

SOME REMARKS ON MULTIPLE NEGATION IN ENGLISH AND POLISH

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Although multiple negation seems to be a marginal phenomenon in English syntax, deserving therefore little attention, its existence cannot be denied or ascribed to dialectal variations only. Any theory, and particularly any theory of negation must face the problem of accounting for multiply negative sentences. In view of the fact that the problem of single negation is complicated enough to have produced no unequivocal account so far and that there are still many controversial issues which are unresolved it is not surprising that multiple negation has always been treated almost as an embarrassing subject.

As a preliminary, we should focus our attention on one of the vital problems of many transformational generative grammars, viz. their inability to generate multiply negative sentences at all. Nearly all analyses of negation carried out within the framework of Transformational Grammar postulate *at most one* deep structure constituent NEG per simplex sentence, which obviously excludes multiply negative sentences from the set of grammatical and well-formed sentences. Some analyses do admit two NEG constituents, restraining them however to specific configurations only.

Thus Klima (1964: 316) admits two constituents NEG per simplex sentence, but only with an intervening adverb:

$S \rightarrow /wh/ /neg/ /Adv/ /neg/ /ADV/ \text{Nominal} - \text{Predicate e.g.}$

1. He doesn't really not understand.
2. He hasn't often not paid taxes.
3. He doesn't really not like her.

Klima's extremely influential article stands as one of the major treatises

on negation. Up to the present moment, nearly all accounts of negation have been based in one way or other on Klima's solutions.

Although some linguists have admitted that this model is inadequate for handling multiply negative sentences, in order to preserve the simplicity and elegance of their analyses, they have excluded multiple negation from their studies. Therefore it has become a matter of common agreement to place the NEG constituent under the domination of S, sentence initially.

Klima had two reasons for placing the NEG constituent sentence initially. One was the scope of negation, which he says ranges over all elements that are in construction with NEG. A constituent is said to be in construction with another constituent if the former is dominated by the first branching node that dominates the latter. Another reason was the Indefinite Incorporation Rule, which applies to all quantifiers that are in construction with NEG, and can be therefore formulated in a simple way: (Klima (1964 : 319))

$$\underbrace{X \text{ [Affect]}^{\text{GSF}} Y}_{1} \quad \underbrace{[\text{Indet}]^{\text{GSF}} Z}_{2} = 1, \text{ Indef} + 2, 3$$

Negation is considered by him as the grammatico-semantic feature "Affective", and the indeterminate constituents that may be in construction with it are: *too, sometime, somewhere, once, a, many, some*. The rule is responsible the change of *some* to *any*, *too* to *either* etc., in negative and interrogative sentences:

They think that rain fell somewhere else.

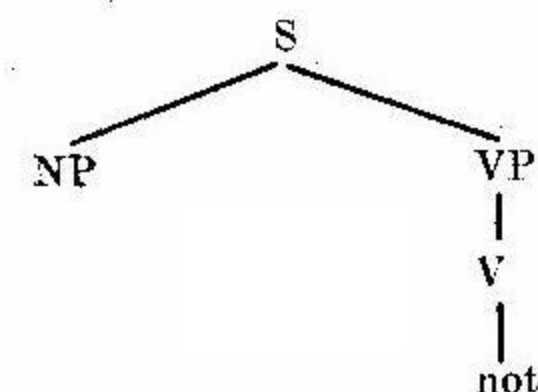
They think that rain didn't fall anywhere else.

As has already been mentioned, Klima's placement of the NEG constituent was adopted by most linguists no matter whether they accepted the rest of Klima's analysis or not. Some of the linguists, however, suggested different solutions which will be briefly discussed. Fillmore (1966), for instance, also places the NEG constituent sentence initially, yet not under the immediate domination of Sentence but of the Preverb constituent. A similar solution was adopted by Hall-Partee et al. (1973), who reformulated some of Klima's transformations and — following Langacker (1969) — abandoned the notion "in construction with" in favour of the notion "command" which is more general.

"A node "A" commands another node "B" if "A" does not dominate "B", "B" does not dominate "A", "A" is in structure S_1 , and node S_1 dominates "B". (Partee (1973 : 240)).

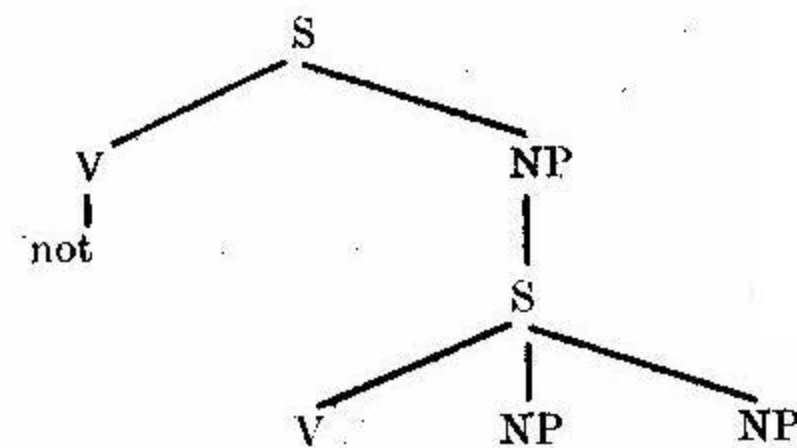
The notion "command" does not require that S should immediately dominate NEG in order to define the scope of the some-any rule and allows for simplification of the rule itself within the framework adopted by Partee.

A yet another position of *not* was postulated by Lakoff (1970), who suggests that *not* is an ordinary predicate:



However, none of these analyses, varied as they are, is adequate for handling multiple negation, because of the restriction on the number of the NEG constituents in the deep structure.

A completely different and initially very promising solution was offered by McCawley (1973). He argues that *not* is an intransitive verb of the sentence that dominates a positive sentence:



Note that McCawley's treatment, in contradistinction to all other treatments, places no limits on the number of negative elements: there is nothing to prevent *not* from having as subject a sentence whose verb is *not* etc. McCawley's analysis was partially motivated by multiply negative sentences. And here he took an independent line in stating that "no proposal for deep structures can be sufficient to distinguish between grammatical and ungrammatical multiple negation, since the grammaticality of the sentence depends not on the way that negatives are combined in deep structure but on the way in which they are combined in surface structure". (1973 : 283). Therefore, he goes on to suggest an output constraint to exclude sentences in which negatives are combined in an ungrammatical way. He states however that "the details of the constraint on multiple negatives are not yet clear... Moreover, there is a considerable variation among speakers as to which combinations of negatives are grammatical". (1973 : 283).

One can get an idea of how complicated the task is from Carden's (1972) study of multiple negation, where 18 different response patterns or "dialects"

were distinguished. Carden postulated two constraints: NDN (no double negation) Constraint and Explicitness Constraint. Dialects differ in three ways:

1. Presence or absence of NDN and Explicitness Constraints,
2. The definition of negation used in each of these constraints,
3. The point of application of NDN constraint.

In Carden's study, only dialects with the "logical understanding" of multiple negation were examined, where two negatives make (roughly) a positive:

4. I didn't have no money.
- 4'. It was not the case that I had no money = I had some money

Dialects where multiple negation expresses single logical negation were disregarded:

Substandard: *Nobody didn't do nothing.*

Standard: *Nobody did anything.*

By way of comment, we have to note the similarity of Substandard multiple negation in English to Polish negation, where we also have quantitative negators plus the negative particle *nie*:

5. *Nikt nie zrobił nic.*

The Polish sentence, like its English counterpart, expresses single logical negation. Therefore the derivations of these two sentences should be almost identical.

The difference between the standard and substandard English negative sentences is ascribed to the existence of the Negative Attraction Rule in standard and the Negative Concord Rule in substandard English (Labov (1972)). The rules can be expressed informally as follows: the Negative Attraction Rule states that "the negative is attracted to the first indeterminate, obligatorily if it is a subject" (1972: 777). "The Negative Concord Rule incorporates NEG into all indeterminates" (1972: 784), that is, causes suppletion of all the *some, any* words into *no* words.

Standard: *Nobody likes anybody here.*

Substandard: *Nobody don't like nobody here.*

Therefore, we might postulate this kind of rule for Polish as well. However, this type of negation is not the central issue of this paper.

The main concern of our analysis are sentences in which something containing negative is negated, that is, sentences with the logical multiple negation; e.g.

6. Not all the boys didn't go. (Carden (1972: 35)).
7. Not every student doesn't accept this. (Seuren (1974: 198)).
8. Not many of the boys didn't talk to John. (McCawley (1973: 206)).

9. Not many people have nowhere to live. (Quirk (1972: 379)).
10. He doesn't often really not understand. (Stockwell (1973: 247)).
11. Chomsky doesn't not pay taxes for nothing. (Stockwell (1973: 247)).
12. I can't not obey. (Quirk (1972: 379)).
13. Everybody doesn't like something but nobody doesn't like Sara Lee. (Horn (1971: 130)).
14. Nobody wasn't given anything. (McCawley (1973: 283)).
15. Nobody didn't say anything. (McCawley (1973: 208)).
16. No one had nothing to eat. (Stockwell (1973: 247)).
17. I didn't have no money. (Carden (1972: 32)).
18. Nobody doesn't pay his income tax. (Carden (1972: 32)).
19. No one has nothing to offer to society. (Quirk (1972: 379)).
20. At no time didn't Tom beat his wife. (My example).

The above sentences represent nearly all possibilities of placing multiple negatives in a simplex sentence; they can be generalized as follows:

Not Universal Quant. Not V
 Not Compound Exist. Quant. Not V
 Not Compound Existent. Quant. V Negative Exist. Quant.
 NP Not Not V
 NP Modal Verb Not Not V
 Negative Exist. Quant. Aux Not Not V (active)
 Negative Exist. Quant. Aux Not V (passive)
 Negative Exist. Quantifier V Negative Exist. Quantifier
 NP Not V Negative Exist. Quant.
 Preposed Negative Constituent Aux Not NP V

On the basis of these examples it would be nearly impossible to formulate any restrictions on the distribution of negative elements in the sentence. Therefore, McCawley's suggestion that "an output constraint is necessary to describe the differences in grammaticality between various sentences with multiple negatives" (1973: 283) seems to set a Sisyphean task before a linguist willing to undertake it.

Pragmatically, it seems that for multiply negative sentences to be used felicitously they must be uttered in a context in which the corresponding negative sentences (sentences with single negation will be called just negative sentences) have already been mentioned, or in which the speaker assumes that the hearer believes in the corresponding negative sentence. In view of the fact that negative sentences themselves must be uttered in the context where the corresponding positive sentences have already been mentioned, discussed or implied, or the speaker assumes that the hearer believes in the corresponding positive sentence, (Givón 1975), it is possible to explain why multiply negative sentences are encountered fairly infrequently. A linguistic

and extra-linguistic situation of this kind is very rare and by no means typical, not to mention its artificiality. Another reason is that there are usually multiple sentence paraphrases for simplex sentences with multiple negation and the former are preferred.

However, a mere statement that a multiply negative sentence is a denial of the corresponding negative sentence is a gross oversimplification. The correspondence between a negative and a multiply negative sentence is more complicated than it might seem at first. Let us consider the following examples:

12. Not all the boys didn't go. \Leftarrow Not all the boys went.
13. No one didn't say anything. \Leftarrow No one said anything.
14. Not many of the boys didn't talk to John. \Leftarrow Not many of the boys talked to John.
15. I can't not go to the party. \Leftarrow I can't go to the party.

Examples on the left are not negations of the examples on the right. Apparently then, there are some restrictions on what can be negated in negative sentences. Before we draw any conclusions, let us concentrate for a while on some other facts which are equally interesting. It appears that pairs of sentences can be found which should presumably have the same deep structure but only one of which contains an admissible combination of negatives (McCawley (1973 : 283)).

16. Nobody wasn't given anything.

is grammatical, whereas its active counterpart:

17. They didn't give nothing to anybody.

is ungrammatical.

There are also cases of sentences which look as if they should be derived from the same deep structure, but they are non-synonymous.

18. Never before had none of his friends come to one of his parties. (preposing)
19. None of his friends had never come to one of his parties before.

The above sentences can be paraphrased as follows:

- 18'. It is not the case that ever before none of his friends had come to one of his parties = Always before at least one of his friends had come to each of his parties.
- 19'. It is not the case that any of his friends had never come to one of his parties before = Each of his friends had come to at least one of his parties before.

Let us now examine the relation between active and passive sentences

- 20a) They invited nobody. = b) Nobody was invited.

- 21b) They didn't invite nobody. \neq b) Nobody wasn't invited.

To capture the relations between negation and quantifiers in these sentences we can resort to simple logical formulae, which are a handy way of representing scope order relations. Thus we can interpret 20) as:

$$20'' \sim E_x (\text{they invite } x)$$

which is equivalent to:

$$A_x \sim (\text{they invite } x)$$

By rules of logic if we negate 20'', we get:

$$\sim \sim E_x (\text{they invite } x) = \sim A_x \sim (\text{they invite } x) = E_x (\text{they invite } x)$$

Therefore the meaning of sentences 21a) and 12b) should be expressed by the above formula. However, only sentence 21a) has this meaning, while sentence 21b) seems to mean rather:

$$\sim E_x \sim (\text{they invite } x) = A_x (\text{they invite } x)$$

which in turn can be derived by negating:

$$E_x \sim (\text{they invite } x)$$

which expresses the meaning of the sentence:

- 22a) They didn't invite somebody = b) Somebody wasn't invited.

In the case of all active-passive pairs there is this lack of synonymity, which either means that transformations change meaning or that these sentences have different deep structures. The latter is more plausible as the difference between 20a/b and 22a/b may be ascribed to the existence of the feature (+ specific/ in *somebody* in the former, and /-specific/ in the latter. The feature /±specific/ is treated as a feature of the indefinite article and indefinite quantifiers and accounts for the differences in meaning between the following pairs of sentences:

- a. { I didn't see some of them.
- b. { I dint' see any of them.
- c. { Some of us didn't go to the picnic.
- d. { None of us went to the picnic.

And thus the sentence:

Nobody wasn't invited.

is the negation of:

Somebody wasn't invited.

/+spec/

and not of:

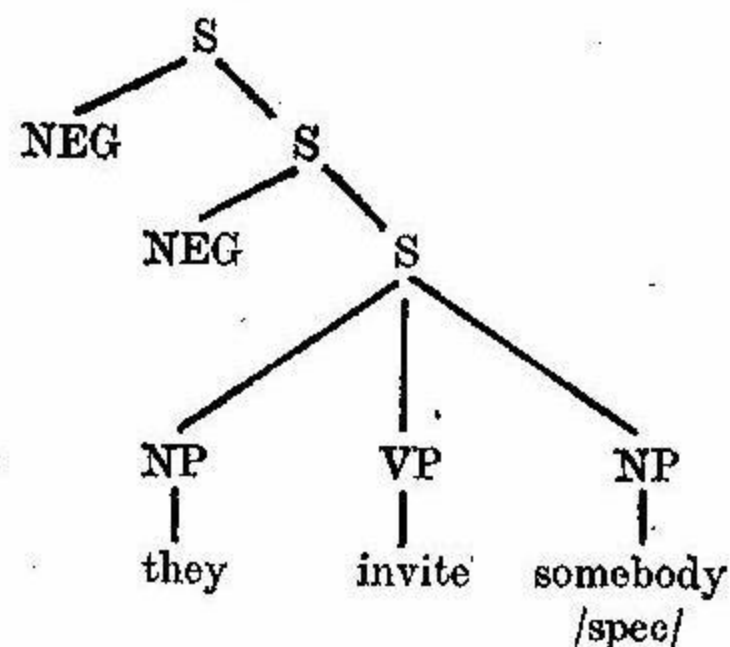
Nobody was invited.

which in turn can be derived from:

Somebody wasn't invited.

/-spec/

Therefore it seems possible to postulate that "Nobody wasn't invited" is derived in the following way:



Since the problem of actual formulation of the phrase-markers and transformations is not central to our arguments, derivations will be presented in a schematic and oversimplified form.

I cycle: Passive *s/nots/nots/ somebody was invited/s*

/+spec/

II cycle: NEG lowering *s/nots/ somebody was not invited/s*

S pruning */+spec/*

NEG placement

Here, *some-any-no* suppletion rules do not apply because of the feature */+specific/* on *somebody*.

III cycle: NEG lowering *s/Nobody wasn't invited/s*
some-any-no suppl.

For reasons mentioned before, (see p. 3), we have adopted the above deep structure of negative sentences following McCawley (1973:280), whose arguments for placement of NEG in the higher S seem to be convincing and well-motivated. We have rejected his treatment of Not as an intransitive verb for reasons which will be discussed directly below.

McCawley argues that not "appears in the same deep structure configurations as other things which are labeled as verbs; e.g. *seem*; both *not* and *seem* combine with a sentence to yield a sentence" (1973:281). Semantically they have no features in common, yet in McCawley's analysis they would also be uniformly labelled as predicates since he rejects the traditional distinction between "predicate" and "logical operator" and treats negation, the verbs such as *seem*, *happen*, *appear*, and quantifiers as if they were simply predicates predicated of sentences. Thus claiming similarity between *not* and *seem*

on syntactic grounds and between *not* and quantifiers on semantic grounds, he concludes that they are all predicates (or verbs), which seems to be the typical case of erroneously applied logical implication. The dubious syntactic similarity between *not* and *seem* or *happen* cannot therefore serve as sufficient motivation for adopting this particular treatment of not.

A few comments on the rules applying in the above derivation might prove useful. Since NEG has been placed under the domination of the higher S, a rule of negative lowering is necessary to bring the NEG constituent into the lower sentence. It might be tentatively formulated in the following way:

SD: NEG — s/ NP — VP — X/s

SC: s/1 2 3 4 /s

In our derivation we postulate that *some-any-no* suppletion rules apply on the third cycle in spite of *some* being */+specific/*.

Some-any-no suppletion rules were first formulated by Klima (1964) as:

1. an optional rule changing *some* into *any* in sentences containing NEG and WH constituents,
2. an obligatory rule changing *any* into *no* when it precedes negation, optional if *any* follows negation.

One of the objections raised by many linguists was that the rule changing *some* to *any* created non-synonymous sentences:

I didn't see some of them.

I didn't see any of them.

R. Lakoff (1969(609—613)) questioned the existence of the rules in connection with non-synonymous pairs of sentences, which according to her differ in presupposition:

Who wants some beans? (positive presupposition)

Who wants any beans? (negative or neutral presupposition).

She suggested that sentences of this type should be marked in their semantic representation to indicate the presupposition of the speaker, be it positive or negative or neutral.

Another measure, proposed by Fillmore (1966), was to assign *some* words the feature */±specific/* and make the rules sensitive to this feature. This solution was adopted by Hall-Partee (1973), who restrained the applicability of the *some-any* suppletion rule to */-specific/ some*. It seems, however, that the *some-any* suppletion rule has to apply to */+specific/ some* in sentences with multiple negation, or we shall get non-grammatical surface structures. Therefore, the rule has to apply in presence of two NEG constituents:

SD: SX — NEG — X/ ^{+specific} / — X — NEG — X

1 2 3 4 5 6 7

SC: change / +specific/ to /-specific/
 change / -indeterminate/ to /+indeterminate/

In that way we get *any* which is $\left| \begin{smallmatrix} -\text{specific} \\ +\text{indeterminate} \end{smallmatrix} \right|$, and which can undergo the *any/-no* suppletion rule now:

SD: X — NEG — $\left| \begin{smallmatrix} -\text{specific} \\ +\text{indeterminate} \end{smallmatrix} \right|$ — X
 1 2 3 4
 SC: 1 — \emptyset — $\left| \begin{smallmatrix} 3 \\ +\text{neg} \end{smallmatrix} \right|$ — 4

That these rules are of wider applicability is confirmed by sentences with a negative-raising verb:

23. I don't think that *any* people weren't invited. =
 (originally +specif)
 = I think that no people weren't invited.
 24. I don't think that *no* people weren't invited. ≠
 (-specif → no)
 ≠ I think that no people weren't invited.

The sentence:

We didn't invite nobody.

would be then derived in the following way:

s/NEGs/ NEGs/ they invite somebody/s
 /-specific/

I cycle: no transformations of interest apply here,

II cycle: NEG lowering s/NEGs/ they invite nobody/s
 some-any-no suppl.

III cycle: NEG lowering They didn't invite nobody.
 NEG placement

However, in this derivation as it stands, there is nothing to prevent us from getting non-synonymous sentences coming from the same deep structure. Suppose that in the last derivation the passive transformation applied on the first cycle:

s/NEGs/ NEGs/ they invite somebody /s → Somebody was invited.
 /-spec/ /-spec/

II cycle: s/NEG/s nobody was invited/

NEG lowering and *some-any-no* suppletion rules applied here,

III cycle: NEG lowering Nobody wasn't invited.
 NEG placement

Sentences derived in such a way are not synonymous with their active counterparts, compare:

They didn't invite nobody. ≠ Nobody wasn't invited.

Therefore, we must prevent NEG from moving onto the auxiliary in the last derivation; in other words, we must prevent it from crossing over another negative. It seems that a cross-over constraint is what we need here. The constraint would ensure that in the derivation of the sentence NEG constituents do not cross over each other. Another possibility is to formulate the constraint in terms of precedence relations, that is, "no transformation may change the precedence relations of logical predicates." (Lakoff (1974:165)). By logical predicates Lakoff means quantifiers and negation. Although Lakoff formulated this constraint irrespective of multiply negative sentences, it appears that the constraint works here and therefore its application is much wider than its author ever suspected. A similar constraint was formulated by Lee (1974) within the Montague Grammar framework, but it blocks only universal quantifiers and negation from crossing over each other. Nevertheless, the necessity of introducing constraints of this kind was argued for on syntactic (Lee 1974) as well as semantic (Lakoff 1974) grounds. In view of this fact an attempt can be made at explaining why some multiply negative sentences cannot be denials of the seemingly corresponding negative sentences.

Semantically, multiply negative sentences are a combination of two types of negation: modal negation and pure negation, as they were named by Krzeszowski (1974). According to him, modal negation involves the act of negation on the part of the speaker:

"I think it is false that..."

Pure negation consists in negating an element within the nuclear subconfiguration:

"I think it is true that... not ..." (1974(88—89)).

Pragmatically impossible is a sentence with two modal negations or two pure negations. Naturally, as follows from this line of argumentation, pure negation must be within the scope of modal negation and any change in the order of the two negative constituents results in a change of meaning. Of interest also is the fact that sentence stress always falls on the constituent containing modal negation, which would mean that the leftmost negation is in the Focus, and any negatives to its right are part of presupposition.

From the above sketchy presentation it does not follow unequivocally which of the various approaches towards negation offers the most insightful interpretation of multiply negative sentences. They range from a strictly syntactic account of Klima's (1964), through interpretive semantics to semantically

based analyses of Lakoff (1974), Krzeszowski (1974) and McCawley (1973). Each of them grapples with a slightly different aspect of negation highlighting certain points, ignoring, however, other that seem of equal importance but do not fit into the author's theoretical framework. For that reason we have been trying to avoid any commitment to any model of linguistic description. It has rather been an attempt at extracting observations that might throw more light on the neglected subject of multiply negative sentences. Needless to say, as is always the case, several theoretical issues arose unwelcome, the most conspicuous of which has long been the core of the controversy between generative semantics and interpretive semantics and might seem to be the ghost of the bygone area — yet here it raises its head again: if all semantic information is made available at the level of underlying structure then we need mechanisms such as global rules and transderivational constraints, if not, then transformations change meaning. In our analysis we have — following Lakoff (1974) — postulated a derivational constraint, which might suggest a bias towards generative semantics. It seems however that such a mechanism is too powerful indeed and that it might be reformulated as a constraint on specific movement transformations, in particular on NEG placement, which would make it a local constraint rather than a transderivational constraint. Such a device could be as well accepted within interpretive semantics.

What both generative and interpretive semantics have undoubtedly *in common* is the deeply rooted "logical" way of thinking; that is particularly striking in their treatment of negation. Logical understanding of negation in natural languages raises a number of problems and controversies which, according to Nagucka (1978), can be solved only after the logical bias in analysing negation has been abandoned.

Nagucka suggests an entirely different analysis of negative sentences, which is of particular interest for us as it tries to account for multiply negative sentences as well. Nagucka treats Sentence as consisting of Modality and Proposition, where Modality contains semantic primitives, one of which is "I diswant" (*Nolo*) responsible for negation, whereas Proposition contains arguments and VPs. All the relations expressed within the Proposition can be negated. However, the process of negativization is of operational character in Nagucka's analysis and its function is to transfer the information onto the syntactic level. Sentences containing *no* words like *nothing*, *nobody* etc. contain at the semantic level more than one act of negation. For instance, by uttering the sentence:

I see nobody there.

the speaker states:

I don't see NOT X there.

where NOT X is a statement about the empty subset of X. Therefore the

sentence expresses two acts of negation of which one involves Proposition, while the other involves an argument. In Polish, these two acts of negation are reflected in surface structure:

Nie widzę tam nikogo.

whereas in English there is a deletion rule which erases all *nots* but one. So, whenever a *no* word appears in a sentence, the sentence expresses a double act of negation. Naturally it means also that whenever we have multiple negation on the surface, the derivation of the sentence gets appropriately complicated, expressing up to four acts of negation, e.g. (Nagucka (1978:66)):

"Nobody had nothing".

- 1) I do not want to believe that X person had Y object
- 2) I do not want to believe that there existed X (empty subset).
- 3) I do not want to believe that there existed Y (empty subset).
- 4) I do not want to believe in what I didn't want to believe (I reject 1.)

Using the lexical material, the semantic representations can be illustrated as follows:

- | | |
|-----------------------------|--------------------------|
| 1) Janek didn't have bread. | (Janek nie miał chleba) |
| 2) Nobody had bread. | (Nikt nie miał chleba) |
| 3) John had nothing. | (Janek nie miał niczego) |
| 4) Nobody had nothing. | (Nikt nie miał niczego). |

Nagucka's analysis constitutes an interesting alternative to other analyses discussed in this paper. However, it does not avoid certain problems and inconsistencies, which weaken its descriptive and explanatory power. Thus the semantic structure which she suggests for negative sentences is nearly identical to semantic structures based on the logical understanding of negation, in that it postulates a single semantic primitive *nolo* in front of the Proposition, whereas in other theories it was a single morpheme or functor also placed in front of the Proposition. The only, and for Nagucka, basic difference is that she considers *nolo* to be the expression of the mental attitude of the speaker towards the proposition, while in other theories *not* was a logical operator stating that the proposition was false, to which Nagucka objects. Basically, she overlooks two facts; one is that the inclusion of the speaker's mental attitude into her considerations and referring to negation as an "act", automatically moves her analysis into the area of pragmatics, another is that for the speaker to deny a certain proposition, he must consider it first to be false, or rather infelicitous, which he expresses by negating it or denying. Thus, even mentally, negation cannot be divorced completely from the positive statement that is denied by the speaker, and Nagucka claims that it can.

Leaving aside theoretical considerations, which are part of a much wider

controversy, let us address some of the problems that arise within Nagucka's own framework. She claims that arguments are unordered in the Proposition with respect to VP and therefore with respect to negation, which in the process of negativization is always placed between arguments and VP. How then can we explain non-synonymy of sentences with different orders of negative constituents:

Never before had none of his friends come to one of his parties.

None of his friends had never come to one of his parties before.

In Nagucka's analysis there is no formal apparatus to explain this lack of synonymy, whereas logically based analyses can explain it in terms of the scope orders of negation and quantifiers. For the same reason her analysis would not be able to account for the lack of synonymy between active and passive sentences.

One of the strongest arguments in favour of her analysis, according to Nagucka, are sentences with *no* words, which she claims to be multiply negative in the semantic structure: they have propositional and argumental negation which expresses the empty subset of the set denoted by the argument:

Nobody likes Mary.

Not X doesn't like Mary.

She argues that argumental negation has to occur together with propositional negation or "we would have to admit that" "nothingness", "noness", "neverness" etc. exist in the real world, and either can be perceived or experienced by our senses, or created in the mind of the speaker when interpreting his experience" (1918:58). It seems that Nagucka's line of reasoning does not hold true even if we do admit double negation in the semantic structure of such sentences, because if we cannot say that "The empty subset likes Mary", we likewise cannot say "The empty subset doesn't like Mary" in the light of her claim that "negation is a statement, independent of declaratives and can be semantically interpreted without having recourse to any other kind of utterance." (1978:22). Moreover, the derivations of sentences with multiple negation of this kind are very complex semantically and lead to some counterintuitive conclusions. Also her analysis predicts, incorrectly, that sentences a) and b) may be non-synonymous:

a) *I see nobody there* ≠ b) *I don't see anybody there*

Sentence b) in Nagucka's analysis can be ambiguous between single and double negation. If we adopt Kooij's (1971:1) definition of ambiguity as "the property of sentences that they may be interpreted in more than one way and the insufficient clues are available for the intended or the optimal interpretation", then it seems that sentence b) cannot be considered as ambiguous as it does not fulfil the first part of the definition.

Another problem for Nagucka's analysis are sentences with negative constituent and universal quantifiers:

a) *Wszyscy nie przyszli* (All/everybody didn't come)

b) *Nie wszyscy przyszli* (Not all/everybody came)

Sentence a) means "Nikt nie przyszedł" (Nobody came), that is, has the Quant-Neg reading. The other reading i.e., Neg-Quant is also possible, but it will be disregarded for a moment. Nagucka treats such sentences as cases with only one negation present, and obviously sentence b) will have to be treated in the same way. In both cases we will have propositional negation, as argumental negation expresses only the empty subset. Therefore, these two sentences will have to be assigned identical semantic structures, which constitutes a serious problem in view of the fact that in Nagucka's analysis the meaning of sentences is apparently determined in their deep structure. Also, the ambiguity of sentence a) will be left unexplained. A logically based analysis explains the differences in meaning between these sentences in a natural way as the difference in the scope orders of the universal quantifier and negation:

$$A_x \sim (\text{przyszedł } x) \neq \sim A_x(\text{przyszedł } x)$$

Concluding this brief and sketchy presentation, it should be pointed out that the logically based theories have by no means solved all of the problems posed by negative and multiply negative sentences. Their shortcomings have become obvious in the course of the present analysis and their descriptive and explanatory adequacies leave much to be desired. However, in an attempt to clarify certain issues connected with multiply negative sentences, this paper raised more questions than it has been able to answer. Undoubtedly it has succeeded to prove that many, quite fundamental, problems remain at every stage. Yet the general direction it has tended to is definitely "logically" oriented, which seems to be the only promising route in the light of the facts that can be reviewed briefly as follows:

- lack of synonymy between some active and passive sentences can be explained in terms of different scope orders of negative constituents and quantifiers,
- lack of synonymy between sentences with different orders of negative constituents can be explained in a likewise manner,
- interpretation of negative sentences in terms of logical formulae helps us to explain why some multiply negative sentences cannot be denials of seemingly corresponding negative sentences,
- logical formulae capture in a revealing manner relations between multiply negative sentences and their positive paraphrases,

- e) and last but not least, the simplicity of logically based analyses is an attribute not to be sneezed at, particularly when it is combined with greater explanatory power than that of analyses renouncing logic as a legitimate basis of linguistic descriptions.

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