

UNIVERSITY OF READING

NEGATION IN MODERN GREEK

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NEGATION IN MODERN GREEK

ABSTRACT

This thesis attempts to provide a unified account of negation in Modern Greek. It is composed of three parts. In the first part (chapter I) we present the distributional characteristics of Modern Greek negative particles, examine their syntactic status and propose a set of rules of negation. In the second part we concentrate upon two well known and largely discussed problems of the syntax and semantics of negation, namely, the negative-raising hypothesis (chapter II) and the relation between quantifiers and negation (chapter III). We argue that the negative-raising approach should be abandoned in favour of another, purely semantic, analysis of the relevant verbs; and that the analyses of the English any proposed by Quine and Vendler can be extended, respectively, to the emphatic and non-emphatic forms of the corresponding Modern Greek indefinite. Finally, in the third part (chapter IV and Appendix) we deal with the problem of the scope of negation in general. We claim that entailment-based accounts of negation scope are too strong and become problematic if tested against their own predictions. Another approach, dependent on the distinction context-free/context-bound instances of negation, is defended, instead: it is argued that there are two types of negation, namely, 'ordinary' (context-free) and 'contradiction' (context-bound) negation, corresponding to, and being analysable in terms of, two different levels of linguistic

description, the level of Sentence Grammar and the level of Discourse Grammar, respectively; that the cancellation of presupposition, which has been feeding the entailment-based accounts of scope, is possible only under contradiction (context-bound) negation, belonging thus, together with other "anomalies", to the domain of Discourse Grammar; and that the entailment analysis of negation seeks to account for discourse phenomena in semantic terms.

C H A P T E R I

THE SYNTAX OF NEGATION IN MODERN GREEK

0. Introduction

Since Klima (1964)'s monumental analysis of negation in English, negation has been one of the most extensively discussed and debated topics of linguistic analysis. In a number of papers Jackendoff, Lakoff, Lasnik, Kempson, and others, presented significant insights into the characteristics and the nature of negation phenomena. With the exception of Lasnik, however, the principal concern of those works has been the semantics of the scope of negation. Thus Klima's analysis, despite its age, remains a unique example of strictly syntactic analysis in the framework of transformational grammar.

In this chapter we intend to present the negative particles in Modern Greek (MG) and to examine their structural characteristics, their interrelations and their status in terms of general syntactic distinctions like sentence negation and constituent negation. That is, we intend to examine the syntactic aspects of negation in MG. At the present, then, our concerns will be basically those of Klima and we shall try to follow the main lines of his account of negation.

1. The negative particles in MG

There are three different, both in form and in distribution, negative particles in MG: δέ(n), μή(n) and όχι. Below, however, we shall give theoretical recognition to a fourth negative particle, μή, on the grounds of its phonolo-

gical and distributional characteristics.

To begin with, consider some examples with δέ(n) and μί(n):

- (1) a. o jánis dén érxete spíti.
 'art.' John not comes home.
 (John does not come home).
- b. dén perná o jánis stis eksetásis tu.
 not passes 'art.' John in-the exams his.
 (John does not pass in his exams).
- c. dé mas ayapún.
 not us love (they).
 (They do not love us).
- (2) a. o jánis na mín érθi spíti.
 'art.' John 'subjunctive marker' not comes home.
 (John should not come home).
- b. (na) mín pandreftís ti maría.
 ('s.m.') not marry (you) 'art.' Mary
 (You should not marry Mary).
- c. (na) mí fíγis.
 ('s.m.') not leave (you).
 (You should not leave).

As it can be seen in (1) and (2), the presence or absence of the final /n/ of both δέ(n) and μί(n) is determined in fact by the phonological features of the first segment of the following word. Thus, if the latter is [+continuous], as in (1c) and (2c), the final /n/ does not normally occur; cf. also δέ févji (He does not leave), δέ xorízi (He does not divorce), and na mí fíji (He should not leave), na mí xorísi (He should

not divorce). On the other hand, if the first segment of the following word is [-continuous], as in (1b) and (2b), or $\begin{bmatrix} +\text{voc.} \\ -\text{cons.} \end{bmatrix}$, as in (1a) and (2a), this /n/ normally occurs.

This is not, however, an exclusive characteristic of $\delta\acute{\epsilon}(n)$ and $m\acute{\iota}(n)$. It is part of a general phenomenon in MG. We may compare the double forms of the articles to/ton [accusative masculine] and ti/tin [accusative feminine], for example: to φίλο (the friend [accus.]) / ton άνδρα (the man [accus.]), ti χαρά (the joy [accus.]) / tin εφτιξία (the happiness [accus.]). $\delta\acute{\epsilon}(n)$ and $m\acute{\iota}(n)$ then simply exemplify, and reinforce, the general principle that governs the occurrence of the final /n/ in MG.

Let us now give some examples of the third negative particle, όχι, and what we shall consider as a fourth negative particle, μή:

(3) a. όχι kata páno tus.
not against them.

b. όχι eména.
not me.

(4) a. μή kata páno tus.
not against them.

b. μή eména.
not me.

(4a-b) apparently contradict our explanations for the final /n/ of the forms $\delta\acute{\epsilon}(n)$ and $m\acute{\iota}(n)$: this /n/ does not occur in either example, although the phonological environment favours its occurrence (see e.g. (2a) and (2b)). And, what is more striking, (4a) and (4b) become ungrammatical if we substitute

mín for mí. Consider (4'):

- (4') a. *mín kata páno tus.
 b. *mín eména.

Clearly, mín is unacceptable in (4'a-b), although in general nothing prevents final /n/ from occurring if the following segment has the features $\left[\begin{smallmatrix} +\text{voc.} \\ -\text{cons.} \end{smallmatrix} \right]$ or [-cont.], as we saw in our discussion of (1) and (2). Does this mean that there is counterevidence for the otherwise well-motivated (cf. (2)) association of the final /n/ of mí(n) with the general principle that governs the occurrence of the final /n/ in MG? Does it question the principle itself? Or, are there any grounds for arguing that mí in (4) exemplifies a fourth negative particle, different from mí(n)?

There is some evidence for a positive answer to the last question. The structures that (1) and (2) exemplify are different from the structures we have in (3) and (4): the latter lack a verb form, whereas the former do not. What is interesting for our discussion is that mín is not acceptable in the structures which lack a verb (compare e.g. (2a) with (4'b)). What is even more interesting, however, is that δέ(n), which shares with mí(n) structures containing a verb form, is equally unacceptable in structures lacking a verb, as (3') clearly shows:

- (3') a. *δέn kata páno tus.
 not against them.
 b. *δέn eména.
 not me.

This means that mí(n) cannot occur in structures in which

δέ(n) cannot occur as well; conversely, its counterpart μί (cf. (4)), as well as όχι (cf. (3)), is acceptable in such constructions.

We can fairly safely conclude, therefore, that μί is a fourth negative particle that does not share the morpho-syntactic and phonological characteristics of μί(n), and should not be confused with the forms of the latter that lack (under certain conditions) their final /n/. μί, as far as distribution and use are concerned, appears to be closer to όχι, rather than to μί(n), on the one hand, and, on the other hand, seems as different from the latter, μί(n), as it is from δέ(n).

On the basis of these observations we shall proceed with the distinctions shown by the line below

<u>δέ(n)</u>	<u>μί(n)</u>
όχι	μί

starting with the examination of the upper horizontal pair.

1.1 δέ(n) vs. μί(n)

1.1.1 The distribution of δέ(n) and μί(n)

As it may have already been noticed during the discussion of our data so far, there is a parallelism in distribution between δέ(n) and μί(n). Not only do they occur in structures containing a verb form, but also share the same position in the sentence: they both occur in pre-

verbal position.

In this section we shall discuss the distributional characteristics of these two particles in some more detail. In particular, we shall see first that δέ(η) and μή(η) cannot intervene between a clitic and the verb form it accompanies, i.e. they invariably precede the phonological word of the verb; also, that, unlike in English, they necessarily precede the forms of the auxiliary. In the second part of the section we shall see some important differences between the environments in which they may occur.

Let us begin with the distribution of δέ(η). Consider the following examples:

- (5) a. δέν (tu) γράφουμε (tu jáni).
 not (to-him) write (we) (to John).
 (We do not write (to John)).
- b. δέ θα (tu) γράφουμε/γράψουμε (tu jáni).
 not will (to-him) write [imperf./perf.] (we)
 (to John).
 (We will not write (to John)).
- c. δέν (tu) έχουμε γράψει (tu jáni).
 not (to-him) have (we) written (to John).
 (We have not written (to John)).
- d. δέ θα (tu) έχουμε γράψει (tu jáni).
 not will (to-him) have (we) written
 (to John).
 (We will not have written (to John)).

As (5) shows, δέ(n) may occur in the following environments:

(δέ(n)) (future marker θα) (clitic) (Aux) Verb.

Consider now examples with μί(n):

(6) a. na mīn (tu) γράφουμε/γράφουμε (tu jáni).
 'subjunctive marker' not (to-him) write
 [imperf./perf.] (we) (to John).
 (We should not write (to John)).

b. na mīn (tu) έχουμε γράψι (tu jáni).
 's.m.' not (to-him) have (we) written
 (to John).
 (We should not have written (to John)).

It can easily be seen that, like δέ(n), μί(n) precedes clitics and the Auxiliary:

na (μί(n)) (clitic) (Aux) Verb.

However, although the two particles under consideration share the same position in the sentence, they do not seem to share the same environments as well. Thus, (a) δέ(n) can collocate with the future marker θα, whereas μί(n) cannot; and (b) μί(n) is normally preceded (see, however, the next paragraph) by the subjunctive marker na, whereas the latter, na, cannot co-occur with δέ(n). Compare (5b) and (5d) with (7a-b), and (6a-b) with (8a-b):

(7) a. *mī θα (tu) γράφουμε/γράφουμε (tu jáni).

b. *mī θα (tu) έχουμε γράψι (tu jáni).

(8) a. *na δέν (tu) γράφουμε/γράφουμε (tu jáni).

b. *na δέν (tu) έχουμε γράψι (tu jáni).

As the difference in acceptability between (7a-b)-(8a-b) and the corresponding sentences in (5)-(6) shows, there are systematic differences between the environments of δέ(n) and the environments of μή(n). Given now that να is the marker of subjunctive¹ and that the Future tense cannot occur after να, we can suggest that μή(n) is the negative particle of subjunctive, while δέ(n) is the negative particle of indicative. This suggestion gains support from the fact that the absence of να renders negative sentences containing μή(n) unacceptable. Compare e.g. (9a-b) with (6a-b), on the one hand, and (5a&c), on the other:

- (9) a. *μήν (tu) γράφουμε/γράφουμε (tu jáni).
 b. *μήν (tu) έξουμε γράψι (tu jáni).

The occurrence of μή(n) then appears to be dependent on its being preceded by the subjunctive marker να.

There are, though, some sentences with second person verb forms which apparently contradict this conclusion. Consider (10):

- (10) a. (na) μήν (tu) γράφεις/γράφετε (tu jáni).
 ('s.m.') not (to-him) write [imperf.] (you
 sing./pl.) (to John).
 (Don't write (to John)).
 b. (na) μήν (tu) γράψις/γράφετε (tu jáni).

¹ See e.g. Lightfoot (1979:290, footn.): "I take 'subjunctive' to be co-extensive with the νά forms, but some grammars distinguish special subjunctive endings even for Modern Greek". For a more detailed discussion see Warburton & Veloudis (in preparation).

('s.m.')

not (to-him) write [perf.] (you
sing./pl.) (to John).

In its short form, with na deleted, (10), unlike (9a-b), is acceptable. The counterevidence which sentences such as (10) seem to demonstrate, however, is only apparent. We have good reasons to say that, although it may not appear in the surface, the subjunctive marker invariably is part of the underlying structures of sentences with mí(n) preceding 2nd person forms.

First, in general na may precede mí(n) in such sentences. There is no difference in acceptability, and meaning, between the version of (10) e.g. which lacks na and the version which does not. The only difference between sentences with mí(n) preceding 2nd person verb forms and parallel structures with other than 2nd person verb forms is that the presence of the subjunctive marker in the surface is obligatory in the latter (cf. the difference in grammaticality between (10) and (9)).

Second, sentences with 2nd person forms like (10b) above are acceptable without na only if they are preceded by the negative particle mí(n); that is, the presence of na is obligatory in the positive counterparts of sentences like our (10b). Cf. the anomaly in (11b) below, which superficially seems to be the positive counterpart of (11a) (and of (10b) lacking na):

(11) a. mí(n) (tu) γράψις/γράφετε (tu jáni).

b. *(tu) γράψις/γράφετε (tu jáni).

Finally, the suggestion that the subjunctive marker is invariably present in the underlying structure of sentences like our "exceptional" (10a-b) is further fortified by the fact that the forms preceded by mí(n) but not by na belong to

a very restricted class: not only are they unexceptionally 2nd person (singular or plural) but they must also be in the Present tense. Consider the anomaly in (12), despite its 2nd person:

- (12) *mín (tu) éxis/éxete γράψι (tu jáni).
 not (to-him) have (you sing./pl.) written
 (to John).

Compare it with (9b), on the one hand, and (10b) (as well as (11a)), on the other.

We can in general maintain, therefore, that the presence of the subjunctive marker is decisive as to the acceptability of the negative particles under discussion: na constitutes the proper environment for the occurrence of mí(n), on the one hand, and excludes the occurrence of δέ(n), on the other hand. In other words, δέ(n) and mí(n) are in complementary distribution: the second does not occur in the environment (indicative) in which the first does, and vice versa. Even in cases like those in (13):

- (13) a. δέν έρχεσε νορίς.
 not come [imperf.] (you) early.
 (You do not come early).
 b. mín έρχεσε νορίς.
 (You should not come early).

δέ(n) and mí(n) cannot, according to what we have seen, be said to share the same environment: of the two superficially similar verb forms in (13), only the second may be preceded by the subjunctive marker.¹ Cf. the difference in acceptability

¹ For a different analysis of the distribution of the

between (13'a) and (13'b) below:

- (13') a. *na (δέν) έρχεσε νορίς.
 's.m.' (not) come [imperf.] (you) early.
- b. na (μίν) έρχεσε νορίς.

1.1.2 Some apparent counterevidence

We have maintained above that δέ(η) and μί(η) are in complementary distribution. In this section we shall discuss some constructions which (superficially) question, if they do not contradict, this distributional differentiation: they seem to allow δέ(η) to co-occur with μί(η), on the one hand, and to be preceded by the subjunctive marker na, on the other. We shall try to show that such constructions do not in fact conflict with our well-established observations on the distribution of δέ(η) and μί(η).

Consider the following examples:

- (14) a. fováme (na) μίν έρθi.
 (I am afraid that he may come).
- b. fováme (na) μί δέν έρθi.
 (I am afraid that he may not come).

Warburton (1970:98-100) argues on semantic and syntactic grounds that the particle μί(η) in sentences like our (14a-b) is different from the negative particle μί(η).

First, she points out, the presence of μί(η), unlike that of na, is obligatory in this sort of structures, i.e. after verbs of fear; cf. the ungrammaticality of (14'a) e.g.:

negative particles under consideration see Antonopoulou (1975).

(14'a) *fováme (na) érði.

And in general, if the subject of the main verb is not identical with the subject of the complement verb, sentences with the structure of (14'a) are ungrammatical. The implications of this are obvious: in order to say that mí(n) in sentences like (14a) is the negative particle mí(n), one would have to accept the peculiar restriction that complements such as that in (14a) be ungrammatical unless they are "negated". This obviously would be an ad hoc and by no means natural restriction. This is not, however, the only problem here.

Second, what is more important, a sentence like (14a) above cannot be interpreted as a negative sentence: it means something different in general; cf. the difference in meaning between our translation of (14a), i.e. "I am afraid that he may come", and what might be a translation of the negation of its complement, i.e. "I am afraid that he does not come". As Warburton notes, the suggestion that mí(n) in sentences like (14a) is not negative gains additional support from the fact that the complement clause mín érði in (14a) has the negative form mí δέν érði; cf. (14b), repeated here:

(14b) fováme (na) mí δέν érði.

It is obvious now that if one insisted that mí(n) in sentences like (14b) (and (14a)) was the negative particle mí(n), one would have to explain (a) why complements like that in (14b) need a second negative particle, δέ(n), to be negated, (b) on what grounds they allow the co-occurrence of two mutually excluded, as we have seen, negative particles, as well as more general semantic problems like (c) why the "negative"

operator mí(n) and the negative operator δέ(n) do not neutralize each other or on what grounds the two operators are equal to one.

mí(n) in (14a-b), therefore, has different function from, and should not be confused with, our negative particle mí(n); and examples like (14b) do not in fact constitute counterevidence for our analysis so far: their mí(n) could be characterized as (cf. Warburton, *ibid.*:100) "a special type of particle which follows verbs of fear" or pre-caution.

There is a possible way of testing this conclusion. As we saw above, constructions like that of (14'a) are ungrammatical if the subjects in the complement and the main clause are not identical. Take now a parallel construction with two identical subjects such as (15a) below:

- (15) a. fováme na δextó to δóro.
I-am-afraid to accept the gift.
- b. fováme na mí δextó to δóro.

What is interesting here is that the negation of the complement of the grammatical (15a) would give the structure demonstrated with (15b). This structure, however, is identical with structures like (14a). If then the conclusion of the previous paragraph is correct and there are two distinct mí(n)'s, we would expect (15b) (and in general structures featuring verbs of fear, na mí(n), and identical subjects in the main and the complement clauses) to be ambiguous between two interpretations of mí(n), i.e. as a "special type of particle which follows verbs of fear"

and as a negative particle. This prediction is borne out. (15b), unlike (14a), is ambiguous between the readings "I am afraid lest I might accept the gift" ("special" mí(n)) and "I am afraid not to accept the gift" (negative mí(n)).¹

1.1.3 δέ(n)/mí(n) and MG mood

Our discussion so far has shown that a major difference between δέ(n) and mí(n) concerns their distribution: mí(n) occurs in sentences which are characterized by the presence, and in certain cases (see e.g. (2b-c)) the optional presence, of the subjunctive marker na, while δέ(n) is acceptable in structures that do not contain it, and cannot be said to contain it in underlying structure. Obviously, this means not only that MG employs at least two different 'moods' in independent clauses, i.e. indicative, which is normally used in the expression of statements, and subjunctive, which is used in the expression of directives, but also, what is more interesting for our discussion here, that there are two different in form negative particles, mí(n) and δέ(n), which by being

¹ In general if the subject of the main verb is coreferential with the subject of the complement and the latter is positive, i.e. it does not contain δέ(n), the onus of disambiguation rests with stress; thus, heavier stress on the verb of fear connects the utterance with the negative-mí(n) interpretation, whereas heavier stress on the verb of the clause connects it with the non-negative-mí(n) interpretation.

restricted to occur in sentences with subjunctive mood (mood may be a sentence category which gravitates onto the verb as an ending or a particle) and indicative mood, respectively, reflect the same distinctions as to mood. In other words, although nothing would prevent MG from employing only one negative particle and leave the distinctions in question to the verb group, there exist two distinct negative particles, δέ(n) and μή(n), each bound to one of the moods in question, and thus redundantly reflecting distinctions that have already been grammaticalized in other ways.¹

We can now maintain that it might be due to this boundness of δέ(n) and μή(n) to indicative and subjunctive, respectively, that the third mood that MG grammaticalizes, the imperative, displays a peculiar restriction: in general imperative forms cannot be negated (hence we have not met this mood in our examples so far). Cf. the ungrammaticality of:

- (16) a. * $\begin{Bmatrix} \delta\acute{\epsilon}n \\ \mu\acute{\iota}n \end{Bmatrix} \begin{Bmatrix} \text{tréxe.} \\ \text{trékse.} \end{Bmatrix}$
 not run $\begin{Bmatrix} [\text{imperf.}] \\ [\text{perf.}] \end{Bmatrix}$ (you).
 (Don't run).

¹ Although in the second person (plural or singular), where na is optional (see 1.1.1 above), the formal distinction δέ(n)/μή(n) is not so redundant. Provided that na is absent, in δέn érxese/(na) μήn érxese e.g. (cf. (13) and (13')) the only thing that shows the latter to be subjunctive is the choice of the negative μήn. In these particular cases the occurrence of the one instead of the other negative particle in fact helps in making mood distinctions which are not as clearly marked by the verb form in MG as they were in Ancient Greek.

b. * $\begin{Bmatrix} \delta\acute{e}n \\ m\acute{i}n \end{Bmatrix} \begin{Bmatrix} p\acute{e}rne \\ p\acute{a}re \end{Bmatrix}$ to molívi.

not take $\begin{Bmatrix} imperf. \\ perf. \end{Bmatrix}$ (you) the pencil.

(Don't take the pencil).

Compare them with the corresponding indicative and subjunctive versions:

(17) a. $\delta\acute{e}n$ tréxis.

not run (you).

(You do not run).

b. $\delta\acute{e}n$ pérnis to molívi.

not take (you) the pencil.

(You do not take the pencil).

(18) a. (na) m $\acute{i}n$ $\begin{Bmatrix} tr\acute{e}xis. \\ tr\acute{e}ksis. \end{Bmatrix}$

('s.m.') not run $\begin{Bmatrix} imperf. \\ perf. \end{Bmatrix}$ (you).

(You should not run).

b. (na) m $\acute{i}n$ $\begin{Bmatrix} p\acute{e}rnis \\ p\acute{á}ris \end{Bmatrix}$ to molívi.

('s.m.') not take $\begin{Bmatrix} imperf. \\ perf. \end{Bmatrix}$ (you) the
pencil.

(You should not take the pencil).

It is sentences like (18a) and (18b) that normally negate the corresponding imperatives:

(19) a. $\begin{Bmatrix} tr\acute{e}xe. \\ tr\acute{e}kse. \end{Bmatrix}$

run $\begin{Bmatrix} imperf. \\ perf. \end{Bmatrix}$

b. $\begin{Bmatrix} p\acute{e}rne \\ p\acute{á}re \end{Bmatrix}$ to molívi.

take $\begin{Bmatrix} imperf. \\ perf. \end{Bmatrix}$ the pencil.

expressing the prohibitions that the sentences in (16)

cannot.

We can, therefore, complete our characterization of the distribution of δέ(n) and μή(n) as follows: they are in complementary distribution, each bound to a different mood (indicative for δέ(n) and subjunctive for μή(n)).

1.1.4 δέ(n)/μή(n) and sentence negation

Complementary distribution and boundness to different moods are not the only characteristics that mark the relationship between δέ(n) and μή(n). As we saw above (section 1.1.1), these two particles share the same position in the sentence, both occurring before the verb. The question that now arises is whether sentences exemplifying δέ(n) or μή(n) could be said to constitute instances of what is called 'sentence negation', or, more generally, what kind(s) of negation δέ(n) and μή(n) exemplify. We will base our discussion of this question on syntactic grounds, making use of purely syntactic criteria, parallel to those in Klima (1964), and avoid reference to semantic data, since an analysis of negation phenomena on the basis of semantic distinctions or semantic criteria would not only "demand the unwarranted assumption that semantic categories are always matched by grammatical ones" (Klima *ibid.*:247), but also neglect major syntactic characteristics or restrictions.

1.1.4.1 The definition of sentence negation in MG

Klima (*ibid.*:270) defines as instances of sentence

- b. o jánis na mín érði spíti, na érði?
'art.' John 's.m.' not comes home, 's.m.'
comes?
(John should not come home, should he?)
- (24) a. *o jánis érxete spíti, érxete?
b. *o jánis na érði spíti, na érði? ¹

Consider, finally, the applicability of our third criterion (i.e. the acceptability of emphatic indefinite forms (capital letters in our examples)): ²

- (25) a. δέν érxete $\left\{ \begin{array}{l} \text{KANIS} \\ \text{kanis} \end{array} \right\}$ spíti.
not comes anyone home.
(None comes home).
- b. na mín érði $\left\{ \begin{array}{l} \text{KANIS} \\ \text{kanis} \end{array} \right\}$ spíti.
's.m.' not comes anyone home.
(None should come home).
- (26) a. *érxete $\left\{ \begin{array}{l} \text{KANIS} \\ \text{kanis} \end{array} \right\}$ spíti.
b. na érði $\left\{ \begin{array}{l} * \text{KANIS} \\ \text{kanis} \end{array} \right\}$ spíti.

See also (27) and (28):

¹ Our criterion 2. concerns the so-called 'checking' question tags (see Lyons 1977:764), and not the 'copy' tags, which are different in both syntactic and conversational - contextual terms and might allow constructions like those in (24).

² The differences between the emphatic and unemphatic forms of indefinites are extensively discussed in chapter III.

- (27) a. δέν έρχετε {^{POTE}_{poté}} spíti.
 not comes (he) ever home.
 (He never comes home).
- b. na mίν έρχει {^{POTE}_{poté}} spíti.
 's.m.' not comes (he) ever home.
 (He should never come home).
- (28) a. *έρχετε {^{POTE}_{poté}} spíti.
 na έρχει {^{*POTE}_{poté}} spíti.

We may, therefore, say that, as our examples in (21)-(28), and many parallel constructions, show, the occurrence of either δέ(n) or μί(n) in a sentence guarantees its being an instance of what we have defined as sentence negation. In addition, the difference in acceptability between (21) and (22), (23) and (24), (25) and (26), as well as (27) and (28), suggests that these two particles have the same grammatical relationship with the constructions that our three criteria above are based on; and, furthermore, that it is on the basis of this relationship that sentences containing δέ(n) or μί(n) differ in acceptability from their counterparts that lack these particles. In other words, the difference in acceptability between pairs of examples like those above suggests that sentences containing the particles under consideration are opposed in some particular syntactic ways to all the other sentences where they do not occur. This makes it possible for us to see on what syntactic grounds our two particles which have been considered so far as 'negative' can be labelled as such, and permits us to classify

an arbitrary element of any sentence as negative or not negative.

To recapitulate our discussion thus far, we have maintained on purely syntactic grounds that δέ(η) and μή(η) are both negative particles which are in complementary distribution and exemplify sentence negation. Below we shall be following the common practice of representing sentence negation with neg, considering this neg as a grammatical formative. Some justification for our decision here will be presented in our discussion of the lexical insertion rules for δέ(η), μή(η) and the other two negative particles, in the end of this chapter.

1.1.4.2 μή(η) and non-finite verb forms

As we have said, the contrast δέ(η)/μή(η) reflects the contrast indicative/subjunctive in MG. There is, however, a use of μή(η) not discussed in the previous sections, which has nothing to do with the grammaticalization of mood and is not parallel in distribution with δέ(η).

Consider the following pairs:

- (29) a. (*na) mīn éxondas idéa ja óla aftá o jánis
tin pandréftike.
(‘s.m.’) not having idea about all these
‘art.’ John her married.
(Because he knew nothing about all these
John married to her).
- b. *δέη éxondas idéa ja óla aftá o jánis tin
pandréftike.

- (30) a. ksekínisa ti δuljá (*na) mîn ksérondas
 pós pjánun to sfirí.
 started (I) the job ('s.m.') not knowing
 how hold (they) the hammer.
 (I started that job without knowing how
 to hold the hammer).
- b. *ksekínisa ti δuljá dén ksérondas pós
 pjánun to sfirí.

As (29) and (30) clearly show, forms like éxondas or kse-
rondas cannot in general be preceded by the marker na and
 do not reflect the distinction indicative/subjunctive. Ne-
 vertheless, despite its apparent differences from the in-
 stances of mî(n) considered in the previous sections, our
mî(n) here is not to be regarded as completely unrelated to
 them. We have good reasons to argue that, although having
 nothing to do with the subjunctive, this mî(n) cannot be
 differentiated from the already known one.

First, both mî(n) in (29a) and (30a) and the (sen-
 tence negation) instances of mî(n) considered so far
 precede verb forms. The only difference is that the mî(n)
 under consideration invariably precedes non-finite verb
 forms, (non-finite) gerunds. These, however, are verbs
 in some sense, and it can be argued that they will be
 presented as such in deep structure: non-finite forms like
mîn éxondas and mîn ksérondas in (29a) and (30a), respec-
 tively, cannot be considered either as nominals, for all
 verbs exemplify such non-finite forms, or as participles,
 because, unlike participles, such non-finite forms are never

used as adjectives; for instance, they cannot occur after the copula or be preceded by the article.¹

Second, what is more important, instances of mí(n) preceding gerunds are shown to correspond to what we have called sentence negation if tested in terms of our criteria of sentences negation. Consider the applicability of two of these criteria in (31) below:

- (31) a. píre tin ipotrofia mí(n) éxondas to
 enðiaféron úte ke tin pró-
 §esi na tin aksiopísi.

got (he) the scholarship not having the
 interest neither and the
 intention to it use.

(He got the scholarship although he did
 not have the interest nor the in-
 tention to use it).

¹ Cf. the difference in acceptability between our non-finite verb forms (a. sentences) and the corresponding participles (b. sentences) in the following pairs:

- (i) a. *fénete na íne ikanopióndas.
 b. fénete na íne ikanopiiménos.
 seems (he) to be satisfied [masc.].
- (ii) a. *i mí(n) éxondas eryasía na apomakrin§ún.
 b. i mí éxondes eryasía na apomakrin§ún.
 the non having work should stay away.

b. píre tin ipotrofía mīn éxondas $\begin{Bmatrix} \text{KANENA} \\ \text{kanéna} \end{Bmatrix}$
 enðiaféron ke $\begin{Bmatrix} \text{KAMIA} \\ \text{kamía} \end{Bmatrix}$ próthesi na
 tin aksiopiísi.

got (he) the scholarship not having any
 interest and any intention to it use.

The mī(n) under consideration here, therefore, cannot be separated from the mī(n) we have been discussing in the previous sections: as it has been suggested above, they both precede verbs in deep structure, and, as the applicability of our criteria of sentence negation has shown, they both exemplify sentence negation. It is worth noting at this point that our suggestion that mī(n) in (29)-(31) corresponds to what we have called sentence negation does not result in an unnecessary burden of our grammar: non-finite gerunds like éxondas in (29) and (31), as well as ksérondas in (30) would be treated as verbs in deep structure, in any case. We can modify then our determination of the distribution of δέ(n) and mī(n) as follows: δέ(n) precedes indicatives, while mī(n) accompanies subjunctives and gerunds. The following Table demonstrates the main syntactic characteristics of these two negative particles ("+" means "co-occurs with"):

Table 1. The characteristics of δέ(n) and μή(n)

<u>δέ(n)</u>	<u>μή(n)</u>
+ indicative	+ subjunctive / + gerund
sentence negation	

1.2 όχι vs. μή

In the preceding sections we discussed the characteristics of the distribution of the particles δέ(n) and μή(n) and the type of negation they can be associated with. In the following sections we shall consider the other two particles, όχι and μή. In particular we shall examine the environments in which they may occur and the types of negation they exemplify. We shall proceed with a rough distinction between όχι/μή in elliptic sentences and όχι/μή in full sentences.

1.2.1 όχι/μή in elliptic sentences

The examples we saw in our discussion of δέ(n)/όχι and μή(n)/μή in the outset indicate that όχι and μή occur in environments in which δέ(n) and μή(n) cannot. See, for instance, the difference in acceptability between the constructions in (3) and (4) and the corresponding constructions in (3') and

(4'), repeated here:

(3) a. óxi kata páno tus.
not against them.

b. óxi eména.
not me.

(3') a. *δέ(n) kata páno tus.

b. *δέ(n) eména.

(4) a. mí kata páno tus.
not against them.

b. mí eména.
not me.

(4') a. *mín kata páno tus.

b. *mín eména.

The unacceptability of (3') and (4') is explicable: as we said in our discussion of δέ(n) and μί(n), they invariably precede the (phonological word of the) verb; therefore, (3'a-b) and (4'a-b) are unacceptable because they both make use of δέ(n) and μί(n), respectively, and lack a verb form. Compare, e.g., (3') and (4') with (32) and (33), respectively:

(32) a. δέν έρχετε kata páno tus.
not comes (he) against them.
(He does not come against them).

b. δέν ακύι eména.
not listens (he) to-me.
(He does not listen to me).

- (33) a. na mīn érxete kata páno tus.
 's.m.' not comes (he) against them.
 (He should not come against them).
- b. na mīn akúi eména.
 's.m.' not listens (he) (to) me.
 (He should not listen to me).

In this section we shall see whether in general óxi and mí cannot precede verb forms, and are thus in complementary distribution with the pair δέ(η)/μή(η). It will be shown that óxi and mí in constructions like those in (3) and (4) not only cannot precede verb forms but also cannot even co-occur with them in a sentence.

Consider the following examples of óxi and mí in pre-verbal position:

- (34) a. *óxi érxete kata páno tus.
 b. *óxi akúi eména.
- (35) a. ?na mí érxete kata páno tus.
 b. ?na mí akúi eména.

(34a-b) are definitely anomalous. (35a-b), on the other hand, are less unacceptable. This, however, can easily be explained. The phonological difference between mí and mí(η) is not as clear as that between the other two particles, óxi and δέ(η): when it precedes a verb beginning with a continuous consonant, e.g., mí(η) is not normally different in form from mí. We can reasonably, therefore, suppose that the slight difference in acceptability between (34) and (35) is due to the fact that mí in the latter can easily be confused with,

and be understood as, the mí version of the particle mí(n). We can thus suggest that in general óxi and mí cannot precede verb forms.

This suggestion is furthermore strengthened if we examine pairs like the following:

- (36) a. *épjasan óxi to jáni.
arrested (they) not 'art.' John [accus.].
- b. δέν épjasan to jáni.
not arrested (they) 'art.' John [accus.].
(They did not arrest John).
- (37) a. *(na) akúte mí to jáni.
listen (you) (to) not 'art.' John [accus.].
- b. (na) mín akúte to jáni.
not listen (you) (to) 'art.' John [accus.].
(You should not listen to John).

As the difference in acceptability between (36a) and (37a), on the one hand, and (36b) and (37b), on the other, shows, óxi and mí not only cannot be immediately followed by verb forms but also cannot occur in structures containing verb. That it is the presence of the verbs épjasan and akúte that turns (36a) and (37a), respectively, ungrammatical is obvious from the acceptability of the corresponding elliptic (36'a) and (37'a):

(36'a) óxi to jáni.

(37'a) mí to jáni.

We can therefore conclude that óxi/mí in the constructions examined here are in complementary distribution with δέ(n)/mí(n): the latter invariably precede the (phonological word of the) verb, while the former cannot occur in structures containing a

verb form.

1.2.1.1 óxi/mí and sentence negation

We have seen that óxi and mí differ in distribution from δέ(n) and μί(n). Does this mean that they differ in the kind of negation they exemplify, as well? Below we check the óxi and mí constructions we have been discussing against our úte ke- conjunction criterion of sentence negation.¹ We shall see that these elliptic constructions exemplify what we have called sentence negation.

Consider (38):

- (38) a. {óxi/mí} ti maría úte ke to jáni.
 not 'art.' Mary [accus.] neither and 'art.'
 John [accus.] .
- b. {óxi/mí} apo to jáni úte ke apo ti maría.
 not from 'art.' John neither and from 'art.'
 Mary.

(38) obviously shows that óxi and mí in such constructions are to be considered as instances of what we have defined as sentence negation. The constructions, however, are elliptic: they apparently do not contain verb. This means that (38) suggests that non-sentences exemplify sentence negation. There is, though, an obvious solution for this seemingly contradictory fact: we can hypothesize that our óxi- and mí- constructions are full (negative) sentences in the underlying stru-

¹ Obviously our question tag criterion is inapplicable since the constructions under consideration are elliptic.

cture. There are some facts which independently point to the necessity of such a solution.

First, many pairs of reduced and unreduced positive sentences derivationally related like e.g. (39aB) and (39bB) in the following pieces of discourse:

- (39) a. A: *pjón épjasan?*
 whom arrested (they)?
 (Whom did they arrest?)

B: *ti maría.*
 'art.' Mary [accus.].

- b. A: *pjón épjasan?*

B: *épjasan ti maría.*
 arrested (they) 'art,' Mary [accus.].

are obviously paralleled by pairs like (36b) and (36'a), or (37b) and (37'a). If then we are to connect derivationally positive sentences like (39bB) with (39aB) (see e.g. Williams 1977), on what grounds could we refuse to connect derivationally negative sentences such as (36b) and (37b) with reduced forms like (36'a) and (37'a), respectively? If, therefore, we did not adopt the hypothesis in the end of the preceding paragraph, we would unjustifiably dismiss an important generalization.

Second, an analysis which does not connect derivationally the unreduced with the reduced negative forms above cannot explain naturally the peculiar fact that MG employs two different negative particles, *óxi* and *mí*, in the same positions and syntactic environments in constructions lacking a verb form. In particular, the parallel use of two different in form negatives in the relevant constructions

could not apparently be explained on either syntactic (:óxi and mí are parallel in distribution) or semantic (:óxi and mí are not to be directly (see the following paragraph) relegated to different meanings or illocutionary forces, e.g.) grounds. On the other hand, this parallel use can easily be explained along the lines of our analysis: it could be argued that óxi and mí in the elliptic constructions under consideration simply preserve, and reflect, the distinction between (underlying) negative sentences with δέ(n) and negative sentences with mí(n), where these negative particles redundantly grammaticalize the distinction indicative/subjunctive.

Finally, the hypothesis that full negative sentences underlie our óxi- and mí- constructions is also supported by a semantic fact. There is in general a parallelism in the illocutionary force that óxi- constructions and the corresponding negative sentences with δέ(n) are normally assigned; for example, (36b) and the reduced (36'a) can be uttered as statements or as directives, according to the particular contextual characteristics that accompany their utterance. Similarly, mí- constructions and negative utterances with mí(n) are invariably assigned the illocutionary force of directives; thus the utterances of (37b) and (37'a) above have always the force of a command, request, threat, etc. What is interesting now is that both mí- and óxi- constructions parallel negative sentences with mí(n) and δέ(n), respectively, as to distinctions concerning illocutionary force, d e s -

pite the fact that in general negative particles are not bound to illocutionary force: as we saw above, it is the mood that can be said to correspond to a large extent to particular types of illocutionary force. The puzzling fact that óxi- and mí- elliptic constructions can denote different illocutionary forces (and, in particular, those that utterances with δέ(n) and mí(n), respectively, carry) can naturally be explained if the constructions of óxi and mí in question are considered as reduced forms of negative sentences containing an indicative (preceded by δέ(n)) and a subjunctive (preceded by mí(n)), respectively.

On these grounds we can, I think, maintain that óxi- and mí- elliptic constructions are transformationally derived from underlying (unreduced) negative sentences containing δέ(n) and mí(n), respectively.

There is a problem, however, which we have not touched so far: the derivational connexion between negative sentences and the corresponding óxi-/mí- elliptic constructions we argued for presupposes the operation of some transformations which we have not identified. We can say at this point that Verb(Phrase)-deletion, and in particular Verb(Phrase)-deletion under identity, will be one of the transformations involved. Consider the following piece of discourse (compare it with (39a)):

(40) A: péni leftá apo ton pétro ke apo ti
maría.

receives (he) money from 'art.' Peter
and from 'art.' Mary.

B: *óxi apo ton pétro.*

not from 'art.' Peter.

(40B) is equivalent in meaning with (40'B) below:

(40'B) *δέν pérni (leftá) apo ton pétro.*

not receives (he) (money) from 'art.' Peter.

where the Verb(Phrase) is preserved; the only difference between the two B. sentences is that the Verb Phrase is missing in the first. We can also say that the Verb Phrase deleted is not recoverable from (40B): it is recoverable from a preceding sentence. This obviously means that the occurrence of elliptic negative (as well as positive (cf. (39a))) constructions such as (40B), (36'a) or (37'a) is context-dependent; more generally, that the elliptic constructions we have been discussing here belong to the domain of 'discourse grammar', rather than to the domain of 'sentence grammar'. We shall return to the discourse grammar of negation in the final chapter.

1.2.1.1.1 óxi- constructions in ala(but)- and ke(and)- conjunctions

We have said that elliptic óxi- (and mí-) constructions originate as negative sentences and that their Verb(Phrase) constituents are deleted under identity with the Verb(Phrase) constituents of preceding sentences. Here we consider a case of óxi- constructions (mí- is not normally used in these constru-

ctions) in which the V(P) is deleted under identity with a V(P) occurring in the same, and not the preceding, sentence. This will give us the opportunity to see an instance of V(P)-deletion under identity within the framework of sentence grammar. Also, what is more important, it will provide us with some independent evidence for our suggestion above, that full negative sentences underlie our elliptic óxi- (and mí-) constructions.

Consider the following examples:

(41) a. épjasan ti maría {^{ala}/_{ke}} óxi to jáni.

arrested (they) 'art.' Mary {^{but}/_{and}} not
'art.' John [accus.] .

(They arrested not John but Mary).

b. o jánis pérni leftá apo ti maría {^{ala}/_{ke}}

óxi apo ton pétro.

'art.' John receives money from 'art.'

Mary {^{but}/_{and}} not from 'art.' Peter.

(John receives money not from Peter but
from Mary).

That the second parts of the conjunctions in (41a) and (41b) exemplify the same óxi as the one we have been discussing can easily be seen. The two óxi- constructions in (41) have an apparent similarity in structure with our elliptic óxi- constructions of sentence negation; compare them with (36'a) and (40B), both repeated here:

(36'a) óxi to jáni.

not 'art.' John.

(40B) óxi apo ton pétro.

not from 'art.' Peter.

Besides, what is more important, óxi- constructions on the right of ala (and ke) are subject to the same constraint as our elliptic óxi- (and mí-) constructions of sentence negation. As we have seen above, óxi (and mí) in elliptic constructions of sentence negation cannot co-occur with a verb. (42) below shows that this is the case in the second part of ala- (and ke-) conjunctions containing óxi:

- (42) a. *épjasan ti maría {^{ala}/_{ke}} épjasan óxi to jáni.
 arrested (they) 'art.' Mary {^{but}/_{and}} arrested
 (they) not 'art.' John.
- b. *o jánis pérni leftá apo ti maría {^{ala}/_{ke}} pér-
 ni (leftá) óxi apo ton pétro.
 'art.' John receives money from 'art.' Mary
 {^{but}/_{and}} receives (money) not from 'art.' Peter.

Given that nothing prevents the occurrence of the same V(P) on both sides of ala (and ke), as examples like (42') below make clear

- (42') a. épjasan ti maría {^{ala}/_{ke}} δέν épjasan to jáni.
 arrested (they) 'art.' Mary {^{but}/_{and}} not arre-
 sted (they) 'art.' John.
 (They arrested Mary {^{but}/_{and}} they did not arrest
 John).
- b. o jánis pérni leftá apo ti maría {^{ala}/_{ke}} δέν
 pérni apo ton pétro).
 'art.' John receives money from 'art.' Mary
 {^{but}/_{and}} not receives from 'art.' Peter.

we can suggest that the anomaly in (42) is comparable with that in the elliptic (36a), repeated here,

(36a) *épjasan óxi to jáni.

and that the óxi's they exemplify are not structurally different but obey the same constraints.

This suggestion, however, has some obvious consequences. We have seen above that elliptic óxi- (and mí-) constructions exemplify what has been defined as sentence negation. If now óxi in the second part of ala- (and ke-) conjunctions like (41a-b) is not different from óxi in elliptic constructions of sentence negation, then it too must be derivationally connected with the negation of an underlying full sentence.

That this is in fact the case can easily be seen. The óxi- constructions in (41) are intuitively correlated with the negative sentences in (42'); they are considered semantically equivalent in the same way as (40B), e.g., is, in the context of (40A), considered semantically equivalent with (40'B). If, then, we sought to account for the generation of óxi- constructions in (41a-b) etc. in terms of a set of Phrase Structure rules having, roughly, the form

$$(43) \quad \begin{array}{l} \text{NP} \rightarrow \text{NP} \left\{ \begin{array}{l} \underline{\text{ala}} \\ \underline{\text{ke}} \end{array} \right\} (\underline{\text{óxi}}) \text{NP} \\ \text{PP} \rightarrow \text{PP} \left\{ \begin{array}{l} \underline{\text{ala}} \\ \underline{\text{ke}} \end{array} \right\} (\underline{\text{óxi}}) \text{PP} \\ \text{etc.} \end{array}$$

we would face some serious problems. In the first place, rules of "phrasal conjunction" (to use Partee (1970)'s term) like those in (43) are typically postulated to account for conjunctions that are not analysable into semantically equivalent unreduced forms. On the other hand, óxi- constructions in ala- and ke- conjunctions are analysable into intuitively

correlated analytic forms. It would be unjustifiable therefore to seek to account for such constructions in terms of (not universally accepted (see Partee, op. cit.: 154, footn. 1)) rules of phrasal conjunction postulated to accommodate otherwise unrelated structures.

A second problem that the adoption of the Phrase Structure rules in (43) would involve would be the generation of óxi in unreduced (:containing a verb form) sentences. More precisely, if óxi in (41) is not due to the reduction of an underlying negative sentence on the right of ala or ke but to the expansion of a certain category in the sentence, then the well established constraint on the occurrence of óxi (and mí) in MG will be violated: óxi will be generated in a full sentence. This, as far as I can see, makes the special rules in (43) suspect and questions the solution they offer.

Finally, our suggestion that the óxi- constructions in ala- (and ke-) conjunctions are in fact reduced (negative) sentences is also supported by the fact that they share an idiosyncratic characteristic of the corresponding unreduced forms. In general, we cannot have the same V(P) negated on both sides of ala- conjunctions in MG. Cf. the anomaly in (44), e.g. (compare it with (42')):

- (44) a. * $\delta\acute{\epsilon}\nu$ épjasan ti maría ala $\delta\acute{\epsilon}\nu$ épjasan
to jáni.
not arrested (they) 'art.' Mary but not
arrested (they) 'art.' John.

(They did not arrest Mary but this will
not take too long to happen too).

b. δέν πέρνι leftá apo ti maría ala δέν ton
pistévun.

not receives (he) money from 'art.' Mary
but not him believe (they).

(He does not receive money from Mary but
they do not believe him).

we can say that it is not accidental that the elliptic forms
in (45) are subject to the same constraint as the analytic
forms in (44).

We can reasonably then maintain that elliptic óxi- con-
structions in ala- (and ke-) conjunctions, like their twin
single constructions, are in fact reduced negative sentences.
The transformational rule now that is responsible for this
reduction might be called Equi-V(P) deletion: it deletes the
V(P) in one of the two sentences of the conjunction under
identity with the V(P) of the other sentence; for example,
it deletes the verb on the right of ala/ke in (42'), while
the neg in the reduced part of the conjunction takes the
form óxi, and not δέν, since the latter is restricted to
precede verb forms. We shall see some more details about this
in our discussion of negative rules in MG later on.

To recapitulate our consideration of óxi/mí thus far,
in elliptic constructions these interchangeable¹ negatives

¹ With the exception of ala- and ke- conjunctions, where
mí is normally unacceptable, as we noted in the beginning of
this section.

cannot precede, or even co-occur with, verb forms (see 1.2.1) and can reasonably be associated with what we have defined as sentence negation (see 1.2.1.1 and 1.2.1.1.1). These characteristics of óxi/mí are clearly demonstrated with the following Table (" - " means "cannot co-occur with"):

Table 2. óxi/mí in elliptic constructions

- verb	(a)
sentence negation	(b)
interchangeable ¹	(c)

1.2.2 óxi/mí in full sentences

We devoted the preceding three sections to the discussion of elliptic óxi- and mí- constructions. In the sections to follow we consider instances of óxi and mí occurring in full sentences and try to show that they exemplify what has been called 'constituent negation'. We shall distinguish between two cases of constituent negation, exemplified by an óxi which occurs in noun phrases and is interchangeable with mí, and an óxi which precedes quantificational adverbs or adverbials and is not interchangeable with mí. We shall try to associate them with two different sources.

¹ See the footnote on the previous page.

1.2.2.1 Two cases of constituent negation1.2.2.1.1 óxi/mí occurring in noun phrases

The main structural characteristics of the óxi and mí of sentence negation in the elliptic constructions discussed in the preceding sections is that they cannot co-occur with a verb form. To this characteristic we can add a second, equally obvious one: these particles invariably precede the other category, or categories, of the construction; in a construction with an NP, for example, they always precede the whole category, occurring before the article, or, in general, the specifier of the N. Cf. (36'a) and (37'a), both repeated here:

(36'a) óxi to jáni.
not 'art.' John.

(37'a) mí to jáni.

There is, however, another syntactic environment, not discussed so far, that both particles, óxi and mí, have in common. These new instances of óxi and mí occur in noun phrases of full (:preserving the verb) sentences. Below we shall try to distinguish between such instances of óxi and mí and the already known instances of óxi and mí in terms of both their structural characteristics and their syntactic status.

Consider the following examples:

- (47) a. tis {óxi
mí} éndimes δuljés tis protimún.
the non honest jobs them [clitic] prefer
(they).
(They prefer the not honest jobs).
- b. jírise δjó {óxi
mí} emboriká film mazí tu.
shot (he) two non commercial films with
him.
(He shot two not commercial films with him).
- c. pandréftike ena {óxi
mí} γnostó iθopió.
married (she) a non famous actor.
(She married to a non famous actor).
- d. ton fórtosan me polés {óxi
mí} sovarés
katiγoríes.
him charged (they) with many non serious
accusations.
(They charged him with many not serious
accusations).

There are some obvious differences between these instances of óxi and mí and their instances in the elliptic constructions considered previously.

First of all, the instances of óxi and mí that (47a-d) demonstrate are not affected by the presence of the relevant verb phrases. They do not seem to be subject to the same restrictions in occurrence as their twins in elliptic constructions of sentence negation. Compare, for example, the grammatical (47a) and (47b) with the starred (48a) and

(49a), which are the analytic (:retaining the verb) forms that correspond to the elliptic óxi- and mí- constructions in (48b) and (49b), respectively:

- (48) a. * $\left\{ \begin{smallmatrix} \acute{o}xi \\ m\acute{i} \end{smallmatrix} \right\}$ tis éndimes $\delta\acute{u}lj\acute{e}s$ tis protimún.
not the honest jobs them prefer (they).
- b. $\left\{ \begin{smallmatrix} \acute{o}xi \\ m\acute{i} \end{smallmatrix} \right\}$ tis éndimes $\delta\acute{u}lj\acute{e}s$.
- (49) a. * $j\acute{i}rise$ $\left\{ \begin{smallmatrix} \acute{o}xi \\ m\acute{i} \end{smallmatrix} \right\}$ $\delta j\acute{o}$ emboriká fílm mazí tu.
shot (he) not two commercial films with
him.
- b. $\left\{ \begin{smallmatrix} \acute{o}xi \\ m\acute{i} \end{smallmatrix} \right\}$ $\delta j\acute{o}$ emboriká fílm.

But this is not the only structural difference between the instances of óxi and mí in (47) and their instances examined in the preceding sections. As (36'a), (37'a), as well as (48) and (49) above show, óxi and mí in elliptic constructions always precede the specifier, staying outside the boundaries of the noun phrase. On the other hand, the óxi and mí we are examining in this section fall within the boundaries of the noun phrase. As (47) clearly shows, they are preceded either by the definite article, or by the indefinite article, by quantifiers, expressions of degree (numerals, etc.), and in general by items which are referred to as 'specifiers' of the noun.

There are then two structural characteristics that differentiate the new instances of óxi and mí from óxi and mí in elliptic constructions of sentence negation: unlike the latter, the former may occur in unreduced (:preserving their verbs) sentences and cannot precede the specifier.

The question that now arises is what the syntactic status of these new instances of óxi and mí might be. We shall argue below on both syntactic and semantic grounds that they exemplify what is called 'constituent negation'.

It can be convincingly shown that the instances of óxi and mí under consideration do not exemplify sentence negation. They clearly fail to pass our sentence negation test (see 1.1.4.1). This test, remember, is composed of three criteria: a negative can be said to exemplify sentence negation if its sentence allows úte ke (neither and)-conjoining (criterion 1.), can be followed by a question tag without δέ(n) or μί(n) (criterion 2.), or can acceptably contain emphatically stressed forms of indefinite quantifiers or quantificational adverbs (criterion 3). Consider now the anomaly that the application of these criteria on (47a), e.g., causes:

(50) a. *tis $\begin{Bmatrix} \acute{o}xi \\ \acute{m}i \end{Bmatrix}$ éndimes $\delta\acute{u}lji\acute{e}s$ úte ke tis
vrómikes tis protimún.

the non honest jobs neither and the
dirty them prefer (they).

b. * $\begin{Bmatrix} KAMIA \\ kami\acute{a} \end{Bmatrix}$ $\begin{Bmatrix} \acute{o}xi \\ \acute{m}i \end{Bmatrix}$ éndimi $\delta\acute{u}lj\acute{a}$ tin protimún.
any non honest job it prefer (they).

c. *tis $\begin{Bmatrix} \acute{o}xi \\ \acute{m}i \end{Bmatrix}$ éndimes $\delta\acute{u}lj\acute{e}s$ tis protimún, tis
protimún?

the non honest jobs them prefer (they), them
prefer (they)?

(50c) shows that sentences like (47a) do not allow the formation of a 'checking' tag (criterion 2.), while (50a) shows that (47a) does not acceptably co-occur with úte ke-conjunction

(criterion 1.); (50b), finally, demonstrates that both the emphatic and the non emphatic indefinite forms of quantifiers are not acceptable in (47a) (criterion 3.).

The previous paragraph simply leads us to a negative conclusion: the óxi and mí under consideration do not exemplify sentence negation. There are, though, at least two pieces of additional evidence which positively show that they in fact are instances of constituent negation.

The first piece of evidence is syntactic. As it has been pointed out above, the óxi and mí in question are invariably preceded by the specifier of the NP; that is, these negative particles generally occur in, and structurally belong to, the NP, negating the immediately following part of this constituent.

The second piece of evidence is semantic. If the óxi and mí under discussion are in fact instances of constituent negation, then their occurrence in constituents that cannot normally be negated, like e.g. proper names, would result in anomaly. Probably, it is exactly this sort of anomaly that (51b) below displays:

- (51) a. $\begin{Bmatrix} \text{óxi} \\ \text{mí} \end{Bmatrix}$ ti maría.
not 'art.' Mary [accus.] .
- b. *sinándise $\begin{Bmatrix} \text{tin } \text{óxi} \\ \text{ti } \text{mí} \end{Bmatrix}$ maría.
met (he) 'art.' non Mary [accus.] .

More analytically, provided that the structure that (51b) exemplifies is not in general ungrammatical (cf. (47) above), the anomaly in (51b) is clearly semantic. This fact now, i.e. that (51b), unlike (51a), is semantically anomalous, not only backs our structural differentiation between instances of óxi and mí like those in (51), but also subscribes to our

characterization of óxi and mí preceded by the specifier as instances of constituent negation. In particular, given that anomaly would be unavoidable if the negative particle were interpreted as "negating" a proper name, óxi and mí in the acceptable (51a) cannot be regarded as "negating" such a constituent; on the other hand, the anomaly in (51b) suggests that this is what exactly its instances of óxi and mí do. Since now the two expressions in (51) differ only in the position of the negative, it is reasonable to argue that only instances of óxi and mí preceded by the specifier are assigned a 'constituent negation' interpretation.

We can maintain then on the basis of both syntactic and semantic evidence that óxi and mí occurring in NP's are in fact instances of constituent negation; and, more generally, that MG exemplifies not only sentence negation, but also constituent negation.

Before turning to the consideration of another use of óxi not discussed so far, it would be useful to summarize the main syntactic characteristics of the different instances of óxi and mí examined in this and the preceding sections. Table 3. below helps us to contrast óxi/mí in elliptic constructions with óxi/mí occurring in NP's, and both with the new use of óxi to be discussed in the following section (" - " and " + " mean, respectively, "cannot co-occur with" and "can co-occur with"):

Table 3.

<u>óxi/mí</u> in elliptic constructions	<u>óxi/mí</u> in NP's
- verb	+ verb (a)
sentence negation	constituent negation (b)
interchangeable ¹	interchangeable (c)
precedes specifier	is preceded by specifier (d)

1.2.2.1.2 óxi occurring in quantificational/qualificational adverbs or adverbials

The general conclusion of the preceding section, that MG exemplifies constituent negation as well, gains additional support from a use of óxi not discussed previously. This óxi has a very restricted distribution, is not interchangeable with mí, and displays constituent negation.

Look at the following examples:

- (52) vléponde óxi polí sixná.
 meet-each-other (they) not very frequently.
 (They meet each other not very frequently).

¹ With the exception of ala- and ke- conjunctions. See 1.2.1.1.1 above.

- (53) tus déxete óxi óso prépi þermá.
 them receives (he) not as must (it) warmly.
 (He receives them not as warmly as he
 should).

As these examples demonstrate, the óxi we are examining here (a) does not necessarily occur in NP's in general, and (b) is not preceded by specifiers, unlike the pair óxi/mí of constituent negation considered in the previous section. This óxi favours another syntactic environment: it normally occurs in quantificational adverbs or adverbials; on the other hand, as we saw in our discussion of the pair óxi and mí of constituent negation, they occur after the specifier of NP, and in general fall within the boundaries of NP. Henceforth we shall call the latter 'NP- óxi (and mí)' and the óxi occurring before quantifiers, etc., 'Quant- óxi' ('Quant' has an extended sense here: it is intended to include quantificational or qualificational adverbs or adverbials and in general items or phrases that can be interpreted as such). There is, finally, another structural difference which also distinguishes our Quant-óxi here from the pair óxi/mí in the preceding section: (c) óxi in (52) and (53) is not interchangeable with mí in general. Consider (52') and (53') (compare them with the mí versions of (47)):

(52') *vléponde mí polí sixná.

(53') *tus déxete mí óso prépi þermá.

Obviously this final structural characteristic of our óxi here differentiates it from its twin in the pair óxi/mí

of sentence negation as well, which is interchangeable with mí in their elliptic constructions. If now we add to this that our Quant- óxi, like the óxi (and mí) of constituent negation, occurs in unreduced sentences (cf. (52) and (53)), and thus is not subject to the major constraint that characterizes the distribution of óxi/mí in elliptic constructions, we can fairly safely conclude that it is structurally different from the óxi (and mí) of sentence negation as well. The Quant- óxi then is structurally distinct from the other instances of óxi discussed in the previous sections.

Let us now come to the syntactic status of this óxi. We have noted a characteristic that connects it with the pair óxi/mí of constituent negation and differentiates both from the óxi/mí of sentence negation: they can freely co-occur with a verb form, while the óxi/mí of sentence negation is bound to occur in elliptic (: lacking a verb) constructions exclusively. Does this suggest that the Quant- óxi as well is an instance of constituent negation?

Our negation test can be helpful at this point: if sentences containing Quant- óxi fail to pass this test, they do not exemplify sentence negation. In (54) and (55) below we examine (52) and (53), respectively, against the criteria of sentence negation:

- (54) a. *vléponde óxi polí sixná úte ke emís.
meet-each-other (they) not very frequently
neither and we.
- b. *vléponde {^{POTE}_{POTÉ}} óxi polí sixná.
meet-each-other (they) ever not very
frequently.

c. *vléponde óxi polí sixná, vléponde?
 meet-each-other (they) not very frequently,
 meet-each-other (they)?

(55) a. *tus déxete óxi óso prépi þermá úte ke o
 jánis.
 them receives (he) not as must (it) warmly
 neither and 'art.' John.

b. *tus déxete {^{KANIS}_{kanis}} óxi óso prépi þermá.
 them receives anyone not as must (it)
 warmly.

c. *tus déxete óxi óso prépi þermá, tus déxete?
 them receives (he) not as must (it) warmly,
 them receives (he)?

The a. sentences above show that the óxi under consideration cannot satisfy our criterion 1., while the b. and c. sentences make clear that it cannot satisfy, respectively, criteria 3. and 2., either. There is strong syntactic evidence then that the instances of óxi we are considering here do not exemplify sentence negation. Of course, this does not necessarily show that our Quant- óxi is an instance of constituent negation. There is, though, some positive evidence pointing to such an interpretation.

First of all, this Quant- óxi invariably precedes particular categories, i.e. quantifiers and quantificational (or even qualificational) adverbs or adverbials. This probably suggests that there is a particular connexion between them and the negative, a connexion that might be described as constituent negation.

Secondly, although it would hardly be a convincing piece of evidence to say that the semantic content of certain quantificational adverbs or quantifiers occurring in Adv phrases allows a negative element to be interpreted as more or less integrated into them, we can note that the negative is intuitively understood as reversing the polarity of the quantity that the quantificational adverb, etc., expresses: that is, if it expresses high quantity, the óxi that immediately precedes reduces it, whereas if the quantity is low, this óxi increases it. And there is a way of testing this intuition: if it is correct, then it is natural to expect that the more neutral in meaning (or the more central in the quantitative hierarchy) the quantificational adverb or the quantifier is, the more unlikely it is to be preceded by the óxi in question; that is to say, the less quantitative in meaning this item is, the more unacceptable it is in such óxi constructions. The anomaly in (56) below meets these expectations:

- (56) a. *Irðan óxi kámboses forés.
 came (they) not several times.
- b. *metakiníðike óxi meriká métra aristerá.
 moved (he) not some meters left.
- c. *proxórisan óxi kámboso makriá.¹
 moved (they) not enough far.

Compare a.-c., which are absolutely acceptable without óxi,

¹ "enough" is not the precise interpretation of kámboso here; the latter must be rather understood as the adverb form for 'some' and 'several'.

with the corresponding sentences with high or low quantity quantifiers and quantificational adverbs in (57) below, where reversing the polarity of the quantity does result in difference in meaning:

- (57) a. *írðan óxi líjes forés.*
 came not (a) few times.
 (They came many times).
- b. *metakiníðike óxi polá métra aristerá.*
 moved (he) not many meters left.
 (He moved not many meters left).
- c. *proxórisan óxi polí makriá.*
 moved (they) not very far.
 (They moved not very far).

If then the anomaly in (56) and its difference in acceptability from (57) is explicable in such terms and the intuition above is correct, the Quant- óxi cannot but be interpreted as integrated into the constituents (quantifiers, quantificational adverbs, etc.) it precedes.

We can suggest, therefore, on the basis of the syntactic and semantic evidence presented in the previous paragraphs that the instances of óxi we are dealing with are to be interpreted as constituent negation; and more generally, that they have the same syntactic status in the surface as the instances of the NP- óxi (and mí): they exemplify the same kind of negation.

Table 4. below recapitulates the main syntactic characteristics of Quant óxi, contrasting it with the other instances of óxi (and mí) examined in the preceding sections:

Table 4.

<u>óxi/mí</u> in elliptic constructions	NP- <u>óxi/mí</u>	Quant- <u>óxi</u>	
- verb	+ verb	+ verb	(a)
sentence negation	constituent neg.	constituent neg.	(b)
interchangeable ¹	interchangeable	non-interchangeable	(c)
precedes specifier	is preceded by specifier	is not preceded by specifier	(d)

1.2.2.2 Two sources of constituent negation

As our examples so far show, the particles óxi and óxi/mí of constituent negation are identical in form with the particles óxi and mí of elliptic constructions, including the reduced constructions with óxi that occur in ala- (or ke-) conjunctions (see 1.2.1.1.1). This formal relation between them becomes more impressive if we note that the negative particles óxi and mí that elliptic constructions of sentence negation and constructions of constituent negation share have a common syntactic characteristic: although some of them occur, as we saw, in full sentences, they do not have a verb in their scope in general. In fact, both the pair óxi/mí and the single óxi of constituent negation are restricted to constituents other than verb: they occur in noun phrases and in quantificational Adv phrases, adverbials, etc., respectively, and thus never feature a

¹ See section 1.2.1.1.1 for an exception.

verb among their constituents. Similarly, the óxi and mí of the other (elliptic) constructions never have a verb in their structure and scope. Given these similarities, it may not be altogether unjustifiable to hypothesize that both constituent negation and negation in reduced forms lacking a verb owe the use of the same negative morphemes to the same reason, i.e. the absence of the constituent verb from their structure. Furthermore, given that elliptic óxi- and mí- constructions of sentence negation have already been shown to originate as full sentences, we can plausibly ask whether at least some of the instances of the (parallel in form) particles of constituent negation too are associated with the neg of sentence negation in underlying structure.

In the sections to follow we shall argue that the Quant-óxi has its source in sentence negation ; we shall also discuss two possible solutions for the NP- óxi/mí, the one associating it with sentence negation, the other not.

1.2.2.2.1 The source of the Quant- óxi of constituent negation

In this section we discuss a tentative formalization of constituent negation presented in Klima (1964), and explain why such a solution could not be adopted in MG. In particular, we argue that Quant- óxi, unlike NP- óxi/mí, of constituent negation shares with instances of sentence negation a basic constraint and try to account for this difference in the behaviour of the two instances of constituent negation, Quant- óxi and NP- óxi/mí, by deriving the former from under-

lying negative sentences.

Klima (1964) points out that sentences like (58) (his 195a)

(58) It wasn't long ago that he found something
interesting here.

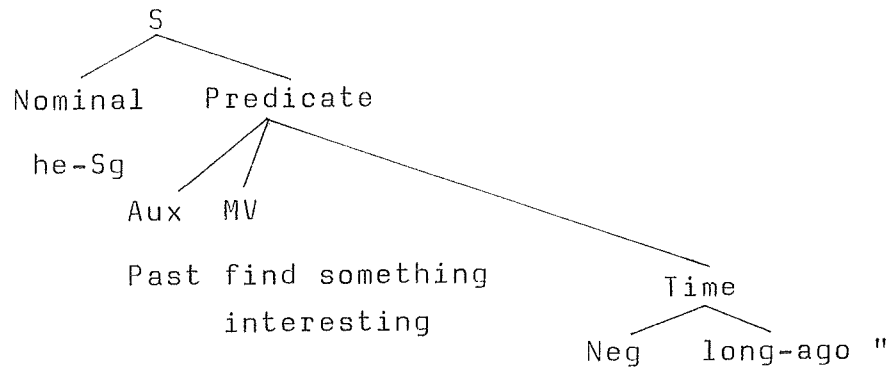
" are significant in that expressions containing the not of constituent negation that occur in [sentences like "He found something there not long ago" — I.V.] also occur above with not as a regular pre-verbal particle (...). Thus, the feature that differentiates [(58)] from "He found something there not long ago" is not the nature of long ago when it occurs in a sentence containing not (and note that the two syntactically different occurrences are felt to have the same meaning (...)). The difference between the two occurrences is due solely to the basically different original structural position of not and long ago in the two sentences" (ibid.:307).

Klima offers a tentative formulation of the structure that the constituent negation in the quotation above might be associated with:

" let us tentatively describe the not long ago of constituent negation by the following extension of the constituent structure expansion of Time:

$$\text{Time} \rightarrow (\text{neg}) \text{long} \begin{cases} \text{ago} \\ \text{after} \\ \text{before} \end{cases}$$

"He found something interesting there not long ago" will have the following structure, similar to that of words with a negative affix:



(Klima, *ibid.*:308).

Pairs like (59) below

- (59) a. $\delta\acute{\epsilon}n$ $\acute{\epsilon}rxete$ $pol\acute{\iota}$ $nor\acute{\iota}s$.
 not comes (he) very early.
- b. $\acute{\epsilon}rxete$ $\acute{o}xi$ $pol\acute{\iota}$ $nor\acute{\iota}s$.
 comes (he) not very early.

seem to show that the same argument (and the same tentative formalization) are applicable to Quant- $\acute{o}xi$. As it can easily be seen, the expression that contains the $\acute{o}xi$ of constituent negation in (59b) also occurs in (59a) with $\delta\acute{\epsilon}n$ as a regular pre-verbal negative. Besides the two syntactically different occurrences are semantically equivalent. The difference thus between the two occurrences might be said to be due to the basically different original position of the negative and $pol\acute{\iota}$ $nor\acute{\iota}s$ (very early) in the two cases.

There is, however, considerable evidence against such an explanation, and, in general, an analysis of our data on constituent negation along the lines of Klima (1964). We discuss it immediately below.

There is a major asymmetry in the distribution of the Quant- $\acute{o}xi$ and the NP- $\acute{o}xi/m\acute{\iota}$: the former, unlike the NP- $\acute{o}xi/m\acute{\iota}$, cannot co-exist with an instance of (sentence negation) $\delta\acute{\epsilon}(n)$ (or $m\acute{\iota}(n)$) in the same sentence. Consider

the anomaly in (60):

- (60) a. *i fanatikí dén píyan óxi norís.
the enthusiasts not went not early.
- b. *i éndimes δuljés dén kratún óxi polí.
the honest jobs not last not much.

and the difference in acceptability between the instances of the Quant- óxi in (60a-b) and the instances of the NP- óxi in (60'a-b):

- (60') a. i $\begin{Bmatrix} \acute{o}xi \\ m\acute{i} \end{Bmatrix}$ fanatikí dén píyan norís.
the non enthusiasts not went early.
(The non-enthusiasts did not go early).
- b. i $\begin{Bmatrix} \acute{o}xi \\ m\acute{i} \end{Bmatrix}$ éndimes δuljés dén kratún polí.
the non honest jobs not last much.
(The non honest jobs do not last very
much).

(60) makes clear that the Quant- óxi, unlike the NP- óxi/mí (see (60')) of constituent negation, cannot co-occur with the (sentence negation) δέ(n). And it can easily be seen that this holds in sentences having mí(n) (with the corresponding subjunctive forms) as well; cf. (61) below:

- (61) a. *i fanatikí na mίν páne óxi norís.
the enthusiasts 's.m.' not go not early.
- b. *i éndimes δuljés na mίν kratún óxi polí.
the honest jobs 's.m.' not last not much.

An analysis now that generates óxi in constituents like Quant, etc., will have to account for this restriction in occurrence by formulating a particular constraint, in order to capture the non-occurrence of the Quant- óxi in sentences

like (60a-b) which already have another negative particle. It can easily be seen, however, that this would be an unnatural solution and would dismiss an important generalization. Consider the anomaly in (62) and (63):

- (62) a. *i fanatikí dé dén píyan norís.
the enthusiasts not not went early.
- b. *i éndimes δuljés dé dén kratún polí.
the honest jobs not not last much.
- (63) a. *i fanatikí na mí mîn páne norís.
the enthusiasts 's.m.' not not go early.
- b. *i éndimes δuljés na mí mîn kratún polí.
the honest jobs 's.m.' not not last much.

Compare the anomaly in (62) and (63) with that in (64):

- (64) a. *i fanatikí píyan óxi óxi norís.
the enthusiasts went not not early.
- b. *i éndimes δuljés kratún óxi óxi polí.
the honest jobs last not not much.

That the anomaly in (60) has the same source as that in (62)-(64) can easily be seen: if we eliminate one of the two negatives in anyone of the sentences in (60) and (62)-(64), they become absolutely perfect.

The examples in (62)-(63) now suggest that there is a general constraint governing the occurrence of sentence negation particles in MG: no more than one instance of sentence negation is allowed in a sentence. On the other hand, constituent negation, as it is exemplified by (60) and (60'), seems to react in two different ways if tested against this

constraint: the Quant- óxi of constituent negation behaves as if it shares this constraint (cf. the anomaly in (60)), whereas the NP- óxi/mí of constituent negation appears to ignore this constraint (cf. (60')); compare it with (60)). Probably an adequate account would have to explain on what grounds constituent negation exemplified by the Quant- óxi, on the one hand, and sentence negation in general, on the other hand, appear to have a common constraint that the other instances of constituent negation (exemplified by NP- óxi/mí) do not. As far as I can see, the hypothesis that the Quant- óxi originates in the constituent Adv, etc., would not provide us with a natural explanation for the fact that Quant- óxi shares the general constraint on the double occurrence of the negative with the sentence negation δέ(η) and μί(η). There is, though, an alternative solution which not only accounts for the facts pointed out in the previous paragraphs in a natural way, but also achieves some important generalizations. We discuss it immediately below.

Suppose that the Quant- óxi originates as sentence negation and that it is lowered (or attracted) into its pre-Adv, etc., position after the application of a negative-lowering (or a negative-attraction) transformation. Presumably, under this hypothesis the anomaly that the double occurrence of negation in (60) and (62)-(64) above causes will be explicable in terms of the same constraint: (60) will be considered to exemplify originally two instances of sentence negation, and thus both (60a) and (60b) will be ruled out as violating the general constraint on the double occurrence of sentence negation that rules out the sentence negation examples in (62)-(63).

However, obedience to a constraint that is applicable only on instances of sentence negation is not the only motivation we have for postulating that the Quant- óxi be derivationally related with sentence negation. These two kinds of negation here share some other idiosyncratic constraints too. Compare (65a-b) below:

- (65) a. o jánis méni óxi polí makriá.
 'art.' John lives not very far-away.
 (John does not live very far away).
-
- b. *o jánis méni óxi líyo makriá.
 'art.' John lives not a-bit far-away.
 (John lives very far away).

with the corresponding negative sentences in (66):

- (66) a. o jánis dé méni polí makriá.
 'art.' John not lives very far-away.
 (John does not live very far away).
- b. *o jánis dé méni líyo makriá.
 'art.' John not lives a-bit far-away.
 (John lives very far away).

There is an obvious correspondence in acceptability between (65) and (66): (65a) and (66a) are perfect, but (65b) and (66b) are bad¹, to say the least. This obviously shows that sentences with the Quant- óxi share the same peculiarities

¹ (66b) can be acceptable only as semiquotation; that is, only if it is interpreted as denying its positive counterpart (cf. (67) below). We will return to this interpretation of negative sentences in the final chapter.

with the corresponding negatives sentences. Besides the difference in acceptability between the corresponding positive sentence (67):

- (67) o jánis méni líyo makriá.
 'art.' John lives a-bit far-away.
 (John lives a bit far).

and both (65b) and (66b) above demonstrates that the latter two differ from their corresponding positive in the same way.

Again, as with the general constraint discussed in the previous paragraphs, the parallelism between the behaviour of Quant- óxi of constituent negation and the behaviour of sentence negation cannot be naturally accounted for in terms of a theory that generates Quant- óxi in pre- Adv, etc., position. We can thus maintain that there are some facts pointing to the hypothesis that our instances of the Quant- óxi of constituent negation have their origin in what we have defined as sentence negation.¹

To recapitulate, in this section we have been gathering evidence for the hypothesis that the Quant- óxi of constituent negation, despite its surface structure status, has its source

¹ Of course their having sentence negation as their syntactic origin by no means implies that the instances of Quant- óxi we are considering here should have the same meaning as the corresponding underlying negative sentences. Semantic interpretation will apply on surface structure configurations, and thus the relative position of the negative and the quantifier will be taken into account (see e.g. Jackendoff 1972). We shall see more details about the relation between semantic interpretation and relative scope in chapter III.

in sentence negation. As we saw, under this hypothesis we are able to account in a natural way for the relationship between Quant- óxi and sentence negation, as well as for their common differences from the corresponding positive sentences. What is more important, however, this hypothesis provides us with an explanation of the asymmetry in behaviour between the two instances of constituent negation óxi: as we pointed out above, the Quant- óxi shares with sentence negation a constraint in occurrence that the other instance of constituent negation (exemplified by the interchangeable with mí NP- óxi) does not. We can now suggest (and this suggestion will be further discussed in the next section) that this asymmetry is due to the different origins of the two instances of constituent negation: the NP- óxi/mí does not share with the Quant- óxi the characteristics that we tried to explain in terms of a derivational connexion between the latter and sentence negation, and thus it cannot be hypothesized to have the same source as the Quant- óxi. What, however, might the origin of the NP- óxi/mí be?

1.2.2.2.2 The source of the NP- óxi/mí

Extending Table 4. above (see 1.2.2.1.2) to incorporate our observations in the preceding section, we can summarize the surface structure characteristics of the particles óxi and mí as follows:

Table 4'. The surface structure characteristics of óxi and mí.

<u>óxi/mí</u> in elliptic constructions	NP- <u>óxi/mí</u>	Quant- <u>óxi</u>	
- verb	+ verb	+ verb	(a)
sentence negation	constituent neg.	constituent neg.	(b)
interchangeable ¹	interchangeable	non-interchange- able	(c)
precedes specifier	is preceded by specifier	is not preceded by specifier	(d)
- second negative	+ second negative	- second negative	(e)

As we said in the previous section, the pair NP- óxi/mí of constituent negation seems to violate freely the general (and common for both the Quant- óxi and the sentence negation) constraint on double occurrence of negation. We suggested that this might be due to its having a different origin from the Quant- óxi, despite the fact that they share the same status (i.e. exemplify constituent negation) in the surface. Below we shall see what this different origin might be.

We have seen that sentences exemplifying both sentence negation and Quant- óxi, like (60) and (61), repeated here as (68) and (69):

(68) a. *i fanatikí dén píyan óxi norís.
the enthusiasts not went not early.

b. *i éndimes duljés dén kratún óxi polí.
the honest jobs not last not much.

(69) a. *i fanatikí na mín páne óxi norís.
the enthusiasts 's.m.' not go not early.

¹ With the exception of ala-/ke- conjunctions.

- b. *i éndimes δuljés na mίν kratún óxi polí.
the honest jobs 's.m.' not last not much.

differ in acceptability from (68') and (69'), respectively,

- (68') a. i $\left\{ \begin{smallmatrix} \acute{o}xi \\ m\acute{i} \end{smallmatrix} \right\}$ fanatikí δén píyan norís.
the non enthusiasts not went early.

- b. i $\left\{ \begin{smallmatrix} \acute{o}xi \\ m\acute{i} \end{smallmatrix} \right\}$ éndimes δuljés δén kratún polí.
the non honest jobs not last much.

- (69') a. i $\left\{ \begin{smallmatrix} \acute{o}xi \\ m\acute{i} \end{smallmatrix} \right\}$ fanatikí na mίν páne norís.
the non enthusiasts 's.m.' not go early.

- b. i $\left\{ \begin{smallmatrix} \acute{o}xi \\ m\acute{i} \end{smallmatrix} \right\}$ éndimes δuljés na mίν kratún polí.
the non honest jobs 's.m.' not last much.

which apparently escape the general constraint on double occurrence of negation in a sentence. We can now say, however, that there are, on the other hand, many examples of the NP- óxi/mí which undoubtedly show that they are subject to this general constraint. Compare e.g. our (70)

- (70) a. *i fanatikí píyan óxi óxi norís.
the enthusiasts went not not early.
β. *i éndimes δuljés kratún óxi óxi polí.
the honest jobs last not not much.

with (70') below

- (70') a. *i $\left\{ \begin{smallmatrix} \acute{o}xi \\ m\acute{i} \end{smallmatrix} \right\}$ $\left\{ \begin{smallmatrix} \acute{o}xi \\ m\acute{i} \end{smallmatrix} \right\}$ fanatikí píyan norís.
the non non enthusiasts went early.
b. *i $\left\{ \begin{smallmatrix} \acute{o}xi \\ m\acute{i} \end{smallmatrix} \right\}$ $\left\{ \begin{smallmatrix} \acute{o}xi \\ m\acute{i} \end{smallmatrix} \right\}$ éndimes δuljés kratún polí.
the non non honest jobs last much.

(70') seems to suffer from the same sort of anomaly as (70) (and (68)-(69) above), and, what is more important, differs

in acceptability from both (68') and (69'), although they exemplify the same sort of constituent negation together with a second instance of negation.

The behaviour of NP- óxi/mí, though, is not as curious and contradictory as it might at first sight appear. There is an obvious structural difference between the instances of NP- óxi/mí that differ in acceptability: the unacceptable (70'a) and (70'b) exemplify a double occurrence of negation in the same constituent, while the corresponding acceptable (68') and (69'), respectively, exemplify two instances of negation occurring in different constituents, i.e. a pre-verbal δέ(n) or μί(n) (sentence negation) together with the NP- óxi/mí of constituent negation. Below we shall argue that the constituent negation instances of NP- óxi/mí are subject in general to the constraint on the double occurrence of negation; and that sentences like those in (68') and (69') are acceptable because the two instances of negation they demonstrate do not originate in the same cyclical node: in particular, we shall examine (a) the possibility that NP's featuring constituent negation óxi/mí are reduced relative clauses (in which case their negative has its source in the (sentence) negation of an underlying relative clause) and (b) the possibility that they are base structures (in which case, again, their negative occurs in a different cyclical node, namely, the node of the cyclical category noun phrase). Let us begin with the examination of the first possibility, that noun phrases containing NP- óxi/mí derive transformationally from underlying (negative) relative clauses.

Klima (1964:310-11) considers a parallel (informal) analysis for sentences like "He is marrying a not unattractive woman". Assuming that this sentence is somehow related to the sentences "He is marrying a woman" and "That woman isn't unattractive", he points out that

" The occurrence and the behaviour of the neg of constituent negation in pre-nominal attributive position is similar but not identical to the occurrence of the pre-verbal particle neg and its reflexes in relative clauses and in certain other embedded postnominal modifiers that can be regarded as reduced relative clauses."

And below:

" The appropriate restriction in scope of the neg of constituent negation is provided for if pre-nominal attributive modifiers are derived from relative clauses whose source sentence contains a pre-verbal particle neg."

Consider now (71) and (72), which demonstrate, respectively, the similarity of the óxi/mí of constituent negation in pre-nominal attributive position to the δέ(n) of sentence negation in corresponding negative relative clauses, and the relation of óxi/mí instances of constituent negation in embedded postnominal modifiers (not discussed so far) with the relevant negative relative clauses:

- (71) a. pandrévete mía {^{óxi}/_{mí}} elkistikí jinéka.
 is-marrying (he) a non attractive woman.
 (He is marrying an unattractive woman).
- b. pandrévete mía jinéka pu dé(n) ine elkistikí.
 is-marrying (he) a woman who not is attractive.
 (He is marrying a woman who is not attractive).

- (72) a. mīa jinéka { $\begin{smallmatrix} \acute{o}xi \\ m\acute{i} \end{smallmatrix}$ } elkistikí ton épise na tin
pandreftí.
a woman non attractive him persuaded to her
marry.
(An unattractive woman persuaded him to marry
her).
- b. mīa jinéka pu δén ítan elkistikí ton épise
na tin pandreftí.
a woman who not was attractive him persuaded
to her marry.
(A woman who was not attractive persuaded
him to marry her).

At first sight, Klima's analysis of this sort of constituent negation could be proposed for the NP- óxi/mí as well. One may suggest that NP- óxi/mí constructions can be traced back to an underlying negative relative clause: that these instances of óxi/mí are transformationally derived by the lowering, or the attraction, of the pre-verbal particle of sentence negation to another, non pre-verbal, position, which is necessitated by the whole process of reduction of the relevant (negative) relative clause. Such a suggestion allows a natural explanation for the puzzling fact that some of our data on NP- óxi/mí can freely violate the general constraint on the double occurrence of negation (cf. the acceptable (68') and (69')) and some cannot (cf. the unacceptable (70')): if NP- óxi/mí constructions originate as negative relative clauses in the underlying structure, sentences like those in (68') and (69') do not in fact violate this general constraint.

In the following paragraphs we shall see some possible evidence together with some decisive counterevidence for such a derivational connexion between an underlying negative relative clause and an NP- óxi/mí construction. Let us begin with the evidence.

First, one cannot ignore the fact that there is a parallelism in function between relative clauses in general and NP- óxi/mí constructions: the latter preserve the contrast restrictive/non-restrictive that in general characterizes the use of the former.¹ Cf. the difference in use between (71a) and (72a): the latter is clearly parenthetical and differs from the former, (71a), in the way (72b) differs from (71b). This correspondence undoubtedly can be naturally accounted for in terms of the suggestion above.

That NP- óxi/mí may have their origin in the negation of an underlying relative clause gains indirect support from a second fact. There is a special use of the genitive case in MG, as well as in English: normally in co-ordination with (finite or non-finite) forms of the copula, genitive expresses a property that is characteristic of the subject- NP; cf. this predicative use of the genitive in sentences like íne kakú xaraxtíra (he is of a bad character). What is interesting now is that this predicative use of the genitive is also found in NP- óxi/mí constructions of constituent negation. Look at (73) below:

¹ Bach (1968) uses a parallel argument for non-negated constituent NP's.

- (73) a. mía jinéka { $\begin{smallmatrix} \acute{o}xi \\ m\acute{i} \end{smallmatrix}$ } evjenikís kataγojís ton
tílikse ke ton pandréftike.
a woman (of) non noble birth him entangled
and him married.
- b. mía jinéka pu δέν ítan evjenikís kataγojís
ton tílikse ke ton pandréftike.
a woman who not was (of) noble birth him
entangled and him married.

If now our account did not recognize a derivational connexion between the negations in (73a) and (73b), it would have not only to leave unaccounted for the intuitive semantic correlation of the two cases, but also to accept (unnaturally) that the same peculiarity, i.e. this use of the genitive, was exemplified by two different and unrelated structures.

Undoubtedly, these facts lend support to the hypothesis that noun phrases featuring NP- óxi/mí of constituent negation derive from underlying (negative) relative clauses. However, there is, on the other hand, some data on this sort of constituent negation which cannot be dealt with in terms of such a derivation.

Consider the following examples:

- (74) a. (δέ) me apasxolf i mí eksomálini ton
sxéseon aftón ton xorón.

(not) to-me matters the non settlement of+
the relations of+these 'art.' countries.

- b. i mĩ apodoxĩ tu vravĩu apó to jáni (δέ)
me ekséplikse.
the non acceptance of+the prize by 'art.'
John (not) me surprised.
- c. i mĩ anámiksi stis ipoθésis álon xorón (θέν)
ĩne staθeró xaraktiristikó tis politikĩs
tus.¹
the non interference in+the affairs (of+)
other countries (not) is (a) constant
characteristic of+the politics their.

The nouns involved here share an apparent characteristic: they are 'derived nominals'. And this makes the relevant data problematic for the hypothesis considered in the previous paragraphs for obvious reasons. It is well known that there are two alternative "positions" with respect to the problem of derived nominals: the 'transformational position' (: these nominals are transformationally derived from the associated verbs) and the 'lexicalist position' (: they are directly accommodated in the base) (cf. Lees 1960 and Chomsky 1972, respectively). To present some empirical evidence that supports one or the other of the alternative theories would take us far away from our purposes here. It can easily

¹ Such instances of constituent negation are due to the influence of Greek 'kaθareúsousa'; hence, they are more common among literate people, on the one hand, and, on the other, make use of the particle mĩ (mē) exclusively; this secures their relationship to their Ancient Greek analogs, which made use of that particle (mē) exclusively, too.

be seen, however, that many of the difficulties pointed out in Chomsky (1972) (i.e. difficulties concerning the internal structure of nominals, the idiosyncratic semantic relations between them and the associated propositions, etc.) would make the application of the 'transformationalist' analysis on MG problematic. To propose, therefore, that derived nominals featuring NP- mí derive transformationally from underlying sentences will bring in the difficulties that accompany the transformationalist position.

It is now time to come to the examination of the second hypothesis made above, that the NP- óxi/mí appears in base forms, as part of the expansion of the cyclical category noun phrase. If this solution is to be pursued, the relevant rules of the categorial component could have the following form:

(75) a. $N''' \rightarrow (\text{neg}) N'''^1$

b. $N''' \rightarrow \dots N'' \dots$

(neg here is a specified grammatical formative and stands for negation in a cyclical node; in that sense it does not differ from the neg of sentence negation we have been using so far, since the sentence is a cyclical node as well). By this schema, the negative is introduced in the base as an optional element of the category N''' , which is a recursive element of the base. On this basis we can easily account for the co-occurrence of NP- óxi/mí with sentence negation (cf. the acceptable (68') and (69') and the anomaly that the second

¹ We shall be following here Jackendoff's Three Level Hypothesis (Jackendoff 1977); this decision will be justified as we proceed (see, in particular, section 2. below).

occurrence of an NP- óxi/mí in the same noun phrase invariably causes. Specifically, we can modify the general constraint on the double occurrence of negation so that only one neg is permitted per cyclical node. The categorial rule that expands the category N^{'''} can itself take account of this (cf. (75) above). This will readily account for the difference in acceptability between (70') and (68')-(69'). The former, which exemplifies two instances of negation in the same cyclical node, will never be generated, while the latter two will be generated: they feature one instance of negation in the cyclical category of sentence and one instance of negation in the other cyclical category, that of noun phrase.

This "lexicalist" solution is preferable to the one examined previously, which derived NP- óxi/mí from the sentence negation of underlying S's, and which might thus be called "transformationalist" solution. The reasons are obvious. We discuss them immediately below.

First of all, this solution avoids the problems that the "transformationalist" one faces in deriving the nominals of (74a-c) from the associated propositions, as we have seen. The categorial rule (75) accounts straightforwardly for the occurrence of constituent negation in the phrases of the derived nominals eksomálinisi (settlement), apodoxí (acceptance) and anámixi (interference).

Second, the "lexicalist" solution accounts in exactly the same terms for the occurrence of NP- óxi/mí in noun phrases which contain derived nominals (cf. (74)) and in noun phrases which do not (cf. (68')). On the other hand, such a unitary account cannot be achieved in the framework

of the "transformationalist" solution, which would demand underlying relative clauses in the case of (68') and another kind of underlying clauses in the case of (74).

Third, the "lexicalist" solution avoids the hypothesis that (part, or the whole, of) noun phrases derive from underlying relative clauses (see Bach 1968). This hypothesis faces its own problems and has not been adopted in general. So the solution defended here escapes not only the difficulties that the transformationalist analysis of derived nominals involves but also the difficulties that accompany the derivation of noun phrases from underlying relative clauses.

Of course, the fact that our "lexicalist" solution avoids the problems of its rival does not mean that this solution is free of problems itself. Indeed, one may reply that two weak points mark this "lexicalist" approach: (a) it does not seem to account naturally for the fact that the NP structures in the a.'s of (71)-(73) share with the relative clauses in the corresponding b.'s some idiosyncratic characteristics (cf. our discussion of the evidence for the "transformationalist" position); and (b) the base rule (75) is too strong: it allows the production of unacceptable structures like *i mí vivlioθíki (the non bookcase), *to mí timóni (the non steering-wheel), *o mí δrómos (the non road).¹

¹ Such anomalous constructions are allowed in the framework of the "transformationalist" position, too. This position cannot avoid them, unless it can block relative clauses of the type

- (i) aftó pu dén íne vivlioθíki.
that which not is (a) bookcase.

But I cannot see how it will block such acceptable clauses.

calist" solution for the NP- óxi/mí. It is true that, although it can in general precede nouns associated with adjectives, the NP- óxi/mí cannot normally precede "bare" nouns which are not derived nominals. Consider the anomaly of *i mí vivlioθíki (the non bookcase), *ta mí domátia (the non rooms), etc. (Compare them with the natural i mí plíris vivlioθíki (the non full bookcase), ta mí fotiná domátia (the non well-lit rooms), etc.). On the other hand, the base rule (75) cannot block such unacceptable constructions, as we noted above. In the following paragraphs we shall try to see in what these starred constructions differ from the acceptable constructions of NP- óxi/mí and propose a possible solution.

Presumably, the fact that unacceptable constructions like *i mí vivlioθíki (the non bookcase), etc., become acceptable if the noun is associated with an adjective (cf. i mí plíris vivlioθíki (the non full bookcase), etc.), as well as the fact that of the "bare" nouns only the derived nominals can be negated are not without significance. It has been pointed out in many occasions that adjectives share some properties with verbs (Some linguists, as a matter of fact, have reached the extreme view that verb and adjective are subcategories of a category called 'predicator' (cf. Lakoff 1966 ; for a discussion see Chomsky 1972:34f)). And it would not be implausible to suppose that derived nominals as well are of an analogous predicative nature. The two analyses proposed for these nominals, i.e. the transformational position and its rival, the lexicalist position, are characteristic at this point: the former associates them

with underlying verbs, while the latter position argues that their internal structure "mirrors that of the sentence" (they have subjects, complements, etc.).

We can reasonably argue, therefore, that the categories which guarantee the acceptability of the NP- óxi/mí, i.e. the category 'adjective' and the (sub)category 'derived nominal', appear to share a particular feature: they both can be characterized as [+Verb].¹

This association of lexical categories with deeper features is hardly an innovation. As Chomsky points out,

" It is quite possible that the categories noun, verb, adjective are the reflexion of a deeper feature structure, each being a combination of features of a more abstract sort. In this way, the various relations among these categories might be expressible. For the moment, however, this is hardly clear enough to be a speculation."

(1972:35).

We can add to this that it is also possible that a particular class of nouns share an additional feature which the other nouns lack; and that this feature may be present in the combination of features reflected by one of the other categories

¹ I am aware of the fact that by assigning the feature [+Verb] to derived nominals we make them indistinguishable from the category adjective: given that derived nominals are [+Noun] as well, this subcategory of nouns is here associated with the features [+Noun] and [+Verb] which have been considered to identify adjectives. We could possibly (but unattractively) overcome this problem by adopting an additional feature, say [\pm Adjectival], distinguishing between derived nominals ([-Adject.]) and adjectives ([+Adject.]).

or in both the combinations of features reflected by the other two categories, verb and adjective. On such a basis we could account for some puzzling facts, like the behaviour of our NP- óxi/mí, or even the existence of "mixed" forms such as John's refusing of the offer, alongside with John's refusal of the offer and John's refusing the offer (all taken from Chomsky 1972). Specifically, if the speculation that adjectives and derived nominals share the feature [+Verb] is correct, then we can account for the anomaly of *i mí vivlioðiki (the non bookcase), etc., on the basis of the plausible assumption that the NP- óxi/mí of constituent negation cannot precede constituents reflecting combinations of features that lack the feature [+Verb]. Similarly, if it is true that "it would be quite reasonable to expect that certain items might appear, with fixed contextual features, in more than one of these categories", as the lexicalist position assumes, we could possibly say of the above "mixed" form that it belongs to a "mixed" (sub)category reflecting a combination of features that blends the features of the categories John's refusing the offer and John's refusal of the offer.

Of course, all these are hardly clear issues. Nevertheless, we can, I think, suggest that the anomaly of *i mí vivlioðiki (the non bookcase), *to mí timóni (the non steering-wheel), etc., which are freely produced by rule (75) (as well as by the reduction apparatus of the "transformationalist" solution), does not in fact question the "lexicalist" solution we have adopted (exactly as the "mixed" form John's refusing of the offer does not in fact question

either the lexicalist position or the transformationalist position). If this suggestion is correct, then we can come to the question of how the difficulties of the NP- óxi/mí might be accommodated within the framework of our "lexicalist" solution.

As far as I can see, there are two solutions available for the exclusion of the anomalous *i mí vivlioðíki, etc. We can either construct an output condition that rules out the constructions of the NP- óxi/mí which lack the feature [+Verb], or, alternatively, we can properly formulate the structural description of the transformational rule that moves the neg from its initial position (see (75)) into the specifier of N" (see below), so that the anomalous constructions never arise. Specifically, we can make the application of this transformation sensitive to the presence of the feature [+Verb] and mark with this feature the lexical entries of derived nominals, as well as adjectives.

1.2.2.2.3 Summary

To recapitulate our discussion of the sources of constituent negation, we have argued that Quant- óxi derives by the lowering of sentence negation into particular constituents in Adv phrases. As far as the more complicated case of NP- óxi/mí is concerned, we have seen that some instances of this kind of constituent negation are subject to our general constraint on the double occurrence of negation and some instances are not. As we noted, however, there is an apparent structural difference between the former and the latter instances of NP- óxi/mí: the co-occurrence of this

óxi/mí with another instance of negation is unacceptable (i.e. subject to our general constraint) if this latter instance of negation appears in the same constituent; that is, if it exemplifies a second occurrence of óxi/mí in the same noun phrase. On the other hand, the co-occurrence of constituent negation óxi/mí with a second instance of negation that does not occur in the same noun phrase causes no anomaly (i.e. is not subject to our general constraint). As we argued, the (superficially) contradictory behaviour of the NP- óxi/mí is explicable in terms of the general constraint on the double occurrence of negation in a cyclical node: some negative sentences (cf. those in (68') and (69')) seem to escape this general constraint simply because the instances of constituent negation they exemplify in the relevant noun phrases originate in another cyclical node, i.e. the node N''' .

I would like to conclude the discussion of the sources of constituent negation in MG by putting our suggestions in the last two sections through a test. In particular, if the constituent negation that óxi/mí exemplify in noun phrase originates in base structures, as an optional element of the expansion of N''' , as we have been arguing, then the occurrence of more than one noun phrase exemplifying óxi/mí in one sentence would be absolutely permissible. On the other hand, if the Quant- óxi of constituent negation in fact derives from the attraction of sentence negation by particular constituents in Adv phrases, etc., as we accepted in the preceding section, then the occurrence of more than one negated quantificational adverb, etc., in one sentence

would create anomaly since it would presuppose, along the lines of our analysis, that there were originally more than one instances of sentence negation in the same sentence. These two predictions are borne out as we can see in (76) and (77) below, and provide our discussion so far with additional support:

(76) a. $i \left\{ \begin{smallmatrix} \acute{o}xi \\ mi \end{smallmatrix} \right\}$ éndimes $\delta ulj\acute{e}s$ proipo $\theta\acute{e}tun \left\{ \begin{smallmatrix} \acute{o}xi \\ mi \end{smallmatrix} \right\}$

éndimus an θ rópus.

the non honest jobs presuppose non honest people.

(The dishonest jobs presuppose dishonest people).

b. $i \left\{ \begin{smallmatrix} \acute{o}xi \\ mi \end{smallmatrix} \right\}$ éndimes $\delta ulj\acute{e}s$ apori $\acute{p}tonde$ apo

éndimus an θ rópus.

the non honest jobs are-rejected by honest people.

(The dishonest jobs are rejected by honest people).

c. i éndimes $\delta ulj\acute{e}s$ apori $\acute{p}tonde$ apo $\left\{ \begin{smallmatrix} \acute{o}xi \\ mi \end{smallmatrix} \right\}$

éndimus an θ rópus.

the honest jobs are-rejected by non honest people.

(The honest jobs are rejected by dishonest people).

(77) a. *o jánis óxi líyo keró ézise óxi makriá

mas.

'art.' John not little time lived not

away (from) us.

(For a long time John lived not away from
us).

- b. o jánis líyo keró ézise óxi makriá mas.
'art.' John little time lived not away
(from) us.

(John spent only a short period of time
together with us).

- c. o jánis ézise óxi líyo keró makriá mas.
'art.' John lived not little time away
(from) us.

(John lived together with us for a not
short period of time).

As (77a) shows, a second occurrence of the Quant- óxi in either (77b) or (77c) results in anomaly; on the contrary, as (76a) makes clear, the occurrence of more than one NP containing the (constituent negation) óxi/mí creates no anomaly at all. It is obvious that it would be difficult for an analysis other than the one argued for here to explain this difference in acceptability between (76a) and (77a) without additional (ad hoc) constraints. An analysis generating Quant- óxi in pre-Quant position, for example, would have to say that of the two instances of constituent negation only one, the NP- óxi/mí, may co-occur with another instance of (the same (cf. (76a)) or a different (cf. (68')) kind of) negation.

2. Rules of negation

In the preceding sections we discussed the characteristics of the distribution of the four negative particles of MG and showed that they offered good grounds for the hypothesis that all instances of MG negative particles could be traced back to one of the two cyclical nodes. Here we intend to formulate the rules that this hypothesis involves.

2.1 Negation and the Base component

It has been suggested on independent grounds by Warburton (1980) that the verb in MG occurs in sentence-initial position in the base. We shall adopt this suggestion here (Further justification for, and some detailed discussion of, this word order will be presented in chapters III and IV). Given now the fact that the sentence negation particles δέ(n) and μή(n) always occur in pre-verbal position, we can, on the basis of the above suggestion, propose that a grammar of MG contains among others the following phrase structure rules:

(i) a. $S \rightarrow (\text{neg}) - \dots$

or, in Jackendoff's \bar{X} Notation (Jackendoff 1977),

a. $V''' \rightarrow \text{Comp} - (\text{neg}) - V'''$

(Jackendoff's Three Level Hypothesis claims that "every lexical category X has exactly three supercategories, X', X'', and the major phrasal category X''', and that all modifiers are either major phrasal categories or grammatical formatives". That is, we propose that neg is generated at

the head of the sequence (Aux) - Pred P - (NP), or, in \bar{X} Notation, ... V"..., in which S, or V"¹, expands in the base; and that it is an optional grammatical formative modifying this sequence.¹ To these rules we must add the basic rule (75) discussed in the preceding sections, repeated here as (ib),

(i) b. N"¹ → (neg) - N"¹

which features this optional neg at the head of the sequence ... N"... in which N"¹ expands. We shall see below how the variety in forms and constructions of the surface can be produced from these basic structures.

2.2 Negation and the Transformational component

We discuss here the rules that are necessary for what we have defined as sentence negation and the two instances of constituent negation.

2.2.1 The rule of sentence negation

To account for the fact that (with the exception of clitics) nothing can intervene between sentence negation particles and Verb we propose that there is a transformational rule that re-brackets sentences with initial neg so

¹ (neg) is placed here after the other grammatical formative, Comp, in order for the structure of complement clauses to be reflected in the base; in these clauses the negative does not normally precede the complementizer.

that it occurs in the specifier of the verb, i.e. in the Aux(iliary), or, in the notation adopted here, in the M''' :

(ii) a. neg- placement

$$\text{Comp} - (\text{neg}) - [V''' ([M''' \text{ Tense} - \text{etc.}]_{M'''} - \dots)]_{V'''} \implies$$

SD:	1	2	3	
SC:	1	0	2+3	

2.2.2 The rules of constituent negation

In the previous sections we examined two distinct cases of constituent negation, i.e. Quant- óxi and NP- óxi/mí of constituent negation, and argued that they both had their sources in cyclical node neg's. In particular, we argued that the former originated as a sentence negation in the same sentence, while the latter, NP- óxi/mí, as an (optional) element in the expansion of N''' in the base. We propose here two rules of constituent negation: a rule of neg- placement for the category noun phrase, analogous to (iia) above, which moves the neg from the head of the noun phrase into its specifier, and a rule of neg- attraction which moves the neg of the sentence into the specifier of a Quant phrase. Let us begin with the neg- placement rule for the category noun phrase which is responsible for the derivation of the NP- óxi/mí instances of constituent negation.

2.2.2.1 The rule of NP- negation

Moving the formative neg into the specifier of a noun phrase is not as clear as moving it into the specifier of a verb phrase (see 2.2.1). The noun phrase in MG, as in English (cf. Jackendoff 1977:ch.5), includes several elements generally called NP specifiers which precede the noun and affect it in different semantic ways. As in English, in MG some of these elements are in complementary distribution and some are not. Compare e.g. the anomalous a.'s below:

- (78) a. *píra ta kápja míla.
 took (I) the some apples.
 b. píra ta polá míla.
 took (I) the many apples.
- (79) a. *δέν έrxete o kanénas apo aftús.
 not comes the anyone of them.
 b. δέν έrxete o psilós apo aftús.
 not comes the tall (man) of them.

with the corresponding b.'s as well as with a'. 's below:

- (78'a) píra kápja míla.
 took (I) some apples.
- (79'a) δέν έrxete kanénas apó aftús.
 not comes anyone of them.

Clearly, some quantifiers cannot co-occur with the definite article, while other quantifiers, and numerals, can.

On the basis of such facts we can plausibly suggest, in line with Jackendoff (1977), that the specifiers of noun phrase do not in general share the same position in NP's;

the quantifier polá (many), e.g., does not seem to share the same syntactic position with the quantifiers kápja (some) and kanénas (anyone): it can co-occur with the definite article, while the other two and this article are mutually excluded. Assuming now that the N' level is devoted to strictly subcategorized items, we can say that there are two levels available for the distribution of specifiers: the N''' level and the N'' level (see also Jackendoff 1977 for English). The a. sentences above and many other parallel examples clearly suggest that the definite article (and, in general, demonstratives) together with some quantifiers are the most probable candidates for the class of N''' specifiers. The corresponding b.'s, on the other hand, show that quantifiers, other than kápja (some), etc., and adjectives must be enumerated among N'' specifiers.

Our data on the NP- óxi/mí of constituent negation in the preceding sections shows that these particles precede either quantifiers like polá (many), etc., and adjectives or derived nominals; and that they are preceded by demonstratives (articles, etc.). This now means that they precede (with the exception of derived nominals) N'' specifiers, and that the formative neg which occurs at the head of N''', as we argued above, must be moved to the N'' position. In what slot, however, of this position is this formative to be inserted?

There are a number of items which are attached to A(djective)''', Q(uantifier)''', as well as Adv''', as specifiers of degree: póso (how), tóso (so/as/too), pjó (more), málon (rather), etc., are some of them. Jackendoff classifies such items as Degree words and accommodates them in

the category Deg^{'''}. With this category we can also associate expressions like óxi endelós (not quite), óxi arketá (not enough), óxi tóso (not as), etc. (For a similar treatment of such expressions see Bolinger 1972). We can furthermore argue, plausibly, I think, that the particles óxi and mí when attached to the above categories, A^{'''}, Q^{'''}, as well as Adv^{'''}, act as degree words: they express, if you like, "zero" degree, nullifying thus the content of the following specifiers. The fact that óxi and mí of constituent negation precede these particular categories, and cannot normally precede e.g. nouns like trapézi (table), etc., is not without significance here. It indicates (indirectly) that these two particles in fact act as degree words: it is obvious that a table cannot be "more" table or "less" table whereas the property, the quantity, etc., that an adjective, a quantifier, or an adverb, expresses can normally be exaggerated or depreciated.

We are now in a position to give an answer to the question "in what slot of the N^{'''} position is the formative neg to be inserted?". If the two negative particles óxi and mí of constituent negation are degree words themselves, or, in expressions like óxi tóso (not as), etc., specifiers of degree words, we can say that in general they occur in the Deg^{'''}, the major phrasal category that modifies the categories Q^{'''} and A^{'''}. Also, given that derived nominals are "predicative" in sense (see 1.2.2.2.2) like adjectives and quantifiers, and, of course, verbs, and that the negative occurs in the specifier of the latter three categories,

it is reasonable to argue that the negative mí which precedes these nominals occurs in the specifier position of the category noun as well, and, in particular, in a special category Deg''' that immediately precedes N' (This Deg''' is independently needed in order to accommodate degree words like tósos, tétjos, etc., which can immediately precede nouns in general, as in énas tétjos simviasmós (:a such compromise), tósi aplústefsi (such (a) simplification), etc.).

We can say therefore in general that the NP- óxi/mí is inserted in any Deg''' position of the N'' level. The following analysis of the category N'' recapitulates our discussion in the preceding paragraphs and demonstrates these Deg''' positions:

$$[N'' ([Q''' (Deg''') Q'']) ([A''' (Deg''') A'']) ([Deg''' Deg''']) N']$$

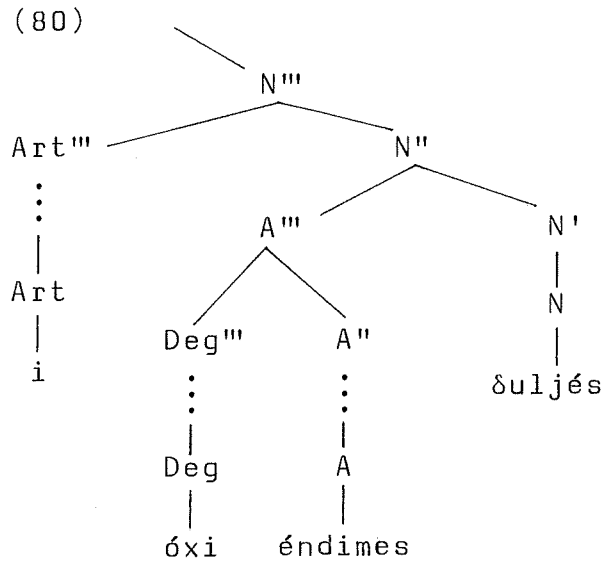
The transformational rule that produces constituent negation in noun phrases by moving the formative neg from the head of N''' can now be formulated as follows:

(iib) neg- placement for NP- negation

$$X[(\text{neg})-[\dots[([(\text{Deg}''')\text{Q}''])((\text{Deg}''')\text{A}'')](\text{Deg}''')\text{N}']]]$$

	N'''	N'''	N''	Q'''	A'''	Deg'''	N''	N'		
SD:	1	2		3	4	5	6	7	8	⇒
SC:	1	0		2+3	4	5	6	7	8	
					OR					
	1	0		3	4	2+5	6	7	8	
					OR					
	1	0		3	4	5	6	2+7	8	

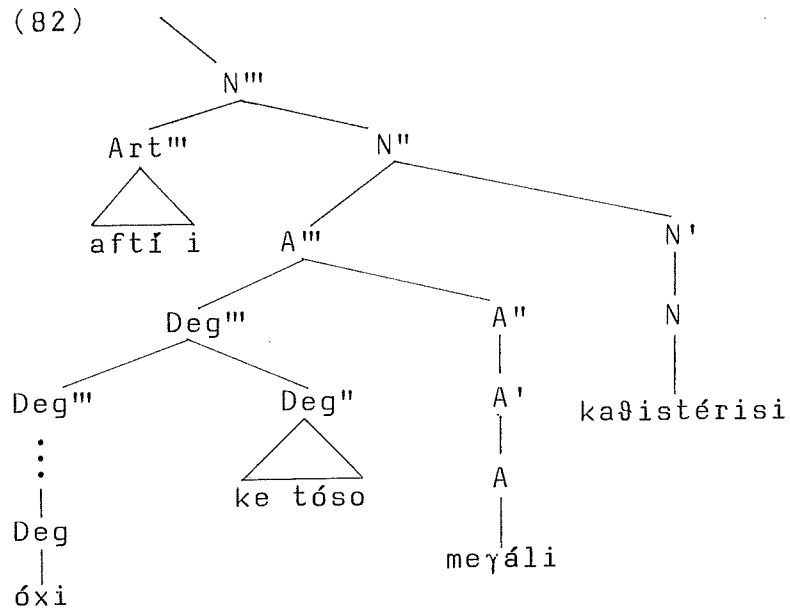
This rule allows us to account for the examples of NP-negation we have been discussing in the preceding sections. For instance, the negated NP in (76b) will have the following analysis:



Rule (iib) also allows us to account for more complex instances of NP-negation. The negated NP in (81) below, for example,

- (81) aftí i óxi ke tóso meýáli kaθistérisi tus
stenoxórise.
 that the not and too big delay them worried.
 (That not too much delay worried them).

will be analysed as follows:



2.2.2.2 The rule of Quant- negation

We have argued above that the Quant- óxi originates as sentence negation; more analytically, that the (optional) formative neg moves (optionally) into the category adverb or adverbial (specifically, into quantificational or qualificational adverbs or adverbials) in the transformational component. The discussion of NP- negation in the preceding section has to a large extent prepared the formulation of this transformation of Quant- negation.

In particular, we have seen that the formative neg moves from the head of the cyclical node N''' to the specifier of the categories Q''' , A''' , as well as Adv''' , in the same cycle, i.e. to the category Deg''' . We can now, extending this analysis to the cyclical node of sentence, propose (and this underlines the parallelism between the two cyclical

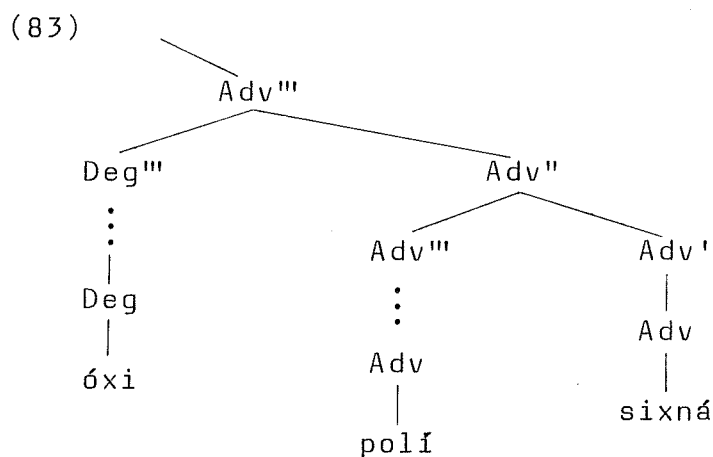
nodes) that, as in N''' , the formative neg of the category V''' moves into the specifier Deg''' of the category Adv''' which occurs as a verb modifier in the same cycle. Assuming that Adv''' is a V'' modifier we can easily formulate the relevant transformation as follows:

(iic) neg- attraction by Quant

$$\text{Comp} - \text{neg} - [\dots [\dots ([(Deg''') Adv''')] V'] V''' V'' Adv''] V'$$

SD:	1	2	3	4	5
Sc:	1	0	2+3	4	5

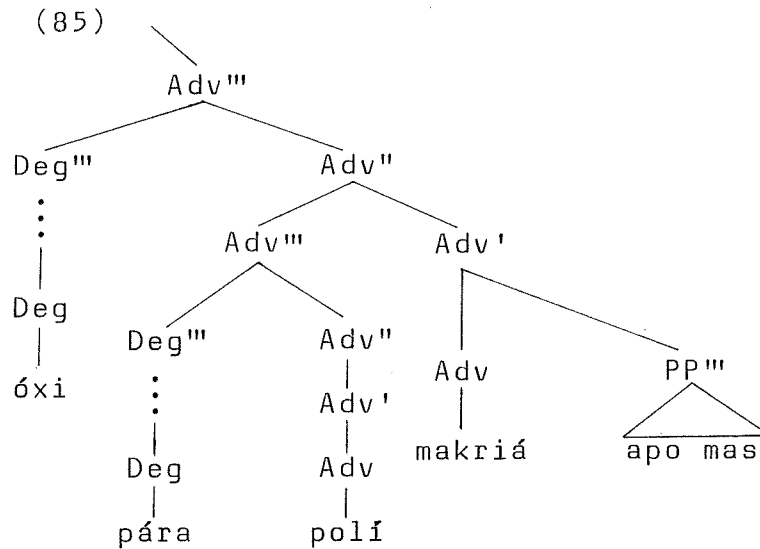
This rule can account for the instances of Quant-negation we have been discussing in previous sections. For example, the negated Quant in (52) will have the following analysis:



(53) will be analysed in a similar manner: the only difference will be that the category adverbial, instead of Adv''' , will be the daughter of Adv'' . Rule (iic) can also account for more complex instances of Quant-negation. The negated Quant in (84), for example,

(84) méni óxi pára polí makriá apo más.
lives (he) not too very far-away from us.

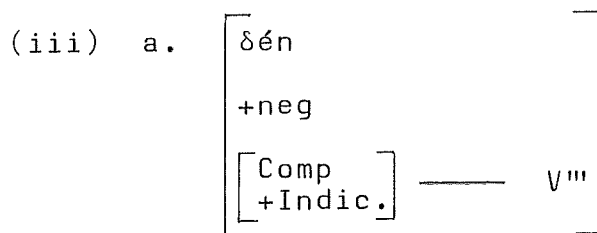
will have the analysis below:



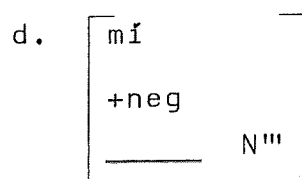
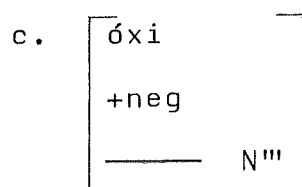
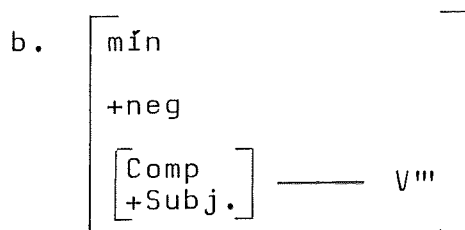
In our discussion of the transformational rules of negation in the last sections we have been avoiding the problem of the lexical insertion of the negative particles δέ(n), μή(n), όχι and μή. Where are they to be inserted? Do we have any reasons to suggest that their insertion should, or should not, take place in the base or the surface? We shall try to answer these questions in the following section.

2.3 Lexical insertion rules for δέ(n)/μή(n) and όχι/μή

We have seen that of the four MG negative particles δέ(n) and μή(n) invariably occur in the environments of indicative and subjunctive, respectively, whereas όχι and μή never precede verb forms. We can legitimately then suppose that the lexical entries of these particles will incorporate, among others, the following information:



(We assume here (see also b. below) that mood is marked in Comp).



That is, $\delta\acute{\epsilon}\eta\eta$ and $m\acute{\iota}\eta\eta$ can be inserted in a [+neg] slot if they are preceded by a complementizer which is marked [+Indic.] and [+Subj.], respectively (This will readily account for the fact that imperative verb forms are never preceded by these two negatives). Whereas $\acute{\omicron}\chi\iota\iota$ and $m\acute{\iota}\iota$ can be inserted in a slot which is immediately followed by the category N''' . The question that now arises is where the insertion of the negative particles takes place: in particular, are they inserted in base structures or is their insertion postponed until we reach the surface structure? We shall see below that, although it has been pointed out that the choice between the two solutions does not have further theoretical implications (it may be influenced by factors as simple as

easiness of exposition)¹, we have some reason to suppose that the lexical items δέν, μήν, όχι and μή are inserted in the surface.

We have argued (see 1.2.1.1.1) that the generation of elliptic όχι- constructions of sentence negation in ala- conjunctions, e.g., presupposes the operation of Equi- V(P) deletion. If now the insertion of the negative particles takes place in the base, chances are that some verbs will be lost and, consequently, δέ(n) and μή(n), which require a Verb in their environment, will be in the wrong context. Quant- όχι causes additional problems: if it is true that it derives transformationally by the attraction of sentence negation (see (iic) in the previous section), then this όχι cannot be inserted before the application of that transformation; otherwise, chances are that it will finally occur in the wrong syntactic context, if the (optional) neg- attraction rule does not apply. There seem to be two possible solutions: either we can freely insert the negative particles in the base and check again in surface structure whether their final syntactic position matches

¹ Cf. Chomsky & Lasnik (1977), for example:

" In fact, there is little reason to suppose that lexical items are inserted in base structures, in this theory. For some arguments to the contrary, see Otero (1976), den Besten (1976). We will continue to accept this assumption here for ease of exposition, but everything we say can be translated into an alternative theory in which lexical insertion takes place in surface structure and only abstract features are generated in the base (which is now limited to the categorial component in positions to be filled by lexical items." (p. 432, footn. 18).

their features, filtering out the wrong constructions (in this case, the relevant filters for δέν, μίν, όχι and μί will incorporate some part of the information demonstrated with (iii') below), or we may accept that only abstract features are generated in the categorial component and that their positions are filled in by the morphemes δέν, μί, όχι and μί, according to their syntactic specifications, in the surface, after the syntactic changes suggested in the previous sections have been completed; in this case, the lexical entries of δέν, μίν, etc., will incorporate more detailed information, as that in (iii') below:

(iii') a.
$$\left[\begin{array}{l} \delta\acute{\epsilon}n \\ +neg \\ \left[\begin{array}{l} \text{Comp} \\ +\text{Indic.} \end{array} \right] \end{array} \right] \times \text{---} \left[\begin{array}{l} +V \\ -N \end{array} \right]$$

b.
$$\left[\begin{array}{l} \mu\acute{\iota}n \\ +neg \\ \left[\begin{array}{l} \text{Comp} \\ +\text{Subj.} \end{array} \right] \end{array} \right] \times \text{---} \left[\begin{array}{l} +V \\ -N \end{array} \right]$$

c.
$$\left[\begin{array}{l} \acute{o}\chi\iota \\ +neg \\ \times \text{---} \left[-V \right] \end{array} \right]$$

([-V] stands here and in d. below for a category other than Verb).

d.
$$\left[\begin{array}{l} \mu\acute{\iota} \\ +neg \\ \times \text{---} \left[-V \right] \end{array} \right]$$

That latter solution is preferable: it is more economical, since it avoids the production of a large amount of constru-

ctions to be filtered out (i.e. constructions featuring óxi in front of an indicative, or δέ(n) preceding a Quant, etc.), as well as the filters that this operation would involve. Only three filters are needed in the framework of this solution: a filter blocking óxi in constructions with derived nominals (see 1.2.2.2.2), another filter ruling out mí in front of Quant items in full sentences (see 1.2.2.1.2), and a third filter excluding elliptic mi- constructions in ala(but)- and ke(and)- conjunctions (see 1.2.1.1.1) (Needless to say, these filters are also needed in the framework of the first solution discussed in the beginning of this paragraph). Alternatively, we can block the occurrence of óxi and mí in these environments by embodying the relevant restrictions in their lexical entries (see (iii'c) and (iii'd), respectively), as part of their syntactic specifications.

On these grounds we can reasonably, I think, suggest that our four negative particles are inserted in the surface, substituting the abstract element neg according to the syntactic specifications demonstrated with (iii').

3. Summary

In this chapter we discussed in some detail the characteristics of the distribution of MG negative particles and tried, on the basis of syntactic criteria, to distinguish between two types of negation, namely, sentence negation and constituent negation. We also tried to show that what our syntactic criteria defined as instances of

constituent negation do not share the same environment, or even the same negative particles (contrast the Quant-óxi with the NP-óxi/mí), and argued that there were two distinct cases of constituent negation, the Quant-óxi and the NP-óxi/mí. Testing the two cases of constituent negation against the general constraint on the double occurrence of negation we saw that some instances of the NP-óxi/mí seemed to be subject to that constraint and some did not. We tried to account for that asymmetry by associating the NP-óxi/mí instances of constituent negation with the formative neg which appears as an optional element at the head of the cyclical category N''' in the base. That association of NP-óxi/mí with the neg of the second cyclical category not only showed that the general constraint on the double occurrence of negation was obeyed by the superficially problematic instances of NP-óxi/mí as well, but also, together with the derivational association of the Quant-óxi with the neg of the other cyclical category, the sentence, led us to the generalization that all the instances of negation in MG, despite their morpho-syntactic differentiation in the surface, have parallel sources, i.e. cyclical node neg's.

Thus far we have been looking at negation phenomena in MG on purely syntactic grounds. In the following two chapters we shall consider the semantic aspect of such phenomena as well. We shall concentrate upon two well known and largely discussed problems: the so-called negative-raising hypothesis (chapter II) and the relation between quantifiers and negation (chapter III).

C H A P T E R I I

THE NEGATIVE-RAISING HYPOTHESIS

0. Introduction

It has been argued in various articles over the last 20 years that sentences like (1b) below, one reading of which seems to be semantically equivalent to (1a),

- (1) a. I think (believe, etc.) that John did not see him.
 b. I do not think (believe, etc.) that John saw him.

have the same, or a parallel (Seuren 1974), underlying structure. The rule that has been proposed to handle the alleged derivation of sentences like (1b) from that underlying structure is a 'minor' rule of syntax called Negative-raising or Negative transportation: it can apply only to a relatively small number of non-factive verbs of mental state (think, believe, seem, expect, etc.). This accounts for the absence of semantic similarity between (2a) and (2b) below, under any reading of the latter:

- (2) a. I insist that John did not see him.
 b. I do not insist that John saw him.

The rule of Negative-raising has been proposed on the basis of semantic and syntactic evidence. We have already seen the main semantic point: (1b) is, under one of its readings, semantically equivalent with (1a). The main points of the syntactic side of the relevant argumentation, which is more important and potentially more convincing, are as follows.

First, negative polarity items, which require the pre-

sence of a negative, can occur in the positive complement of think (believe, etc.), provided that the latter is accompanied by negation; cf. the presence of the negative polarity item yet in the complement of I do not believe he has arrived yet, and compare both this sentence and the sentence I believe he has not arrived yet with the unacceptable *I believe he has arrived yet. The same thing, however, is not true with a non-"raising" verb; cf. the unacceptability of sentences like *I do not insist that he has arrived yet: the acceptability of I do not insist that he has arrived clearly shows that the anomaly in the last sentence is due to the presence of the (negative polarity) item yet, which, however, had no effect on the acceptability of the corresponding sentence with the "negative-raising" believe. This asymmetry in the behaviour of negative polarity items can easily be explained, the adherents of the negative-raising hypothesis argue, if we accept that the negation of believe (think, etc.) originates in its complement.

Second, the well-known condition of opposite polarity, which is considered to govern the formation of the so-called 'checking tags'¹, is apparently questioned by the acceptability of tags like I do not think they will see you, will they?, if we do not accept that the negative originally occurs in the complement and that it is removed into the main clause after the question tag formation. Under such a hypothesis, on the other hand, both the well-known condition above is preserved

¹ For the term 'checking tag' see Lyons (1977:764). For a discussion of the condition of opposite polarity see R. Lakoff (1969a).

and the acceptability of tags like the one above is naturally accounted for (We shall see a criticism of this argument later on).

Third, the adherents of the negative-raising hypothesis observe, the application of Negative-raising is blocked by some independently established syntactic constraints, such as the Complex-NP-Constraint; cf. the unacceptability of *I do not believe the rumour that the Negative-raising has been questioned yet, which is apparently due to the violation of this constraint by Negative-raising. This (indirectly) shows, they argue, that there must be such a minor rule of syntax, and more generally that our exceptional verbs of mental state are to be analyzed along the lines of the negative-raising hypothesis.

To recapitulate, the negative-raising hypothesis is believed to be well-supported in English. According to its adherents it explains not only the semantic equivalence that (1), under one of the readings of (1a), displays, but also some syntactic facts concerning the behaviour of negative polarity items, the condition of opposite polarity and independently motivated general syntactic constraints.

In what follows we shall try to show, on both semantic and syntactic grounds, that despite its apparent sufficiency, the solution this hypothesis offers is problematic and unnatural. Another hypothesis will be presented, instead, and it will be maintained that only this hypothesis may give us the right directions for a satisfactory analysis of the behaviour of these verbs of mental state in both MG and English. The whole discussion will be suggestive rather than conclusive.

1. From another point of view

It has been pointed out that the exceptional verbs we are considering here belong to a relatively small class of non-factive verbs of mental state. Though, their being associated under the label "non-factive verbs of mental state" is not the only thing that characterizes them. They also share some exclusive, as we shall see below, semantic characteristics. This fact, however, cannot be coincidental: it must be somehow connected with their exceptional behaviour. Nevertheless, to the best of my knowledge, the semantic properties of our special verbs have been ignored in the (syntactic) explanations of their behaviour proposed so far. Thus, no discussion raises questions such as why it is only a particular sub-class, and not the whole of the class, of the non-factive verbs of mental state that are characterized by this exceptional behaviour, i.e. why other verbs of mental state like doubt (amfiválo), be afraid (fováme), suspect (ipopsiázome), understand (katalavéno), etc., do not produce the same results. In what follows we attempt a tentative solution that takes into account these questions.

Although the behaviour of mental state verbs like nomízo (think), pistévo (believe), etc. and their interaction with negation is far from clear in MG (and English), most people would agree that these verbs could be said to share a minimum 'subjective epistemic' basis. This becomes more obvious if we try to substitute subjective epistemic expressions like "in my view", "in my opinion", "in my belief", etc., for them. Consider the following examples:

- (3) a. In my view (In my opinion, etc.), John did
not see him.
- b. kata ti dikí mu ápopsi (kata ti γνώmi mu),
o jánis δέν ton íδε.
according to own my view (according to opi-
nion my), 'art.' John not him saw.

On the grounds of this subjective epistemic basis, (3a) can be said to paraphrase (1a). Similarly, in MG (3b) can be regarded as a paraphrase of (4a) below:

- (4) a. nomízo (pistévo) pos o jánis δέν ton íδε.
think (believe) (I) that 'art.' John not
him saw.
- b. δέ nomízo (pistévo) pos o jánis ton íδε.
not think (believe) (I) that 'art.' John him
saw.

On the other hand, this is not the case if we substitute mental state verbs like amfiválo (doubt), fováme (be afraid), katalavéno (understand), etc., for nomízo (think), pistévo (believe), etc., in (1) and (4). That is, sentences like (5) and (6) below

- (5) amfiválo (fováme, katalavéno) pos o jánis
δέν ton íδε.
doubt (am-afraid, understand) (I) that 'art.'
John not him saw.
- (6) I doubt (am afraid, understand, etc.) that
John did not see him.

are by no means paraphrasable by (3b) and (3a), respectively. Other verbs of mental state, then, like amfiválo (doubt),

katalavéno (understand), etc., and, as it can easily be shown, verbs in general, differ from our exceptional verbs of mental state nomízo (think), etc., in that only the latter may be paraphrased by subjective epistemic expressions.

This semantic difference, however, does not seem to be irrelevant to the other semantic difference (see the preceding section) that makes the behaviour of our verbs nomízo (think), etc., exceptional. As it has been pointed out above, (1a) is equivalent (although not synonymous, as we shall see below) with one of the readings of (1b). The same holds for (4a): it is equivalent with one of the readings of (4b). Given now this difference and that in the preceding paragraph, we can maintain that our verbs are in two ways contrasted with all the other verbs in both MG and English: (a) they are the only ones that exemplify the semantic equivalence that the Neg(ative)-raising was intended to account for, and (b) they are the only verbs that may be paraphrased by subjective epistemic expressions. It would then be reasonable to suppose that there might be a deeper relation between this phenomenon of equivalence and the property of being in general paraphrasable by subjective epistemic expressions.

This observation may offer us the basis for a semantic account of the properties of the so-called Neg-raising structures; namely, that in some cases nomízo (think), as well as pistévo (believe), fénete (it seems) etc., are used in an epistemic sense and are lexically rather weak and transparent; and that in these cases they act as epistemic modals, or better, as subjective epistemic modals allowing the negative particle that precedes them to affect their complement as well. In other words, we may tentatively say

that the main verbs nomizo (think) etc., under some conditions to be further discussed below, may lose their lexical meaning, and become more or less weak and transparent, so that, to continue our metaphor, the negative particle that precedes such main verbs cannot be absorbed by them, because of their transparency and "emptiness", and thus reaches and affects the complement. This hypothesis, if correct, could help us to get rid of a minor rule like the Neg-raising and the problems that its formation involves, as we shall see, on the one hand, and provide, on the other hand, a natural explanation for the fact that the verbs under discussion appear to be connected with a common characteristic, which is more or less comparable to what is called 'epistemic modality', and in particular to what is called 'subjective epistemic modality'.

A similar suggestion, as far as English is concerned, can be found in Lyons (1977:775-6). He notices the involvement of factors like 'person' and 'tense' in the interpretation of verbs like think and points out that in sentences like I don't think he'll do it (his (24)):

" under the most normal interpretation (...) and when don't is unstressed, the verb 'think' is not being used descriptively, in a constative utterance."

Besides, he observes that this sentence (his(24))

" exemplifies something that is closer to, if not identical with, performative negation. Looked at from a purely semantic point of view, it has an obvious connexion with subjective epistemic modality."

The observation that under certain conditions think, believe, etc. lose their lexical or descriptive meaning and

become weak and transparent is also found in Hooper (1975). She points out that the semantic content of what she calls "weak assertive predicates" (including think, etc.) is reduced to the extent that in their "parenthetical sense" they can make no assertion in themselves:

" The simple present, with a first-person singular subject, is the optimal use of a weak assertive predicate; here the semantic reduction is maximal. With a third-person subject, semantic content is added to the main clause and it is more difficult to obtain a parenthetical reading for some verbs." (ibid.: 101).

(Hooper appears here to assume that the first person is semantically empty, or less rich, than the third (and, presumably, the second) person. This, however, is an arbitrary assumption, which, after all, leaves us without an explanation of the fact that only the first person favours the "parenthetic" reading of the relevant verb. On the other hand, our hypothesis that the alleged "negative-raising" verbs might, under certain conditions, be subjective epistemic modals provides this fact with a more natural explanation: it is much more common for a speaker to express his commitment to the truth of a proposition than someone else's (i.e. the third, or second, person subject of think, etc.) commitment to that truth; and it is obvious that the speaker can express his commitment in the first person only).

2. Evidence for our hypothesis

In the following three sections we shall try to gather

evidence for our hypothesis above, that it is the nature of the main verb, i.e. its being interpretable as an epistemic modal, that explains the semantic similarity between e.g. (1a) and (1b), or (4a) and (4b), and that this similarity should be accounted for on semantic grounds and not by syntactic rules. Our discussion will be focussed on MG. First, we shall try to establish the distinction between a non-descriptive (epistemic modal) aspect of our exceptional verbs, which allows semantic equivalence, and a descriptive aspect, which does not. Second, we shall try to show that what we have labelled as epistemic modal aspect of pistévo (believe), nomízo (think) etc., has in fact some of the properties of the real modals. Finally, in our third section we shall see that our hypothesis can provide natural solutions for some problems pointed out in the negative-raising accounts.

2.1 The significance of the distinction between non-descriptive (modal) and descriptive instances of our verbs

In MG there are three types of subordinate clauses in general, depending on the verbs they are associated with: pos (or oti)-, na- and pu- subordinate clauses. The selection of the subordinating particle is dependent on the semantics of the main verb and, as Warburton & Christidis (1981) and Christidis (1981, 1982) have pointed out, may indicate the attitude of the speaker towards the content of the clause: thus, pos (/ oti) and na normally show a cognitive and an emotive attitude, respectively, while pu introduces what the speaker considers as known or "presupposed". There are good reasons

to maintain that of the three particles above only pos(/oti) and pu can be characterized as complementizers (see Warburton & Christidis 1981). Nevertheless, we shall extend this characterization to na as well, and speak of na- complements, together with pos(/oti)- and pu- complements, for easiness of exposition.

Our exceptional verbs nomízo, pistévo, etc., can be followed by either pos(/oti)- or na- complements. For this reason we shall divide the discussion here into two sections: we shall test the significance of the distinction between non-descriptive and descriptive instances of our special verbs against data with pos(/oti)- complements first, and then against data with na- complements.

2.1.1 pos(oti)- complements

The semantic equivalence that the negative-raising hypothesis was intended to explain is not always possible. It is restricted in various ways, as we shall see below. These restrictions, however, are naturally explicable on the basis of our hypothesis that there are two distinct senses of pistévo, nomízo, etc., the one allowing semantic equivalence, the other not.

Consider the following examples:

- (7) a. (?) na nomízume pos dén írḡe.
 (We should think that he did not come).
- b. na mí nomízume pos írḡe.
 's.m.' not think (we) that came (he).
 (We should not think that he came).

- (8) a. na fandázese pos dé ʒa me pandreftís.
 (Suppose that you will not marry me)
- b. (na) mí fandázese pos ʒa me pandreftís.
 ('s.m.') not suppose (you) that will me
 marry (you).
 (You should not suppose that you will marry
 me).

Contrary to what we have seen in the preceding sections, the b. sentences here can under no possible interpretation be considered as equivalent in meaning with the corresponding a. sentences (although they parallel (4b) and (4a) in structure and their verbs belong to the same exceptional class). In particular, (7b) normally implies that he did not come, while (7a) that he did come; similarly, in (8b) the speaker excludes any possibility of marriage, while in (8a) the speaker seems to take for granted that they will marry but for some reason asks the hearer to suppose at a particular moment that they will not. These (superficially) puzzling cases of non-equivalence can naturally be explained on the basis of our hypothesis.

There is an obvious difference between the sentences in (7) and (8), on the one hand, and the sentences in (4), on the other: the former, which exclude semantic equivalence, exemplify subjunctives, whereas the latter, which allow semantic equivalence, exemplify indicatives in the main clause. Can this difference in mood be responsible for the possibility or non-possibility of this semantic equivalence? Consider (7'):

- (7') a. nomízume pos δén írðe.
 think (we) that not came (he).
 (We think that he did not come).
- b. δέ nomízume pos írðe.
 not think (we) that came (he).
 (We do not think that he came).

Like in (4), a. sentence in (7') is equivalent in meaning with one of the readings of b. Given now that (7) differs from (7') in the mood of the main verb only, we can safely suggest that the possibility of semantic equivalence must be, among others, dependent on the mood of the main verb.

This involvement of mood can be naturally explained in terms of our hypothesis that there are two distinct senses of nomízo, etc., the one allowing semantic equivalence (non-descriptive, modal-like sense), the other not (descriptive, non-modal sense). This hypothesis makes possible the following prediction: in cases in which our exceptional verbs are bound to their descriptive meaning for some reason, and thus cannot be acting as modals, there should be no semantic equivalence under any possibility of interpretation. The sentences in (7) and (8) above now constitute such a case: the subjunctives they exemplify invariably associate the relevant utterances with a 'directive' force, which excludes an epistemic modal-like interpretation of the main verb. The reason for this exclusion is probable: epistemic modals cannot be in subjunctive and cannot occur in 'directives', because of their function (:they express speaker's commitment to the truth of a proposition) itself. The force of a directive is in general incompatible with the expression of someone's commitment to

the truth of a proposition. Cf. the unacceptability of sentences like *na borí na éřđi ('s.m.' may to come), *na prépi na éřđi ('s.m.' must to come), featuring real epistemic modals. We can thus say in conclusion that exceptional cases like those in (7) and (8) are both predicted and given a natural explanation on the basis of our hypothesis.

Consider next the following examples:

(9) a. pistévo apólita pos dé me apatá.
believe (I) absolutely that not me betrays
(he/she).
(I absolutely believe that he/she does not
betray me).

b. dén pistévo apólita pos me apatá.
not believe (I) absolutely that me betrays
(he/she).
(I do not absolutely believe that he/she
betrays me).

(10) a. nomízi ađikeolójita pos dén ton apatá i
maría.
thinks (he) unreasonably that not him be-
trays 'art.' Mary.
(He unreasonably thinks that Mary does not
betray him).

b. dé nomízi ađikeolójita pos ton apatá i maría.¹

¹ In general it is more difficult for nomízo to be accompanied by an adverb than it is for pistévo, fénete, etc. Cf. (i) below:

(i) a. ?*(dé) nomízo apólita pos...
(not) think (I) absolutely that...

not thinks (he) unreasonably that him be-
trays 'art.' Mary [nomin.].

(He does not unreasonably think that Mary
betrays him).

As in (7) and (8), the a. sentences in (9) and (10) cannot be equivalent in meaning with the b. sentences, under any possible interpretation of the latter. (9b), for example, is normally paraphrasable as "I am not entirely persuaded that he/she betrays me" (i.e. the speaker allows the possibility of being betrayed), whereas (9a) as "I am sure that he/she does not betray me" (i.e. the speaker excludes the possibility of being betrayed). This new case of non-equivalence is again both naturally explicable and predictable in terms of the hypothesis we are defending here.

The main verbs pistévo and nomízo in (9) and (10), respectively, cannot but be interpreted as bound to their conventional meanings. They are accompanied by an adverb qualifying their descriptive (non-modal) meanings, and thus cannot, probably, function as epistemic modals. Given now that in our hypothesis semantic equivalence is allowed only under the modal-like interpretation of pistévo, nomízo, etc., their being restricted to their conventional meanings would,

-
- b. *(δέ) nomízo ametáklita pos...
(not) think (I) irrevocably that...

This, together with the fact that nomízo normally (except in semiquotations) cannot be accompanied by the negative particle in tenses other than the present tense (which would impose on it its descriptive interpretation, as we shall see below) is a consequence of the fact that nomízo is closer to what is called subjective epistemic modality than verbs like pistévo, etc. Its lexical meaning is closer to this sort of modality.

according to its predictions, necessarily result in no possibility of equivalence in meaning. As we saw in the preceding paragraph, this is in fact the case. Our hypothesis, therefore, predicts the impossibility of equivalence in cases such as (9) and (10). But it is not only this. It, furthermore, explains the phenomenon by naturally associating it with the presence of adverbs like apólita and aðikeolójita. That their presence is decisive of the phenomenon of non-equivalence can easily be seen if we examine pairs which lack such adverbs but are otherwise similar to (9) and (10): they do exemplify equivalence. Our hypothesis then does not face problems with cases of non-equivalence like those in (9) and (10). Quite to the contrary, it would face problems if (9) and (10) were not exceptional, i.e. if they exemplified equivalence between their a. and (one of the readings of) their b. sentences.

Consider, finally, the following examples:

(11) a. pistévo ti fími oti o jánis dén ine kataxra-
stís.

believe (I) the rumour that 'art.' John not
is peculator.

(I believe the rumour that John is not a pe-
culator).

b. dén pistévo ti fími oti o jánis ine kataxra-
stís.

not believe (I) the rumour that 'art.' John
is peculator.

(I do not believe the rumour that John is a
peculator).

Again, there is no possibility of equivalence between the first sentence and (any of the readings of) the second. In a. above there is a rumour that John is not a speculator which the subject of the main verb believes; in b., on the other hand, there is the rumour that John is a speculator which the subject refuses to believe. This case of non-equivalence too is predictable and naturally explicable in the framework of our hypothesis.

According to the predictions of this hypothesis, equivalence in meaning is permissible only under the (epistemic) modal aspect of our exceptional verbs. Here, however, pistévo cannot be associated with this aspect for obvious reasons: modals cannot have object-NP's in the sense in which non-modals can. Hence, semantic equivalence is impossible in pairs such as (11). That it is the presence of the object-NP in (11) that is responsible for the non-equivalence can easily be seen. Sentences similar to (11a) and (11b) which lack object-NP do exemplify semantic equivalence; cf. (11') below:

- (11') a. pistévo oti o jánis dén ine kataxrastís.
 (I believe that John is not a speculator).
 b. dén pistévo oti o jánis ine kataxrastís.
 (I do not believe that John is a speculator).

It is worth pointing out here that what the preceding paragraph amounts to is a natural explanation of the involvement of the Complex-NP-Constraint in the interpretation of the negative scope (see the introductory section of this chapter). According to our hypothesis, sentences like (11a) and (11b) cannot be interpreted as equivalent in meaning not

because there is a syntactic constraint that would not allow the raising of the negative, but because the occurrence of the object- NP does not allow the main verb to be considered as modal.

Our discussion in this section has made clear that the semantic equivalence argued for by the adherents of the negative-raising hypothesis does not always hold: there are cases where there is no such equivalence. It has also made clear that in these cases the involvement of several factors is decisive and, what is more important, that this involvement is predictable in terms of the hypothesis that our exceptional verbs have a double nature.

2.1.2 na- complements

We have seen that the hypothesis we are defending here provides us with a basis for a natural explanation of some otherwise puzzling data with oti- complements. We shall see below that the same holds if we test this hypothesis against data with na- complements as well.

There is an important for our discussion semantic difference that further (cf. 2.1) distinguishes pos(/oti)- complements following nomízo, pistévo, etc., from the corresponding na- complements. The latter *i n v a r i a b l y* fall within the scope of the negative that precedes the main verb. That is, the negation of nomízo, pistévo, etc., unexceptionally reaches and affects the (positive) na- complement as well. Consider the following examples:

- (12) a. δέν πιστέvo na mas akúi apo kí.
not believe (I) that us hears (he) from there.

(I do not believe that he hears us from
there).

b. δέ mu fénete na ta kataféri.
not to-me seems (it) that them manages (he).

c. δέν periméno na ksanajirísi.
not expect (I) that comes-back (he).
(I do not expect him to come-back).

(12a-c) differ from the corresponding sentences with pos(/oti), among others, in that they are unambiguous as to the scope of their negatives. There is no possibility of interpreting the negative scope in (12a-c) as being restricted to the main verb only, and leaving the na- complements unaffected; on the other hand, their pos(/oti)- versions

(12') a. δέν pistévo pos mas akúí apo kí.
(I do not believe that he hears us from
there).

b. δέ mu fénete pos θa ta kataferi.
(It does not seem to me that he will make
it).

c. δέν periméno pos θa ksanajirísi.
(I do not expect that he will come-back).

can have two possible interpretations of negative scope (see section 1.), the one covering the complement as well (as in (12a-c)) and the other not. This characteristic of na- complements following nomízo, pistévo, etc., has some obvious consequences for the sense of these verbs, given our hypothesis above: if it is only their modal-like interpretation that allows the negative to reach and affect the complement

as well, then it should be impossible for nomízo, pistévo, etc., to retain their descriptive sense in cases in which they are followed by na- complements. We shall see below that our data on na- complements do follow this prediction, and thus can be naturally explained in terms of our hypothesis and the distinction between an epistemic modal-like and a descriptive nomízo, pistévo, etc.

Consider the difference in acceptability between the following pairs:

- (13) a. ?*na pistévis na (mín) ta kataféri.
's.m.' believe (you) that (not) them manages (he).
- b. ?*na (mín) pistévis na ta kataféri.
's.m.' (not) believe (you) that them manage
(he).
- (13') a. pistévo na (mín) ta kataféri.
believe (I) that (not) them manages (he).
- b. (δέν) pistévo na ta kataféri.
(not) believe (I) that them manage (he).

The two pairs differ basically in the mood (and consequently (see chapter I) in the form of the negative and the illocutionary forces their utterances may have). This probably means that the anomaly in the first pair must have something to do with the subjunctives it exemplifies. Needless to say, this involvement of mood could be accounted for only in terms of ad hoc constraints in the framework of a theory which does not accept the significance of the distinction modal-like/descriptive fandázome, pistévo, etc. On the other hand, our hypothesis, which is based on this distinction, does not need

such constraints in order to capture this decisive involvement of mood.

We have argued in the preceding section that our exceptional verbs cannot be assigned their modal-like sense in directives: functioning as an epistemic modal is not compatible with being used as a 'directive', since directives cannot in general express speaker's commitment to the truth of a proposition. We have also argued that a positive complement may be affected by the negative that precedes nomízo, pistévo, etc., in the main clause only under the modal-like interpretation of these verbs. Given now the general characteristic of na- complements above (: they are invariably affected by the negation of such main verbs) and the association of subjunctive mood with directive force, we can easily see what the anomaly in (13) is due to. (13a) and (13b) are intended to be directives, on the one hand, and, on the other hand, by choosing na, and not the complementizer pos(/oti), their verbs are imposed an epistemic modal-like interpretation. The anomaly in (13) has its source in this conflict (On the other hand there is no such conflict in (13'): (13'a) and (13'b) do not contain subjunctives, and thus they are not necessarily associated with a directive force. Hence, a modal-like interpretation of their main verbs is not excluded and the use of na- complements results in no anomaly). That this is so can easily be seen if we compare the anomalous sentences in (13) with corresponding sentences having pos(/oti)- complements in the place of na- complements. Consider (13'') below:

(13'') a. na pistévis pos (dén) ta kataféрни.

(You should believe that he can(not) manage.

b. na mí pistévis pos ta kataféрни.

(You should not believe that he can manage).

The a. and b. sentences here are acceptable. This, as well as the difference in acceptability between them and (13), is naturally explicable on the basis of what we have said so far. In particular, (13"a-b) do not share the typical characteristic of na- complements, i.e. their main verbs are not necessarily imposed an epistemic modal-like interpretation (This is subscribed by the fact that (13"b) is not semantically equivalent with (13"a)). This means that the requirements for the conflict above are not necessarily fulfilled in sentences with pos(/oti)- complements, and they can have acceptable readings (which, of course, are exclusively associated with the non-modal aspect of the main verbs).

The significance of the distinction between two aspects of nomízo, pistévo, etc., and the relevant hypothesis gain further support from the fact that na- complements cannot co-occur with their familiar verbs nomízo, pistévo, etc., if the latter are accompanied by an adverb. Consider the following examples:

(14) a. *δέν pistévo apólita na me apatá.

not believe (I) absolutely that me betrays (he/she).

b. *pistévo apólita na mí me apatá.

believe (I) absolutely that not me betrays (he/she).

(15) a. *δέ fandázome adikeolójita na ton apatá

i marfa.

not suppose (I) unreasonably that him be-

trays 'art.' Mary [nomin.] .

- b. *fandázome ađikeolójita na mĭn ton apatá
i maría.
suppose (I) unreasonably that not him be-
trays 'art.' Mary [nomin.] .

The difference in acceptability between these sentences and similar sentences that lack the adverbs in the main clause:

(14') a. đén pistévo na me apatá.

b. pistévo na mĭ me apatá.

(15') a. đé fandázome na ton apatá i maría.

b. fandázome na mĭ ton apatá i maría.

clearly shows that their anomaly is due to the presence of the adverbs apólita and ađikeolójita. At the same time, it can easily be shown that it is not the category adverb in general but the meaning of the particular adverb occurring in a sentence with pistévo, etc., that determines acceptability. Look at (16) and (17), for example:

(16) a. prosopiká đén pistévo na me apatá.

(Personally I do not believe that he/she
betrays me).

b. prosopiká pistévo na mĭ me apatá.

(I believe personally that he/she does not
betray me).

(17) a. prosopiká đé fandázome na ton apatá i maría.

(Personally I do not suppose that Mary be-
trays him).

b. prosopiká fandázome na mĭ ton apatá i maría.

(I suppose personally that Mary does not
betray him).

These sentences contain the adverb prosopiká and are as acceptable as a.'s and b.'s in (14') and (15'). What is wrong then with the meaning of the adverbs in (14) and (15)? Or, to put it better, in what way do the adverbs in the unacceptable (14) and (15) differ from the adverb in (16) and (17)? As far as I can see, only a theory which recognizes the distinction modal-like/descriptive nomízo, pistévo, etc., can deal sufficiently with this problem.

It is obvious that adverbs like apólita and adikeoló-jita modify the l e x i c a l meaning of our exceptional verbs: they cannot be acceptably associated with the epistemic modal-like aspect of these verbs. On the other hand, adverbs like prosopiká do not modify their lexical meaning: they are exclusively associated with the epistemic m o d a l - like nomízo, pistévo, etc. On this basis we can easily account for the difference in acceptability we are considering. We have argued that only the epistemic modal-like aspect of our verbs allows their negative to reach and affect the complement as well. Given now that na- complements are invariably affected by the negative of nomízo, pistévo, etc. (cf. their semantic difference from pos(/oti)- complements in the beginning of this section), it is legitimate to expect that they should not follow our verbs nomízo, pistévo, etc., if the latter cannot for some reason be assigned their modal-like sense. It is obvious that the occurrence of adverbs modifying the lexical sense of our verbs is such a reason. The anomaly then in (14) and (15) has its source in a conflict between the interpretation that the particular adverbs impose

on their main verbs and the interpretation that the typical characteristic of na- complements, i.e. their falling invariably within the scope of the negative in the main clause, in general demands. That this is so can easily be seen if we substitute pos(/oti)- complements for the na- complements in (14) and (15). The former complements do not share this typical characteristic of the latter, as we have said, and thus there is no ground for such a conflict. Cf. (14") and (15"):

(14") a. δέν πιστέvo apólita pos me apatá.

b. πιστέvo apólita pos dé me apatá.

(15") a. dé fandázome adikeolójita pos ton

apatá i maría.

b. adikeolójita fandázome pos δέν ton

apatá i maría.

Needless to say, pistévo and fandázome here have their conventional meanings, the complements in the a.'s never fall within the scope of the negative, and there is no possibility of equivalence between the a.'s and the corresponding b.'s in both pairs (cf. 2.1.1). The recognition then of the significance of the distinction between a modal and a non-modal aspect of pistévo, nomízo, etc., together with the relevant hypothesis, provides the basis for a natural explanation of a puzzling case of anomaly in sentences with na- complements, as well as the difference in acceptability between such sentences and their counterparts with pos(/oti)- complements.

There is, finally, a third puzzling case of anomaly that is naturally explicable in terms of the distinction non-modal/modal-like nomízo, pistévo, etc. It concerns the occur-

rence of object NP's in the matrix sentence. Consider the following examples:

- (18) a. *(δέ) se pistévo na me apatá.
 (not) you [accus.] believe (I) that me be-
 trays (he/she).
 (I (do not) believe you that he/she betrays
 me).
- b. *se pistévo na mí me apatá.
 you [accus.] believe (I) that (not) me be-
 trays (he/she).
 (I believe you that he/she betrays (does
 not betray) me).

(18a-b) are unacceptable. Comparing them with the acceptable (19a-b)

- (19) a. (δέν) pistévo na me apatá.
 (not) believe (I) that me betrays (he/she).
- b. pistévo na mí me apatá.
 believe (I) that (not) me betrays (he/she).

we can easily see what their anomaly is due to. The only difference between the unacceptable and the acceptable pair is the presence of an object in the former. This curious involvement of this item now can easily be accounted for in terms of the hypothesis we are defending here: if it is true that the presence of a na- complement imposes on pi-stévo etc., a modal-like interpretation, then pistévo in (18) must have its modal-like sense; modals, however, cannot in general have objects in the sense in which the other

verbs can. The conflict, therefore, between the nature and the syntax of pistévo in (18) is responsible for the anomaly of its sentences. That this is so can easily be seen if we compare them with the corresponding sentences with pos(/oti)- complements, which do not impose a modal-like interpretation on the main verb. As (18') shows, they are absolutely natural:

- (18') a. (δέ) se pistévo pos me apatá.
 (not) you [accus.] believe (I) that
 me betrays (he/she).
 (I (do not) believe you that he/she
 betrays me).
- b. se pistévo pos (δέ) me apatá.
 you [accus.] believe (I) that (not)
 me betrays (he/she).
 (I believe you that he/she betrays
 (does not betray) me).

We can say then in conclusion that, as with pos(/oti)- complements, there are a number of puzzling cases concerning na- complements which are naturally explainable on the basis of the distinction between an epistemic modal-like and a descriptive sense of nomízo, pistévo, etc. This distinction, therefore, does have theoretical significance, and a theory which does not proceed with it cannot lead to a satisfactory analysis of the behaviour of our exceptional verbs.

2.2 The modality of our exceptional verbs of mental state

In the previous section we have argued that the distinction (subjective epistemic) modal-like/descriptive no-mizo, pistévo, etc., is necessary. If now it is true that these verbs are of such a double nature, it is reasonable to expect that, under their modal-like sense, they demonstrate characteristics that have been exclusively connected with the real 'modals' in the literature. In this section we shall try to show that this is in fact the case. On the basis of relevant quotations we shall argue that the so-called "negative-raising" verbs are in fact semi-modals, and that their epistemic-modal-aspect is in many ways comparable with what we in general call 'modal verbs', and particularly with what we characterize as 'epistemic modals'. Our comparison will bring in some additional points concerning the distinction defended in the preceding two sections and will strengthen it further.

It has been observed that in general modals may co-occur with only a few adverbs, and in particular with adverbs which more or less match the modality they express. As Palmer (1979:57) points out,

" There are very few adverbs that may occur with epistemic modals (or even modals in general). They are confined mostly to those that themselves express judgements, and so occur largely pleonastically – possibly, perhaps, etc for possibility, and surely, certainly, etc for necessity, eg:

You may possibly prefer that one (S.8.2a57)

Here, perhaps, we may see the natural man

(W.4.2a.65)

It must surely be just a beautiful relic

from the pont (W.I.56.6). "

According to what we saw above, however, our nomízo etc. are subject to an analogous restriction: they retain their lexical meaning, and are necessarily interpreted as descriptive verbs when they co-occur with an adverb. As we said, the presence of an adverb does not allow their epistemic-modal-sense, and thus sentences like (9a) and (9b), or (10a) and (10b), cannot be semantically equivalent, under any possible interpretation. We can thus say that these verbs of mental state share this restriction with modal verbs in general.

We can, furthermore, say that, as with modals (cf. the quotation from Palmer 1979 above) very few adverbs may, pleonastically, co-occur with an epistemic-modal- nomízo, pistévo, etc. Cf. e.g. (20) below:

(20) a. prosopiká pistévo pos dé me apatá.

personally believe (I) that not me

betrays (he/she).

(I personally believe that he/she does not

betray me).

- b. *prosopiká* *δέν* *pistévo* *pos* *me* *apatá*.
 personally not believe (I) that me betrays
 (he/she).
 (Personally, I do not believe that he/she
 betrays me).

(20a) and (20b), unlike (9a) and (9b), are semantically equivalent. But, what is important, this equivalence is not disturbed by an adverb, like prosopiká (personally), which matches, and for that reason sounds pleonastic, the subjective epistemic modality that, according to our analysis, pistévo must be bound to in (20); if we had another adverb, like e.g. apólita (absolutely), which does not match its (epistemic) modal sense, there would be no possibility for semantic equivalence (cf. the difference in meaning between (9a) and (9b)). This fact now, i.e. the fact that what can be understood as a 'pleonastic' adverb in pairs like (20) is exactly an adverb which indicates what might be called 'subjective epistemic modality', constitutes, as far as I can see, additional evidence for our characterization of the modal-like instances of pistévo, etc., as 'subjective epistemic'.

Our association of the non-descriptive sense of nomízo, pistévo, etc., with modals gains further support from the fact that both epistemic modals and our alleged epistemic-modal-aspect of nomízo, etc., are restricted as to tense. In particular, it has been pointed out that epistemic modality cannot be marked as past. Cf. Palmer (1979:50):

" Generally the (epistemic) modality is in the present only, because the judgements are made in the act of speaking, epistemic modals being in this sense usually

'performative' (...) The modal verbs are not normally used, therefore, in past tense forms to refer to past judgements. Past tense forms are normally tentative with present time reference. It is, of course, possible to report past judgements, but this requires verbs such as THINK, BELIEVE, etc ".

As far as MG, at least, is concerned, the same restriction as to tense determines the occurrence of what we called epistemic-modal-sense of nomízo, pistévo, etc. (but not the occurrence of the descriptive-sense-nomízo, -pistévo, etc.; cf. the last sentence in the quotation above). Our exceptional verbs can normally lose their lexical meaning, and allow semantic equivalence. However, if they are in the past or future, or in any other non-present tense, semantic equivalence is normally impossible. Consider the following example:

- (21) a. pístepsa/ʒa pistépsun pos δέν έfije norís.
 believed(I)/will believe (they) that not left
 (he) early.
 (I believed/They will believe that he did
 not leave early).
- b. δέν pístepsa/ʒa pistépsun pos έfije norís.
 not believed(I)/will believe (they) that left
 (he) early.
 (I do not/They will not believe that he left
 early).

There is no possibility of semantic equivalence in (21), under any reading of (21b). On the other hand, if a present form takes the place of the past/future forms in (21), semantic equivalence is possible. Consider (22):

- (22) a. pistévo pos δέν éfije norís.
 (I believe that he did not leave early).
 b. δέν pistévo pos éfije norís.
 (I do not believe that he left early).

One of the readings of (22b) is obviously equivalent in meaning with (22a). Given now that the only thing that changes in (22) is the tense of the main verb we can legitimately attribute the semantic difference between the two pairs (21) and (22) to their difference in tense.

That the same restriction applies on both modal verbs and nomízo, pistévo, etc. deprived from their lexical meanings can be shown in another way as well. We have seen that pistévo, etc., always allow their negative particle to affect their na- complements and we have argued that the presence of na invariably assigns an epistemic-modal-sense to the verbs in question. Then, if in fact instances of nomízo, etc., have some characteristics in common with real modals, past forms of pistévo, etc., should not be followed by na- complements. This prediction is borne out, as the anomaly in the sentences with perfective past forms, at least, shows (na- complements may follow past forms of pistévo, etc. (but never of nomízo), only if we have imperfective aspect in the main clause and a perfective present form in the complement; that is, there are heavy restrictions on the co-existence of past forms and na- complements):

- (23) a. *(δέ) νόμισα na éfije norís.
 (not) thought [perf.] (I) that left [perf.]
 (he) early.
 (I did not think/thought that he left early).

- b. *(δέν) pístepsa na éfije norís.
 (not) believed [perf.] (I) that [perf.]
 (he) early.
 (I did not believe/believed that he left
 early).

On the other hand, the corresponding sentences with pos- complements are absolutely normal. Consider e.g. (23'b):

- (23'b) (δέν) pístepsa pos éfije norís.
 (I did not believe/believed that he left
 early).

Its having a pos- complement allows the main verb to retain its descriptive (lexical) sense. Provided now that this sense is not subject to the tense restrictions that have been associated with modals (and the modal-like aspect of our exceptional verbs in general), nothing prevents (23'b) above from being acceptable.

Palmer (1979) presents a number of formal and a number of specifically 'modal' criteria of modal verbs. The former, the formal, criteria are related to idiosyncratic features of English, and it would be surprising to find, and unreasonable to expect, them in MG as well (They do not characterize, for instance, the modals of German that are historically related to the English ones (see Palmer 1979:9-10)). It would be interesting, however, to see whether his non-idiosyncratic specifically 'modal' criteria are applicable on MG modals, and especially on our alleged epistemic-modal instances of nomízo, pistévo, etc. There are three such specifically modal criteria (Palmer 1979:9):

- (i) No -s form for 3rd person singular.

(ii) Absence of non-finite forms (No infinitive, past or present participle).

(iii) No cooccurrence (No *He may will come).

Criterion (i), which is again related to an idiosyncratic feature of English, is not applicable to MG.¹ The other two criteria, however, directly govern the occurrence of MG modals, as well as the modal-like instances of nomízo, pistévo, etc. Consider (24), (25) and (26):

(24) a. *ǧélun na {prépi
borí} na érxonde.

want (they) that {must
may} that come (they).

(*They want to {must
may} come).

b. *ǧélun na pistévo na érxonde.

want (they) that believe (I) that come (they).

(They want me to believe that they come).

(25) a. *{prépondas
boróndas} na érxonde émina.

{must [gerund]
may [gerund]} that come (they) stayed (I).

b. *pistévondas na érxonde émina.

believing (I) that come (they) stayed (I).

¹ Nevertheless, if we give a more abstract form to it, such as (i') No personal endings, e.g., then it can easily be extended to MG as well. In fact, some typical modals like prépi (must, epistemic or deontic), borí (may, epistemic), fénete (it seems, epistemic) are impersonal in MG (i.e. appear only in 3rd person singular), and thus it can be maintained that, like in English, modals do not make distinctions according to person in MG too. I owe this observation to Dr I.P. Warburton.

- (26) a. * $\begin{Bmatrix} \text{borí} \\ \text{prépi} \end{Bmatrix}$ na $\begin{Bmatrix} \text{prépi} \\ \text{borí} \end{Bmatrix}$ na érxonde.¹
 $\begin{Bmatrix} \text{may} \\ \text{must} \end{Bmatrix}$ that $\begin{Bmatrix} \text{must} \\ \text{may} \end{Bmatrix}$ that come (they).
 (*They may/must must/may come).
- b. * $\begin{Bmatrix} \text{borí} \\ \text{prépi} \end{Bmatrix}$ na pistévo na érxonde.
 $\begin{Bmatrix} \text{may} \\ \text{must} \end{Bmatrix}$ that believe (I) that come (they).

Palmer's criteria (ii) and (iii) then are directly applicable to typical modals (a. sentences) as well as to pistévo (b. sentences), and, as many parallel examples can show, to the other exceptional verbs of mental state. However, this causes no surprise for our analysis. We have seen that our exceptional verbs of mental state can have only one of their two senses, namely, the epistemic modal one, if they are followed by a na- complement. This presumably means that the b. sentences above invariably exemplify what we have called modal-like pistévo. The anomaly therefore that these sentences share with

¹ The configurations with borí in (24a), (25a), and the second borí in (26a), are absolutely acceptable with non-epistemic instances of the verb. Cf. the 'physical ability' boró in (i) below:

- (i) a. §élun na borí na érxete.
 want (they) that can (=is in a position to)
 (he) that comes (he).
- b. mí boróndas na érxete kanoniká éxase meýálo
 méros ton paraðóseon.
 not can [gerund] that comes (he) regularly,
 missed (he) a great part of the lectures.
- c. $\begin{Bmatrix} \text{borí} \\ \text{prépi} \end{Bmatrix}$ na borí na ér§i.
 $\begin{Bmatrix} \text{may} \\ \text{must} \end{Bmatrix}$ that can (he) that comes (he).

the a. sentences featuring real modals indicates that they in fact display modal-like instances of this exceptional verb. pistévo in the b. sentences displays *i d i o s y n - c r a t i c* characteristics of modal verbs, and cannot but be characterized as such.

That in their non-descriptive sense our exceptional verbs act as modals can be shown in another way as well. We have seen that pistévo, etc., may have both a descriptive and a non-descriptive (modal) sense if they are followed by a pos(/oti)- complement. If now it is true that they act as modals when they are assigned their second, non-descriptive, sense, we would expect them to lack this sense, and retain only their lexical sense, in cases in which modal verbs are not acceptable, as e.g. in the a. sentences above. That this is the case can easily be seen.

Consider (27), (28) and (29) below (compare them with the b. sentences in (24), (25) and (26), respectively):

- (27) $\text{\textcircled{3}}\text{élun na pistévo pos érxonde.}$
 want (they) that believe (I) that come (they).
 (They want me to believe that they come).
- (28) $\text{pistévondas pos érxonde émina.}$
 believing (I) that come (they) stayed (I).
 (Believing that they are coming, I stayed).
- (29) $\left\{ \begin{array}{l} \text{borí} \\ \text{prépi} \end{array} \right\} \text{ na pistévo pos érxonde.}$
 $\left\{ \begin{array}{l} \text{may} \\ \text{must} \end{array} \right\}$ that believe (I) that come.
 (I may/must believe that they are coming).

Unlike their counterparts with na- complements, these sentences are absolutely normal: the exceptional verb pistévo

followed by a pos- complement survives in environments in which real modals or the same exceptional verb followed by a na- complement do not (This, of course, does not question the association of such instances of pistévo, and of our exceptional verbs in general, with the real modals. pos (/oti)- complements allow their main verbs pistévo, nomízo, etc., to exemplify both their descriptive and their modal aspects. The difference in acceptability between the three sentences above and their counterparts with na in (24), (25) and (26) then is due to the fact that in the former, unlike in the latter sentences, the main verb can have a non-modal (descriptive) sense as well. If it could not, (27), (28) and (29) would invariably be as unacceptable as b.'s in (24), (25) and (26)).

That pistévo in our acceptable sentences above cannot be connected with what we called epistemic-modal-sense, and always has a non-modal reading, can easily be seen. Compare (30), (31) and (32) below with (30'), (31') and (32'):

- (30) $\text{\textcircled{g}}\text{élun na mí pistévo pos érxonde.}$
 want (they) that not believe (I) that come (they).
 (They want me not to believe that they are coming).
- (31) $\text{mí pistévondas pos érxonde émina.}$
 not believing (I) that come (they), stayed (I).
 (Not believing that they are coming, I stayed).
- (32) $\left\{ \begin{array}{l} \text{borí} \\ \text{prépi} \end{array} \right\} \text{ na mí pistévo pos érxonde.}$
 $\left\{ \begin{array}{l} \text{may} \\ \text{must} \end{array} \right\}$ that not believe (I) that come (they).
 (I may/must not believe that they come/are coming).

- (30') θέλουν να πιστέvo pos δέν έρχονde.
 want (they) that believe (I) that not come (they).
 (They want me to believe that they are coming).
- (31') πιστέvondas pos δέν έρχονde έμiνα.
 believing that not come (they) stayed (I).
 (Believing that they are not coming, I stayed).
- (32') {borí } na πιστέvo pos δέν έρχονde.
 {prépi }
 {may } that believe (I) that not come (they).
 {must }
 (I may/must believe that they are not coming/
 do not come).

(30), (31) and (32) differ from (30'), (31') and (32'), respectively, only in the position of the negative. Our exceptional verb is negated in the former triple, while in the latter the negative occurs in the complement. Nevertheless, contrary to what in general holds, there is no possible reading of (30), (31) and (32) that can be said to be semantically equivalent to the corresponding (30'), (31') and (32'). This, however, causes no surprise for the analysis argued for here. Given that semantic equivalence is possible only under the modal-like sense, this difference between the two triples simply indicates that our exceptional verb in (30), (31) and (32), as well as in (27), (28) and (29), cannot be associated with what we call (epistemic) modal sense. Since now the conditions under which this verb lacks what we considered as modal sense are exactly the same as the conditions under which real modals cannot occur (see the specifically 'modal' criteria (ii) and (iii) above; cf. (24a), (25a) and (26a)), we can reasonably argue that what we called modal-like instances of our exceptional verb in fact display

the characteristic features of real modals, and thus were justifiably characterized as such.

However, it is not only the characteristics of our exceptional verbs that point to their relationship with epistemic modality. There are at least two characteristics of their complements that also subscribe to this relationship.

First, it cannot be coincidental that nomízo, pistévo, etc., are, as we have said, *i n v a r i a b l y* associated with their epistemic-modal-sense when they are followed by na- complements. The MG modals are always followed by na, and, as far as I can see, it could not be simply a matter of coincidence that nomízo, pistévo, etc., choose the same form in their complement when they are exclusively assigned their epistemic-modal-sense.

Second, as Palmer (1979:41) notes:

" The function of epistemic modals is to make judgements about the possibility, etc, that something is or is not the case. Epistemic modality is, that is to say, the modality of propositions rather than of actions, states, events, etc. Indeed there are examples in which the proposition is separately stated in a subordinate clause introduced by that:

... and it may be that the family will disappear
as the basis of civilization (S.6.4a.71)."

I think that we could reasonably suggest that this is what we always have with the modal aspect of pistévo pos/na... (I believe that...), etc.: the proposition is separately stated in their complement, and the only difference between them and borí na... (It may be that...) lies simply on the kind of epistemic modality they carry, the latter expression being an

(If I do not believe that they are skillful
I do not accept them).

- b. an δέν pistévo pos ine ikaní δέν tus déxome.
if not believe (I) that are skillful (they)
not them accept (I).

(34) a. *? o jánis lipáte pu δέν pistévo na níkise
i omáða tu.

'art.' John regrets that not believe (I) that
won the team his [nomin.].

(John regrets that I do not believe that his
team won).

b. o jánis lipáte pu δέν pistévo pos níkise i
omáða tu.

'art.' John regrets that not believe (I)
that won the team his [nomin.].

That pistévo in the acceptable (33b) and (34b) is, contrary to what normally happens, necessarily bound to its descriptive (: non-modal) sense can easily be shown. If we compare these sentences with the corresponding sentences (33'b) and (34'b) with the negative particle in the complement of pistévo, we see that they cannot be semantically equivalent, under any possible interpretation:

(33'b) an pistévo pos δέν ine ikaní δέν tus déxome.
if believe (I) that not are skillful (they)
not them accept (I).

(If I believe that they are not skillful, I
do not accept them).

(34'b) o jánis lipáte pu pistévo pos dé níkise i
omáða tu .

'art.' John regrets that believe (I) that
not won the team his [nomin.].

2.3 The involvement of the distinction non-descriptive/ descriptive sense in some problems pointed out in several Negative-raising analyses

In the preceding two sections MG data was our exclusive source of evidence for the hypothesis that the exceptional verbs we are considering have a double nature. In this section we shall concentrate upon some problems pointed out in several Negative-raising analyses of the English verbs think, believe, etc., and try to show that at least some of these problems might be given a natural explanation on the basis of our hypothesis.

R. Lakoff (1969a) argues that the syntactic argument which is based on the difference in acceptability between (35b) and (36b) below (her (4b) and (4d)):

(35) a. I thought John wouldn'd leave until to-
morrow.

b. I didn't think John would leave until
tomorrow.

(36) a. I said John wouldn't leave until tomorrow.

b. *I didn't say John would leave until to-
morrow.

faces two serious problems. First, many speakers do not find

(35b) acceptable. Second, no speakers would accept sentences like those in (37) (Lakoff's (6)):

- (37) a. *I didn't ever think that John would leave
until tomorrow.
- b. *I never thought that John would leave until
tomorrow.
- c. *At no time did I think that John would
leave until tomorrow.

On these grounds Lakoff calls into question the argument for the negative raising hypothesis that is based on the behaviour of negative polarity items (see the introductory section in this chapter). She proposes instead another syntactic argument depending on the conditions of tag-question formation and the notion of the syntactic cycle. In particular, to explain the "oddness of the grammaticality" of sentences like I don't suppose the Yankees will win, will they? (her (18)), she maintains that

" the lower sentence must be negative at the time the rule of tag-formation goes into effect, in order to produce a positive tag question. Only after tag-question formation can the negative be removed from the lower sentence, unless we are to deny that the tag-question formation can be formulated generally at all. " (ibid.:144).

But this argument too is not free of problems. As Cattell (1973) points out (see also Hooper 1975:103-4), it can easily be disproved. More analytically, according to Lakoff's analysis, the sentences in (38) (Cattell's (49a-b)) below

(38) a. I'm not sure that's right, is it?

b. I don't know that it's very important, is it?

would be said to be semantically equivalent with (38'a-b):

(38') a. I'm sure that's not right, is it?

b. I know that it's not very important, is it?

on the one hand, and, what is more important, they would, on the other hand, have to be unacceptable, since neither be sure nor know are "negative-raising" verbs and their complements are of the same polarity as their tags. Nevertheless, both (38a) and (38b) are absolutely acceptable and can by no means be considered as paraphrases of (38'a) and (38'b), respectively. Lakoff's syntactic argument then is contradicted by English data. And, as it can easily be seen, it could not be proposed for MG data, either. Cf. the equivalent of (38a) in MG:

(39) δέν ime síyuros pos ine sostó, ine?

which both is an acceptable sentence and differs in meaning from (39'):

(39') ime síyuros pos δέν ine sostó, ine?

i.e. the MG analog of (38'a).¹

¹ Though, this problematic acceptability of (38a-b) and (39), which apparently violate the otherwise well-established condition of opposite polarity on the formation of 'checking' tags, could be accounted for on the basis of our hypothesis. In particular, it can be suggested that be sure and know in English, and ime síyuros (I am sure) in MG, are, when falling within the scope of negation, very close in meaning (and, possibly, in epistemic-modal-like function) to what we called sub-

Lakoff's syntactic argument, therefore, does not avoid the shortcomings of the syntactic argument it was intended to replace: it provides us with the wrong predictions if tested against larger data.

However, the two problems that led Lakoff to propose her alternative argument for the negative-raising hypothesis can be accounted for in a natural way if we proceed with our hypothesis. In particular, many speakers find (35b) odd because its main verb, think, is in the past. As we have seen (cf. 2.2) the epistemic modal aspect, which allows the negative to affect the complement and could justify the presence of the negative polarity expression, is not normally met in past tense forms. On the other hand, all speakers find the sentences in (37) unacceptable because in their main clauses there are not one but two factors that discourage an epistemic-modal-like interpretation: in addition to the past forms we have adverbs (ever) or adverbial phrases (at any time) which, as we have seen (cf. 2.2), restrict the main verb to its descriptive meaning, and do not allow the negative to reach the complement.

Lindholm (1969) has shed light to some very interesting

jective epistemic sense of nomízo (think), pistévo (believe) etc. This suggestion seems to be plausible but it would not be argued for here since the survival of the condition of opposite polarity on the formation of checking tags does not concern the hypothesis defended in this chapter.

Cattell (1973:624ff) discusses a different possibility in which 'be not sure' and 'not know' are considered as "special complex lexical items, having meanings of their own". This possibility is examined by Cattell as a possible way of preserving the negative-raising hypothesis.

aspects of the semantic characteristics of think, believe, etc. His observations, as far as I can see, constitute additional evidence for our account of this class of exceptional verbs. Lindholm points out that when the sentential complements of these verbs are pronominalized under identity with an antecedent S, they are substituted by either the pro-form so or the pro-form it; and that, as the difference in acceptability between (40a) and (40b) below (his (18) and (16b)) shows, so and it are not simply optional variants in all environments:

- (40) a. Although Sid asserts that it is so, I
don't believe it.
- b. *Although Sid asserts that it is so, I
don't believe so.

See also (41) and (42a-b) (Lindholm's (22) and (23)-(24)):

- (41) Max believes Dirksen has a frog in his

throat	{	but I don't believe so. but I don't believe it. but I can't believe it. *but I can't believe so.	}
--------	---	---	---

- (42) a. Q.: Was Caesar a Jew? A.: I believe so.
*? I believe it
(bad in the intended meaning;
ODD otherwise).

- b. Q.: Is neg-raising cyclic?

A.: I don't believe so.
*? I don't believe
it (except as a
rebuttal to claim
presumed behind
the question).

As Lindholm (ibid.:151) puts it,

" By now it should be apparent that it would be mis-

guided to look for syntactic contextual conditioning or output constraints on the distribution of so and it as lexical markers of a deleted S. It would be difficult to imagine what they might be, in any case. [(42a)] and [(42b)], especially, make it clear that believe so and believe it differ in meaning, at least in some cases, and therefore must arise from different underlying (semantic) representations. Notice, too, that the first two versions of [(41)], one with so and one with it, while both acceptable, differ semantically. In these clear cases, believe so seems to mean "have the opinion that" whereas believe it seems to mean "accept the claim that S." "

This semantic distinction between the two forms believe so and believe it is, however, to a large extent parallel with our distinction between an epistemic-modal-believe and the literal-meaning-believe. There are many facts that witness the relationship of believe it and believe so with what we have called non-modal (descriptive) sense and (epistemic) modal sense, respectively.

That believe it cannot be assigned a modal like interpretation is obvious from the form itself: it has been shown that the epistemic-modal instances of believe (think, etc.) cannot have an object-NP. That believe so, on the other hand, is exclusively associated with a modal-like interpretation can easily be seen from many cases of (otherwise inexplicable) anomaly. Consider e.g. the anomalous believe so sentence in (41): its difference in acceptability from its believe it counterpart and the first believe so sentence clearly shows that it is only believe so that follows the predictions of

Palmer's modal criterion (iii) (see 2.2), i.e. no co-occurrence with another modal (can in our case). Consider also the anomalous sentences in (43) and (44) for English and MG, respectively:

(43) a. (Don't) believe it!

b. *(Don't) believe so!

(44) a. na (mfn) to pistépsis!

's.m.' (not) it believe (you)!

b. *na (mfn) pistépsis étsi!

's.m.' (not) believe (you) so!

Believe so (étsi pistévo) behaves again as a modal: unlike believe it (to pistévo) it is incompatible with the directive force that the use of imperatives and subjunctives involves. This explains the anomaly in b.'s above and their difference in acceptability from the corresponding a.'s.

We have, therefore, good reasons to maintain that believe it and believe so are respectively associated with what we have called non-modal (descriptive) aspect and modal aspect of our exceptional verbs. It is obvious, however, that this pairing of sense and grammatical form has a very important implication for our analysis: our initial distinction epistemic-modal-sense/literal-sense is shown to correspond to, and be indicated by, a grammatical distinction concerning the pro-form item in both English (:so/it) and MG (:étsi/to). This means that grammar r e a l i s e s (what is important, in both English and MG, two independent languages) the distinction we are defending here: it is obvious that the only need the parallel existence of two distinct pro-forms serves here

is the association of our exceptional verbs with the one or the other of their two aspects and the disambiguation between their two senses.

Lindholm does not see the relationship of the believe so sense of believe with epistemic modals, although the interpretation "have the opinion that S" he assigns to believe so points to this relationship (as against the interpretation "accept the claim that S" of believe it). And this exposes his analysis to many difficulties. We see some of them immediately below.

Lindholm, on the basis of the difference in acceptability between (45a) and (45b) below (his (42) and (43)):

- (45) a. Bill believes that John won't come until
later and I don't believe so, either.
- b. *Bill believes that John won't come until
later and I don't believe it, either.

makes (ibid.:152,154-5) a claim which is simply a consequence of our distinction between modal and non-modal (:literal, descriptive) uses of believe (think, etc.): that negative-raising does not occur in derivations involving the believe it (i.e. the descriptive) meaning of believe (think, etc.). And he continues with his basic point:

" The fact that believe it does not undergo neg-raising suggests that the difference between the two believe's might be the presence in the complement of the former of the complex NP 'Claim that S' as suggested above. The Complex-NP-Constraint would then prevent the removal of Neg from the embedded S. This would parallel the situation with factive verbs, which also do not under-

go neg-raising, presumably for the same reason, i.e. they have as object the complex NP 'Fact that S'. " Though, such an incorporation of this semantic distinction into the neg-raising hypothesis is not free of problems, as Lindholm himself notices:

" However, believe it apparently allows it- replacement, which should also be blocked by the Complex-NP-Constraint. Thus [(46)]:

[(46)] Warren claims that Oswald shot Kennedy.

Mary believes it and I believe Oswald to have shot Kennedy, too.

I do not know what to make of this (...)."

But this is not the only problem Lindholm's explanation has to account for. It also leaves unexplained all the cases in which believe (think, etc.) are accompanied by an adverb or occur in directives (cf. (43) and (44) e.g.): as we have seen, in these cases believe, etc., cannot have an epistemic modal interpretation, and cannot be said to undergo Neg-raising. Lindholm's explanation, then, which simply connects believe so with the meaning "have the opinion that", would have to accept, quite unnaturally, that under the interpretation "have the opinion that" believe cannot be accompanied by an adverb or occur in directives; and that it can only under the interpretation "accept the claim that". And, although one may agree that it is under the latter interpretation that Neg-raising is not, as Lindholm argues, permissible, it would sound very unnatural to postulate that the "have the opinion that"-believe cannot occur in directives or be modified by an adverb.

On the other hand, our account, which speaks of epi-

stemic-modal-like instances of believe, think, etc., gives us the right directions for a natural explanation of these difficulties by associating the behaviour of our exceptional verbs to that of modals. As with modals, we cannot assign adverbs (with the exception of pleonastic, epistemic in meaning, adverbs like personally, etc.) or the force of a directive to a modal-like instance of believe, e.g. Furthermore, by avoiding the postulation of the presence of the complex NP 'Claim that S', our explanation does not face the difficulty of (46) above.

It is worth noting that under the pressure of this last difficulty only, Lindholm himself points out that the presence vs. absence of 'Claim' is not sufficient to explain the semantic difference between the two believe's (ibid.:155). He concludes his discussion with a generalization that, as he says, opens a different possibility of handling the facts discussed so far:

" It cannot be an accident 1) that believe in the believe so sense is semantically very close to the predicate underlying think (note that think may not occur in (...) exactly those environments in which believe cannot be interpreted as believe so but only as believe it); 2) that think accepts only the pro-form so; and 3) that it is believe so, having the meaning it does that undergoes neg-raising in common with think."

These three points constitute, as far as I can see, additional evidence for our account. On the other hand, the different possibility of handling Lindholm sketches cannot again explain the difficulties we saw above. He says that

he would like to think that

" think and the synonymous believe (and possibly expect, etc.) are lexically inserted by the same rule for a semantic configuration something like 'Hold the opinion' and that the choice of the particular morpheme think or believe, etc. is determined by some sort of reference to strength of feeling or affective nuances in a way parallel to the way awfully, terribly, wonderfully, etc. are alternatively inserted (I should hope, by a single rule) for a single semantic configuration of emphatic qualification."

But even under this hypothesis, the fact that instances of believe, etc., derivationally connected with this configuration do not occur in directives or cannot normally have an adverb, as regular verbs in general can, is left unaccounted for.

We have seen thus far that the hypothesis defended here can naturally explain some puzzling facts pointed out by Lakoff (1969a) and Lindholm (1969). In the following paragraphs we shall see that this hypothesis provides us with a natural explanation for two conditions that have been imposed on the operation of the Neg-raising rule in order to eliminate unacceptable structures.

Seuren (1974) has pointed out that

" (...) the negation can only be raised out of an embedded S when it is the highest operator."

and

" NR [Neg-raising — I.V.] is blocked, furthermore, in imperatives."

Both these conditions, however, are explicable in terms of

our account. As we saw, the modal-like aspect of nomízo, etc., is precluded in directives. This means that in his Neg-raising-based account Seuren has to state as an ad hoc restriction an otherwise naturally predictable and explainable fact. Take now the other condition. If it is the "emptiness" and transparency of nomízo, etc., that explains the presence of negative polarity items in the positive complement when the negative occurs in the main clause (cf. 1. in this chapter), the restriction that the alleged raising apply only when negation is the highest operator in the embedded S, is simply unnecessary: if finally the explanation is to be found in the "emptiness" and transparency of the main verb, and not in the transportation of the negative, the latter will be generated in the main clause, and it will unavoidably and necessarily be the highest operator with respect to the embedded S. Thus the fact that

"[(47)] I don't suppose Fred often falls
asleep during meetings.

is semantically associated with 'I suppose Fred doesn't often fall asleep during meetings' only, and never with 'I suppose Fred often doesn't fall asleep during meetings'" (Seuren, *ibid.*:193)

will be automatically captured. Cf. also the MG analog:

(48) δέ nomízo pos o jánis sixná apokimiéte sta
seminária.

not think (I) that 'art.' John often falls
-asleep during-the meetings.

which cannot be said to be parallel to nomízo pos sixná o jánis δέν apokimiéte sta seminária (I think that John often

doesn't fall asleep during the meetings), although it is to a large extent parallel to nomízo pos o jánis dén apokimiéte sixná sta seminária (I think that John doesn't often fall asleep during the meetings). On the other hand, if we — adopting the negative-raising hypothesis, as Seuren does — assume that the negatives in (47) and (48) have originated in the embedded sentence, we will have to make sure that they have their sources in the structures that underlie I suppose Fred doesn't often fall asleep during meetings and nomízo pos o jánis dén apokimiéte sixná sta seminária, respectively, and not in the structures that underlie I suppose Fred often doesn't fall asleep during meetings and nomízo pos sixná o jánis dén apokimiéte sta seminária, which are different in meaning. This is what Seuren's first condition above does. In other words, this condition has been proposed to eliminate undesirable possibilities that the negative-raising hypothesis itself creates. If we do not proceed with this hypothesis, we simply do not need this condition: if the negative in (47) and (48) is generated in the main clause, as we argue, then it necessarily is the highest operator, and the fact that often and sixná can never have a wide scope interpretation in these two sentences is readily predicted, without the need of special conditions.

Finally, our hypothesis readily accounts for an important semantic problem that the negative-raising hypothesis leaves unexplained. It has been pointed out that there is a slight difference in meaning between sentences like (49a) and (49b):

(49) a. I think that he will not come.

b. I do not think that he will come.

In particular, as Bolinger (see R. Lakoff 1969a) argues, the second sentence shows that the speaker does not feel as sure as he does in the first sentence. This slight difference in meaning characterizes analogous pairs in MG as well:

- (49') a. nomízo pos dé ʒa érʒi.
 think (I) that not will come (he).
 b. dé nomízo pos ʒa érʒi.
 not think (I) that will come (he).

Probably, these facts can be given a natural account if we accept that the main verb falls o r i g i n a l l y within the scope of the negative in the b. sentences above, rather than claim that they derive transformationally from the structures that underlie the corresponding a.'s. In fact it is only the alleged derivational connexion between these sentences that creates the necessity of explaining their slight semantic difference.

Neg-raising accounts, on the other hand, have to a large extent ignored this boring difference in meaning. Given, however, that most of them belong to the area of generative semantics, it would be interesting to see how they could handle the semantic consequences that the raising they proposed is shown to have. It would be also interesting to see how they secure the semantic argument for Neg-raising (see the introductory section in this chapter) against this semantic difference.

3. Counterevidence for the negative-raising hypothesis

In the preceding three sections we have seen that there are good grounds for the hypothesis that our exceptional verbs have two aspects, a modal and a non-modal (descriptive), and that it is only their modal aspect that allows the semantic equivalence that the adherents of the negative-raising hypothesis sought to explain in terms of a syntactic transformation. This has an apparent implication for this latter hypothesis: one might draw the conclusion that the negative-raising hypothesis should be associated with, and the relevant transformation should be restricted to, the epistemic-modal-instances of our verbs only. This is not, however, what we are aiming at. We think that the negative-raising hypothesis should not simply be restricted to particular instances of our verbs: it should be entirely abandoned.

Below we shall see that there are two bundles of problems that justify this claim. The first concerns the negative-raising hypothesis as it is. The second concerns the negative-raising hypothesis modified in accordance with what we have seen so far.

3.1 Problems of the present form of the negative-raising hypothesis.

In the framework of the negative-raising hypothesis the presence of negative polarity items in the positive complement of sentences like (50b)

- (50) a. pistévo pos dén tin íðe kaθólu.
 believe (I) that not her saw (he) at all.
 (I believe that he did not see her at all).
- b. dén pistévo pos tin íðe kaθólu.
 not believe (I) that her saw (he) at all.
 (I do not believe that he saw her at all).

is explained in terms of an alleged derivational connexion between this sentence and the structure that underlies (50a) (cf. the argument about negative polarity items in the introductory section of this chapter). There are, however, many curious (in this framework) cases of anomalous sentences that puzzle this derivational connexion and question the relevant argument. We examine some of them immediately below.

Consider the sentences in (51):

- (51) a. pístepsa pos dén tin íðe kaθólu.
 believed (I) that not her saw (he) at all.
 (I believed that he did not see her at all).
- b. *dén pístepsa pos tin íðe kaθólu.
 not believed (I) that her saw (he) at all.
 (I did not believe that he saw her at all).

Given that (51'b)

- (51'b) dén pístepsa pos tin íðe.
 not believed (I) that her saw (he).
 (I did not believe that he saw her).

is absolutely normal, we can argue that, unlike in (50), the presence of a negative polarity item in a positive complement creates anomaly in (51). The same holds in (52):

- (52) a. $\text{\textcircled{a}}$ pistévo pos dén tin íðe kaðólu.
 will believe (I) that not her saw (he) at all.
 (I will believe that he did not see her at
 all).
- b. *δέ $\text{\textcircled{a}}$ pistévo pos tin íðe kaðólu.
 not will believe (I) that her saw (he) at
 all.
 (I will not believe that he saw her at all).

Here too, the negative polarity item is responsible for the anomaly, as the acceptability of (52'b) makes clear:

- (52'b) δέ $\text{\textcircled{a}}$ pistévo pos tin íðe.
 not will believe (I) that her saw.
 (I will not believe that he saw her).

There is, therefore, counterevidence for the derivational connexions that the negative-raising hypothesis postulates. And this gives rise to some questions. In particular, if it is in fact its being derived from (50a) that explains the acceptability of (50b), what can explain the unacceptability of (51b) and (52b)? Or, why do these two sentences deviate from the predictions of the negative-raising hypothesis?

This hypothesis, as it is reported in the preceding sections, is unable to provide us with adequate answers. It can, though, protect itself from the relevant counterevidence in terms of ad hoc constraints. There is one and only difference between the acceptable and the unacceptable b. sentences above: the former is in present tense whereas the latter are in non-present tenses. This difference is not coincidental: as many parallel examples can show, the presence

of a negative polarity item in a positive complement is permissible o n l y if the (negated) exceptional verb in the main clause is in present tense. This fact means, in terms of the negative-raising hypothesis, that for a derivational connexion between structures like these in (50)-(52) to be possible the main verb must be in the present. It is obvious now that this condition can give the basis for a constraint that could eliminate the generation of anomalous sentences like (51b) or (52b). In particular, if the operation of the syntactic rule of Neg-raising could be somehow restricted to the present tense forms of our exceptional verbs, the anomalous b. sentences above would be automatically excluded.

A restriction as to tense, like e.g. 'Neg-raising may not apply on non-present forms of nomízo (think), pi-stévo (believe), etc.', however, cannot offer a satisfactory solution: it by no means e x p l a i n s the difference in acceptability between the b. sentences above — as a matter of fact, it avoids the problem, rather than solves it, while the constraint it involves has no other motivation than defending the relevant hypothesis against its own predictions.

The anomaly we have associated with tense is not, however, the only problem this hypothesis faces. Consider the following examples:

- (53) a. pistévo apólita pos dén tin íde kaθólu.
 believe (I) absolutely that not her saw
 (he) at all.
 (I absolutely believe that he did not see
 her at all).

- b. *δέν πιστέvo apólita pos tin íðe kaθólu.
 not believe (I) absolutely that him saw
 (he) ever.

Given that (53'b)

- (53'b) δέν πιστέvo apólita pos tin íðe.
 not believe (I) absolutely that her saw (he).
 (I do not absolutely believe that he saw her)

is absolutely normal, we can argue that it is the presence of the negative polarity item kaθólu (at all) in the positive complement (cf. the acceptability of the corresponding a. sentence) that renders the b. sentence above anomalous. This, however, virtually contradicts the main point of the negative-raising hypothesis. As we have seen, this hypothesis claims that the presence of a negative polarity item in a positive complement cannot create anomaly provided that the main verb nomízo (think), etc., is negated. On the other hand, the difference in acceptability between (53b) and (53'b) makes clear that the presence of a negative polarity item in a positive complement under the same conditions (i.e. negation in the main clause, etc.) does create anomaly. The negative-raising hypothesis is then confronted with another piece of strong counterevidence and it would be interesting to see how it could come into terms with it.

There is one and only difference between the acceptable (50b), repeated here,

- (50b) δέν πιστέvo pos tin íðe kaθólu.
 (I do not believe that he saw her at all)

and the problematic (53b): the latter contains an adverb modi-

fyling the main verb while the former does not. Pursuing this further we can see that (with the exception of adverbs like prosopiká) the presence of an adverb in the main clause renders the structures we are considering unacceptable. Expressing this fact in terms of the negative-raising hypothesis we can say that the negative of a complement containing a negative polarity item cannot be raised when there is an adverb like apólita (absolutely) in the main clause. It is obvious that this gives the basis for a restriction on the operation of Neg-raising that can cancel the unwanted derivation of sentences like (53b). However, like the restriction discussed previously, this too cannot provide a deeper explanation for the anomalous structures it is proposed to handle. In fact it is an ad hoc restriction: the only motivation it has is the protection of the relevant hypothesis from its own wrong predictions.

Consider next the following sentences:

(54) a. o jánis lipáte pu pistévo pos dén tin íðe
kaθólu.

'art.' John regrets that believe (I) that
not her saw (he) at all.

(John regrets that I believe that he did
not see her at all).

b. *o jánis lipáte pu dén pistévo pos tin íðe
kaθólu.

'art.' John regrets that not believe (I)
that her saw (he) at all.

As with the b. sentences considered previously, the b. sen-

Continuing like this we can see that there are some other pieces of counterevidence that this hypothesis is unable to account for. E.g. negated forms of our exceptional verbs accompanied by an object- NP cannot have complements featuring negative polarity items. The construction of ad hoc restrictions is again necessary: Neg-raising must be made inapplicable on instances of pistévo (believe), etc. that co-occur with an object- NP.

On the basis of these facts we can maintain that there are many cases in which the behaviour of our exceptional verbs is by no means "exceptional": they may exclude the occurrence of a negative polarity item in a positive complement, as the other verbs in general do. The consequences this has for the negative-raising hypothesis are obvious.

This hypothesis is shown to be in conflict with a large amount of data of a considerable variety: it is obvious that having an object- NP, or being modified by an adverb, or being in the past or the future, etc., characterizes many, and not simply a restricted number of, instances of our verbs. The extent and variety of these counterexamples, as far as I can see, to a large extent question the generality of the main syntactic point of the hypothesis and undermine the relevant syntactic argument (see the introductory section in this chapter). Given now that the other arguments too have already been to a large extent questioned (cf. the comments on the arguments that concern the semantic equivalence and the condition of opposite polarity in the formation of tags in 2.3), we can see that the argumentation about the negative-raising hypothesis in general is considerably weakened.

It is not only this, however, that creates problems. We have seen that the negative-raising hypothesis can accommodate the examples above only in terms of a series of otherwise unmotivated restrictions of various kinds. This too has some obvious consequences for the formulation of the transformation this hypothesis proposes. We repeat them here.

First, the alleged movement of the negative should be restricted according to the presence/non-presence of factors such as 'tense', 'object- NP', 'adverb', etc., in order for the generation of the counterexamples to be excluded. This, however, would result in a series of relevant constraints that would make the transformation very much complicated.

Second, as the discussion in the first sections of this chapter has shown, the various factors involved in these constraints are related in a particular way: they favour the lexical meaning, and thus cannot coexist in harmony together with the epistemic sense, of the verbs we have been discussing. The complicated conditioning of the Neg-raising transformation, however, can hardly reflect this inner relationship.

Third, what is more important, the involvement of these factors itself is left unexplained: in the framework of this hypothesis the tense of the main verb, its being accompanied by an adverb and/or an object- NP, etc., are left to mysteriously determine the acceptability of a negative polarity item (or the possibility of semantic equivalence) without any further explanation.

In this connexion, there is a more general problem that the syntactic rule the negative-raising hypothesis

argues for is associated with. As we have seen (cf. the introductory section), Neg-raising is a minor rule of syntax: it applies to a small number of verbs. This means that in addition to stipulating all the exceptions for the application of this rule, a negative-raising based account will have to mark, with some rule feature, the relevant verbs, so that Neg-raising may not be applicable to any other verb. By assigning a rule feature to each of these verbs, however, such an account can possibly put into their exceptional class an arbitrarily chosen verb: the assignment of a necessary rule feature does not recognise the possibility that these verbs might be related in some inner way and that their behaviour with respect to negation might be only one of the syntactic reflexes of some deeper relationship.

We can say, therefore, in conclusion that the negative-raising hypothesis is not as plausible as it has been considered. There are too many counterexamples and the solutions it can provide are quite unnatural. On the other hand, the arguments on which it has been grounded are not strong enough.

3.2 A modified form of the negative-raising hypothesis

We have seen that our hypothesis can naturally explain the involvement of factors like 'tense', etc., in the phenomena that the negative-raising hypothesis sought to explain in terms of a transformation (cf. sections 2.1, 2.2). We have also seen that it connects these (superficially quite unrelated) factors under a common characteristic, i.e. their imposing a descriptive (: non modal) interpretation, and that it reveals a deeper relationship between the exceptional verbs

involved in these phenomena, i.e. their sharing a (subjective) epistemic modal aspect. It is then obvious that an analysis on the basis of this hypothesis could not be challenged on the grounds of what we saw in the end of the preceding section. This might make one think that a modification of the negative-raising hypothesis in accordance with the distinctions of our hypothesis would offer the ideal solution. There are, however, some difficulties which do not encourage such a modification. We discuss them immediately below.

Suppose that we restrict the negative-raising hypothesis to what we have called epistemic modal aspect of our verbs. In that case the rule of Neg-raising will be applicable to epistemic modal-like instances of these verbs only, and the problems pointed out in the previous section will be automatically avoided. More analytically, suppose that we distinguish between two nomízo's (think's), etc., in the lexicon by constructing two different entries for each of our exceptional verbs, one, say, nomízo₁ (think₁), etc., being marked as [+modal], the other, say, nomízo₂ (think₂), etc., as [-modal]. nomízo₁ (think₁), etc., will be associated with some syntactic characteristics relating to the phenomena discussed above (i.e. no past or future tense forms, no imperatives or subjunctives, no object-NP's, etc.). Similarly, nomízo₂ (think₂), etc., will be marked with its own syntactic characteristics: its occurrence will be excluded by the proform étsi (so) (na- complements will also exclude nomízo₂, etc., in MG). Thus, any instance of nomízo (think), etc., will be, or will not be, subject to the Neg-raising transformation on the basis of its syntacticosemantic dimensions: the relevant rule will be made applicable to nomízo₁(think₁), etc., and inapplicable to nomízo₂

(think₂). This grafting of our distinction epistemic modal-like/non-modal (descriptive) into the negative-raising hypothesis, however, has some undesirable consequences.

First, there seems to be no deeper relationship between the semantic notion 'epistemic modality' and the syntactic rule of Neg-raising. This presumably means that in the framework of the modified form of the negative-raising hypothesis nothing would prevent this rule from being associated with the descriptive (non-modal) aspect of the exceptional verbs as well. In other words, in this framework it simply happens that this rule is restricted to the epistemic modal instances of these verbs: it could be restricted to an arbitrarily chosen aspect or apply to both. The modified negative-raising hypothesis then appears, on the one hand, to recognize the decisive involvement of the notion of epistemic modality in the peculiarities it tries to account for and, on the other hand, to entrust their explanation to something different, i.e. to a syntactic transformation: the involvement of this modality is reduced to the conditioning of this transformation. This conditioning could be changed without any consequence for the nature and content of the syntactic solution this modified version of the negative-raising hypothesis proposes.

Second, the grafting of the distinctions of our hypothesis into the negative-raising hypothesis gives rise to another problem related to the above. Under its new form the negative-raising hypothesis does not actually associate the exceptional behaviour of our verbs with the exceptional se-

mantic characteristics they possess (cf. section 1). That is, it provides no answer for questions such as 'Why it is only this particular class of verbs that displays this behaviour?' or 'Why is the conditioning of Neg-raising necessary?'. This means that in the modified negative-raising hypothesis the problem is left unrelated with its exclusive source (exactly like the solution of this problem is; cf. the previous paragraph).

Finally, the new form of the negative-raising hypothesis fails to relate the epistemic aspect of our exceptional verbs with the impoverished syntactic contexts in which they occur when associated with that aspect: indeed, the more "enriched" with items such as objects, adverbs, etc., their syntactic environments are, the more difficult it is for them to have their epistemic aspect. In this sense, it would not be unjustifiable to suppose that the notion 'epistemic', as we have been using it so far, is not a "±" situation, but a graded phenomenon perhaps. We return to this in the following section. It can be said, however, here that the new form of the negative-raising hypothesis would be unable to handle such a gradience from the modal-like to the descriptive sense.

For all these reasons we believe that the modified negative-raising hypothesis offers no satisfactory solution and should be abandoned in favour of another theory which can naturally account for the relevant problems. The nature of these problems makes it clear that the new theory

should be semantic rather than syntactic, and in some way incorporate the hypothesis we have been defending from the beginning of this chapter. In the following section we try to sketch such a theory.

4. A tentative solution

We have suggested on both semantic and syntactic grounds that verbs of mental state like nomizo (think) etc., have a descriptive and a modal-like (non descriptive) aspect; and that their exceptional behaviour is to be associated with the latter aspect only. We have provided (cf. 1. in this chapter) a rather figurative explanation for this: that deprived of their descriptive sense in their modal-like instances our exceptional verbs become more or less weak and transparent, and this makes them unable to absorb the preceding negative so that it can reach and affect the complement as well. It is obvious, however, that a more serious theoretical explanation is needed. Below we shall see what theory could possibly provide such an explanation. We shall also present some relevant evidence from MG and explain in what respects this theory is superior to the negative-raising theory.

We can argue that in general negative attitudes of certain types to a proposition are near-identical with positive attitudes to the negation of that proposition; and that the same is not true of statements about propositions. A parallel suggestion is made in Stockwell et al. (1973:255):

" ... a negative attitude toward a positive sentence may be very nearly or perhaps perfectly equivalent to a positive attitude toward a negative sentence."

On this theoretical basis we could explain the phenomena of semantic equivalence that the negative-raising hypothesis tried to accommodate in syntactic terms. In particular, as it has been pointed out above (see 1.), our exceptional verbs express someone's (normally the speaker's) personal commitment to the truth of a proposition. That is, they are not statements of facts: they simply express speaker's attitude to the truth of the embedded proposition. In that sense they fall within the limits of our theoretical explanation. The same suggestion, that subjective epistemic modals may have no place in statements of facts, is indirectly made in Lyons (1977):

" Subjectively modalized statements (if indeed they can be properly called statements) are statements of opinion, or hearsay, of tentative inference, rather than statements of fact; and they are reported as such." (p. 799).

Unfortunately, there are not many ways of testing the reliability of this theoretical explanation: with the exception of our verbs of mental state, the only other verbs that may express epistemic modality are the relevant modal auxiliary verbs borí (may), etc. Nevertheless,

the evidence they can provide is, I think, sufficient to show that the explanation of the exceptional behaviour of the verbs nomízo (think), etc., on the theoretical grounds above is not cyclical. Consider the following examples:

(55) a. borí na mìn tus éferan ólus.

may (it) that not them brought (they)

all [accus.].

(They may not have brought all of them).

b. dé borí na tus éferan ólus.

not may (it) that them brought (they)

all [accus.].

(They may not have brought all of them).

In this pair we have a case of semantic equivalence analogous to the ones we have been considering so far: as with our exceptional verbs nomízo (think), etc., the negation of borí (may) etc., in b. can reach and affect the complement as well. The only difference between the two cases of semantic equivalence is that in the second, the one with real modals, the negative *i n v a r i a b l y* reaches the complement, while in the first case, given the double nature of our exceptional verbs, it can also be absorbed by the main verb and not reach the complement (non-modal use), according to the presence/non-presence of several factors pointed out above. The slight semantic difference between the a. and b. sentences that has been noted with respect to analogous pairs with nomízo (think), etc. (cf. 2.3 in this chapter), is also present here: in the b. sentence above the speaker has more reservations about the

truth of the embedded proposition 'They brought them all' than he does in the corresponding a. sentence. Cf. the slight difference in acceptability between the following disjunctions:

(56) a. borí na mín tus éferan ólus í borí ke na
tus éferan.

(They may or may not have brought them
all).

b. ?ðé borí na tus éferan ólus í borí ke na
tus éferan.

This difference becomes more obvious if we have two sentences in a. and b. separated by a comma, as in (56'):

(56') a. borí na mín tus éferan ólus, borí ke na
tus éferan.

b. *ðé borí na tus éferan ólus, borí ke na
tus éferan.

As far as I can see, the b.'s above sound odd because their second parts contradict the grave reservations the first parts express about the factuality of the complement.

We can maintain, therefore, that the behaviour of real modals "copies" the "exceptional" behaviour of our peculiar verbs of mental state. This impressive parallelism, together with the undoubted fact that modals like borí (may) express attitudes to propositions, rather than make statements about propositions, lends a sort of external support to the semantic explanation we have proposed as an alternative for the negative-raising approach.

Let us now try to illustrate this semantic explanation further by focusing on the main points of its difference from its syntactic rival.

The semantic approach we are defending here will have only one entry for each of our exceptional verbs in the lexicon, with a comprehensive syntactic specification, unlike the modified negative-raising hypothesis which postulates two different entries (cf. 3.2). Thus, nomizo (think), etc., will be allowed to occur in all contexts and the interpretation will be given in terms of specific interpretation rules, according to the syntactic environment (i.e. presence of an object- NP, etc.) and/or 'mood', 'tense', 'person', etc. Making, however, the interpretation of our exceptional verbs directly dependent on these factors has an important consequence: it enables this interpretation to handle the interaction between these factors and capture the *g r a d i - e n c e* from non-descriptive (subjective epistemic modal) to full descriptive (non-modal) verbs, which the negative-raising hypothesis is unable to detect.

More analytically, as it has been pointed out above (see, for example, section 2.1.1, footn.), nomizo (as well as think in English) is more modal-like than the other verbs of that exceptional class. In fact, there seems to be a gradience from the primary modals to the descriptive verbs: our "negative-raising" verbs (cf. also verbs like need in English, usually called 'semi-modals') seem to fill in the gap between the two major categories, without definitely belonging to the one or the other. The more enriched the syntactic context, the further away we

move from the modal interpretation and towards the full lexical one, the distance between the two being a continuum with a real modal on one side and a descriptive verb on the other.

Lyons (1977:776) points out an interesting, as he characterizes it, fact, which is simply an instance of this gradience due to the interaction of the factors 'tense' and 'person':

" What is interesting about [(57) I didn't think he would do it - I.V.] is that, although it has a first person subject, it is in the past tense. In this respect it stands mid-way between

[(58)] I don't think he'll do it

and

[(59)] She didn't think he would do it.

Now [(59)] is much closer, semantically, to

[(60)] She thought he wouldn't do it

than [(58)] is to

[(61)] I think (that) he won't do it."

It is not, however, only semantic facts that witness this gradience. The latter is also underlined by the syntactic fact that our exceptional verbs are associated with two types of complement (oti and na) in MG, where oti complements are almost unexceptionally associated with non-modal verbs and na complements are the only ones modal verbs can normally have (at this point, the fact that our exceptional verbs can have only a modal-like interpretation when followed by a na complement (cf. 2.1.2) cannot be irrelevant); similarly, the gradience is underlined in English by the fact

that these verbs combine syntactic characteristics of the two major classes: in particular, although they otherwise share many of the idiosyncratic characteristics of modals, they are, on the other hand, associated with that complements, which are not characteristic of real modals.

Having only one entry for each of our exceptional verbs in the lexicon has another consequence. In addition to allowing gradience, it does not bifurcate the lexicon. Indeed, our account claims that the epistemic modal interpretation of these verbs is a function of (a) the semantic features of these verbs and (b) the reduced syntactic context.

Finally, our semantic account does not need a special syntactic rule, a minor rule, like that adopted by the negative-raising accounts, to explain the behaviour of the so-called "negative-raising" verbs: it simply associates them with an already existing class of verbs, the modals – a generalization that is missing in negative-raising accounts.

In this framework the occurrence of negative polarity items in the positive complements of δέ νομίζω οτι (I don't think that), etc., could be explained on the basis of the hypothesis that expressions like δέ νομίζω οτι (I don't think that), etc., may create an affective environment. This hypothesis is not very arbitrary: given that such expressions show speaker's negative attitude to a proposition, it seems quite reasonable to consider these expressions themselves, i.e. δέ νομίζω οτι (I don't think that), etc., as 'affective' expressions and enumerate them among

the factors that may create affective environments, i.e. negation and questions.

The plausibility of this hypothesis is also underlined by the inner relationship of these expressions to the other two main 'affective' factors. Their relationship with negation is evident: they contain negation themselves. Their relationship with questions is pointed out in Lyons (1977) on independent grounds:

" This suggests that subjectively modalized utterances, unlike categorial assertions and objectively modalized statements, are not acts of telling; and that their illocutionary force is in this respect similar to that of questions, which are also non-factive (...) There is of course an obvious difference between putting forward the opinion, with greater or less confidence and authority, that such and such may be, or must be, so and asking (or wondering) whether such and such is in fact so. In both cases, however, there is an overt indication of the speaker's unwillingness or inability to endorse, or subscribe to, the factuality of the proposition expressed in his utterance; and both of them may well originate in the same psychological state of doubt." (pp. 799-800).

It is worth pointing out here that on such a basis it could be possible to explain naturally the fact that superficially quite different things, i.e. negation, on the one hand, and questions, on the other, may have the same effects, i.e. render their environments affective: if it is true that negating and questioning a proposition indicate

the speaker's refusal and unwillingness, respectively, to subscribe to the factuality of this proposition, we can legitimately speak of a sort of inner relationship of negation with question and of both with the notion of 'affectiveness'. Provided that this latter relationship in fact exists, we can naturally explain the association of expressions like δέ νομίζω οτι (I don't think that), etc., with the phenomena of negative polarity items that the negative-raising hypothesis sought to explain in terms of its syntactic rule: such expressions actually indicate the speaker's doubt about the factuality of a proposition and thus can on this basis be enumerated among negation and question as factors of affectiveness — a generalization which is also missed by the negative-raising hypothesis.

5. Summary

On the grounds of what we have seen so far we can suggest that a semantic account like that defended here is preferable to the syntactic solution of the Negative-raising rule and the relevant hypothesis. It is obvious that the latter is unable to handle the gradience from the category 'descriptive verb' to the category 'modal verb': in its modified form (see 3.2) it distinguishes between two different forms, νομίζω₁ and νομίζω₂ (think₁ and think₂), etc., in the lexicon, assigning them the features [+modal] and [-modal], i.e. strictly associating them with either the category 'modal' or the category 'descriptive verb'; that is, it does not actually recognise the existence of an intermediate category

of verbs comprising both a 'modal'-like and a 'descriptive verb'-like aspect. Besides it misses some important and plausible generalizations and cannot account naturally for the semantic facts that seem to point to these generalizations. Finally, what seems to be the most serious shortcoming, it tries to explain some phenomena which have been shown here to be clearly semantic in terms of a syntactic transformation which, as a matter of fact, is otherwise unmotivated.

C H A P T E R III

NEGATION AND QUANTIFIERS

0. Introduction

Among the more common quantifiers in MG are the following (capital letters indicate emphatic stress):

<u>kaθénas</u> or <u>kaθís</u>	(everyone, every)
<u>ólos</u>	(all)
<u>polís</u>	(many, much)
<u>líγos</u>	((a) few)
<u>kápjos</u>	(someone, some)
<u>kanénas</u> or <u>kanís</u> (and <u>KANENAS</u> or <u>KANIS</u>)	(anyone, any)

There are some interesting structural differences between these quantifiers. Consider the following examples:

- (1) a. érxete (o) kaθénas ipopsífiος ke rotá.
comes ('art.') everyone candidate and asks.
(Every candidate comes and asks (for information)).
- b. érxonde óli i ipopsífiι ke rotún.
come all the candidates and ask.
- c. érxonde polí ipopsífiι ke rotún.
come many candidates and ask.
- d. érxonde líji ipopsífiι ke rotún.
come (a) few candidates and ask.

- e. érxete kápjos ipopsífios ke rotá.
comes someone candidate and asks.
- f. *érxete kanís ipopsífios ke rotá.
comes anyone candidate and asks.
- g. *érxete KANIS ipopsífios ke rotá.
comes anyone candidate and asks.

As the difference in acceptability between (1f-g) and the other examples in (1) shows clearly, the indefinite kanís together with its emphatic form KANIS, is the only quantifier among those listed above that cannot occur in affirmative sentences with indicatives.

Look now at (2)-(4) below:

- (2) a. érxete (o) kaθénas ipopsífios ke rotá?
comes ('art.') everyone candidate and asks?
(Does every candidate come and ask?).
- b. érxonde óli i ipopsífii ke rotún?
come all the candidates and ask?
- c. érxonde polí ipopsífii ke rotún?
come many candidates and ask?
- ⋮
- f. érxete kanís ipopsífios ke rotá?
comes anyone candidate and asks?
- g. *érxete KANIS ipopsífios ke rotá?
comes anyone candidate and asks?
- (3) a. na érxete (o) kaθénas ipopsífios ke na rotá.
's.m.' comes ('art.') everyone candidate
and 's.m.' asks.
(Every candidate should come and ask).

- b. na érxonde óli i ipopsífii ke na rotún.
's.m.' come all the candidates and 's.m.'
ask.
- c. na érxonde polí ipopsífii ke na rotún.
's.m.' come many candidates and 's.m.' ask.
- ⋮
- f. na érxete kanís ipopsífios ke na rotá.
's.m.' comes anyone candidate and 's.m.'
asks.
- g. *na érxete KANIS ipopsífios ke na rotá.
's.m.' comes anyone candidate and 's.m.'
asks.
- (4) a. róta kaθéna ipopsífio.
ask (you) everyone candidate.
(Ask every candidate).
- b. róta ólus tus ipopsífios.
ask (you) all the candidates.
- c. róta polús ipopsífios.
ask (you) many candidates.
- ⋮
- f. róta kanéna ipopsífio.
ask (you) anyone candidate.
- g. *róta KANENA ipopsífio.
ask (you) anyone candidate.

It can easily be seen that the indefinite kanís, unlike its emphatic form KANIS, is acceptable in interrogative sentences (compare (2f) with (2g)) and in sentences that exemplify subjunctives (compare (3f) with (3g)) or impe-

ratives (compare (4f) with (4g)).

See, finally, (5) below:

- (5) a. { $\delta\acute{\epsilon}\nu$
na mίν} érxete (o) kaθénas ipopsífios.
{not
's.m.',not} comes ('art.') everyone candidate.
- b. { $\delta\acute{\epsilon}\nu$
na mίν} érxonde óli i ipopsífii.
{not
's.m.',not} come all the candidates.
- c. { $\delta\acute{\epsilon}\nu$
na mίν} érxonde polí ipopsífii.
{not
's.m.',not} come many candidates.
- ⋮
- f. { $\delta\acute{\epsilon}\nu$
na mίν} érxete kanís ipopsífios.
{not
's.m.',not} comes anyone candidate.
- g. { $\delta\acute{\epsilon}\nu$
na mίν} érxete KANIS ipopsífios.
{not
's.m.',not} comes anyone candidate.

(5f-g) show that both the emphatic form KANIS and the indefinite non-emphatic kanís can occur in negative sentences.

As our examples so far make clear, the quantifiers listed above do not share the same environments. In particular, kanís and its emphatic form KANIS, especially the latter, have a restricted distribution. In the sections to follow (1.1, 1.2, 1.3) we shall concentrate mainly upon the differences between the definite and the indefinite forms of the existential quantifier: we shall see that the distinction kápjos/kanís (KANIS) in MG parallels to some extent the distinction some/any in English, and, what is more striking, that the two forms kanís and KANIS appear to fit the two analyses proposed for the English any by Vendler (1967)

and Quine (1960), respectively. In the last part of this chapter (2.1 and 2.2) we shall examine the difficulties that the determination of relative scope in negative sentences containing quantifiers involves.

1. Definite vs. indefinite quantifiers

The relation between definite and indefinite quantifiers is connected with two things: the problems its analysis involves and the notion of 'affectiveness'. We shall see these first, and then we shall try to investigate some of the relevant problems that the analysis of the triple kápjos, kanís and KANIS faces in MG.

1.1 The feature 'affective'

In his analysis of English Klima (1964) tries to explain the nature of the grammatical similarities between neg, wh, and only by assuming that "morphemes can be further analyzed into bundles of grammatico-semantic features" (op. cit.:312). He describes the similarities between the three elements as resulting from their sharing a common grammatico-semantic feature, the feature 'affective', and further assumes that a quantifier may appear as an indefinite if it is 'in construction with' a constituent that contains the grammatico-semantic feature 'affective'. We discuss his notion 'in construction with' in the next section. We can say, however, here that, if we assume the presence of such a common feature in the grammatico-semantic analysis of the environments that favour the occurrence of indefinites in MG, then

we must accept that interrogative sentences (see (2) above), negative sentences (see (5)), and sentences with subjunctive (see (3)) or imperative (see (4)) mood share the feature affective in this language. These are not, however, the only constituents that provide a favourable environment for the appearance of indefinite quantifiers in MG: conditionals or the future marker ῥα, as well as several words or expressions (e.g. the frequency adverb πότε-πότε (now and then)), among others, normally favour the indefinite forms. Cf. (6) and (7):

- (6) a. an erxótan kanís ipopsífiος ῥα éfevγa.
if came anyone candidate would leave (I).
- b. ῥα érθi kanís ipopsífiος ke dé ῥa mas vrí.
will come anyone candidate and not will (he)
us find.
- (7) érxete póte-póte kanís ipopsífiος.
comes now-and-then anyone candidate.

We will return to the notion of 'affectiveness' in MG later on, in our discussion of the non-emphatic and the emphatic forms of kanís.

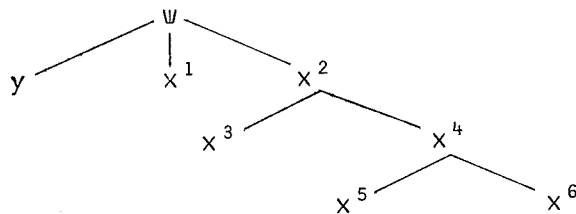
1.2 Some explanations for indefinite quantifiers

In this section we shall sketch a number of attempts to analyze the behaviour of indefinite quantifiers and their relationship with the corresponding definite. Some familiarity with the problems involved and the relevant proposals will be helpful in the examination of our kanís (and KANIS) later on.

Klima (1964) sought to explain the occurrence of indefinite quantifiers in terms of a transformational rule, the Indef incorporation, which optionally incorporated the symbol 'Indef(inite)' into the quantifier. That is, in the pre-Katz-Postal framework of Klima's analysis of negation, sentences like (8a) and (8b) below

- (8) a. I did not take some apples.
 b. I did not take any apples.

have a common deep structure, the second deriving (optionally) from the first by means of his Indef incorporation. More analytically, this rule says that some items, including quantifiers, change to an indefinite form when they are "in construction with" an affective constituent. The notion 'in construction with' is explained by Klima as follows:



" A constituent (for example, x^4 or x^5) is "in construction with" another constituent (in this case x^3) if the former is dominated by (that is, occurs somewhere lower down the branch of) the first branching node (that is, x^2) that dominates the latter (x^3)."
 (op. cit.:297).

Since now neg occurs in pre-Sentential position in Klima's theory of negation, any constituent in the same S (except the S itself) is "in construction with" neg: the quantifier some in (8a) then obviously satisfies all the conditions for the operation of the (optional) Indef incorpo-

ration rule, and thus can change to the indefinite form any.

Ross (1967), on the other hand, argues that the notion 'in construction with' is not the proper one for the analysis of negation phenomena and that the notion 'command', first introduced by Langacker is preferable to it: according to Langacker (1969 :167)

" We will say that a node A "commands" another node B if
 (1) neither A nor B dominates the other; and (2) the S-
 node that most immediately dominates A also dominates
 B."

In particular, like Klima, Ross assumes that the occurrence of anyone in sentences like

(9) That anyone came surprised Bill.

is due to the operation of a transformation, the some-any rule, as Klima's Indef incorporation rule is informally called. But, he also observes, the notion 'in construction with' is not the proper one to condition this rule: anyone is not in construction with the verb surprise, which is supposed to be the necessary affective constituent in (9); it is commanded by surprise.

Jackendoff (1969:219 footn.) points out, however, that if this were the case, i.e. if surprise were an affective verb,

" we would expect also *That Bill came surprised anyone
 just as we get any with Affective verbs such as deny
 and defy: I deny anyone the privilege of playing in
tune; I defy anyone to contradict my grandmother."

Obviously, anyone in the ungrammatical sentence above both is in construction with and is commanded by surprised.

Therefore, he concludes, sentence (9) involves a different rule and has no bearing on the issue. Jackendoff defends the syntactic relation 'in construction with' and, extending the Lexicalist Hypothesis in Chomsky (1970), proposes a "Lexicalist version of the some-any rule". He considers that some and any (once and ever, etc.) are not variant forms for single lexical items, but separate lexical items differing by the feature [$\pm X$] (some is [+X]), and formulates the following surface structure interpretive rule:

$$[+indeterminate] \rightarrow \begin{cases} [-X] & \text{in construction with Affective} \\ [+X] & \text{elsewhere} \end{cases}$$

Convention: If an indeterminate is unspecified with respect to X, the rule fills in the feature according to the environment. If the indeterminate is already marked with respect to X, the sentence is marked semantically anomalous if the inherent feature and the feature assigned by the rule disagree. (1969: 232).

This rule operates on the output of an informally described scope rule which interprets derived structure. In particular neg is generated in its surface structure constituent and transformations apply freely to these (quite similar to the surface) structures; after the last transformational rule has applied, the scope rule raises neg from the node on which it originates to a dominating node, expanding thus the scope of neg to larger and larger constituents.

Lasnik (1976:85), on the other hand, points out that the employment of the notion 'in construction with', rather than 'command', in Jackendoff (1969) (see the latter's

some-any rule above) leads us to some problematic predictions:

" The presence of the indefinite in 94 [No one said anything — I.V.] shows that the direct object position is, in Jackendoff's terms, within the scope of negation. The negation, however, is within the subject NP (...) But anything is not in construction with neg; it is commanded by neg. One can conclude, therefore, that the relevant structural properties are COMMANDED, as in 94, and PRECEDE to rule out cases in which the indefinite precedes the neg. Thus, a position can be within the scope of negation if neg both precedes and commands that position."

Jackendoff (1972) presents a modified version of the interpretive theory in Jackendoff (1969) which is not subject to the criticism above. The syntactic notion 'in construction with' has no significance in this version. It is claimed that the scope of negation consists of everything commanded by the negative morpheme and to its right:

" ... in Klima's analysis, the scope is determined at a point in the derivation when sentence negation is the leftmost daughter of S, whereas in our analysis, the scope of negation must be determined from the surface structure configuration. For example, in (8.136), any is not in construction with negation in the surface structure, because none is dominated by the subject NP, which does not dominate any.

(8.136) [_{NP} None of these examples]_{NP} will convince anyone.

Hence we must replace Klima's structural condition in

construction with by command, which allows any in (8.136) to be within the scope of negation, but excludes cases such as (8.137).

(8.137) *The man [_S who I didn't see]_S bought
anything.

Also because the scope of negation is to be determined at the surface, the left to right condition must be added in order to distinguish between, for example, (8.138) and (8.139).

(8.138) I told nobody any of my jokes.

(8.139) *I told anybody none of my jokes.

Thus the difference in scope of negation between Klima's analysis and the present one is simply a result of the different nature of the analyses." (op. cit.:349-50).

Jackendoff's new approach is essentially based on the observation that indefinite NP's in negative sentences cannot have a specific reading:

" it is difficult to conceive of a situation in which one would say [John didn't catch a fish — I.V.] with a particular fish in mind." (p.300).

The non-specificity in sentences like that in the quotation is attributed to the presence of the operator neg:

" ... the modal operator neg imposes the condition that there are no identifiable referents for NPs dependent on it." (p.348).

And the preference of any to positions where it is dependent on neg is explained in terms of its inherent properties. Vendler (1967), as we shall see below, has analysed any as presenting an offer to the hearer to choose a referent for

the NP it accompanies. Extending his analysis Jackendoff points out that, among others, negative contexts exemplify a situation in which the choice is left open to the hearer; hence the naturalness of any in positions dominated by neg. This explanation, however, has not been largely accepted. Lasnik (1976) and Kroch (1975), for example, following the analysis of any in Quine (1960), describe it as an instance of the universal quantifier, and not as presenting an offer to the hearer. We shall return to this dispute later on.

Finally, Lasnik (1976) regards some, several, etc., as markers of reference (he calls them [+some] quantifiers) and accounts for the ungrammaticality of sentences like his

(10) *Not {^{several}_{some}} of the problems were solved.

in terms of the scope rule

Quant → [+negated] / not —

and the following redundancy rule

[+negated] → [-referential]

Some, e.g., in (10) will be assigned the feature [+negated] by the first rule, while the redundancy rule will give a feature (i.e. [-referential]) to it that is inconsistent with its inherent properties: the ungrammaticality of (10) is the result of this (semantic) conflict. If now a quantifier is not marked [-referential] by the above rules, it is subject to a set of rules that Lasnik informally describes as follows:

- a. Quant → [-specific] / certain modal contexts, including conditionals and questions.
- b. Quant → [+specific] / elsewhere.

Thus the occurrence of any, which Lasnik considers as le-

xically marked non-specific, in contexts other than the negative seems to be easily handled: anyone in (11), e.g., (Lasnik's (96))

(11) *Anyone showed up.

cannot be subject to rule a. above, while the assignment of the feature [+specific] by rule b. contradicts its inherent features.

As our discussion thus far has shown, the behaviour and interrelationship of some (someone, etc.) and any (anyone, etc.) are not very clear. Indeed, there are some syntactically definable affective environments where some and any seem to be interchangeable; the presence of not in (8), for example, makes any in (8b) as acceptable as some in (8a). Questions, however, like 'On what grounds are sentences like (8a) and (8b) differentiated?' or 'What changes does the substitution of any for some involve?' have not yet been answered satisfactorily (see Lyons 1977: 457). The suggestion (cf. Jackendoff 1972, Lasnik 1976) that the difference between some and any could be analysed in terms of features like [\pm specific] or [\pm referential] seems to account for only some instances of the interchangeability of some and any. As R. Lakoff (1969b) has shown, factors like speaker's and hearer's beliefs about the world, previous discourse, etc., must also be taken into account.

The behaviour of the corresponding MG quantifiers kanís (any, anyone) and kápjos (some, someone) gives rise to many parallel problems. Their relations and their interaction with negation are far from clear. But what makes their case even more difficult is the parallel existence of the emphatic form KANIS, which, as we shall see, has

some puzzling structural, semantic and functional differences from the corresponding non-emphatic form of the modifier. We discuss below some aspects of the use of kápjós, kanís and KANIS, and examine some of the relevant problems.

1.3 The triple kápjós, kanís and KANIS

It has been suggested above (see the introductory section in this chapter) that kápjós, kanís and KANIS do not have the same distribution. In particular, we saw that, unlike the other two, kápjós can occur in non-affective contexts as well (cf. (1)), while the occurrence of KANIS is even more restricted than that of the non-emphatic indefinite kanís (cf. (2)-(4)). There is, however, a particular context that all three share: as (5) shows, kápjós, kanís and KANIS are acceptable in negative sentences. Below we shall try to show that the acceptability of all three in the same (:negative) environment is not a matter of free variation and that the choice of one over the other has considerable semantic consequences.

1.3.1 kápjós

kápjós shares some of the characteristics of some in English but their use is not absolutely parallel in the two languages. We compare the two modifiers below in order to illustrate the specific features of the former.

Lyons (1977:452ff) distinguishes between determiners and quantifiers in the following (informal) way:

" ... a determiner tells us which member of which subset of a set of entities is being referred to; a quantifier tells us how many entities or how much substance is being referred to." (p.455).

The distinction he makes is relevant to the two aspects that the use of some has been shown to have: some (someone, etc.) can be used specifically or non-specifically (cf. Lasnik 1976:49ff; also, Lyons 1977:189,455). In particular, Lyons points out, under its specific use, some is clearly comparable with determiners, rather than quantifiers. Under its other use, however, the status of some is rather obscure; it can be used either as a determiner or as a quantifier:

" If the phrase 'some students' is in implicit or explicit contrast with 'other students', 'some' is a determiner; if 'some students' is in contrast, whether explicit or implicit, with 'all (the) students', 'some' is a quantifier."

Like some, kápjos can be used either specifically or non-specifically. Cf. the ambiguity as to the specific/non-specific reference of kápjon in (12):

(12) poté dén éxi milísi se kápjon sináðelfó tu.
 never not has spoken to some colleague (of)
 his.

(He has never spoken to some colleague).

kápjon here can refer either to a specific person (specific reading) or to more than one, non-specific, persons (non-specific reading); hence, (12) can be followed by sentences like 'I know that colleague very well' or sentences like 'He avoids everyone'.

kápjios, however, is not parallel in all respects with some. Consider the example below:

(13) A: ton anagnórisan óli i fitités tu?
 him recognized all 'art.' students his?
 (Did all his students recognize him?).

B: óxi. ton anagnórisan {merikí }
 {?*kápjii} .
 no. him recognized some (of them).
 (No. (Only) some of them recognized him).

The acceptability of ton anagnórisan kápjii (fitités) (Some of his students recognized him) shows that the oddity of kápjii in (13) is due to the fact that the NP it introduces is in contrast with 'all (the) students'. Unlike some, then, kápjios appears to have the status of a determiner only (even when it is used non-specifically): that is, kápjios can be in implicit or explicit contrast with 'other students' only (see the above quotation), irrespectively of its specific or non-specific use. And if the MG analog of 'some students' is in contrast, either implicit or explicit, with 'all (the) students', it is normally introduced by the quantifier merikí (several), instead of kápjios.

That kápjios functions as a determiner, rather than as a marker of quantity, gains additional support from the following fact. In general adverbs like móno (only), which are related to quantity, rather than to specificity, cannot accompany NP's introduced by kápjii. Look at the kápjii-versions of (14a-b):

(14) a. {merikí }
 {?*kápjii} móno ton xtípisan.
 some [pl.] only him hit.

b. ton anaγnórisan móno {^{merikí}?*kápji}.

him recognized only some [pl.].

That the unacceptability of kápjos in (14) is in fact due to its being modified by móno (only) becomes obvious if we compare the odd versions of (14a-b) with the acceptable a. and b. in (14')

(14') a. kápji, móno ton xtípisan.

b. ton anaγnórisan móno, kápji.

where móno is intonationally attached to another constituent, and not to kápji and kápjos, respectively.

We can fairly safely conclude, then, that kápjos is a determiner, rather than a marker of quantity, and that it can be used either specifically or non-specifically. This provides us with a basis for our discussion of its relation to the non-emphatic and the emphatic forms of kanís below.

1.3.2 kanís

The non-emphatic kanís differs in many respects from the determiner kápjos. Before coming to this, however, let us see an important difference between this form of the MG indefinite and the English any.

There is an exceptional use of any that has been problematic for both linguists and philosophers: any (anyone, etc.) in sentences such as

(15) Anyone can win.

or

(16) When I was in prison, I ate anything that
was put in front of me.

(both taken from Lyons 1977) differs in syntactic and semantic characteristics from the instances of the indefinite quantifier we have been discussing. In particular, it does not seem to be restricted to affective contexts (hence it is excluded from Klima's transformational account of the pair some-any), on the one hand, and it appears to be semantically related to the universal, rather than the existential, quantifier, on the other hand.

Unlike English, MG does not exemplify a universal quantifier-like use of the indefinite non-emphatic kanís. The occurrence of this indefinite in the MG equivalents to (15) and (16) would be unacceptable. Look at the MG equivalent to (15):

(15') *kanís borí na nikísi.
anyone can win.

It is true that (15') becomes acceptable if we do not follow the structure of the English equivalent, i.e. if we remove kanís from the initial position (We shall see an explanation of this peculiarity below); cf. (15'') below:

(15'') borí kanis na nikísi.

It must be emphasized, though, that in this acceptable structure kanís is not related to the universal quantifier. That is, (15'') is by no means equivalent to (o) kašénas borí na nikísi (Everyone can win). Besides, unlike any in (15) and (16), kanís in (15'') occurs in an affective context:

it belongs (as a subject pronoun) to the (affective) na- complement of the modal. Cf. the parallelism in structure between (15'') and (15'''), where the subject necessarily belongs to the complement:

- (15''') borí i sináðelfí su na níkísun.
 can [3rd sing.] 'art.' colleagues yours
 win [3rd pl.].

See also the unavoidable unacceptability of kanís in the non-affective context of the MG equivalent to (16):

- (16') *ótan ímun sti filakí étroya kanéna pu
 évazan brostá mu.
 when was (I) in+the prison, ate (I) any-
 thing that put (they) in-front of-me.

There are then no universal quantifier-like and no non-affective instances of kanís in MG. This, however, by no means exhausts the analysis of this indefinite quantifier. There are some difficulties to be dealt with. We examine one together with a possible explanation immediately below. This will help us to identify an important feature of the indefinite non-emphatic form of our quantifier.

Consider the sentences in (17):

- (17) a. $\left\{ \begin{array}{l} \text{kápjos} \\ \text{*kanís} \\ \text{KANIS} \end{array} \right\} \text{ dén írθe.}$
 $\left\{ \begin{array}{l} \text{someone} \\ \text{anyone} \end{array} \right\} \text{ not came.}$
 b. $\left\{ \begin{array}{l} \text{kápjos} \\ \text{*kanís} \\ \text{KANIS} \end{array} \right\} \text{ dén tin enðiaféri.}$
 $\left\{ \begin{array}{l} \text{someone} \\ \text{anyone} \end{array} \right\} \text{ not her interests.}$

The kanís- versions, unlike the kápjos- and KANIS- versions,

of (17a) and (17b) are clearly unacceptable. Compare them now with (17'a-b) below:

- (17') a. δέν ιρθε κανίς.
not came anyone.
- b. δέν τιν ενδιαφέρει κανίς.
not her interests anyone [nom.].

It is obvious that kanís is not acceptable in the initial position of the sentence. This restriction on the occurrence of kanís, which does not apply on either kápjos or the emphatic form KANIS (cf. (17a-b)), is curious and seeks an explanation.

It has been suggested (see e.g. Lasnik 1976:49; Lyons 1977:457) that, unlike some, any cannot be used with specific reference. If this suggestion for the English indefinite quantifier is correct, and I think it is and characterizes in general all the instances of the indefinite kanís in MG as well, then it might be used as the basis for a possible explanation of the facts in the previous paragraph. Two relevant points, made independently in the literature, can be helpful here. We discuss them immediately below.

Warburton (1980) has shown, on the basis of independent evidence, that the most unmarked and neutral as to the distinction 'topic'/'comment' and the contrast emphatic/non-emphatic word order in MG is that in which the Verb occurs in initial position. As she has convincingly pointed out, if the initial position in a sentence is occupied by a constituent other than the verb, then this constituent either is marked as the 'topic' or carries contrastive emphasis.

The second relevant point is made in Li and Thompson (1976:461). Quoting the definition of 'definite' in Chafe (1976) they point out the following:

" ... a definite noun phrase is one for which
 " I think you already know and can identify the
 particular referent I have in mind."

One of the primary characteristics of topics, then, is that they must be definite ...".

Combining now these two points with the assumption above, that kanis, like any, cannot be used with specific reference, we can see what might possibly be the reason for the unacceptability of kanis- versions in (17). The indefinite kanis is non-emphatic (as contrasted with the emphatic KANIS), and thus, according to Warburton's theory, its occurrence in sentence-initial position would mark it as the 'topic' of the sentence. However, the non-specificity of kanis contradicts the demands of the role that its initial position would assign to it: a 'topic' constituent must be definite, as we saw in the previous paragraph, while our indefinite quantifier is always assigned a non-specific interpretation; thus kanis does not qualify (hence the unacceptability in (17)).

We have so far assumed that kanis cannot be used with specific reference. As far as I can see, however, there are some pieces of evidence that do make this assumption justifiable and lend additional support to our explanation of the anomaly in (17).

First, it can easily be seen that there is a relevant syntactic restriction on the indefinite kanis. As (18) below makes clear, this quantifier, unlike the determiner

kápjos, which can be used specifically (see 1.3.1), cannot in general accompany an NP that is associated with a clitic in terms of coreferentiality:

- (18) a. δέ θα (to_i) πιδίκσις κάπιο εμπόδιο_i.
 not will (it) jump (you) some obstacle.
 (You will not jump an obstacle).
- b. *δέ θα to_i πιδίκσις κανένα εμπόδιο_i.
 not will it jump (you) any obstacle.
- c. δέ θα πιδίκσις κανένα εμπόδιο.
 not will jump (you) any obstacle.
 (You will not jump any obstacle).

Clitics, however, are part of the machinery for the marking of the 'topic'. As Warburton (1980) has shown in general, the presence of a clitic indicates that the relevant NP expresses old information, i.e. is non-rhematic, and has the status of 'topic'. Thus the difference in acceptability between (18b) and (18c) is explicable in the same terms as the unacceptability of kanís-versions in (17): in both cases the demands for specific reference are in conflict with the features of kanís, i.e. its indefiniteness and non-specificity.¹

¹ There is a use of the MG indefinite enas (a) which seems to constitute counterevidence for our analysis here; cf. (i)

- (i) to píno efxarístos ena uiskáki.
 it drink (I) with-pleasure a whisky.
 (I wouldn't say no to a nice glass of whisky).

As Kazazis & Pentheroudakis (1976) (wherfrom the example has been taken) point out, pronominal reduplication of the (definite or i n d e f i n i t e) direct object (DOR) is grammatical in cases such as (i), if the clitic pronoun (and the

Second, there is a difference in appropriateness between kápjos and kanís in affective contexts that is probably explicable in terms of the non-specificity of the latter modifier. Consider the anomaly in the following pieces of discourse:

- (19) A: $\text{\textcircled{S}}\text{élo na páris kanéna}_i \text{ mazi su.}$
 want (I) that take (you) anyone with you.

whole sentence) is related "to the preceding discourse as well as to the (non-linguistic) context of situation".

The fact, nevertheless, that sentences like (i) are, under certain conditions, acceptable not only does not constitute counterevidence for our explanation of the anomaly in (18b) above, but also corroborates it. Cf. Kazazis & Pentheroudakis (op.cit.:399) again:

"... there are two types of indefiniteness. We propose to distinguish previously mentioned indefinite direct objects, which we shall label 'specified' and which are subject to DOR [Direct Object Reduplication], from indefinite direct objects which constitute new information, which are not subject to DOR — we shall call these 'non-specified'."

kanís is inherently, and not contextually (in the sense of Kazazis & Pentheroudakis), non-specific, as we have suggested. Thus it invariably cannot co-occur with clitics: its presence does not allow the pronominal reduplication, because of its inherent non-specificity. The difference then between (18b) and (i) above is simply that the latter can be acceptable under the "specified" use of the indefinite object, while the former, (18b), is (thanks to the inherent non-specificity of kanís) always unacceptable. It is worth noting that, as Kazazis & Pentheroudakis point out, under its "specified" use ena uiskáki in (i) can function as a 'theme'. Obviously, this differentiates further the acceptable utterances of (i) from the unacceptable (18b) above and strengthens the association of 'specificity' with the 'thematic' function.

B: *fónaksé ton_i!
 call (you) him!
 (Call him!)

(20) A: borí na díis kanéna filo_i mu ekí.
 may (you) to see anyone friend my
 there.

(You may meet some friend of mine there).

B: ?*tu_i éxis milísi ja ména?
 (Have you spoken to him about me?).

Compare now (19) and (20) with (19') and (20'), where the specific kápjos has taken the place of kanís:

(19') A: þélo na páris kápjon_i mazí su.

B: fónaksé ton_i!

(20') A: borí na díis kápjon filo_i mu
 ekí.

B: tu éxis milísi ja ména?

As far as I can see, given that the context is affective in both (19A) and (20A), this difference between the two modifiers would be inexplicable in an account that would treat kanís as a specific pronoun and as a quantifier modifying NP's with specific reference in (19A) and (20A), respectively.

In summary, we can say then that in general MG does not exemplify a universal-like use of kanís, parallel to that of any (anyone, etc.) in English; and that the indefinite kanís occurs in affective contexts (see 1.1) and invariably has a non-specific interpretation. There is good evidence for the assignment of the latter feature to kanís, as we have seen, and some otherwise curious facts (cf. (17)

above) become explicable in the light of such a characterization.

1.3.3 KANIS

We have already noted (see the introductory section in this chapter) a peculiar characteristic of KANIS: this emphatic form is acceptable only in negative sentences. Consider again g.'s in (1)-(5), repeated here:

(1g) *érxete KANIS ipopsífiós ke rotá.

comes anyone candidate and asks.

(2g) *érxete KANIS ipopsífiós ke rotá?

comes anyone candidate and asks?

(3g) *na érxete KANIS ipopsífiós ke na rotá.

's.m.' comes anyone candidate and 's.m.' asks.

(4g) *róta KANENA ipopsífió.

ask (you) anyone candidate.

(5g) {^{δέν}_{na mīn}} érxete KANIS ipopsífiós.

{^{not}_{'s.m., not}} comes anyone candidate.

This reveals a first major difference in distribution between the emphatic form and the non-emphatic form of the modifier kanís examined in the previous section: the latter differs from its emphatic counterpart in that it can occur in any affective (see 1.1) context. This is not, however, the only difference between the emphatic and the non-emphatic forms of our modifier. There are some other functional and semantic differences, too, that make the emphatic KANIS closer to the determiner kápjós, rather than to its non-

emphatic counterpart kanís. We discuss them immediately below.

A second major difference between kanís and KANIS has also been pointed out above: the emphatic form KANIS, like the determiner kápjos, can naturally occur in sentence-initial position, where the non-emphatic form kanís is in general unacceptable (cf. (17a-b)). We explained this restriction on kanís in terms of Li and Thompson's characterization of 'topic' as specific and Warburton's theory of word order in MG. In particular, following the latter's view that initial position in marked word order is occupied by either the topic or an emphatically presented item, we argued that the inability of the non-emphatic kanís to occur sentence-initially was due to its being non-specific and presented some independent facts pointing to the association of the indefinite quantifier with this feature. If, however, the unacceptability of kanís in sentence-initial position is explicable in terms of its non-specificity, how can we account for the acceptability of the emphatic KANIS in the same position? According to the lines of the explanation above, this question can have two possible answers: KANIS can occur sentence-initially either because it is emphatic or, possibly, because it is specific.

As far as I can see, there is a way of eliminating one of the two possibilities. Compare the a. and b. sentences below:

- (21) a. KANENA sináðelfo_i dén ton_i njázi.
any colleague not him interests (it).

b. ?* $\delta\acute{\epsilon}\nu$ ton_i $nj\acute{a}zi$ $kan\acute{\epsilon}na$ $sin\acute{a}\delta elfo_i$.
 not him interests (it) any colleague.

- (22) a. $\delta\acute{\epsilon}\nu$ tu_i $ar\acute{\epsilon}si$ $KANENOS_i$ i $kakometax\acute{i}r\acute{i}si$.
 b. ?* $\delta\acute{\epsilon}\nu$ tu_i $ar\acute{\epsilon}si$ $kanen\acute{o}s_i$ i $kakometax\acute{i}r\acute{i}si$.

It can easily be seen that KANIS is not subject to the constraint that excludes kanís from NP's that are correlated with a clitic. As Warburton (1980) showed, however, the presence of a clitic marks the NP it is referred to as a topic. This presumably means that KANENA sináðelfo e.g. is treated as a contrastive topic in (21); and that KANIS differs from kanís not only in distribution, but also in function.

We can maintain, therefore, that the acceptability of KANIS in sentence-initial position may be due to its being interpreted as specific (thanks to its stress and position), and not simply to its being an emphatic form; and that this, as well as its other differences in distribution from the non-emphatic kanís, might simply be a consequence of the fact that the latter, unlike its emphatic counterpart, is normally used with non-specific reference.

To make this differentiation between the two forms clearer we can compare the emphatic KANIS with kápjos. We have seen that the determiner kápjos is not marked with the feature 'non-specific' (cf. 1.3.1), and that it does not share with kanís any of the characteristics of the latter that we associated with its marking with the feature 'non-specific'. This obviously means that kápjos shares with KANIS the same differences from kanís: both of them can (a) modify NP's referentially associated with clitics (cf. (18a) and (22a)), and (b) occur in sentence-initial position, in

which kanís cannot (cf. (17) above). That is, KANIS appears to be distributionally and functionally closer to the determiner kápjos than to its unstressed counterpart kanís.

It is not, however, only distributional and functional differences that distinguish between the stressed and the unstressed forms of the modifier kanís: there are some semantic differences too. In general, negative sentences with KANIS do not differ in truth conditions from similar sentences with kanís. Thus there is no condition under which one of the following two sentences is true and the other is not, or, conversely, there is no condition under which one of the two is false and the other is not:

- (23) a. δέν írθe KANIS sináðelfos.
not came any colleague.
- b. δέν írθe kanís sináðelfos.
not came any colleague.

See, however, the following sentences:

- (24) a. (na) mí féris páli KANENA sináðelfo.
(‘s.m.’) not bring again any colleague.
- b. (na) mí féris páli kanéna sináðelfo.

(24a) implies that the hearer did not bring anyone of his colleagues last time: the speaker simply asks him to do the same, i.e. to bring none of the colleagues. On the contrary, (24b) implies that the hearer did bring someone, or more, of his colleagues last time: the speaker asks him to avoid it this time, i.e. to bring none of the colleagues. That is, if we added ópos tin áli forá (as before) after (24a) and (24b), this additional sentence would be assigned

a different content in the two cases: (na) mí féris páli KANENA sináðelfo, ópos tin áli forá would mean that the hearer brought none of the colleagues last time, whereas (na) mí féris páli kanéna sináðelfo, ópos tin áli forá would mean that he brought a couple of colleagues before. Hence, (24b) can be followed by sentences like 'You brought a couple of them last time and they were a nuisance', whereas (24a) cannot.

Consider also (25a) and (25b) below, which differ not only in implications, but also in their possibilities of interpretation:

- (25) a. (na) mí féris KANENA akóma.
 ('s.m.') not bring (you) anyone yet.
- b. (na) mí féris kanéna akóma.
 ('s.m.') not bring (you) anyone yet/in
 addition.

(25b) has two readings, paraphrasable as 'Don't bring anyone yet' and 'Don't bring anyone more'. (25a), on the other hand, can be connected only with the first paraphrase. Cf. an analogous difference in the following pair of sentences:

- (26) a. (na) mí féris KANENA sináðelfo móno.
 ('s.m.') not bring (you) any colleague
 only/alone.
- b. (na) mí féris kanéna sináðelfo móno.

Again, (26a) is ambiguous between the interpretations 'Only, don't bring any colleague' and 'Don't bring anyone of the colleagues alone'. (26b), on the other hand, is ambiguous between at least three possible interpretations: the above

two and 'Don't bring only one or two colleagues (We will need some more people)'.

How can we account for these semantic differences? Or, at least, what are they due to? Are they somehow related with the syntactic differences discussed above? It can easily be seen that the interpretations, or implications, in which sentences with kanís differ from the corresponding sentences with KANIS share a common characteristic: they tell us "how many entities or how much substance is being referred to" (cf. the first quotation from Lyons in 1.3.1). In particular, interpretations that the a.'s in (25) and (26) cannot be associated with are 'Don't bring anyone more' and 'Don't bring only one or two colleagues (we will need some more)', respectively. Both of these interpretations, as well as the implication of (24b), that the corresponding a. sentence does not share, express quantity. And this can hardly be a coincidence.

As far as I can see, the semantic differences between the stressed and the unstressed forms of our modifier are due to the interpretation of KANIS as a determiner, rather than a quantifier. And, in this respect, KANIS parallels the determiner kápjos. Cf., for instance, the incompatibility of the latter determiner with the adverb móno (only) in the kápjos- versions of (14a-b), repeated here:

- (14) a. ?*kápji móno tus xtípisan.
 some [pl.] only them hit.
- b. ?*ton anagnórisan móno kápji.
 him recognized only some [pl.] .

As we said in our discussion of these versions, their oddity is due to the assignment of the adverb móno (which here is related to quantity, rather than specificity) to the determiner. If we now look at the three possible interpretations of (26b) above we see that the corresponding a. sentence with KANIS does not share exactly the interpretation that assigns móno to the modifier, namely 'Don't bring only one or two colleagues'. In other words, KANIS would be unacceptable under this interpretation, exactly as the determiner kápjos is in (14).

This analysis of the semantic differences between the stressed KANIS and the unstressed kanís in (24)-(26) is, after all, compatible with, if not a natural explanation for, the fact that the emphatic form is closer in distribution and function to the determiner kápjos, rather than to the non-emphatic form of the same modifier.

We can maintain thus on the grounds of the semantic, syntactic, as well as functional, characteristics pointed out in the previous paragraphs that KANIS is a determiner, like kápjos, and in this respect differs considerably from its non-emphatic counterpart, which has been shown to be a quantifier. In the following section we try to clarify further the relationship between these two forms of the modifier kanís comparing them with two different analyses proposed by philosophers for the English indefinite any.

1.3.4 kanís/KANIS and the dispute as to the status of any in English

Two different accounts of any have been put forward by philosophers and their dispute has been transferred into linguistics by linguists who in the last decade sought to account for the peculiar syntactic and semantic characteristics of the indefinite any on the basis of the one or the other of these two accounts. In this section we shall see what bearing this dispute might have on our analysis of KANIS and kanís: in particular, we shall see that we have good reasons to suggest that KANIS fits the one and kanís the other of the two philosophical analyses. Let us begin with a survey of the relevant literature.

Quine (1960) claims that any is a universal quantifier with the widest possible scope, explaining the "joint survival of the synonyms any and every" in terms of distinctive scope connotation:

" (4) I do not know any poem.

(5) I do not know every poem.

Since 'any' takes wide scope, (4) means that, given each poem in turn, I do not know it. Since on the other hand 'every' takes narrow scope, (5) merely denies that, given each poem in turn, I know it. The scope of 'any poem' in (4) is (4); the scope of 'every poem' in (5) is 'I know every poem', which (5) negates." (op. cit.:139-140).

Vendler (1967) argues against analysing any as an instance of the universal quantifier. He points out that the any- versions of (27)

(27) I have here some apples: you may take

$$\left. \begin{array}{l} \text{every one} \\ \text{all} \\ \text{any one} \\ \text{any} \end{array} \right\} \text{ of them.}$$

are not synonymous with the corresponding universal quantifier-versions:

" Take any one of them.

This offer is far less generous than the previous ones: now I do not ask you to take all of them, every one of them, or each of them; I only give you one, though, for sure, the one you fancy. Thus there is some generosity left in this offer too: generosity in the sense of generality (...). Notice that it is not sufficient to say that the main feature of any, in such contexts, is the lack of determination. Take one lacks determination as well, but, and this is the crucial point, here the determination may still be up to me; you may sensibly ask back, Which one? With Take any one, it is up to you to do the determining; here it does not make sense to ask back, Which one? " (op. cit.:79-80).

And, furthermore,

" This is an essential feature; so much so that in situations that exclude such freedom, the use of any becomes nonsensical. Suppose you accept my previous offer and take an apple. What can I say now? Well, for sure, I can say things like

He took one.

He took the one he liked.

He took that one.

But I certainly cannot say

He took any one." (op. cit.:80-81).

Jackendoff (1972) proposes an account of any on the lines of Vendler's analysis. Quine's analysis essentially

"claims that relative scope is determined on the basis of lexical, not structural conditions", and thus is not compatible with Jackendoff's hypothesis that "dependence of quantifiers and negation on each other is determined by structural consideration" (op. cit.:338). On the other hand, Vendler's analysis, which casts doubt on that claim, does not contradict his hypothesis, on the one hand, and explains naturally, as Jackendoff notes (op. cit.:340), the use of any in negative contexts, on the other hand. Moreover, it can be extended to some other words favoured by affective contexts only:

" Ever, for example, denotes an arbitrary time, to be chosen by the hearer; at all represents an arbitrary (or arbitrarily small) degree." (op. cit.:341).

Lasnik (1976) and Kroch (1975), however, defend Quine (1960) against Vendler (1967) and Jackendoff (1972). Lasnik accepts Vendler's observations as to the difference between any and all in (27) above, but argues, along the lines of Quine's characterization of any, that the latter is in fact a form of the universal quantifier and that its difference from all in contexts like that of (27) can be analysed simply as a difference in the relative scope of the universal quantifier:

" First, compare an offer to take all of the apples, with one to take any of them. In the former case, Vendler observes,

If you started to pick them one by one, I should be surprised. My offer was sweeping: you should take the apples, if possible, "en bloc".

Further, to extend Vendler's suggestion, it seems to

me that an offer to take all can generally be construed as allowing the hearer to take all or none, but not some intermediate number. Such an offer can be analysed as having the universal quantifier within the permission modal:

109. You have permission (for all x, you take x). "You may take any" is much freer; it allows a choice in every individual case. That is, the hearer may elect to take anything from zero apples up to all the apples. In this case, any can be analyzed as the universal quantifier with wide scope:

110. For all x (you have permission to take [or not take] x)."

(op. cit.:52).

This analysis of any is completely adopted by Kroch (1975). As far as I can see, however, there are some weak points in this approach.

First, the analysis of You may take all and You may take any in 109. and 110., respectively, in the above quotation (cf. also (8) and (9) in Kroch 1975:39) do not differ only in the relative scope of all or any and the permission modal: if this were the case then the analysis of You may take any would be

For all x (you have permission to take x), and not 110. The latter, however, differs from this analysis, as well as from 109., in that it contains the further specification " [or not take] ". Lasnik seems to assume that the wide scope interpretation of any automatically demands this specification too; at least, he does not explain what relationship there might be between the relative scope in 110.

and "[or not take]", or, on what grounds the relative scope in 109. (unlike that in 110.) excludes this additional "[or not take]". Though, if all and any differ simply in scope relations, then the presence or non-presence of "[or not take]" should be explicable clearly in terms of scope relations. No such explanation, nevertheless, is offered in Lasnik's (and Kroch's) account. And the fact that representations like 109. and 110. do not differ only in the relative scope of all and any, respectively, but also in the presence and non-presence of a further specification, which has not been shown to be co-extensive with, or explicable exclusively in terms of, relative scope, casts doubt upon the whole approach. Although the presence or non-presence of "[or not take]" in the representation seems to reflect what might be the difference between any and all, we cannot see on what grounds it is associated with the wide or narrow scope of the universal quantifier; or, in any case, what would exclude, clearly and solely in terms of relative scope, representations like

You have permission (for all x, you take [or not
take] x).

Until problems like these receive satisfactory answers, nothing in Lasnik's account can show that what "[or not take]" specifies is an aspect of the wide scope interpretation, and not simply an aspect of the definition (or, if you like, the meaning) of the quantifier any.

Second, for both Lasnik and Kroch any is the marked and more restricted form of the universal quantifier. To quote Kroch,

" ... the universal quantifier analysis of any begins to explain why that logical item exists. It is simply a marked variant of all or every that takes wide scope with respect to operators that these quantifiers tend to have narrow scope with respect to." (1975:41).

However, if this is the case, i.e. if all and every are unmarked forms of the universal quantifier and differ from any only in that they tend to have narrow scope, then we would expect that the substitution of any by every or all in sentences that do not feature relative scope differences, i.e. in sentences containing no other logical or modal operator, should have no semantic consequences. Consider, however, (28) below, which exemplifies such a substitution:

- (28) a. I expect her any day.
 b. I expect her every day.

The two sentences do not seem to be absolutely synonymous: in (28a) the speaker is sure that she is about to come one of these days (but he is not sure of the exact date), whereas in (28b) the speaker states that he never stops expecting her (but he does not know whether she is going to come). As far as I can see, there is some generality and "looseness" in the temporal expression of (28a). In this sense, the difference between the two quantifiers that Vendler points out is preserved here. Nevertheless, we cannot speak of relative scope differences between the one and the other of our sentences. This means that the difference in interpretation between any and every/all is not simply a consequence of their being associated with different possibilities of negative scope interpretation.

Third, suppose that it is simply the relative scope distinctions pointed out in the quotation above that explain the parallel existence of any and every/all. Then it would be quite reasonable to expect that any would be in general welcome (for those distinctions to be made possible) in sentences containing a second operator, in addition to the universal quantifier. This is not, however, the case. Contrast (29a) (cf. (27) above) with (29b):

- (29) a. You may take anyone.
 b. *You must take anyone.

The occurrence of anyone in the second sentence renders it ungrammatical (compare it with the grammatical You must take everyone), although the presence of a second operator, the necessity modal, provides the necessary condition for the development of relative scope relations. Lasnik's and Kroch's analyses have no explanation for this. On the other hand, Vendler's analysis can naturally explain it. As Jackendoff (1972:339) notices, "if a choice is being forced, any is not appropriate".

Finally, Lasnik's and Kroch's analyses of any are overtly contradicted by the relevant linguistic facts, and in particular by negative sentences containing this indefinite. If in fact any is "a marked variant of all or every that takes wide scope", then the scope relations in negative sentences containing any should invariably have the form A- . What is interesting now is that such sentences in general c a n n o t linearly represent the scope relations they are considered to be associated with; that is, sentences like

(30) a. *Any men did not go.

b. *Anyone does not see you.

are overtly ungrammatical. However it has been, on the other hand, observed that in general there is some correspondence between the order of two (logical) operators in a sentence and their order in the relevant logical representation. Cf. Allwood et al.(1977:70):

" The order that the quantifiers have in a sentence in English often corresponds to the order we give these quantifiers in the logical representation of the meaning of that sentence. Compare the following two sentences.

[(31)] (a) Everyone in this room speaks two languages

(b) Two languages are spoken by everyone
in this room

[(31)] (a) strongly favours the reading with the universal quantifier having the widest scope. [(31)](b), on the other hand, favours the reading where the expression two languages has the widest scope."

Besides, the "unmarked" forms of the universal quantifier all and every can naturally occur on either side of negation, their position in the sentence influencing, of course, the interpretation of relative scope (cf. again Allwood et al. 1977:70f). This means that Lasnik's and Kroch's characterization of any in fact creates an inconsistency between order in language and order in logical representation, contradicting thus the relevant data, which in general suggest that there is a correspondence between the two.

In my opinion this makes their analyses suspect.

These are not, however, the only difficulties that an approach on the lines taken by Lasnik and Kroch must deal with. Lyons (1977) notes some crucial problems created by the claim that any is a form of the universal quantifier that invariably takes the widest possible scope. I quote two of them:

" Under one of its possible interpretations, (12) [Some remedies can cure anything — I.V.] can be analysed, from a logical point of view, as meaning roughly "There is/are some x such that, for all values of y, x can cure y"; and this interpretation (in which 'some' is to be construed as having non-specific reference) cannot be accounted for in terms of the principle that 'any' always has wider scope than 'some'." (op. cit.:459).

He also points out that sentences containing any, unlike identical sentences containing every or some, have rather obscure truth-conditions:

" But (20) [Any member of the team can climb Everest] differs, nevertheless, from both (21) [Every member of the team can climb Everest] and (22) [Some member of the team can climb Everest]. The proposition expressed by (21) entails, but is not entailed by, the proposition expressed by (20); and the proposition expressed by (20) entails, but is not entailed by, the proposition expressed by (22). So much is clear enough. The problem is to formulate the truth-conditions of (20) in such a way that they bring out these

semantic differences; and no-one appears to have done this yet." (op. cit.:460).

On the basis of these observations I agree with Lyons that the only promising approach, as far as English data is concerned, at least, is that of Vendler above:

" This analysis of the meaning of 'any' cannot be accommodated, in any straightforward way, within the framework of truth conditional semantics. But it does have the advantage that it accounts very naturally for the fact that 'any' tends to occur in a variety of what may be referred to, loosely, as modal contexts." (op. cit.).

(See also Jackendoff 1972:339).

Can we, however, say the same for MG data as well? In particular, can we account for the characteristics of kanıs or KANIS, or of both kanıs and KANIS, in terms of Vendler's approach to their English equivalent? The following paragraphs will show that we have good reasons to maintain that the behaviour of the non-emphatic form of kanıs displays the aspects of any that Vendler's theory accounts for.

We have seen (1.3.2) that the non-emphatic kanıs is an indefinite quantifier which (a) cannot be used with specific reference and (b) cannot occur in contexts other than 'affective'. It is now obvious that these characteristics make Vendler's analysis applicable to MG kanıs as well: its being an indefinite quantifier with non specific reference is compatible with the observation that the use of any in (27) above makes the offer freer and does not specify how the apples are to be taken, while its accept-

ability in affective contexts only becomes naturally explicable in the framework of his theory (cf. the quotation above and Jackendoff's relevant point in 1.2). Consider the MG analog for (27):

(27') éxo eðó meriká míla; { borís na páris kanéna. }
 have (I) here some apples; { borís na ta páris óla. }
 { can (you) get
 can (you) them
 anyone. }
 get all. }

Like any, kanéna in (27') allows the hearer to choose any of a number of items that the noun-phrase it modifies refers to; hence the sentence with kanéna is not synonymous with the corresponding sentence with óla: the offers they express are differently specified.

The application of Vendler's analysis to the non-emphatic form of kanís is further encouraged by the difference in acceptability between sentences like these in (32) below:

- (32) a. páre kanéna.
 take (you) anyone.
 b. *píre kanéna.
 took (he) anyone.

Exactly as Vendler's theory would predict (cf. the outset of this section) the indefinite kanís is incompatible with the past form of the verb, which is intended to give some information about a fact, and not to make an offer that it is up to the hearer to determine.

There is a particular class of examples in MG (and in English) which apparently questions Vendler's analysis: sentences where the indefinite modifies uncountable nouns

do not seem to fit this analysis. Cf. the sentences below:

- (33) a. ϑ a páro kanéna ípno méxri na jirísun.
 will get (I) some sleep until they come
 back.
 (I will get some sleep until they come
 back).
- b. δ óse tu kanéna kaló ksílo ja na se ϑ imáte.
 give (you) him any good spanking in-order
 (for him) to you [object] remember.
 (Give him a good spanking in order for
 him to remember you).

Probably, we cannot say of kanís that its presence in either of these sentences allows the hearer to pick up anyone of the items that the noun ípnos (sleep) or the noun-phrase kaló ksílo (good spanking) refer to. Such examples, nevertheless, can easily be accounted for in terms of Jackendoff's expansion of Vendler's theory:

" In these examples, some and any are used to specify amounts (of work ...etc.). Any leaves the choice of amount up to the hearer — any amount, no matter how large or small, is guaranteed satisfactory to the speaker." (1972:340).

(33) then (and analogous examples in English) do not in fact constitute counterevidence for Vendler's theory. We can say, therefore, in general that kanís can be given a natural explanation in terms of Vendler's theory for its English analog: kanís is an indefinite quantifier which allows in affective contexts, i.e. in contexts in which it is per-

missible, the hearer to specify the amount, or pick up anyone, of the referents that the noun-phrase it precedes (or stands for, as a pronoun) is connected with.

On the other hand, an analysis of this indefinite quantifier as a form of the universal quantifier that always takes the widest scope (on the lines of Quine 1960) would lead to serious difficulties. In particular, it would leave unexplained the fact that kanís can have this role, and be acceptable, only in what we call affective contexts. Furthermore, what is more important, it would leave unexplained, and be contradicted by, sentences like

(34) a. tu ípa na pári kanéna mílo ala aftós ta
píre óla.

(to) him told (I) to take any apple, but
he them took all.

b. su ípa na páris kanéna mílo; óxi na ta
páris óla!

(to) you told (I) to take any apple; not
to them object take (you) all.

where the speaker complains not simply that someone took the apples "en bloc", but that someone took a l l of them. Obviously, if kanéna was equivalent to the universal quantifier, the speaker's complaints would be pointless; however, they are not, and both sentences in (34) sound absolutely reasonable. Cf. also Vendler for English:

" ...if I formulate my offer in terms of any, there will be an upper limit to my generosity. In case the basket contains, for example, only five apples, I can go as far as to ask you to take any four of

them, but I cannot, logically, go all the way and ask you to take any five of them. For to do so would render your freedom of choice vacuous and, consequently, my use of any senseless. Hence we may conclude that the immediate scope of any cannot exhaust the total population; in other words, any never amounts to every." (1967:82).

If, however, Vendler's theory can extend to the non-emphatic form of kanís, what can we say of the emphatic KANIS? Can we account for it in the same terms as for its non-emphatic counterpart? The following paragraphs will show that the emphatic form of our modifier is better analysable in terms of Quine's theory.

We have seen that KANIS differs from kanís in some crucial aspects: it has been shown to be a determiner, rather than a quantifier, that can occur only in negative sentences, and not in affective contexts in general. It is obvious now that both its being a determiner (indeed, a determiner with specific reference) and its being restricted only in one of the affective contexts does not encourage an analysis of this emphatic form in terms of Vendler's theory.

What, however, makes the possibility of such a treatment of KANIS even weaker is its obvious equivalence with the universal quantifier. Consider (35) below:

- (35) a. OLI i sináðelfi dén írðan.
 all the colleagues not came.
 (ALL the colleagues did not come).
- b. KANIS sináðelfos dén írðe.

any colleague not came.

(NO colleagues came).

a. and b. are equivalent in meaning. But, what is more important, OLI in a. has wide scope over the negative operator. That is to say, KANIS is equivalent with the universal quantifier when the latter is assigned the widest scope in the (negative) sentence. Take now (35'a), where OLI can be interpreted as either falling within or being outside the scope of the negative operator:

(35'a) δέν ίρθαν OLI ι sináðelfi.

Under the narrow scope interpretation of OLI, (35'a) is normally paraphrasable as 'Some of the colleagues came and some did not'. Such a paraphrase, however, can by no means be connected with (35b): the latter, as well as (35a), is paraphrasable only as 'No one of the colleagues came'. This obviously means that KANIS is equivalent with the universal quantifier only when the latter has wider scope than the negative operator.

KANIS then corresponds to the wide scope interpretation of the universal quantifier in MG. But this was the main point in Lasnik's and Kroch's analyses of any: following Quine (1960), remember, they considered it as a marked (: invariably assigned the widest scope) variant of the universal quantifier. Does this mean that KANIS is explicable in terms of their approach? And, if it does, how can we explain the fact that an analysis in terms of relative scope distinctions only, which has been questioned by some English data, seems to be applicable on the MG emphatic form KANIS?

I think that Kroch can be helpful at this point:
 " We find Lasnik's analysis of any to be extremely convincing though some linguists would argue that any corresponds to the existential quantifier in negative contexts and to the universal quantifier only in modal and some conditional contexts (Karttunen, personal communication). We know of no factual grounds for choosing between these analyses and it may be that there can be none since the scope of operators required by Lasnik's analysis, $A-$, is logically equivalent to the scope order required by the existential quantifier analysis, $-E$. Under these circumstances the analysis which treats any in a unitary way would seem to win out on grounds of simplicity." (1975:41).

According to Kroch, then, any in negative contexts is analysable in two (logically equivalent) ways: as a wide scope universal quantifier or as a narrow scope existential quantifier. As far as I can see, this point is very important for our analysis of KANIS: we can account for the semantic equivalence between sentences like those in (35) in terms of the two (logically equivalent) notions 'wide scope universal quantifier' and 'narrow scope existential quantifier'. More analytically, OLI (all) in (35a) above is clearly an instance of the universal quantifier with wide scope over the negative operator. The scope relations, then, in this sentence will be represented as $A-$. The b. sentence in (35), however, is equivalent with the a., as we saw above, and KANIS is equivalent with wide scope OLI. In logical terms, this now means that KANIS in (35b) is representable either

as A- or as -E. There seem to be, however, some facts that point to an analysis of KANIS as -E, rather than as A-. We present them immediately below.

First, KANIS has been shown (1.3.3 above) to parallel in many respects kápjös: they are both determiners and display the same syntactic, semantic and functional characteristics. Since now kápjös corresponds to the logical E, it is preferable to choose the representation -E, rather than A-, for KANIS in negative sentences: although they are logically equivalent, -E reflects more precisely the features of KANIS.

Second, it is obvious that, although KANIS appears to be closer to the determiner kápjös, it is undoubtedly a form of the modifier kanís. It has been, however, pointed out above that kanís cannot be a wide scope quantifier: it cannot be reasonably said to take wide scope over the operators of its affective contexts, as the criticisms of Lasnik's and Kroch's analyses of its equivalent any have shown. If now kanís is in fact a narrow scope quantifier in affective contexts, that is, if it falls within the scope of the affective operators, then we can have a natural explanation for its morphological identity with the emphatic KANIS by choosing the representation -E, and not A-, for KANIS: if we consider the latter as equivalent to the narrow scope existential quantifier, we can say in general that the modifier kanís takes narrow scope, and contrast it with the modifier kápjös, which, as we shall see in the next section, corresponds to the wide scope existential quantifier.

Third, KANIS is restricted to negative sentences

only. If now it was equivalent with the wide scope universal quantifier, rather than the narrow scope existential quantifier, we would have to say unnaturally that KANIS was a marked (:wide scope) variant of the universal quantifier which occurred only in negative contexts, as if we needed a marked variant of the universal quantifier only before the negative operator, and not before the other logical or modal operators as well. If, on the other hand, KANIS is analysed as corresponding to the narrow scope existential quantifier, i.e. as $\neg E$, then we have readily a natural explanation of its occurring only in negative contexts.

Finally, KANIS in elliptic answers such as (36Ba) below

- (36) A: pjón ídes?
 whom saw (you)?
- B: a. KANENA.
 none.

clearly differs in meaning from oli in analogous elliptic answers:

- (36) B: b. ólus.
 all (of them).

KANIS seems to carry negation in (36Ba), while ólus in (36Bb) apparently does not. 'Narrow scope existential quantifier', then, rather than 'wide scope universal quantifier' seems to be the proper characterization of KANIS.

If the observations in the previous four paragraphs are correct, then we can suggest that MG offers a morphological realization of the (logically equivalent) notions 'wide scope universal quantifier' and 'narrow scope exi-

stantial quantifier' in two different forms, óli and KANIS, respectively, in pairs such as (35). This obviously means that MG makes a distinction that logic does not. This inconsistency, however, in the distinctions that MG, a natural language, and logic make does not affect our discussion in this section at all: we have been equating language items with logical operators simply in order to identify these items in terms of a precise logical translation, and not in order to show that there is a one to one correspondence between the natural language we are examining and the logic. The difference in distinction between MG and logic, then, does not question our observations above. What it does question is the possibility that the logical apparatus can describe any aspect of natural language.

1.3.5 Summary

It has been shown in the previous sections that ká-pjos, kanís and KANIS have different specific features: kanís, e.g. is a quantifier, whereas ká-pjos and KANIS seem to function as determiners, rather than as quantifiers. As far as relative scope is concerned, on the other hand, KANIS displays the same scope relation to the negative operator as kanís: it has been suggested above that, unlike ká-pjos, they both fall within the scope of negation. KANIS, finally, has been shown to have a specific distributional restriction that the other two do not share: unlike kanís and, even more, ká-pjos, it can occur in negative sentences only.

As our discussion thus far has made clear, the deter-

miner kápjos is relatively easy to handle. On the other hand, the relation between the two forms of the other modifier, kanís and KANIS, gives rise to many problems. We have tried to provide answers for some of them, but some more general ones have not been dealt with. Thus we have left untouched questions like 'How can we explain the fact that the presence/non-presence of emphatic stress may involve so important distributional, functional and semantic differences?', or 'How can the grammar accommodate the problematic contrast kanís/KANIS?'. Though, there seems to be a possible answer. Consider the following pair:

- (37) a. δέν έfije o JANIS.
 not left 'art.' John.
 (JOHN didn't leave).
- b. δέν έfije o jánis.

It is well known (see e.g. the discussions of focus in Chomsky (1971) and, especially, Jackendoff (1972)) that the emphatically stressed constituent (cf. o JANIS in our example) lies outside the scope of negation (at least in utterances with a falling pitch in the end): thus (37a), unlike (37b), is paraphrasable as 'The one who did not leave is John'. As far as I can see, however, emphatic stress on an *i n d e f i n i t e* item does not seem to have the same consequences in MG, at least: emphatic stress on an indefinite in negative sentences seems to absorb the negative particle (cf. our last argument for the association of the emphatic KANIS with the interpretation -E, rather than A-, in the previous section). Consider, for example, the indefinite article (which for some people (cf. Ioup

1975) is in fact a quantifier) in (38a) below:

- (38) a. $\delta\acute{\epsilon}\nu$ $\acute{\iota}\delta\alpha\mu\epsilon$ ENAN $\acute{\alpha}\nu\theta\rho\omicron\pi\omicron$ apo to prof.¹
 not saw (we) a man since the morning.
- b. $\delta\acute{\epsilon}\nu$ $\acute{\iota}\delta\alpha\mu\epsilon$ $\acute{\epsilon}\nu\alpha\acute{\nu}$ $\acute{\alpha}\nu\theta\rho\omicron\pi\omicron$ apo to prof.
 not saw (we) a man since the morning.
 (We have not seen any man since the morning).

Unlike in (37a), in (38a) the negative is assigned to the emphatic (indefinite) form: (38a) is paraphrasable as ute ENAN $\acute{\alpha}\nu\theta\rho\omicron\pi\omicron$ $\delta\acute{\epsilon}\nu$ $\acute{\iota}\delta\alpha\mu\epsilon$ apo to prof (We have seen NONE since the morning), as if the negative is attracted by the emphatically stressed indefinite. But the same semantic difference, and this is important for our discussion, can be detected in pairs of sentences containing KANIS and kanís in general: KANIS, unlike kanís, is invariably paraphrasable as 'none'.

What this amounts to is, probably, that KANIS is not a sui-generis item in the MG quantification system: its behaviour and relation to the corresponding non-emphatic indefinite kanís parallels the behaviour and morphological relation of the form ENAS to the non-emphatic indefinite énas. As far as I can see, it would be unjustifiable to assume that the two phenomena are not related, i.e. that MG has at least two sui-generis forms, KANIS and ENAS, which simply happen to be both emphatically stressed and to be both lexically identical to the corresponding indefinites.

Apart from this, there is some positive evidence, too,

¹ The cardinal énas (one) and the indefinite article énas (a) are lexically identical in MG. (38a-b) then are ambiguous between the cardinal number and the indefinite article interpretations of énas and ENAS, respectively.

that these two emphatic forms are to be accounted for in the same terms and have a particular relationship with negation. Like KANIS, the emphatic form of the indefinite article may occur o n l y in negative sentences. ENAN in the positive (38'a), e.g.,

- (38'a) ENAN ánthropo íðame apo to prof.
 one man saw (we) since the morning.
 (We have seen ONE man since the morning).

has nothing to do with the indefinite article: ENAN here is the emphatic form of the cardinal énan (one [acc.]), which is homophonous to the corresponding indefinite énan.

It is reasonable then to suggest that the emphatic form KANIS (like the emphatic form of the indefinite article) derives, through the relevant stress rule, from the corresponding indefinite non-emphatic form, and try to explain the different features of the emphatic form on the basis of the particular relationship with negation that its emphatic stress seems to involve. This can be done in terms of surface structure interpretive rules operating a f t e r the application of the above stress rule (An analogous solution is adopted by Lasnik (1976); see also Bresnan (1971) for the relevant theoretical discussion).

2. Negative scope and quantifiers

In this final section of the chapter we discuss the relations of scope in negative sentences containing quantifiers. We shall see that the lexical marking of the modifiers kápjos, kanís - KANIS is decisive to their relative

scope with respect to negation, while the determination of the scope relations of the other quantifiers faces insurmountable difficulties: there are so many factors involved that a comprehensive analysis of these relations appears to be almost impossible. Let us begin our discussion with the modifiers kanís - KANIS and kápjos, which are more familiar to us from the preceding sections.

The analysis of kanís - KANIS thus far makes clear that the relative scope of this modifier can be readily predicted in negative sentences. kanís has been shown to occur in affective contexts only, and we have suggested that it, presumably, takes narrow scope with respect to the relevant affective operators (cf. also the criticisms of the claim that its English equivalent any takes wide scope over the other operators). Similarly, KANIS has been shown (see 1.3.4) to be analysable as $-E$, rather than $A-$. That is to say, both kanís in negative sentences and the emphatic KANIS are representable as $-E$: the only difference between them is that the former is an indefinite quantifier, while the latter is a determiner with specific reference. As far as their relative scope with respect to negation is concerned, then, the two forms of the relevant modifier are not distinguishable.

However, they both are distinguishable from the modifier kápjos. The latter — like the English some, to which it corresponds to a large extent, as we have seen — does not normally fall within the scope of negation: in negative sentences it is invariably representable as $E-$. Take, for example, (12), repeated here:

- (12) poté dén éxi milísi se kápjon sináðelfó tu.
 (He has never spoken to some colleague of
 his).

If we interpret the negative operator as having wide scope over this existential operator, i.e. if we start the logical representation of (12) with $\neg E$, then we assign to it "readings" it can never be associated with: such an interpretation (i.e. 'It is not the case that there is someone such that ...') would allow the possibility that there might be no colleague; (12), on the other hand, does not allow this possibility of interpretation. kápjon then cannot fall within the scope of the negative.

On the basis of these observations, we can maintain that MG makes a lexical distinction between the existential quantifier that stays outside the scope of negation (kápjos) and the existential quantifier that falls within it (kanís-KANIS).

This suggestion is compatible with, and gains indirect support from, the fact that kápjos and kanís - KANIS normally preserve their relative scope with respect to the negative operator, irrespectively of their syntactic position in any derivational stage from what is called deep structure to the surface. See e.g. the following (transformationally related) sentences:

- (39) a. dén épjase i astinomía kápjus δjaðilotés.
 not arrested the police some demonstrators.
 b. dén pjástikan kápji δjaðilotés apo tin
 astinomía.
 not were-arrested some demonstrators by

the police.

c. $\acute{\kappa}\acute{\alpha}\pi\acute{\jmath}\iota$ $\delta\acute{\jmath}\alpha\delta\iota\lambda\omicron\tau\acute{\epsilon}\varsigma$ $\delta\acute{\epsilon}\nu$ $\pi\acute{\jmath}\acute{\alpha}\sigma\tau\iota\kappa\alpha\nu$ $\alpha\pi\omicron$ $\tau\iota\eta$
 $\alpha\sigma\tau\iota\nu\omicron\mu\acute{\iota}\alpha$.

some demonstrators not were arrested by
 the police.

(40) a. $\delta\acute{\epsilon}\nu$ $\acute{\epsilon}\pi\pi\acute{\jmath}\alpha\sigma\epsilon$ i $\alpha\sigma\tau\iota\nu\omicron\mu\acute{\iota}\alpha$ $\{\overset{KANENA}{\underset{kan\acute{\epsilon}\nu\alpha}{}}\}$ $\delta\acute{\jmath}\alpha\delta\iota\lambda\omicron\tau\acute{\iota}$.
 not arrested the police any demonstrator.

b. $\delta\acute{\epsilon}\nu$ $\pi\acute{\jmath}\acute{\alpha}\sigma\tau\iota\kappa\epsilon$ $\{\overset{KANIS}{\underset{kan\acute{\iota}\varsigma}{}}\}$ $\delta\acute{\jmath}\alpha\delta\iota\lambda\omicron\tau\acute{\iota}\varsigma$ $\alpha\pi\omicron$ $\tau\iota\eta$
 $\alpha\sigma\tau\iota\nu\omicron\mu\acute{\iota}\alpha$.

not was-arrested any demonstrator by the
 police.

c. $\{\overset{KANIS}{\underset{*kan\acute{\iota}\varsigma}{}}\}$ $\delta\acute{\jmath}\alpha\delta\iota\lambda\omicron\tau\acute{\iota}\varsigma$ $\delta\acute{\epsilon}\nu$ $\pi\acute{\jmath}\acute{\alpha}\sigma\tau\iota\kappa\epsilon$ $\alpha\pi\omicron$ $\tau\iota\eta$
 $\alpha\sigma\tau\iota\nu\omicron\mu\acute{\iota}\alpha$.

any demonstrator not was-arrested by the
 police.

(39) and (40) clearly show that differences in syntactic role or position of our modifiers have no bearing whatsoever on the scope relations in the sentence: the determiner $\acute{\kappa}\acute{\alpha}\pi\acute{\jmath}\omicron\varsigma$ preserves its wide scope over the negative operator, while the scope relations of $KANIS$ and $kan\acute{\iota}\varsigma$ to the negative operator are not disturbed by the syntactic changes that the transformations exemplified in (40) involve (The unacceptability of $kan\acute{\iota}\varsigma$ in (40c) has been given an explanation in section 1.3.2).

What can we, however, say of the other quantifiers? Is their scope in negative sentences lexically predictable, as with the existential quantifier? Below we shall see that the substitution of $\rho\omicron\lambda\acute{\upsilon}\varsigma$ (many [acc.]) e.g. for $\acute{\kappa}\acute{\alpha}\pi\acute{\jmath}\omicron\varsigma$ in (39a) renders the sentence ambiguous between a negated

(non-specific) and a non-negated (specific) polús, and that a difference in syntactic position normally reflects a difference in possibilities of relative scope interpretation in negative sentences. We shall try to isolate the factors that seem to be involved in the interpretation of negation and examine the predictability of the scope relations they influence or impose.

Consider the following examples:

- (41) a. δέν petúse psilá káθe pilótos.
not flew high every pilot.
- b. δέν petúsan psilá polí pilóti.
not flew high many pilots.
- c. δέν petúsan psilá arketí pilóti.
not flew high enough pilots.

káθe in (41a) is naturally assigned a narrow scope interpretation, and the sentence can be paraphrased as 'Some pilots flew high and some did not'. polí and arketí in (41b) and (41c), on the other hand, can fall either within or outside the scope of negation: under the narrow scope interpretations of their quantifiers, the two sentences are paraphrasable as 'Not many pilots flew high' and 'Not enough pilots flew high'; while, under their wide scope interpretations, the paraphrases will be, respectively, 'For many pilots it is the case that they did not fly high' and 'For enough pilots it is the case that they did not fly high'. That is, the universal quantifier káθe is more naturally associated with a narrow scope interpretation, while the non-universal quantifiers polí and arketí (and, as it can easily be shown, any other non-universal quantifier that is

not lexically marked as to its relative scope with respect to negation) can have either narrow or wide scope interpretation.

This tendency of the universal quantifier káðe to take narrow scope with respect to negation is also exemplified by the second form of the universal quantifier in MG: óli (all) is the only other quantifier that cannot naturally have a wide scope interpretation in sentences like (41). Consider (41d), for example:

- (41d) δέν petúsan psilá óli i pilóti.
not flew high all the pilots.

As with káðe in (41a), óli here is naturally paraphrasable as 'Some pilots flew high and some did not'.

On the basis of these facts we can suggest that the universal quantifier in MG is in general characterized by an inherent tendency to take narrow scope in negative sentences. At this point, there is an interesting parallelism between MG and English: as Quine (1960), Lasnik (1976) and Kroch (1975) have pointed out (see 1.3.4), the same tendency characterizes the forms every and all of the universal quantifier in English.

The suggestion in the previous paragraph is further encouraged by the oddity that the interpretation of the universal quantifier, or of the noun it modifies, as the 'topic' creates in negative sentences. Consider (41') below:

- (41') a. (?)káðe pilótos δέν petúse psilá.
b. polí pilóti δέν petúsan psilá.
c. arketí pilóti δέν petúsan psilá.

d. (?)óli i pilóti δén petúsan psilá.¹

(41'a) and (41'd) are rather odd with the normal intonation of declarative sentences. What is important for our discussion, however, their oddity can be explained naturally in terms of the suggestion above, that the universal quantifier in MG is preferably assigned narrow scope. (41'b-c) differ in their possible interpretations from the corresponding (41b-c): unlike the latter, (41'b-c) are unambiguous as to the relative scope interpretations of their non-universal quantifiers; in particular, they lack the narrow scope interpretations of polí and arketí, being paraphrasable only as 'For many pilots, it is the case that...' and 'For enough pilots, it is the case that...', respectively. But the only difference between the two pairs, (41b-c) and (41'b-c), is that thematization has applied on the latter. If now the application of thematization has this consequence, and quantifiers like polí (many), arketí (enough), líji ((a) few) show that it does, then the oddity of (41'a) and (41'd) is explicable in terms of our suggestion above: it is simply due to the conflict between the narrow scope, that the universal quantifier inherently tends to have with respect to the negative, and the demands (for wide scope)

¹ (41'a) and (41'd) sound more natural when the universal quantifiers carry contrastive emphasis and the whole utterance is interpreted as a context-bound denial intended to contradict utterances like 'Some pilots did not fly high' or 'A pilot did not fly high', etc. Cf. (i) below:

(i) A: merikí pilóti δén petúsan psilá.
 some pilots not flew high.

B: OLI i pilóti δén petúsan psilá.

of the sentence-initial (: 'topic') position.

We have seen so far that at least two factors might influence the relative scope interpretations of non-lexically marked quantifiers in negative sentences: the inherent features of the quantifiers (cf. the difference between the universal and the non-universal quantifiers in (41) and (41')) and their placement in topic position (cf. the difference in ambiguity between the non-universal quantifiers in (41) and (41')). But this can hardly be a new observation. As Ioup (1975) has pointed out, on the basis of data from a large number of languages exemplifying quantifiers that are clause-mates in the same surface sentence,

" Three factors are shown to interact to determine which quantifier has highest scope within a clause. These are, in order of importance, the inherent characteristics of the individual quantifiers, their grammatical function within the clause, and their location in a salient serial position in the sentence." (op. cit.:38).

The category of topic possesses the higher position in her hierarchy of grammatical functions (She considers topic as a grammatical category, on the basis of the fact that many languages do have a specific grammatical category for this function).

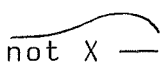
There are, however, some other factors, too, that have some effect on the relative scope of quantifiers in negative sentences. Thus, different intonational patterns may in many cases disambiguate wide scope and narrow scope readings, or even, by imposing the one reading than the


other, affect the acceptability of a sentence. As with the two factors of the previous paragraph, the involvement of intonation in the interpretation of quantifier scope has been noted in many cases (cf., e.g., Allwood et al. 1977: 69-70). And not only this; it has also been the basis for quantifier scope analyses in Jackendoff (1972) and Lasnik (1976). To quote from the latter,

" 4. I couldn't solve many of the problems.

Again, depending on intonation, the quantifier can be either inside or outside the scope of not. When many is within the same intonational phrase as not, it will necessarily be negated. When 4. is given an abnormal intonation in which I couldn't solve has the contour of an independent sentence, many will be non-negated." (p. 40).

Following Bresnan's argument that sentence stress is assigned by a cyclic rule after the syntactic rules on each syntactic cycle have applied (see Bresnan 1971), Lasnik accepts that the semantic rule of scope interpretation can be cyclic and still take into account the intonational characteristics in the above quotation. He proposes the interpretative rule below:

Quant → [+negated] /  not X —
[-some]

where  indicates that not and Quant are in the same intonational phrase.

Jackendoff, on the other hand, following Bolinger's distinction between A and B pitch accents (Bolinger 1965), argues that the association of the (ambiguous on paper)

(42) ALL the men didn't go.

with the paraphrase 'Not all the men went' or the paraphrase 'None of the men went' (Jackendoff's (8.161) and (8.162), respectively) depends entirely on the choice of pitch accent. Thus, (42') (Jackendoff's (8.159))

(42') ALL the men didn't go. (B accent)

is, according to his theory, synonymous with 'Not all the men went', while (42'') (Jackendoff's 8.160)

(42'') ALL the men didn't go. (A accent)

is synonymous with 'None of the men went', the contrast in meaning between them being produced by the difference in the choice of pitch accent (op. cit.:352).

Both Lasnik's "comma intonation" and Jackendoff's contrast 'accent A'/'accent B' can easily be shown to influence the interpretation of quantifier relative scope in MG as well. Thus

δέν petúsan psilá polí pilóti.

and

δέν petúsan psilá, polí pilóti.

normally favour the narrow scope and the wide scope interpretation of the quantifier, respectively, while

OLI i pilóti δέν petúsan psilá. (B accent)

and

OLI i pilóti δέν petúsan psilá. (A accent)

are more naturally connected with the narrow scope and the wide scope interpretation, respectively, of the universal

quantifier.

However, the involvement of suprasegmental characteristics in the interpretation of scope, in MG at least, goes further than the two theories above suggest. Emphatic stress, for example, a factor they do not take into account, can also have some bearing even on the acceptability of utterances. Cf. the difference in acceptability between (41'd) (under its normal intonation) and (iB) (see p.234 , footn.), both repeated here:

(41'd) (?)óli i pilóti δέν petúsan psilá. (A accent)

(iB) OLI i pilóti δέν petúsan psilá. (A accent)

According to Warburton's theory of word order in MG (see 1.3.2 above), a non-verbal item may normally occur in sentence-initial position either if it carries contrastive emphasis or if it is interpreted as the topic. The unstressed óli- phrase in (41'd) is bound to be interpreted as the topic, and the conflict with its inherent tendency to take narrow scope with respect to the negative (which makes it part of the 'comment') is unavoidable (cf. our discussion of (41') above). On the other hand, the stressed OLI- phrase in (iB) is not bound to such an interpretation: it occurs sentence-initially because it carries emphasis; thus no conflict arises.

Phonetic information, then, can in many ways (: comma intonation, falling/rising pitch in the end, emphatic stress) affect scope relations between quantifiers and negation, pointing to the one or the other interpretation

of their relative scope.

However, this multidimensional involvement of phonetic characteristics is not, as we have seen, the only source of influence. The inherent or functional characteristics of quantifiers, remember, may equally well disambiguate quantifier scope in negative sentences. We can now see how difficult it is to predict quantifier scope relations in these sentences. Our grammar would have to handle the interrelations of the factors that influence the possible scope interpretations, as well as their interaction with the negative operator. But as the discussion above makes clear, it is difficult to handle even one of these factors; for instance, the complex influence of the relevant phonetic information. The predictability of quantifier scope relations becomes even more problematic in negative sentences containing more than one (not lexically marked) quantifiers. Ioup (1975) has shown, as we have seen, that the relative scope interpretation of two clause-mate quantifiers is the result of the interaction of three factors, namely (a) their inherent characteristics, (b) their grammatical function, and (c) their serial position in the sentence. And it is, presumably, very difficult to calculate the interrelations of these factors with the relevant aspects of phonetic information and the interaction of these interrelations with the negative operator in negative sentences.

As far as I can see, however, such a calculation, if possible, is the most reliable way of predicting scope relations between (not lexically marked) quantifiers and the negative operator. Lasnik's "comma intonation", for example,

possessivized NP constraint:

" As represented here, the not scope rule is basically a feature changing rule. If, as argued by Ross (1967), feature changing rules are subject to island constraints, the non-ambiguity of sentence [(46)] discussed above is easily explained." (p. 43).

MG, on the other hand, does not exemplify analogous differences in ambiguity. Cf. e.g. (47) and (48)

(47) δέν bóresa na katalávo tis apoðíksis ólon
 ton ðeorimáton.
 not could (I) understand the proofs (of) all
 the theorems.

(48) δέν bóresa na katalávo tis apoðíksis tu
 evklíði ja óla ta ðeorímata.
 not could (I) understand the proofs (of) 'art.'
 Euclid for all the theorems.

(48) is as ambiguous as (47); moreover, the more natural interpretation of (48) associates the negative particle with the universal quantifier: that is, (48) sounds more natural when the possessivized NP constraint is violated. Similarly, (49) is ambiguous:

(49) δέν éxume akóma tis ðésis tu jáni ja polá
 ðémata.
 not have (we) yet the positions (of) 'art.'
 John for many issues.

It is paraphrasable both as 'For many matters we have not got John's positions yet' (polá falls outside the scope of negation) and as 'We have got John's positions for some matters but still not for many of them' (polá falls within

the scope of negation).

It is worth noting in this connexion that the MG data on quantifiers and negation above apparently contradict Chomsky (1973)'s principle of the "Specified Subject Condition" (the term "subject" has here an extended sense: it is definable not only in S, but also in NP's such as the possessivized NP's in (48) and (49), where tu efklifði and tu jáni, respectively, are considered as subjects). This principle demands that no rule can involve X, Y in the structure

$$\dots \underline{X} \dots [\underline{\alpha} \dots \underline{Z} \dots \text{---} \underline{W} \underline{Y} \underline{V} \dots] \dots$$

(where Z is the specified subject of W Y V in α and α is either S or NP), and Chomsky (ibid.:241-3) argues that Lasnik's observations above constitute a further example of its application:

" The observations are moderately subtle, but I believe that Lasnik's judgements are correct. Notice that the facts, as stated, follow from the Specified Subject condition, which does not permit association of not with many (...) " (p. 242).

Although Chomsky notes (ibid.:233) that there is no logical necessity to make the assumption that " conditions on the functioning of rules are assigned to universal grammar ", his condition above is intended to be a principle of the universal grammar. As we have seen, however, the counterexamples from MG do cast doubt on the applicability of this principle in MG in general, and suggest that Chomsky's Specified Subject Condition is not universally applicable.

3. Summary

In this chapter we have discussed the problem of relative scope in negative sentences containing quantifiers. We have suggested that of the MG quantifiers the universal and the existential can be lexically marked as to these scope relations, whereas the other, non-universal and non-existential, quantifiers are not. In particular, with respect to the former we have seen that MG makes a morphological realization of the notions 'wide scope existential quantifier' and 'narrow scope existential quantifier': the form kápjós (some) invariably corresponds to the first notion, while the form kanís (in its emphatic and non-emphatic realizations) to the second. With respect to the other quantifiers, on the other hand, we have seen that the situation is much more complicated: the multidimensional involvement of phonetic characteristics and the decisive intervention of factors such as 'grammatical function' and 'serial position' in the sentence, not only preclude any lexical marking of these quantifiers, but also render the whole enterprise of determining relative scope in negative sentences containing these quantifiers very difficult: thus the relevant analyses proposed so far, to the best of my knowledge, have pointed out one or more of the factors involved, rather than offered a satisfactory account of the interrelations of these factors with the relevant aspects of phonetic information, as well as the interaction of those interrelations with the negative operator.

The following, and last, chapter is devoted to a more

general discussion of the scope of negation: it examines the interpretation of negative scope in declarative sentences in general. This discussion will lead us to some less pessimistic conclusions, as we shall see.

C H A P T E R I V

THE SCOPE OF NEGATION

0. Introduction

Over the last fifteen years many attempts have been made to provide adequate explanation for the scope of negation. In general, two basically different approaches have been adopted. People like Klima (1964), Lakoff (1969), Jackendoff (1968, 1969 and 1972), Lasnik (1976), etc., believe that the scope of negation is fully determined by the syntactic (or both syntactic and phonological) characteristics of the sentences. On the other hand, the adherents of an entailment-based analysis of negation, Kempson (1975, 1977), Wilson (1975), etc., proceed on a purely semantic basis: they argue that the scope of negation is vague, allowing a range of possible interpretations, which, to quote from Kempson (1975:28), "appears to be constrained by the semantic components of the sentence in question and is not stateable in terms of syntactic or phonological constraints".¹

¹ Chomsky (1971) falls somewhere between these two different approaches: by restricting the scope of negation to any phrase containing the intonation centre, his analysis predicts an indeterminacy in the interpretation of scope, on the one hand, and tries to constrain it in terms of syntactic units and stress assignment, on the other (see a criticism of this approach in Kempson (1975:22-3)).

After sketching the most representative works of both frameworks, we shall try to look at the problem of scope from a point of view which is different from either of these approaches. In particular, we shall try to show that negation has two functions, corresponding to, and being analysable in terms of, two different levels of linguistic description, the level of Sentence Grammar and the level of Discourse Grammar; that a unified account of negation phenomena in terms of the first level alone is not a feasible target; and that the entailment-based analyses are more problematic because they seek to account for facts belonging to two different levels of description in terms of the one level only.

To this aim we shall first present (section 2.1) a number of negation phenomena which have hardly been dealt with in the analyses of negation known so far, despite the fact that they overtly challenge some well-established regularities or restrictions. We shall try to show (a) that these peculiar instances of negation share a particular function: they deny something that has been said or implied before (or, even, something that the speaker supposes that someone might say or imply); (b) that the data on negative factive sentences that the entailment analysts make appeal to in order to expel 'presupposition' from semantics constitutes simply one of these peculiar instances of negation: that the cancellation of the relevant implication in negative sentences is possible o n l y if they are interpreted as denying something previously said or implied (or something that the speaker supposes that someone might

say or imply); and (c) that the semantic notion 'presupposition' and the relevant phenomena must be reckoned among the "well-established regularities and restrictions" that are overtly challenged by this particular interpretation of negation. Then we shall try to show that an entailment-based analysis of negation, or any analysis which does not assign theoretical significance to the denial interpretation of negation, cannot provide a natural unified account of negation phenomena: that it suffers from many inconsistencies (section 2.2.1), on the one hand, and, on the other, it is unable to provide an adequate explanation for some syntactic and semantic facts, which, however, are naturally explicable in the framework of an alternative theory that proceeds with a distinction between a denial- and a non-denial- interpretation of negation (sections 2.2.2 and 3.). Finally, we shall try to evaluate (quite informally) the consequences of this theoretical distinction for the theory of grammar (section 4.).

1. Previous approaches

We shall sketch here the most representative works in the frameworks of the two approaches mentioned in the introductory section. This will help us to show more clearly in what way they differ from the third approach argued for in the sections to follow.

1.1 Fully determinate negative scope accounts

Four attempts to determine the scope of negation are sketched here: Jackendoff (1969), Lakoff (1969), Jackendoff (1972) and Lasnik (1976).

According to the analysis in Jackendoff (1969), scope variations are determined on the basis of surface structure configurations. His relevant argument hinges, mainly, on triples like:

- (1) a. Not many of the arrows hit the target.
- b. Many of the arrows didn't hit the target.
- c. The target wasn't hit by many of the arrows.

(Jackendoff's (29), (30) and (35), respectively). Jackendoff considers that (1b) differs in meaning from both (1a) and (1c). He proposes (quite informally) the following interpretive rule of scope:

" ... we observe that surface structure position of neg is always included in the interpreted scope. This suggests that the principle of the scope rule is expansion of the scope of neg to larger and larger constituents. Such expansion can be expressed by a rule that raises neg from the node on which it is generated to a dominating node." (op.cit.: 235-6).

In order to explain why somebody in examples like Somebody didn't come (his (82)), e.g., does not fall within the scope of not, Jackendoff tentatively accepted the principle that the raising of Verb Phrase- negation is inhibited by the presence of a quantifier in the subject. Under this formulation

his rule could handle the alleged difference between (1b) and (1d) and explain the fact that (1b) is not synonymous with (1a).¹

Lakoff (1969), on the other hand, argues that not, and other logical elements, are higher predicates in deep structure, and that scope relationships correspond to underlying command relationships. This does not mean, however, that he does not take into account surface structure configurations: to explain the phenomena in (1) above (which constitute apparent counterevidence for this view) and other related scope phenomena, Lakoff protects his account with a system of global derivational constraints, which are intended to preserve the correct correspondence between command relationships in underlying structure and precede relationships in derived structure, by reflecting every stage in the derivation between the two structures. He formulates the relevant to our discussion constraint as follows (op. cit.:129):

" Let $T_1 = L^1$ commands L^2
 $T^2 = L^2$ commands L^1
 $T^3 = L^1$ precedes L^2 (L = Q or NEG)
 Constraint 1' : $P_1/T_1 > (P_N/T_2 > P_N/T_3)$ "

(where '/' means "meets condition"). Given the underlying structure that Lakoff postulates and his quantifier-lowering rule, Constraint 1', acting as a well-formedness constraint, handles the facts in (1) above (See an extensive criticism of this approach in Lasnik (1976:57-83)).

Jackendoff (1972) argues extensively for the strong

¹ For a criticism of Jackendoff observations see Lasnik (1976:83-9) and Kempson (1975:20-2).

claim that surface structure configurations are the only level that is relevant to the interpretation of scope. Negation and quantifiers are now considered "as modal operators imposing conditions on the identifiability of referents and the realisability of events, while the scope of negation consists of everything commanded by the negative morpheme and to its right". Jackendoff formulates the following modal projection rule (ibid.:348):

" Given a lexical item A whose semantic interpretation contains a modal operator M. If an NP or S is within the scope of A, it is optionally dependent on M in the modal structure, that is, subject to C_M. If an NP or S is outside the scope of M, it is not dependent on M."

Thus, noun phrases and sentences commanded by and to the right of lexical items containing the modal operator "neg" are optionally subject to the condition that the latter imposes on noun phrases and sentences, namely, that they have no identifiable referents and no realizations, respectively.

According to Jackendoff, there are some possibilities of contrast in meaning that his analysis cannot account for. Thus a difference in the choice of pitch accent (see chapter III), he argues, produces two different readings for sentences like

(2) ALL the men didn't go.

which can be synonymous either with 'Not all the men went' (B accent) or with 'None of the men went' (A accent), despite the fact that both

(2') ALL the men didn't go. (B accent)

and

(2'') ALL the men didn't go. (A accent)

(Jackendoff's (8.159) and (8.160), respectively) are assigned the same modal structure. Jackendoff tries to account for his observations in terms of his distinction focus/presupposition, claiming that the A accent coupled with negation indicates that the focus (e.g. ALL in (2'')) is a correct value to satisfy the containing the negative presupposition ($\lambda Q[Q$ of the men didn't go] in (2'')), while the B accent coupled with negation indicates that the focus is an incorrect value for the (positive) presupposition ($\lambda Q[Q$ of the men went] in (2')).

Lasnik (1976), finally, following in many respects Jackendoff's main lines, opts for a surface structure configurations-dependent interpretation of negative scope. To accommodate the fact that, depending on intonation, the quantifier can be either inside or outside the scope of negation, Lasnik formulates a cyclic scope rule consisting of two sub-rules (his 74a-b):

- a. Quant \rightarrow [+negated] / not X —
- b. { $\begin{matrix} \text{Adverbial} \\ \text{NP} \end{matrix} \} \rightarrow$ [+negated] / not —

(see also chapter III), noting that

" When not is present in the Aux but 74 is inapplicable, either because of the pause intonation discussed, or the absence of a Quant, or the presence of an island boundary between not and the Quant, the negation apparently associates with the verb." (op. cit.:43).

What is, however, particularly interesting for our discussion in the sections to follow is the data that Lasnik associates with Attraction to Focus (AtF), a rule that was first adopted by Jackendoff. According to Lasnik's brief discussion of this rule, it differs from his scope rule above in three main respects:

(i) in its domain:

" Attraction to focus is applicable, then, in two types of situations: 1) sentences where some particular item or items have heavy stress as in 89a [I didn't see Jóhn. I saw BÍll] and 90a [Jóhn didn't see BÍll; Máry saw SÚsan]; 2) gapped sentences such as 89b [I saw BÍll, not Jóhn] and 90b [Máry saw SÚsan, not Jóhn, BÍll]" (op.cit.:47).

(ii) in its operation:

" A more fundamental difference between Rule 74 [Lasnik's scope rule - I.V.] and AtF is that only the former constructs semantic entities by amalgamating not with another item. AtF only provides the information that the focussed item is incorrect and will be replaced." (op.cit.:47).

" AtF 'zeroes in' on an item with extra heavy stress, and semantically erases it. That is, the stressed item is labelled incorrect, and its slot is designated to be correctly refilled. The most striking aspect of the operation of AtF is that anything in the sentence can be focussed and denied. This is in sharp contrast to rule 74a [the first sub-rule of Lasnik's scope rule - I.V.] which has a restricted number of possible inputs."

(iii) in its conditions: Island constraints, Co-ordinate structures are penetrable by AtF; similarly, even positive polarity items can be negated by AtF. Cf. (3), (4) and (5), respectively (Lasnik's 83., 84., and 81.):

- (3) I didn't understand Euclid's proofs of many
of the theorems; I understood his proofs of
only a few of them.
- (4) I didn't talk to Chomsky and all of his col-
leagues; I talked to Chomsky and most of his
colleagues.
- (5) John isn't somewhat smarter than Bill. He's
much smarter.

In the sections to follow (see 2.2) we shall return to this sort of data and its implications for the dispute between entailment analysts and presupposition analysts, on the one hand, and the problem of negation in general, on the other.

1.2 An indeterminate negative scope account

The preceding section gave us an idea of the first approach to the problem of negative scope. Here we shall sketch a representative work in the framework of the second approach.

Kempson (1975, 1977) argues that negative sentences are not ambiguous as to scope, but rather vague; and that this inherent vagueness of negative sentences has not been recognized by other linguists (cf. Lakoff 1970, Jackendoff 1969, Chomsky 1971, etc.). She assumes that negative sentences

are given their semantic interpretation from a fully specified deep structure phrase marker in terms of the following rule of negation:

" Given NegS where S is interpreted as a conjoint set of semantic components ($P_1 \cdot P_2 \cdot P_3 \dots P_n$) either simple or complex, NegS is replaced by A/S, where A is the 'antonymy operator':

$$A/S \equiv A/P_1 \vee A/P_2 \vee A/P_3 \vee \dots \vee A/P_n. "$$

That is, the scope of negation is, according to Kempson, indeterminate. It constitutes those semantic components which are affected by the rule of negation (1975:17):

" Thus for some conjoint set of semantic components [$e_1 \cdot e_2 \cdot e_3$] the negation of that set is equivalent to:

$$[A/e_1 \vee A/e_2 \vee A/e_3]$$

and this formulation by definition allows any of the following combinations [footnote omitted]:

- | | |
|---------------------------------|---------|
| $A/e_1 \cdot A/e_2 \cdot A/e_3$ | (i) |
| $A/e_1 \cdot A/e_2 \cdot e_3$ | (ii) |
| $A/e_1 \cdot e_2 \cdot A/e_3$ | (iii) |
| $e_1 \cdot A/e_2 \cdot A/e_3$ | (iv) |
| $A/e_1 \cdot e_2 \cdot e_3$ | (v) |
| $e_1 \cdot e_2 \cdot A/e_3$ | (vi) |
| $e_1 \cdot A/e_2 \cdot e_3$ | (vii) " |

In her attempt to show that presupposition (as opposed to entailment), and consequently a three-valued logic, has no place in the semantics of natural language, Kempson concentrates on a particular interpretation of negative sentences (predictable by her rule of negation) which not only cannot be captured in terms of presupposition, but

also apparently is in conflict with its logical definition. In particular, according to the table of presupposition (see Kempson 1975:49):

Table of Presupposition

presupposing sentence		presupposed sentence
T	→	T
$\neg(T \vee F)$	←	F
F	→	T

if a presupposing sentence is false, its falsity will have no effect on its presupposition, which will remain true; that is, according to the predictions of the table, the presupposition of a positive sentence must always survive in its negative counterpart. However, Kempson points out, there is a particular ("unnatural", "marked", as she characterizes it) interpretation of negative sentences that can by no means be compatible with these predictions. Cf. (6) below (Kempson's (33b)):

- (6) Edward didn't regret that Margaret had failed
because he knew that it wasn't true.

If the implication of the truth of the complement in (6) were not cancelled, the whole sentence would be contradictory; but (6) is undeniably not contradictory. Thus, Kempson argues, negation in (6) falsifies not only the factive verb but also its complement, and this fact — which is pretty well predictable in terms of her rule of negation — can by no means be compatible with a presupposition analysis, which insists that under no circumstances at all can the presupposed sentence be false if the presupposing sentence is false.

The only logical relation that can, according to Kempson, capture the data on negative sentence interpretation is the relation of 'entailment', which is logically determined as follows (1975:49):

Table of Entailment

entailing sentence		entailed sentence
T	→	T
F	←	F
F	→	TvF

It is obvious that the last part of the definition of the relation of entailment, i.e. $F \rightarrow TvF$, allows the cancellability of the implication that the complement in (6) above is true (Contrast it with the corresponding prediction in the Table of Presupposition).

Although her criticism on accounts like those in Kiparskys (1970), Keenan (1971) and Fillmore (1969) seems to be logically irrefutable and quite convincing (though, to some extent, counterintuitive), I think that some very important linguistic generalizations are missing in Kempson's account, and in the entailment-based accounts of negation in general; and that her alternative logical relation, i.e. entailment, involves syntactic and semantic problems and difficulties. We will return to this later on.

2. From another point of view.

Here we try a different approach to the problem of negative scope. We argue that the phenomenon of cancellability of the implication that apparently contradicts pre-

supposition (see the preceding section) is simply one of the symptoms of a particular function of negation: its denying something that has been previously said or implied (or something that the speaker supposes that someone might say or imply)¹. We correlate this cancellability with some other, superficially irrelevant, cases of negation which also apparently contradict some regularities or constraints that have convincingly been pointed out with respect to the ordinary (: non-denial) function of negation: these problematic cases, too, are symptoms of the same function of negation.

The correlation of these problematic data on negation with the cancellability of the factive complement, and of both with a particular function of negation, has two obvious consequences: (a) it suggests that there is a second type of negation which does not share the restrictions of the ordinary negation, and (b) it provides a different basis for an analysis of the facts that entailment analysts sought to analyze in terms of entailment, as contrasted to presupposition, and of rules of negation like that in the preceding section. We examine extensively these two consequences in sections 2.1 (consequence (a)) and 2.2 (consequence (b)) below.

¹ The term 'context-bounding denial' which we shall be using below will have this broad sense.

2.1 The distinction 'ordinary'/'contradiction' negation

Some peculiar instances of negation have been reported on various occasions which can freely violate well established – and well maintained by other instances of negation – restrictions or regularities. They contradict constraints and rules that determine other instances of negation and are a persistent "headache" for the linguist who is seeking regular patterns. To the best of my knowledge, these peculiar instances of negation either have been neglected and dismissed as marginal and non-representative instances of negation, or, when pointed out, have never been dealt with in detail and depth. We examine two of these instances immediately below.

Consider the data that Lasnik (1976) sought to account for in terms of his Attraction to Focus rule (see 1.1; (3), (4) and (5) are repeated here as (9a), (9b) and (8a), respectively):

- (7) a. I didn't write a lóng thesis. It is shórt.
 b. John didn't get thé result, but he got á result.
- (8) a. John isn't sómewhat smarter than Bill. He's múch smarter.
 b. He didn't discuss a góod deal of data. He discussed a gréat deal of data.
- (9) a. I didn't understand Euclid's proofs of mány of the theorems; I understood his proof of only a feú of them.

- b. I didn't talk to Chomsky and áll of his
colleagues; I talked to Chomsky and móst
of his colleagues.

(10) a. I saw Bíll, not Jóhn.

- b. I solved áll the problems, not mány of
them.

(Lasnik's 80a-b, 81., 82., 83., 84., 89b and 86'., respectively). As we have seen (section 1.1), Lasnik points out some fundamental differences between his scope rule, which apparently cannot control (7)-(10) and other parallel cases, and his AtF rule that is proposed to handle these stubborn instances of negation. Thus, the two rules differ in their domain and conditions of application and, what is most important, in the results of their operation (see the relevant quotations in 1.1). Although, however, Lasnik is aware of the basic differences between the two rules, he does not seem to pay very much attention to the fundamental differences between the data captured by his scope rule and the data (cf. (7)-(10)) that his AtF rule is proposed to handle. The different properties of the two relevant rules probably reflect different properties of the data. Despite this, Lasnik puts the problematic data under the same perspective, and tries to treat it in the same framework as the non-problematic instances of negation. Thus, his account essentially allows in the same component two rules of negative scope interpretation that contradict each other. Not surprisingly, Lasnik avoids a formulation of this AtF rule.

What is more important, however, Lasnik's anxiety for incorporating this problematic data in his (already established) framework does not allow him to see the significance of another crucial, in my view, difference between his two groups of data: unlike his non-problematic data, (7)-(10) above represent clearly context-bound utterances. Thus, the first sentence in (7b), e.g., denies the assertion 'John got the result' which was made before; similarly, (8a) denies the previously made assertion 'John is somewhat smarter than Bill', and so on. As far as I can see, it is impossible for anyone of (7)-(10) to open discourse: someone must have asserted, or perhaps implied, what the first sentences in (7)-(9) and the second (elliptic) sentences in (10) deny.

What Lasnik does not pay attention to, though, is pointed out by Baker (1970). In his discussion of pairs like:

- (11) a. The Sox have already clinched the pennant.
 b. *The Sox haven't already clinched the pennant.
- (12) a. I would rather go to New Orleans.
 b. *I wouldn't rather go to New Orleans.
- (13) a. Jacques could just as well have taken the train.
 b. *Jacques couldn't just as well have taken the train.
- (14) a. He did pretty well on the exam.
 b. *He didn't do pretty well on the exam.

- (15) a. He is far taller than his uncle.
 b. *He isn't far taller than his uncle.

- (16) a. John still plays golf.
 b. *John doesn't still play golf.

(Baker's (1)-(6)), exemplifying "affirmative polarity" items, Baker notes the following:

" In starring the (b) examples in (1-6) [our (11)-(16) - I.V.], I only wish to indicate their unacceptability when they are read with normal intonation and occur in no special context. There is one particular circumstance in which sentences like this are acceptable; namely, when they represent, word by word, an emphatic denial of a preceding speaker's assertion. Thus, for example, (1b) [our (11b)] is acceptable as an emphatic denial of (1a) [our (11a)]. The same remarks hold for a number of starred examples which occur later in this paper." (ibid.:footn.2).

In this connexion, and as far as MG is concerned, the same is true for many acceptable negative sentences examined in our previous chapters; as we have noted in several footnotes throughout our discussion, such grammatically odd sentences become natural and acceptable if they are interpreted as context-bound denials.

So far we have been discussing some striking examples of context-bound denials. That is, we have been examining contextually relevant instances of negation which are apparently "ungrammatical": the data in (7)-(16) openly contradict otherwise well-motivated rules or constraints, and

the conflict between their being ungrammatical, on the one hand, and acceptable, on the other, was actually overcome in terms of their being interpreted as context-bound instances of negation. We can say now that it would be absurd to presume that sentences "represent, word by word, an emphatic denial of a preceding speaker's assertion" only in cases in which well-established rules and constraints are ignored and violated. That is to say, there must undeniably be other instances of context-bound negation, which, however, are less "visible" because they do not openly violate rules or constraints, and thus do not superficially differ from non-context-bound instances of negation. We discuss three such cases below.

I. Negative sentences containing the quantifier some can be connected with different relative scope analyses, depending on whether they are interpreted as context-bound or non-context-bound. Consider the following examples:

(17) George ate some of that pie.

(18) George didn't eat some of that pie.

(19) George didn't eat any of that pie.

(Baker's (13)-(15)). According to Baker,

" ... there are words such as some which may occur in both positive and negative sentences, but in such a way that the addition of not in the verb phrase of an affirmative sentence does not result in a sentence whose reading is the logical negation of the original."
(ibid.:171).

Thus, Baker argues, although both (17) and (18) are acceptable, "the latter is not interpreted as the logical negation of the former (...) Indeed, this role is filled by (15)" (our (19)). Examine now the following piece of discourse:

(18') A: George ate some of that pie.

B: George didn't eat some of that pie; he
wasn't in the party at all.

As far as I can see, the first sentence of (18'B) cannot have the analysis

$\text{Ex} (x \text{ is some amount of a pie} \ \& \ \sim \text{George ate it})$,
which is normally associated with (18) above. And, conversely, the analysis

$\sim \text{Ex} (x \text{ is some amount of a pie} \ \& \ \text{George ate it})$
that seems appropriate for the first sentence of (18'B) does not obviously represent the propositional content that (18) normally carries.¹ Nevertheless there are no superficial differences (except, perhaps, intonational differences) between (18) and its twin in (18'B) (It is obvious, though, that if some were an affirmative polarity item (as already, would rather, etc., in (11)-(16) are), (18) would be starred and (18'B) would be acceptable (cf. the quotation from Baker above); and the difference would be "visible").

¹ An analysis of the relation between the first sentence in (18'B) and the sentence (19), which Baker considers as the logical negation of (18), will be presented later on.

II. Negative sentences with some, however, are not the only examples which show that their being interpreted as context-bound denials has some bearing on their content that their context-free instances cannot have, although there is no difference in grammaticality or acceptability between the former and the latter. See the pair of factive sentences below:

(20) John did not regret that he went to the match.
He did not go to the match.

(21) John did not regret that he went to the match.

A very well known difference between the interpretations of (21) and the first sentence in (20) is that the implication 'John went to the match' that the complement carries may survive in (21), but must be negated in (20) (hence the compatibility between the two sentences of the latter). There is, though, a second, equally important and, in my view, relevant, difference between (21) and the first sentence in (20) (henceforth (20), for simplicity), which, however, has hardly been noted:¹ (20) is, or at least is generally under-

¹ With the exception of Lyons (1977) and Karttunen & Peters (1979). Lyons points out that:

" Granted that the context-free assertion of a proposition p, or its propositional negation, $\sim p$, commits the speaker to a belief in the truth of any proposition, q, that is presupposed by p, this does not hold for the denial of p. If someone were to assert that the present King of France is bald, we could quite reasonably deny this by saying:

(12) The present King of France is not bald: there
is no King of France.

Similarly, though it would be irrational for someone to

stood as, exemplifying a context-bound denial; on the other hand, (21), under the interpretation that preserves the relevant implication, is not necessarily understood as a context-bound denial. Put differently, it is very difficult, if not impossible, to interpret the utterances of (20) as context irrelevant. And there is some sort of empirical evidence for this contextual differentiation between (20) and (21).

In particular, if (20) is in fact an instance of context-bound denial, then its subject-NP presumably makes reference to something that is contextually "given", namely, to the subject-NP of a preceding, or strongly implied, positive utterance, e.g.

(22) John regretted that he went to the match., which (20) denies. It is, however, very well known that the 'anaphoric' relation between two phrases, say, between two

utter

(13) I don't know that the earth is round.
as a context-free assertion, (...) there is nothing wrong with the utterance of (13) as a denial [footn. omitted - I.V.]" (p.772).

Karttunen & Peters, similarly, notice the involvement of the context and the situation of utterance. Non-contradictory examples, like our (20) above, they say,

" ... have a special function in discourse. They contradict something that the addressee has just said, implied, or implicitly accepted " (p.47).

We will return to this correlation between situation of utterance and function of negation below: it will be the core of our analysis in the sections to follow.

subject-NP's, cannot in general be maintained if the second subject-NP is introduced by the indefinite article. This now means that if sentences like (20) are necessarily understood as context-bound denials, then they could not contain indefinite subject-NP's since the latter would cancel the (absolutely necessary for the context-boundness) anaphoric relationship. The oddity of (20') below shows that this prediction; and, consequently, our characterisation of (20) as a context-bound denial, is correct:

(20') ?* A friend of John's did not regret that he
went to the match. He did not go to the
match.¹

Besides, the acceptability of (21') below shows that our initial context-based distinction between (20) and (21) is justifiable:

(21') A friend of John's did not regret that he
went to the match.

Unlike (20'), which corresponds to (20), (21'), which cor-

¹ (20') looks like a joke or game with words, rather than a seriously uttered sentence. Though, an utterance of (20') might be acceptable if understood as

(20'') "A friend of John's" did not regret that he...
In such a case, however, it exemplifies a semiquotation: indeed, it quotes its subject-NP from a previously uttered (probably positive) sentence that it is intended to deny. That is, (20'') is context-bound, and thus supports, rather than contradicts, our view.

responds to (21), is acceptable. We can say, therefore, that an utterance of (20), unlike an utterance of (21), is necessarily interpreted as a context-bound denial.

The discussion so far has shown that the relevant implication in factive sentences such as (20) may be negated only if they can be interpreted as context-bound denials (cf. the odd (20')). Can we, on the other hand, say that the relevant implication may not be negated in context-free utterances? A third difference between our examples, this time between the pairs (20)-(21) and (20')-(21') is, I think, helpful.

As far as I can see, the implication 'A friend of John's went to the match' is not cancellable under the context-free readings of (21'); and the same holds for (20') (hence the contradiction between its two parts). On the other hand, as far as the other pair, (20)-(21), is concerned, the relevant implication *must* be cancelled in (20) (otherwise the contradiction between its two parts cannot be avoided). What can we, however, say of (21)? As we have seen, utterances of (21) are normally understood as preserving the relevant implication, but, on the other hand, nothing prevents (21) in general from denying that implication. We showed above that (21) differs from (20) in that it is not necessarily context-bound. Now does the fact that (21) is interpretable as a context-bound denial or as a context-free sentence have any bearing on the cancellability or the preserveness of its implication? In my opinion, (20') and (21') give us a clue: an utterance of (21') cannot normally be context-bound (cf. the unavoidable contradiction in (20')); see also our

relevant footnote); besides, (21') cannot cancel the implication that the content of its factive complement is true (cf. again (20')). It is legitimate, I think, to suppose, on the basis of this fact, that it is the context-free utterances of (20) that do not, and cannot, cancel the implication that the complement is true, and that it is only the context-bound utterances of the same sentence that may affect the truth of that implication. Under this assumption, we avoid a conflict with the facts in (20')-(21'), which demonstrate a dependence of the cancellability of the relevant implication on context-boundness, on the one hand, and, on the other, proceed with an intuitively supported distinction between context-bound denials allowing the negation of the factive complement and context-free negative sentences excluding the negation of the complement.

Obviously, our suggestion above is in conflict with Kempson (1975, 1977) and the other entailment accounts, which claim that the scope of negation is indeterminate, and thus do not accept the significance of the distinction context-bound/context-free negative sentences. It is worth pointing out here, however, that the examples on which Kempson (Wilson, etc.) bases her argumentation have the form of (20) (never the form of (20')): they are always followed by a "supporting", if you like, sentence, like He did not go to the match in (20), which actually unsays and takes back the relevant implication. But, as we have seen here, such "supporting" sentences do not simply point to the reading of the preceding negative sentence that cancels this implication: the difference in acceptability between (20') and

(21') has shown that such supporting sentences make the factive sentence context-bound. Thus, example (20'), which is followed by such a supporting sentence, is invariably interpreted as context-bound denial; hence the conflict between its indefinite subject-NP and the demands of its (unavoidable) interpretation as a context-bound denial for reference to preceding context (It is this conflict that explains, as we said, the star in (20') and its difference in acceptability from (20), which contains a subject-NP that can be anaphorically related with the preceding context). On the other hand, example (21'), which is not followed by such a supporting sentence, is not necessarily given a context-bound denial interpretation; hence it does not exemplify the conflict we have in (20'), its indefinite subject-NP is acceptable, and the whole utterance is "saved".

To recapitulate, we have presented so far two cases in which the context-boundness of a sentence affects its acceptability or its interpretation. We have seen that utterances of the typically ungrammatical b. sentences in (11)-(16) become acceptable if they are understood as context-bound. Also, we have considered less obvious examples, where the involvement of the context has less "visible", but equally impressive, (semantic) results, namely, sentences with some and negative factive sentences: we saw, respectively, that context-boundness affects the semantic analysis of scope and makes the relevant implication of factives cancellable. There is, however, a third case of context-boundness involvement, with even less "visible" results. We discuss it immediately below.

III. Consider the negative sentence in (23B) and the negative sentence in (24) (henceforth (23B) and (24), respectively, for simplicity):

(23) A: The old cane chair had two legs.

B: It did not have two legs: it was a
hanging one.

(24) She showed me an old cane chair. It did not
have two legs, and she asked me if I could
fix it.

Obviously, (23B) denies a preceding positive sentence, i.e. (23A), while this does not hold for (24). And it can easily be seen that this contextual difference between the two negative sentences has some consequences as to their possibilities of negative scope interpretation. More precisely, in the context-bound (23B) the expression two legs necessarily falls within the scope of negation, while in the context-free (24) it necessarily falls outside the scope of negation. Thus (23B) can be acceptably followed by the sentence it was a hanging one, as well as by sentences like it had all four legs, it had three legs, it had only one leg, it had none of its four legs, etc. On the other hand, (24) cannot be acceptably followed by any of these sentences: it can only be paraphrased as "It lacked two legs" or "It had only two of its legs", given that chairs normally have four legs. Besides, sentences like it lacked two legs or it had only two of its legs, which normally paraphrase the negative sentence (24), can by no means follow its twin (23B).

We can reasonably suggest then that the boundness or

non-boundness of a negative sentence to what has previously been established in the context has some consequences as to the interpretation of its negative scope.

There is, however, a second important difference between the negative sentences (23B) and (24). The context-free negative sentence (24) can be connected with only one paraphrase: given that the chair initially had four legs, the paraphrases "It lacked two legs" and "It had only two of its legs" are equivalent. On the other hand, the context-bound (23B) allows many possibilities, namely, the ones expressed by it had none of its four legs, it had all four legs, etc. It is now interesting to see how this second difference between (23B) and (24) can be accounted for. Does it have something to do with the interpretation of (23B) as a context-bound denial? If it does, how can we describe it?

As far as I can see, the context-bound (23B) and the context-free (24) seem to display two differently functioning not's: not in (23B) unsays, withdraws, erases,¹ if you like, the information that the corresponding positive sentence,

¹ Cf. an analogous remark in the quotations from Lasnik (1976) in the end of section 1.1. Trying there to differentiate between his AtF and his scope rule, Lasnik makes reference to the function of not that the AtF rule is proposed to capture. It must be made clear, though, that the scope of this not in his account is restricted to the heavy stressed item only, while in our analysis it covers the whole sentence. The reason will be made clear as we proceed.

i.e. (23A), has established in the context, in order for the correct (according to speaker B) information, i.e. that expressed by it was a hanging one, to be substituted for it; on the other hand, not in (24) has a quite different function: "amalgamating", to use Lasnik's expression (see the quotations in the end of section 1.1), with the verb, this not in fact takes part in the information that (24) carries, rather than erases previously established information. Put differently, (24) is informationally "positive": it describes the chair, reporting that it lacked two of its four legs; on the other hand, (23B) is informationally "negative": it does not in fact describe the chair, but it denies a description of it previously established in the context (cf. (23A)), reporting not what the chair was like (as (24) does), but what the chair was not like. Thus, provided that chairs normally have four legs, (24) can be regarded as equivalent in meaning to it had only two legs, whereas (23B) cannot: the context in (23) by no means allows (23B) to be associated with the paraphrase "It had only two legs"; (23B) can be paraphrased only as "It is not true that it had two legs". Obviously, however, such a paraphrase contradicts the paraphrase "It had only two legs" of (24).¹ We can, therefore, answering the question

¹ It must be made clear that we do not claim here that negative sentences are in general ambiguous as to their negative scope interpretation: it is not ambiguity in meaning, scope or whatever, that characterizes the relationship between the not's in (23B) and (24), for example. We are simply suggesting that the two not's differ in function. We will return to this below, but it can be said at this point that the differing in function not's will be considered to be subjects of different grammatical components.

in the end of the preceding paragraph, say that the involvement of context-boundness is again obvious: it allows not an erasing function that context-free negative sentences never exemplify.

The more general question that now arises is whether the other cases of context-boundness examined above demonstrate the same function of not. It can easily be seen that not in both the context-bound denials (20), (18'B) and the context-bound denial readings of the "ungrammatical" b. sentences in (11)-(16) unsays previously uttered positive sentences. Indeed, it quotes part of the preceding context in order to deny it. That is why we do not have contradiction in (20) e.g.: the relevant implication that the presence of the factive causes in fact belongs to, and is accepted by, only the one who originally asserted the positive form (i.e. the utterer of (22)); on the other hand, the utterer of the denial (20) does not accept the truth of the relevant implication (cf. the second sentence in (20)), but, at the same time, in denying the truth of the preceding factive sentence ((20), remember, is the context-bound denial of (22)), he has to copy, to quote, that factive sentence, unavoidably together with the relevant implication; hence the "unnaturalness" and "markedness" of (20).¹

¹ Kempson herself characterizes as "unnatural" or "marked" the readings of negative factive sentences which cancel the relevant implication, as compared to those which preserve that implication. That is, Kempson accepts a difference in naturalness for (context-bound, as we suggested) readings which cancel the implication.

To illustrate further the analysis argued for here we can contrast it with the entailment based analyses of negation. It must be made clear that the involvement of the context itself does not constitute, and was not meant to be, evidence against entailment based accounts of negation. An entailment analyst, e.g., could easily reply that his/her analysis does not ignore, and does not leave unaccounted for, the involvement of the context; and that the phenomena we have been discussing in this section are dealt with in the pragmatic component of his/her theory. There is, however, an important difference between our discussion here and entailment analyses. We tried to make a distinction between context-bound and context-free negative sentences on the basis of syntactic (: violation of well-established constraints on polarity items) and semantic (: cancellation of the truth of factive complements, different and mutually excluded paraphrases) evidence. On the other hand, in the purely semantic entailment-based analyses of negation, in Kempson's analysis, for instance, this distinction has no grammatical significance: according to her rule of negation (see 1.2) all possible negative scope interpretations are produced in the semantic component and the appropriate or preferable one(s) for each particular situation are determined in the pragmatic component.

In other words, entailment analyses of negation claim, on the basis of the alleged indeterminacy of negative scope, that all possible interpretations of this scope are provided indiscriminately by the semantics, while we nowhere made such a claim: we have, quite to the contrary, suggested that

some possible interpretations seem to be exclusively connected with context-free and some others with context-bound negative sentences. This distinction, as we have seen, appears to be intuitively supported and reinforced by the feeling that negation functions in two different ways, according to the boundness or non-boundness of its utterance to the context: (a) as an informationally positive "amalgamating" item that takes part in the whole content in context-free cases; and (b) as an informationally negative item that erases the content of the rest of its sentence and produces a gap (which is normally filled in by the information that a following sentence carries) in context-bound cases of negation.

A parallel correlation between function of negation and situation of utterance is clearly noted by Karttunen & Peters (1979). According to them, discourses such as

- (25) a. John didn't fail to arrive. He wasn't
supposed to come at all.
- b. Bill hasn't already forgotten that today
is Friday, because today is Thursday.
- c. Mary isn't sick too. Nobody else is sick
besides her.

(their (77a-c)) are not "self-contradictory" because

"Negative sentences of the sort in [(25)] have a special function in discourse. They contradict something that the addressee has just said, implied, or implicitly accepted. One indication of their role is that they tend to be produced with a distinctive intonation

contour (Lieberman and Sag 1974). Another characteristic property of this kind of negation is that it does not affect the distribution of polarity items – note the appearance of already in [(25b)] and too in [(25c)]." (p.47).

Below it will be seen that analogous syntactic, phonological and pragmatic justification for distinguishing between the two different functions of negation is also offered by MG. In my opinion, this distinguishing by parallel means between the same functions of negation in two different languages, English and MG, apart from being very impressive as such, indicates that languages seem to be interested in making the distinction, and that an analysis that does not pay attention to, or cannot handle, this distinction cannot describe negation facts adequately (Probably, entailment analyses cannot "see" this double functioning of negation; they mix up two distinct cases of data, and are vulnerable, as we shall see, in terms of their own predictions).

On the basis of the observations quoted in the preceding paragraph, Karttunen & Peters distinguish between two kinds of negation: 'ordinary negation' and 'contradiction negation'. They recognise, however, that in the framework of the Montague's version of model theory they adopt the construction of a separate rule for forming sentences with contradiction negation is problematic:

" ... we do not know how to represent their prosodic characteristics in the present framework. Another unsolved problem of formalization concerns the contextual linkage of such sentences." (p.48).

We shall adopt the term 'contradiction negation' for the context-bound instances of negation, i.e. for not "unsaying" the rest of its sentence, which semi-quotes something (explicitly or implicitly) present in the context, and the term 'ordinary negation' for the context-free instances of negation, i.e. for not "amalgamating" with the rest of its sentence.¹

What we aim at in the rest of this chapter is to show that a more satisfactory analysis of negation would be to consider that the relevant data is in general divided into two parts, i.e. context-bound and context-free cases of negation, and should be accounted for in terms of two different grammatical components: in particular, the (context-free)

¹ The traditional distinction 'contradictory'/'contrary' could also be helpful in the characterization of the two functions of negation. Obviously, in quoting and denying (23A) above a context-bound denial reading of (23B), e.g., will be the 'contradictory' of (23A), since they cannot both be true and both be false: the only condition under which a context-bound denial reading of (23B) is false is the truth of (23A), and thus they cannot both be false. On the other hand, a context-free utterance of the same negative sentence will be the 'contrary' of (23A): the context-free utterance of It didn't have two legs (cf. (24)), more or less equivalent in meaning with It lacked two legs, will be false if "it was a hanging chair" is true; but under this condition, (23A) too is false. Thus a context-free interpretation of It didn't have two legs and (23A) can be both false, i.e. the former is the 'contrary' of the latter.

instances of 'ordinary negation' should be dealt with in terms of the semantics of what is called Sentence Grammar (see Chomsky 1976, 1980; also Williams 1977), while the (context-bound) instances of 'contradiction negation' should be dealt with in terms of what is called Discourse Grammar. The first step towards this main aim, i.e. the establishment of two functions of negation belonging to, and handled in terms of, two grammatical components, will be to show the drawbacks and inadequacy of entailment analyses. In the following sections, then, we shall try to show that the claim of entailment-based accounts of negation that the semantic component provides all the possible interpretations of negative scope is oversimplified and too strong; and that the assumption that the scope of negation is indeterminate, that this claim necessarily involves, is problematic.

2.2 The shortcomings of entailment-based analyses of negation

We have seen so far two explanations for the fact that there is no contradiction between the two sentences in (20), e.g., repeated here:

- (20) John did not regret that he went to the match.
He did not go to the match.

According to the entailment analyses, the negative in the first sentence reaches and cancels the implication "John went to the match" that the factive-complement carries (contrary to what presupposition analyses would predict); hence the first sentence is compatible with the second sentence, which

explicitly denies the truth of the factive complement. According to the analysis defended in the preceding section, on the other hand, the first sentence in (20) is a context-bound denial intended to erase the content of its positive factive counterpart John regretted that he went to the match, which has been (explicitly or implicitly) established in the context, so that the true information "He did not go to the match" can take its place; in denying this positive counterpart, however, the utterer of (20) has to copy, to quote it, in order to show what he intends to reject; unavoidably together with the relevant implication: hence the "unnaturalness" and "markedness" of (20). What is quoted is not part of the speaker's own view of truth. His own contribution is made by the second sentence in (20); his first sentence denies what the previous speaker considered as true. Given now that contradiction would result only if the same speaker implied that something was true and immediately afterwards stated that it was false, we can see why (20) does not lead to the "anomalies" that entailment analysts try to avoid by dismissing 'presupposition'. In other words, we do not need to expel this notion from semantics, as entailment analysts do, in order to account for the compatibility between the two parts of (20), and other analogous examples: such cases can be naturally explained in terms of their contextual characteristics.

We can easily see which one of the two explanations is more vulnerable. The "truth conditional game" cannot probably be played with quoted material. If now cases like that of (20) are in fact to be accounted for in terms of

quotation and context-boundness, as we argue here, then the truth-conditional approach of entailment analysis must lead to undesirable predictions and anomalies. In the sections to follow we shall try to show that this is in fact the case: that (20), and other analogous examples, cannot feed truth-conditional analyses.

2.2.1 A review of entailment analysts' accounts

The basic points of entailment-based theories are (a) that the scope of negation is indeterminate: the negative may affect any (simple or complex) semantic component of a sentence (Kempson 1975); (b) that it is not 'ambiguity' but 'vagueness' that characterizes the different interpretations of negative scope in a sentence; (c) that there exists an asymmetry between positive and negative factive sentences as regards the cancellability of the implication that the content of their factive complement is true: this implication is cancellable in negative factive sentences, but not in the corresponding positives; and (d) that pre-supposition accounts provide conflicting predictions for some compound sentences featuring factive complements. In 2.2.1.1, 2.2.1.2, 2.2.1.3 and 2.2.1.4 below we argue that these points are not free of problems.

2.2.1.1 Some problematic predictions created by the "indeterminate" negative scope

We have been arguing above that the proposition that the factive complement expresses is not understood as falling

within the scope of the negation of the factive verb, unless it is followed by a "supporting" sentence unsaying that complement. We have also been arguing that such a supporting sentence cannot follow a negative factive sentence, unless the latter is interpreted as context-bound (cf. the oddity in (20'), where the factive sentence cannot normally be understood as context-bound). We shall try to show here that a semantic analysis of negative scope in factive sentences which does not take into account this conditioning on the cancellation of the factive complements commits the relevant theory to some problematic predictions.

Consider the following pieces of discourse:

- (26) A: I did not regret going to the party.
 B: What did you regret then? (a)
 Why? Were you pleased then? (b)
 *I am very glad to hear that you did
 not go to the party.
 OR
 *I thought you had gone to the party. (c)
- (27) A: I did not realise that she left.
 B: You should have realised that. (a)
 What did you realise then? (b)
 *She stayed then!
 OR
 *I didn't expect her to stay. (c)

Entailment-based analyses of negation do not seem to pay attention to the fact that the "unnatural" interpretation of a negative sentence containing a factive is absolutely excluded, i.e. the implication of such a sentence is never affected by negation, in cases in which it is not unsaid by

an immediately following sentence. For example, Kempson's semantics cannot account for the data in (26) and (27): it cannot explain why (26Bc) and (27Bc) are unacceptable, rather than simply less appropriate or less natural. Moreover, if it is true, and I believe it is, that the implication of a negative factive sentence is cancellable only when this sentence is uttered to deny its positive counterpart, which is explicitly or implicitly present in the context, then the cancellability of that implication should be somehow related to this particular contextual situation. Nothing in Kempson's account, however, predicts this relation. Quite to the contrary, Kempson's semantics allows the "unnatural" interpretation to apply on single (context-free) negative sentences like (26A) and (27A): according to the predictions of her semantic rule of negation (see 1.2), it is equally likely for the unnatural interpretation to apply on single negative sentences of this kind.

Entailment analysts would reply, however, that these observations do not in fact affect their theory; that, along the lines of their accounts, the accounting for the anomaly of (26Bc) and (27Bc) does not take place in the semantics but in the pragmatics; and that the semantic component determines what interpretations are possible, and not what interpretations are appropriate. Such a reply however, is not very convincing: as far as I can see, (26Bc) and (27Bc) do not sound simply inappropriate or less preferable; they are anomalous. What is more important, such a reply can easily be rejected.

Suppose that a sentence like

(28) John did not regret that he went to the
circus.

has, among others, the "unnatural" reading that the corresponding context-bound denial (28') is normally associated with:

(28') John did not regret that he went to the
circus, because he did not go to the circus.

The characterization "unnatural", if I understand it correctly, is intended to apply here on less preferable, less common, interpretations, which emerge only when motivated by the context. We should quite reasonably expect, therefore, that this "unnatural" reading of (28)'s would present itself, as it does in the context-bound interpretation of (28'), in other cases, too, where the context clearly demands it or points to it. This is not the case, however, as we can see if we create environments that favour, or press towards, that "unnatural" reading. Thus (29a-c) below are clearly unacceptable, although one would expect this "unnatural" reading to "save" them:

- (29) a. ?*John did not regret that he ran, and so
did not catch the train.
- b. ?*John does not realise that he is tall,
and so is unsuitable for his tall wife.
- c. ?*John does not regret that he divorced;
he would be free now.

(29a-c) cannot be interpreted as

- (29') a. John regretted that he did not run, and
so did not catch the train.
- b. John realised that he is not tall, and
so is unsuitable for his tall wife.
- c. John regrets that he did not divorce; he
would be free now.

respectively, although, along the lines of Kempson's, e.g., approach and her rule of negation (see 1.2), the first sentences in (29') exemplify one of the possible negative scope interpretations of the factive sentences in (29), on the one hand, and the context in (29) points to exactly this "possible" interpretation of (29a-c), on the other hand (For a relevant argument see also 2.1 above).

This apparently means that, in the framework of entailment analysis, a curious asymmetry seems to characterize the possibilities of negative scope interpretation of (28) and (29a-c): although negation is supposed to be able to affect any part of the negative sentences in (28) and (29a-c) and, consequently, their complements, on the one hand, and the relevant contexts call for the (equally possible) "unnatural" interpretation in both (28) and (29a-c), on the other hand, this interpretation is made possible in (28) only (cf. (28')).

It is worth pointing out here that in the framework of the analysis we are defending here this asymmetry not only is not curious but also underlines the significance of the distinction between context-free and context-bound utterances: it is obvious that the (acceptable) (28') differs from the (unacceptable) (29a-c) in that it can be interpreted as

a context-bound denial, whereas (29a-c) cannot. Cf. the difference in acceptability between the following pieces of discourse:

(28") A: John regretted that he went to the circus.

B: John did not regret that he went to the circus, because he did not go to the circus.

(29"c) A: John regretted that he divorced.

B: ?*John did not regret that he divorced; he would be free now.

We can say then in conclusion that entailment-based analyses of negation are bound to a number of problematic predictions, which, as far as I can see, never arise in our analysis.

2.2.1.2 'ambiguity' vs. 'vagueness'

Entailment analysts' second point is that negative sentences are not ambiguous as to scope, but rather vague. In the following two sections we suggest that the fact that Kempson's pro-form ambiguity test is inapplicable in cases such as (20) above does not simply mean that the adherents of a syntactic (and phonological) analysis of negation cannot prove that it is ambiguity that characterizes the relation between the external and internal interpretations of negative scope; it also means that entailment analysis, similarly, cannot prove that it is not ambiguity that characterizes this relation. Furthermore, what is more important,

we suggest that the fact that this test is inapplicable in cases such as (20), in which we really need it, is not simply a matter of accident: this test is inapplicable because the notions 'ambiguity' and 'vagueness', between which it is intended to distinguish, are themselves inappropriate to characterize the difference between 'external' and 'internal' negation in cases such as (20).

2.2.1.2.1 The ambiguity test

Kempson's verb phrase pro-form ambiguity test (1975: 15-6; 1977:128-32; 1979:285-6) is of no help at all, as Kempson herself confesses (1977:149; 1979:286), in the case of negative factive sentences. The external negation interpretation of a negative sentence containing a factive verb includes the internal interpretation, and it is in cases of this sort that the negative test cannot distinguish between ambiguity and vagueness.

Nevertheless, Kempson insists on her assumption that negative sentences are not ambiguous as to negative scope:

" ... it is a common mistake among linguists to argue for a conclusion on the basis of scope negation ambiguity. But these are non-arguments for, at least in general, negative sentences are not ambiguous with respect to variations in the scope of negation."

(1977:134).

Cf. her (11) (1977:134), reported here as (30):

- (30) The chairman didn't sell any shares to the new firm and the secretary didn't so either. I know the chairman didn't because he specifically told me he had given them as a free gift, and the secretary didn't because he
 didn't have any to sell.

Though, the way in which Kempson checks the compatibility of her data on negative sentences with the predictions of her ambiguity test is not very convincing; she applies (1975:99-100 and 1977:132-5) her test on very restricted and slight scope differences. If we apply it on other, more significant, scope differences, it will show ambiguity, as it can easily be seen. Cf. (31), (32) and (33) below:

- (31) *John didn't realise that Mary left and James didn't so either: John was very busy all that time and James realised that her mother came.
- (32) *John didn't realise that Mary left and James didn't so either: John was very busy all that time and James knows very well that Mary didn't
 leave.
- (33) *John didn't realise that Mary left and James didn't so either: John realised that her mother came and James knows very well that Mary
 didn't leave.

If then it is only vagueness, and never ambiguity, that characterizes compound negative sentences like (30)-(33), how can we explain the unacceptability of (31)-(33)? If negative sentences are in fact unambiguous, as Kempson argues, why do

(31)-(33) differ in acceptability from (30), although the only difference between the former and the latter sentences is difference in the scope of negation?

We can say, thus, in conclusion that, although examples like (30) seem to demonstrate 'vagueness' rather than 'ambiguity', there are, on the other hand, many other analogous examples (cf. (31)-(33)) which seem to demonstrate the opposite. Which one then of the two notions is appropriate? In the following section we argue that neither notion is appropriate here.

2.2.1.2.2 The inappropriateness of the notions 'ambiguity' and 'vagueness' in the framework of our analysis

Thus far we have seen the notions 'ambiguity' and 'vagueness' in the framework of entailment analysis. In this section we shall discuss their position in our analysis. In particular, we shall try to show that neither the notion 'ambiguity', nor the notion 'vagueness', is appropriate for the characterization of negative sentences exemplifying the double functioning of not, i.e. the 'contradiction' not, which denies the truth of a sentence previously uttered (or implied) and the 'ordinary' not, which "amalgamates" with the rest of its sentence.

The adherents of entailment analysis point out that presuppositionalists could account for the cancellability of presupposition in negative factive sentences only in terms of ambiguity between what is traditionally called external (exclusion) negation and internal (choice, descriptive) nega-

tion; in their own accounts, on the other hand, it is not ambiguity but vagueness that characterizes the utterances of these sentences, and the scope of negation is in general claimed to be indeterminate. In particular, Gazdar (1977:79) argues that trivalent or truth-value-gap semantics allow three different types of negation operator; following Polish notation he defines them as follows (I quote here his (8)-(10)):

- (34) (a) $N_1\phi$ is true if and only if ϕ is false,
and false otherwise.
- (b) $N_2\phi$ is true if and only if ϕ is false,
and false if and only if ϕ is true.
- (c) $N_3\phi$ is true if and only if ϕ is not true,
and false otherwise.

(The correspondence of his definitions (a) and (b) with what we call 'ordinary' and 'contradiction' negation, respectively, is obvious). According to Gazdar, on the basis of two or more of these definitions, "the neo-Strawsonian can, if he so wishes, claim that [(35)] is ambiguous":

- (35) John doesn't regret failing.

We do not think that the scope of negation is in general indeterminate and we have tried to gather evidence against that explanation. Besides we do not think that negative sentences can be said to be ambiguous between an 'ordinary' and a 'contradiction' interpretation. We try to show below that neither 'ambiguity' nor the entailment analysts' alternative notion of 'preferability' can characterize properly the relation between contradiction and ordinary nega-

tions. Let us begin with 'ambiguity'.

As far as I can see, if a sentence is ambiguous between two, or more, interpretations, we can normally disambiguate it in terms of its contextual characteristics; that is, if there is no relevant contextual information, or if it is not helpful, disambiguation is not possible, and the sentence remains ambiguous. However, in the case of negative sentences, and, in particular, negative factive sentences, the situation is different. They are *n o t* ambiguous if the context is not helpful, or does not exist: in such cases they are *a l - w a y s* assigned an ordinary negation interpretation.¹ We do not think, therefore, that negative factive sentences could be ambiguous in the sense of ambiguity we are familiar with.

It is also wrong to say, on the other hand, that the ordinary negation interpretation in factive sentences is the "preferred" one (see, e.g., Wilson 1975:59-60); if particular contextual characteristics (i.e. context-boundness, and, possibly, a "supporting" sentence withdrawing the relevant implication) do not press towards it, the contradiction interpretation is not simply less "preferable", but impossible. 'Preferability' is not the appropriate term to characterize the difference between ordinary and contradiction negation. Consider e.g. (36) below

¹ The assignment of contradiction negation seems "unnatural" and "marked", as Kempson characterizes it, even when the negative factive sentence is followed by another sentence withdrawing the content of its factive complement.

- (36) My brother does not regret that he is tall. { He is very proud of it (a)
 He is very short. (b)
 I have no brother (c)
 etc.

uttered as a denial-reply to the positive Your brother regrets that he is tall, or to a strong suggestion that he does so. Entailment analysts' common mistake is to suggest that (a), (b), (c), etc. represent possible readings of (36) (irrespective of whether it is a context-bound denial or a context-free negative sentence). In its context-bound denial interpretation, however, (36) has only one reading, namely, 'It is not true (It is not so, It is not the case) that my brother regrets that he is tall'. That is, (a), (b), (c), etc. in (36) above are not "readings", "meanings" or whatever, of (36): they are possible pieces of information that the denial (36) opens the way for, by erasing previous incorrect information. From another point of view, (a), (b), (c), etc. constitute the truth-conditions of the denial (36): any of them guarantees the truth of 'It is not true that my brother regrets that he is tall', and justifies the utterance of the denial. Thus, again, (a), (b), (c), etc. are not readings or paraphrases of the context-bound interpretation of (36). Given now that (a) paraphrases what might be the internal interpretation of a context-free utterance of the negative factive sentence (where not has been "amalgamated" with the main verb), we can say that, contrary to what entailment analysts believe, the denial (contradiction) interpretation does not in fact include the internal interpretation.

On the basis of the observations in the previous paragraph we can suggest that:

1. The fact that contradiction negation interpretation is compatible with, and does not block, the ordinary interpretation of negation does not mean, or show, that the former is inclusive of the latter.
2. Even if we have a sequence of a negative factive sentence like that in (36) and a (paraphrasing the relevant ordinary negation) sentence like (a) in (36), the contradiction interpretation of the factive sentence cannot be considered to be equal to, or synonymous with, the ordinary negation interpretation of a context-free utterance of the same sentence. In other words, it is false to confuse the denial (36) followed by (a) with the assertion that (36) makes when it is assigned an ordinary interpretation as a context-free utterance: (a) is simply allowed, or, better, prepared, by the assertion 'It is not true that John regrets that he is tall' that (36) makes under its contradiction negation. It must be borne in mind that in reporting what is not true, what has not happened, a contradiction utterance of (36) cannot be inconsistent with (a), (b), etc.: it actually prepares the way for the information they carry to come; but, on the other hand, it does not assert that (a), that (b), etc.

One could, though, reply that the negative sentence in (36), thanks to its indeterminate scope, does not mean that (a), or that (b), or that (c), etc.; and that (a), (b), etc. in (36) are in fact indications which show which one of its possible assertions the negative sentence in (36) actually makes in a particular situation. Such a reply,

however, would have first to explain why those indications ((a), (b), etc.) are actually needed o n l y when the related negative sentence is uttered as a context-bound denial (with a contradiction interpretation); and why, on the other hand, if they follow a non-context-bound (ordinary) negation , "indications" like (a) do not indicate anything, but simply repeat the content of the ordinary reading, while, and this is more important, "indications" like (b), (c), etc., which do not paraphrase this ordinary reading, sound anomalous, or, even more, can affect the acceptability of the whole utterance; cf. (37) below:

- (37) a. A brother of mine does not regret that he
is tall. He is very proud of it.
- b. *A brother of mine does not regret that he
is tall. He is very short.
- c. *A brother of mine does not regret that he
is tall. I have no brothers.
etc.

Again, an appeal to the notion 'preferred interpretation' would obviously be of no help. On the contrary, it would put entailment analysts into a more difficult position: if what we called ordinary negation of the negative sentence in (36) is in fact the "preferred" interpretation among the interpretations that the alleged indeterminate scope of not in general allows, and if it is for that reason that (a) is not needed to follow this "preferred" interpretation in what we called cases of ordinary negation, why is (a) needed if the same sentence is uttered as a context-bound denial?

And, why in context-free utterances of the negative sentence in (36) is this (a) not simply the "preferred" interpretation but the one and only interpretation? Why does (a) sound pleonastic in context-free utterances of (36), while, on the other hand, it is necessary (in order to fill in the information gap) when (36) is uttered as a context-bound denial? We can, then, legitimately suggest that 'preferability' cannot characterize properly the relation between contradiction and ordinary negation interpretations.

It is worth noting at this point that what the term 'preferability' might properly characterize is the relations among (a), (b), (c), etc., in the context-bound utterances of (36). Indeed, (a) seems to be preferable over (b), (c), etc.; it is considered as the most natural candidate for filling the gap that the context-bound denial creates by erasing previous information. 'Preferability' then might be useful in characterizing how likely it is for a piece of information (cf. (a), (b), (c) in (36)) to fill that gap. It does not characterize the relation between ordinary (internal) and contradiction interpretations.

To recapitulate, in this section we have argued (a) that the question of 'ambiguity' (stressed in accounts like that in Gazdar 1977) does not in fact arise in our analysis: we cannot analyse the relation between ordinary and contradiction interpretations of negation in terms of 'ambiguity'; and (b) that, although apparently entailment analysis avoids the problematic notion of 'ambiguity' by assuming that negative scope is vague, its alternative notions, 'vagueness' and 'preferability' offer no more than an oversimplified solution

which does not "see" the significance of context-boundness and is unable to answer many of the questions arisen during our discussion here.

2.2.1.3 There is no asymmetry between positive and negative factives as to the cancellability of the relevant implication

What the title of this section denies is, remember, the third main point of entailment analyses (see 2.2.1). Below we try to show (a) that a particular contextual situation (: (semi-)quotation of preceding false information) is decisively involved in cases in which the implication of the negated factive does not survive; and (b) that this implication is cancellable not only in the relevant negative, but also in the corresponding positive utterances, provided that the contextual situation presses towards its cancellation; i.e. that what we called contradiction negation (exemplified by context-bound denials; see 2.1) is only one of the mechanisms for the cancellation of the implication in question, and that the phenomenon is more general and cannot be restricted to negatives sentences.

Wilson (1975) believes that

" There is an asymmetry between positive and negative sentences as regards their compatibility with, or possibility of conjunction with, the denial of their presuppositions. The denial of a presupposition is consistent with its related negative sentence, but not with its related positive sentence." (op.cit.:26).

(For a parallel view see also Gazdar 1977). She considers positive utterances containing a because- clause like that in (38) (her (42)):

(38) ?Malory knows that the chicken crossed the
road because the chicken didn't cross the
road.,

which are distinctly odd, compared with negative utterances like that in (39)

(39) Malory doesn't know that the chicken crossed
the road, because the chicken didn't cross
the road.,

where the denial of an implication is consistent with the related negative sentence. Presupposition analysis, Wilson argues, will predict that (39) is anomalous, as carrying contradictory presuppositions; similarly, she continues, although both entailment analysis and presupposition analysis predict that conjunctions like (40) (Wilson's (47)):

(40) ?Jeremiah regrets that my thesis is true,
and realises that it is false.

are deviant, the latter analysis (unlike entailment analysis) would incorrectly predict that sentences like (41) and (42) (Wilson's (43) and (44)) carry contradictory presuppositions:

(41) Bill knew that Bighand was dead, and wasted
no time regretting that he was still alive.

(42) Groucho regrets that my thesis is true, and
not that it is false.

Undoubtedly, Wilson concludes, presuppositional theories need a special machinery to handle conjunctions like (41) and (42). And not only this: a presupposition-based analysis "will then have the further onus of explaining why whatever mechanism it invokes to account for the non-deviance of conjunctions [(41)-(42)] does not automatically apply to [(40)] rendering [it] non-deviant as well" (ibid.:27).

Wilson's account, however, does not tell us the whole story. There are, on the other hand, utterances of positive sentences like B's utterance in (43) below which are non-deviant, although both presupposition analyses and entailment analyses would predict them as deviant:

(43) A: John regrets that he is a friend of
Mary's.

B: "John regrets that he is a friend of
Mary's" because he has never been a
friend of Mary's.

Imagine the following situation: Mary is an excellent person and B knows it; B also knows that Mary is wrongfully accused of high treason and that John has never been a sincere friend of Mary's; on the other hand, A does not know that Mary is of an excellent character and has been told that John regrets that he is a friend of Mary's. I think that if A wants to communicate this last piece of information, B's context-bound reply in (43B), which starts with a quotation of that false information, will be natural and acceptable. Consider, similarly, (44B) below:

(44) A: John regrets that he is open-handed.

B: "John regrets that he is open-handed"
because he is not open-handed.

Again, thanks to its context-boundness, B's utterance is not contradictory, despite the predictions of both presupposition-based and entailment-based analyses. Needless to say, the mechanism we have to invoke in order to account for cases demonstrated with (43) and (44) will be different from the ones that both presuppositional and entailment accounts offer: it will predict the acceptability of utterances that the other two analyses incorrectly reject as anomalous.

In this light, consider again Wilson's (38)-(42), re-written in accordance with what we saw in the preceding paragraph:

(38') A: Malory knows that the chicken crossed
the road.

B: ?"Malory knows that the chicken crossed
the road" because the chicken didn't cross
the road.

(39') A: Malory knows that the chicken crossed
the road.

B: Malory doesn't "know that the chicken
crossed the road" because the chicken
didn't cross the road.

(40') A: Jeremiah regrets that your thesis is true.

B: ?"Jeremiah regrets that my thesis is true",
and realises that it is false.

(41') A: Bill regretted that Bighand was still
alive.

B: Bill knew that Bighand was dead, and
wasted no time "regretting that he was
still alive".

(42') A: Groucho regrets that your thesis is false.

B: Groucho regrets that my thesis is true,
and not "that it is false".

As (38')-(42') show, the acceptable (despite their apparently contradictory implications) (39), (41) and (42) above can be interpreted as copying part of a previous utterance or making reference to contextually given information (cf. (39'A), (41'A) and (42'A)), while the anomalous (38) and (40) cannot normally be placed in such a context and be associated with such an interpretation (cf. (38') and (40')).

We can say, therefore, that the acceptability of an utterance like those discussed above is basically dependent on its contextual characteristics. More precisely, the denial of the implication that sentences with factive verbs normally carry can be acceptable only if the utterance of such a sentence is to be interpreted as copying, or making reference to, information explicitly (or even implicitly) present in the context (cf. A's utterances in (39'), (41'), (42')).

It becomes obvious now that the alleged asymmetry between positive and negative sentences as regards their compatibility with the denial of their logical implications does not in fact exist: B's utterances in (43) and (44), as we saw, are as non-deviant as (39), (41) and (42), although

they both exemplify a p o s i t i v e utterance followed by a because- clause. The only difference between the two groups is that cases of context-boundness like that in (43) and (44) are rare, whereas utterances of sentences like (39), (41) and (42) are not, since usually speakers deny the truth of a proposition, and erase the information it carries, i.e. make use of not, before substituting another (the correct, in their view) information for it (cf. (39'), (41') and (42')). Undoubtedly, however, B's utterances in (43) and (44) share with (39), (41) and (42) a particular characteristic: their interpretations are dependent on, if not determined by, their context. Clearly, a context-free utterance of (43B), (44B), (39), etc. would be anomalous.

On the basis of what we have said so far, it is legitimate, I think, to suggest that the mechanism which is needed to account for the problematic cases exemplified in (43B) and (44B) is pragmatic, rather than semantic; that it is dependent on the notion of context-boundness and must be analysed within the framework of a theory of discourse, rather than of a theory of grammar; furthermore, what is more interesting, that it is applicable on, and naturally handles, not only cases like B's utterances in (43) and (44), but also (39), (41) and (42), thanks to the common characteristic noted in the previous paragraph. We can also suggest that this mechanism is independently needed by entailment-based accounts as well, since an entailment theory cannot explain why B's utterances in (43) and (44) are non-deviant (cf. Wilson

1975:26). But if this is the case, entailment analyses establish a *n o n - e x i s t e n t* asymmetry between conjunctions like that in (39), e.g., which they consider acceptable, and examples like (43B) and (44B), which they (incorrectly) predict as invariably unacceptable. The fact then that entailment analysis can predict the acceptability of utterances like (39), e.g., constitutes, in a sense, counterevidence for that kind of analysis: the contextual characteristics of an utterance of (39) (i.e. context-boundness, "supporting" because- clause) are absolutely parallel with those of B's utterances in (43) and (44), which are not explicable in terms of entailment analysis. After all, the alleged superiority of an entailment analysis lies on the fact that it predicts the acceptability of some utterances that fall within the scope of a pragmatic mechanism (which is independently needed to handle other utterances, like those of B in (43) and (44)) and are explicable in terms of this mechanism anyway.

2.2.1.4 Compound sentences

The fourth main point (see 2.2.1) against presupposition, strongly made in Kempson (1975), concerns a particular class of compound sentences; namely, compound sentences of the general form P and Q where the one conjunct, say, P, asserts what the other conjunct, Q, presupposes. We shall argue here that a number of unwarranted assumptions underlie the relevant argumentation, and that this weakens

the whole point.

In order to complete her argumentation against the hypothesis that presupposition plays a part in an account of semantics of natural language, Kempson (1975) makes appeal to (problematic for Karttunen's 1973 analysis) compound sentences. In particular, she points out that:

" if we say that P and Q presupposes some sentence R which Q presupposes, then when R is false Q will be neither true nor false and P and Q will also be neither true nor false (since it too presupposes R). But if P and Q is said to entail R which Q presupposes just in case R happens to be identical with P, then when R(P) is false Q will be neither true nor false, but this time P and Q will be false. And, though there is no ambiguity in and, this gives us two conflicting truth-table definitions of and " (1975:73).

Consider two of her examples (Kempson's (45a) and (45b)) below:

- (45) a. Susie was sick and James regretted going
to the circus.
- b. James went to the circus and he regretted
going to the circus.

As far as I can see, there is at least one significant difference between the sentences of this pair: in the evaluation of (45a) we have only one possible way to follow, given

that what we know is just that James went to the circus is false; on the other hand, in the evaluation of (45b) we have information (i.e. James went to the circus is false) that affects the truth values of b o t h the first and the second part of the conjunction. That is, unlike in (45a), in (45b) there are two possible ways of evaluating the whole conjunction.

Kempson, now, follows the one way i n d e p e n d - e n t l y of the other in (45b), as if the falsity of James went to the circus can affect the one part of the conjunction without simultaneously affecting the other part as well. In other words, she assumes that it is legitimate to evaluate a compound sentence in two independent ways, through the truth value of its first part and the truth value of its second part, ignoring the fact that the truth-condition on the basis of which the evaluation proceeds affects both parts of the conjunction. This latter assumption, however, is apparently based on another assumption: that a propositional content may both be asserted and, at the same time, implied by the same sentence. And not only this. Kempson also makes at least two other unwarranted assumptions: (a) that the logical connective & works for natural language as well; and (b) that the conjunction in (45a) is the same as the conjunction in (45b) (cf., however, the difference in acceptability between Susie was sick and for that reason James regretted going to the circus and *James went to the circus and for that reason he regretted going to the circus: and in (45a) conjoins two interconnected pieces of information, whereas in (45b) it conjoins a piece of information together with a comment on that infor-

mation).

In my view, (45b), and sentences which seem both to imply and assert the same thing in general, demonstrate an opaque, problematic situation. More general logical problems and philosophical questions seem to be involved here, that presupposition itself should not be charged with, or be expected to provide explanations for. On this basis it can be said, I think, that compound sentences like (45b) do not finally question, or preclude, the consideration of presupposition as a notion of semantics, rather than pragmatics. On the other hand, the unwarranted assumptions involved in entailment accounts do reduce the naturalness of the solution this alternative notion can offer.

2.2.1.5 Summary

In the preceding sections we have argued that entailment analysts do not finally distinguish between semantics and pragmatics so strictly as they believe. Quite to the contrary, they attempt to capture some pragmatic aspects of their data (e.g. the "unnatural" interpretation of negative factive sentences, which is a matter of discourse, as we have seen) in terms of semantics; in fact, they extend their semantic accounts so that they can capture some pragmatic facts as well. In particular, they adjust their semantics to an entailment-based analysis, which is loose enough to encompass discourse data too (Its prediction $F \rightarrow TvF$, e.g., (see the Table of Entailment in 1.2) in the case of factive sentences can hardly be a prediction: if a bivalent account,

like all the entailment accounts, predicts that the implied sentence will be either true or false given that the implying sentence is false, then it predicts nothing). Thanks to this looseness, their accounts cover both the natural and the "unnatural" readings of negative factive sentences, but this costs them too much, as we have seen: the approach they argue for results not in the delimitation, but in an unjustifiable extension of the scope of semantics, since the latter is intended to handle facts that are exclusively associated with discourse; in addition, the postulation that the scope of negation be indeterminate and the displacement of presupposition from the theory of semantics arm their semantic component with an otherwise unmotivated strength and charge it with some counter-intuitive predictions.

2.2.2 Further evidence against the entailment-based analysis of negation scope

In the previous sections we tried to attack entailment analysts' accounts in terms of their own predictions; we restricted ourselves on the problems that their analyses of negation themselves give rise to, mostly turning into counter-evidence what they consider to be evidence for their approach. In the sections to follow we shall examine some pieces of "external" counterevidence, i.e. facts which have not been (and could not be) dealt with in entailment analyses. In particular, we shall discuss cases of syntactically determined negative scope (2.2.2.1), the problems multiple negation gives rise to (2.2.2.2), a peculiarity concerning perfective

verbs (2.2.2.3), and, finally, two cases of asymmetry exemplified by sentences containing negative polarity items (2.2.2.4 and 2.2.2.5).

2.2.2.1 Syntactically determined negative scope

Entailment analysts offer purely semantic accounts of negation. To quote from Kempson (1975:28):

" With respect to negation itself, I argued that in general negative sentences are not ambiguous as to scope, but rather vague (or unspecified), and hence they allow a range of possible interpretations. This range appears to be constrained by the semantic components of the sentence in question and is not stateable in terms of syntactic or phonological constraints."

(Cf. also the reflections of this position in Kempson's rule of negation (see 1.2 in this chapter)).

There seems, however, to be strong evidence against analysing negation in purely semantic terms.

Consider the following examples:

- (46) a. Nobody saw John.
 b. John did not see anything.
 c. Nobody saw anything.

As far as I can see, the subject- and object- pronouns in (46a) and (46b), respectively, and both in (46c) can by no means be understood as falling outside the scope of negation. Besides, it is obvious that negative sentences like (46a-c) leave no room for appeals to "preferability" in a particular context.

This undoubtedly means that there is a gap between the predictions of Kempson's negative rule and what in fact is the case. In particular, English appears to be interested in marking syntactically the scope of negation in the examples under consideration, and many other analogous examples: the pronouns in (46a-c) unexceptionally fall within the scope of negation. On the other hand, nothing in Kempson's semantic component, as far as I can see, prevents an interpretation of any of (46a-c) in which the pronoun(s) fall(s) outside the scope of the negative; quite to the contrary, it considers such an interpretation as equally possible with an interpretation in which the pronoun(s) fall(s) within this scope. In other words, Kempson's analysis of negation, and any entailment-based analysis in general, is not sensitive to the difference between (46a-c) and (47a-c) below as to the possibilities of negative scope interpretation:

- (47) a. Somebody did not see John.
 b. John did not see something.
 c. Somebody did not see something.

Though English is anxious to make this difference clear in syntactic terms.

We can, therefore, conclude that negative scope interpretation is subject to syntactic constraints as well, contrary to what entailment analysis claims; and that for that reason a purely semantic analysis of negation is inadequate to describe linguistic facts.

2.2.2.2 Multiple negation and the alleged indeterminate scope of negation

The notion of indeterminate negative scope, if I understand it correctly, cannot avoid some serious inconsistencies in cases of multiple negation. We discuss such cases in the two sections below.

2.2.2.2.1 Multiple negation in factive sentences

As we have seen, entailment-based accounts postulate that the scope of negation be indeterminate. It will be interesting, then, to see what would happen in a factive sentence containing more than one instance of (indeterminate) not. As we shall see below, entailment analyses would not be able to protect themselves from some major inconsistencies.

Consider the following triple:

- (48) a. John did not regret that he did not go
to the match.
- b. John did not regret that he went to the
match.
- c. John regretted that he went to the match.

Given that the scope of negation is indeterminate, the first not in (48a) may negate any part of the main clause and the factive complement, or even the whole (48a). Suppose that this not spreads over the whole (48a), i.e. over both the main clause and its complement. (48a), however, exemplifies a second instance of not as well, in the complement. Suppose

that this second not in (48a) spreads over the whole complement. This now would mean, as far as I can see, that the factive complement would be affected by two independent negative operators; and (48a), under that interpretation of its negative operators, would roughly have the analysis

John did not regret that $\sim \sim P$

(where P stands for 'He went to the match').

Entailment accounts do not, to the best of my knowledge, discuss such possibilities of negative scope interpretation,¹ but we can legitimately, I think, presume that in their truth-conditional framework 'John did not regret that $\sim \sim P$ ' above would be equivalent to

John did not regret that P

(where, again, P stands for 'He went to the match'). Take now (48b). Under its internal (:ordinary) negation interpretation, i.e. if we consider that not spreads over the sentence that contains the factive verb, leaving the factive complement unaffected, this factive sentence would be associated with the analysis 'John did not regret that P' (where P falls out-

¹ Kempson (1979), discussing some minor problems, admits that her rule of negation may lead to inconsistencies and that to this extent the relevant specification "is simplistic". Nevertheless she insists on her view:

" However it is uncontentionous that the logical form of such a sentence under the so-called external interpretation involves a disjunction of the negation of each of the entailments of the corresponding positive sentence" (ibid.:289).

side the scope of not). But if this is the case, (48a) under the full scope interpretation of the two instances of not would be equivalent to the internal negation interpretation of (48b).

Suppose next that the first not in (48a) spreads over the factive complement only, leaving the main clause unaffected; and that the second not is assigned full scope interpretation. In this case (48a) would be associated with the analysis

John regretted that $\sim\sim P$.

Again, entailment accounts do not help us at this point, but we can legitimately presume, in line with their truth-conditional approach, that 'John regretted that $\sim\sim P$ ' would be equivalent to

John regretted that P.

In that case, however, (48a), under that second negative scope interpretation, would not differ from (48c), which apparently shares the same analysis.

We can now see to what difficulties the alleged indeterminate scope of negation can lead us. Thanks to this indeterminacy, factive sentences exemplifying two instances of not, one in the main clause, the other in the complement, may be considered equivalent with corresponding factive sentences exemplifying only one (in the main clause) or no instance of not.

What is, however, more important, and problematic for the notion of 'vagueness' in entailment analysis, is that the truth-conditions in the case of (48b) are different from

those in (48c). This means that (48a), under two of its possible negative scope interpretations at least, is connected with two different sets of truth-conditions. As far as I can see, this creates major difficulties for entailment analysis: according to the semantic model it adopts, having a different set of truth-conditions is the same as having a different meaning. That is to say, (48a) would be predicted to have two different meanings, depending on the interpretations of negative scope. This apparently contradicts entailment analysts' claim that it is simply vagueness, and not ambiguity, that characterizes the relation between the possible negative scope interpretations, and casts doubt on their analysis of negation in general (see also 2.2.1.2.2).

2.2.2.2.2 Multiple negation in non-factive sentences

The inconsistencies that the "indeterminate" negative scope creates are not exhausted in factive sentences containing more than one negative operator. The problem is more general, as we shall see below.

Consider the following triples:

- (49) a. Not many of the arrows did not hit the target.
 b. Not many of the arrows hit the target.
 c. Many of the arrows hit the target.
- (50) a. Not many fans did not regret going to the match.
 b. Not many fans regretted going to the match.

c. Many fans regretted going to the match.

Provided that a negative operator may affect any (semantic) component of its sentence, we can possibly say, in line with entailment analysis, that each of the not's in (49a) and (50a) covers the part of the sentence that the other leaves uncovered. In particular, we can legitimately, as far as I can see, say in the framework of this analysis that the first not in (49a) and (50a), respectively, may cover the components many of the arrows and many fans; and that their second not may spread over the rest of the sentence. Take now the second sentences in (49) and (50). We can equally legitimately say that under one of their possible interpretations of scope their single not can cover the whole (49b) and (50b). Under these (possible in terms of the "indeterminate" scope of negation) interpretations, nothing, as far as I can see, can stop entailment accounts from considering (49a)-(49b), on the one hand, and (50a)-(50b), on the other, as equivalent.

Suppose next that each of the not's in (49a) and (50a) affects exactly the part of the sentence that the other does. In that case, they presumably neutralize each other, and thus their sentences are equivalent to the corresponding affirmative sentences (see (49c) and (50c)).

If this is the case, however, (49a), under two of its possible interpretations discussed above, is equivalent to (49c) and its negation (49b). Similarly, (50a) can be considered, thanks to the indeterminacy of negative scope, again, equivalent to (50c) and its negation (50b). Given now that it is not simply 'vagueness' that characterizes the relation between a sentence and its negative counterpart, (49a) and

(50a) could by no means be said to be "vague" as to their possible negative scope interpretations.

The alleged 'indeterminacy' of the scope of negation, therefore, is not always in harmony with the notion of 'vagueness': in negative sentences containing more than one instance of negation, the two basic notions of entailment analysis contradict each other, reducing the reliability of this sort of analysis.

2.2.2.3 Perfective verbs

In the present and the next two sections we present some pieces of indirect counterevidence for entailment-based accounts of negative scope: we discuss some facts which appear to be explicable only in terms of context-boundness and the distinction contradiction/ordinary negation.

Smith (1969) points out that perfective verbs display some asymmetry as regards the non-perfective verbs. In particular, he notices that verbs like start, leave and begin differ from verbs like walk (a) in that they cannot in general ("except perhaps in an iterative sense") be used with adverbials of duration in affirmative sentences (unlike non-perfectives such as walk, which can naturally occur in such sentences); and (b) in that they allow only one acceptable reading in negative sentences containing adverbials of duration (unlike the non-perfectives, which render the negative sentence ambiguous):

" It has been observed that sentences such as

(30) John didn't talk until midnight
are ambiguous, meaning either that John stopped
talking sometime before midnight or that John did not
begin talking until midnight. The positive counterpart
of this sentence

(31) John talked until midnight,
is not ambiguous. This suggests that the ambiguity
is a result of variations in the scope of negation.
Moreover, sentences such as

(32) John didn't start until midnight
have no positive counterparts at all.

These peculiarities are not limited to sentences
containing until, but are in general true of sentences
with adverbials of duration.

(33) Mary didn't walk for two days
is ambiguous, while

(34) John didn't start for two days
is not, and

(35) *John started for two days
is ungrammatical." (op.cit.:4-5).

We shall not deal here with whether 'ambiguity' or
'vagueness' is the appropriate notion to characterize the
two readings of (30) or (33) in the quotation above (Though
they apparently involve different sets of truth-conditions).
The "non-ambiguity" of negative sentences with perfectives,
like (32) and (34) in the quotation, and their having no
positive counterparts at all seem more interesting. We argue
below that these two characteristics question the principle
of "indeterminate scope" and are inexplicable in terms of

entailment analysis.

Consider first the possibilities of negative scope interpretation in John didn't start until midnight and Mary didn't walk for two days. If the scope of negation is in fact indeterminate, then not will be given, among others, the following (equally possible) scope interpretations for the first and the second sentence, respectively:

- (51) a. \sim (John started until midnight)
 b. Until midnight \sim (John started)

and

- (52) a. \sim (Mary walked for two days)
 b. For two days \sim (Mary walked)

But, as we have seen, the two sentences differ in negative scope interpretations: the first sentence can have only the interpretation (51b), whereas the second can have both (52a) and (52b). Entailment analysis, therefore, is unable to capture this difference; moreover, since the only relevant difference between our two negative sentences concerns the nature of the verb (i.e. its being perfective or non-perfective), the problem here is a purely semantic problem, and appeals to "preferability" or to pragmatics are precluded. As far as I can see, the only way out of this difficulty would be to say that the scope of negation might in some cases be determinate. But this would contradict the definition of negation and the relevant rule in entailment analysis.

This is not, however, the only trouble into which perfective verbs put this analysis. As we saw in the quotation above, there is an asymmetry between negative sentences with

adverbials of duration containing perfective verb and negative sentences with the same adverbials containing other than perfective verb: the former have no positive counterpart, whereas the latter do have positive counterpart (cf. (35) and (31), respectively, in the quotation). We have also seen that it is exactly negative sentences with perfective verbs which lack a positive counterpart that cannot be assigned a full negative scope interpretation (cf. the non-existence of the possibility (51a)). On the basis of these facts, it is legitimate to suggest that there might be a correlation between the acceptability of the positive counterpart and the possibility of full negative scope interpretation, on the one hand, and having no positive counterpart and no possibility of full negative scope interpretation, on the other. It is obvious, however, that such a plausible suggestion is not possible in the framework of entailment analysis, since this kind of analysis is unable to detect the difference between using a perfective and using a non-perfective verb (at least, without questioning the strictness of its notion of indeterminate negative scope).

On the other hand, an account that recognizes the significance of the notion of context-boundness not only encourages the suggestion that the facts displayed above are correlated, but also accounts, on the basis of this correlation, for the curious asymmetry that perfectives, as compared to non-perfectives, demonstrate.

We have argued so far that context-bound denials deny the truth of their positive counterpart. Given now that *John started until midnight and Mary walked for two days are

the positive counterparts of John didn't start until midnight and Mary didn't walk for two days, respectively, (51a) and (52a) above represent in fact the context-bound denial (i.e. contradiction) interpretation of these sentences. The difference in acceptability between the interpretations represented by (51a) and (52a) is now readily explicable: the starred positive counterpart, i.e. *John started until midnight n e v e r occurs as an utterance. Probably then it will never have the opportunity to be denied by a (context-bound) contradiction negation (Cf. also the ungrammaticality of (35) in the quotation from Smith and the resulting "non-ambiguity" of (34) in the same quotation).

Our account then can naturally explain the difference in the possibilities of interpretation between negative sentences containing adverbials of duration, and the dependence of their possibilities of interpretation on the nature of the verb: in our terms, unless their verb is non-perfective, negative sentences with adverbials of duration cannot be associated with a contradiction interpretation of not as well, since the positive sentence, the truth of which they would deny under that interpretation, is missing. Besides accounting for the "non-ambiguity" in such cases, our account achieves an important generalization: it joins two (superficially unrelated) peculiarities of negative sentences containing a perfective verb and an adverbial of duration; namely, their lacking a full negative scope interpretation and their having no positive counterpart.

2.2.2.4 An inexplicable asymmetry and the loss of
a possible generalization

In the present and the following section we shall be discussing two problematic groups of data pointed out by Seuren (1974) and Seuren (1979). In both cases it will be made clear that the relevant problems can be naturally explained only by an analysis which assigns theoretical significance to the notion of context-boundness and the distinction ordinary/contradiction negation.

Seuren (1974:186ff) assumes that sentences like (53a) and (53b) (his (1a) and (1b), respectively)

- (53) a. I didn't think I had to leave early.
b. I thought I didn't have to leave early.

do not have the same origin:

" Although both [(53a)] and [(53b)] are good grammatical sentences of English, it seems that NR [Negative Raising - I.V.] is an obligatory rule. The two sentences do not have the same origin, and it is only the structure underlying [(53a)] which is subject to NR.

There is a striking difference between sentences which have undergone NR and those which have not. The former do not allow for the normal form of contrastive stress, whereas the latter do. Comparing the two sentences:

[(54a)] I don't believe Tom has yet seen the problem.

[(54b)] I believe Tom has not yet seen the problem.

where [(54a)] has undergone NR (as appears from yet

in the lower S), we notice that the following are ungrammatical [underlining shows contrastive emphasis - I.V.] :

[(55a)] *I don't believe Tom has yet seen the
problem, Fred does.

[(55b)] *I don't believe Tom has yet seen the
problem, I know it.

[(55c)] *I don't believe Tom has yet seen the
problem, I believe Fred has.

[(55d)] *I don't believe Tom has yet seen the
problem, I believe he has seen the
data.

Yet, analogous sentences based on [(54b)] are flawless:

[(56a)] I believe Tom has not yet seen the problem,
not Fred.

[(56b)] I believe Tom has not yet seen the problem,
I can't say I know it.

[(56c)] I believe Tom has not yet seen the problem,
not that Fred hasn't yet seen it.

[(56d)] I believe Tom has not yet seen the problem,
not that he hasn't yet seen the data."

(op.cit.:186-7).

And below:

" We may begin to see an explanation of these facts when we assume that sentences with some form of contrastive stress have a different underlying structure from those without such stress " (op.cit.:187).

We shall see, however, in the following paragraphs that the facts that Seuren sought to handle in terms of a (que-

- d. I believe Tom has not seen the PROBLEM,
not that he has not seen the DATA.

Obviously, (58a-d) are quite natural, and can by no means be said to support either Seuren's observation above, that "there is a striking difference between sentences which have undergone NR and those which have not", or his relevant assumption in the last quotation. Although both (54a) and (57a) are assumed to have undergone Negative-raising (obligatorily) in Seuren's analysis, the latter, (57a), does not apparently show the "striking difference" from its corresponding (57b), that (54a) is supposed to show: the sentences in (58) are as acceptable as the sentences in (59). This asymmetry undoubtedly contradicts Seuren's assumptions and questions his explanations.

Although the discussion in the previous paragraph has cast doubt on Seuren's assumptions, it has not explained the difference in acceptability between (56) and (55) in the quotation above; and it has not explained why (55) (unlike (58)) is unacceptable, either. I think that these facts can be accounted for naturally in terms of the contextual characteristics of the utterances of (55a-d), (56a-d) and (58a-d).

In particular, it is obvious that the second parts of (56a-d) as well as the first parts of (55a-d) and (58a-d) deny, unsay, something that has been said, or implied, before, i.e. some information that is explicitly, or implicitly, present in the context. (56d), e.g., unsays that the speaker believes that Tom has not yet seen the data and substitutes

the correct information, i.e. that he believes that Tom has not yet seen the problem, for it; similarly, the (incorrect) information "I believe that Tom has seen the problem" is erased by the first part of (58d) and the correct information "I believe that he has seen the data", that the second part of (58d) carries, is substituted for it by the speaker. We can now see what the unacceptability of (55a-d) is due to. Take e.g. (55d). Its first part is intended to erase some information (explicitly or implicitly) present in the context. But, on the other hand, the sentence which carries this information, and is supposed to be unsaid by the not in the first part of (55d), is ungrammatical: we cannot say *I believe Tom has yet seen the problem; and, probably, we cannot unsay it, either: cf. the anomaly of *It is not true (It is not the case, It is not so) that I believe that Tom has yet seen the problem. What then turns (55d), as well as (55a-c), anomalous is their being interpreted as context-bound denials of a sentence that is already ungrammatical; and this interpretation is imposed on the first part of (55d), and (55a-c), by both contextual characteristics and contrastive stress. On the other hand, (56d) and (58d), as well as (56a-c) and (58a-c), although they have the same characteristics as (55d), and (55a-c), are quite natural because they unsay the information carried by I believe Tom has not yet seen the problem and I believe Tom has seen the problem, respectively, which are absolutely grammatical sentences. Also, (54a) in the quotation above is absolutely acceptable, although it is otherwise similar to the first parts of (55a-d), because it lacks the particular characte-

ristics that accompany the utterances of (55a-d) (as well as (58a-d) and (56a-d)) imposing on them their interpretation as context-bound denials; that is, (54a) "says" that I don't believe Tom has yet seen the problem, and does not unsay the ungrammatical *I believe Tom has yet seen the problem, as the first parts of (55a-d) do.

Seuren sought, on the basis of the assumption quoted above, to handle the difference in acceptability between (55a-d) and (56a-d) in terms of different underlying structures. Our discussion above, on the other hand, not only shows that this assumption faces major difficulties, but also provides us with an explanation for the facts presented by (55a-d) and (56a-d), as well as for our counterevidence for Seuren's account demonstrated with (58a-d); furthermore, it explains the difference in acceptability between (54a) and the first parts of (55a-d), which are unacceptable despite their apparent similarity to the former, (54a).

It is also obvious that if our explanation in terms of context-boundness is correct, then Seuren's assumption is unsatisfactory in another sense as well: it tries to account for anomalies (cf. (55)) due to contextual difficulties, or involving in some sense contextual characteristics, in terms of syntactic structures, without mentioning context at all.

Moreover, Seuren's assumption ignores an important generalization that is possible in terms of our context-based explanation: it is obvious that the latter allows the anomaly of (55a-d) to be accounted for in the same terms as that of (60):

(60) *I believe Tom has yet seen the problem.

To return to our favoured topic, the entailment analysis, we can easily see that it is unable to explain the anomaly in (55), on the one hand, and its difference in acceptability from (56) or (58), on the other hand. Indeed, entailment analysis cannot detect the anomaly in (55): it considers (55a-d) as acceptable and natural as (56a-d) or (58a-d). But this is not the only shortcoming of entailment analysis here. Together with any other analysis of the facts discussed above that does not proceed with the distinction context-bound/context-free (cf. Seuren's (1974) account above), it misses the generalization pointed out in the previous paragraph: unjustifiably, and unavoidably, entailment analysis "sees" no connexion between the anomaly in (60) and the anomaly in (55).

The same loss of generalization characterizes Seuren's (1979) theory, which we discuss in the following section, although it defends presupposition against entailment analysis and speaks of two kinds of negation. The reason is, again, its failure to "see" the significance of the notion context-boundness.

2.2.2.5 The distinction positive /negative polarity items and the possibilities of negative scope interpretation

Seuren (1979) observes that negative sentences containing negative polarity items behave differently from negative sentences containing positive polarity items:

" the negation required by NPI's [Negative Polarity Items - I.V.] is always presupposition-preserving

and the negation allowed for by PPI's [Positive Polarity Items - I.V.] is always presupposition cancelling." (op.cit.:6).

He contrasts negative sentences containing predicates like matter that, mind that, give a damn that, which are factives with negative polarity, with negative sentences that have been repeatedly mentioned and made appeal to in the entailment analysis literature, i.e. with negative sentences containing realise, regret, or know (which are factives but are not marked as to polarity). Consider the following examples (Seuren's (15)-(17)):

- (61) a. !Harry doesn't mind that his cat has died:
 it hasn't died.
- b. !It doesn't matter that Harry's cat has
 died: it hasn't died.
- c. !Harry doesn't give a damn that his cat
 has died: it hasn't died.

(61a-c) suffer from contradiction; and this fact, together with the fact that presupposition cannot be cancelled in sentences like (61') (Seuren's (20)):

- (61') It doesn't matter that Harry's cat has
 died.

constitute counterevidence for the entailment accounts' prediction that presupposition is cancellable in negative sentences. This counterevidence, Seuren also argues, is doubled by the fact that factive predicates which have the properties of positive polarity items, like be delighted that or it's all for the better that, invariably cancel the relevant implication

in negative sentences; cf. his (21):

(62) Jack is not delighted that Ira is planning
to rob a bank.

which can by no means be said to preserve the implication that Ira is planning to rob a bank, contradicting thus the alleged indeterminacy in the scope of negation.

From all this Seuren draws the "minimal conclusion" that

" there are at least two ways of using the negative operator in language: a presupposition-preserving way and a presupposition-cancelling way." (op.cit.:7).

He distinguishes between these two uses of negation in terms of syntactic characteristics, as our sketch of his approach implies above:

" the negation that has to come with NPI's preserves presuppositions, but the negation that occurs without any polarity items around or with a PPI does not (necessarily) preserve presuppositions." (ibid.:8).

This is not, however, the only syntactic characteristic that in his analysis distinguishes between two uses of negation:

" there are other differences between what we shall henceforth call 'minimal negation' (which is presupposition-preserving), and 'radical negation' (which is not). A general grammatical condition on radical negation is that it can only occur in the so-called canonical position in the sentence, i.e. with the finite verb form: in all other positions in the sentence negation is minimal." (ibid.:8).

out resulting in inconsistencies: sentences like (65), although exemplifying radical negation (not occurs in canonical position), c a n n o t cancel the relevant presupposition without contradiction. In other words, they are instances of radical negation that necessarily preserve presupposition (contradicting thus 1) above). But this means that these instances of radical negation, i.e. negative factives with the indefinite a in their subject-NP's like (65a-b), share with minimal negation sentences the characteristic that differentiates the latter from radical negation sentences in general. There must be something wrong, then, in Seuren's descriptive analysis.

Let us see below what characteristics, if any, sentences like (65a-b) share with what Seuren considers as instances of minimal negation, i.e. with (factive) sentences containing positive polarity items (or no polarity items) and what he calls 'canonical' not (cf. 1) and 2) above).

As we have pointed out, the indefinite a does not share with the the anaphoric function of the latter, and this makes sentences like (65a) e.g. much worse than the corresponding sentences with the in the place of a. That is, the oddity in (65) is due, according to our analysis, to the fact that a. and b. cannot, because of the presence of a in their subject-NP's, be considered as context-bound denials which copy part of the preceding context in order to erase it: a precludes the connexion with the preceding context that such an interpretation would involve. Can

we now say that their characteristic of non-context-boundness is also shared by the cases of non-cancellability of presupposition that Seuren assigns the label 'minimal negation'?

Let us examine first negative factive sentences containing negative polarity items. Probably, sentences like (61a-c) above cannot be interpreted as copying and erasing part of the preceding context: given that context-bound denials copy a previously uttered (or implied) sentence to deny the proposition it expresses, our negative factive sentences with negative polarity item can never exemplify such denials, since they have no grammatical positive counterpart with negative polarity item to copy. A 'copying and erasing' interpretation of such negative factive sentences is thus precluded (cf. also the preceding section). We can say, therefore, that negative factive sentences containing a negative polarity item share with negative factive sentences containing indefinite subject-NP's the characteristic of non-context-boundness.

It can easily be seen that this characteristic is also shared by factive sentences with not in non-canonical position. Given that context-bound denials in general deny the truth of their positive counterpart, non-canonical instances of not (which affect only part of the sentence, and not the truth of the proposition that the whole sentence expresses) are unable to produce context-bound denial readings.

On the basis of our discussion in the previous three paragraphs, then, we can say that our (grammatically related) cases of non-cancellability of presupposition, namely, negative factive sentences with an indefinite subject-NP, or a

negative polarity item, or a non-canonical not, have in common a contextual characteristic: they cannot be interpreted as context-bound (copying) denials.

We shall see below that this common characteristic not only is not coincidental, but also provides us with an explanation of the facts that Seuren sought to describe on grammatical grounds (with the insufficiency and inconsistencies we noted above).

In particular, this characteristic naturally explains the relations 1)a. and 1)b. above. Since non-canonical position of not cannot produce a context-bound denial reading, the relevant implication in negative factive sentences cannot be cancelled, given that it is only under such a reading that this implication is cancellable, as we suggested in the previous sections. On the other hand, in cases of canonical negation nothing excludes a context-bound denial reading, and, consequently, nothing excludes the cancellation of the relevant implication.

Similarly, the same characteristic explains nicely the relations 2)a. and 2)b. Since the occurrence of a negative polarity item in copying denials is excluded, the relevant implication is not affected in negative factive sentences containing such an item: they lack a context-bound denial interpretation, the only one that is able to cancel the implication. On the other hand, nothing prevents a negative factive sentence which does not contain a negative polarity item from being interpreted as a context-bound denial; consequently, nothing prevents the cancellation of the relevant implication.

It is worth pointing out here that an analysis in terms of the characteristic of context-boundness goes further than Seuren's grammatical conditioning (cf. 1) and 2) above): it also explains *w h e n* the relevant implication is cancellable and when it is not. Seuren's analysis simply predicts that in negative factive sentences with canonical not and with no negative polarity item the presupposition is cancellable. The analysis we are defending here, on the other hand, predicts when it is actually cancellable: negative factive sentences with canonical not and no negative polarity item can be either context-bound (: copying) or context-free (: context irrelevant); it is only under the former interpretation that the implication is cancellable. Put differently, Seuren's analysis in fact describes two cases in which a negative factive sentence cannot be uttered as a context-bound denial (namely, when it contains a negative polarity item or has its negative in non-canonical position), rather than predicts when the relevant implication of such a sentence is in fact cancellable.

An analysis in terms of context-boundness, therefore, is more general and deeper than Seuren's grammatical conditioning: it provides a natural account for the facts that Seuren's analysis superficially describes, and encompasses a larger area of data; moreover, it predicts when the relevant implication of a factive sentence with not in canonical position and no negative polarity item is in fact cancellable, unlike Seuren's analysis, which simply describes the implication in such sentences as cancellable, without making clear in what cases it can be cancelled and in what cases it cannot.

Along the lines of the analysis defended here, negative factive sentences with canonical not exemplify either ordinary or contradiction negation, depending on whether they are non-context-bound or context-bound: it is only in the second case (context-bound — contradiction negation) that the implication is cancellable; in Seuren's grammatical description, however, the first and the second cases are indistinguishable under the label 'radical negation'.

To return to our central topic in the last sections, the entailment-based accounts of negation, Seuren's analysis (as well as the analysis we are arguing for here) shows clearly what problems their alleged indeterminate scope of negation gives rise to. In particular, they cannot predict, let alone explain, the different consequences that the occurrence of not in canonical or non-canonical position has as to the cancellability of the relevant implication in negative factive sentences; thus, they cannot account for the difference in oddity between (64a) and (64b), e.g. Besides, they cannot offer us an explanation for the involvement of polarity in the cancellability of the relevant implication; thus, the difference in oddity between (61a-c) and (62), e.g., is inexplicable within their framework.

2.2.2.6 Summary

We have seen in the preceding sections that entailment analysis, and especially its basic claim that the scope of negation be indeterminate, runs into some major difficulties. It is unable to account for cases of syntactically determined

negative scope. Besides, it cannot explain some restrictions on the occurrence of perfective verbs in negative sentences. As we have noted (2.2.2.3), these are not simply "innocent" idiosyncratic restrictions: they demonstrate the sort of anomaly that a theory incorporating the distinction ordinary/contradiction negation would expect and predict. Finally, entailment analysis cannot explain some facts pointed out in Seuren (1974 and 1979); namely, (a) the anomaly that the presence of a negative polarity item in negative sentences with contrastive emphasis may cause, and (b) the bearings that the position of the negative particle and the polarity of the items in negative factive sentences have on the cancellability of their implication. (a) and (b), as we have seen in our discussion of Seuren, demonstrate the incompatibility of the alleged indeterminacy in negative scope with the linguistic data.

Thus far we have suggested that entailment analysis is not appropriate for the analysis of English data on negation. In the next section it will be seen that this problematic for English analysis would face further difficulties in accounting for MG data on negation as well.

3. The motivation for the distinction ordinary/contradiction negation in MG

In the preceding sections we have tried to show that the alleged indeterminate scope of negation leads entailment-based accounts of negation to an impasse and we have suggested that the relevant difficulties can be naturally accounted

for, or do not arise at all, if we proceed with the distinction ordinary/contradiction negation. Below we present some pieces of evidence from MG suggesting that this distinction is indispensable. They are divided into two groups, direct and indirect evidence.

3.1 Direct evidence

We shall discuss here some syntactic facts which witness the significance of the distinction between two functions of negation. In particular, we shall see that some well-motivated general syntactic constraints on ordinary negation are not obeyed by what we have called contradiction negation (3.1.1) and that surface syntactic characteristics are decisively involved in the association of an instance of negation with a contradiction or an ordinary interpretation (3.1.2), questioning thus the claim of entailment analyses that deep structures are fully determined as to negative scope; finally (3.1.3), we shall see that the behaviour of negative polarity items in factive complements questions the basic principle of entailment-based accounts, that the scope of negation is indeterminate.

3.1.1 The violation of the general constraint on the double occurrence of negation in an S

It has been pointed out in chapter I that the distribution of the negative particles in MG is governed by a general constraint: a cyclical node cannot exemplify more than

one instance of δέ(n)/μή(n) or όχι/μή. Cf. the anomaly in

- (66) a. *δέ δέxtike όχι ο jánis.
not accepted not 'art.' John [nomin.].
- b. *(na) μή δextís όχι to jáni.
('s.m.') not accept (you) not 'art.' John
[accus.].

- (67) a. *όχι polá véli δέ xtípisan to stóxo.
not many arrows not hit the target.
(Not many arrows didn't hit the target).
- b. *όχι polá véli na μή xtipísun to stóxo.
not many arrows 's.m.' not hit the target.
(Not many arrows shouldn't hit the target).

There are, nevertheless, many acceptable sentences not discussed so far which may violate this constraint. See the following examples:

- (68) a. όχι (μόνο) δέν tin aγapά ala ti sixénete.
not (only) not her loves (he) but her loathes
(he).
(Not only doesn't he love her, but he loathes
her).
- b. όχι (aplós) δέ me δέxtike ala me pétakse ékso.
not (simply) not me received but me turned
(he) out (of the room).
(Not simply didn't he receive me, but he
turned me out of the room).
- c. όχι (μόνο) δέν tin aγapά ala δέ θέλι na tin
ksanaδί.

not (only) not her loves (he) but not wants
 (he) to her see-again (he).

(Not only doesn't he love her, but he doesn't
 want to see her again).

Clearly, the first parts of the conjunctions in (68a-c) exemplify two instances of negation: óxi and δέν apparently belong to the same S, contradicting our, otherwise well-supported, general constraint on the occurrence of negation.

This is not, however, the only piece of exceptional behaviour that the two negative particles in (68a-c) demonstrate. In addition to its being a second instance of negation in one cyclical node, óxi precedes a (negated) verb phrase, contradicting thus another constraint discussed in chapter I: as many examples made clear there, óxi cannot precede a verb (phrase); indeed, with the exception of constituent negation instances of óxi preceding certain quantifiers or quantificational (or qualificational) adverbs, óxi cannot even co-occur with a verb (phrase) in a sentence.

It is worth pointing out that instances of óxi in the second part of ala- conjunction do not share this exceptional behaviour of óxi in the first part of the conjunction: óxi in the second part of the conjunction cannot co-occur with a verb (phrase) (see chapter I, 1.2.1.1.1), on the one hand, and, on the other, cannot co-occur with a second óxi. Cf. (69) and (70), respectively:

- (69) a. *éfi je o jánis ala óxi i maría.*
 left 'art.' John [nomin.] but not 'art' Mary.
 (John left but Mary didn't).

- b. *éfi je o jánis ala éfi je óxi i maría.
left 'art.' John [nomin.] but left not 'art.'
Mary.

- (70) a. o jánis íðe ti maría ke ton pétro ala óxi
polús apo tus álus.
'art.' John saw 'art.' Mary [accus.] and
'art.' Peter [accus.] but not many of the
others.
(John saw Mary and Peter but not many others
as well).

- b. *o jánis íðe ti maría ke ton pétro ala óxi
óxi polús apo tus álus.
'art.' John saw 'art.' Mary and 'art.'
Peter but not not many of the others.

To recapitulate, óxi, as a second instance of negation in the first part of ala- conjunctions only, demonstrates two exceptional syntactic characteristics: (a) it violates our general constraint on the double occurrence of negation and (b) it can precede a V(P). The question that now arises is whether there is an interdependence between these two characteristics. In particular, can óxi precede a V(P) when it is the only instance of negation in the first part of the conjunction? Or, can óxi precede a constituent other than V(P) when it constitutes a second instance of negation? The conjunctions below show that there is no interdependence between the exceptional characteristics of óxi:

- (71) a. óxi (aplós) tin aýará polí ala éxi ksetre-
laðí mazí tis.

not (simply) her loves (he) much but has

(he) lost-his-head with her.

(Not only does he love her very much, but in fact he has lost his head over her).

b. δέ με δέxtike óxi o jánis ala i maría.

not me received not 'art.' John [nomin.]

but 'art.' Mary.

(Not John but Mary did not receive me).

Examples like (71a-b) clearly exclude any descriptive explanation of the type "óxi may precede a V(P) in the first part of ala- conjunction only if it constitutes a second instance or negation", etc. How can we, then, account for this exceptional behaviour of óxi in the first part of the conjunction? In particular, how can we account for its syntactic differences from the instances of óxi in the second part of the conjunction?

As far as I can see, there is a difference in function between the exceptional and the non-exceptional instances of óxi which parallels our distinction between contradiction and ordinary negation. Specifically, óxi in (68) and (71) in fact withdraws the (insufficient) information that the rest of the first part of the conjunction carries, in order for the information carried by the second part of the conjunction to take its place. Put differently, the contribution of (68a-c) and (71a-b), as far as information is concerned, is restricted only to their second parts: their first part simply erases an (insufficient or inaccurate) description of a fact, while their second part provides the proper description of the

same fact. On the other hand, óxi in the second part of (69a) and (70a) has a different function: it does not erase the information that a previously uttered, or implied, sentence carries, but, on the contrary, it brings in a second piece of information. Thus, the second part of (69a) and the second part of (70a) are paraphrasable as "Mary did not leave" (: "Mary stayed") and "He did not see many of the others" (: "He saw (a) few of the others"), respectively. Put differently, (69a) and (70a) provide two pieces of information: their first and their second parts describe two different facts, rather than substitute one description of a fact for another description of the same fact.

The question now is what syntactic reflexes the context-free (ordinary)/context-bound (contradiction) function of óxi has. In particular, is there any connexion between the contradiction óxi and the free violation of our well-established constraints that characterizes such instances of óxi? As far as I can see, there is good evidence encouraging such a connexion. We discuss it in the following two paragraphs.

Consider the sentences in (72) below:

- (72) a. o pétros dén tin aγapúse ala o jánis tin
aγapúse.
'art.' Peter not her loved but 'art.' John
her loved.
(Peter did not love her but John did).
- b. o pétros dén tin aγapúse ala tin aγapúse o
jánis.
- c. dén tin aγapúse o pétros ala o jánis tin
aγapúse.

(72a-c) differ from (68a-c) and (71a-b) in the same way as (69a) and (70a) do. Again, (72a-c) provide two pieces of information; namely, that Peter did not love her and that, on the other hand, John did. In other words, δέν in (72) does not erase the information that the rest of the first part of the conjunction conveys. On the other hand, it is exactly this erasing function that όχι fulfills in (68a-c) and (71a-c). If now there is any connexion between the exceptional characteristics of όχι and its function in discourse as demonstrated with (68a-c) and (71a-b), then the substitution of this exceptional όχι for the ordinary δέν in (72) should result in anomaly. As (72') and (72'') show, this prediction is borne out:

(72') a. *o pétros óxi tin aγapúse ala o jánis tin aγapúse.

b. *o pétros óxi tin aγapúse ala tin aγapúse o jánis.

c. *óxi tin aγapúse o pétros ala o jánis tin aγapúse.

(72'') a. *o pétros óxi (móno) dén tin aγapúse ala o jánis tin aγapúse.

'art.' Peter not (only) not her loved but

'art.' John her loved.

(Not only didn't Peter love her, but John did love her).

b. *o pétros óxi (móno) dén tin aγapúse ala tin aγapúse o jánis.

- c. *óxi (móno) δέν tin aγapúse o pétros ala
o jánis tin aγapúse.

Given that óxi can precede (negated or non-negated) V(P)'s in the first part of ala- conjunctions (cf. (68a-c) and (71a-b)), the anomaly in (72') and (72'') can, as far as I can see, be explained only in terms of the association of these exceptional syntactic characteristics with its discourse function of erasing in conjunctions like (68a-c) or (71a-b): provided that the sentences in (72) carry two distinct pieces of information, the substitution of our exceptional óxi for δέν creates anomaly (cf. (72')-(72'')) because this óxi is associated with an erasing (:contradiction) function, which has no place in (72a-c).

Consider, on the other hand, (73):

- (73) a. o pétros δέν tin aγapúse (aplós) ala ítan
ksetrelaménos mazí tis.
'art.' Peter not her loved (simply) but had
(he) lost-his-head with her.
(Peter did not simply love her, but, on the
contrary, he had lost his head over her).
- b. δέν tin aγapúse (aplós) o pétros ala ítan
ksetrelaménos mazí tis.

Unlike (72a-c), which describe two distinct facts, (73a-b) provide us with the description of one fact only; namely, what Peter did. That is, the negative parts of (73a-b) do not describe a second fact: they are simply meant to erase a previous (inappropriate) description of the fact that their positive parts introduced by ala (but) properly describe. Given

now that δέν in (73a-b), unlike the descriptive δέν in (72a-c), has an erasing (: non-descriptive) function, this δέν, unlike its descriptive twin in (72a-c), should be interchangeable with our exceptional erasing (: contradiction) όχι. This prediction is borne out again, as we can see in (73') and (73''):

(73') a. o pétros óxi (aplós) tin aγapúse ala ítan
ksetrelaménos mazí tis.

b. óxi (aplós) tin aγapúse o pétros ala ítan
ksetrelaménos mazí tis.

(73'') a. o pétros óxi δέν tin aγapúse ala ítan kse-
trelaménos mazí tis.

'art.' Peter not not her loved but had (he)
lost-his-head with her.

(It is not true that Peter did not love
her: on the contrary, he had lost his head
over her).

b. óxi δέν tin aγapúse o pétros ala ítan kse-
trelaménos mazí tis.

On the basis of the facts discussed in the previous two paragraphs we can fairly safely conclude that there is an interdependence between the function of όχι and the violation of general syntactic constraints in sentences containing this όχι: they are not subject to these constraints only if their όχι is assigned a contradiction interpretation (cf. (73') and (73'')); on the other hand, they are subject to these constraints (cf. the anomaly their violation creates in (72') and (72'')) if όχι cannot be assigned a contradiction interpre-

tation.¹

What this amounts to, however, is that there are two syntactically distinguished instances of óxi: there are syntactic characteristics (co-occurrence with another instance of negation or pre-verbal position) that only a non-descriptive óxi can be associated with, as we have seen. Obviously, such a conclusion not only motivates the distinction contradiction/ordinary negation further but also strongly implies an interdependence between (surface) syntactic characteristics and semantic interpretation, which is clearly in contrast with the entailment-based analysis of negative scope.

3.1.2 The basic form of the ala(but)- conjunction

In this section we discuss another piece of evidence for the interdependence between (surface) syntactic characteristics and semantic interpretation in ala- conjunctions.

We suggested in the previous section that the negative δέ(n) in the first part of the conjunction may have an ordinary or a contradiction interpretation. In particular, we saw that δέn in (72a-c) exemplified ordinary negation (hence the anomaly in (72') and (72'')) with the contradiction óxi), while in (73a-b) it exemplified contradiction negation (hence the acceptability of the parallel forms (73') and (73'')) with the

¹ We discuss in the following section the involvement of word order, and in general of the form of the ala- conjunction, in the assignment of a contradiction or an ordinary negation interpretation.

contradiction óxi). Consider also (74) and (75):

(74) δέν *pérase stis eksetásis o jánis ala i maría*
pérase (stis eksetásis).
 not passed in+the exams 'art.' John but 'art.'
 Mary passed (in+the exams).
 (John did not pass in the exams but Mary did).

(75) δέν *pérase stis eksetásis o jánis ala i maría.*
 not passed in+the exams 'art.' John but 'art.'
 Mary.
 (Not John but Mary passed in the exams).

Again, in (74) and (75), respectively, δέν exemplifies ordinary and contradiction negation. Cf. the unacceptability of our contradiction óxi in (74') and its acceptability in (75') below:

(74') a. *óxi *pérase stis eksetásis o jánis ala i maría*
pérase (stis eksetásis).

b. **pérase stis eksetásis óxi o jánis ala i maría*
pérase (stis eksetásis).

(75') a. *óxi *pérase stis eksetásis o jánis ala i maría.*

b. *pérase stis eksetásis óxi o jánis ala i maría.*¹

¹ Although it is the difference in acceptability between (74'b) and (75'b) that interests us here, it is worth discussing in brief the difference in acceptability between (75'a) and (75'b). In general, óxi, unlike the contradiction δέ(η), in the first part of ala- conjunctions precedes the constituent that is to be substituted for by the second part of the conjunction. In other words, we do not know which constituent(s) δέν erases in (75) until we reach the second part of the conjunction; on the other hand, we do know in (75'b)

The question that we shall be pursuing in the following paragraphs is what the underlying structures of sentences like (74) (ordinary negation) and (75) (contradiction negation) might be. Are they derived from different sources? Or, do they have a common (basic) source? If they do, does the basic form they derive from have both an ordinary and a contradiction interpretation? We shall argue that they do have a common source combining both an ordinary and a contradiction interpretation.

Let us first see what is the difference between (74) and (75) above, exemplifying contrary and contradiction negation. Apparently, the only difference between the two conjunctions is that there is no verb in the second part of (75). It can easily be seen, however, that this constitutes only a superficial difference: as it has been shown in chapter I, the basic form of the ala- conjunction is S₁ ala S₂ (where either S₁ or S₂ or both can contain negation); in underlying structure, then, there must be a verb phrase in the second part of (75) as well. Given now that the only plausible, and

that the constituent immediately following óxi is to be substituted for the second part of the conjunction: if it is not, the conjunction becomes anomalous (cf. (75'a)).

This function of the contradiction óxi gives us an explanation for the employment of two negative particles, δέ(n) and óxi, in the same function (i.e. contradiction negation) in the first part of the ala- conjunction. We shall see a less informal discussion of this, and of the unacceptability of (74'a), below.

recoverable, verb phrase for this position is pérase stis eksetásis (passed (he/she) in+the exams), we can reasonably argue that the only difference between (74) and (75) is that Equi-V(P) deletion has applied on the latter, but not on the former. What this amounts to, however, is obviously that the application of a syntactic transformation such as Equi has semantic consequences as to the interpretation of negation: the application of Equi-V(P) deletion seems to impose a contradiction negation interpretation; on the other hand, the non-application of the same deletion rule on an ala- conjunction like (74) satisfying its structural description imposes an ordinary interpretation.

This involvement of Equi is checkable in terms of the óxi with the exceptional syntactic characteristics discussed in the previous section. We have seen that this óxi is assigned a contradiction interpretation. If now the interconnexion between Equi and negation interpretation argued for in the previous paragraph in fact exists, then this óxi should be unacceptable in constructions where Equi, although applicable, has not applied; conversely, it should be absolutely natural in constructions where Equi has applied. Obviously, it is exactly these predictions that (74') and (75'b) reflect.

Needless to say, these observations constitute counterevidence for the alleged indeterminacy of negative scope. The interaction, however, between surface structure and semantic interpretation, and the relevant counterevidence for entailment analysis, are not exhausted here. We argued above that the application of Equi on the structure underlying the

'ordinary' (74) resulted in the 'contradiction' (75).

Let us now see what this underlying structure might be.

Consider (76) below:

- (76) δέν πέρασε stis eksetásis o jánis ala πέρασε
 (stis eksetásis) i maría.
 not passed in+the exams 'art.' John but passed
 (in+the exams) 'art.' Mary.

Unlike (74) and (75), (76) can be assigned either an ordinary or a contradiction negation interpretation. That is, (76) is paraphrasable either as 'John failed in the exams, but Mary passed' (: two pieces of information; ordinary negation (cf. (74))) or as 'Not John but Mary passed in the exams' (one piece of information; contradiction negation (cf. (75))).

This observation can easily be tested: if constructions like (76) are in fact associated with either interpretation, they must be acceptable in any environment favouring the one interpretation over the other. This prediction is borne out, as we can see in (76') and (77):

- (76') a. δέν πέρασε stis eksetásis o jánis ala
 (πέρασε) i maría: o jánis δέν eksetástike.
 not passed in+the exams 'art.' John but
 (passed) 'art.' Mary: 'art.' John not
 was-examined.
 (Not John but Mary passed in the exams:
 John was not examined).
- b. ?*δέν πέρασε stis eksetásis o jánis ala i
 maría πέρασε: o jánis δέν eksetástike.

- (77) a. δέν πέρασε ακόμα stis eksetásis o jánis
 ala πέρασε i maría.
 not passed yet in+the exams 'art.' John but
 passed 'art.' Mary.
 (John did not pass in the exams yet but
 Mary did).
- b. δέν πέρασε ακόμα stis eksetásis o jánis
 ala i maría πέρασε.
- c. ?*δέν πέρασε ακόμα stis eksetásis o jánis
 ala i maría.

(76') shows that (76) shares with the 'contradiction' (75) an environment in which the 'ordinary' (74) is unacceptable (cf. (76'b)). Constructions like (76) then can be assigned a 'contradiction' interpretation. But, on the other hand, constructions like (76) can be assigned an 'ordinary' interpretation as well: as (77) makes clear, they in general do not exclude the occurrence of the item akóma (yet) (cf. (77a)); this, however, is a characteristic of 'ordinary' constructions only, as the difference in acceptability between the 'ordinary' (77b) and the 'contradiction' (77c) indicates.¹

¹ It is worth noting what this difference in acceptability is due to. In general this akóma (yet) cannot occur in affirmative sentences with a perfective verb form:

- (i) *πέρασε ακόμα o jánis.
 passed [perfective] yet 'art.' John.

Given now that in a 'contradiction' ala- conjunction the first part erases a sentence that carries inaccurate or insufficient information for the information carried by the second part of the conjunction to take its place, sentences like (i) cannot occur in, and be erased by, the first part of such a

Our prediction, then, that constructions like (76) should be acceptable in any environment, irrespectively of whether it favours a 'contradiction' interpretation over an 'ordinary' one, or vice-versa, is correct. Let us now see in what they differ from the constructions that are bound to the one or the other of these readings only, and can never be assigned both.

Obviously (76), as well as the unreduced form of (76'a), and (77a) differ from the 'contradiction' (75), as well as the reduced form of (76'a), and (77c), in that they repeat the verb(phrase) in the second part of the conjunction; on the other hand, this recoverable verb(phrase) has been deleted in the 'contradictions' (75), reduced (76'a), and (77c). The following two patterns represent clearly their difference:

'contradiction' ala- conjunction, since they are ungrammatical: it would be anomalous to erase the information, if any, of a sentence that would never occur. The anomaly in (77c), then, is explicable in the same terms as the anomaly in (i). On the other hand, we have no anomaly in (77b) and (77a) since the former in general, and the latter because of the presence of akóma, cannot be interpreted as erasing (i).

The same difference in acceptability between constructions like (76) and (74), on the one hand, and (75), on the other, is in general created by the occurrence of a negative polarity item in the first part of the conjunction: again, there is no acceptable affirmative counterpart, and only the constructions that are given, or can be given, an 'ordinary' interpretation survive.

(78) δέ(n) VP_i NP ala V(P)_i NP ((76), unreduced
(76'a), and
(77a)).

(79) δέ(n) VP NP ala NP ((75), reduced (76'a),
and (77c)).

However, the difference between (76), unreduced (76'a), and (77a) which combine both readings, on the one hand, and the 'ordinary' (74), (76'b) and (77b), on the other hand, is not so obvious: both groups retain the same constituents. In what then does the basic forms (76), etc., differ from the 'ordinaries' (74), etc.? Their only difference, as far as I can see, concerns their word order. In particular, in the basic forms the order V(P) NP is never changed, while in the corresponding 'ordinary' forms this order is never preserved in the second part of the conjunction. Consider the abstract representation of the relevant forms in (80) and its difference from (78) above:

(80) δέ(n) VP_i NP ala NP V(P)_i

What is also interesting here is that we are exclusively led to the same 'ordinary' reading if the order V(P) NP is changed in the first part of the conjunction as well, irrespectively of whether it is also changed in the second part of the conjunction. That is, (81a) and (81b) below

(81) a. o jánis dén pérase stis eksetásis ala pé-
rase i maría.

'art.' John not passed in+the exams but
passed 'art.' Mary.

hand, the change of the order V(P) NP to NP V(P) in any of, or both, the parts of the conjunction assigns an 'ordinary' interpretation to the resulting forms.

It must be pointed out here that it is not only its being associated with either interpretation that justifies the characterization of (78) as the unmarked 'basic' form: there is some independent evidence, too. Warburton (1980) has argued on independent grounds that the constituent Verb must be given sentence-initial position in the Base and that constructions having Verb in other than initial position are in fact derived; that the movement of the subject-NP, e.g., to the first position 'marks' it as the 'theme' or associates it with emphasis.

More analytically, our observations above coincide with, and gain support from, Warburton's analysis in two points: (a) along the lines of this analysis, the occurrence of VP in the first position characterizes the 'unmarked', the most neutral, word order, and should be 'basic': similarly, in our analysis it is such an order (cf. (78)) that neutralizes the distinction ordinary/contradiction and constitutes the source of the other ('marked') patterns; (b) in both Warburton (1980) and here, word orders like that in (80), as well as those in (81), are considered as 'marked': they exemplify thematization or (contrastive) emphasis and are invariably associated with an ordinary interpretation, respectively. In addition, Warburton's theory helps us to see in what, finally, the unmarked pattern (78) differs from the 'ordinary' pattern (80) and those exemplified in (81): unlike (78), the

other patterns are derived by the application of thematization in either of, or both, their parts.

In this connexion, it is worth pointing out that Warburton's analysis gives us a clue to explain why it is a pattern like that in (78), and not like those in (80) or (81), that is the 'unmarked' one, on the one hand, and why it is the latter patterns that are invariably associated with ordinary interpretations, on the other hand. Having a thematic function appears to be essentially related to having an ordinary interpretation in ala- conjunctions like those summarized in (80), or like those exemplified in (81). In accordance with Warburton's remarks, the second part of the conjunction in (80), e.g., could be roughly analysed as "... but as far as NP_i is concerned, NP_i ...". Such an analysis, however, can hardly be compatible with a contradiction interpretation of the first part of the conjunction: under such an interpretation the first part of the conjunction would be erased for the second part to substitute the correct information for it. However, "... but as far as NP_i is concerned, NP_i ..." does not simply bring in some new information: in fact, "but" here contrasts the 'theme' NP_i and the 'rheme' that follows it with the preceding part of the conjunction, rather than substitutes them for it. This contrasting function of "but" can be more clearly seen in the pattern (81b), which exemplifies thematization in both the first and the second part of the conjunction: "but" cannot be interpreted as substituting the second part for the first in "As far as John is concerned, he did not pass, but as far as Mary is con-

cerned, she did".

To summarize, in this section we have been discussing some cases of negation in ala- conjunctions that constitute counterevidence for the indeterminate scope of negation argued for in entailment analyses: the 'basic' pattern in (78) can be disambiguated by syntactic means; namely, thematization and Equi. This fact, however, constitutes counterevidence for this sort of analyses: it shows that an account of negative scope in purely semantic terms (argued for in Kempson 1975, e.g.) cannot be adequate.

3.1.3 Factive complements and negative polarity items

Forgetting for a moment the distinction ordinary/contradiction, we shall examine in turn two pieces of data suggesting two solutions which contradict each other. Then we shall try to show that the problem they seem to give rise to is in fact a pseudo-problem, created by the assumptions made by entailment analysts, rather than by the data.

We have seen, and this was the main point in entailment-based analyses of negative scope, that the negation of a factive verb may affect the truth of its complement. In particular, it has been argued that sentences like

(82) John does not regret that she is married,
because she is not.

although not absolutely natural, are not contradictory because the relevant implication (: 'she is married') is can-

(John does not regret that anyone is married because she is not).

- b. *o jánis dé lipáte pu ítan poté pandreméni
jati dén ítan.

'art.' John not regrets that was (she) ever married because not was (she).

(John does not regret that she was ever married because she was not).

On the other hand, (84a-b) become as acceptable as (83) if the indefinites kamiá and poté are substituted by items that are not restricted to affective, and consequently negative, environments:

- (84') a. o jánis dé lipáte pu íne kápja pandreméni
jati dén íne.

'art.' John not regrets that is someone [feminine] married because not is (she).

(John does not regret that someone is married, because she is not).

- b. o jánis dé lipáte pu ítan kápote pandreméni
jati dén ítan.

'art.' John not regrets that was (she) some some-time married, because not was (she).

(John does not regret that she was once married because she was not).

As far as I can see, the anomaly in (84), and the difference in acceptability between (84a-b) and (84'a-b), are inexplicable in terms of entailment analysts' theory of negative scope, and question their explanation for

context (cf. the "supporting" jatí- clause) apparently presses towards interpreting the complements as falling within the scope of negation.

Although, then, the notion of indeterminate scope seems to provide the proper grounds for the explanation of the acceptability of sentences like (83), it creates major difficulties: it gives rise to predictions that linguistic data refuse to follow, and is thus undermined.

An entailment analyst could reply, however, that his/her account is invulnerable by all this counter-evidence: that negative scope should be treated in purely semantic terms; and that (syntactic) constraints on the occurrence of indefinites should not be related with this semantic notion, which is subject to semantic constraints only. There are, however, two weak points in such a reply. First, it assumes that the question of negative polarity is a subject of syntax exclusively, and has nothing to do with semantics (see, however, chapter II, section 4, where a different view is defended). Second, even if we accept that this is so, how could the facts discussed in the preceding paragraphs be handled in purely semantic terms? In particular, on what (semantic) grounds is the difference in acceptability between (84) and (85) explicable, given that their sentences do not differ in the scope of negation?

Let us now return to the distinction ordinary/contradiction negation defended in this chapter.

It can easily be seen that an analysis on the basis of this distinction does not run into the difficulties pointed out above.

In particular, such an analysis does not need the notion of indeterminate scope of negation to account for the fact that sentences like (83) do not sound contradictory (at least, in a particular context). An utterance of (83) exemplifies an instance of 'contradiction' δέ(n) erasing the information carried by the corresponding positive o jánis lipáte pu íne pandreméni (John regrets that she is married) previously uttered, or strongly implied. That is, the utterer of (83) copies someone else's sentence to show what piece of information he wants to deny. The fact now that his jatí (because)- clause contradicts the implication that the copied sentence is associated with cannot mean that his utterance is contradictory: given that this implication belongs to the copied sentence, his jatí- clause is simply intended to show that he has good reason to erase that sentence; it justifies his denial, rather than contradicts it. Our analysis then explains naturally the acceptability of sentences like (83) and does not need the notion of indeterminate scope. This means that it is not contradicted by the anomaly in pairs like (84). This anomaly is unexpected and problematic only in the framework of entailment analysis. On the contrary, in the framework of our analysis the same anomaly not only is not problematic but in a sense supports it: given that (83) is the denial of a (quoted) positive factive sentence, (84a) and (84b) cannot be natural since the

corresponding positive sentences they quote would be, respectively, *o jánis lipáte pu íne kamiá pandreméni (John regrets that anyone [: the negative polarity anyone] is married) and *o jánis lipáte pu ítan poté pandreméni (John regrets that she was ever married), and such sentences can never occur. kamiá and poté, as we said, can occur in affective contexts only.

3.2 Indirect evidence

In the preceding sections we have discussed three pieces of direct counterevidence for an entailment-based analysis of negative scope in MG. Here we present some indirect counterevidence concerning the intonational characteristics of negative sentences in MG. In particular, we argue that there is a correspondence between their intonation contour and the function of their negative.

Gazdar (1977:80) points out the following:

" The Russelian ambiguity is merely one of scope but the neo-Strawsonian ambiguity involves at least two distinct logical operators. We have no independent reasons for believing that all or any of the surface negative morphemes in English are homonymous. Furthermore, since the "ambiguity" claimed for (11) [John doesn't regret failing – I.V.] is found in many languages, we would expect some languages to have complementary sets of morphemes manifesting the distinct underlying negation operators. (...) But no language, to the best of my knowledge, has two or more different types of negation such that the appropriate translation of (11)

could be automatically "disambiguated" by the choice of one rather than the other."

As far as I can see, however, this can hardly constitute counterevidence for the "neo-Strawsonian" analyses, or the analysis defended here. First of all, Gazdar seems to presume and postulate a one to one correspondence between logical distinctions (in terms of truth values) and lexical distinctions: insofar as such a correspondence has not been, and, in my view, cannot be, established, his argument in the quotation above is invalid. Second, it may be true that languages do not employ "complementary sets of morphemes manifesting the distinct underlying negation operators", however, they are, on the other hand, interested in distinguishing context-bound denials from instances of ordinary negation, although they do not prefer the means that Gazdar approves: the part that intonation or stress may play in such a "disambiguation" in English has been noted in many occasions (Baker 1970: footn.2, Liberman & Sag 1974, Lasnik 1976, Lyons 1977:770). MG as well provides another example of the involvement of intonation in the interpretation of negative sentences. The following paragraphs are devoted to the examination of the relevant intonation facts.

Negative sentences in MG may be uttered in two different ways: their utterances may conclude with either a fall in pitch or a rise in pitch. Let us call them, borrowing the terms from Bolinger (1965) (see also Jackendoff 1972), accent A and accent B, respectively. We can now say that instances of ordinary negation are normally assigned accent A,

while accent B characterizes instances of the erasing contradiction negation (This is in harmony with Bolinger's observation that a rise in pitch indicates incompleteness).¹ That is, context-bound denials usually conclude with a rise in pitch; on the other hand, context-free (: ordinary) negative sentences normally have a fall in pitch in the end. Given now that the utterances of declarative sentences in general conclude with a fall in pitch, we can also say that accent B (: rise in pitch in the end) constitutes the 'marked' case, while accent A (: fall in pitch) the 'unmarked'.

See two of the relevant examples:

(86) A: óli i pilóti mas íne ikaní.

all 'art.' pilots our are skillful.

(All our pilots are skillful).

B: δέν íne ikaní OLI i pilóti sas; móno merikí.

 accent B

¹ The suggestion that there is possibly a correspondence between the distinction accent A/accent B and the distinction ordinary/contradiction negation does not have its source in my intuition only: it has been tested against the intuitions of a number of native speakers of MG, as well. Specifically, negative sentences with δέ(n) were put in contexts imposing one interpretation (either 'ordinary' or 'contradiction') and excluding the other. They were uttered with both intonation contours, i.e. with a falling and with a rising pitch in the end, and the informants were asked whether both, only one, or none of the utterances were acceptable in each case. The answers gathered were absolutely in accordance with the suggestion above: the informants found the combination of accent A with contradiction interpretation, on the one hand, and the combination of accent B with ordinary interpretation, on the other hand, awkward or unacceptable.

*δέν ine ikaní OLI i pilóti sas; móno merikí.

not are skillful ALL 'art.' pilots your;
only some (of them).

(Not all your pilots are skillful; only
some of them are).

(87) a. *o jánis δén píni { TIPOTE
KANENA potó }.
KAΘOLU

accent B

o jánis δén píni { TIPOTE
KANENA potó }.
KAΘOLU

accent A

'art.' John not drinks { anything
any drink } .
at-all

(John does not drink { anything
any drink }).
at all

b. *KANIS ekí δén tróti kunupíði.

accent B

KANIS ekí δén tróti kunupíði.

accent A

anyone there not eats cauliflower.

(None there eats cauliflower).

As far as I can see, there are at least two possibilities of relative scope interpretation in the negative sentence of (86), represented by the following formulae:

$$Ax (Px \rightarrow \sim Sx)$$

and

$$\sim Ax (Px \rightarrow Sx).$$

It is now obvious that of these two interpretations of relative scope in (86B) only the one represented by the latter formula, i.e. $\sim Ax (Px \rightarrow Sx)$, can be compatible with the (elliptic) positive part móno merikí (only some (of them are)) of the entire sentence: the other formula, i.e. $Ax (Px \rightarrow \sim Sx)$, clearly contradicts the propositional content $Ex (Px \& Sx)$ of this positive part.

Let us next compare the results of our test with these scope distinctions. The unacceptability of the accent A -version of (86B) suggests, as far as I can see, that its utterances, concluding with a fall in pitch, are normally associated with the narrow scope interpretation of negation $Ax (Px \rightarrow \sim Sx)$; on the other hand, the acceptability of the accent B -version of (86B) suggests that its utterances, concluding with a rise in pitch, are generally assigned the wide scope interpretation of negation $\sim Ax (Px \rightarrow Sx)$. Given now that negation appears to be "amalgamated" with the predicate, and in general with the propositional content, in the narrow scope interpretation, we can legitimately regard $Ax (Px \rightarrow \sim Sx)$ as exemplifying ordinary negation; on the other hand, given that the whole positive counterpart falls within the scope of negation in $\sim Ax (Px \rightarrow Sx)$, this wide scope interpretation is ideal for the 'contradiction' function of negation. We can reasonably then argue that utterances concluding with accent A (: fall in pitch) are normally assigned an 'ordinary' negation interpretation; on the other hand, conclusion with accent B (: rise in pitch) generally characterizes utterances of negative sentences assigned a 'contradiction' interpretation.

This conclusion is further strengthened by our second example, (87). It has been shown in chapters I and II that the emphatic forms of indefinites may occur only in sentences exemplifying sentence negation, unexceptionally falling within the scope of negation. It is obvious now that these two characteristics must block the possibility of a 'contradiction' interpretation of sentences containing such emphatic forms: if a sentence exemplifying one instance of sentence negation contains one of these forms, then it cannot be interpreted as denying the truth of its positive counterpart, because there is no possible positive counterpart containing such an emphatic form. In other words, given that context-bound denials quote what they are intended to deny, the presence of an emphatic form would preclude the denial interpretation, and associate the sentence with an ordinary interpretation only, since there is no positive form with emphatic indefinite to be copied. This prediction is borne out as the anomaly of the accent B utterances in (87) shows. Clearly, sentences like (87a) and (87b), although grammatically perfect, become impossible and awkward under a particular intonational contour. And what is important for our discussion here is that this contour is exactly the one that has been already connected (cf. our discussion of (86)) with contradiction negation.

The distinction accent A/accent B then appears to be somehow related to our distinction 'ordinary'/'contradiction' negation in negative sentences with δέ(n): a particular contour makes an utterance sound awkward if the context of the utterance imposes the wrong interpretation (cf. the unacceptable versions of (86B) and (87a-b)). And it is worth empha-

sizing that it cannot be simply coincidental that it is exactly the pitch that has been on independent grounds connected with incompleteness (cf. Bolinger's observation above) that contradiction negation seems to be associated with: as it has been pointed out above, under this interpretation negation erases a piece of faulty information, preparing thus the way for the proper information to come; this obviously means that the context-bound denial itself gives incomplete information: it simply "says" what has not happened, not what has happened. The task of bringing in what is true and does describe a part of the state of affairs is undertaken by the (affirmative or 'ordinary' negative) sentence that follows the context-bound denial: if such a sentence does not occur, the information remains incomplete.

We can say then in conclusion that MG appears to be interested in distinguishing somehow between ordinary and contradiction interpretations of negative sentences. As we have seen here, the distinction is made by intonation (pitch) means. And, to connect our discussion here with that of the different forms of ala- conjunction (see 3.1.2), we might possibly suggest that in cases in which a differentiation in terms of a fall/rise in pitch in the end is not possible, other means are made use of: in particular, in the case of a negative first part in an ala- conjunction a rise or a fall in pitch in the end is impossible, since the whole utterance is not ended there but continues with ala and the second part of the conjunction; in that case, as we have seen, the distinction between the two interpretations and the two functions of δέ(n) is made by syntactic means.

3.3 Summary

In the last sections we discussed some pieces of evidence pointing, directly or indirectly, to the necessity of the distinction ordinary/contradiction negation. In particular, we tried to show that the violation of some otherwise well-established constraints on the occurrence of negative particles, the non-occurrence of indefinites in the positive complement of negated factive verbs and the involvement of syntactic form in the interpretation of ala- conjunctions could be handled satisfactorily by an analysis proceeding with the distinction ordinary/contradiction. On the contrary, these facts are problematic for entailment analysis: they are inexplicable in terms of this kind of analysis and make clear that negation is not exclusively a matter of semantics, undermining thus the claim of entailment analysts that the scope of negation be dealt with in purely semantic terms. We, finally, tried to show the involvement of the distinction ordinary/contradiction negation in the choice of pitch.

4. Grammar and the distinction ordinary/contradiction negation

In the preceding sections we have tried to show that the analysis of negative scope defended here is preferable to that offered by entailment-based accounts. In this final section we shall see how our favoured analysis can be accommodated in a theory of grammar. In particular, we shall try

to answer questions like 'Are ordinary negation and contradiction negation encompassed by the same component of grammar?', 'How can grammar handle the phenomena discussed in this chapter?', 'Are the rules proposed in chapter I applicable to the data examined here?' It would be helpful, however, before coming to the discussion of these questions to see an interesting distinction between two different grammars suggested by Chomsky (1976), Williams (1977), etc.; namely, Sentence Grammar and Discourse Grammar.

4.1 Sentence Grammar and Discourse Grammar

The term 'sentence grammar' has been given a content and a relevant theory (developing the general framework of the Extended Standard Theory) has been sketched in a number of papers, since Chomsky (1976):

" The rules of the categorial component and the lexicon provide initial phrase markers. Applying transformations to these, we derive surface structures (including traces) which undergo semantic interpretation. The rules of semantic interpretation assign the scope of logical operators ("not", "each", "who", etc.) and fix their meaning, assign antecedents to such anaphoric expressions as reciprocals ("each other") and necessarily bound anaphors (...). The result of application of these rules we may call a "logical form".

It should be reasonable to say that the theory of grammar — or more precisely, "sentence grammar" — ends at this point." (1976:104).

Besides these components, the existence of another component, containing rules that operate in a different domain and obey different conditions, has been implied; to quote from Chomsky again:

" Given the logical forms generated by sentence grammar, further rules may apply. Pronouns not yet assigned antecedents may be taken to refer to entities designated elsewhere in the sentence, though this is never necessary and is not permitted under certain conditions (...). These further rules of reference determination may involve discourse properties as well, in some manner; and they interact with considerations relating to situation, communicative intention, and the like." (p. 104).

And below:

" As noted before, the rules of sentence grammar obey quite different conditions from those that apply beyond." (p. 105).

There are not only implications, however, for the existence of this new component. Williams (1977) has emphasized the necessity of such a component, which he calls "discourse grammar". His paper ends up with the following wish:

" What is urgently needed is a careful articulation of the discourse component of grammar, on a par with what has been done for Sentence Grammar. If it is a theoretically valid entity, then it will be possible to formulate it as a set of rules governed by generally valid laws. It is not likely, in my opinion, that everything that has been named under the term

and meaning of sentences. Those rules which, like VP Deletion, apply across sentences in a discourse and which do not obey Ross's constraints we will assign to a component to be called Discourse Grammar [footnote omitted – I.V.]" (p. 102).¹

The content of this quotation is, obviously, in accordance with Chomsky's suggestion that "the rules of sentence grammar obey quite different conditions from those that apply beyond".

The implications of the distinction sentence grammar/discourse grammar for our observations so far are obvious. We discuss them below.

4.2 The relation of the distinction sentence grammar/discourse grammar with the distinction ordinary/contradiction negation

Here we shall try to show that the double functioning of negation defended in this chapter corresponds to the distinction sentence grammar/discourse grammar; and that some apparent peculiarities are explicable in terms of this distinction.

We have seen in the previous section that instances of

¹ Contrary to Williams (1977), Lasnik (1976) did not dare to take this step, although he was aware of the different properties (i.e. different domain and results of application, different constraints) of his AtF rule, and let it operate in the same component as his other scope rules (see 1.1 in this chapter; for the relevant criticism see 2.1).

the same phenomenon, namely, deletion under identity, appear to have different characteristics: as Williams (1977) has pointed out, VP deletion, unlike Gapping and Comparative Deletion, is not sensitive to the relevant Ross's constraints and operates "across utterance boundaries". We have also seen that on the basis of these characteristics it has been argued that VP deletion must be dealt with in terms of discourse grammar (see the relevant quotation from Williams (1977) above). Parallel, though weaker and indirect, suggestions we can find in Chomsky and Lasnik (1977:footn.44):

" Deletion under identity, if this process exists as part of sentence grammar ";

and in Chomsky (1980: footn. 6):

" (...) the phenomenon of "deletion under identity", which is perhaps to be excluded from sentence-grammar, at least in part."

Let us now see whether the MG data discussed so far offer an analogous basis for the distinction between sentence grammar and discourse grammar; and whether the peculiarities noted can be accommodated in what is called discourse grammar.

To begin with, let us repeat the main differences that have led us to the suggestion that there must be two distinct functions of negation, 'ordinary' and 'contradiction'. We have pointed out above that the instances of what is called ordinary negation (a) are subject to the general constraint on the double occurrence of negation in a cyclical node, and (b) have nothing to do with anything outside the sentence boundaries. On the other hand, the instances of contradiction negation (a) can freely violate the general constraint on the

double occurrence of negation, and (b) are always met in context-bound denials: in fact they deny the truth, and unsay the content, of a proposition expressed or implied previously (This proposition may be carried by a positive or a negative sentence; hence the violation of the constraint on double negatives).

There is, however, a third difference between the two types of negation, which is also interesting for our discussion here. If we look at the deletions we discussed in connexion with contradiction negation, namely, the deletion of the verb(phrase)¹ in the second part of ala-conjunction, we see that they are of a particular kind: (a) the relevant rules delete (under identity) a n y verb(phrase), not a "named" lexical item (i.e. they differ from, e.g., that-deletion in English, which always applies on the same "named" item); (b) the structural description of the rule of deletion under identity encompasses two different sentences of the surface (unlike that of deletion of particular items, which does not make reference to anything outside the boundaries of the sentence it reduces). What is more important, however, this deletion of V(P) in the second

¹ What is called here Deletion of the verb(phrase), or Equi V(P) deletion, should not be confused with Williams's VP-deletion: unlike English, MG does not exemplify both "Gapping" and "VP-deletion"; that is, the application of deletion on a verb(phrase) never leaves behind the auxiliary, and thus what Williams calls "VP-deletion" is not exemplified by MG. What we call Deletion of the verb(phrase), or Equi-V(P) deletion, is closer to "Gapping", rather than to Williams's "VP-deletion", (although it does not obey the constraints that "Gapping" does (see Williams 1977)).

part of the ala- conjunction has been shown to be a syntactic means for the indication of contradiction negation and for its distinction from ordinary negation. We can add thus a third difference to the differences of ordinary and contradiction negation referred to in the previous paragraph: instances of the latter only can exemplify deletions under identity in "ambiguous" ala- conjunctions.

To recapitulate, contradiction negation (a) does not obey general constraints on negation which govern the other instances of (sentence or constituent) negation; (b) is invariably exemplified by context-bound denials; and, finally, (c) is exclusively connected with deletion under identity involving two sentences in "ambiguous" ala- conjunctions. The dependence of (b) and (c) on context is obvious, while (a) underlines the independence of this type of negation from general constraints established on syntactic grounds. As far as I can see, we can legitimately argue on the basis of these characteristics that contradiction negation is an object of discourse grammar, rather than sentence grammar. On the other hand, ordinary negation, which has been shown to obey the same constraints as constituent negation and does not depend on context (i.e. it does not copy previously uttered, or implied, positive or negative sentences in order to unsay them), must be examined in the framework of sentence grammar.



It is worth noting that the kind of deletion which indicates contradiction negation in the second part of ala- conjunction, i.e. deletion under identity, is exactly the kind of deletion that Williams (1977), on the basis of independent evidence, assigns to "a component to be called Discourse Grammar". And this cannot be coincidental.

We can, therefore, suggest that the two functions of negation considered in this chapter belong to two different components of grammar. The fact that they are not sensitive to the same constraints and are not in the same way dependent on the context, and the particular relationship between contradiction negation and deletion under identity give us good grounds for this suggestion.

This is not, though, the only evidence we have for the association of the double functioning of negation defended here with the distinction sentence grammar/discourse grammar. Some independent evidence is also found in Liberman and Sag (1974). We discuss it immediately below.

4.3 Some indirect evidence for the relation of contradiction negation with discourse grammar.

Liberman and Sag (1974) try to determine different pitch contours and describe their interaction with the role that the utterance of a sentence plays in a discourse.¹ They discuss problematic sentences like that in (89)

- (89) a.  All the boys didn't come.
- b.  All the boys didn't come.

(their (2a-b)) and draw, on independent grounds, conclusions that are surprisingly similar to our conclusions here.

They remark that there are two routes along which one

¹ They used a real-time hardware pitch extractor and an A-D converter linked to a PDP-9 computer.

can "account for informant responses to such sentences, which many people feel to be ambiguous between the so-called "neg-V" and "neg-Q" readings...":

" Following the first route, one would treat the determination of scope relations in sentences like [(89)], and the derivation of their intonation, as part of the same system, either by marking abstract linguistic structures with some precursor of the output intonation, to which scoping rules (whether interpretive or generative) could refer, or by having intonation generated according to the operation or output of scoping rules." (p. 417).

Such an analysis (but of the interpretive, not the generative model) has been followed by Jackendoff (1972) (see section 1.1). The formal semantic account of the intonational facts that he puts forward, however, is criticized by Liberman and Sag, who prefer the alternative route:

" A second way to deal with facts like those in example [(89)] would be to consider the semantics of scope and the pragmatics of discourse function to be separate systems, which of course will interact in practice, but are formally and conceptually distinct; and to argue that the intonation contour of example [(89b)] belongs in the second, pragmatic, category " (p. 417).

They do not agree with Jackendoff's view that the pitch contour he calls accent B (see 1.1) is "a semantically contrastive contour centered on some element in a sentence". According to their analysis, this contour (exemplified in (89b)) is "a pragmatic utterance-based contour, unrelated to

contrast" (p. 420).

It is obvious that this remark is in harmony with our discussion of the interaction between accent B and contradiction negation above (see 3.2): since the latter is considered to be a subject of discourse grammar, rather than sentence grammar, accent B, which can be assigned only to utterances exemplifying contradiction negation, falls automatically within the domain of discourse grammar.

What is even more interesting, Liberman and Sag present, among others, the following piece of evidence for their view:

" We find that this contour [what has been called accent B; see (89b) - I.V.] is appropriate (although of course optional) just when the speaker is using the utterance which bears it to c o n t r a d i c t - he may contradict what has just been said by another, he may contradict some assumption or implication of what has been said or done by another, or he may contradict himself." (p. 421).

This is a clear correlation between what we called contradiction negation and accent B. That is, Liberman and Sag, on an independent basis (their pitch contour data) have come to distinctions and correlations parallel with the ones argued for here. The following quotation is even more striking:

" If a sentence containing a negative is used as a contradiction, it's natural to adopt an interpretive strategy which takes the negative itself to be the vehicle of that contradiction, i.e. to assume that what is being contradicted can be discovered by simply removing the negative particle from the sentence in

question. This will guarantee that the negation will take wide scope with respect to any other operators in the sentence." (p. 423).

We can say then in conclusion that data from two different languages, English and MG, leads us to the same end: the correlation between rising pitch in the end (accent B) and contradiction negation, and the connexion of both with discourse grammar. As far as I can see, this parallelism between the two languages not only shows that English and MG have chosen the same means for the indication of the distinctions in the functioning of negation argued for in this chapter, but also supports the distinctions themselves.

It remains to see how the facts that point to the adoption of the discourse component could be accommodated in a grammar of MG (and in a grammar of English). We will not, however, pursue this question here: our basic target in this thesis was to account for as many phenomena of negation falling within the domain of sentence grammar as we can, distinguishing them from phenomena of negation that do not fall within this domain.

5. Summary

In the introductory section of this chapter we said that we would try a new approach to the problem of negative scope, avoiding the two main lines adopted by previous analyses.

In particular, since Klima (1964) accounts of negation have been proposed that are based either on the (compatible

with presupposition) assumption that negative scope can be fully determined or on the (contradicting the logical definition of presupposition) assumption that negative scope is indeterminate: this latter assumption is considered to be superior to the former because it can be the basis for the explanation of an area of data on negation that has been ignored by the fully determinate scope analyses, and in any case contradicts their predictions. In our analysis here we have been defending a distinction between two kinds of negation, 'contradiction' and 'ordinary', exemplified by two different types of data: context-bound denials (contradicting the logical definition of presupposition) and context-free negative sentences (compatible with presupposition). We have tried to show that this distinction avoids not only the counterintuitiveness, the inconsistencies and the loss of possible generalizations that characterize the indeterminate negative scope (entailment-based) accounts (see 2.2.1 and 2.2.2), but also a lot of syntactic problems (see 3.1.1, 3.1.2 and 3.1.3). Finally, on the basis of the observation that negation acts in two different ways, and a number of facts such as the free violation of general constraints, the connexion with context of the one kind of negation, namely, contradiction negation, etc., we have argued that some part of our data on negation, namely, the context-bound denials, belong to the domain of discourse grammar, rather than sentence grammar. The distinction between sentence and discourse grammar allowed us to account for the otherwise peculiar fact that some constraints on

negation seemed to be and not to be obeyed by the relevant data, and that some factors seemed to be and not to be involved in the interpretation of negative scope.

6. Final conclusions

The consequences that the distinction ordinary/contradiction negation has for entailment analysis are obvious. Given that the arguments against the notion of presupposition and its significance in the area of semantics are heavily dependent on context-bound denials, entailment analysts do not delimit semantics, as they believe (cf. Kempson 1975), but enlarge its domain to account for discourse phenomena as well; indeed, they remove presupposition from semantics because, they claim, it is a pragmatic, rather than semantic, notion, but in fact the evidence that is called in to justify this removal reflects discourse phenomena; thus they appear to extend, rather than delimit, semantics to include pragmatics.

On the other hand, our distinction between sentence grammar (context-free) ordinary negation and discourse grammar (context-bound) contradiction negation does not question the significance of presupposition at all: given that the possible counterevidence for this notion in fact relies on context-copying denials, and thus belongs to another domain, that of discourse grammar, nothing prevents presupposition from being a sound, and unproblematic, notion of sentence grammar semantics.

It is worth noting here, after the discussion in the

last sections, that our distinction between two kinds of negation preserves the notion of presupposition without being subject to Kempson's criticism for analyses that recognise the significance of the notion 'context-bound denial':

" Unfortunately for the presupposition account, the incorporation into natural-language semantics of an additional operator has some awkward consequences. First of all, notice that it is hard to avoid the consequence that all sentences are two- or three-, if not many-ways ambiguous, for positive sentences can also be used as denials.

(26) A: John has passed his exams.

B: He hasn't passed his exams.

(27) A: John hasn't passed his exams.

B: He has passed his exams.

The status of B's utterance in conversations (26) and (27) is the same – he is denying the truth of A's statement. On the argument that $\neg P$ corresponds to natural language denial, the second sentence of (27) would therefore have to be given a semantic characterization corresponding to

$$\neg(\neg(\text{John has passed his exams}))$$

But the problem does not stop here. The conversation could have repeated itself, A saying "He hasn't", B replying obstreperously "He has". Yet the principle involved is now getting out of hand. It involves yet another semantic representation of the positive and negative sentences respectively as

$\neg(\neg(\vee(\text{John has passed his exams})))$

for A's response and

$\neg(\neg(\neg(\vee(\text{John has passed his exams}))))$

for B's response." (1975:97).

That this criticism is inapplicable in the case of our analysis can easily be shown.

First of all, the negation operator in context-bound denials, the contradiction negation, as we have been calling it, does not belong to the semantics of sentence grammar; thus our analysis does not suffer from the consequences of "the incorporation into natural-language semantics of an additional denial operator": our two kinds of negation correspond and belong to two different components of grammar.

Second, the consequence "that all sentences are two- or three-, if not many- ways ambiguous" is allowed only in the framework of an analysis that seeks to account for the two kinds of negation in the same component, i.e. the semantics of sentence grammar. However, in our analysis this consequence is precluded: the ordinary negation and the contradiction negation of a sentence do not co-exist in the semantic component of sentence grammar, and thus the latter does not suffer the difficulties that Kempson points out. In general, a sentence will be interpreted as a context-bound denial, i.e. as exemplifying a contradiction negation not, on the basis of its contextual, syntactic and intonational characteristics, in the discourse component.

Grice's maxims and his Co-operative Principle might be helpful at this point. In particular, the interpretation of a negative sentence as a context-bound denial could be ex-

plained in terms of the maxim of relevance or the maxim of manner and the contextual characteristics of its utterance. More analytically, by uttering (26B) immediately after A's utterance of (26A) in Kempson's conversation above, speaker B offers a piece of information that is the 'contrary' of the information that A has just established in the context: in its conventional (sentence grammar) meaning (26B) is the opposite of (26A). This is not, however, the only difference between A's and B's contributions: when A uttered (26A), there was nothing relevant in the context; he just offered his information; on the other hand, when B uttered (26B), there was something relevant in the context, namely, the opposite information. This means, according to the lines of Grice's analysis, that the hearer, A, has two alternatives: one is to think that B does not take into account his utterance (26A), and thus breaks the Co-operative Principle (perhaps, accidentally: B may not have heard A's (26A) and by coincidence has, and decides to offer, the opposite information at that very moment); the other is to assume that B is observing this Principle and that by offering the opposite information B does not simply intend to inform him that John failed in his exams, but, first of all, to deny his (26A). B now knows that A has these two alternatives; B also expects that his deviation from the Co-operative Principle is not enough to confuse his hearer A, and that the latter will assume that he is doing so in order to convey some extra information in accordance with that Principle and that he, B, expects him, A, to work out that extra information. Thus B proceeds with the utterance of (26B). A, on the other hand, provided that

he has no reason to believe that B intends to break the Cooperative Principle and flout its maxims, interprets (26B) as a denial of his (26A). As far as I can see, this could be a fairly natural and intuitively supported explanation; and it can easily be seen that it is applicable in conversations like (27) as well, on the one hand, and, as we said above, avoids the problems that a semantic representation in terms of " \sim ", " \neg " and a sequence of parentheses would involve, on the other hand.

Finally, what is more important, there is an asymmetry and inconsistency in the quotation from Kempson above, if I understand her correctly. If (26B) and (27B) are in fact denials, as she herself characterizes them, then the entailment analysis can (with the problems we have been discussing in this chapter) capture the denial interpretation of (26B) in terms of the indeterminate scope of negation in the semantic component. It is obvious, however, that the denial (27B) cannot be captured in the same terms, and in the same component, by entailment analysis: the semantic component of this sort of analysis will provide (27B) with its conventional meaning, and its interpretation as a denial will unavoidably rest on pragmatics. This, however, means that in the framework of entailment analysis "positive" denials are interpreted as such by a different component than "negative" denials: the former are assigned their denial status in the pragmatic component, while the latter are provided with that status by the semantic component, thanks to the "indeterminate" scope of not. Either, then, (27B), and in general "positive" denials, will not be characterized as denials in entailment analysis,

in which case this analysis avoids the asymmetry and inconsistency above, but loses the argument against presupposition, or both (26B) and (27B) are denials, in which case the semantics of entailment analysis is inadequate, since it cannot capture "positive" denials like (27B), although it is supposed to capture the denial interpretation of negative sentences.

On the basis of our discussion here we can, I think, conclude with the suggestion that an adequate and natural explanation of negative scope should take into account the distinction between context-bound (context-quoting) and context-free instances of negation, and treat these two types of negation in the framework of two different grammatical components. Their characteristics are too distinct for them to be treated in terms of the same component. In chapters I-III we saw a tentative treatment of MG ordinary negation within the framework of sentence grammar. On the other hand, technical suggestions for the description of contradiction negation within the framework of discourse grammar cannot be offered yet: the characteristics of this component are hardly known. It could be said, perhaps, that Grice's theory might offer a valuable insight into the pragmatic treatment of contradiction negation.

A P P E N D I X

There is a use of óxi, and mí, which we have not discussed so far because it apparently involves discourse: óxi (no/don't) and mí (don't) (the latter is much more restricted because, on the one hand, it invariably denotes prohibition, and, on the other hand, it may freely be substituted by óxi) can occur as one-worded "answers" to preceding assertions, implications or questions, like the English particle no. The behaviour of óxi seems to have some interesting aspects, and thus we shall concentrate our discussion upon its characteristics, leaving mí outside our consideration.

Although both óxi and no apparently have parallel roles in MG and English, respectively, they demonstrate some essential differences. In particular, MG óxi appears to differ from English no in the same way as Russian njet. To quote from Lyons (1977:777):

" it should not be forgotten that, as speakers of English, we are tempted to interpret Yes and No as meaning "That is so" and "That is not so". Not all languages, however, have forms of assent and dissent that can be interpreted in this way. For example, Da and Njet in Russian are much more satisfactorily interpreted, not as meaning "No" and "Yes", but "I accept (what you assert or imply)" and "I reject (what you assert or imply)". Hence,

the possibility of saying what is often mistranslated into English as Yes, it's not raining."

Consider (1) and (2) below:

(1) A: tin aγapá o jánis.

her loves 'art.' John.

(John loves her).

B: óxi, δέν tin aγapá.

no, not her loves.

(No, he doesn't love her).

(2) A: δέν tin aγapá o jánis.

not her loves 'art.' John.

(John does not love her).

B: né, δέν tin aγapá.

yes, not her loves.

(= No, he doesn't love her).

(1) and (2) suggest that the interpretations "I reject (what you assert or imply)" and "I accept (what you assert or imply)" of óxi and né, respectively, are more satisfactory.

There is, however, another, more interesting, characteristic of óxi. If we compare (2B) with (3B) below:

(3) A: δέν ti aγapá o jánis.

not her loves 'art.' John.

B: óxi, δέν tin aγapá.

(= No, he doesn't love her).

we see that óxi is interchangeable with its opposite in meaning né in the same environment (: there is no other difference between (3B) and (2B), and (3A) is exactly the same as (2A)) without any differentiation in meaning.

Though, if we conversely try to substitute né (yes) for óxi in (1B), anomaly is unavoidable. Compare (1) with (4):

- (4) A: tin aγapá o jánis.
 her loves 'art.' John.
 B: *né, δέν tin aγapá.
 yes, not her loves.

The behaviour of óxi then is not as straightforward as it initially appeared: in some cases (cf. (1) and (4)) it is not interchangeable with né, and this is in harmony with their normally having opposite meanings (see the previous paragraph), but in other cases (cf. (2) and (3)) it is interchangeable with né.

It is obvious that the association of óxi and né simply with the interpretations "I reject (what you assert or imply)" and "I accept (what you assert or imply)", respectively, cannot explain the facts pointed out in the preceding paragraph: in particular it cannot explain the fact that né introducing a negative "answer" is always interchangeable with óxi, but not vice versa. In what follows we will try to account for this inconsistency in terms of the distinction ordinary/contradiction negation, independently postulated in our analysis of negation.

Looking more carefully at the pairs (2)-(3) and (4)-(1) we see that the former, which displays interchangeability, differs from the latter, where né sounds anomalous, in one important respect. A's utterances are negative in (2) and (3), while in (1) and (4) they are positive. More clearly, we see that in (1) and (4), where the preceding utterance is positive, óxi and né introducing a

negative "answer" are bound to their interpretations "I reject (what you assert or imply)" and "I accept (what you assert or imply)", respectively; hence the anomaly in (4B). On the other hand, in (2) and (3), where the preceding utterance is negative, óxi introducing a negative "answer" is no more associated with the interpretation "I reject (what you assert or imply)"; hence, (3B) is not self-contradictory. Is this simply a matter of coincidence? I.e. is it simply accidental that the apparently equivalent to né (: "I accept...") óxi is "answering" a negative utterance (see (3A))?

Compare (3) with (5) below:

- (5) A: tin aγapá o jánis.
 her loves 'art.' John.
 B: *óxi, tin aγapá.
 no, her loves.
 B': né, tin aγapá.
 yes, her loves.

Undoubtedly, óxi is bound to its normal meaning "I reject (what you assert or imply)" in (5B): if it could be interpreted as "I accept (what you assert or imply)", (5B) would not be anomalous and would not differ in acceptability from (5B'). Given now that óxi is absolutely natural in (6B)

- (6) A: dén tin aγapá o jánis.
 not her loves 'art.' John.
 B: óxi, tin aγapá.
 no, her loves.

(where it retains its normal meaning "I reject (what you

assert or imply"), we can suggest that the difference in acceptability between (5B) and (3B) is not due to the fact that in the former, (5B), óxi introduces a positive "answer", but to the fact that the preceding utterance is negative (see (3A)) in the one case and positive (see (5A)) in the other. Put differently, the occurrence of the apparently equivalent to né ("I accept...") óxi is possible only if the following condition is satisfied: it must be preceded by a negative utterance.

We can then conclude that it is not accidental that óxi is interchangeable with né only if it "answers" a negative utterance, although we have no explanation for this restriction at the moment. Let us now see what bearing, if any, this conclusion might have on a second question that our discussion so far gives rise to, namely, "is it accidental that of the two particles, óxi and né, it is only óxi that may have a second use which makes it equivalent to the other particle?"

Compare (3) and (6), repeated here for convenience:

(3) A: o jánis dén tin aγapá.

'art.' John not her loves.

B: óxi, dén tin aγapá.

no, not her loves.

(6) A: o jánis dén tin aγapá.

'art.' John not her loves.

B: óxi, tin aγapá.

no, her loves.

óxi seems to preserve here the double functioning that negative sentences have been shown to demonstrate. More

precisely, óxi following a negative utterance, here (3A), is interpreted, as we have seen, as equivalent to né ("I accept..."); that is, (3B) is paraphrasable as "I accept/ It is true that John does not love her". On the other hand, óxi following the same negative utterance (compare (3A) with (6A)) in (6) has the opposite interpretation ("I reject..."); that is, (6B) is paraphrasable as "I reject/ It is not true that John does not love her". Put differently, óxi in (3B) r e p e a t s a previous (ordinary) negation (cf. its being equivalent with (2B)), whereas (6B) e r a s e s a previously uttered negative sentence. Cf. the difference between its second part tin ayapá, which contradicts (6A), and the second part δέν tin ayapá of (3B), which repeats (3A).

These second parts in fact indicate the function that óxi is each time performing. Hence, if nothing follows óxi, as in (3'B) below

(3') A: o jánis δέν tin ayapá.

'art.' John not her loves.

B: óxi.

no.

the "disambiguation" between the two functions of óxi is impossible in MG: we do not know whether B's óxi expresses his acceptance or his rejection of what A has said.

On the basis of these observations it is legitimate, I think, to suggest that óxi exemplifies ordinary negation and contradiction negation, respectively, in (3B) and (6B).

If this suggestion is correct, then we can easily answer our second question above, namely, "is it accidental

that of the two particles, óxi and né, it is only óxi that may have a second use which makes it equivalent with the other particle?" Given a negative utterance, like A's utterances above, one can either deny (making use of an (erasing) negative particle) or accept its (negative) content. Provided now that one's repeating the (ordinary) negation of a negative sentence shows one's acceptance of the negative content of this sentence, the answer of the question above is simply that only óxi can both deny ($\text{óxi} \neq \text{né}$) and repeat ($\text{óxi} \equiv \text{né}$) a previous negative utterance; while né invariably indicates acceptance of the content of the previous (positive or negative) utterance.

It is obvious that on this basis we can naturally account for the condition that we have left unexplained above, namely, that óxi may be understood as equivalent to né only if óxi "answers" a negative utterance. As pointed out here, this apparent equivalence is possible only if óxi repeats (=immediately follows) a preceding negation.

To recapitulate, in this Appendix we have discussed óxi occurring as an one-worded "answer" to preceding assertions. We have pointed out some peculiar phenomena concerning its use and we have argued that they are naturally explicable in terms of the distinction ordinary/contradiction negation defended in chapter IV.

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