VERBS OF THINKING

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0. Introduction

This paper** is an exploration into the lexical meanings of several ' verbs of thinking ' in English, such as *doubt*, *dream*, *feel*, *fear*, *flatter oneself*, *suspect*, etc. I attempt to integrate with some modification two recent proposals about the nature of semantic structure. The first proposal is that of Manfred Bierwisch (1970) and the second that of Charles J. Fillmore (1969, 1971). Bierwisch assumes that the meaning of a lexical entry can be decomposed into semantic primes, i.e., semantic features. He proposes that semantic features are predicate constants, which take arguments, thus improving on the earlier version of interpretive semantics proposed by Katz. Yet he retains one of the basic tenets of interpretive semantics that the meaning of every constituent of a sentence is a compositional function of the meanings of its constituents.

Bierwisch' approach suffers, however, from its failure to distinguish ' assertion ' from ' presupposition ', as I have pointed out elsewhere (Oshima, 1972). The term presupposition, which was originally used by such philosophers as Frege, Strawson, Sellars, and is now employed by linguists like Fillmore, has been used in different senses, as amply shown by Garner (1971). Here in this paper presupposition is used in the Fillmorean sense:

> Presuppositions of sentences may be associated with grammatical constructions independent of specific predicate words . . . but I shall mention here only those that must be identified with the semantic structure of predicate words. If we limit our considerations to sentences which can be used for making assertions, we can separate the basic meaning

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> of a predicate from its presuppositions, by describing the former as being relevant to determining whether as an assertion it is true or false, the latter as being relevant to determining whether the sentence is capable of being an assertion in the first place. (Fillmore, 1969 : 121)

I will investigate ' the basic meanings ', and ' the presuppositions ', of some predicates, verbs of thinking, disregarding presuppositions of sentences. The presupposition of a verb of thinking is what the speaker presupposes the subject of the sentence with the verb in question as its main verb presupposes. The speaker does not necessarily share the presupposition of the subject: *he suspects she is here but he is wrong.* For the presupposition of *suspect* see section 1. In this respect a verb of thinking differs from ' a verb of judging ' (Fillmore, 1969 & 1971). A verb of thinking differs also from some ' factive predicates ' in that the presupposition of the latter involves the speaker alone, as is clear in such sentences as: *John knew that Mary had left—John did not know that Mary had left* (Susumu Kuno, 1970: V-2).

Now, if I say,

(1) Bill is *afraid* (that) it will rain tomorrow.

I am asserting that Bill thinks that it will rain tomorrow, and I am assuming (or presupposing) that Bill, the subject of this sentence, presupposes that the possibility of a rain tomorow is not welcome to him. *Afraid*, here included in the class of ' verbs ' of thinking, is used instead of neutral *think*, because the thought content expressed in the complement is presupposed to be unwelcome by Bill. That is, either Bill has made a remark indicating his displeasure over the possibility of a rain or has said something or done something leading me to infer his displeasure. Otherwise the above sentence is not appropriate. This presupposition remains constant under negation and questioning, only the asserted being negated and questioned respectively.

(2) Bill is not *afraid* (that) it will rain tomorrow.
(3) Is Bill *afraid* (that) it will rain tomorrow?

In case the subject of *afraid* is identical with the speaker,

(4) I am *afraid* (that) it will rain tomorrow.

the presupposition of the subject is the presupposition of the speaker. That is, the speaker, I, presupposes that the subject, I, presupposes it is so. Thus what is involved here is only the presupposition of the speaker, as is correctly predicted by this analysis. I will use such a locution as ' a verb presupposes . . . ' as a handy expression instead of a correct but cumbersome locution like ' the speaker presupposes the subject presupposes . . . '. This kind of presupposition constitutes the presupposition proper of a verb of thinking. Further, I will adopt Fillmore's (1969) proposal for replacing selectional features with presupposition. ' Selectional ' presupposition is always the presupposition of the speaker alone, not involving that of the subject. Therefore, I will divide the presuppositional part of any lexical entry into two parts, (A) the presupposition proper of a verb and (B) the selectional presupposition.

1. I will examine several verbs of thinking in some detail. The first is *suspect*. Consider the following.

(5) When Jenny told me of the revisit, I began to *suspect* that perhaps he had found the . . . insufficiency with her. I think she *suspected* the same. The nurse-screwing-up alibi is pretty trite. When Dr. Sheppard called me at Jonas and Marsh, I was almost certain. Would I please drop by his office on the way home? When I heard this was not to be a three-way conversation, my *suspicions* were confirmed. Jenny could not have children.

(6) I strongly *suspected* the truth of the story.
(7) He *suspected* an ambush.
(8) You do not really *suspect* me of any hand in her death.

(5), (6), (7), and (8) illustrate four senses of *suspect* at least. I will refer to *suspect* in (5), (6), (7), and (8) as $suspect_1$, $suspect_2$, $suspect_3$, and

suspect$_4$, respectively. *Suspect*$_2$ means 'have doubts of', *suspect*$_3$ 'have a vague idea of the existence of, usually, something undesirable', and *suspect*$_4$ 'consider (one) to be responsible for something wrong without strong evidence'. My discussion will be restricted to *suspect*$_1$, though a similar analysis is possible for the others.

Suspect$_1$ means 'think it is so without strong evidence'. Syntactically, *suspect*$_1$ is associated with a syntactic feature [+__[S]$_{NP}$] in deep structure, which gives rise to the '*suspect that*-clause' construction and the '*suspect* NP *to*-infinitive' construction in surface structure. The latter construction is transformationally derived and there is some constraint on this transformation ('Subject-Raising'), which I will not go into here.

Before I present a semantic feature analysis of this verb, I will discuss my hypothesis for semantic description of lexical items. As mentioned in the Introduction, I accept Bierwisch' proposal that semantic features are predicate constants with their arguments in the sense of the predicate calculus in modern logic, because this position enables us to obtain the meaning of a constituent of a sentence as a compositional function of the meanings of its constituents. I claim that the meaning of a lexical item is representable as a bundle of semantic features in the above sense and further that this set of features is subdivided into two parts, an assertive features part and a presuppositional features part. The justification of this subdivision is to be given in section 2. This subdivision is essentially the same as in Fillmore (1971). However, I disagree with him as to some details. For one thing, the theoretical status of the terms introduced for describing 'the role structure' of verbs of judging, such as 'judge', 'defendant', 'affected', 'situation', is not clear. I suggest that these are either semantic features or feature complexes. For modification of the semantic structure of a verb *accuse* from this point of view, see Oshima (1972).

Coming back to *suspect*$_1$, the meaning of this *suspect* is composed of 'think it is so', the assertion, and 'without strong evidence',

the presupposition proper. To see this, consider the following forms.

(9) I *suspect* (that) he is right.
(10) I *suspect* (that) he's stealing again.
(11) I don't *suspect* (that) he's stealing again.

The complement in (9) shows that *suspect*$_1$ does not presuppose that the thought content expressed in its complement is something blameworthy. Sentence (11), the negative version of (10), retains the meaning of ' insufficient evidence ' associated with (10). What is negated is ' think '. Thus,

(12) *suspect*$_1$ Assertive Feature(s): [THINK] $X_{[NP,S]}$ $X_{[NP,VP]}$
Presuppositional Feature(s): (A) [[[NOT] [SUFFICIENT]] [EVIDENCE]] X $X_{[NP,VP]}$; (B) [HUMAN] $X_{[NP,S]}$

Some discussion of (12) is in order now. I will begin with the symbolism used. Ordinary square brackets enclose a semantic feature functioning as a predicate, and lowered square brackets, X's subscript, enclose grammatical functions such as the notions of ' Subject-of-the-Sentence ' (i.e. [NP, S]), ' Direct-Object-of-the-Verb-Phrase ' (i.e. [NP, VP]), ' Object-of-the-Prepositional-Phrase ' (i.e. [NP, PP]). Thus $X_{[NP,S]}$, the first argument of [THINK], identifies the variable associated with the subject of the sentence in deep structure, and $X_{[NP,VP]}$, the second argument, identifies the variable associated with the direct object of the main verb. [HUMAN] $X_{[NP,S]}$ serves to replace a selectional restriction that the subject NP of *suspect*$_1$ be a human NP. That is, a semantic feature [HUMAN] is one-place predicate. It must be noted that it is necessary to recognize ' complex ' semantic features in two senses. They may be complex in the sense that (some of) their arguments are not variables but propositions: [NOT]([PLEASING] $X_{[NP,VP]}$ $X_{[NP,S]}$) means that a feature [NOT] takes one argument, which is a proposition consisting of a feature [PLEASING] and its two arguments, $X_{[NP,VP]}$ and $X_{[NP,S]}$. Features may also be com-

plex in the sense that a feature is composed of other features. For example, '[[[NOT] [SUFFICIENT]] [EVIDENCE]] X $X_{[NP,VP]}$' means that a feature [NOT] takes another feature [SUFFICIENT] as its argument, that the complex feature [[NOT] [SUFFICIENT]] in turn takes [EVIDENCE] as its argument, and that the entire complex feature [[[NOT] [SUFFICIENT]] [EVIDENCE]] takes as its arguments X and $X_{[NP,VP]}$. X, i.e. a variable without a subscript for indicating a grammatical function, means that this variable is not associated with any NP in deep structure.

Closely similar in meaning to *suspect*$_1$ is *feel*, when followed by a sentential direct object. Let us call *feel* in this use *feel*$_1$. Observe the following forms:

(13) The committee looked at each other, *feeling* that something definite was called for.

(14) 'Why'd you wake me up?' she asked. She was still too heavy with sleep to sound really fractious, but it was apparent that she *felt* there was some kind of injustice in the air.

(15) She didn't *feel* there was any kind of injustice in the air.

Tentatively,

(16) *feel*$_1$ Assertive Feature(s): [THINK] $X_{[NP,S]}$ $X_{[NP,VP]}$
Presuppositional Feature(s): (A) [NOT] ([[CLEAR] [PERCEIVE]] $X_{[NP,S]}$ ([EVIDENCE] X $X_{[NP,VP]}$)); (B) [HUMAN] $X_{[NP,S]}$

The first complex presuppositional feature is intended to capture the fact that *feel*$_1$ presupposes that the subject of the main clause in question, e.g. *she* in (14), does not perceive clearly the grounds (i.e. X in the complex feature) for thinking it is so (i.e. $X_{[NP,VP]}$).

Next I will take up *afraid* and *fear*. These two share much of the same meaning. Consider the following example as well as (1), (2), (3), and (4).

(17) [After my wife's death] I walked over and placed my hand on his [her father's] shoulder. *I was afraid he might cry.*

Afraid in (17) as well as (1)-(4) is two-way ambiguous. The first (*afraid*$_1$) is the literal meaning of ' actual emotional, though not necessarily physical, fear ': in (17), ' if he cried, I would not know what to do '. The second (*afraid*$_2$) is what might be called the ' inconvenience sense ': in (17), ' I thought he might cry, which was unwelcome and inconvenient to me '. This latter meaning is what I discussed in connection with (1)–(4), and what I will be chiefly interested in. There are some indications that these putative meanings of *afraid* are indeed distinct. The first indication is that a sentence with ' literal ' *afraid* (*that*) is paraphrasable as a sentence with *afraid* (*of*), while a sentence with ' inconvenient ' *afraid* (*that*) is not, since *afraid* (*of*) is only used in the literal sense. For example,

(18) I'm *afraid* (that) I may lose the money. (ambiguous)
(19) I'm *afraid* of losing the money. (unambiguous)

Next, when not sentence-initial, ' NP-*be-afraid* (*that*) ' is used only in the ' inconvenience ' sense. This fact provides another piece of evidence for the polysemy.

(20) I may lose the money, I'm *afraid.* (unambiguous)

Lastly, the fact that ' NP-*be-afraid* ' followed by a sentence with a tag question is used only in the inconvenience sense again as in (21) disambiguates the corresponding sentence without a tag question, i.e. (22).

(21) I'm *afraid* (that) John has left, hasn't he? (unambiguous)
(22) I'm *afraid* (that) John has left. (ambiguous)

Fear has the same pair of meanings as well as others. Consider the following:

(23) I *fear* (that) I may lose the money. (ambiguous)
(24) I *fear* (*of) losing the money. (unambiguous)

Hence,

(27) *afraid*$_2$ Assertive Feature(s): [THINK] $X_{[NP,S]}$ $X_{[NP,VP]}$
Presuppositional Feature(s): (A) [NOT] ([PLEASING] $X_{[NP,VP]}$ $X_{[NP,S]}$); (B) [HUMAN] $X_{[NP,S]}$

Fear in one of its senses has the same set of semantic features as *afraid*$_2$.

Flatter oneself lends itself to this analysis. Consider:

(28) Ted *flattered himself* that he spoke French with a perfect accent.
(29) Ted didn't *flatter himself* that he spoke French with a perfect accent.

The presupposition of this verb is that the thought content in its sentential object is a credit to Ted and pleasing to him. Thus,

(30) *flatter oneself* Assertive Feature(s): [THINK] $X_{[NP,S]}$ $X_{[NP,VP]}$
Presuppositional Feature(s): (A) [CREDIT) $X_{[NP,VP]}$ $X_{[NP,S]}$. [PLEASING] $X_{[NP,VP]}$ $X_{[NP,S]}$; (B) [HUMAN] $X_{[NP,S]}$

Dream has at least two senses: (1) 'have a dream of' and (2) 'to imagine or fancy as in a dream'. We deal with sense (2) only, to be called *dream*$_2$ hereafter. Now observe the following:

(31) John *dreamed* [in the sense of 'day-dreaming'] that some catastrophe—nameless for the moment and therefore the more menacing—was at hand.

I propose the following analysis.

(32) *dream*$_2$ Assertive Feature(s): [THINK] $X_{[NP,S]}$ $X_{[NP,VP]}$
Presuppositional Feature(s): (A) [NOT] ([REAL] $X_{[NP,VP]}$); (B) [HUMAN] $X_{[NP,S]}$

Semantically related to *suspect* is a verb *doubt*. Consider the following sentences:

(33) I *doubt* the truth of this report.
(34) I *doubt* (that) he's stealing again.

In (33) with normal intonation at least *doubt* means to 'be uncertain

about ', while in (34) it means to ' consider unlikely or improbable '. I will call the former *doubt*$_1$ and the latter *doubt*$_2$. The negative version of (34) is (35), whose paraphrase is (36).

(35) I don't *doubt* (that) he's stealing again.
(36) I *think* it's *certain* that he's stealing again.

Sentence (34) is paraphrasable as (37).

(37) I *think* it's *likely* that he's not stealing again.

I will propose the following semantic description of *doubt*$_2$ tentatively.

(38) *doubt*$_2$ Assertive Feature(s): [THINK] $X_{[NP,S]}$ ([LIKELY] ([NOT] $X_{[NP,VP]}$))
Presuppositional Feature(s): (B) [HUMAN] $X_{[NP,S]}$

Here the assertive feature is a complex one containing [LIKELY] and [NOT] besides [THINK]. This reflects the fact that the negative form of a sentence with *doubt*$_2$ like sentence (35) involves negation of this entire complex asserive feature, which results in canceling out a feature [NOT].

However, there is a problem with the above semantic description of *doubt*$_2$, according to which '*not doubt*' in (35) results in ' [THINK] $X_{[NP,S]}$ ([LIKELY] $X_{[NP,VP]}$) ' after the two negatives cancel out each other, as far as the assertive feature is concerned. This end result is not correct, because (36) is a better paraphrase of (35) than (39).

(39) I *think* it's *likely* that he's stealing again.

If the assertive feature of *doubt*$_2$ were ' [THINK] $X_{[NP,S]}$ ([CERTAIN] ([NOT] $X_{[NP,VP]}$)) ', we could automatically explain the fact that (35) is synonymous with (36), not with (39). But the latter semantic description does not fit in with the fact that (34) is synonymous with (37), not with (40).

(40) I *think* it's *certain* that he's not stealing again.

A plausible solution to this problem is to revise (38), reformulating its assertive feature only, as follows:

(41) *doubt* Assertive Feature(s): [THINK] $X_{[NP,S]}$ ([NOT] ([CERTAIN] $X_{[NP,VP]}$))
Presuppositional Feature(s): (B) [HUMAN] $X_{[NP,S]}$

This description accounts for *doubt* in sentences like (33) as well as *doubt* in sentences like (35). The problem is how to account for *doubt* in sentences like (34). The revised assertive feature for *doubt* predicts that (34) means essentially the same as (42).

(42) I *think* it's *not certain* that he's stealing again.

If (37) is closer in meaning to (34) than (42) is, which is not clear but plausible, then we will have to account for the change of '[NOT] ([CERTAIN] . . .)' into '[LIKELY] ([NOT] . . .)' in sentences like (34).

A possible explanation is that *that*-complementizer in the object complement of *doubt* contributes a meaning which somehow effects the above change. For evidence, a sentence with *if* / *whether* is slightly different in meaning from a sentence with *that*. Consider (34) and (43).

(43) I doubt *if* / *whether* he's stealing again.

Now (34) means 'I am inclined not to believe it is so, whereas (43) means 'I cannot make up my mind whether it is so or not'. We might say *if* / *whether* contributes a different meaning, emphasizing the possibility of alternative choice. In corroboration of this, note the grammaticality and ungrammaticality in (44).

(44) I don't doubt $\left\{\begin{matrix}*if \\ (but)\ that\end{matrix}\right\}$ he's stealing again.

The semantic element of 'certainty' found in *not doubt* is semantically incompatible with that of 'alternative choice' in *if*. Incidentally, this analysis ties in well with Bresnan's (1970) proposal that *WH* reflected in *whether* / *if* and other Wh-words is also a comple-

mentizer with its own meaning in addition to *that* and *for*.

All the verbs discussed share the same feature [THINK] as (part of) the assertive feature. I propose that this common denominator classifies these verbs as verbs of thinking. This means that verbs like *blame*$_2$, *blame*$_3$ and *credit*, discussed by Fillmore (1971), belong here, containing [THINK] as part of the assertive feature, while *scold* does not, having [THINK] as part of the presuppositional features. All the verbs of thinking treated here are associated with the same strict subcategorization feature [+__[$_{NP}$ S]$_{NP}$]: they take a sentential object in deep structure.

2. This section will be devoted to the justification of distinction between an assertive feature and a presuppositional feature. The justification has already been given in loose terms. To repeat and clarify it, we may say that it is only an assertive feature of the verb in question that is affected by negation or questioning. Consider examples (10), (11), (34), and (35), repeated here for convenience:

(10) I *suspect* (that) he's stealing again.
(11) I don't *suspect* (that) he's stealing again.
(34) I *doubt* (that) he's stealing again.
(35) I don't *doubt* (that) he's stealing again.

As previously stated, negation of *suspect*$_1$ does not lead to negation of some of its features, i.e. ' [[[NOT] [SUFFICIENT]] [EVIDENCE]] X X$_{[NP,VP]}$ ' and ' [HUMAN] X$_{[NP,S]}$ ', on condition that sentence (11) is read with normal intonation. In order to handle this fact properly, we need a semantic interpretive rule which is sensitive to distinction between assertive features and presuppositional features so that it may not amalgamate the feature [NOT] of the negative in the main clause with those two presuppositional features of *suspect*$_1$. For example, [NOT] of the negative in (11) and [NOT] of the first pesuppositional feature of *suspect*$_1$ should not cancel out each other. Such an interpretive rule requires that each meaning of a verb be divided into an assertive part and a presuppositional part. On the other hand, negation of *doubt* affects its complex feature

'[THINK] $X_{[NP,S]}$ ([NOT] ([CERTAIN] $X_{[NP,VP]}$))', resulting in canceling out [NOT] inside parentheses. Hence this entire feature is an assertive one.

Kiparsky and Kiparsky (1970: 151) observe that 'if you want to deny a presuppostion, you must do it explicitly'. For example,

(45) Abe didn't REGRET that he had forgotten; he had remembered. [Kiparsky and Kiparsky]

(46) I don't SUSPECT (that) he's stealing again, but I'm CERTAIN (that) he's stealing again.

The words in capitals receive an extra-heavy contrastive stress. The negative in the main clause denies the appropriateness of the word in question. Such a negation affects the presuppostion proper of the verb, i.e. the '(A)' part in the lexical entry, and not the the selectional presupposition, i.e. the '(B)' part. In case of (46) *n't* negates a presuppositional feature containing [NOT], canceling out [NOT]. If (46) is read with normal intonation, *n't* negates the assertive feature of $suspect_1$ and (46) is, therefore, self-contradictory.

Langendoen (1971: 341) states that Harris Savin has suggested that the negation test for discovering presupposition can be generalized: 'presuppositions admit of no adverbial modification whatever, so that the fact that they are unaffected by negation is merely a special case of this more general principle'. For example,

(47) Rocky *rightfully* criticized Max for spending the loot. [Langendoen (5)]

In (47), Rocky's assertion that spending the loot was bad is further asserted by the speaker to be rightful. But Rocky's presupposition that Max was responsible for spending the loot is not affected by the adverb. Now observe the following:

(48) She *rightfully* suspects (that) he is my cousin.

In (48), it is her assertion that she thinks he is my cousin which the speaker considers rightful, whereas her presupposition that there

is a lack of sufficient evidence for thinking so is not affected by the adverb *rightfully*.

(49) John was *justifiably* afraid it would rain the next day : it did rain.

In (49), what the speaker asserts to be justifiable is that John thought that it would rain the next day. Again John's presupposition that a rain the next day was an unwelcome eventuality to himself is unaffected.

(50) Mulcahy *justifiably* felt that he had been let down.

In (50), Mulcahy's having thought that he had been let down is asserted by the speaker to be justifiable. But the adverb does not affect Mulcahy's presupposition that he couldn't tell what evidence he had for thinking so.

(51) Ted *justifiably* flattered himself that he spoke French with a perfect accent.

The speaker of (51) considers it justifiable that Ted thought that he spoke Frence with a perfect accent. Again Ted's presupposition that speaking French with a perfect accent is a credit and pleasing to himself is not affected by the adverb.

The way adverbs like *justifiably* affect the meanings of verbs of thinking confirms our analysis of these verbs arrived at in the preceding section.

3. This section deals with feature [NOT]. I will argue that postulation of this feature as part of the assertive feature of such a lexical item as *doubt* will account for its behavior with regard to '*some-any* alternation'. There are two *some-any* suppletion rules (Ross, 1967). The first applies in relative clauses. Here we are concerned with the second rule, which hinges on the feature [+AFFECT] (Klima, 1964). This *some-any* alternation is correctly claimed by Fillmore (1966) to be governed by nonspecificity of the indefinite quantifiers. Observe the following sentences quoted from Fillmore (1966):

(52) (a) I don't ever know what to do. [31]
(b) Sometimes I don't know what to do. [30]
(53) (a) I didn't see any of them. [44]
(b) I didn't see some of them. [45]

In the (a) sentences above indefinite quantifiers (*ever*, *any*) are ' nonspecific ', while in the (b) sentences the corresponding quantifiers (*sometimes*, *some*) are ' specific '. Now the sentence (54)

(54) I saw some of them.

is ambiguous, depending on specificity / nonspecificity of *some*. The nonspecific version of (54) is the affirmative counterpart of (53) (a).

Now what is affected by Neg in a negative sentence is restricted to the indefinite quantifiers commanded by this Neg. In (55),

(55) Tom told somebody that he wasn't sick. [Ross (5. 74. a)]

somebody is not commanded by Neg and therefore not affected by it. Further, if a factive predicate comes between Neg and a following indefinite quantifier, the former does not affect the latter, as is seen in (56); also the Complex NP Constraint operates here, as is illustrated by (57).

(56) Bill didn't allege / ? *confirm that Roger had eaten anything. [Ross (6. 192)]
(57) Waldo didn't report (*the possibility) that anyone had left. [Ross (6. 194)]

The same is true of *doubt* and its like. Sentence (58)

(58) John doubted that anyone would ever believe him. [Stockwell et al. (NEG 125)]

has *anyone* and *ever* in it, which are both ' nonspecific '. But a predicate like *doubt* and Neg differ in that in general all the indefinite quantifiers commanded by Neg are affected in a negative sentence, while only those embedded in the sentence(s) subordinated to *doubt* and its like are so affected. Thus (59) is out.

(59) *John doubted anything. [Stockwell et al. (NEG 139)]

Though it contains a semantic feature [NOT] just like *doubt*, *suspect*$_1$ does not participate in *some-any* suppletion. The reason is that with *suspect*$_1$ [NOT] is a presuppositional feature, not an assertive one unlike [NOT] of *doubt*. This is another piece of evidence for the necessity of the distinction between these two kinds of features.

There have been essentially two proposals for dealing with the *some-any* suppletion in question. The first one made by Klima and others is to take care of it through a transformation in syntax. The second by Jackendoff is to posit an interpretive rule in semantics. In this paper I follow a semantic approach to the question, though I considerably differ from Jackendoff. The justification for this decision is three-fold: (i) a semantic feature [NOT], contained in *doubt*, *impossible*, etc., can be held responsible for the alternation, obviating the necessity of postulating a syntactic feature like [+ AFFECT]; (ii) in some cases there is no one-to-one correspondence relationship between affirmative and negative indefinite quantifiers, as in *sometimes* or *once* versus *ever*; (iii) the cancellation of a double negation which leads to the occurrence of affirmative indefinites can be naturally accounted for (e.g., **They don't doubt that she has ever been to Europe* [Stockwell et al. (NEG 81c)]).

Now I propose the following interpretive rules to be applied to the bundle of semantic features obtained as the meaning of a sentence. Here ' generic ' *any* is excluded from consideration.

(60) *Some-Any Interpretation Rules* (oblig.)

(i)

(a) W [NOT] X [INDEFINITE] [NO MATTER WH] Y Z

1 2 3 4 5 6 → 1 2 3 4 [NON-SPECIFIC] 5 6

Conditions: (1) 3+4+5 is the argument of the predicate [NOT].

(2) X does not include [FACT] nor any of the semantic features associated with a complex NP.
(3) In case [NOT] in term 2 is derived from a full lexical item, i.e. not from Neg, term 4 must be contained in a group of semantic features associated with an 'embedded' S.

(b) X [INDEFINITE] [NO MATTER WH] Y (ordered after rule (i. a))

1 2 3 → 1 2 3
*

(ii) (ordered after the block of rules (i))

(a) W [NOT] X [INDEFINITE] Y Z

1 2 3 4 5 6 → 1 2 3 4 5 6
[SPECIFIC]

Conditions: the same as in rule (i. a).

(b) X [INDEFINITE] Y (ordered after rule (ii. a))

1 2 3 → 1 2 3
{[NONSPECIFIC] / [SPECIFIC]}

Explanation of these interpretation rules is in order. Negative indefinite quantifiers like *any*, *anyone*, *anything*, *ever*, etc. share two feature-predicates [INDEFINITE] and [NO MATTER WH]. Affirmative ones like *some*, *someone*, *something*, *sometimes*, etc. have only [INDEFINITE], lacking [NO MATTER WH]. This [NO MATTER WH] is tentatively proposed and intended to represent a semantic element which distinguishes negative indefinites from affirmative ones. If it should turn out that such a feature is not justifiable, one would be forced to refer to these indefinites individually. But I believe that there is some poorly understood semantic feature which distinguishes these two sets of indefinites, if not [NO MATTER WH].

It is assumed here that the meaning of a sentence is arrived at through amalgamation of the meanings of its constituents 'from bottom to top' essentially as in Katz (1966). It is further assumed that in the semantic component such syntactic markings as in a Phrase-marker are retained until they are no longer required,

so that it is possible to identify NP, VP, Complex NP, and S among others when a ' reading ' of the sentence in question is in the process of being spelled out in terms of semantic features.

The notion of ' argument ' used in Condition (1) does the same job as ' command ' does in the syntactic component. These *Some-Any Rules* are composed of two blocks of rules, (i) and (ii), each block in turn consisting of two rules, (a) and (b). The two blocks are lineally ordered and so are the two rules (a) and (b).

Thus any negative indefinite that does not meet the ' structure index ' (which somewhat differs in nature from its namesake in a transformation) of (i. a) automatically undergoes (i. b) and receives the interpretation of ' semantic anomaly ' indicated by *. Similarly any affirmative indefinite that fails to satisfy the structure index of (ii. a) must undergo (ii. b). These rules correctly predict the following data:

(61) He was unhappy about *something*. ([NONSPECIFIC] or [SPECIFIC])
(62) *He was unhappy about *any* of his actions.
(63) He was unable to see *any* of them. ([NONSPECIFIC])
(64) He was unable to see *some* of them. ([SPECIFIC])

There are many unsolved problems about this analysis. One of them is how to incorporate Ross' claim (1967: 456–462) that the *some-any* alternation is subject to the Coordinate Structure Constraint and the Sentential Subject Constraint. However, there seems to be uncertainty about his data.

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