421, pp. 155-156).

(163) me ta peδya
ACC ACC
with the children

(164) xoris to maxeri
ACC ACC
w/out the knife

Adverbial Prepositions, unlike the simple Prepositions, may stand alone in the PP's which they head, without a nominal or pronominal object. When they do take an object it must be a clitic in the Genitive Case; they may not be directly followed by a non-pronominal N⁷ or a strong form of the pronoun. They may also be followed by a PP introduced by a primary simple Preposition, forming what I have referred to as a compound PP. The following adverbial Prepositions may be followed by simple PP's introduced by either *se* or *apo*:

(165)

(e/o)mbros - "in front of"
brosta - "
(a/e)pano - "on top of"
kato - "down", "below"
(ana)mesa - "within", "in the middle", "between"
(ana)metaksi - "in between"
(tri)γiro/a - "around"
(olo)γiro/a - "
yiroyiro - "
konda - "near(by)"
sima "
makria - "far (from)"
andikri - "opposite, across from"
apenandi - "
fatsa - " (colloquial)
karsi - " (dialectal)
δipla - "beside"
play - "

δeks(i)a - "right"
aristera - "left"
zerv(i)a - "
ekso/okso - "outside"

and also:

mazi - "together" (only with *me*)
krifa - "secretly" (only with *apo*)

In (166)--(168) may be found instances of adverbial Prepositions followed by clitic objects and the corresponding compound PP's.

(166) piso tu	or	piso ap'afto	
GEN		ACC	"behind it"
behind it		behind from it	
(167) pano tu	or	pano s'afto	
GEN		ACC	"on it"
on it		on to it	
(168) mazi tu	or	mazi m'afton	
GEN		ACC	"together with him"
together him		together with him	

2.4 The Modern Greek Complementizer System

Modern Greek possesses three complementizers--*pos, oti* and *pu*--each of which may be translated as "that" in English. Though there are differences in the distribution of the complement sentences introduced by each, I will ignore them and will concentrate on *pu* clauses in order to show that *pu* is, indeed, a complementizer.

As Householder, *et al* (1964, 172) note, "a large number of English 'that'-clauses

are equivalent to Greek clauses introduced by *pu*". They mention the following classes of complement taking Verbs as being among those that allow *pu* complements:

(169) "Verbs of perception":

nyo*θ*o	"feel"
vlepo	"see"
akuo	"hear"

(170) "Verbs of saying and knowing":

leo	"say"
ksero	"know"
*θ*imame	"remember"
kafxieme	"brag"
ma*θ*eno	"learn"

(171) "various expressions of emotion"

*δ*oksazo to *θ*eo	"praise God"
efxaristume	"be thankful that"
lipume	"regret", "be sorry"
metaniono	"repent"
(me) niazi	"(I) care, mind"
ksafniazome	"be afraid"
(me) skiazi	"it frightens (me)"
si(n)xorume	"be excused"
xerome	"be glad"

Though the Verbs in (169) and (170) take *pos* introduced complements more frequently than they do those with *pu*, *pos* cannot replace *pu* in the complements of the expressions in (171) (although *oti* and *yati*--"because"--are also possible). When there exist nominals corresponding to the Verbs or expressions in (171), these also take *pu* introduced complements.

Pu can also introduce result clauses, as may be seen in the following sentences:

(172) to xioni ixe stroθi ston kambo ke stin
the snow had spread on-the country & on-the

politia toso pu ta skepase ola
city so-much that them it-covered all
"the snow had spread over the country and the
city so that it covered everything completely"

(HKK, 165)

(173) θelo na to eksiγiso apla pu to
I-want NA it I-explain simply that it

katalavun ke ta peδya
understand and the children
"I want to explain it simple so that the children
will understand it, too" (HKK, 160)

Having shown that *pu* is a complementizer, I will note that *pu* never patterns as an $N^{\neg}$, hence casting doubt on any claim that it is actually an invariant *wh*-pronoun in *pu* relatives, as is usually claimed in most grammars of Modern Greek. (For further discussion, see Chapter 3.) Specifically, *pu* never appears as the object of a Preposition, either simple or adverbial. Thus, configurations of the following sort never appear:

(174) *apo pu

(175) *se pu

(176) *mazi pu

(177) *pano pu

(This argument applies only to the complementizer *pu* and not to the

homophonous interrogative *pu*--"where"--which does pattern like an $N^{\neg}$. Observe the following pattern:

(178) paw spiti
I-go house
"I'm going home"

(179) pu pas
where you-go
"where are you going"

(180) {erxome / ime} *(apo) to xoryo
{I-come / I-am} from the village
"{I come / I am} from the village"

(181) *(apo) pu {erxese / ise}
from where {you-come / you-are}
"where {do you come from / are you from}"

I will therefore take interrogative *pu* and complementizer *pu* to be two distinct but homophonous lexical items, in agreement with the traditional account of them given in grammars of modern Greek.)

The only apparent counterexamples to the generalization that *pu* does not appear in $N^{\neg}$ positions are the following constructions, cited by Householder, et al (1964).

(182) kata pu lei o kosmos θa exume polemo
according that it-says the world FUT we-have war
"according to what people are saying, we are going to have war" (HKK, 150)

(183) kata pu vlepo θa to xasume to pexniδi
according that I-see FUT it we-lose the game
"as I see it, we are going to lose the game"
(HKK, 150)

(184) kaθe pu ton roto mu lei na kano ipomoni
every that him I-ask to-me he-says NA I-make patience
"every time I ask him he tells me to be patient"
(HKK, 159)

In each of these cases an explanation exists which shows that *pu* is actually a complementizer, rather than an $N^{\neg}$. In regard to the *kata pu* cases (182) and (183), one of my informants has noted that these sentences can only be said in his dialect if *kata pu* is replaced by *kata pos* and that this constitutes a fixed idiomatic expression. The fact that *pu* dialectally alternates with *pos*, which clearly is a complementizer (cf Householder, et al (1964, 173-174)), casts doubt on the proposal that it is the $N^{\neg}$ object of *kata* in these sentences. Thus, analyses such as those sketched out in (185) or (186) would be possible for sentences (182) and (183) while that in (187) would not be.

(185) $[_{V^{\neg}}\,[_{COMP}$ kata pu$]\ V^{\neg\text{-}1}\,]$

(186) $[_{PP}\,[_{P}$ kata $[_{N^{\neg}}\,[_{N^{\neg}}$ e $]\,[_{V^{\neg}}\,[_{COMP}$ pu $]\ V^{\neg\text{-}1}\,]]]$

(187) $[_{V^{\neg}}\,[_{COMP}\,[_{PP}\,[_{P}$ kata$]\,[_{N^{\neg}}$ pu $]]]\ V^{\neg\text{-}1}\,]$

The structure in (186) treats the clauses introduced by *kata pu*, or *kata pos*, in the case of my informant's dialect, in (182) and (183) as headless relatives. Although I have not examined such sentences in any depth, it would appear that the fact that *pos*--which never introduces relative clauses--can alternate with *pu* in these constructions makes the structure given in (185) more likely to be the correct one than that in (186). As for (184), Householder, et al (1964, 158) themselves refer to *kaθe pu* as a "conjunction of time" thereby indicating that a structure such as that suggested in (185) is correct in this case. (The speaker who replaces *kata pu* with *kata pos* in (182) and (183) finds sentence (184) to be "poor Greek" and can only understand *kaθe pu* as an elliptical form of the phrase *kaθe fora pu*--"every time that". Presumably this speaker's dialect does not possess this idiom, and can only analyze it as a headless relative, akin to the structure sketched out in (187).) Having found no evidence for treating *pu* as something other than a complementizer I will assume that this is its true status for the remainder of this thesis.

2.5 The Modern Greek Auxiliary System

In this section I demonstrate that *na* is the main specifier of V in the sense relevant for the definition of Finiteness presented in Section 1.2.3 above. Having demonstrated that *na* is a verbal specifier of this type, I will demonstrate that it is paradigmatic and that, consequently, clauses containing *na* are Finite.

In traditional grammars of Modern Greek the element *na* receives a dual treatment. It is treated as a verbal element because of its close connection with the Verb and also as a complementizer (or "subordinating conjunction") because it usually serves to introduce those complement clauses in which it appears. For instance, Householder, Kazazis and Koutsoudas (1964, Section 7.13, p. 166) state that "*na*, which we have already seen as a modal particle, frequently does double

duty" as a subordinating conjunction; Catone (1967) treats *na* both as a "particella" (*loc. cit.*, Section 89, p. 104) and as one of the "congiunzioni subordinative" (*loc. cit.*, Sections 130-173, pp. 165-170); Triandaphyllidis (1941) groups *na* with the "*ipotaxtiki sinδesmi*" (*loc. cit.*, Sections 1053-1057, pp. 396-398) and with the "*moria*" (*loc. cit.*, Sections 1061-1064, p. 399); etc.

However, a careful examination will show that *na* is actually an element of AUX (using this as a cover term for the verbal specifier system) rather than a Complementizer. Whereas Complementizers do not co-occur, *na* may co-occur with the Complementizer *pu*.

(188) δen ine ke toso prama pu na pis
NEG it-is also such-a matter that NA you-speak
"it is not such an important matter that you need speak of it" (T, 197)

(189) m'erxete na fonakso δinata, pu olos o kozmos
to-me it-comes NA I-shout loudly, that all the world

na m'akusi
NA me it-hears
"I have the urge to yell loudly, so loud that the whole world will hear me" (T, 197)

(190) γlosa pu na miaksi me tin arxea
language that NA it-resembles with the ancient
"a language to resemble the ancient" (T, 186)

Unlike Complementizers, *na* may not be separated from the Verb of the clause in which it appears by a full non-pronominal Noun Phrase. In common with the verbal particles *θa*, which marks (among other things) Future Tense, and *as*, which introduces various request forms, *na* may be separated from the Verb of the clauses in which it occurs only by a specified set of elements, these being the clitic pronouns

and the negative particle *mi(n)*. However, there are some differences in the behavior of the different verbal particles: *θa* occurs with the negative particle *δe(n)*, which precedes it, whereas *as*, like *na*, takes the negative particle *mi(n)*) which follows the verbal particle and precedes the clitic group. See Householder, Kazazis and Koutsoudas (1964, Section 3.253, pp. 37-38), for further discussion.

Whereas the subject of a complement clause, or any other preverbal element (whether base-generated in this position, or fronted as a form of emphasis), occurs between the Complementizer and the Verb (or Verb group, this consisting of the Verb and any other preceding clitic elements), such elements occur before *na* in clauses containing it. Contrast (191) and (192) with (193)--(195).

(191) irxe keros, pu o enas ipandreftike
it-came time that the one he-married
"there came a time when one of them married"
(T, 202)

(192) iksere pos ekinis o andras itane sti δulya
he-knew that of-her the man he-was at-the work
"he knew that her husband was at work" (T, 202)

(193) alo δe xalevo monaxa ena zyafeti na mu kamis
other NEG I-request only a banquet NA for-me
you-make
"I request nothing else only that you prepare me a
banquet" (T, 204)

(194) δe boro kaθe mera na erxome
NEG I-can every day NA I-come
"I cannot come every day" (T, 204)

(195) θelo o Yanis na fiyi
NOM
I-want the John NA he-leaves
"I want John to leave" (J80, (3))

Also, while matrix clauses cannot appear introduced by a complementizer, *na* may

occur in matrix clauses.

(196) ti na yini
what NA it-becomes
"what is to happen" (T, 126)

(197) na to kano i na min to kano
NA it I-do or NA NEG it I-do
"should I do it or shouldn't I" (T, 126)

(198) δoksa na xi o θeos
glory NA he-has the God
"God be praised" (T, 126)

Finally, *na* does not occur with the verbal particles *θa* and *as*.

The fact that *na* has the distribution of the verbal particles *as* and *θa*, and has none of the distributional characteristics of a Complementizer, save that it usually occurs as the first overt element of a complement clause, demonstrates that it is a verbal particle and not a Complementizer. However, more than the fact that *na* usually occurs sentence-initially has led analysts of Modern Greek to treat it as a Complementizer. Historically, *na* is derived from the Ancient Greek Complementizer *hina*, via the Medieval form *ina*. It is probably of some worth, therefore, to consider, at least briefly, the process by which the Ancient Greek Complementizer *hina* became the Modern Greek verbal particle *na*, both to confirm further the validity of the analysis presented in this section, and also because the process by which *(h)ina* was reanalyzed from being a Complementizer to an AUX element interacts with the history of the loss of the Ancient Greek infinitives and their replacement with finite (subjunctive) clauses. (For a detailed discussion of the loss of the infinitive, see Joseph (1978, Chapter 2).)

Pappageotes (1952) provides a crucial insight into the factors which led to the loss of the Ancient Greek infinitive. As is well known, Verbs which in Ancient Greek

took infinitival complements, gradually replaced these complement infinitives with subjunctive clauses introduced by the Complementizer *(h)ina.* Pappageotes provides an analysis which attempts to explain why this replacement took place and why the infinitive was lost as a productive part of the verbal paradigm. He proposes that the substitution of Subjunctive clauses in Ancient Greek for infinitival complements was motivated by an increase in the use of the "articular infinitive". This was an Ancient Greek construction in which a form of the neuter article, properly inflected for the Case of the N⌉ position in which the construction occurred, preceded an infinitival clause.

(199) Nominative

neois to sigan kreitton esti tou lalein
NOM GEN
for-the-young the to-be-silent better is than-the to-speak
"in the young, silence is better than speech"

(200) Genitive

ti oun estin... tou tois philois aregein kallion
GEN DAT
what then it-is than-the the friends to-help nobler
"what then is nobler than to help one's friends"

(201) Genitive (Object of Preposition)

anti tou epi Karian ienai...epi Phrugias
GEN
instead the to Caria to-go to Phrygia

eporeueto
he-marched
"instead of going against Caria, he marched towards Phrygia"

(202) Dative (Object of Preposition)

en to phronein gar meden edistos bios
DAT ACC
en the to-think-about for nothing sweetest life
"for life is sweetest in being conscious of
nothing"

(203) Accusative

pros to metrion deisthai pepaideumenos
ACC GEN
to the moderate to-need educated
"schooled to moderate needs"

Pappageotes suggests that, as the use of such clauses increased, these forms were no longer recognizable as part of the verbal paradigm and were taken to be nominal forms instead. I put forth the following elaboration of Pappageotes' basic insight. I propose that articular infinitives originally were analyzed as Complex Noun Phrases which had a null head. Under this proposal, they would have had the structure given in (204).

(204) $[_{N^{\urcorner}} [_{DET}\ \text{to}\ ] [_{\bar{N}}\ N\ V^{\urcorner}\ ]]$

where N is the empty head. This analysis captures the fact that the infinitival expression in such constructions is clausal, in that Objects are permitted; these appear in the normal Case that Objects bear in ordinary clauses (i.e. Accusative in the case of ordinary transitive Verbs; Genitive or Dative in the case of "kinky Case-marking" Verbs; note examples (200), (202) and (203) above.) It also captures the fact that the articular infinitive is plainly also nominal in that it can appear in $N^{\urcorner}$ positions, and because it appears in any of the four Cases of Ancient Greek (Nominative, Genitive, Dative, Accusative).

However, as such constructions occurred with increasing frequency, this analysis

presumably became more opaque, so that the verbal forms in the articular infinitives were eventually reanalyzed as Nouns. Moreover, this opacity may have been increased by the fact that many of the of the occurrences of the articular infinitive involved intransitive Verbs, so that the clausal character of such constructions was further obscured. (Perhaps an intermediate stage should be postulated in which the articular infinitive, had an analysis like that proposed for English gerunds; i.e. $N^{\overline{1}}$ over VP. (See, e.g. George (1980a, 28; 1980b, 28) for discussion.) However, whether such an intermediate stage ever existed, it is clear that such articular infinitives eventually were analyzed as Nouns.) Because the Ancient Greek infinitive was reanalyzed as a Noun, this Verb form was lost from the verbal paradigm. Today, in fact, the only remains of the Ancient Greek infinitive are various lexicalized expressions and Nouns which were derived from articular infinitives. Some Nouns so derived include:

(205) to fili < to philein
the kiss the to-kiss

to fayi < to fagein
the food the to-eat

(J76, (34), p. 56)

There are also the lexicalized forms:

(206) to kapnizin
the to-smoke
"smoking"
(found almost exclusivley in the expression
apoγorevete to kapnizin
"smoking prohibited")

to ptiin
the to-spit
"spitting"
(found almost exclusivley in the expression
apoγorevete to ptiin
"spitting prohibited")

(J76, (35), p. 58)

See also Joseph (1976, Section 2.4) and Thumb (1964, Section 181, pp. 116-117; also, Section 97.1, p. 62) for further discussion.

As the infinitive lost its vigor, Verbs which had previously taken only infinitival complements began to take clauses introduced by the Complementizer *ina* which contained Verbs in the Subjunctive, as well, until infinitives were completely supplanted in these positions (see Joseph (1976, Section 2.3., pp. 39ff)). This construction became the basis of the Modern Greek construction utilizing complement clauses containing the verbal particle *na.* The current structure resulted from the operation of two phonological processes, one of which led to the change of *ina* into *na*; while the other led to the reanalysis of *na* as an AUX element rather than as a Complementizer.

The first change was a shift in the position of the accent of *ina.* In Ancient Greek, *ina* was accented on the initial syllable. During the medieval period, the accent shifted to the final syllable (see Trypanis (1960), for some discussion). This made the initial *i* of *ina* susceptible to a phonological rule of Medieval Greek which deleted initial unstressed vowels. (See Householder, Kazazis and Koutsoudas (1964, Section 1.621, p. 11) for some discussion of this process and of some later epenthesis processes, which have added initial unstressed vowels to Modern Greek, so that the rule that Greek contains no initial unstressed vowels is no longer surface true.)

The other process was the rephonemicization of the Greek vowel system so that

the endings of the indicative and those of the subjunctive, once distinct, became identical. In Classical and Koine Greek, the endings of the Indicative and the Subjunctive were the following:

Indicative Endings

	Singular	Plural
1	-ω	-ομεν
2	-εις	-ετε
3	-ει	-ουσι

Subjunctive Endings

	Singular	Plural
1	-ω	-ωμεν
2	-ῃς	-ητε
3	-ῃ	-ωσι

Eventually the distinction between omega and omicron and that between eta and epsilon iota collapsed; the former pair became /o/, the latter /i/. (for a chronology of these changes, see Joseph (1978, Section 2.1, p. 32), Allen (1968, pp. 66-71), Sturtevant (1940, Sections 18-33, pp. 32-41); note that this phonemicization may have preceded the change of *ina* to *na*. The relative chronology of these two changes is irrelevant for the purposes of the present discussion, however.) At this stage in the history of Greek, then, the only indication of the subjunctive-indicative distinction was the presence or absence of *na*. This, presumably, led to the reanalysis of *na* as a mood indicator, so that it was now taken to be an AUX element (or "modal particle", as Householder, Kazazis and Koutsoudas (1964, Section 5.2, p. 105) term it). This, as I have argued above, is the current state of affairs.

Note, moreover, that the verbal particles *as*, *θa*, and *na* are distinct from the Person and Number agreement markers in Modern Greek. The latter always occur on the Verb, and are never separated froom a Verb by non-inflectional elements. However, *as*, *θa*, and *na* may be separated from the Verb by clitic pronouns, which, as was demonstrated in Section 2.1.2 originate in $N^{\neg}$ positions in VP. Thus, in addition to the $V^{\neg 1}$ rule (46), and the VP expansion rules (47) and (48), we may posit the following rules.

(207) $V^{\neg} \rightarrow$ COMP $V^{\neg 1}$

(208) $V^{\neg 2} \rightarrow$ AUX VP

(209) AUX → as
na
*θ*a

The verbal particles which appear under AUX are here taken to be Mood markers; see, e.g. (Householder, Kazazis and Koutsoudas (1964), who refer to *as*, *θa* and *na* as "modal particles"; see also Kantranides (1967, 861) who also takes these particles to be Mood markers: *na* indicating Subjunctive, *θa* Optative, and *as* Hortative. The crucial thing to note is that the Modal particles, and, in particular *na*, satisfy the definition of "main specifier" central to the definition of Finiteness; that is, these AUX elements are the superior specifiers of $V^{\neg}$ which are commanded by the Subject.

Having shown that *na* is the main specifier of V, in the sense relevant to the determination of Finiteness, I will show that *na* is paradigmatic, so that the complement clauses containing it are finite. The relevant categories along which the Verbs of Modern Greek vary are the following: Tense (Past or Non-Past), Aspect (Perfective or Imperfective), Voice (Active or Passive), Person (first, second or third) and Number (singular or plural). (This is the usual categorization of verbal forms given in structuralist and generative treatments of the Greek Verb; see, for example

Koutsoudas (1962), Matthews (1967), Warburton (1970; 1973) for some discussion.)

To illustrate how Tense and Aspect distinctions are marked, I consider the forms they take in the Active Voice. (The situation is analogous in the Passive Voice; however, the morphology is somewhat more complicated. Therefore, I restrict this discussion to the Active forms, as these will suffice for the present discussion. See Koutsoudas (1962), Matthews (1967), Warburton (1970; 1973) for a full discussion.) Aspect is indicated by the form of the Verb stem (i.e. the Verb minus its inflectional endings). The Perfective stem is usually formed from the Imperfective by the addition of *-s-*, though there are cases of suppletion and also various phonological mutations (e.g. stem final fricatives become the homorganic voiceless stop; stem final nasals delete; etc. See Koutsoudas (1962), Matthews (1967), Warburton (1970; 1973) for a full discussion.) Some examples are:

Imperfective	Perfective
γraf- write	γraps-
δiavaz- read	δiavas-
δulev- work	δuleps-

Tense is indicated by the form of the agreement marker. Non-Past Tense is indicated by those agreement forms containing the vowels /o/, /i/ and /u/; Past Tense by those containing /a/ and /e/:

Non-Past

	Singular	Plural
1	-o	-ome
2	-is	-ete
3	-i	-un(e)

Past

	Singular	Plural
1	-a	-ame
2	-es	-ate
3	-e	-an(e)

The accent in Verb forms which bear the Past Tense marker is recessive; that is, it occurs on the antepenultimate syllable. When the resulting Verb form is only bi-syllabic, an initial /e/ appears and bears this accent. (This /e/ is the remnant of the syllabic augment of ancient Greek; see Smyth (1920, Section 429, p. 145).)

Clauses containing *na* preserve all these distinctions. The Verb in such clauses is marked for Person and Number, and display all combinations of Tense, Voice and Aspect. This may be seen in the following examples:

Matrix Occurences of NA

Imperfective Non-Past

(210) na mu γrafete kaθe mera
NA to-me you-write every day
"write me every day" (HKK, 107)

Perfective Non-Past

(211) o θeos na me sosi
the God NA me he-saves
"may God save me" (HKK, 108)

Imperfective Past

(212) stin ellaδa na pines krasi
in-the Greece NA you-drank the wine
"you ought to have drunk wine in Greece" (HKK, 109)

Perfective Past

(213) na exase kamya δekarya lires
NA he-lost some ten pounds
"he probably lost about ten pounds" (HKK, 110)

Complement Occurences of NA

Imperfective Non-Past

(214) arxise na vrexi
it-began NA it-rains
"it began to rain" (HKK, 111)

Perfective Non-Past

(215) tu ipa na fiyi
to-him I-said NA he-goes
"I told him to go" (HKK, 111)

Imperfective Past

(216) δen fandastika na tin aγapuse toso poli
NEG I-imagined NA he he-loved so-much very
"I did not imagine that he loved her that much"
(HKK, 111)

Perfective Past

(217) δe θimume na to elaba
NEG I-remember NA it I-took
"I don't remember having received it" (HKK, 111)

The fact that clauses containing *na* as a main specifier preserve all the distinctions normally present in the verbal paradigm indicates that *na* is paradigmatic and that clauses containing it are Finite. Note, however, that this conclusion does not exactly follow from the definition of aparadigmatic specifier given in Section 1.2.3: "neutralizing distinctions that occur in the same structural position, elsewhere in the paradigm". Here, the distinctions which are preserved in *na* clauses occur in an *inferior* structural position. (Recall, as was pointed out above, that Person and Number Agreement, and Tense and Aspect marking always occur on the Verb and, hence, are treated here as being generated in the base in this position, separate from, and inferior to, AUX.) Therefore, it seems necessary to modify the definition of "aparadigmatic" slightly. Under this revised definition of aparadigmatic, the main specifier of an $X^{\neg}$ category is aparadigmatic if it neutralizes distinctions that occur elsewhere in the paradigm, dropping the restriction that these distinctions occur in the same structural position as the main specifier (but see discussion of participles in Modern Greek below, for some indication that this may not be necessary). Note that, for both these definitions, the *main* specifier must be responsible for the neutralization in order for the $X^{\neg}$ category which contains it to be non-Finite. This is a necessary proviso, because there are irrelevant cases of "neutralization" which have nothing to do with the main specifier and, consequently, do not serve to define such categories as non-Finite. For example, in Section 4.1 below, I note that various Verbs in Modern Greek which select complement *na* clauses restrict the Aspectual marking of the Verbs in these clauses; e.g. certain Verbs require that the complement Verb be in the Imperfective Aspect. Hence, in these compelements, *na* does not actually occur with all the Aspectual distinctions of the verbal paradigm. However, this is not a limitation which is imposed by *na* itself, as is shown by examples (210)--(217), which demeonstrate that *na* can freely co-occur with *all* the distinctions which are present in the verbal paradigm. Here, the limitation is imposed by the selectional restrictions of the matrix Verb.; hence, the

"neutralization" of Aspectual distinctions in such constructions plays no role in defining Finiteness.

Given that *na* is a paradigmatic verbal specifier and that clauses containing *na* are Finite, it is to be expected that such clauses will display certain behavior predicted by analyzing them as Finite. Clauses containing *na* should freely occur with lexical subjects, marked with the normal Case assigned to the subject of Finite clauses in Modern Greek (Nominative); the subjects of such clauses should not be subject to disjoint reference with matrix $N^{\neg}$'s; etc. Moreover, it is predicted that processes that look like the normal sentence grammar processes, such as Raising, EQUI and Control, should in fact be the result of the operation of discourse grammar processes so that, consequently, "Control", "EQUI" and "Raising" should violate all constraints on rules of sentence grammar, though they may display independent constraints. In fact, I postulate that all instances in Modern Greek in which binding appears to take place into a clause containing *na* (henceforth, *na* clauses), or into any other finite clause in Modern Greek, are instances of the application of the normal rule of discourse grammar that establishes the binding of pronouns (see Chomsky (1976, 323-324), Lasnik (1976), etc. for some discussion). I examine Modern Greek relative clauses in Chapter 3 to show that the postulated rule of discourse binding plays an important part in certain relative constructions as well as in *na* clauses. In Chapter 4, I examine *na* clauses and show that they do, indeed, bear out these predictions.

The analysis presented here, that binding of $N^{\neg}$ positions in finite clauses in Modern Greek is effected by a discourse rule, would be strengthened if the behavior of binding in such clauses were compared with that in non-finite clauses in Modern Greek. In fact, there is only one form in the verbal paradigm which displays any neutralization of these distinctions, and it displays this neutralization to an inordinate degree. This form is the participle, which displays no Personal agreement

and which also neutralizes distinctions of Tense and Voice, only preserving the opposition of Perfective and Imperfective (see Householder, Kazazis and Koutsoudas (1964, Section 5.32, p. 129) and Warburton (1970) for some discussion). (Moreover, the participle does not co-occur with any of the modal particles. This fact suggests that the modification of the definition of aparadigmatic discussed above maybe unnecessary and that the original definition of aparadigmatic proposed in Section 1.2.3 may stand as is. That is, it may be that participles are non-Finite not because they neutralize distinctions among the inferior specifier of V^1 (i.e. Tense, Aspect, Agreement) but, rather, because they neutralize the modal alternations marked by the verbal particles *as,* θa and *na.* However, it is impossible to decide between these two proposals by arguments internal to Modern Greek. Both definitions seem to give the correct result: only participial clauses are non-Finite in Modern Greek. This question, then, remains a topic for future research.)

The participle occurs in two forms: the Perfective participle, which is inflected for Gender, Number and Case, and the Imperfective participle, which is indeclinable. (Householder, Kazazis and Koutsoudas refer to these as the participle and gerund, respectively.) In Section 4.5, I compare the behavior of participial clauses, which appear as clausal adjuncts to sentences, with the behavior of *na* clauses, to show that the latter do, indeed, behave like finite clauses, while the former behave like non-finite clauses: binding is only permitted to subject position, overt subjects do not freely appear, overlapping reference is not possible, etc.

2.6 Summary of Rules

I collect here the rules of the Base and Transformational Components which have been proposed so far.

Phrase Structure Rules

$V^{\urcorner}$ Rules

(207) $V^{\urcorner} \rightarrow$ COMP $V^{\urcorner-1}$

(46) $V^{\urcorner-1} \rightarrow N^{\urcorner} V^{\urcorner-2} N^{\urcorner}*$

(208) $V^{\urcorner-2} \rightarrow$ AUX VP

(47) VP $\rightarrow$ V $N^{\urcorner}$ $N^{\urcorner}$

(48) VP $\rightarrow$ V $N^{\urcorner}$

(209) AUX $\rightarrow$ as
na
θa

$N^{\urcorner}$ Rules

(21) $N^{\urcorner} \rightarrow$ PRO $N^{\urcorner-1}$

(22) $N^{\urcorner-1} \rightarrow$ DET $N^{\urcorner-2}$

Transformational Rules

Movement Rules

(151) Genitive Extraction

str N DET str cat

substitute 2 for 5

(118) Clitic Movement

cat str PRO str

Adjoin 3 to 1

Sanctioning Rules

(49) V Accusative

(Sanctions Accusative Case on Direct Object)

(50) V N Genitive

(Sanctions Genitive Case on Indirect Object)

(51) V str Genitive

(Sanctions Genitive Case on Benefactive N^{γ})

(52) V str Accusative

(Sanctions Accusative Case on Temporal N^{γ})

Binding Rules

(Bind clitic pronoun doubles and their antecedents)

(53) Genitive str Genitive

(54) Accusative str Accusative

Spelling Rules

(133) Subject Pro-Drop

$PRO \rightarrow \varnothing$ / COMP ___ $N^{\gamma-1}$

(101) Definite Article Ellipsis

$o \rightarrow \varnothing$ / cat ___ ena N

Chapter Three

Modern Greek Relative Clauses

> My dear! That *pu* how unmanageable it is! It appears all the time, *pu* with grave, *pu* with circumflex! And how ugly it sounds with frequent repetition!...For that reason I say that the participle which is disappearing is destined to return and to live, to save us from all these cacophonous *pu*!
>
> --Constantine P. Cavafy

In this Chapter I examine the Modern Greek restrictive relative clause. My main purpose in looking at this construction is to show the discourse process which establishes binding at work in the syntax of Modern Greek. The relative clause construction was chosen to demonstrate this, since the operation of this discourse process is quite transparent in this construction. Because of the narrow purpose of this chapter, various problems in the syntax of Modern Greek restrictive relatives are raised but are not resolved in the present study.

3.1 Introduction to The Modern Greek Restrictive Relative

Modern Greek possesses two major types of relative clauses: the first involves the relative pronoun *o opios*. This pronoun consists of the definite article *o* plus the *WH*-relative word *opios*, both of which are fully declined for gender, number and case. This form of relative clause is the Greek equivalent of the familiar French relatives with *lequel* or the Italian relatives with *il quale*. As in other such clauses, the *WH*-phrase is moved to the front of the clause, which immediately follows its head. Its operation is fairly transparent and is uniform for all the grammatical relations that the relativized $N^{\neg}$ may bear within the relative clause, as is illustrated in the following examples:

(1) Subject
o anθropos o opios iδe to kastro ine plusios
NOM NOM
the man the *WH* he-saw the castle he-is rich
"The man who saw the castle is rich."

(2) Direct Object
o anθropos ton opion iδa ine plusios
ACC ACC
the man the *WH* I-saw he-is rich
"The man whom I saw is rich."

(3) Possessive
o anθropos tu opiu tin kori aγapo ine plusios
GEN GEN
the man of-the *WH* the girl I-love he-is rich
"The man whose daughter I love is rich."

(4) Object of Primary Simple Preposition
to γrafio sto opio δulevi ine mikro
ACC ACC
the office in-the *WH* he-works it-is small
"The office in which he works is small."

(5) Object of Secondary Simple Preposition
i yineka xoris tin opia δen bori na zisi
ACC ACC
the woman without the *WH* NEG he-can NA he-lives

o Yanis ine omorfi
the John she-is beautiful
"The woman whom John can't live without is beautiful."

(6) Object of Adverbial Preposition
to ktirio brosta ap'to opio vriskete to aftokinito
ACC ACC
the building before from-the *WH* is-found the car

ine psilo
it-is tall
"The building in front of which the car is parked
is tall."

The second major type of relative clause, which is far more common, is that introduced by *pu*, which was shown in Section 2.4 to be an invariant complementizer. *pu* is usually characterized as a relative pronoun in discussions of relative clauses in grammars of Modern Greek. The following describe *pu* as a "relative pronoun": Dzardzanos (1946, 163), Moser-Philtsou (1966, 207), Pring (1957, 93), Triandafilliδis (1941, 296), Tzermias (1969, 114). Others leave the question of the grammatical category to which *pu* belongs open. Catone (1967, 93) says that *pu* "da avverbio ha assunto funzioni di pronome". Householder, Kazazis and Koutsoudas (1964, 90) describe it as a "relative word"; Mirambel (1949, 104) as a "mot invariable"; Petraris (1921, 153) as an "indeclinable particle"; and Thumb (1964, Section 149, p. 93) as a "relative adverb". All these authors agree in treating *pu* as a "conjunction" in those situations in which it more clearly functions as a complementizer. In the present analysis of *pu* introduced relatives, I will show that various data are incompatible with any *wh*-movement analysis, demonstrating that *pu* is a Complementizer, in these cases as well as in the examples discussed above in Section 2.4.

In striking contrast to the *o opios* cases, the behavior of *pu* relatives varies--superficially at least--with respect to the grammatical function that the relativized $N^{\neg}$ performs in the relative clause. However, I will propose that the following analysis holds in all examples of *pu* relatives: a *pu* relative contains a base generated

pronoun which is construed with the head of the relative through the operation of the discourse rule which binds pronouns. In all cases in which a "gap" appears in a *pu* relative, this gap is produced by an independently motivated deletion rule: Subject Pro-Drop in the case of Subject Pronouns and the rule deleting Accusative third person pronouns, which was discussed above in Section 2.1.4.

I will begin by looking at the behavior of relativized subject and object N$^{\neg}$'s:

(7) o anθropos pu (*aftos) iδe to kastro ine plusios
NOM
the man that he he-saw the castle he-is rich
"The man that saw the castle is rich."

(8) o anθropos pu (ton) iδa ine plusios
ACC
the man that him I-saw he-is rich
"The man that I saw is rich."

It is interesting to note that the behaviors of the strong subject pronoun and the clitic object pronouns are similar (but not identical) in these cases. That is, sentence (7) is only acceptable if the subject pronoun is absent much as (8) is stylistically better if the object pronoun is omitted. In each case, if the pronoun appears it is interpreted as emphatic. Hence, if nothing in the surrounding context "reinforces"--as it were--this emphasis, the pronoun's presence is felt to be redundant and quite awkward, stylistically, in examples such as (8), and is actually ungrammatical, in such examples as (7). This distinction follows from the principle of Filtering by Analogy, as modified in Section 2.1.2, and the analysis of the non-appearance of Nominative and Accusative pronouns proposed in Section 2.1.4. Recall that Subject Pro-Drop is taken to be the result of the spell out as ø of a PRO specifier in Subject Position. Thus, the appearance of an overt pronoun in such a context will be ruled out by Filtering by Analogy, unless another rule sanctions its presence. The non-appearance of Accusative pronouns, on the other hand, is taken

to be effected by a rule of discourse grammar, which is, by definition, not subject to the constraints of sentence grammar, including, presumably, Filtering by Analogy. Thus, while the presence of an overt Accusative would be expected to be somewhat awkward, unless otherwise reinforced, it should not be absolutely ungrammatical. This "reinforcement" may be provided by adverbial modifiers:

(9) o anθropos pu ton evlepe o Yanis sto γrafio
ACC
the man that him he-saw the John in-the office

kaθe mera ine plusios
every day he-is rich
"The man that John used to see in the office
every day is rich."

or by using a verb which depicts an out of the ordinary action:

(10) o anθropos pu ton esose o Yanis ine plusios
ACC
the man that him he-save the John he-is rich
"The man that John saved is rich."

Though (9) and (10) are also possible without the object clitic, its presence is not felt to be as strikingly bad as it is in (8); of the three, (9) is the most acceptable; (10) is less so, and (8) is the least acceptable of all. Similar facts hold true for subject pronouns. They may appear overtly if accompanied by the adverb *mono*--"only":

(11) o anθropos pu mono aftos kseri
NOM
the man that only he he-knows

ti lisi tu provlimatos ine o δaskalos
the solution of the problem he-is the teacher
"the only man who knows the answer is the teacher"

or when placed in a contrastive situation:

(12) o anesθitos pu otan oli emis θrinume
the insensitive that when all we we-mourn

aftos aγallya
he he-rejoices
"The insensitive man that, when all of us mourn,
himself rejoices." Odysseus Elytis, *The Aksion Esti*

This similarity is all the more striking when it is recalled that, in general, as was noted in Section 2.1, strong object pronouns appear in emphatic contexts while clitic objects appear elsewhere. In this case a clitic object appears in an emphatic situation and ø appears elsewhere, exactly as is the case for subject pronouns. This is very suggestive and is consistent with the analysis proposed above: that the deletion of object pronouns in *pu* relatives is effected by a discourse rule, which is parallel to the more general rule of subject pro-drop.

The different classes of prepositions mentioned in Section 2.3 above--and, indeed, different individual prepositions--behave quite differently in *pu* relatives, so I shall examine these cases in some detail. Those prepositions easiest to form a generalization about as a class are the adverbial prepositions. These always must appear overtly when their object is the relativized $N^{\neg}$.

(13) to ktirion pu vriskete *(brosta tu) to aftokinito
GEN
the building that it-was-found before it the car

ine psilo
it-is tall
"The building that the car is parked in front of
is tall."

(Some speakers, however, find examples such as (13) more acceptable if *brosta tu* is placed before *vriskete.*)

The question then arises as to whether the *object* of such a preposition must

overtly appear or not. Householder, *et al.* (1964, 173) make the following statement regarding preposition stranding in *pu* relatives: "The English resource of leaving a preposition by itself at the end of a subordinate clause is not available in Greek, except that *mazi* may be used alone (but not at the end) to a limited extent, as may a few other adverbs which serve as first parts of compound prepositions". They offer (14) as an example of this.

(14) i yineka pu mazi θa fiγume
the woman that together-with FUT we-leave
"the woman that we will leave (with)"

I have found this general characterization to be true for two of my informants. Thus, in versions of (14) in which *brosta* occurs pre-verbally its object pronoun may optionally be absent, whereas if *brosta* occurs post verbally its object must appear:

(15) to ktirio pu brosta (tu) vriskete to aftokinito
ine psilo

(16) to ktirio pu vriskete to aftokinito brosta *(tu)
ine psilo

However Maling (1976) notes that her informant accepts the following sentence in which the object pronoun is absent though the adverbial preposition is post-verbal:

(17) afto ine to trapezi pu afisa to vivlio apo kato
this is the table that I-left the book from under
"This is the table that I left the book under."

while the informants who reject (16) when the object pronoun was absent also reject (17). Yet another of my informants accepts (18), which is identical to (17) in the relevant respect:

(18) to ktirio pu pezo apo piso ine psilo
the building that I-play from behind it-is tall
"the building that I play behind is tall"

Again, most speakers reject examples such as (18)

Two facts need to be explained in these examples. First, how is the pronoun in question to be deleted? Second, why should the deletion be permitted, for some speakers at least, only when the PP containing this pronoun is fronted? I will address the former problem first.

The rule of deletion formulated above will apply only to Accusative pronouns and, thus, cannot effect the deletion of the Genitive clitic objects of adverbial prepositions. However, recall that adverbial prepositions can also introduce compound PP's which are of the form [$_{PP}$ adverbial P simple P N]][1] The discourse deletion rule would be able to apply to this object N$^{\neg}$ and, after application, would leave a string of the form [$_{PP}$ adverbial P simple P] Simple prepositions (whether or not an adverbial preposition precedes) do not occur in Greek unless a lexical N$^{\neg}$ follows. This suggests that a subsequent rule deletes the "stranded" simple preposition produced by the deletion of its Accusative object.

Accepting for the moment that there is a rule of this sort, let us now see if the application of this rule in sentences such as (18) meets some formulation of the condition of recoverability of deletion. If this condition is formulated to require the presence of an identical (or "non-distinct") element in the surface string, then it clearly does not. Note, however, that in a somewhat more extended sense, the deletion of simple prepositions in such phrases *is* recoverable. This is so because these simple prepositions are present, in effect, only to allow an adverbial preposition to take a non-clitic N$^{\neg}$ object. Such simple prepositions generally add nothing to the meaning of such phrases. However, when the choice of a simple

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[1] I will take the fact that such compound PP's front as a unit in *wh*-movement--whether in relatives (cf sentence (6) above) or in questions--to indicate that they do, indeed, form a constituent, though I am uncertain what the internal structure of such PP's is.

preposition *does* affect the meaning of a compound PP, Modern Greek grammar employs an ingenious mechanism to make sure that the preposition is recoverable. (See Householder, Kazazis and Koutsoudas (1964, Section 3.24, p. 35). The adverbial preposition *pano* is illustrative of this. When followed by an object N⌝ introduced by *se*, it simply means "on", which might be considered its basic meaning. However, when *apo* is used to introduce an N⌝ complement, *pano* takes on the meaning "above". Contrast the following examples ((19)--(22) are from Householder, Kazazis, Koutsoudas (1964, 35)):

(19) pano sto trapezi
on to-the table
"on the table"

(20) pano ap'to spiti
on from-the house
"above the house"

This distinction is maintained when *pano* takes a clitic pronoun object by the device of preposing *apo* in the marked case.

(21) pano tu
"on it"

(22) apo pano tu
"above it"

In the compound PP's under discussion here, then, the simple preposition does, indeed, function as a specified element in this sense, since its presence contributes nothing to the interpretation of such phrases. Thus, the interpretation of *brosta tu* is identical to that of *brosta ap'afton*. The only contribution *apo* makes in this phrase is to allow *brosta* to take a strong pronoun (or a non-pronominal N⌝) as an object. Since the same fact holds true for all compound PP's, the proposed rule deleting simple prepositions will be able to apply properly in all the desired cases. Thus, this proposed analysis, in which "gaps" following adverbial prepositions are the result

not of the application of a single rule, but rather of the interaction of the discourse rule deleting Accusative pronouns and a later rule deleting stranded simple prepositions is at least not ruled out on empirical or general theoretical grounds.

Moreover, this analysis has definite advantages over one postulating that the non-appearance of pronominal objects after adverbial prepositions is the result of a single rule deleting Genitive pronouns. There is no independent evidence for the existence of such a rule in the grammar of Modern Greek and, indeed, there exists counterevidence to any proposal that would maintain that such a rule is of any generality since, as will be noted below, possessive Genitive clitic pronouns never delete. However, as we have seen, the rule deleting Accusative pronouns does operate elsewhere in the grammar of Greek, and, as we shall see when we examine the behavior of simple PP's in *pu* relatives, the proposed rule deleting simple prepositions is also independently motivated. Hence, the analysis put forth here is strongly supported.

I now turn to the question of the reasons behind the limitation of this deletion to sentence initial position. Recall that, by the principle of Filtering by Analogy, as reformulated in Section 2.1.2, if there is a choice between using a marked minor specifier and using an unmarked minor specifier, the unmarked specifier should be used unless some other rule or process sanctions the presence of the marked specifier. Recall also that strong pronouns are marked with respect to clitic pronouns. The normal position for a compound PP is in post Verbal position. However, by being fronted, a compound PP can be specially emphasized. This suggests the following analysis of the deletion of the $N^{\neg}$ complements of compound PP's. When the PP appears in its normal position post Verbally, a non-clitic pronoun object cannot appear, by Filtering by Analogy, since a less marked pronominal form (the Genitive clitic pronoun) could appear in this position. Hence, there would normally be no opportunity for the rule deleting Accusative pronouns

to apply to a post Verbal compound PP. However, fronting of such a compound PP would give it special emphasis, thereby sanctioning the presence of an Accusative and, consequently, allowing the discourse deletion rule to operate.

This analysis seems to work fairly well for standard Modern Greek. However, how is the ability of some speakers to permit this deletion in post Verbal position to be explained? I will preface the discussion of these facts with the following observation by Seaman (1972, 109): "deviation from the norm in this area [use of prepositions--RJPI] ...is shown to a marked degree in the unguarded Greek speech of all Greek-Americans (by our definition), and is one of the earliest evidences of contact with English in the speech of first-generation immigrants." The informant who accepted (18) has confirmed this, pointing out that he has noticed himself stranding even primary simple prepositions--which never strand in standard Greek--and that this usage "is English." Since all of my informants are fluent in English and have been in America a number of years it is likely that at least some of the fuzziness in this area is accounted for by the influence of English.

Turning to the treatment of simple PP's in *pu* relatives we are confronted by a quite diverse set of facts. The group of simple prepositions that one can most easily form generalizations about are the secondary simple prepositions which must obligatorily appear with strong pronominal objects:

(23) i yineka pu δen boro na ziso *(xoris aftin)
the woman that NEG I-can to I-live without her
ine omorfi
she-is beautiful
"the woman that I can't live without is beautiful"

Interestingly enough, two of my informants can accept this sentence when a pronominal object does not appear, although they reject the stranding of all primary simple prepositions, in line with the usual treatment of simple prepositions in Modern Greek. They have suggested that they have been influenced by the similar

sounding adverbial preposition *xorya*--"separately", which can, of course, occur without a pronominal object. This may, indeed, be a case of analogical influence and may signify nothing central to the grammar of Modern Greek. On the other hand, however, this example may provide a key to the problem of preposition stranding in Modern Greek.

Given that the rule which deletes Accusative pronouns is a rule of discourse grammar, it should be immune to the effects of Finiteness and other constraints on rules of sentence grammar. Therefore, it is to be expected that it should "penetrate" PP's, producing stranded prepositions, of all types. Recall, however, that the primary simple prepositions *se* and *apo* are clitic. If the other primary simple prepositions (*me* and *ya*) are also clitic, then their inability to strand would be explained. Secondary simple prepositions, on the other hand, are typically bi-syllabic and show no evidence of being clitic. This suggests that the ban on Preposition stranding in Modern Greek is phonological in origin, rather than syntactic. This analysis would be confirmed if secondary simple prepositions other than *xoris* could strand. Unfortunately, I have been unable to construct the relevant relative clause examples, since the secondary prepositions other than *xoris* typically are not of the sort that readily permit the formation of relative clauses on their heads. (See list of secondary simple prepositions in Section 2.3 above.) However, *δixos* "without" also permits the omission of its object.

(24) i yineka pu δen boro na ziso *(δixos aftin)
the woman that NEG I-can to I-live without her
ine omorfi
she-is beautiful
"the woman that I can't live without is beautiful"

Perhaps, then, the explanation of the ban on stranding of simple prepositions in *pu* relatives proposed here is correct.

The primary simple prepositions behave in different ways in different sentences.

The best generalization concerning their distribution is the following: simple PP's may be absent when the meaning of the simple preposition is somehow "subsumed" under or inferable from the meaning of the verb of the clause in which it occurs. The following pair of sentences may be taken to be paradigmatic of this:[2]

(25) to γrafio pu δulevi (*s'afto) ine mikro
"the office that he works in is small"
"the office that he works in is small"

(26) to trapezi pu vlepo to vivlio *(epano tu) ine
the table that I-see the book on it it-is

palyo
old
"the table that I see the book on is an antique"

((26) is ungrammatical when *s'afto* replaces the equivalent adverbial PP *epano tu*--"upon it". I take this to be a function of the fact that clitics are unemphatic while strong pronouns are emphatic. Within the context of a restrictive relative clause it is presumably anomalous to emphasize the relativized $N^{\neg}$. Therefore, by Filtering by Analogy, the simpler derivation in which the adverbial PP appears rules out the derivation in which the phrase *s'afto* appears.)

These facts can be dealt with by the two rules which have already been proposed: the discourse rule deleting Accusative pronouns and the subsequent rule deleting stranded simple prepositions. However, whereas the latter rule could operate freely when the simple preposition formed part of a compound PP, since they bear no semantic content in such configurations, and, hence serve as specified elements and are recoverable, it cannot apply freely when simple prepositions are part of simple PP's since they do bear semantic content in such phrases. Hence, in the latter case

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[2] I am grateful to Oswaldo Jaeggli for advising me to look for distinctions such as those epitomized in these two sentences.

the rule will be prohibited from applying in some instances by the principle of recoverability of deletion, operating only in those cases in which the deleted preposition is, in some sense, recoverable. I return to this question shortly.

This automatically explains the facts regarding the deletion of simple PP's presented here. I have noted above that the rule deleting Accusative pronouns is optional. When this rule does not apply to the object of a simple preposition the rule deleting a stranded simple Preposition cannot operate and the entire simple PP appears. When the rule deleting Accusative pronouns does apply the rule deleting simple prepositions must apply, presumably for the phonological reasons sketched above. However, this rule can only properly apply, under the condition of recoverability of deletion, when the simple preposition to be deleted serves as a specified element.

What, then, are the conditions under which this is true? As Maling (1976) notes, "it is only the semantic context together with knowledge about possible subcategorization and not any kind of structural identity that allows the deletion of the preposition to be 'recovered'". In fact, in the most easily analyzed cases of deletion of simple prepositions, the preposition deleted is recoverable from subcategorization information. This fact is pointed out by Joseph (1980), who notes various examples in which the deleted preposition in a *pu* relative is part of the strict subcategorization information of the Verb of the relative clause. While this proposal will take care of the bulk of the cases examined here, there remain problem cases, such as (25), since it is surely not correct to say that *δulevi* subcategorizes for a locative phrase. However, contrast example (25) with (26). Neither of the verbs involved subcategorizes for *se*, yet the deletion of this preposition is permissible in the first case but not in the second. This contrast suggests that there exists a subsidiary rule which deletes *se* adjacent to a Verb. This rule, in conjunction with an extended principle of recoverability of deletion, will handle all the cases.

Moreover, this extra deletion rule is not simply an *ad hoc* addition to the analysis proposed here.

For some speakers, *pu* in examples such as (25) and (26), if it is possible at all, is interpreted as *opu*, "where" (and, in fact, for such speakers, these examples are better if *opu* is used, rather than *pu*). This suggests that there might be some sort of opacity/reanalysis process at work here. Recall that the Complementizer *pu* is homophonous with the interrogative *pu* "where". This latter *pu* alternates with *opu*, which can be used in indirect questions and in relatives. Given this collection of facts, I will propose the following explanation for the origin of the non-subcategorized *se* phrase gaps in *pu* relatives. Such gaps originated from WH-Movement of the interrogative *opu*. Some speakers substituted the WH-word *pu* in such structures so that they were still produced by WH-Movement. However, this structure was opaque, since it was homophonous with the base-generated *pu* relative. However, this structure could not be produced by the deletion rules usually operative in *pu* relatives: Accusative Ellipsis and Pronoun Deletion, since the deletion of *se* in such cases would violate the principle of recoverability of deletion, since *se* would not be subcategorized in such examples. Hence, in order to maintain the *pu* relative analysis of such examples, language learners would postulate a special *se* deletion rule. While I cannot prove that this analysis is correct, it seems to me to be a likely explanation of such cases.

While the behavior of relativized subject and object N$^{\neg}$'s is fairly straightforward, that of indirect object N$^{\neg}$'s is more problematic. Thus, although all speakers accept sentences such as

(27) o anθropos pu tu eδosa to vivlio ine plusios
GEN
the man that to-him I-gave the book he-is rich
"the man that I gave the book is rich."

in which the Genitive clitic appears, without ever finding its presence to be stylistically objectionable in the way that the presence of direct object clitics may be, some speakers also find such sentences to be grammatical when the indirect object clitic does not appear:

(28) o anθropos pu eδosa to vivlio ine plusios

Of the informants that I have consulted, one totally rejects (28), two find it fully grammatical, albeit less acceptable than (27), while the last, after initially rejecting (28), reported that he found it grammatical after reflecting for some time. Further, even the speakers who clearly accept the absence of a Genitive clitic pronoun in (28) do not universally accept their absence. Thus, the following sentence is bad if the pronoun is not present:

(29) i yineka pu *(tis) milisan ine omorfi
GEN
the woman that to-her they-spoke she-is beautiful
"The woman that they spoke to is beautiful."

Although these data are somewhat puzzling, there does appear to be a principled explanation for them. Two of the speakers who find (28) acceptable are from northern Greece. As Warburton (1977, 280) has noted, speakers of some northern Greek dialects replace Genitive nouns and pronouns with the corresponding Accusative forms. (This is also true in various island dialects as well and, although this is not the standard pattern in Modern Greek, it is fairly common.) If these informants are, indeed, speakers of this dialect then it would, presumably, be possible for them to produce a version of (28) with the Genitive *tu* replaced by the Accusative *ton*, as in (30):

(30) o anθropos pu ton eδosa to vivlio ine plusios

This *ton* would then be subject to the discourse rule deleting Accusative pronouns. If these speakers can replace Genitive N$^{\neg}$'s with Accusative in sentences containing

verbs such as *δiδo*--"give"--in which the Genitive $N^{\neg}$ indicates the recipient of some object or the beneficiary of some action, but not in those containing verbs such as *milo*--"speak"--where the Genitive does not indicate this, this would constitute strong evidence that sentences such as (28) have their source in structures like (30), with underlying Accusative pronouns, rather than in sentences such as (27), with underlying Genitive pronouns. This would explain why the Genitive pronoun could not be absent in sentences such as (27). Since the Genitive clitic could not be replaced by an Accusative, the rule of discourse deletion could not apply. The rule of discourse deletion could then be limited to only deleting Accusative pronouns which seems, in any case, to be the correct formulation, since I have found no independent cases in which Genitive pronouns may be omitted. (I suggest an alternative explanation for these Genitive gaps at the end of this section.)

The behavior of possessive pronouns is unproblematic. They always appear, as in (31):

(31) o an*θ*ropos pu o Yanis a*γ*apay tin kori *(tu)
GEN
the man that the John he-loves the girl of-him

ine plusios
he-is rich
"The man whose daughter John loves is rich."

The obligatory presence of possessive pronouns automatically follows from the fact that the discourse deletion rule applies only to Accusative pronouns and the fact that Modern Greek possesses no independent rule deleting Genitive pronouns.

The contrast between the impossibility of possessive Genitive gaps and the at least marginal status of some Genitive Indirect Object gaps suggests another source for the latter, in addition to the dialect explanation offered above. Recall that, as was mentioned in Section 2.1.2 above, pronominal Indirect Objects may appear

either as Genitive clitic pronouns or as Accusative strong pronouns introduced by *se*. Indirect Objects of the latter sort would be subject to the Accusative Ellipsis rule. However, the generation of the *se* + Accusative phrase would be marked in comparison with the Genitive clitic variant, and, by Filtering by Analogy, would be strictly ungrammatical. This suggests that at least some of the speakers who accept Genitive Indirect Object gaps in *pu* relatives produce them by derivative generation. On the other hand, since there is no Accusative variant of Genitives possessors, there would never be any structure to which Accusative Ellipsis could apply so that there would never be gaps in such cases. In the next section I will present some evidence which supports the still stronger claim that Genitive Indirect Object gaps are never fully grammatical.

3.2 The Unboundedness of Relativization

The processes involved in the formation and interpretation of *o opios* and *pu* relatives--*wh*-movement and its associated rule of interpretation in the former case and the discourse rules of pronominal binding and Accusative Ellipsis in the second[3]--operate across unbounded contexts. I open this section with some illustrative sentences involving *pu* relatives, where the unboundedness of the processes involved is more transparent.

The following sentences may be taken as paradigmatic of the unboundedness of the rules involved in the production of *pu* relatives.

---

[3]I do not include the rules of subject pro-drop and simple Preposition deletion in my list of unbounded processes involved in the formation of *pu* relatives, since these are essentially local rules.

(32) o anθropos pu lene oti (aftos) iδe to kastro
NOM
the man that they-say that he he-saw the castle

ine plusios
he-is rich
"The man that they say saw the castle is rich."

(33) o anθropos pu lene oti nomizun oti (aftos) iδe
NOM
the man that they-say that they-think that he saw

to kastro ine plusios
the castle he-is rich
"The man that they say that they think saw
the castle is rich."

Only two points need to be made about these sentences. The greater the distance between the head N⌉ of the relative and the pronoun with which it is construed by the discourse binding rule, the more acceptable is the overt appearance of that pronoun, even without the presence of any additional contextual material. When the pronoun *does* appear it is given the interpretation of being the "one and only one" who has been the performer (in the case of subject pronouns) or object (in the case of object pronouns) of the action indicated by the verb of the clause in which it appears. Again, the presence of the Accusative object pronoun also becomes better as the relative clause is more deeply embedded. Thus, (34) and (35) are better when *ton* is present than (8) is:

(34) o anθropos pu lene oti (ton) iδe o Yanis
ACC
the man that they-say that him he-saw the John

ine plusios
he-is rich
"The man that they say that John saw is rich."

(35) o anθropos pu lene oti nomizun oti (ton)
ACC
the man that they-say that they-think that him

iδe o Yanis ine plusios
he-saw the John he-is rich
"the man that they say that they think that John saw is rich."

When the relativized $N^{\neg}$ is a Genitive pronoun (i.e. an indirect object) its absence becomes much less acceptable the further that it is separated from its head $N^{\neg}$, for those speakers who permit the non-appearance of Genitive $N^{\neg}$'s at all. Thus (36) and (37) are much less acceptable for these speakers than was (28) and are even ungrammatical for one of these speakers.

(36) o anθropos pu lene oti o Yanis (tu)
GEN
the man that they-say that the John to-him

eδose to vivlio ine plusios
he-gave the book he-is rich
"the man that they say John gave the book is rich"

(37) a anθropos pu lene oti nomizun oti (tu)
GEN
the man that they-say that they-think that to-him

eδose o Yanis to vivlio ine plusios
he-gave the John the book he-is rich
"the man that they say that they believe John gave the book is rich"

This configuration of data is suggestive of the Law of Aggravation proposed by George (1980a, Section 6, p. 168; 1980b, Section 6, p. 154).

Law of Aggravation

Aggravating the violation that leads to ungrammatical acceptability causes it to blow up for all speakers.

This principle restricts the applicability of subsidiary processes which lead to the derivative generation of ungrammatical (but acceptable) utterances. Recall that it was suggested in the previous section that Genitive gaps were, in at least some cases, derivatively generated in violation of Filtering by Analogy. This proposal is supported by the fact that, as the distance between the head and the Genitive gap increases, acceptability decreases. If such gaps were derivativley generated in the first place, the process producing these gaps would be subject ot the Law of Agravation. On the other hand, if Genitive Indirect Object gaps were completely grammatical, there would be no explanation of this decreased acceptability, expecially since Nominative and Accusative gaps do not show a similar decrease in acceptability.

In all other cases, the same facts hold true for "multi-storeyed" relatives as hold true for "single-storey" *pu* relatives.

Before turning to the question of the unboundedness of *o opios* relatives--a question that will essentially involve the *opios* version of sentences such as (34) and (35)--let us examine the general behavior of verbs in Modern Greek which take sentential complements. The verbs listed in Section 2.4 as "verbs of saying and knowing" can occur in either of two subcategorization frames:

(38) $[_{VP}$ — $\bar{S}$]

(39) $[_{VP}$ — $[_{PP}$ ya N$^{\urcorner}]$ $\bar{S}$]

Thus, corresponding to the English sentence "they say that John saw the castle", there exist the following two sentences in Modern Greek:

(40) lene oti o Yanis iδe to kastro
they-say that the John saw the castle

(41) lene ya ton Yani oti iδe to kastro
they say about the John that he-saw the castle

This latter structure can interact with *wh*-movement in *o opios* relatives in an interesting way. When the relativized $N^{\urcorner}$ is the object of a preposition, whether simple or adverbial, all of my informants prefer to embed the complement sentence in which the relativized $N^{\urcorner}$ appears in a structure such as that given in (38); here the true unbounded nature of *wh*-movement in Greek is quite obvious:

(42) to γrafio sto opio lene oti δulevi ine
ACC ACC
the office in-the *wh* they-say that he-works it-is

mikro
small
"the office in which they say that he works is
small"

(43) to γrafio sto opio lene oti nomizun
ACC ACC
the office in-the *wh* they-say that they-think

oti δulevi ine mikro
that he-works it-is small
"the office in which they say that they think
that he works is small"

Such examples indicate that the rule of WH-Movement in Modern Greek is:

(44) COMP str WH str

Adjoin 3 to 1

where the inclusion of COMP as a constant term in the restricting class allows this rule to "penetrate" any clause.

However, when the relativized $N^{\urcorner}$ is a subject or an object,[4] two of my informants

[4]When the relativized $N^{\urcorner}$ is a possessive Genitive either strategy is possible.

prefer to embed the sentence in which it occurs in a structure like that in (39), relativizing the *ya* N⌉ phrase and construing the *wh*-pronoun with a pronoun in the complement sentence:

(44) o anθropos ya ton opio lene oti ton iδe
ACC ACC
the man for the *wh* they-say that him he-saw

o Yanis ine plusios
the John he-is rich
"the man who they say that John saw is rich"

(45) o anθropos ya ton opio lene oti nomizun oti
ACC
the man for the *wh* they-say that they-think that

ton iδe o Yanis ine plusios
ACC
him he-saw the John he-is rich
"the man who they think that John saw is rich"

(45) and (46) are particularly significant. While one of my informants finds these sentences unacceptable when the Accusative pronoun does not appear, another has found them acceptable when *ton* was missing. This is another clear instance of the operation of the discourse rule deleting Accusative pronouns which has played such a great part in the analysis presented here.

Other speakers can extract *o opios* from any position in a clause in the structure (38).

(47) ine plusios o anθropos ton opion lene oti
ACC
he-is rich the man the *wh* they-say that

iδe o Yanis
he-saw the John
"the man whom they say that John saw is rich"

(48) o anθropos o opios lene oti iδe to kastro
NOM
the man the *wh* they say that he-saw the castle

ine plusios
he-is rich
"the man who they say saw the castle is rich"

(George Savidis (personal communication) has suggested that those speakers who utilize the pleonastic construction in cases of "multi-storey" relatives do so because they disfavor the *o opios* relative structure in general.)

3.3 Relativizing into Islands

Since the rule of pronominal binding responsible for the interpretation of *pu* relatives and the rule deleting Accusative pronouns are rules of discourse grammar, it is predicted that *pu* introduced relatives should freely violate complex N⌝ islands. This is indeed the case:

(49) o anθropos pu mas ekseplikse to yeγonos oti
the man that us it-surprised the fact that

o Yanis (ton) iδe ine plusios
ACC
the John him he-saw he-is rich

Although (49) is better if the Accusative pronoun overtly appears it is still grammatical if it does not. Similar facts hold true for all the complex N⌝ analogues of the simple *pu* relatives presented in sentences (7) through (18) and (23)--(31), save that sentences in which the relativized N⌝ is a Genitive are unacceptable if this pronoun does not appear. Again, this last fact is consistent with the proposal that such gaps are never fully grammatical.

In the case of *o opios* relatives we would expect to find that it is impossible to relativize out of complex $N^{\neg}$'s and while it is not possible to move *wh*-phrases out of complex $N^{\neg}$'s d it is possible to use a strategy similar to that employed in sentences (45) and (46) to produce the same effect as relativizing out of a complex $N^{\neg}$:

(50) o anθropos ya ton opion mas ekseplikse to yeγonos
ACC
the man for the *wh* us it-surprised the fact

oti o Yanis ton iδe ine plusios
ACC
the the John him he-saw he-is rich
"the man that the fact that John saw him surprised
us is rich"[5]

Here the *wh*-phrase *ya ton opion* has its source not in the complex $N^{\neg}$ but rather as a prepositional complement in the clause containing *mas ekseplikse.* My informants have told me that, parallel to the two subcategorization frames sketched out for "verbs of saying and knowing" in (38) and (39), verbs like *ekplitto*--"surprise"--also admit of two subcategorization frames:

(51) $[_{VP}$ __ $N^{\neg}\ \bar{S}\ ]$

(52) $[_{VP}$ __ $N^{\neg}\ [_{PP}$ ya $N^{\neg}\ ]\ \bar{S}\ ]$

In (50) *ekplitto* has been inserted in a structure like that in (52). The *ya* PP has been relativized and its object *ton opion* has been construed with the Accusative pronoun within the complex $N^{\neg}$. The informant who rejected (45) and (46) when the Accusative pronoun was absent also rejected (50) when the object pronoun was omitted, while the informant who accepted (45) and (46) when the clitic was missing

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[5]Though sentences like (49) and (50) are acceptable if the complex $N^{\neg}$ precedes the verb, they become much better if this $N^{\neg}$ follows the verb. In general, the subject of an embedded clause preferentially follows the Verb, though there is no prohibition against its occurring before the Verb.

also accepted (50) when *ton* was not present.

The facts concerning *wh*-islands are a bit more problematic. While the rule of pronominal binding can freely violate such islands, as expected, the rule of Accusative deletion appears to be unable to do so, since the Accusative pronoun in sentences such as (53) cannot delete:

(53) to vivlio pu ksero kapyon pu *(to) exi δiavasi
ACC
the book that I-know someone that it he-has read

ine meγalo
it-is long
"the book that I know someone that read it
is long"

Consideration of this sentence brings us back to an examination of the conditions under which the rule of Accusative deletion applies. We have already seen this rule in operation in Section 2.1.4, deleting pronouns associated with the intensifier *o iδios*. It was shown there that the rule of Accusative deletion will apply to pronouns which are Third Person and Accusative. However, while this is a necessary condition for the operation of this rule, it is not sufficient, since we have already seen cases where the rule has failed to apply when expected. The question then arises: is there any common factor in those instances when it fails to apply? So far I have been able to find none. However, it does appear that this rule typically applies in contexts which are in some sense "emphatic". It applies to pronouns linked to *o iδios*, which is emphatic, as well as in relative clauses. This much is clear. However, the more general factors affecting its applicability are unclear to me and I must leave the investigation of such factors as a topic for further study.

3.4 Counter Analyses

Before bringing this chapter to a close I wish to look briefly at two alternative analyses of *pu* relatives. The first would derive the gaps which appear in them by the movement of a *wh*-pronoun and the subsequent deletion of that pronoun. If the *wh*-pronoun is taken to be *pu* there are several arguments against this proposal. As was shown in Section 2.4 *pu* never patterns as an $N^{\neg}$. Further, though the fact that Accusative and Genitive pronouns can appear in *pu* relatives does not constitute evidence that *wh*-movement has not taken place--since such clitics may have been generated as clitic doubles to the moved and deleted *wh*-pronouns--the fact that strong pronouns always appear when the relativized $N^{\neg}$ is the object of a secondary simple preposition does. Since there is no gap in such sentences, it is impossible to posit *wh*-movement as constituting the relativization process in such cases.

Moreover, even if one allowed a mixed theory of *pu* relatives in which *pu* relatives which contain no gaps are generated as full sentences, with the rule of pronominal binding linking the head $N^{\neg}$ and a pronoun in the *pu* clause, while the cases which contain gaps are taken to be the result of *wh*-movement and deletion, this theory would still make incorrect predictions. Notice that, although the usual way of forming an *o opios* relative in which the *wh*-phrase is a possessive $N^{\neg}$ is to front the entire $N^{\neg}$ in which the *wh*-pronoun appears (as in (3)), it is also possible to move the *wh*-pronoun alone:

(54) o anθropos tu opiu aγapo tin kori ine plusios
GEN
the man of-the *wh* I-love the girl he-is rich
"the man whose daughter I love is rich"

as is consistent with the general facts concerning the possibility of extracting Genitive from $N^{\neg}$ discussed in Section 2.2.

Therefore, if the "gaps" in *pu* relatives are the result of *wh*-movement and

deletion, we should expect to find cases in which the relativized $N^{\neg}$ is a possessive Genitive in which no overt Genitive pronoun appears because the possessive *wh*-pronoun has been moved and deleted. However, we have seen that in such cases the possessive Genitive pronoun must appear. Hence, even the weaker proposal cannot be maintained.

The second alternative (which is in fact the analysis adopted in previous generative treatments of *pu* relatives by Andrews (1975, 154-159), Maling (1977), and Joseph (1978, Chapter X; 1980)) would posit that the gaps produced in *pu* relatives is the result of a construction-specific rule of Relative Deletion. This analysis is untenable for a number of reasons. First, *pu* relatives containing Nominative gaps would have an ambiguous analysis (as Joseph (1980) points out): these Subject gaps could be produced by the Relative Deletion rule or by the general rule of Subject Pro-Drop, since there is no independant means of preventing this rule from applying in *pu* relatives. This shows that, in at least some cases, a separate rule of Relative Deletion is unnecessary. A second and more serious objection is that the rule positing a rule of Relative Deletion does not predict the distribution of gaps in *pu* relatives that is observed. The analysis which I have proposed predicts that the only gaps which may occur in *pu* relatives are those produced by the rules of Subject Pro-Drop and Accusative Ellipsis. Recall that Accusative Ellipsis applies only to Third Person pronouns. The analysis proposed here would be strengthened if, in relative clauses on First or Second Person pronominal heads, Accusative gaps were impossible. This turns out to be the case.

(54) tora me kiniγun emena pu *(me) vasanisan
ACC ACC
now me they-pursue me that me they-tortured

para poli
beyond much
"now they are pursuing me, who have been tormented
too much"

(55) yati sas kiniγun esas pu *(sas) vasanisan
ACC ACC ACC
why you they-pursue you that you they-tortured

para poli
beyond much
"why are they pursuing you, who have been
tormented too much"

Again, the analysis proposed here predicts that Genitive gaps are impossible, since there is no independent rule deleting Genitive pronouns. As was shown above, in those cases in which Genetives do not have Accusative alternants, gaps are indeed impossible. None of these facts is predicted by the analysis which posits a separate rule of Relative Deletion, and, in fact, the Relative Deletion rule would need to be subject to *ad hoc* constraints to duplicate the configuration of gaps which is predicted by the theory which produces these gaps via the construction independant rules of Subject Pro-Drop and Accusative Ellipsis.

(These restrictions on the position of gaps in *pu* relatives were pointed out previously by Bakker (1971). Bakker conducted a detailed survey of the syntactic behavior of such relatives in the *Erotokritos*, a 17th Century epic poem. Though this work is over two centuries old, the language in which it is written is comparable in syntax to the contemporary language. He observed the following restrictions:[6]

[6]Bakker treats *pu* as a relative pronoun, so that he interprets sentences in which a pronoun occurs within a *pu* relative as case of "reinforcement" of the pronoun *pu*.

> We shall first occupy ourselves with those cases where the relat. pronoun is always reinforced, i.e. cases where it might be said that reinforcement appears to be necessary. Instances of this kind are in the first place those where the antecedant does not denote the 3d person, but the 1st or the 2d.
>
> (*op. cit., p. 310*

> Reinforcement also occurs everywhere where the relat. pronoun *pu*...refers to a possessive Genitive or any object (either direct or indirect) expressed by *tu* and suchlike.
>
> (*op. cit.*, p. 311)

> The first problems arise when we look at those cases where *pu*...refers to an Accusative of the 3d person, as in one case the relat. pronoun is reinforced, but in another case it is not.
>
> (*op. cit.*, p. 312)

He concludes that, in this last instance, "reinforcement" occurs under conditions of emphasis. He also makes a suggestion which has been confirmed by the present study.

> Experience (just experience, not to be confused with knowledge based upon research) tells me that in general the rules discovered in the *Erotokritos* may also hold good for the present-day language.
>
> (*op. cit.*, p. 309, n. 3)

Bakker's study suggests that the analysis of *pu* relatives proposed here holds good through the different stages of Modern Greek, beginning in the 17th Century, when Modern Greek first crystallized as a language separate from Byzantine Greek.)

In conclusion, the analysis presented here explains the general behavior of *pu* and *o opios* relatives in terms of processes which seem to be quite general in the grammar of modern Greek and which interact with various construction and dialectal features in fairly natural ways. Although there are still many areas of this proposed analysis in which further research must be done, none of them seem to pose any serious problems for the proposed analysis.

Chapter Four

Modern Greek Complement Clauses

As pines
keep the shape of the wind
even when the wind has fled and is no longer there,
so words
guard the shape of man
even when man has fled and is no longer there.

--George Seferis, "On Stage"

In this section I examine complement clauses in Modern Greek, concentrating particularly, but not exclusively, on those containing the modal particle *na*. It is shown that, in line with the predictions made in Sections 1.2.3 and 2.5, such clauses behave like finite clauses and that apparent Raising, EQUI and Control constructions in Modern Greek freely violate all conditions of sentence grammar, applying to direct and indirect object positions; this confirms the hypothesis that the interpretation of such structures is effected by the operation of the discourse pronominal binding rule. It is also shown that, in some instances, other, independent, principles apply to rule out the desired binding relations. Some suggestions are made as to what the explanation for these restrictions might be, but no firm conclusions are drawn.

4.1 The Selection of Complement NA Clauses

Before turning to the actual analysis of *na* clauses, it is first necessary to consider how the selection of such clauses is to be effected. It is well known that various Verbs which take clausal complements impose certain selectional restrictions on

those clauses. Such restrictions include:

1. Choice of Complementizer (see Section 2.4 for some discussion of the Complementizers selected by different verbs).

2. Choice of mood (i.e. whether Subjunctive is required or not; this amounts to a restriction on whether *na* must appear or not. See Section 2.5 above for some discussion of the moods of Modern Greek).

3. Choice of Aspect. Certain verbs require that their clausal complements bear a certain Aspect. Among those verbs which require Imperfective Aspect are:

(mu) aresi	"(I) like to"
arxizo	"begin"
eksakoluθo	"continue"
maθeno	"learn"
pavo	"cease"
stamato	"stop"
sinexizo	"continue"
siniθizo	"be wont to"

while those which require Perfective Aspect include:

elpizo	"hope"
perimeno	"expect"
fovame	"fear"
ine etimos	"be ready, be about to"
ine i sira (su)	"be (your) turn"
ine ora	"be time"

(For further discussion of these restrictions see Kantranides (1967) and Bakker (1970).)

How are such facts to be handled in the framework proposed here? Careful consideration shows that these facts may be explained quite readily, under the assumptions concerning the form and functioning of selectional rules and the categorial status of $\bar{S}$ made here. Recall that, in Section 1.1, it was assumed that $\bar{S}$

was in fact the maximal projection of V, i.e. was $V^{\urcorner}$. Given this analysis of $\bar{S}$, then, all features of V will automatically percolate to $\bar{S}$, under the feature percolation mechanism necessary to *all* versions of the X-bar theory. (See e.g. Harris (1945) for an excellent introduction to the notion of feature percolation, though the term is not used there.)

It might be objected that features such as Mood and Aspect are not *inherent* features of V, and, hence, are not subject to feature percolation. However, this proposed instance of feature percolation is exactly parallel to another well-known example of percolation of a non-inherent feature: specifically, the percolation of Case within $N^{\urcorner}$. Case is not an inherent feature of $N^{\urcorner}$, yet it clearly is subject to feature percolation, since in inflected languages the Case of a particular $N^{\urcorner}$ appears on all its dependants, such as Determiners, Adjectives, Demonstratives, etc. as well as on its head Noun. Thus, I assume that just as Case, which appears on N, percolates within $N^{\urcorner}$, features such as Aspect/Tense, which appear on V, percolate within $V^{\urcorner}$. This, clearly, is the simplest and most natural state of affairs. It would require a complication of the theory of grammar to constrain feature percolation so that it did not operate in a parallel fashion across categories.

At this point, then, selection of various subcategories of $V^{\urcorner}$ is exactly parallel to selection of particular categories of $N^{\urcorner}$. Under the assumption (of Section 1.1) that features in fact are semi-terminal elements and, thus, are minor specifiers of the categories in which they appear, selectional rules will be able to analyze such features without violating Finiteness. (Recall that Finiteness allowed a rule to "penetrate" a clause by mentioning a minor specifier of that clause. Given that features are (minor) specifiers of clauses, selectional rules will be able to analyze them.)

4.2 "Raising" in Modern Greek

In this section, I consider structures for which a Raising analysis has been proposed in previous generative work in the syntax of Modern Greek. I show that, contrary to these analyses, and, in line with the analysis adopted here, there is no need to postulate any Raising operation: the $N^{\neg}$ which appears in the matrix clause can be linked to any position in the complement clause, subject to occasional restrictions which are different from and independent of the Finiteness condition. I also consider the possible origins of these "Raising" constructions. Finally, I end this section by evaluating two alternative analyses of the "Raising to Object" construction.

4.2.1 "Raising to Subject"

Perlmutter and Soames (1979, 159-169) present an analysis of certain structures in Modern Greek which they take to be the result of the process of Raising to Subject. Their examples include the following:

(1) i kopeles fenonde na fevγun
NOM
the girls they-seem NA they-leave
"the girls seem to be leaving" (P&S, (11))

(2) emis fenomaste na nikyomaste apo aftus
NOM
we we-seem NA we-are-defeated by them
"we seem to be being defeated by them" (P&S, (13))

Noting that the complement clauses in such cases bear Person and Number agreement, unlike their counterparts in English, which are infinitives, Perlmutter and Soames analyze these examples as cases of "Copy Raising" in which a pronominal copy of the "Raised" subject is left behind in the complement clause.

(This pronominal copy is later deleted by the general rule of Subject Pro-Drop.) They utilize their analysis of these examples to construct an argument for the strict cycle. Given that a copy of the Raised element is left behind in the lower clause, it should be expected that this copy should be susceptible to Passivization. However, such examples are ungrammatical, as (3) and (4) show.

(3) *i kleftes fenonde na skotonete
NOM
the thieves they-seem NA he-is-killed

o iδioktitis tu maγaziu apo aftus
the owner of the store by them (P&S, (45)b.)

(4) *i kleftes fenonde na skotonete
NOM
the thieves they-seem NA he-is-killed

apo aftus o iδioktitis tu maγaziu
by them the owner of the store (P&S, (45)c.)

Given the strict cycle as a principle of universal grammar, their argument goes, the ungrammaticality of such "sneaky Passives" (Perlmutter and Soames' term) is predicted. (I return to such examples at the end of this section.)

However, to my knowledge, *no* workers in Modern Greek syntax have ever attempted to see if "Raising" out of finite clausal complements is, in general, possible from positions other than subject. Given the hypothesis being explored here, that processes which appear to violate Finiteness are, in fact, effected by the discourse rule of pronominal binding, the following analysis of such examples is suggested. The matrix subject is base generated in place and is linked to a pronoun in the complement clause (this pronoun, in the case of subjects, will usually be deleted by the rule of Subject Pro-Drop) by the discourse rule of pronominal binding. Two predictions then follow: under cases of emphasis, the subject pronoun will appear; and, barring the effects of any independent constraints on the

operation of the binding process, the complement subject should be capable of being linked to non-subject positions, as well. Both of these predictions are, in fact, borne out. Perlmutter and Soames provide examples which accord with the first prediction. In these sentences the subject of the complement clause appears overtly, along with the intensifying adverb *mono* "only".

(5) o filos mu fenete na kerδizi
NOM
the friend of-me he-seems NA he-wins

to peγniδi mono aftos
NOM
the game only he
"only my friend seems to be winning the game" (P&S, (31))

(6) i kleftes fenonde na skotonun
NOM
the thieves they-seem NA they-kill

ton iδioktiti tu maγaziu mono afti
NOM
the owner of the store only they
"only the thieves seem to be killing the owner of the store" (P&S, (40))

Also, native speakers find the following examples grammatical. Note that, interestingly enough, "Raising" may take place out of all three of the complement types selected by *fenome*--"seems": indicative clauses introduced by the Complementizer *oti*; Subjunctive clauses introduced by *san* and containing *na*, roughly translatable as "as if"; and Subjunctive complements containing *na*.

(7) o yanis fenete oti aγapay tin Maria
NOM
the John he-seems that he-loves the Mary

(8) o yanis fenete san na aγapay tin Maria
NOM
the John he-seems as NA he-loves the Mary

(9) o yanis fenete na aγapay tin Maria
NOM
the John he-seems NA he-loves the Mary
"John seems to love Mary"

(10) o yanis fenete oti kapyos ton ktipise
NOM ACC
the John he-seems that someone him he-hit

(11) o yanis fenete san kapyos na ton ktipise
NOM ACC
the John he-seems as NA someone him he-hit

(12) o yanis fenete na ton ktipise kapyos
NOM ACC
the John he-seems NA him he-hit someone
"John looks like someone hit him"

(13) o yanis fenete oti tu aresi i Maria
NOM GEN
the John he-seems that to-him she-pleases the
Mary

(14) o yanis fenete san na tu aresi i Maria
NOM GEN
the John he-seems as NA to-him she-pleases the
Mary

(15) o yanis fenete na tu aresi i Maria
NOM GEN
the John he-seems NA to-him she-pleases the Mary
"John seems to like Mary"

Moreover, "unraised" equivalents of the above sentences are also grammatical in Modern Greek. This optionality of "Raising" in Modern Greek is strikingly

different from the situation in English, where Raising is either obligatory (when the complement of the Raising verb is an infinitive) or impossible (when the complement is finite).

(16) fenete oti o Yanis aγapay tin Maria
NOM

(17) fenete san na aγapay o Yanis tin Maria
NOM

(18) fenete na aγapay o Yanis tin Maria
NOM
"it seems that John loves Mary"

Given that such examples bear out the predictions of the central claim of this thesis, how is the ungrammaticality of examples (3) and (4) to be explained? It seems, in fact, that there is an independently motivated constraint that rules out coreference to the $N^{\neg}$ position of an agent phrase, a constraint that was previously pointed out by Ross (1970) and Grinder and Postal (1971), who note the ungrammaticality of the following examples (grammaticality judgements given in (19) and (20) are those of the researchers cited):

(19) ??Tom$_i$ thinks that it was given by him$_i$ to your sister (Ross (1970, (38)))

(20) *Max$_i$ said that Erica was kissed by him$_i$ (Grinder and Postal (1971, (3)b.))

There is an English analogue of the Modern Greek construction under analysis here, namely the "looks like" construction. (This was pointed out to me by Leland George.) Like the Modern Greek examples, it exists in both "Raised" and "non-Raised" forms:

(21) John looks like he just got into a fight

(22) It looks like John just got into a fight

"Raising" can take place from positions other than subjects:

(23) John looks like somebody just gave him a sock

(24) John looks like somebody just beat him up

And, finally, "Raising" cannot take place from an agent phrase:

(25) John looks like he just robbed a bank

(26) *John looks like a bank was just robbed by him

The Modern Greek and the English examples share the same characteristics: there is a "Raised"/"unRaised" alternation that cannot be explained transformationally, since it would violate Finiteness. The only problem is the last restriction, on "binding" into an Agent Phrase. Is this restriction to be derived from more general conditions on coreference or is it a primitive restriction of the theory? In either case, the operation of this constraint in the examples under analysis here does not constitute any argument against that analysis, since linguistic theory in general must take this constraint into account. (Perlmutter and Soames (1979, 168-169, n.9) consider such an explanation of the ungrammaticality of examples such as (3) and (4) and reject it for the following reasons:

> To account for the ungrammaticality of these examples under Theory A, one might propose an ad hoc constraint that rules out sentences in which an object of the Preposition *apo* introduced by Passive is coreferential with an NP in the matrix clause. However, such a constraint cannot be maintained in the light of the grammaticality of sentences such as the following:

(i) *Episa ton yani*$_i$ *pos i Maria*
persuaded/1SG the John/ACC COMP the Mary
/NOM

vlafθike apo afton$_i$
hurt + PASS/3SG by him
'I persuaded John$_i$ that Mary was hurt
by him$_i$'

Such examples may show that an absolute prohibition on coreference into Agent Phrases may be too strong. However, Ross's (1970) and Grinder and Postal's (1971) discussions, as well as the ungrammaticality of example (26), show that this constraint in not ad hoc and that, in some form, it must play a part in syntactic theory.)

Moreover, Warburton (1975) has noted that overt Agent Phrases tend to be of questionable acceptability in Modern Greek, in general. Therefore, there are several factors which rule out examples (3) and (4), independently of the analysis proposed here.

4.2.2 "Raising to Object"

Drachman (1970), Joseph (1976; 1978), Cole and Hermon (1979) and Perlmutter and Soames (1979) have all presented purported examples of a "Raising to Object" construction in Modern Greek.

(27) θelo ton Yani na fiγi
ACC
I-want the-John NA he-leaves
"I want John to leave" (J76, (1)b.)

(28) θeoro ton Yani pos ine eksipnos
ACC
I-consider the John that he-is smart
"I consider John to be smart" (J76, (2)b.)

(29) o Yanis nomizi ti Maria pos efaγe to fayito
ACC
the John he-thinks the Mary that she-ate the food
"John thinks Maria to have eaten the food"
(C&H, (23))

(30) afisa ton Yani na ksekurasθi
ACC
I-let the John NA he-rests
"I let John rest" (P&S, (24)a.)

Again, because of the presence of Person and Number agreement in the complement clause, such "Raising" examples have been analyzed as instances of "Copy Raising" (by Drachman, Joseph and Perlmutter and Soames). An interesting fact distinguishes "Raising to Object" in Modern Greek from "Raising to Subject". As far as I know, all Greek speakers accept examples of "Raising to Subject" with verbs such as *fenome* as well as their unRaised counterparts. However, a similar situation does not hold in the case of "Raising to Object". As Joseph (1975, n.3) notes: "the Raising construction with *θelo* is not common in Greek and is somewhat archaic and stylistically marked". Moreover, some of the informants with whom I have worked reject such examples and those speakers who do accept "Raising to Object" impose various limitations on it. I have found only one speaker who accepts examples such as (28) and (29) (i.e. cases in which "Raising to Object" crosses a Complementizer) and even this speaker only permits "Raising to Object" across a Complementizer with a single Verb: *θeoro*. Another speaker permits "Raising to Object" only for the verbs *afino*--"let"--and *θelo*--"want". For both these speakers, the preferable form is the "unRaised" construction. However, the same characteristics which distinguish "Raising to Subject" in Modern Greek from

the usual Raising construction distinguish the "Raising to Object" examples as well. Under emphasis, the "copy" of the "Raised" subject may appear. (Recall that *o iδios* is an intensifying element like the intensifying reflexive *himself* in English.)

(31) afisa ton yani na kerδisi aftos
ACC NOM
I-let the John NA he-wins he

o iδios to peγniδi
the same the game
"I let John himself win the game" (P&S, (28))

And "Raising" is permitted, once again, from positions other than subject:

(32) (ton) θelo ton Yani na aγapay tin Maria
ACC ACC ACC
(him) I-want the John NA he-loves the Mary
"I want John to love Mary"

(33) (ton) θelo ton Yani na ton aγapay i Maria
ACC ACC ACC NOM
(him) I-want the John NA him she-loves the Mary
"I want Mary to love John"

(34) (ton) θelo ton Yani na tu aresi i Maria
ACC ACC GEN NOM
(him) I-want the John NA to-him pleases the Mary
"I want John to like Mary"

(35) (ton) θelo ton Yani na tu δosi
ACC ACC GEN
(him) I-want the John NA to-him she-gives

to vivlio i Maria
NOM
the book the Mary
"I want Mary to give the book to John"

(36) (ton) afisa ton Yani na aγorasi ena vivlio
ACC
I-let the John NA he-buys a book
"I let John buy a book"

(37) (ton) afisa ton Yani na tu δosun ena vivlio
ACC ACC GEN
I-let the John NA to-him they-give a book
"I let John be given a book"

(38) (to) afisa to vivlio na to parusiazi i Avyi
ACC ACC ACC
(it) I-let the book NA it it-presents the Avyi
"I let *Avyi* [Greek newspaper] announce the book"

(39) θeoro ton Yani pos aγapay tin Maria
ACC
I-consider the John that he-loves the Mary
"I consider John to love Mary"

(40) θeoro ton Yani pos ton aγapay i Maria
ACC ACC
I-consider the John that him she-loves the Mary
"I consider John to be loved by Mary"

(41) θeoro ton Yani pos tu aresi i Maria
ACC GEN
I-consider the John that to-him she-pleases the
Mary
"I consider John to like Mary"

A few comments are in order about these examples. First, the crucial feature about examples (33) and (38) is that they can appear with a clitic double in the matrix clause. This is important because, as Joseph (1976, 273, n.1) notes, the mere appearance of the lower object N⌝ before *na* does not indicate that it is part of the matrix clause. As was noted in Section 2.5 above, *na* does not mark a clause boundary. Thus, such examples without a matrix clitic double could be produced by the normal rule of Modern Greek which fronts emphasized elements within a clause. However, since clitic doubling is "clause bounded", the fact that clitic doubles *can* appear in such examples shows that the Accusative N⌝ in question is part of the matrix clause. Second, although, in the grammatical cases of "Raising to Object" given here, the matrix clitic double of the "Raised" N⌝ can generally either appear or not, without affecting the acceptability of the sentence, (34) is better (for some speakers) if the matrix clitic double appears, though the cliticless version is also possible. The most curious fact about these examples is that (35) is unacceptable for some speakers whereas (37), which is almost point by point identical in the relevant respects, is perfectly fine. At present, I have no non ad hoc explanation of this difference.

4.2.3 Possible Origins of the "Raising" Structures

I have hypothesized that, in those examples which have been analyzed as instances of "Raising" in Modern Greek, no "Raising", in fact, takes place. Rather, the element which was treated as "Raised" in previous analyses is now taken to be base generated in the matrix clause and linked to a pronoun in the complement clause via the discourse rule of pronominal binding. The question now arises as to *how* such structures arose. Given that, in both instances, "unRaised" variants are also possible and given, further, that the relation between "Raised" and "unRaised" variants is not established by a productive movement rule, but, rather, is created by

the existence of dual subcategorization frames for each of the Verbs which permits "Raising", how is the language learner given additional evidence to posit the extra subcategorization frame? (I assume that a lexical solution to a case of alternating structures, which postulates dual subcategorization frames, is more "expensive" than a movement analysis.)

I will begin with the case of "Raising to Object". Recall that *na* clauses typically do not occur with overt Complementizers. Hence, the left boundary of such clauses is not clearly demarcated. Moreover, when constituents are emphasized in such clauses by being fronted, they appear before *na*. In such examples, then, there is not always a clear indication as to whether the fronted element is a constituent in the matrix clause or the subordinate clause under certain circumstances. Opacity arises, in particular, in two cases. These are: when the fronted element is Nominative and both clauses are marked for the same Person and Number; and, when the fronted element is Accusative. The second of these two cases of opacity is the relevant one here. Such cases could be analyzed as instances in which an object of the lower clause was fronted for emphasis or as structures in which the Accusative was base generated in the object position of the matrix clause and linked to an $N^{\neg}$ position in the complement clause. Thus, it is possible to analyze "Raising to Object" structures as cases in which a fronted element of the lower clause was reanalyzed as a base generated object in the matrix clause. (Note that, under this analysis, it is cases of "Raising to Object" from *Object* position which are responsible for the postulation of the base generated structure.)

This analysis has the advantage that it explains why the "Raising to Object" construction is not accepted by all speakers of Modern Greek. First, in order for speakers to incorporate this structure in their grammars they must postulate dual lexical insertion frames for the Verbs in question. In order to do this, they must receive positive evidence. The necessary evidence is of a restricted sort, which might

not be sufficiently represented (or present at all) in the corpus from which a given speaker constructs his grammar. Hence, not all speakers need possess this construction. This analysis also explains why cases of "Raising to Object" with Verbs like *afino* and *θelo*, which have no overt Complementizers, are more common than cases of "Raising to Object" with Verbs that take overt Complementizers. In the former case, such opaque structures *might* be presented to the language learner of Modern Greek. In the latter case, such data would not be available.

(Note, however, that this analysis does not immediately extend to the cases of speakers who permit "Raising to Object" from clauses with overt complementizers. It is striking, however, that the Verbs of this type which have been cited in discussions of "Raising to Object" in the linguistic literature were already discussed in Chapter 3 above. These are the Verbs which take either a clausal complement or a *ya* phrase followed by a clause. Perhaps, then, such Verbs have acquired an [__ N] V]] subcategorization frame from corruption of the pleonastic construction with *ya*. It is especially noteworthy in this regard that speakers who do not possess "Raising to Object" with such Verbs, *do* permit the structure *ya* phrase + clause.)

A similar analysis might be put forward for the origin of "Raising to Subject" structures. Modern Greek possesses a rule of Topicalization which moves a constituent from a subordinate clause to clause initial position of a dominating clause. Householder, Kazazis and Koutsoudas (1964, 170) note that certain *na* constructions display "often the phenomenon of proleptic order; that is, the subject of the *na*-clause is brought out and placed before the impersonal verb". They give as an example the pair of sentences:

(42) i γami tus apofasistike na yinun
the weddings of-them it-was-decided NA they-take-
place
tin Kiriaki
the Sunday
"it was decided that their nuptials would take
place on Sunday"

(44) apofasistike na yinun i γami tus tin Kiriaki

Note particularly that, in example (42) there is no Person and Number agreement between the fronted element and the matrix verb. In cases in which the fronted element is singular, however, the language learner would once again be faced with the difficult decision between treating this element as base generated in the matrix clause and linked to a pronoun in the lower and treating it as fronted by topicalization. Moreover, if topicalization into matrix clauses is more common than fronting in subordinate *na* clauses, the difference in the distribution of "Raising to Subject" and "Raising to Object" structures would be explained. Though I have not investigated the validity of these proposals, they seem reasonable, and would help explain why such "Raising" structures exist in Modern Greek. Finally, given this fronting rule, it is to be expected that, even in the case of "Raising to Object" constructions there should be examples such as the following, which are structurally ambiguous:

(44) aftus *θ*elo na (tus) di o Yanis
ACC ACC
them I-want NA them he-sees the John
"I want John to see them" (T, 80)

Is *aftus* in this example fronted from "Raised" position in the matrix clause or fronted from object position in the complement clause?

4.2.4 The Idiom Chunk Argument for Raising in Modern Greek

In the above discussion, I have tried to show that so-called "Raising" structures in Modern Greek do not involve movement at all, but, rather, are base-generated. Only one serious distributional argument has been put forth in the published literature to support the claim that the constructions analyzed in this section *should* be analyzed as the result of "Copy Raising". This is the argument from idiom chunks. (Many of the researchers cited above have also used the fact that a reflexive may appear in the object position of "Raising to Object" verbs to show that Raising takes place in such examples. However, this merely shows that the Accusative N⌝ which appears in such instances is a constituent of the matrix clause, a fact which is *not* under dispute. This, of course, does not show that this object has been derived by Raising.)

Perlmutter and Soames (1979, 157) point out the existence of the following idiom in Greek.

(45) o kombos ftani sto xteni
the knot arrives at-the comb
"Things are coming to a head"
(P&S, (14))

and show that it can occur in both the Raised and unRaised constructions with *fenete.*

(46) fenete oti o kombos θa ftani sto xteni
it-seems that the knot FUT it-reaches to-the comb
"It is likely that things will come to a head"
(P&S, (15))

(47) o kombos fenete na ftani sto xteni
the knot it-seems NA it-arrives to-the comb
"Things seem to be coming to a head"
(P&S, (16))

Note, however, that this sentence does not show that "Raising", in the required sense, has taken place in such examples. Recall that Modern Greek possesses an

independently motivated rule, as shown by examples such as (42), which moves elements out of lower clauses, topicalizing them in effect. Thus, the only evidence that could show that "Raising" has taken place in this example would be the demonstration that person and number agreement existed between the matrix Verb and the supposedly "Raised" item. Since the idiom chunk in question, *o kombos*, is singular, and since *fenete* normally appears in the singular when it is used in impersonally, there can be no such argument here.

Similar arguments were presented by Joseph (1976), to show that "Raising to Object" takes place in Modern Greek. He notes the existence of the following two idioms in Modern Greek:

(48) δino ksilo se kapyo
I-give wood to someone
"I spank someone"

(49) ksilo pefti (se kapyo)
wood it-falls on someone
"someone gets hurt/suffers (in a fight)"

and uses the purportedly "Raised" character of the following examples to justify the "Copy Raising" analysis, since they are supposed to show the Raising of an idiom chunk.

(50) θelo ksilo na tu δoθi
CASE?
I-want wood NA to-him it-is-given
"I want him to be spanked" (J76, (7))

(51) θelo ksilo na pefti se afton
CASE?
I-want wood NA it-falls on him
"I want him to suffer (in the fight)" (J76, (9)a.)

(52) θeoro ksilo na exi pesi se afton
CASE?
I-consider wood NA it-has fallen on him
"I consider him to have suffered (in the fight)"

(J76, (9)b.)

One of my informants has told me that these three examples are "unidiomatic" and that the correct form of the idiom in (49) is *pefti ksilo* and that it does not permit a *se* phrase. However, even if these examples are perfectly grammatical, they do not show that "Raising" has taken place because they are ambiguous as to whether *ksilo* is present in a constituent of the lower clause or of the matrix clause. *ksilo* is a neuter noun and, like neuter nouns throughout all stages of the Greek language, has the same phonetic shape in the Nominative and Accusative Cases. Hence, in these examples, it is not clear what Case it bears (hence, the notation "CASE?" in their glosses) and, consequently, what clause it belongs to. However, Perlmutter and Soames *do* present an example of a "Raising to Object" construction involving an idiom chunk.

(53) o Yanis afise ton kombo na ftani sto xteni
ACC
the John he-let the knot NA it-reaches to-the
comb
"John let things come to a head" (P&S, (22))

Here *ton kombo* is clearly Accusative and, hence, is part of the matirx clause.

What is to be made of this? Notice that, although *o kombos* is used idiomatically in examples such as (45)--(47), it is a freely occurring Noun of Modern Greek. That is, it is not limited in distribution so that it appears only in this idiom. Thus, this example does not make the strongest possible argument for a transformational (movement) derivation of (53). If *o kombos* occurred only in the context [__ ftani sto xteni], then it would be necessary to posit a transformational analysis

of (53), simply because there would be no lexical insertion rule that could insert *o kombos* as the object of *afino*. In this example, however, the only problem is a complication of the idiom interpretation rule, which must apply at a derived level rather than in Deep Structure.

Consideration of similar examples involving the "looks like" construction in English may help make this point clear. In English, there exist the following two types of idioms:

1. Idioms such as "the cat's got X's tongue" and "X kicked the bucket" where the lexical items which make up the idiom freely occur elsewhere in English. Such idioms, then, are distinguished not by structural limitations on the occurrence of the lexical items which appear in them, but, rather, by their non-compositional meanings.

2. Idioms such as "make headway", "take advantage of", and "keep tabs on". Such idioms either contain lexical items which are of restricted distribution (such as "headway") or consist of structures which do not freely occur (e.g. there is no general structure of the form "take NP of NP"--such as "*Bill took books of John"--in English).

It is only the latter sort of idiom that can be used to demonstrate the existence of Raising. Contrast examples (54)--(59) which contain idiom chunks of the second sort (from examples which might be called restricted idioms) with (60)--(62), which contain idioms of the first sort.

(54) Tabs appear to have been kept on Lambrakis
up to the day of his assassination

(55) Headway appears to have been made by
PASOK in the last election

(56) *Tabs look like they were kept on Lambrakis

(57) *Tabs look like the colonels kept them on
Lambrakis

(58) *Headway looks like it was made by PASOK

(59) *Headway looks like PASOK made it

(60) The cat seems to have John's tongue

(61) The cat looks like it's got John's tongue

(62) The bucket looks like John kicked it

The crucial difference here is between examples (56)--(59) and (60)--(62). Those idiom chunks which are part of restricted idioms cannot appear as the subject of "looks like", as is predicted by the analysis of this construction which treats it as base-generated, rather than as derived by movement. Since no movement takes place in these cases, and since the idiom chunks in question (e.g. "headway") are of restricted distribution, there is no way they could appear as the subject of "looks like". However, "idiom chunks" which consist of elements which freely occur in english can appear in this position, as is also predicted by the base-generated analysis.

All the idiom chunk arguments which have been put forth in the published literature to show that Raising exists in Modern Greek have used idiom chunks of the freely occurring type. Hence, they do not constitute solid arguments that Raising does exist in Modern Greek. (It would be most desirable to find restricted idioms in Modern Greek and to observe their behavior in "Raising" structures. Unfortunately, I have been unable to discover idioms of this type in Modern Greek.)

4.2.5 Counter Analyses

In this Section I have made two claims concerning the proper analysis of so-called "Raising" constructions in Modern Greek. I have tried to show that such examples do not, in fact, involve any Raising and, moreover, that they are base-generated essentially "as is". Before concluding this Section, I will consider two alternative proposals that accept (at least to a limited degree) the first of these claims while rejecting the second.

The first of these analyses treats "Raising to Object" examples as the result of fronting an $N^{\urcorner}$ within the complement clause, followed by Case Attraction of the fronted $N^{\urcorner}$. (I use "Case Attraction" as a purely phenomenal term for the moment.) While this analysis might seem plausible initially, there are empirical and theoretical arguments against it.

First, this analysis cannot deal with cases of "Raised" subjects. Recall that in examples such as (31), reprinted here as (63), an overt Nominative pronominal phrase appears in the complement clause, "resuming" the Accusatve $N^{\urcorner}$.

(63) afisa ton yani na kerδisi aftos
ACC NOM
I-let the John NA he-wins he

o iδios to peγniδi
the same the game
"I let John himself win the game" (P&S,(28))

Even assuming that the Accusative *to Yani* originates as a Nominative $N^{\urcorner}$ which is later attracted into the Accusative, there is no possible origin for *aftos o iδios* in the same clause. This is so because, as Perlmutter and Soames point out, there is no general pronominal "doubling" of Nominative subjects, parallel to the clitic doubling of Accusative and Genitive $N^{\urcorner}$'s. Thus, (64) is ungrammatical.

(64) *i fili mu afisan na to krino eγo
NOM
the friends of me they-let NA it I-judge I

mono eγo
NOM
only I
"my friends let only *me* judge that" (P&S, (33)a.)

(Joseph (1980, 325-326) makes the same point. As he points out, (65), which contains an overt Subject, is fine. However, there is no source for this pronoun via the doubling of the complement subject, as the ungrammaticality of (66) shows:

(65) afiste me na to krino eγo
ACC NOM
you-let me NA it I-judge I
"let *me* be the judge of that" (J80, (10))

(66) *afiste me na to krino eγo eγo
ACC NOM NOM
you-let NA it I-judge I I)

In fact, the situation is a bit more complicated than Perlmutter and Soames indicate, becuse there are examples in which Nominative pronominal phrases *do* appear in utterances which contain a Nominative non-pronominal N⌝. However, these examples are somewhat awkward, and are marked by comma intonation, as in (67). (Example (64), which Perlmutter and Soames treat as ungrammatical, may also be "rescued" if *mono eγo* is given comma intonation.)

(67) o yanis efiye, mono aftos
NOM NOM
the John he-left, only he
"only *John* left"

This is less acceptable than

(68) mono o Yanis efiye

which is the normal way of saying "Only John left". However, even if there is some mechanism to produce such marked structures as (67), this mechanism cannot be responsible for the "doubling" of *ton yani* in (31)/(63), since this example is marked by none of the special intonation patterns which distinguish examples such as (67). Moreover, *aftos o iδios* appears between the verb and indirect object of the complement clause (the normal position for subjects in complement clauses) and (31)/(63) has none of the awkwardness of (67). Thus, the phrase *monos o iδios* in (31)/(63) has no possible source, if it is assumed that *to Yani* originated as the subject of the complement clause: this would require positing two Nominative positions in a Sentence, whereas, in reality, there is only one. Hence, no cases of "Raising" from subject can be attributed to fronting plus Case Attraction. At best, only a "mixed" analysis could be maintained, in which "Raising" from subject position examples are base-generated and "Raising" from other positions arises from the interaction of fronting and Case Attraction.

However, even this mixed analysis is untenable. This is so because clitic doubling of the Accusative N$^{\neg}$ can occur in either the matrix clause or the complement clause, as is shown by examples (33) and (34) (repeated here as (69) and (70), respectively).

(69) ton θelo ton Yani na ton aγapay i Maria
ACC ACC ACC NOM
him I-want the John NA him she-loves the Mary
"I want Mary to love John"

(70) ton θelo ton Yani na tu aresi i Maria
ACC ACC GEN NOM
him I-want the John NA to-him pleases the Mary
"I want John to like Mary"

The fact that clitic doubling of the Accusative N$^{\neg}$ is possible in the matrix clause

shows that the hypothetical analysis under discussion here cannot be correct, since clitic doubling is clearly "clause bounded" (i.e. is subject to the normal conditions on bound anaphora). Moreover, the fact that clitic doubling is possible in the complement clause also argues against these examples being the product of the interaction of fronting and Case Attraction. Recall that the $N^{\neg}$ which is doubled and the clitic pronoun which doubles it must bear the same Case (see Section 2.1.2 above for discussion). In example (34)/(70), however, *ton yani* is Accusative and *tu*, which doubles it (under the assumption that *ton yani* is a constituent in the complement clause) is Genitive. Hence, *ton yani* must have originally borne Genitive Case, which was later changed to Accusative. However, it is very unlikely that there really exist true Case changing rules. Though there *is* a phenomenon which is called Case Attraction, it is probable that Case Attraction in fact does not involve Case changing. Thus, there are several arguments against treating "Raising to Object" examples in the manner considered briefly here.

I turn now to an analysis of "Raising to Object" in Modern Greek which treats some "Raising" examples as base-generated, parallel to the analysis proposed here, but which also accepts that others *are* derived by Raising. In a recent paper, Kakouriotis (1980) points out that sentences such as (71) are ambiguous.

(71) *θ*elo to yatro na eksetasi ti kori mu amesos
ACC
I-want the doctor NA he-examines the daughter
of-me immediately

(K80, (22a))

This sentence can mean either "I want the doctor to examine my daughter" or "I'm looking for the doctor for the purpose of having him examine my daughter". Kakouriotis argues, plausibly, that the latter interpretation is available because of a structural ambiguity. The clause containing *na* in such examples may be analyzed as

a purpose clause since purpose clauses in Modern Greek contain the verbal particle *na*, just as some complement clauses do. Unlike clausal complements, however, purpose clauses in Modern Greek may also contain an introductory *ya* "for". Thus, replacing *na* by *ya na* in (71) forces the purposive reading.

(72) *θ*elo to yatro ya na eksetasi ti kori mu amesos

(K80, (22a'))

Given these facts, Kakouriotis proposes that Verbs such as *θelo* exist in both Raising and non-Raising forms. The Raising form takes a sentential complement, whose Subject is Raised into matrix Object position. Such Raising forms permit interpretations parallel to the first reading assigned to (71); Kakouriotis calls this a "two-termed relation": "someone wanting and what is wanted to be done" (Kakouriotis (1980, 168)). The non-Raising forms take a Direct Object and permit an (optional) purpose clause. Non-Raising forms allow interpretations like the second reading assigned to (71); Kakouriotis calls this a "three-termed relation": someone who wants or needs something, the person or thing desired, "and the purpose of this" (*op cit*, 165).

There are three assumptions which underlie this analysis. The first, implicit, assumption is that the difference between the "two-termed" and "three-termed" interpretation of so-called "Raising" constructions has a structural basis. The second, explicit, assumption is that the structure associated with each interpretation directly mirrors its nature; i.e. the "two-termed" interpretation is associated with a structure of the form:

(73) (NP_1) V [NP_2 V]

while the "three-termed" interpretation is associated with a structure of the form:

(74) (NP_1) V NP_2 [(NP_2) V]

(These structures are from Kakouriotis (1980, 167).)

The last, and most crucial, assumption is that, in both of these cases, the post-verbal clause is a complement to the matrix Verb. (Kakouriotis (1980, 168) refers to the clauses in (73) and (74) as "subordinate clauses".)

It is possible to maintain the first assumption without accepting the other two. Moreover, it is most likely that the last assumption is, in fact, incorrect, and that purpose clauses occur outside of VP. There are no Verbs in Modern Greek which require that they be followed by a purpose clause. That is, there are no Verbs in Modern Greek which subcategorize for a purpose clause. But if purpose clauses are not subcategorized, then they cannot appear within VP, and must be external to it. This, in turn, permits the difference between the "two-termed" and "three-termed" interpretations to be associated with a structural difference, without requiring the existence of a rule of Raising. That is, I propose that the "two-termed" interpretation is associated with the structure shown in (75):

(75) $(NP_1)\ [_{VP}\ V\ NP_2\ [_{V'}\ (NP_2)\ V\ ]]$

and the "three-termed" interpretation is associated with the structure in (76):

(76) $(NP_1)\ [_{VP}\ V\ NP_2\ ]\ [_{V'}\ (NP_2)\ V\ ]$

This analysis of the ambiguity of certain "Raising to Object" examples allows us to maintain the most plausible treatment of such structures: there is *never* any Raising to Object in Modern Greek. However, the base-generated matrix Object which appears in such structures may either be a sister of the following clause, or not, with associated differences in interpretation.

4.3 EQUI and Control in Modern Greek

In this section I examine Modern Greek "EQUI" and Control structures. I show that "EQUI" constructions in Modern Greek behave as predicted by the discourse

interpretation hypothesis. I also point out a particular peculiarity concerning Control Verbs in Modern Greek. Whereas some of these verbs permit Control to non-Subject positions and permit overlapping reference, others permit Control only of Subject positions. I attempt to explain this in terms of thematic conditions and other principles which have been argued to play a role in the "Control Problem" (see, e.g. Jackendoff (1972)), but no firm conclusions are reached.

4.3.1 EQUI Structures

As is to be expected from examples such as (27) above, in which it is seen that the Modern Greek equivalents of English EQUI verbs such as *θelo*--"want"--do not require an $N^{\neg}$ coreferent to their subjects in their clausal complements, these verbs also permit an $N^{\neg}$, whether overt or not, which is coreferent with the Subject in any position in the complement clause.

(77) θelo na aγapiso tin Maria
I-want NA I-love the Mary
"I want to love Mary"

(78) θelo na me aγapisi i Maria
ACC
I-want NA me she-loves the Mary
"I want Mary to love me"

(79) δen θelo na mu aresi i Maria, ma mu aresi
GEN GEN
NEG I-want NA to-me pleases the Mary but to-me
she-pleases
"I don't want to like Mary, but I do"

Since Modern Greek possesses a rule of Subject Pro-Drop, there is no need to posit any special rule of EQUI for examples such as (77).

Joseph (1976) in fact argues that there *is* a a rule of EQUI in Modern Greek,

which is distinct from the rule of Subject Pro-Drop. His arguments are based on the phenomenon of "*o iδios* float", illustrated in example (80), in which *o iδios* appears separated from the N$^{\neg}$ with which it is construed.[1]

(80) o petros$_i$ ide ton yani$_j$ o iδios$_{i/*j}$
NOM^i NOM$^{i/*j}$
the Peter he-saw the John the same
"Peter himself saw John" (J76, (28))

He argues that this rule can only apply to float *o iδios* around a complement clause only in those cases in which the clause is not "full", based on the impossibility of *o iδios* float in examples such as (81) and (82).

(81) *o petros$_i$ ipe pos i maria efiye, o iδios$_i$
NOM^i NOM^i
the Peter he-said that the Mary she-left, the same
"Peter himself said that Mary had left"
(J76, (31))

(82) *o petros$_i$ pistevi pos i yi ine tetraγoni
NOM^i
the Peter he-believes that the earth is square

o iδios$_i$
NOM^i
the same
"Peter himself believes that the earth is square"
(J76, (32))

Thus, he uses the possibility of *o iδios* float in example (83) and its impossibility

---

[1]Joseph (p.c.) has recently stated that he does not believe that the argument based on *o iδios* float goes through. However, I include a discussion of this argument to show that, even if the facts are as stated in Joseph (1976), there is no argument here for EQUI.

in (84) to distinguish between cases of EQUI, in which the subject of the complement clause has been deleted by the EQUI rule (leaving a reduced clause), and cases of "Copy Raising" in which a pronominal copy is left behind and later deleted by Subject Pro-Drop (so that these clauses are "full" at the time *o iδios* float applies).

(83) i Maria$_i$ epise ton Petro na ine kalo aγori
the Mary$_i$ she-persuaded the Peter NA he-is good boy

i iδia$_i$
the same$_i$
"Mary herself persuaded Peter to be a good boy"
(J76, (37))

(84) *i Maria$_i$ θeli ton Yani na erθi eδo
the Mary$_i$ she-wants the John NA he-comes here

i iδia$_i$
the same$_i$
"Mary herself wants John to come here" (J76, (35))

In checking these judgments with an informant who permitted *o iδios* float, I was not able to replicate the required difference in grammaticality between (83) and (84): both were bad. However, I will assume, for the purposes of this discussion, that at least some speakers get this distinction. Note that this is a very curious restriction on the rule of *o iδios* float, and, within a restrictive theory of restricting classes would seem to be unstatable. Assume for the moment that Joseph is correct: that these examples are produced by an EQUI rule, and that pruning subsequently takes place so that S or VP, rather than $\bar{S}$, remains and so that there is an external distinction between "full" and "reduced" clauses. However, unless it could be shown that the rule of *o iδios* float used a constant term or terms in its restricting class, and that either VP or S, but not $\bar{S}$ (or VP but not S or $\bar{S}$) appeared as a

constant term, this external distinction would do no good. For instance, suppose the rule were

(85) *o iδios* V

Adjoin 1 to 2

It would be necessary to stipulate the condition: "2 does not contain $\bar{S}$ or S". A similar condition would be necessary if the proper format for transformational rules were that suggested in Baltin (1978), in which a rule of the following form could be written:

(86) Adjoin *o iδios* to right bracket VP

The only possible rule which could make use of such a distinction would be one in which all possible contexts intervening between *o iδios* and the place to which it were adjoined were made part of the rule. e.g.

(87) *o iδios* $[_{VP}$ V {ø, NP, AP, VP}]

Adjoin 1 to right margin of 2

Alternatively, one could have a variable for the third term and stipulate the condition that it did not contain S or $\bar{S}$. However, such conditions are clearly undesirable extensions of the expressive power of transformations and much work in recent years has gone into their elimination (see. e.g. Chomsky (1976)). Thus, to capture this generalization in a transformational rule of *o iδios* float, it is necessary either to list all the possible right hand contexts, or to impose an unlikely (and probably unstatable) condition on a simpler rule. Moreover, the proposed convention of pruning has itself been questioned in recent work and has been rejected in most versions of EST (see, e.g. Chomsky (1973)). Thus, whatever the explanation of the facts pointed out by Joseph may be, it does not seem to lie in the existence of a rule of EQUI, distinct from Subject Pro-Drop.

Finally, over and above the theoretical objections to the existence of a systematic structural difference between clausal complements to "EQUI" verbs and other clausal complements, there is the simple fact that the complements to "EQUI" verbs *do* permit overt pronominal subjects under conditions of emphasis, parallel to the situation with "Raising" complements.

(88) o yanis θeli na filisi mono aftos tin maria
NOM
the John he-wants NA he-kisses only he the Mary
"John wants only himself to kiss Mary"

(89) o yanis θeli na kerδizi mono aftos
NOM
the John he-wants NA he-wins only he

to peγniδi
the game
"John wants only himself to win the game"

(Crucially, in examples (88) and (89), *mono aftos* appears between the verb and indirect object of the complement clause, showing that it is indeed a constituent in the lower clause.)

In conclusion, the following may be said about the existence of an EQUI rule in Modern Greek. First, given the general rule of Subject Pro-Drop in Modern Greek, there is no need to posit a separate rule of EQUI to explain the subject gaps in examples such as (77). Second, the one empirical argument which has been adduced to justify a separate rule of EQUI in Modern Greek is suspect on theoretical grounds. Finally, as examples (88) and (89) show, complements to "EQUI" verbs in Modern Greek permit overt subjects under conditions of emphasis, parallel to examples (63) and (65) above.

Thus, the facts concerning the clausal complements to "EQUI" verbs in Modern

Greek are consistent with the genral type of analysis proposed here, in which there is no distinct rule of EQUI, subject gaps are produced by the general rule of Subject Pro-Drop, and coreference is established between an $N^{\urcorner}$ in the matrix clause and a pronoun in the complement clause by the discourse rule establishing binding.

4.3.2 Control Structures

Householder, Kazazis and Koutsoudas (1964, 167-168) divide up Control verbs in Greek into three types

1. Those that require coreference between the Controller in the matrix clause and the Subject of the complement clause. They include verbs such as:

eksakoluθo	"continue"
boro	"can"
prospaθo	"try"
stamato	"stop"
epitrepo	"permit"

2. Those that allow coreference between the matrix controller and any $N^{\urcorner}$ position in the complement clause. They give as examples of this class, verbs such as:[2]

aksizo	"deserve"
siniθizo	"be wont to"
katando	"be reduced to"

3. Those that allow overlapping reference between the matrix controller and the controlled position in the complement clause. Their list of such verbs is:

apilo	"menace"

[2]Interestingly enough, Householder, Kazazis and Koutsoudas include *fenome* "seems", already discussed above, in this class of verbs.

foverizo	"threaten"
iposxome	"promise"
tazo	"promise, dedicate"

I will consider the last class of verbs first. In my informant work, I discovered that the only one of the verbs listed by Householder, Kazazis and Koutsoudas as allowing overlapping reference which did so was *iposxome*--"promise, assure". Other verbs which they cited as permitting overlapping reference either did not take sentential complements at all (such as *tazo*) or took only *oti* clauses and did not allow overlafpping reference. (*iposxome* also takes complements introduced by *pos* or, colloquially, *pu*. Overlapping reference is permitted into clauses introduced by these complementizers, as well.)

(90) su iposxome oti θa nikisume tin omaδa avrio
to-you I-promise that FUT we-beat the team tomorrow
"I promise you that we will beat the team tomorrow"

(91) su iposxome na nikisume tin omaδo avrio
to-you I-promise NA we-beat the team tomorrow
"I promise you that we will beat the team tomorrow"

(92) su iposxome oti θa pandreftume
to-you I-promise that FUT we-marry
"I promise you that we will get married"

(93) su iposxome na pandreftume
to-you I-promise NA we-marry
"I promise you that we will get married"

(In both of these latter examples, the non inclusive reading of "we" is possible.)

Interestingly enough, *iposxome* is distinguished from the control verbs which do

not permit overlapping reference in the following manner: it does not always require a controlled $N^{\neg}$ in its complement. For example, sentences like the following are possible:

(94) su iposxome oti o Yorgos θa pandrefti tin Maria
to-you I-promise that the George FUT he-marries the Mary
"I assure you that George will marry Mary"

(95) su iposxome oti na pandrefti o Yorgos tin Maria
to-you I-promise NA he-marries the George the Mary
"I assure you that George will marry Mary"

This is reminiscent of an observation made by Postal (1970) and repeated by Jackendoff (1972) regarding the Control problem. Postal pointed out that certain verbs which take finite complements impose coreference restrictions on the subject of their compelements under particular conditions, namely when the verb expressed a request for action. However, when "all that is happening is that information is being transmitted" (Jackendoff (1972, 225)), there is no such restriction. It seems, then, that this "transmission of information" use is able to permit these verbs to take complements in which overlapping reference is permitted between the controller and the controlled pronoun, since there is a use of these verbs in which no control is required at all.

The second class of verbs is that which allows control to non-subject position. This property may be seen in the following examples.

(96) δen akizis na (ti) pandreftis
NEG you-deserve NA her you-marry

afti ti kali kopella
this the good girl
"you don't deserve to marry this nice girl"

(97) δen akizis na su δinun lefta
GEN
NEG you-deserve NA to-you they-give money
"you don't deserve to be given money"

(98) δen aksizis na se voiθisi kanis
ACC
NEG you-deserve NA you he-helps someone
"You don't deserve to have anyone help you"

(HKK, 167)

(99) o Yorgos ine siniθizmenos na perni polla xrimata
the George is used NA he-takes much money
"George is used to charging a lot of money"

(100) o Yorgos ine siniθizmenos na tu δinun xrimata
GEN
the George is used NA to-him they-give money
"George is used to having people give him money"

(101) o Yorgos ine siniθizmenos na ton kalopianun
ACC
the George is used NA him they-flatter
"George is used to being flatterred"

(Householder, Kazazis and Koutsoudas (1964, 167) give a similar example with the verb *siniθizo* which also means "be used to":

(102) siniθizes na se θavmazun
ACC
you-were-used NA you they-admire
"you got accustomed to being admired"

However, my informant preferred to use *ine suniθizmenos.*)

Contrary to the case for the verbs which permit overlapping reference, these verbs do not permit "reported speech" complements. Examples such as (103) are ungrammatical:

(103) *δen ine siniθizmenos
NEG he-is used

oti o Yorgos aγapay tin Maria
that the George he-loves the Mary

na aγapisi o Yorgos tin Maria
NA he-loves the George the Mary
"he isn't used to George loving Mary"

though the equivalent factive complement is all right.

(104) δen ine siniθizmenos sto yeγonos
NEG he-is used to-the fact

oti o Yorgos aγapay tin Maria
that the George he-loves the Mary
"he isn't used to the fact that George loves Mary"

This seems to lend support to the hypothesis that it is the ability of verbs such as *iposxome* to occur in a "transmission of information" use that permits them to allow Control to pronouns which overlap in reference with the controller.

Finally, many of the verbs which take Control complements allow control only to the complement subject. This class includes verbs such as *apofasizo* "decide", *eksakoluθo* "continue", etc.

(105) tote apofasizi na min erθi
then he-decides NA NEG he-comes
"then he decides not to come" (K65, 21)

(106) o mayiras eksakoluθi na fonazi
the cook he-continues NA he-yells
"the cook continues to yell" (K65, 34))

(107) i yaya bori na to katalavi
the grandmother she-can NA it understand
"grandmother can understand it" (K65, 25))

In each example, ungrammaticality would result if the complement clause appeared with a Subject distinct from the matrix controller.

(108) *boro na me aγapay i Maria
ACC
I-can NA me she-loves the Mary

What seems to distinguish a large number of these verbs from the verbs which permit Control to non-Subject positions is the fact that they take a subject which is an actual agent. Thus, a possible explanation of the fact that these verbs do not allow control to non-Subject positions might be stated in thematic terms: Agent controllers require Agent controllees (in those cases where there is no Agent in the complement clause, perhaps the thematically highest nominal is the accessible controllee). Though this seems plausible, there are still a number of verbs in this class for which this explanation is not available, such as *boro*--"be able, can". Nevertheles, an explanation of this restriction in thematic terms does not seem far-fetched; Jackendoff (1972) has argued that thematic restrictions play a role in Control phenomena in general. However, whatever the explantion may be, this much is clear concerning the behavior of Control verbs in Modern Greek: just as in the case of "Raising" and "EQUI" verbs the choice of the position in the complement clause which is open to construal seems to be syntactically free. However, in this case, more than in the previous two instances, other, independent, constraints intervene to block some case of non-Subject controllees.

4.4 Perception Verb Complements in Modern Greek

Perception verb complements in Modern Greek are interesting in two ways. First they show, transparently, that the structure of perception verb complements is

(109) V $N^{\urcorner}$ $V^{\urcorner}$

where $V^{\urcorner}$ contains an $N^{\urcorner}$ which is construed with the object of the perception verb. Secondly, such complements display the same syntactic freedom with regard to the construed nominal that we have already seen in the preceding sections of this chapter.

The complement structure of such examples is revealed by the fact that perception verbs take $V^{\urcorner}$ complements of two types: Subjunctive complements containing *na* and Indicative complements introduced by *pu*. In each case, the $N^{\urcorner}$ which is interpreted as the object of the perception verb appears in the Accusative. In the case of those complements which are introduced by *pu*, this nominal appears to the left of *pu*. Moreover, this Accusative $N^{\urcorner}$ may appear as a clitic pronoun; in such instances, the pronoun cliticizes to the matrix Verb. All these facts show that this $N^{\urcorner}$ is outside the complement clause and is, in fact, a constituent of the matrix clause.

(110) tote *θ*a nyosis ti lipi na su kseskizi
ACC
then FUT you-feel the sorrow NA to-you it-tears

ta sti*θ*ya
the breasts
"then you'll feel sorrow tear your breast"

(K65, 40)

(111) tus vlepo na benune stin eklisia
ACC
them I-see NA they-enter to-the church
"I see them enter the church" (K65, 40)

(112) tin iδa tin Ksanθula...pu embike sti varkula
ACC ACC
her I-saw the Ksanθula that she-enters to-the boat
"I saw Ksanθula board the boat"
Dionysios Solomos, "Ksanθula"

And, as was true in the previous constructions presented in this chapter, the matrix object may be construed with any position in the complement sentence.

(113) (ta) vlepo ta peδya na ta δiokni o Yanis
ACC ACC ACC
(them) i-see the children NA them he-chases the John
"I see the children being chased by John"

It seems that the Modern Greek structures in question constitute a continuation of an older Greek construction. This possibility is suggested by the fact that similar examples of this construction have been noted in earlier stages of Greek. Joseph (1978, 320-322), drawing from work by Marlett (1976), cites the following examples from classical and Koine Greek. (Koine was the common Greek dialect in use during the Hellenisitc period; it was in this dialect that the New Testament was written.)

(114) dedoik' emauton ... mē poll' agan
I-fear myself NEG much too

eipemen' ē moi
DAT
said it-was by-me
"I fear that too much has been said by me"
(Sophocles, Oedipus Tyrannus, 767)

(115) egnō n se hoti sklē ros ei anthropos
ACC
I-know you that hard you-are man
"I know that you are a hard man" (Matthew 25.24)

(116) blepe tē n diakonian hen parelabes en kuriō i
ACC ACC
see the ministry WH you-took in lord

hina autē n plē rois
ACC
that it you-fulfill
"see to it that you complete the work which
you have received in the Lord" (Collosians 4.17)

(117) hē ouk epiginō skete heauton hoti Iē sous
ACC
or NEG you-know yourselves that Jesus

Khristos en humin
DAT
Christ in you
"Do you not understand that Jesus Christ is
within you" (2 Corinthians 13.5)

Joseph (1978) treats examples (114)--(116) as examples of "Raising to Object" though he does consider the possibility that these cases of "Raising to Object" in earlier stages of Greek were produced by base generation of the "Raised" nominal in the matrix object position. (He does not even consider this possibility for Modern

Greek, claiming, falsely, as we have seen, that "All the Greek verbs which are clearly Raising verbs do not allow Raising of non-subjects" (*op cit* 337, n. 14).) However, he accepts the "Copy Raising" analysis on the basis of "semantic" arguments and "cross-linguistic evidence". His reasoning may be seen in the following two excerpts.

> Although there is not a great amount of evidence supporting this analysis [that such examples as (42)-(45) are produced by "Copy Raising", RJPI], Marlett is able to justify it on several grounds.[5] Further, since the analysis is plausible from the standpoint of the *logical structure of the sentences involved* and of parallels with other languages with *similar looking* constructions, such as Blackfoot and Biblical Hebrew, it can be accepted here without further discussion.
>
> [5]For example, Marlett argues against the only other likely analysis, one which posits the matrix object as the underlying object in the matrix clause. He points out that such an analysis means that in a sentence such as (i):
>
> (i) kai ho Iē sous, idō n auton hoti
> and Jesus/NOM seeing/NOM him/ACC that
>
> nounekhō s apekrithē , ipan autō i
> sensibly answered/3SG said/3SG him/DAT
>
> (Mark 12.34)
>
> "And Jesus, seeing that he answered
> sensibly, said to him..."
>
> the verb *idon* must be taken in both a physical sense 'see', the meaning it has with an animate object, and a cognitive sense, the meaning it has with a clausal object, 'discern, understand'. The *standard interpretation* of the passage, however, treats *idon* as having only the cognitive sense. In addition, there are many other such passages for which a non-Raising analysis posits what Marlett calls a "double entendre" on the matrix verb which *is not supported by the meaning of the passage.* A Raising analysis, on the other hand, according to Marlett, allows for a single interpretation for the matrix verbs in the passages in question in a straightforward way. (Joseph (1978, 320-321), emphases added)

Note that the major arguments against the analysis of such structures proposed here is purely "semantic". However, this argument is faulty, even accepting the premise that arguments from meaning should be taken as primary linguistic data. First, there is the unsupported assumption that if a Verb occurs in the context [__ NP] with a particular interpretation and in the context [__ S] with another interpretation, if it occurs in the context [__ NP S] it must receive an interpretation which is the sum of the previous two. Why this should be so is not explained. Secondly, it is assumed that the "normal" interpretation of the passages which seem to exemplify the process of "Copy Raising" is in fact the actual interpretation of such passages. This is merely an argument from tradition, not from fact. Since there are no speakers of Koine Greek to confirm or refute the "double entendre" interpretation of the passages in question, it is not known if the "combinatorial" meaning that a non-Raising analysis would assign to these passages (assuming, for the moment, that such an analysis of the predicted meaning would be correct) is assigned to such sentences or not. Third, there is the assumption that the "logical structure" of language is a given and can be used to determine syntactic structure. The fallacy that a linguistic theory must be "based on meaning" is well known and I do not bother to repeat the original arguments against this position here. (See, for example, Chomsky (1955 [=(1975)], (1957), etc.) Finally, there is the argument that the "Copy Raising" analysis is supported by the presence of "similar looking" constructions in other languages. This argument seems to be an example of the fallacy of doing "linguistics by gloss" (term due to Leland George); that is, assuming that, because "constructions" (using this term in a phenomenal sense) that occur in different languages "look" superficially similar and have similar meanings, they have the same analysis. Even if I were to grant that the "Copy Raising" analysis is correct for the languages cited (which I do not), this would be no *a priori* evidence that the same analysis holds of Greek. Of course, this is not to deny that different languages may exhibit recurring syntactic constructions which have the same

analysis. However, to justify such claims in a particular case, it would be necessary to produce grammars of each of the languages concerned and *then* do the comparative work. However, this is just the sort of necessary comparative work that is not presented in these arguments. Finally, note that not one *distributional* argument, is presented to justify the "Copy Raising" analysis. Thus, there are no reasons to accept the "Copy Raising" analysis in these cases and every reason to reject it--since the proposed rule would violate all the conditions of sentence grammar.

Moreover, even within Joseph's analysis of Modern Greek, his treatment of these earlier Greek examples is inconsistent, in that he points out that Modern Greek perception verbs allow "Raising" from non-subject positions.

> The restriction to subjects [in the "Raising to Object" construction, RJPI] may not be entirely right, for with the perception verbs such as *vlepo* 'see', sentences such as (i) occur:
>
> (i) ida ton Yani$_i$ pu ton$_i$ epyase
> saw/1SG John/ACC that him/ACC caught/3SG
>
> i astinomia
> the-police/NOM
> 'I saw the police catch John'.
>
> However, such verbs give no evidence as to whether they govern an underlying structure with a bare sentential complement, like the Raising verbs *want, expect* in English, or one with a matrix nominal object plus a sentence, like the EQUI-from-Object verbs *persuade, convince* in English.
>
> (Joseph (1978, 337, n. 14))

This is inconsistent with Joseph's acceptance of Marlett's arguments and those others previously cited, in that, to the extent that these arguments were valid in earlier stages of Greek, they are, presumably, equally valid in Modern Greek, unless Joseph wishes to treat the Modern Greek construction as the result of reanalysis of the earlier construction. Crucially, the verb *vlepo* which appears in the Koine Greek

examples cited in example (116) and in the passage from Joseph cited previously is one of those which also permit construal with non-Subject positions in Modern Greek.

4.5 Adverbial Adjuncts in Modern Greek

In this section I compare and contrast the behavior of the one non-finite verbal form of Modern Greek, the participle, with that of finite *na* clauses. No Verbs in Modern Greek take participial complements, though, in Ancient Greek, participial complements had a wide distribution. In fact, there is only one instance in Modern Greek in which participial clauses can appear (barring the use of Passive participles in periphrastic constructions). This is as a "sentential adjunct" or "adverbial clause", as in the English example "John met Bill while walking down the street". Subjunctive clauses containing *na* also appear in the same positions and in the same uses. However, in these cases, the Finite nature of the *na* clauses reveals itself by contrast with the non-finite nature of participles. *na* clauses in such contexts can take overt subjects, as they can when appearing in complement clauses, such subjects are marked Nominative and, moreover, their need be no pronoun contained in these clauses which is linked to an $N^{\neg}$ in the clause to which these clauses serve as adjuncts. These features of such *na* clauses may be seen in the following examples.

(118) o Yanis drapetepse xoris na ton pari muroδia
ACC
the John he-escaped w/out NA him it-took odor

i Astinomia
the Police
"John escaped without the Police getting wind
of him"

(119) o Yanis drapetepse xoris na iδiopisi
the John he-escaped w/out NA he-informed

ti Astinomia
the Police
"John escaped without informing the Police"

(120) o Yorgos eklepse tin Maria xoris na θimosi
the George he-took the Mary w/out NA he-got-angry

kanenas
anyone
"George kidnapped Mary without anyone getting angry"

(121) o Yanis δimosiefse ta aplita tis kuberniseos
the John he-published the unwashed of-the government

xoris na piraxti i timi tu proθipirγu
w/out NA it-was-ruined the honor of-the prime minister
"John published the government's dirty laundry without the Prime Minister's honor getting ruined"

Participles, on the other hand, permit no overt lexical subjects and the PRO Subject which occurs in such clauses must be given an outside antecedent and does not get an arbitrary reading. (See, e.g. Joseph (1976, 24) for discussion.)

(122) o Yanis sinandise tin Maria
the John he-met the Mary

*aftu
GEN
*afto piγenontas
ACC oδiγondas stin Aθina
*aftos perpatondas
NOM
ø
*he going
ø driving to-the Athens
walking
"John met Mary, while going to Athens"

In such examples some speakers permit the antecedent of the PRO subject of the participle to be either the subject *o Yanis* or the object *tin Maria*, though they prefer the former reading. However, other speakers are reported to permit only subjects to be construed as the Subject of the participle. For these speakers, examples such as (123) are unambiguous.

(123) iδa$_i$ ton Yani$_j$ perpatondas$_{i/*j}$ sto δromo
I-saw the John walking on the street
"I saw John as I was walking on the street"

(J76, (38))

Such speakers *do* permit ambiguity when there is more than one possible subject antecedant:

(124) o Petros$_i$ nomise pos o Yanis$_j$ xamoyelase
the Peter$_i$ he-thought that the$_j$ John he-smiled

kapnizondas sto puro tu
smoking on-the cigar of him
"while he$_{i/j}$ was smoking his cigar, Peter$_i$ thought
that John$_j$ smiled" (J76, (40))

and in complex sentences:

(125) episa$_i$ ton Yani$_j$ na me$_i$ ksanaδi,
I-persuaded the$_j$ John NA me he-sees-again

fevγondas$_{i/j}$ apo to spiti
leaving from the house
"I persuaded John to see me again, as I/he was
leaving the house" (J76, (42))

However, for all speakers, if the participial adjunct appears at the beginning of the sentence, there is generally no ambiguity: only the subject immediately following is available as a possible antecedent. Thus, the following examples are not ambiguous.

(126) oδiγondas stin Aθina
driving to-the Athens

o Yanis sinandise tin Maria
the John he-met the Mary

"While driving to Athens, John met Mary"

(127) kapnizondas$_{i/*j}$ sto puro tu, o Petros$_i$
smoking on-the cigar of-him the Peter$_i$

nomise pos o Yanis$_j$ xamoyelase
he-thought that the$_j$ John he-smiled
"while he$_{i/*j}$ was smoking his cigar, Peter$_i$
thought that John$_j$ smiled" (J76, (39))

(Joseph (1976, page), however, reports examples where fronted participles can refer to an N] other than the immediately following subject where pragmatic factors favor a non-Subject.)

The contrasts between examples (118)--(121) and (122)--(127) provide a fitting note on which to end this chapter. It was predicted in Section 2.5 that clauses containing *na* would behave like Finite clauses. On the other hand, it was predicted that Participles would behave like non-Finite clauses. This last section, by contrasting the behavior of these two types of clauses, in the one position in which they can both appear, confirms the correctness of these predictions. Further, the fact that *na* clauses pattern differently from Participles in these instances further strengthens the analyses put forward earlier in this chapter and throughout this thesis that any instances in which *na* clauses appeared to behave like non-Finite clauses were, in fact, the result of the application of a discourse rule, not the result of the non-Finite nature of such clauses.

Sherlock Holmes has branch offices everywhere,
all over the earth, all over the world;
Oedipus interrogates the shepherd everywhere
without knowing what lies in wait for him.

--George Seferis, "Oedipean"

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