

NEGATION IN DUTCH

A. Kraak, *Negatieve Zinnen. Een Methodologische en Grammaticische Analyse*. W. de Haan, Hilversum, 1966. X + 192 pp., f 24,50.

The present book was submitted as a doctoral dissertation to the Faculty of Philosophy of the University of Amsterdam in February 1966. Although it is written in Dutch, and deals primarily with Dutch sentences, its subject, its results and its suggestions are important enough to be discussed in an international journal.

Translated into English the title of the book would be: *Negative Sentences. A Methodological and Grammatical Analysis*. Accordingly, the book consists of two parts, a methodological introduction to grammatical description in general, and an attempt to apply the principles set forth in the first part to the negative sentences of the Dutch language. The last chapter, although incorporated in the second part, could very well be considered to form a separate part, since similarities and dissimilarities between grammatical and logical conceptions of negation and quantification are discussed here, and conclusions are drawn concerning the concept of negation in both Aristotelian and modern logic.

The first part, the methodological introduction, is largely of a polemical character. The first two of its three chapters establish the author's position in the current linguistic debate. In the first chapter (p. 3–19) what is generally called traditional grammar, exemplified in practically all scholarly grammars of the nineteenth and early twentieth centuries, is defended against two different criticisms levelled against it by some twentieth-century structural linguists. Sometimes traditional grammar is accused of being based on logico-semantic distinctions rather than on what are considered purely linguistic observations. But Kraak shows that although the observations made by traditional grammarians are mostly couched in formulations revealing logical and ontological rather than linguistic backgrounds and interests, these observations are certainly grammatically relevant. The insistence of many modern structuralists to rely only on formal, i.e. phonologically observable, data stems from a limitation of scope to the outer, actually observable, structure of utterances, named "surface structure" by Chomsky¹. They seem not to recognize the possibility of "underlying" or "deep" structures postulated for a semantically and formally satisfactory description of the actually observed sentences.

The structuralists' exclusive attention to surface phenomena occasioned an amputation of traditional linguistic theories, which were, it is true, sometimes formulated in non-linguistic or too implicit terms. Kraak

stresses the relevance of traditional grammatical descriptions to what are recognized today as deep structures. He declares himself in agreement with such authors as Bloomfield ² (who, without distinguishing between deep and surface structures, recognized the grammatical relevance of ancient Greek linguistic descriptions), Lees ³ and Chomsky ⁴, and rejects the opinions put forth by de Saussure ⁵, Uhlenbeck ⁶ and others.

In the light of this limitation to surface structures, it is not surprising to find many structural linguists striving for an automatic discovery procedure, i.e. an automatically applicable method of linguistic analysis leading up to a, or the, satisfactory grammatical description. The idea of such a procedure would not be absurd if there were only surface structures, since in that case the description could be thought of as directly deduced from actual observations. It must be recognized, however, that all attempts to construct automatic discovery procedures ⁷ have proved unsuccessful, which in itself may be taken as an indication that some intelligent hypothesis (embodied in the description of deep structures) is needed to find a good solution for the description of grammatical phenomena.

There is reason to suspect that the limitation of scope to mere surface structures is due to an overemphasis on observational adequacy as a criterion for scientific results, at the cost of other criteria requiring explanatory adequacy. Kraak cites Lees ⁸, who says: "but the notion that a linguistic description be based exclusively upon the phonemic shape of expressions is a modern development, arising in part perhaps from the mistaken idea that success in the physical sciences arises from the strict empirical induction out of observables."

I may add that it is interesting to note, in this connection, that two Dutch authors, Uhlenbeck and Reichling ⁹, who inveigh against Chomskian generative grammar, criticize Chomsky for not being empirical (at least in practice) and for neglecting observable facts. Yet it has been affirmed repeatedly by Chomsky and others that the requirement of observational adequacy must be satisfied and is, in fact, the first requirement to be satisfied, but that there are also other requirements. And practice in transformational generative grammar shows unambiguously that its most immediate concern is the description of all the sentences of a language and only these, which is a much heavier empirical responsibility than has been assumed by any of its critics, especially Reichling and Uhlenbeck.

The exclusively observational view taken by some contemporary linguists is also at the root of the second objection raised against traditional grammar and refuted by Kraak. Traditional grammar is said to set norms for correct speaking and writing, whereas modern linguistics is praised for being 'purely descriptive'. What is meant, however, is that modern linguistics is purely observational. The criticism of traditional grammar is often extended to cover also the theory of transformational

generative grammar in which, quite naturally, the problem of grammaticalness has become urgent again. Dixon, for instance, says¹⁰: “Chomsky continually insists upon “formal grounds” being used throughout a linguistic investigation; yet his procedures depend upon a weak, prescriptive and entirely notional criterion of acceptable/non-acceptable, correct/incorrect or good/bad instead of upon the entirely consistent and scientifically valid observational criterion . . . our linguistic is an observational science, uninfluenced by previous linguistics insofar as is possible, which looks for linguistic patternings in language raw material.” His motto is, “whatever is, is right”.

It is not difficult to see that a method as indicated by Dixon would lead to a description of the whole mass of utterances observable in lingual communication, including all half-finished, wrongly started, deformed, mispronounced, etc., products of which we become immediately aware as soon as we listen attentively. Apart from the question whether such a description is within the bounds of feasibility, it will be so over-observational that it leaves completely out of account the nonetheless very real fact that there *is* a difference between non-deviant and deviant utterances, that there *is*, in fact, a norm, or a set of norms. How else are we to explain that we distinguish gibberish from regular utterances, and that we speak of some utterances as being half-finished, mispronounced and so on?

Kraak’s reply to this objection can be summed up as follows: Although traditional grammars have frequently been used as guide-books for correct speaking and writing, and although they sometimes contain (usually logically coloured) expositions as to why a certain form should be considered correct or incorrect, what they give and aim to give has always been a *description of what is considered to be correct speaking and writing*. There is a difference between prescribing how one should speak and write, and describing what is considered acceptable speaking and writing, between setting the norm and describing it. The latter aim underlies the construction of transformational generative grammars and gives rise to the problem of grammaticalness.

Then Kraak discusses a third objection raised against traditional grammar, directed at its implicit character. This objection has not been raised by those linguists who blame traditional grammar for being logico-semantic or prescriptive, but by Chomsky, who accepts traditional descriptions as relevant to deep structures and as a description of an established standard of correctness¹¹. The alternative proposed by Chomsky, and embodied in his theory of transformational generative grammar, is a completely explicit description containing instructions that can be read by any device or creature capable at least of reading, or scanning, the instructions given and carrying them out, that is, without any additional intelligence or intuition. Kraak endorses Chomsky’s criticism and accepts his alternative.

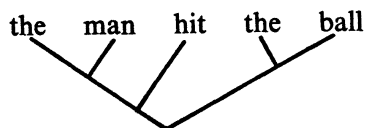
In the second chapter (p.20–62) Kraak finally disposes both of Uhlen-

beck's criticism of traditional and Chomskian grammar, and of his alternative concept of grammar. Kraak's reason for this is that in adopting the theory of transformational generative grammar for his description of negative Dutch sentences, he wishes to give serious attention to all criticisms voiced against it. Since this clearly could not be done, he has singled out Uhlenbeck, not only because Uhlenbeck can be considered representative of many other critics, but also, principally, because Uhlenbeck is widely known to Dutch linguists. As has been said above, Reichling has also published for Dutch readers some critical comments on Chomsky's theory¹², but Reichling offers no alternative to what he rejects (although it seems that he subscribes to Uhlenbeck's ideas¹³), and, moreover, the nature of his criticisms is best characterized by Chomsky himself¹⁴. Quite properly, therefore, Kraak does not deal with Reichling's criticism systematically, but mentions it only incidentally.

As Kraak demonstrates, Uhlenbeck holds the wrong view that traditional grammar should be blamed for being logico-semantic, and pays no attention whatsoever to the real possibility of improving essentially upon traditional grammar, recognized by Chomsky, which consists in explicitly formulating what is implied, or left to the reader's intelligence, in traditional grammars. On the contrary, in his theoretical expositions Uhlenbeck confuses the concepts "rule" and "regularity", and in practice his grammatical observations never lead to any explicitly and unambiguously formulated rule describing some grammatical regularity. His observations are always fragmentary and incidental, never systematically pursued. Where he does come to a tentative formulation of some regularity, his wording is much vaguer, and leaves much more to be desired under the aspect of explicitness, than what is found in good traditional grammars.

The greater part of this chapter is dedicated to a discussion of Uhlenbeck's own alternative concept of grammatical description (p.23–55). Kraak proceeds to show that Uhlenbeck's analysis of sentences is just as semantic in character as sentence analyses based on traditional principles (p.23–5), and that the method of analysis proposed by Uhlenbeck is in itself insufficiently specified, so that it cannot be applied unambiguously to the analysis of sentences (p.25–30).

Uhlenbeck aims at a method of analysis completely parallel to the psychological decoding process taking place in the hearer's brain. He analyses sentences from what he takes to be the hearer's standpoint. According to him, the hearer analyses sentences strictly from left to right, establishing relations as soon as he finds a possibility to do so. Thus he analyses e.g. the English sentence *The man hit the ball* as follows:



Following this principle of linear understanding, the linguist is supposed to find the relational structure of a sentence. In general, Uhlenbeck prefers to take, in English and Dutch, the subject with the finite verb as one constituent, and the object as another. This, he says, is a “pure linguistic analysis”¹⁵. The linguist, as a describer of processes taking place in the hearer’s head, should, according to Uhlenbeck, base his analyses only on three sorts of “formal means” or “syntagmatic indications”: intonational indications, morphological elements indicating some sort of relation, and indications of order.

Kraak shows (p.29–36) that there are numerous cases with different relational structures, as Uhlenbeck himself says, but without any difference in syntagmatic indications, and vice versa. Sometimes the principle of linearity does not allow of any expression of a difference in relational structure between two differently understood sentences. In general, there are all sorts of instances of grammatical synonymy and homonymy which fundamentally elude Uhlenbeck’s method of analysis.

Clearly – and Uhlenbeck himself would agree – such formal features or syntagmatic indications as mentioned by him, are not in themselves sufficient for the understanding of a sentence by the hearer. The hearer must have learned the language first, i.e., must have internalized in some sense a grammar of his language, enabling him to decode given sentences. But it is significant, and probably also symptomatic, that Uhlenbeck pays almost no attention to this latter necessary requirement. It is also symptomatic that, whereas Uhlenbeck’s three sorts of syntagmatic indications pair off with Bloomfield’s modulation, phonetic modification and order¹⁶, the remaining feature of grammatical arrangement, selection, is not mentioned by Uhlenbeck, although no linguist can sensibly deny its importance for grammatical descriptions. The concepts of form-class and function are based on it. Selection, or the membership of a class (or classes), is precisely a feature which is not perceptible in one single sentence. The hearer, however, reckons with it (without being aware of it, of course) while understanding single sentences, because he has internalized the system of classes of his language. The linguist finds selectional features expressed, not in one single sentence, but in a large collection of sentences, a corpus. But the hearer understands single sentences on the basis of their formal features and the grammar he has internalized.

Hence it is impossible to support Uhlenbeck’s contention that his analysis, which follows the hearer’s decoding process, is a “pure linguistic analysis”. On the contrary, what Uhlenbeck tries to describe are psycholinguistic processes, not linguistic data. This is not to say that there is no connection between linguistic and psycholinguistic description. The speakers of a language are supposed to be able to produce and understand the sentences described in a grammar of that language. A grammar thus delimits the range of the speaker’s capacity. And when it becomes clear, for instance, that the set of sentences of a language can only be described

by means of a recursive set of rules, then the suggestion presents itself that the speakers have at their disposal some recursive mechanism to understand and produce the sentences of their language (cf. Kraak, p.47). But, as has been repeatedly stressed by Chomsky and others, a linguistic description is not a model for language users.

Even as a method for describing psycholinguistic processes, however, Uhlenbeck's proposals fall short in every respect. Chomsky's reply to Uhlenbeck's principle of linear interpretation was: "But I find it difficult to believe that any one would seriously offer this today as a perceptual model." ¹⁷

On p.45 Kraak points to the peculiar fact that Uhlenbeck's principle of linear left-to-right interpretation does not even find support with the authors to whom Uhlenbeck himself refers ¹⁸. It may be added that Reichling, who is said by Uhlenbeck to subscribe to this principle, expresses the exactly opposite view: "He (i. e. Chomsky) overlooks what was made the centre of sentence analysis by Stenzel nearly forty years ago: the fact of the "Präsenz" of an utterance as a whole and of the "präsenzielle Gleichwertigkeit" of all the parts of an utterance, so that a Sigma-F model as constructed by Chomsky is already condemned before its application: it overlooks the essential fact of language that every sentence exists only in its completed whole, so that the parts that have sounded away are all equally 'präsent' to the user, are all known by him in the interpreted whole." ¹⁹ (I do not enlarge here upon the fundamental error underlying this quotation of taking the process of generation of sentences by a grammar as a model-like description of the process of production and/or understanding of utterances.)

Uhlenbeck is criticized, furthermore, for not accepting any rule of selectional restriction (p.43–4). It is easily demonstrated that such a limitation impairs the adequacy and interest of grammatical descriptions.

Finally, on p.47–55, Kraak discusses Uhlenbeck's and Reichling's opinion that sentences can never be studied apart from their contextual and situational setting. Kraak first gives some terminological differentiations. An *utterance* is a unique, hic et nunc, speech-event. A *sentence*, or *utterance-type*, is a phonemically, or morphemically, determined set of utterances. A *sentoid* is a sentence with one unique syntactic structure. (A grammar should never generate homonymous sentoids.) The term *meaning* is reserved for semantic properties of sentoids, whereas *interpretation* is applicable to utterances, so that it is the integration by the hearer of an utterance in its contextual and situational setting. It is now shown unambiguously that Uhlenbeck, in criticizing Chomsky, confuses the concepts *sentence*, *sentoid* and *utterance*, and, accordingly, *meaning* and *interpretation*. Kraak refers to Antal ²⁰, who has roundly attacked Uhlenbeck on this point. It is made clear that Uhlenbeck's objections to Chomsky's concept of syntactical homonymy are based on a confusion of meaning and interpretation. Uhlenbeck speaks about ambiguity of

sentences, and specifies some sentences as ambiguous, others as non-ambiguous. But if a sentence must always be studied in some situational setting, then every sentence is 'ambiguous', as many times ambiguous as different interpretations correspond to different situations. If, however, some sentences are considered ambiguous and others not, there must be a difference independent of context and situation. Whatever the situational setting of a sentence, the sentence allows for certain interpretations and excludes others. For some sentences two or more 'sets of interpretations' are allowed. These sentences are ambiguous, or homonymous. The limitations set on the interpretation of sentences in their contexts and/or situations would be unexplainable if the sentences did not have their own meaning, or sets of meanings (Kraak, p.50–1).

This argument for the attribution of an autonomous property of meaning to sentences, or rather sentoids, runs completely parallel to the argument vindicating a fixed property of meaning for lexical units (sometimes mistakenly called "words"), apart from their interpretation depending on their occurrence in particular sentences in particular situations. The fact that sentences are understood in some situation, and that some segments of sentences are taken to refer to phenomena of the outer world, can only be explained if there are underlying systematic rules not brought to light in individual sentences, but internalized by speaker and hearer, and ensuring certain formal regularities together with fixed semantic properties. Although Kraak does not mention this, it may be remarked that it is surprising to find Reichling on the one hand sustaining Uhlenbeck's position with regard to sentences, but on the other hand defending the exactly opposite view with respect to lexical units (which he calls "words")²¹.

Chapter III (p.63–85), closing the first part of Kraak's book, gives a short account of the Chomskian generative model of syntactic description. Here, for the first time, is an adequate summary of Chomsky's theory for the Dutch reader. This is particularly welcome as a corrective to the distorted impression of transformational grammar which has been current for too long in the Netherlands as a result of the relative inaccessibility and esoteric character of Chomsky's writings and Reichling's not quite adequate criticisms.

One notices that Chomsky's *Aspects of the Theory of Syntax* (1965) has not been taken into account here, but in view of its rather tentative, almost experimental nature, this is not a serious defect in an introduction intended to give a general survey of the present situation rather than to anticipate future developments.

The second part of the book embodies Kraak's own contributions to Dutch grammar, and to a general theory of negation in both linguistic and logical respects. Kraak's theory of negation starts from the hypothesis that "the set of sentences of a language consists roughly of two subsets of equal size, containing positive and negative sentences respectively, so that

there is one negative sentence corresponding to every positive sentence, and vice versa". (p.89) This hypothesis is meant to be valid for all sentences of a language, except exclamations, questions beginning with an interrogative ("wh-questions"), elliptical sentences and the like.

From a logical point of view it must be inferred that negative sentences are distinguished from their positive counterparts by the addition of an element of negation meaning "it is not true that . . ." (although this distinction is not formulated explicitly until p.103–4, in a somewhat different context, and again on p.144).

This hypothesis is certainly challenging, and Kraak takes some pains to defend it against apparent counter-examples (p.107–10; 138–47). There is an argument, however, which is expressed only incidentally in the book. Kraak points to the possibility of double, or even multiple, negation (p.99). But if it is possible to negate a negative sentence (so that a positive sentence can be logically deduced from it), then to every grammatically positive sentence corresponds not only its simple negation, but also its double, treble, etc., negation. It seems, therefore, that the hypothesis would be more satisfactory in a weaker form: to every sentence, positive or negative, corresponds just one negative sentence. The effect is now that there is only one way of negating a sentence. This is interesting, since often there are several ways in which the negation element can be introduced into a positive sentence. Take, e.g., Klima's:

- (1)a Not many smokers chew gum.
- (1)b Many smokers don't chew gum.
- (2)a Writers don't often accept suggestions.
- (2)b Writers often don't accept suggestions.²²

Dutch is even more flexible in this respect than English, as appears from Kraak's examples (p.99):

- (3)a Iemand heeft geen boek teruggebracht.
(Somebody has not returned any book.)

where *geen* is a portmanteau morph of the element *niet* plus the indefinite article, and:

- (3)b Iemand heeft een boek niet teruggebracht.
(Somebody has not returned some book.)

The logical, or truth-functional, difference between (3) a and b, expressed in an English translation by the difference between *some* and *any*, is expressed in Dutch by a different position of the negation element *niet*.

It is seen that, although the sentences (1)a – (3)b all contain the negation element in some form or other, not all of them are negative sentences according to the criterion whether they are paraphrasable with an initial phrase "it is not true that . . .", or not. (1)a is negative: "It is not true that there are many smokers who chew gum." But (1)b is not negative: "There are many smokers for whom it is not true that they chew gum.". The negation element of (1)b does not embrace the whole sentence, but only a part of it. In the same way we decide to take (2)a as a negative

sentence: “It is not true that it is often so that writers accept suggestions.”, but (2)b is, by this logical criterion, not negative: “It is often so that it is not true that writers accept suggestions.”. Neither (3)a nor b are negative: For (3)a we read: “There is somebody for whom it is not true that there is a book which he has returned”, and for (3)b: “There is somebody for whom, and there is a book for which, it is not true that he has returned it.”. In fact, the denial of:

- (3)c Iemand heeft een boek teruggebracht.
(Somebody has returned a book.)

would be:

- (3)d Niemand heeft een boek teruggebracht.
(Nobody has returned a book.),

i.e.: “It is not true that there is somebody and that there is a book, so that he has returned it.”.

As far as I can see now, there is no reason to deny the hypothesis that there is only one way of denying deniable sentences. It should be recognized, however, that not all declarative sentences and yes/no-questions can be made negative in Dutch or English. Thus, e.g., (3)d cannot be made negative, either in Dutch or in English, such that a sentence would come out analysable as: “It is not true that it is not true that there is somebody and that there is a book, so that he has returned it.”. It is possible to insert the negation element a second time in (3)d:

- (3)e Niemand heeft geen boek teruggebracht.
(There is nobody who has not returned any book.)

But (3)e is analysable as: “It is not true that there is somebody for whom it is not true that there is a book which he has returned.”, which is not the denial of (3)d. In the same way, as we shall see below, there is no negative counterpart of (46)d. A grammatical description, therefore, must specify which sentences are deniable, and which are not. Meanwhile, only little remains of the initial hypothesis. The only thing that can be said safely, as far as can be seen now, is that for every deniable sentence there is just one denial corresponding to it.

The criterion of logical analysis, as demonstrated above, enables us, however, to distinguish clearly between sentences dominated by the negation element, and sentences containing this element without being completely dominated by it. It will help us, consequently, to define a concept “scope of negation”.

It is interesting to note (cf. Kraak, p.90–1; 99) that there is some similarity between negative sentences and questions. It may be said that for every declarative sentence transformable into a question there is just one yes/no-question corresponding with it. We then say that the question element dominates the whole sentence. There are also questions, however, where the question element has a more limited scope, the so-called *wh*-questions²³.

All that has been said so far about negative sentences, has been said

from a logical, and by implication a semantic, point of view. Kraak now passes on to the question (Chapters V and VI) whether the distinctions based on logical considerations are found in the grammatical categories of Dutch, and other or even all languages. There was a time when logical and/or semantic considerations were considered absolutely irrelevant to any work in grammar, especially to the type of work most *en vogue* in that period, the construction of automatic discovery procedures. But very few linguists still adopt this extreme view. Kraak adheres to the more plausible opinion that considerations of meaning play a double rôle in grammatical work. Firstly, they are considered to provide useful and strong suggestions in the more or less haphazard process of analysis and discovery of rules. Secondly, they provide an important test of adequacy for a grammatical description, since any product generated by a grammar should be so structured that an adequate semantic description can be attached to it. If a description fails to fulfil this requirement, it must be considered at least in part inadequate. Thus Kraak is quite justified in expressing some criticism, as well as his approval (p.97), of Klima's study (see Note 22). He criticizes Klima (p.98; 130–8) primarily for not providing a sufficient basis for the semantic difference between, e.g., (2) a and b, where only *often* is assigned two different possible positions ²⁴.

Following Lees and Klima he establishes some "defining contexts" in Dutch, pointing to the grammatical relevance of the concept "negative sentence". Klima finds, e.g., that there are some specific tags for positive and negative sentences. Thus he opposes:

(4)a Writers will never accept suggestions, and neither will publishers.
to the ungrammatical:

(4)b* Writers will always accept suggestions, and neither will publishers.

In the same way:

(5)a The writer will not accept suggestions, not even reasonable
never ones.
seldom

(5)b* The publisher often disregards suggestions, not even
commonly reasonable ones.
always
usually

(6)a Writers will never accept suggestions, will they?

(6)b* Publishers will surely reject suggestions, will they?

For Dutch, Kraak gives, e.g., (p.101–3):

(7)a Hij werkt niet en zij ook niet.
(He doesn't work and neither does she.)

(7)b* Hij werkt en zij ook niet.
(*He works and neither does she.)

(8)a Hij koopt geen boeken, zelfs geen romans.

(He doesn't buy books, not even novels.)

(8)b* Hij koopt geen boeken, zelfs romans.

(*He doesn't buy books, even novels.)

(9)a Hij werkt niet, is het wel?

(He doesn't work, does he?)

(9)b* Hij werkt, is het wel?

(He works, does he?)²⁶

There is one difficulty connected with these defining contexts to which I would like to draw attention. As Kraak says (p.93), in accordance with Lees and Klima, negativeness of sentences depends on the occurrence in certain positions not only of the simple negation element *niet* (*not*), but also of such adverbs as *nooit* (*never*), *nauwelijks* (*hardly*), *zelden* (*rarely*, *seldom*). The defining context, however, as exemplified in (7), provides no clue for distinguishing sentences with *nauwelijks* (*hardly*, *scarcely*) or *zelden* (*rarely*, *seldom*) from non-negative sentences, although the corresponding English environment of (4) does:

(4)c Writers will rarely accept suggestions, and neither will publishers.

(7)c* Hij werkt nauwelijks en zij ook niet.

(He hardly works, and neither does she.)

The context exemplified in (5) and (8), however, enables us to group sentences with *hardly*, etc., together with sentences denied with *not*, as appears from (5)a, and from:

(8)c Hij koopt nauwelijks boeken, zelfs geen romans.

(He buys hardly any books, not even novels.)

The context in (9) is somewhat doubtful in this respect, although I am inclined to consider

(9)c* Hij werkt nauwelijks, is het wel?

(*He hardly works, does he?) (See note 26)

as ungrammatical. Kraak recognizes the doubtfulness of Dutch tag-questions as an adequate means for distinguishing negative sentences. He shows that negative tag-questions may also be tagged to negative sentences (p.103). He then gives (p.103–7) an ingenious logical explanation for the intriguing alternation of positive and negative elements in sentences containing tag-questions.

The impression one gets from the sets of defining contexts is that they reflect some regularities without revealing them. Like considerations of meaning, these contexts are best taken as useful heuristic tools.

On p.110–14 Kraak speaks of a rather disconcerting difficulty, the problem of optimally grammatical and stylistic variants, or the problem to determine which is the most neutral, the most easy-going, variant of a set of semantically equivalent sentences, and which variants imply some specific stylistic colour. This difficulty presents itself in many languages, especially in those with a relatively free word order. In Dutch and German there is the possibility of inversion which makes the problem of optimality especially awkward. In Dutch, roughly speaking, any part of

a sentence may shift to the beginning, in which case the finite verb form immediately follows the inverted element. Thus differences in style and stress, but not of meaning, can be expressed between such a sentence as: *Jan drinkt altijd melk.* (*John always drinks milk.*) and: *Altijd drinkt Jan melk.*, and: *Melk drinkt Jan altijd.* (In English such inversions do occur, but rarely, as in: *In came Dr. Johnson.*)

For negative sentences the possibility of inversion has some peculiar consequences. We have (Kraak p.111):

- (10a) Niets klopt er ooit.
(Nothing is ever right.)
(10b) Nooit klopt er iets.
(Never is anything right.)
(10c) Er klopt nooit iets.
(There's never anything right.)²⁷

It is seen that the negative element is sometimes attached to underlying *iets* (*something*), giving morphophonemically *niets* (*nothing*), sometimes to underlying *ooit* (*ever*), giving *nooit* (*never*). We also find (p.110–1):

- (11a) Hij bezit geen huizen. (He doesn't own any houses.)
(11b) Huizen bezit hij niet. (Houses he hasn't got.)

and:

- (12a) Er werd geen brood gebakken. (No bread was being baked.)
(12b) Brood werd er niet gebakken. (Bread wasn't being baked.)

The behaviour of the negation element in (11) and (12) is different from cases where the indefinite article *een* (*a*) underlies *geen*: in those cases the negation element may form part of the inverted element, which is not allowed in (11) and (12):

- (13a) Hij bezit geen huis. (He doesn't own a house.)

can be inverted to:

- (13b) Een huis bezit hij niet. (A house he hasn't got.)

or to:

- (13c) Geen huis bezit hij. (Not a house does he possess.)

But

- (11c) Geen huizen bezit hij.

is ungrammatical, whereas

- (12c) Geen brood werd er gebakken.

is ungrammatical for the meaning "No bread was being baked.", and only grammatical if meaning "No loaf was being baked." For these peculiarities of the negation element under inversion Kraak offers no grammatical solution. He does, however, decide which forms he regards as optimal.

Kraak decides (p.112) to take as optimal variants sentences starting with the subject, that is, without inversion, considering that there are sentences consisting of only a subject followed by a finite verbal form, such as *Hij werkt.* (*He works.*), for which no inverted alternative exists. He does not mention here, however, that for sentences with an in-

definite subject he prefers as optimal forms those with *er*-inversion, as appears from his treatment of these sentences on p.125 ff. On p.125 he says: “In my opinion the optimal, and in most cases even unique, grammatical form for sentences with an indefinite subject, is found in forms such as:

(14)a Er loopt een jongen. (There is a boy walking.)

(14)b Er lopen jongens. (There are boys walking.)

It will be agreed upon by most, if not all, native speakers of Dutch, that this is, indeed, the most neutral and current form for this type of sentence. In fact, the forms with the subject first:

(15)a Een jongen loopt er.

(15)b Jongens lopen er.

have contrastive stress on the subject. And there are also more compelling reasons for preferring (14) to (15). Thus,

(16) Er loopt een jongen op straat.

(There is a boy walking in the street.)

is a perfectly normal sentence. But the form corresponding to (15) is hardly grammatical at all:

(17) *Een jongen loopt er op straat.

There will be occasion later on to return to this problem of optimal variants.

In Chapter VI (p.115–67) the ground is clear for the presentation of actual descriptive results. In paragraph 24 (p.115–19) a set of simple context-restricted phrase structure rules is given for the generation of basic structures underlying Dutch sentences. These rules provide a basis for further discussion and improvement. Thus, e.g., the negation element (*neg*) does not occur in these rules, but is introduced in par. 29, especially on p.149–58.

Anticipating the introduction of *neg* in the base component, Kraak discusses in par.25 (p.119–23) the problem of assigning a definite place to it. Adopting Lees’ and Klima’s proposal to generate *neg* in the base component, and assign to it its proper place later on by transformational operations, he presents (p.120) a tentative rule for the most general or ‘standard’ position and form of *neg*. Its standard form is given as *niet*, and its standard position is considered to be immediately after the finite verb form. However, he stresses the point that the negation element can occupy a great many different positions, and gives eight pertinent examples (p.120).

The principle of strict separation of negative and positive sentences (with or without a negation element) is not taken into account here, but is returned to later on. Of the eight examples given on p.120, two are positive sentences, viz. (4) *Hij heeft een boek niet teruggebracht.* (*There is a book he hasn’t returned.*), and (8) *Hij heeft veel vraagstukken niet af.* (*Many problems he has not finished.*). The indication of the standard position of *neg*, tentatively given on p.120, must be understood to be

valid only for negative sentences, however, since positive sentences containing a negation element are likely to have this element in a variety of different positions.

In par.26 (p.123–30) Kraak shows that some grammatical phenomena, among them those of negation, strongly support an analysis of the Dutch non-definite article into a really indefinite and a categorial article. The indefinite article occurs, e.g., in: *Er loopt een jongen.* (*There is a boy walking.*), whereas we have the categorial article in: *Een jongen loopt.* (*A boy walks.*), meaning that boys usually, or always, walk. The corresponding negative sentences are: *Er loopt geen jongen.* (from: *Er loopt niet een jongen; There is no boy walking.*), and *Een jongen loopt niet.* (*A boy doesn't walk.*). (In Dutch no formal distinction is made between such verbal aspects as are expressed in English by *he walks* v. *he is walking.*) The same difference is observed for mass and abstract nouns, usually occurring with the zero form of the non-definite article: *Er is brood te koop.* (*There is bread for sale.*) beside *Er is geen brood te koop.* (*There is no bread for sale.*), and: *Brood is te koop.* (*Bread is for sale.*) beside *Brood is niet te koop.* (*Bread is not for sale.*).

Another argument is found in distributional similarities between the indefinite article and the pronouns *iemand* (*somebody*) and *iets* (*something*) on the one hand, and the categorial article and the pronouns *iedereen* (*everybody*) and *alles* (*everything*) on the other: *Er loopt iemand.* (*There is somebody walking.*), but **Iemand loopt.* Or: **Er loopt iedereen.* (**There is everybody walking.*), and *Iedereen loopt.* (*Everybody walks.*).

The original rules of par. 24 are now modified so as to incorporate the new distinction between an indefinite and a categorial article *een*. It is also possible now to formulate a transformation accounting for a notable exception to the rules that the standard position of the negation element is immediately after the finite verb form. If the verb is accompanied by a definite object (i.e. an object marked by the definite article, or another definite marker), this object is made to stand between the finite verb and the negation element. In the case of categorial objects, says Kraak (p.130), this replacement is optional. In the case of indefinite objects, this replacement is not allowed for complete sentence negation, since it effects a partial negation. Thus we have: *Hij koopt het boek niet.* (*He doesn't buy the book.*), *Hij begrijpt een formule niet.* (categorial: *He doesn't understand formulas.*; indefinite with partial negation: *There is a formula which he doesn't understand.*), and *Hij begrijpt geen formule.* (categorial: *He doesn't understand formulas.*; indefinite with sentence negation: *He understands no formula.*).

Par. 27 (p.130–8) is a further elaboration of Kraak's criticism of Klima mentioned above: positional differences of the negation element are not made to correspond sufficiently to semantic differences. Kraak prefers to see all relevant semantic differences expressed in basic structures (and his view is supported by all recent publications in the field), leaving to

the transformations the assignment of the corresponding correct positions.

Kraak now goes on to prepare the ground for his principal thesis (p.155–6), that the negation element denies not just a predicate, but a subject-predicate construction, which may embrace either the whole sentence or a part of it. In the case of complete sentence negation we have a negative sentence; in the case of partial sentence negation we have a positive sentence containing a negation element. Many examples are given in par.28 (p.138–47) of sentences with the negation element in different positions. Some of these sentences contain some ‘defining context’ showing their negative or positive character. Others serve to illustrate the correspondence of the negative character of a sentence with the scope of negation. One interesting example is:

(18) Hij blijft niet thuis om de regen.

(He isn’t staying at home because of the rain.)

which is homonymous, since it can be paraphrased as

(1) It is not because of the rain that he is staying at home, or

(2) He isn’t staying at home, for it is raining.

Only in reading (1) is (18) a negative sentence, analysable as: It is not true that it is because of the rain that he is staying at home. In reading (2), however, (18) is a positive sentence: It is because of the rain that it is not true that he is staying at home.

It is noteworthy, in this connection, that the homonymy of (18) can be abolished by the application of the inversion rule. Then reading (1) gives:

(18)a Niet om de regen blijft hij thuis.

But reading (2) yields (without contrastive stress patterns):

(18)b Om de regen blijft hij niet thuis.

Another remark can be made here, which will prove to be of some importance. Possibly, in reading (1), (18) is not the optimal variant, but rather:

(18)c Hij blijft niet om de regen thuis.

For if we want to insert, in addition to the sentence negation, also a partial negation covering only the subject-predicate phrase *Hij blijft thuis* (*He is staying at home*), the only possibility is:

(18)d Hij blijft niet om de regen niet thuis.

(It is not because of the rain that he isn’t staying at home.)

In reading (1), (18) is then a stylistic variant with contrastive stress on *om de regen*, and corresponding to an inverted form: *Om de régen blijft hij niet thuis*, with heavy stress on *om de regen*, and a slurred final intonation. On the other hand, if we wish to deprive (18)d of the sentence negation, preserving the partial negation, we find the non-homonymous:

(18)e Hij blijft om de regen niet thuis

(It is because of the rain that he isn’t staying at home.)

which is equivalent to reading (2). If we accept, therefore, (18)c, d, and e, as optimal variants, we have not only the advantage of a more regular

insertion pattern of the negation element, but we also avoid their homonymy. We may accordingly suggest the optimal variant of (18) without negation element:

(18)f Hij blijft om de regen thuis.

(He is staying at home because of the rain.)

which may answer Kraak's question (p.140) about the optimality of the different variants.

There are sentences in Dutch with a prepositional phrase of a certain, not yet identified, class at the end, preceded by a clear pause, which can be indicated by a comma. These sentences are to be distinguished from those which have a prepositional phrase at the end by virtue of the (stylistic) contrastive stress replacement discussed above and manifested in (18), reading (1), derived from optimal (18)c. In the case of final prepositional phrase preceded by a pause, the prepositional phrase has the character of an additional specification of the sentence, of an elliptically coordinative appendix, often paraphrasable as 'namely', or 'which is'. Thus, instead of (18)e we may have:

(18)g Hij blijft niet thuis, om de regen.

(He isn't staying at home, namely because of the rain.)

which is equal to (18) reading (2). In fact, (18) reading (2) is phonologically distinguished from (18) reading (1) by a pause before *om de regen*, and it would have been better if Kraak had not considered (18) homonymous.

For the same reason I would rather take

(19)a Hij werkt niet tot mijn tevredenheid.

(He doesn't work to my satisfaction.)

which is given by Kraak on p.140, as a non-homonymous sentence, implying that 'his work doesn't satisfy me'. The alternative meaning, given by Kraak, namely: *He doesn't work, which is to my satisfaction.*, or: *His not working satisfies me.* is then proper to:

(19)b Hij werkt niet, tot mijn tevredenheid.

or to the synonymous:

(19)c Hij werkt tot mijn tevredenheid niet.

Likewise the sentence:

(19)d Hij werkt tot mijn tevredenheid.

(He works to my satisfaction. i.e. His work satisfies me.) is better not considered homonymous, as Kraak does on p.140, and should be distinguished from:

(19)e Hij werkt, tot mijn tevredenheid.

(He works, which satisfies me. i.e. His working satisfies me.)

The regular denial of (19)d is (19)a, but (19)e has more than one negation, since, logically, it consists of two assertions in conjunction, namely: (1) *He works*, and (2) *This fact satisfies me*. There are now three possibilities of denial: assertion (1) can be denied, which yields (19)b; or assertion (2) can be denied, which gives:

(19)f Hij werkt, niet tot mijn tevredenheid.

(He works, which is not to my satisfaction.)

or:

(19)g Hij werkt, tot mijn ontevredenheid.

(He works, which is to my dissatisfaction.)

or both assertions can be denied, with the result:

(19)h Hij werkt niet, niet tot mijn tevredenheid.

(He doesn't work, which is not to my satisfaction.)

or:

(19)i Hij werkt niet, tot mijn ontevredenheid.

(He doesn't work, which is to my dissatisfaction.)

In Dutch it is possible to incorporate the second assertion, following the pause, into the first assertion (so that the pause is removed and the sentence presents itself as one logical assertion) only if the first assertion contains some quantifying element such as, e.g., *altijd* (*always*), *soms* (*sometimes*), *overal* (*everywhere*), or an indefinite subject or object, or the negation element *neg*. In that case the second assertion is transferred before the quantifying element, indefinite subject or object, or *neg*. Thus the second assertion of (18)g can be inserted in the first assertion, which contains *neg*. The result is (18)e. The same relation holds between (19)b and c. The sentences (19) h and i can also be thus transformed to, respectively:

(19)j Hij werkt niet tot mijn tevredenheid niet.

and

(19)k Hij werkt tot mijn ontevredenheid niet.

But this operation is not possible for (19)e, at least not without a change of meaning (cf. (19)d). Analogously

(20)a Hij werkt, in de avonduren.

(He works, and he does so in the evening hours.)

is not semantically identical with:

(20)b Hij werkt in de avonduren.

(He works in the evening hours.)

which may well be opposed to, e.g., *But he sleeps in the daytime*.

In order to avoid needless complications in the grammatical description of negation, it seems useful not to consider, at this stage, sentences containing two assertions separated by a pause. Kraak's analysis (p.140–1) of the sentences exemplified in (18) and (19) is not as thorough as might be wished for a description of negation, although it appears from p. 159 that he agrees in principle with the foregoing analysis. There he gives an example parallel to (18):

(21)a Hij rijdt niet in zijn auto om de regen.

and

(21)b Hij rijdt niet om de regen in zijn auto.

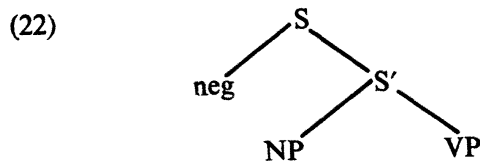
both meaning: *It is not because of the rain that he is going by car*. He says that (21)a can never have an interpretation in which both adverbials fall under the scope of the negation element, whereas (21)b

can (I will return to this below). He goes on: “This means that the restrictions of order that I have in mind, and which imply for (21)a and b that *om de regen* must precede *in zijn auto*, are limited to the case where both adverbials have been taken up in the sentence-meaning organized into one single fact.”

The analysis proposed here enables us to distinguish more clearly between optimal and stylistic variants, and between sentences embodying one or more assertions. For the establishment of grammatical rules concerning the negation element it seems wise policy to limit ourselves, for the time being, to optimal forms containing just one assertion, keeping the non-optimal or logically composite sentences for later treatment.

In the last paragraph of Chapter VI, par.29 (p.147–67) Kraak presents his grammatical solutions of the problems discussed. As has been said above, he prefers, with Lees and Klima, to introduce *neg* in the base component, leaving it to the transformational component to define its proper positions. He discusses first the way in which *neg* can be introduced into the base component. Since *neg* is found to occur in many different parts of negative sentences, he rejects, with Klima, the solution of Lees (VP → (Prev) Aux MV), in which *neg* is made to form part of the predicate only. He also rejects Klima’s solution (S → (neg) NP VP), since it is not clear that *neg*, NP, and VP, are three constituents of the same order. He proposes (p.150) the solution: S → (neg) S’
S’ → NP VP

which gives diagrams of the following structure:



For the acceptability of this solution Kraak refers to Katz and Postal’s analogous treatment of yes/no-questions²⁸.

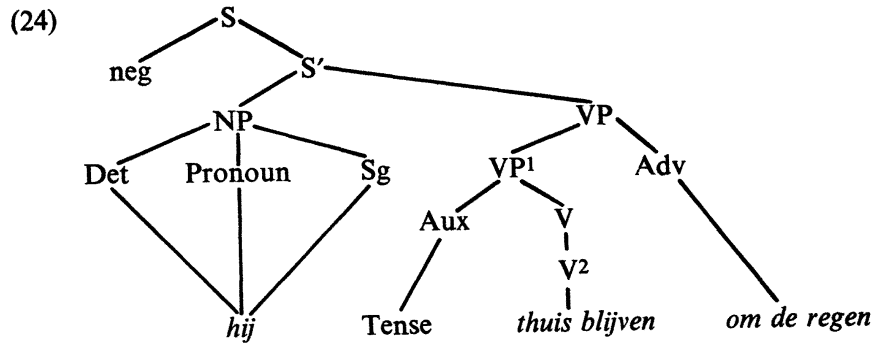
He proposes the following initial rules for the base component of a syntactical description of Dutch:

- (23) (i) S → (neg) S’
(ii) S’ → NP VP
(iii) VPⁱ → VPⁱ⁺¹ (Adv) (where VP = VP⁰, and i ≥ 0)
(iv) VP¹ → Aux V

as must be understood from a detailed discussion on p.153–6. The length of his discussion seems to have caused Kraak to overlook the fact that rule (iv) is not correct: the superscript of the left part should not be “1”, but any *n* arrived at by application of (iii). This implies that the rules must be run through from top to bottom without return.

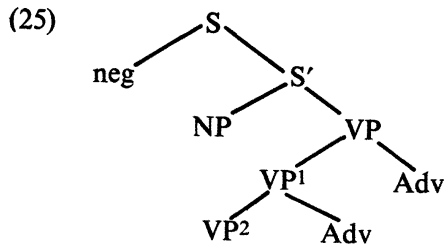
According to these rules, together with the others of his tentative base

component (p.115–9), sentence (18) can be generated with the following basic phrase marker:



(There is a misprint in the diagram, p.155, which has been corrected here.)

Kraak now sets out to try to describe negation as negation of a subject-predicate construction, where the scope of negation depends on the number of adverbials that are taken to belong to the denied subject-predicate construction. Rule (23) (iii) permits the introduction of an unlimited number of adverbials, every new adverbial being linked as immediate constituent to a verb phrase of a certain ordinal number. Thus we may have diagrams dominated by, e.g., (p.159):



which permit a structural analysis of a class of basic structures into: neg – NP – VP² – Adv – Adv.

Kraak now defines the concept *subject-predicate construction*, formally written as [NP VP]_{SP}, as follows (p.155):

- (26) Def. NP VPⁱ = [NP VP]_{SP} (i ≤ 0)
 if
 NP = [NP, S]
 VP = [VPⁱ, VP^k] (–1 ≤ k < i)
 where
 VP⁰ = VP, and VP^{–1} = S'

The notation [X, Y] is borrowed from Chomsky, *Aspects* (see Note 1), p.68–74. It has been designed by Chomsky to provide a means for expressing such functional relations in sentences as subject, object, predicate. In this notation a relation is expressed between X and Y, such that X is

directly dominated by Y in a phrase marker diagram. This definition permits us to distinguish in (24) the SP-constructions:

- (27)a hij – Tense – thuis blijven – om de regen (NP VP)
 (27)b hij – Tense – thuis blijven (NP VP¹)

Or, in (25) we can distinguish as SP-constructions:

- NP VP (two adverbials)
 NP VP¹ (one adverbial)
 NP VP² (no adverbial).

On the basis of this definition of an SP-construction Kraak delimits (p.156) the *scope of negation* by a transformation:

- (28) *neg* – incorporation:
 $\text{neg}[X]_{\text{SP}} Y \Rightarrow \text{neg} [X]_{\text{SP}} // Y$

where $[X]_{\text{SP}}$ stands for any SP-construction, Y for the non-relevant remainder of the generated string (Y may be null), and where a new formal element, the incorporation symbol “//”, is introduced to indicate that whatever stands left of it falls under the negation. The difference between (18) reading (1) and (2) is thus accounted for:

- (29)a *neg* – hij – Tense – thuis blijven – om de regen // cf.(27)a
 (29)b *neg* – hij – Tense – thuis blijven // om de regen cf.(27)b

In the same way Kraak accounts for the difference between (19)a and b by the analysis into:

- (30)a *neg* – hij – Tense – werken – tot mijn tevredenheid //
 (30)b *neg* – hij – Tense – werken // tot mijn tevredenheid.

For (21)b Kraak gives four readings, corresponding to different scopes of negation (p.158–60):

- (31)a *neg* – hij – Tense – rijden – om de regen – in zijn auto // (NP VP)
 (31)b *neg* – hij – Tense – rijden – om de regen // in zijn auto (NP VP¹)
 (31)c *neg* – hij – Tense – rijden // om de regen – in zijn auto (NP VP²)
 (31)d *neg* – hij – Tense – rijden // om de regen // in zijn auto.

Evidently, (31)d, where the negation is said to apply to the one adverbial *in zijn auto*, with the exclusion of *om de regen*, so that the scope of negation is discontinuous, cannot be derived by transformation (28). For (21)a Kraak gives three readings:

- (32)a *neg* – hij – Tense – rijden – in zijn auto // om de regen (NP VP¹)
 (32)b *neg* – hij – Tense – rijden // in zijn auto – om de regen (NP VP²)
 (32)c *neg* – hij – Tense – rijden // in zijn auto // om de regen

where (32)c suffers from the same difficulty as (31)d, namely the discontinuity of the scope of negation. To solve this problem Kraak proposes to introduce replacement transformations such that (31)d can be derived from (32)a, and (32)c from (31)b.

There is, however, room for some doubt here. Is it true that there are four readings corresponding to (21)b and three with (21)a? (31)a seems all right: the negation embraces the whole sentence, which is then, by definition, a negative sentence. In (31)b only the first adverbial, *om de regen*, is intended to be denied, so that one is led to think that in this read-

ing the subject of the sentence is going by car, but that his going by car is not because of the rain. But such information is already implied in (31)a, which says that it is not true that it is because of the rain that he is going by car. (31)c is very strange: it should say that he is not driving or going, which is because of the rain, and by car, so that his not going is taking place by car. Just as in (29)b and (30)b we have here the type of additional complement forming a second assertion. As for (31)d, which should mean that he is not going by car, and that this is because of the rain, I seriously doubt whether this is at all a possible interpretation of (21)b. It would only be possible, and even with some difficulty, with an emphatically isolating drop of intonation on *om de regen*. As a natural reading of (21)a, however, it is found in (32)a: *he isn't going by car, which is because of the rain*, or in:

(21)c Hij rijdt om de regen niet in zijn auto.

(It is because of the rain that he isn't going by car.)

where the second assertion has been incorporated left of the negation element (as the rule says). To (32)b I have the same objection as to (31)c. (32)c is acceptable, and analogous to (18) reading (1): *it is not because of the rain that he is going by car*. It is best considered a stylistic variant of (21)b with special stress on *om de regen* (cf. (18)a, b). This reading, however, is equal to (31)a, and, just as in (31)b, it is not clear why *in zijn auto* should be excluded from the negation, since this reading is nothing but the canonical negation in (21)a. I do not understand why Kraak denies the possibility of complete sentence negation to (21)a, which is the more remarkable since such an assumption would be in conflict with his initial hypothesis concerning a one-to-one correspondence between positive and negative sentences. It will be better, therefore, to assign to (21)b just one reading, namely the one expressed in (31)a, and two to (21)a, namely (32)a corresponding to:

(21)a' Hij rijdt niet in zijn auto, om de regen. (equal to (21)c) and the complete sentence negation as found in (31)a.

This drastic reduction of the possible readings of (21)a and b leads us to a second question: What exactly does the term 'scope of negation' mean? According to Kraak, there is a difference in scope of negation between (31) a and b. In (31)b *in zijn auto* is not denied, so that we must infer that he is going by car, but that this is not because of the rain. In (31)a, however, both adverbials are denied. Does this mean that he is going, but not by car, and that his not going by car is not because of the rain? If so, the natural expression would be:

(21)d Hij rijdt niet om de regen niet in zijn auto.

(It is not because of the rain that he isn't going by car.)

Or does it mean that he is going (driving), but not because of the rain, and not by car? This, however, would correspond to:

(21)e Hij rijdt, maar niet om de regen en niet in zijn auto.

(He is driving, but not because of the rain and not in his car.)

Or is it that he is going, but not by car and that a possible going by car would be because of the rain? Or is he going by car, but not because of the rain ((31)b)? Or is he not going by car, and is this because of the rain (which is the meaning of (21)c and a')? The simplest answer is, I think, that (31)a should be read as: It is not true that it is because of the rain that he is going by car. The most natural consequence is that he is going by car, but that this is not because of the rain.

If the term “scope of negation” is to have any meaning, it must be defined in terms of priority. If *neg* is prior to the whole rest of the sentence (as in (31)a), it has its widest possible scope, and the sentence is considered negative. If it is prior to only a part of the sentence, i.e. if in a semantic description of a sentence it is preceded by one or more other elements (quantifiers or other operators), as in (21)c, it has a more limited scope.

Kraak himself enlarges upon the question whether sentences with two or more adverbials may have different interpretations. He starts from the positive sentence (p.156–8):

(33)a Ik ga met de trein naar Groningen.

(I am going to Groningen by train.)

He gives as his opinion that with a sentence like (33) a “I do not necessarily express 1) that I am going to Groningen, and 2) that I am doing so by train, but I may declare that I am going by train, whereas *to Groningen* can be omitted since that destination of my trip may be implied as already known in the communicative situation. (The same information can thus be given in a shorter form as: *I am going by train.*)” He distinguishes a homonymous sentence (33)a, although with different intonation patterns, meaning: “I am going by train, and specifically to Groningen”, or just “I am going by train.”. On the basis of this alleged homonymy, and of a supposed analogy with the “polyinterpretability” of negative sentences with more than one adverbial, he introduces an element *pos*, as opposed to *neg*, and proposes to modify rule (23)(i) into:

$$(23)(i') S \rightarrow \begin{matrix} \{pos\} \\ \{neg\} \end{matrix} S'$$

and transformation (28) into:

$$(28') \begin{matrix} \{pos\} \\ \{neg\} \end{matrix} [X]_{SP} Y \Rightarrow \begin{matrix} \{pos\} \\ \{neg\} \end{matrix} [X]_{SP} // Y$$

(misprint corrected).

It is difficult to accept, however, that (33)a is homonymous. As Kraak himself says, differences in interpretation of (33)a depend on the communicative situation. Here we are confronted with different utterance tokens, each with its own *hic et nunc* interpretation in some actual context or situation, rather than with different sentoids and different meanings. What Kraak points to here, is real, but akin to what is often called “psychological subject and predicate”, or “topic and comment” (cf. Chomsky, *Aspects*, p. 163). Although such phenomena raise problems that are, as yet, far from a final solution, one may say that they belong to

a theory of performance rather than to a theory of competence. (33)a has just one meaning, which is a conjunction of three elements: I am going, my going is by train, and my going is to Groningen. For (33)a to be true all three elements must be true in conjunction. (It is not unreasonable to say that it is truth conditions that define meanings.) The denial of (33)a, however:

(33)b Ik ga niet met de trein naar Groningen.

(I am not going to Groningen by train.)

means: It is not true that (33)a. For this sentence to be true it is sufficient that one of the three semantic elements of (33)a be false. For the falsity of one element of (33)a disturbs the conjunction and, consequently, falsifies the whole sentence (33)a.

Thus we see that the “polyinterpretability” of (33)b is based on the possibility of one, two, or three elements of (33)a being false, and is a consequence of the logical structure of (33)b. (33)b, however, is considered to have just one meaning, although a specific interpretation within this meaning will depend on a specific context and/or situation. The same goes for (33)a: it has different interpretations within just one meaning, which is defined by truth conditions. Each interpretation depends on context and/or situation. In (33)b there is a negation element extending over all the rest of the sentence, that is, with a certain scope. This scope-limited negation element strongly influences the truth value of (33)b. There is no reason, however, to postulate also a scope-limited positive element for what has been called “all the rest of (33)b”, namely (33)a. The sentence (33)a is seen not to be homonymous: its truth value is unambiguously defined by the conjunction of its three elements. There being no other reason to introduce a scope-limited positive element *pos*, one feels inclined not to accept Kraak’s proposal to introduce *pos* as a counterpart to *neg*. In Kraak’s analysis there is a proliferation of meanings, and, with it, of homonymous sentences. It seems wise to apply some pruning here.

The distinction of two homonymous sentences in (33)a, and the consequent introduction of *pos*, which is said to have different scopes, are intended by Kraak to provide a solution for the fact that (18)f has two corresponding sentences containing a negation element, viz. (18)c and e. The element *pos* should now account for two different homonymous sentences (18)f. We have seen that this homonymy is not very plausible. It appears also that *pos* does not provide a satisfactory solution either for the problem of sentences with *neg* in different positions, as Kraak himself frankly points out (p.162). *Neg* may also occur in different positions in sentences, not with adverbial prepositional phrases, but with adverbs of a certain category. Thus we have, e.g.:

(34)a Hij gaat niet graag naar school.

(He doesn’t like going to school.)

and

(34)b Hij gaat graag niet naar school.
(He likes not going to school.)

But the corresponding negationless:

(34)c Hij gaat graag naar school.
(He likes going to school.)

is not found to be homonymous, not even by Kraak (p.162). He admits, therefore, that the element *pos* cannot account for cases like (34). It seems better, for these reasons, to abandon altogether the idea of introducing *pos*, and to consider (33)a and (18)f as semantically unambiguous, non-homonymous sentences. The solution of the different possible positions of *neg* must be found elsewhere.

We thus regard both (21)a and b as non-homonymous, but synonymous, negative sentences, with a meaning corresponding to (31)a, (21)a being a stylistic variant of optimal (21)b. (21)a' is taken as equivalent to (21)c, but is left out of consideration here, since it consists of two assertions. The same goes for the sentences corresponding to (29)b and (30)b.

Since the introduction of the concept "scope of negation" by means of transformation (28), we find that we have, in fact, been dealing so far only with complete sentence negation. The only instances of partial negation were found in the sentences of the type exemplified in (19)b, containing two assertions, which type we decided to reserve for later treatment for tactical reasons of syntactic description. The other cases of partial negation were found to be only apparent, since they were either not distinguishable from complete negation ((31)b), or based on a supposed homonymy ((31)c,d). There are, however, still clear cases of partial negation, such as (18)d, (19)j, (21)d.

We shall see now whether these logico-semantic distinctions of complete and partial denial can be found again in grammatical regularities, whether in fact the definition of the scope of negation for each sentence by transformation (28) has any consequences for the grammatical structure of every sentence.

On p.160–1 Kraak gives, in non-formalized language, a rule assigning the proper place to *neg* according to its scope as defined by (28):

(35) "Between the position of the negation element and its scope there appears to exist some connection, which can be expressed as follows: *neg* immediately precedes the constituent, or the constituents, falling under its scope together with the minimal subject-predicate construction; in sentences with one constituent not falling under the scope of *neg*, the negation element may follow this; if there are more such constituents, the negation element must follow these."

Thus, the provisional rule given on p.120 and stating that *neg* generally stands immediately after the finite verb form, has now been refined: According to the rules given above, every constituent not identical with *neg*, and not falling under the minimal SP-construction, is an adverbial constituent. If all adverbial constituents fall under the scope of negation,

neg must precede them all; if one adverbial does not fall under its scope, *neg* may precede or follow this constituent; if more than one adverbial constituent is exempted from negation, *neg* must follow these constituents.

This rule is an elegant, though not complete, summing up of the results of Kraak's analysis based on numerous examples. It should be noted, however, that my objections to Kraak's analysis of (21)a and b are supported by this rule. In both (21)a and b the negation element *niet* precedes two adverbial constituents. According to Kraak's rule this position excludes the possibility of both adverbials being exempted from negation. The analyses (31)c and (32)b, which I have rejected on different grounds, are in conflict, therefore, with Kraak's rule (35).

If we exclude, for the moment, sentences containing two assertions, and if we consider the type exemplified in (18)c as the optimal form, rule (35) can be simplified considerably:

(36) *neg* precedes all adverbial constituents that fall under its scope. There remain, however, some problems to be solved.

The first problem is pointed out by Kraak himself (p.162–3). It consists in the fact that some adverbial constituents cannot be exempted from the scope of negation. We are not yet able, however, to define this category unequivocally. It seems, for instance, that adverbials of direction must be negated if *neg* occurs. Thus we have:

(37)a Hij gaat niet naar school.
(He doesn't go to school.)

but not:

(37)b* Hij gaat naar school niet.

A second difficulty is that rules (35) and (36) do not account for the different positions of *neg* in the case of definite, indefinite, or categorial subjects and direct or indirect objects. We have, e.g.:

(38)a Hij leest een boek.
(He is reading a book.)

with its negation:

(38)b Hij leest geen (=niet een) boek.
(He is not reading a book.)

But the denial of:

(39)a Hij leest het boek.
(He is reading the book.)

is:

(39)b Hij leest het boek niet.
(He is not reading the book.)

This difference of position is discussed and described by Kraak on p.130, where he gives, as we have seen above, an obligatory replacement transformation for definite objects, and an optional one for categorial objects. These transformations, however, do not cover the whole area. Let us look at the matter a little more closely. The negation of:

(40)a De leraar geeft een leerling het boek.

(The teacher gives the book to a pupil.)

with an indefinite indirect, but a definite direct object, is:

(40)b De leraar geeft geen leerling het boek.

(The teacher doesn't give the book to any pupil.)

But:

(41)a De leraar geeft de leerling een boek.

(The teacher gives the pupil a book.)

is denied as:

(41)b De leraar geeft de leerling geen boek.

(The teacher doesn't give the pupil a book.)

And:

(42)a De leraar geeft de leerling het boek.

(The teacher gives the book to the pupil.)

becomes under negation:

(42)b De leraar geeft de leerling het boek niet.

(The teacher doesn't give the book to the pupil.)

A sentence with a categorial subject, such as:

(43)a Een kind praat.

(A child talks. i.e. Children generally talk.)

is denied as:

(43)b Een kind praat niet.

(Children do not talk.)

But if the subject is indefinite, the optimal form, as has been demonstrated in (14) a and b, is a sentence with *er*-inversion:

(44)a Er praat een kind.

(There is a child talking.)

which, when denied, is:

(44)b Er praat geen kind.

(There is no child talking.)

but under partial negation:

(44)c Er praat een kind niet.

(There is a child who is not talking.)

Kraak speaks about this difficulty on p.164–6. He does not describe the difference between (44)b and c as a difference in scope of negation. He analyses (44)a as consisting semantically of two predications: *there is a child* and: *this child talks*. Accordingly, he says, there are two possibilities of negation, depending on which of the two predications is denied. But now I wonder if (44)b is to be paraphrased as: *there is no child* and: *this child talks*. Be that as it may, Kraak most usefully distinguishes a grammatical category of “indefiniteness”, and diagnoses correctly all difficulties connected with it. He concludes (p.165): “It is not clear at all how these observations can be accounted for in a homogeneous way as phenomena of negation, if the structure of these sentences (i.e. sentences with indefiniteness) is interpreted as similar to the structure of the sentences dealt with up till now, i.e. those constituted by one subject-

predicate construction.” It seems true indeed, that sentences with indefiniteness are structurally very different from those without it, but there is no need to distinguish two SP-constructions, or predications. If the indefinite constituent of these sentences is regarded as containing a quantifying element, the picture becomes more regular, both semantically and grammatically. It seems that there is a class of, let us say, operators, to which belong not only quantifying elements found in adverbials and in noun phrases, but also the negation element, the question element (see Note 28), and certain qualifying elements, such as are found in adverbials like *graag* (*gladly*), *misschien* (*perhaps*), and in modal auxiliary verbs like *willen* (*will*), *moeten* (*must*), *kunnen* (*can*). These elements may all extend over the whole remainder of the sentence, or only part of the remainder. That is, they can all be considered to be scope-limited, their scope depending on their relative priority in the logico-semantic description of a sentence. If we start from this hypothesis, it appears that there are striking correspondences between the positions of these elements in the surface structures of Dutch sentences and their logico-semantic priority.

The sentence (44)a can be paraphrased as: *There is a child who is talking*. (44)b as: *It is not true that there is a child who is talking*, where *neg* is prior to the ‘existential’ quantifier *there is*, so that the sentence is negative. (44)c may be rendered as: *There is a child for whom it is not true that he is talking*. Here the existential quantifier is prior to *neg*, and the sentence is not considered negative.

At this point it is perhaps useful to summarize the discussion of this long and complicated chapter. The importance of the concept “scope of negation” emerges clearly. We have seen, however, that it may be preferable to understand this concept in terms of priority within a class of “operators”, rather than in terms of extension over one, or more, adverbial constituents, or over none, generated within *S'* (see (23)(i)). Nothing can be said against considering *neg* as affecting subject-predicate constructions rather than just predicates²⁹. If we succeed in giving an adequate description of this SP-negation, we shall have distinguished it grammatically from the type of negation with contrastive stress and affecting only one constituent, such as in, e.g.:

- (45)a Niet ik zond mijn vader een brief.
(It wasn't I who sent my father a letter.)
- (45)b Ik zond niet mijn vader een brief.
(It wasn't my father I sent a letter to.)
- (45)c Ik zond mijn vader geen brief.
(It wasn't a letter I sent to my father.)

Probably this kind of negation can be described by means of a series of transformations starting from basic structures containing the SP-denying negation element.

The principle of generating *neg* in the base component is certainly

correct. To do so by setting it apart from S' (see (23)) means a step forward as compared with Klima's treatment of negation. But it seems that not only *neg* (and, if Katz and Postal are right, as I think they are, also the question element), but the whole class of what I called operators should be separated at the outset from S' , so that rule (23)(i) would read something like:

(23)(i') $S \rightarrow (\text{op.}) S'$

Apart from the objections raised above against considering the scope of negation as being definable by the number of adverbials falling under it, there is also an argument against introducing this scope by means of a transformation, instead of expressing this scope in the basic structures. Transformation (28), set up to delimit the scope of negation, adds a new element to the semantic description of the basic structure. In view of recent developments in the theory of transformational generative grammar, and, specifically, the grafting on it of a semantic component³⁰, this feature of transformation (28) must be regarded as a formal defect.

Kraak's rule (35), on the other hand, designed to assign the proper position to *neg* in correlation with the scope delimited by (28), is observationally correct, but may be simplified to (36) if certain conditions of optimality are made to hold. The description will gain in generality and explanatory adequacy, if *neg* is made to form part of a more comprehensive class of operators.

Kraak himself points to the possibility of such a class of operators on p.163-4: "Within the sentence structure as proposed above, that is, with *neg* and S' as the first expansion of S , I see no possibility of introducing *graag* (*gladly, with pleasure*) in such a way that the difference between (34)a and b can be explained. As a possibility of a fundamentally different character it may be suggested that *graag*, alone or with some other words, forms a category outside S' , just like *pos* and *neg* and the morpheme Q of Katz and Postal, – a category which, moreover, has the property that *pos* and *neg* can or must be incorporated in it. *Graag* would thus be a sentence-like adverb with certain sentence properties, namely positiveness or negativeness, and as such it would be part of the whole sentence; in the partial structure S' of that sentence *pos* or *neg* would likewise be incorporated in one of the ways indicated. Such an analysis would explain the difference between (34)a and b. Further investigations into the structure of the composite "defining contexts" would show whether this conception of *graag* provides an explanation for the fact that sentences like (34)b display almost none of the features that have been assigned, by definition, to negative sentences. Since we are dealing here with structures that are compositions of sentences, the interpretation indicated of *graag* is, in principle, promising, since it assigns a sentence character to this word. It is clear that a conception as proposed here means a sharp deviation from current insights into the structure of sentences. If *graag* were, under this aspect, an isolated case, such a conception would be

hardly tenable. But adverbials like *misschien* (*perhaps*), *gewoonlijk* (*usually*), *over het algemeen* (*in general*), *zeker* (*certainly*), etc., equally necessitate a revision of the traditional concept of sentence, since, if I am not mistaken, these adverbials never fall under the scope of negation, nor of *pos*. If one wishes to account satisfactorily for this interpretative fact, and also for the very limited occurrence of these adverbials after *niet* (only, as it were, “outside” the sentence, imposing specific features upon the intonational pattern), then one has to postulate a category apart from the construction of *pos* or *neg* with *S'*.” This very useful suggestion has, regrettably, not been worked out any further, or incorporated into the rest of the description. It becomes the more important if one considers that also quantifiers contained in noun phrases and ‘qualifiers’ embodied in adverbials or modal auxiliary verbs will belong to the new category of operators.

Within the class of operators there seems to be a system at work of positional restrictions of the operators among themselves. Thus, as Kraak observes, *misschien* (*perhaps*) cannot easily be dominated by *neg*. Having, e.g.,:

(46)a Er zal iemand op tijd komen.

(Somebody will arrive in time.)

which contains one existential quantifier: *There is someone who will arrive in time*, we may introduce *misschien* either prior to *iemand*:

(46)b Er zal misschien iemand op tijd komen.

(Perhaps somebody will arrive in time.)

analysable as: *It is perhaps so that there is someone who will arrive in time*, or introduce it after *iemand*:

(46)c Er zal iemand misschien op tijd komen.

(Somebody will perhaps arrive in time.)

to be analysed as: *There is somebody for whom it is perhaps so that he will arrive in time*. If we now wish to introduce *neg* into (46)b and c, we must not place it before *misschien*. This restriction leaves us two possibilities for (46)b:

(46)d Er zal misschien iemand niet op tijd komen.

(Perhaps somebody will not arrive in time.)

analysable as: *It is perhaps so that there is someone for whom it is not true that he will arrive in time*. But *niet* may also be prior to *iemand*:

(46)e Er zal misschien niemand op tijd komen.

(Perhaps nobody will arrive in time.)

where *niemand* is a portmanteau for *niet iemand*. (46)e can be described semantically as: *It is perhaps so that it is not true that there is someone who will arrive in time*.

For (46)c there is only one way of introducing *neg*:

(46)f Er zal iemand misschien niet op tijd komen.

(Somebody will perhaps not arrive in time.)

equivalent to: *There is someone for whom it is perhaps so that it is not true that he will arrive in time.*

The circumstance that (46)b and c cannot be denied, although they may contain in some way or other the negation element, invalidates once more the initial hypothesis of a one-to-one correspondence between positive and negative sentences.

Perhaps a description of the positional restrictions of *neg* and the other operators among themselves would also account for the ungrammaticalness of (37)b, but it seems more probable that adverbials like *naar school* (to school), or *op tijd* of (46) (*in time*), or *in zijn auto* of (21) (*in his car*), are not to be taken as operators at all.

The last chapter of Kraak's book, chapter VII (p.168–84), deals with similarities and differences between grammatical and logical distinctions. Kraak enlarges upon the cleavage that has come to exist between linguistics and logic during the last fifty years or so. On the one hand logicians, who in the process of formalizing their subject-matter had become more conscious of the mathematical exactness of their formulas, have taken to the habit of criticizing natural language for not being a suitable instrument for accurate reasoning. On the other hand linguists vindicate the autonomy of their study, trying to keep their analyses free from any influence due to logical distinctions.

Kraak then points to the fact both that logicians and 'natural speakers' use some form of language, and that all logical expressions can be translated into natural language, but not vice versa. It may be expected, he says (p.171), that a more advanced method of grammatical analysis will reveal some of the secrets of the relationships between the structure of formalized and natural languages, thus reducing the cleavage between logic and grammar. Not always, he says, do logicians give natural language a fair treatment. He cites (p.172) Quine³¹ who says: "Quantification cuts across the vernacular use of *all*, *every*, *any*, and also *some*, *a certain*, etc. . . ., in such a fashion as to clear away a baffling tangle of ambiguities and obscurities . . . Consider e.g. the statements:

(47) Smith can outrun every man on the team.

(48) Smith can outrun any man on the team.

(49) Smith cannot outrun every man on the team.

(50) Smith cannot outrun any man on the team.

Clearly (47) and (48) are equivalent, and (49) is the denial of (47); but (50) is *not* correspondingly the denial of (48). Whereas (47) and (48) are:

(51) (x) (x is a man on the team.]. Smith can outrun x) and (49) is:

(52) \neg (x) (x is a man on the team.]. Smith can outrun x), (50) is rather:

(53) (x) (x is a man on the team.]. \neg Smith can outrun x)." ³²

After having remarked that (47)–(50) illustrate the "faultiness of the vernacular", Quine continues: "The device of quantification subjects this level of discourse, for the first time, to a clear and general algorithm. It reveals the precise connection, hitherto obscure, between general state-

ments and truth-functional composition; in . . . (51)–(53), e.g., unlike their idiomatic equivalents . . . (47)–(50), the relevant truth-functional structure is clearly exhibited.”

Now Kraak shows most convincingly that Quine’s analysis is faulty in two respects. First, (47) is not synonymous with (48), as appears from, e.g.,:

(54) He’s rich enough to buy every man on the team.

and

(55) He’s rich enough to buy any man on the team.

Then, (50) is homonymous, as can be seen from:

(56) We don’t sell to anybody.

which may mean that there is nobody at all to whom we sell, or that we do sell to some people, but not to all. English, therefore, does not seem to be quite so anomalous as Quine has it. The denial of (47) is (49), and (48) is denied in the interpretation of (50) implying that Smith can outrun some men on the team, but not all, – roughly equivalent to:

(57) Smith cannot outrun just any man on the team.

Quine’s interpretation of (50), given in (53), corresponds to a positive:

(58) Smith can outrun some man on the team.

or:

(59) Smith can outrun some men on the team. ³³

It thus appears (p.173–4) that English has a more refined system of quantification than the language of logic. In English we have *every*, *any* (= *just any*), *some* (singular), *some* (plural), whereas in logic there are only two quantifiers corresponding to these four: “(x)” which is: *for all x*, and “(Ex)” meaning: *there is at least one x such that*. Likewise, the grammatical distinction between:

(60) All whales are mammals.

which is equivalent to:

(61) Whales are mammals.

and:

(62) All whales have been killed.

where *all* may not be left out, is not observed in logic, since either “occasion sentences” like (62) are not considered there, or their terms are said to occur “vacuously” ³⁴, in that the truth of the sentence does not depend on them, but rather on its quantificational structure, as in:

(63) All whales have been killed, or else all whales have not been killed.

Kraak then concludes (p.174–5): “In so far as the specific needs arising in other branches of science demand more distinctions of natural language to be expressed in the language of logic than just those sufficient for the logical foundation of mathematics, grammar seems to be destined to play a rôle in the extension of the possible applications of logic.”

The two remaining paragraphs 31 and 32 (p.175–82) deal specifically with negation in grammar and logic. The ideas about negation prevalent

in logic can be traced back, in principle, to Aristotle, whose theory of negation is summed up by Bochenski³⁵ as follows: “For each sentence there is one and only one denial, provided that the words with which it is composed are not ambiguous. The denial of an affirmative sentence is a negative sentence concerning . . . the same subject and conversely. The negation must qualify the copula in sentences with individual names as subjects and in sentences whose subject is a class name, but which are not quantified. If we apply the negation in a quantified sentence to the quantifier, we get its contradictory . . . If, on the contrary, the negation qualifies the copula, we have a contrary sentence . . . Out of two contradictions one must be true, the other false, while the contraries cannot be both true, but the falsity of one does not entail the truth of the other.”

Bochenski’s examples are limited to quantified sentences (p.176):

- (64) (x) F(x) Alle jongens lopen. (All boys walk.)
 (65) (Ex) F(x) Er loopt een jongen. (There is a boy walking.)
 (66) $\neg(x)$ F(x) Niet alle jongens lopen. (Not all boys walk.)
 (67) $\neg(Ex)F(x)$ Er loopt geen jongen. (There is no boy walking.)

where “F(x)” stands for: “the subject x has the predicate F”.

Following well-known rules of logical calculus, Kraak gives, as a logical, i.e. truth-functional, equivalent of (66):

- (68) (Ex) $\neg F(x)$ Er loopt een jongen niet. (There is a boy not walking.)

and as an equivalent of (67):

- (69a) (x) $\neg F(x)$ Alle jongens lopen niet. (All boys are not walking.)

The latter sentence, (69)a, is considered ungrammatical by Kraak. He gives two motivations for this decision (p.177). The second of these is easy to deal with, it being a simple error. He assumes that (69)a is a negative sentence, so that for the one positive (64) there would be two denials. But (69)a is not negative by his definition, as appears clearly from its logical notation which has the negation posterior to the universal quantifier.

His first argument, however, deserves more attention. He supports his decision by referring to analogous cases:

- (70)a Hij leest alles niet.
 (He reads everything not. i.e. He leaves everything unread.)
 (71)a Hij werkt altijd niet.
 (He works always not. i.e. It is always so that he doesn’t work.)
 (72)a Hij werkt overal niet.
 (He works everywhere not i.e. Wherever he is, he doesn’t work.)

which are considered ungrammatical by Kraak, and whose correct forms would be:

- (70)b Hij leest niets.
 (He reads nothing.)
 (71)b Hij werkt nooit.
 (He never works.)

(72)b Hij werkt nergens.

(He works nowhere.)

It cannot be denied that the sentences (69)a, (70)a, (71)a, and (72)a, do sound strange to the Dutch ear, but one may wonder whether they are to be taken as ungrammatical. To say that their alleged ungrammaticalness is simply due to the neglect of morphophonemic rules replacing *alles + niet* by *niets*, *altijd + niet* by *nooit*, and *overal + niet* by *nergens*, does not solve the question. For it is certainly preferable to derive *niets*, *nooit* and *nergens* from *niet iets*, *niet ooit*, and *niet ergens*, respectively. And, moreover, if the doubtful sentences are denied, their denials turn out to be perfectly grammatical ³⁶:

(69)b Niet alle jongens lopen niet.

(Not all boys are not walking.)

(70)c Hij leest niet alles niet.

(He does not leave everything unread.)

(71)c Hij werkt niet altijd niet.

(It is not always that he doesn't work.)

(72)c Hij werkt niet overal niet.

(It is not everywhere that he doesn't work.)

If there were morphophonemic rules demanding the replacement of *alles + niet* by *niets*, etc., it would be necessary to stipulate an exception to them in the environment *niet -*. The alternative rules have the advantage of avoiding this complication.

The question still remains, however, whether our doubtful sentences (69)a, etc., are to be considered ungrammatical or not. If they are taken as such, one must conclude that there are negative sentences without a positive counterpart, so that here Kraak is again in conflict with his initial hypothesis. One would then also have to formulate more restrictions of position within the class of operators. It would be necessary to state that the universal quantifier must not be prior to *neg*, unless there is another *neg* prior to this quantifier.

One may avoid these difficulties by accepting the sentences in question as grammatical, although somewhat unusual. Their unusualness could then be explained by the fact that there are simpler alternative sentences with the same truth-values, viz. (67), (70)b, (71)b, and (72)b, whereas possible equivalent alternatives for their denials are certainly not simpler:

(70)d Hij leest niet niets.

(It is not true that he doesn't read anything.)

(71)d Hij werkt niet nooit.

(It is not true that he never works.)

(72)d Hij werkt niet nergens.

(It is not true that he works nowhere.)

For (69)b such an alternative doesn't even exist, since:

(67)a* Er loopt niet geen jongen.

(*There isn't no boy walking.)

is undoubtedly ungrammatical. Although (69)a, (70)a, (71)a, and (72)a, do sound a little unusual, there seems to be no sufficient argument for declaring them ungrammatical. They do not sound utterly wrong, and they fit naturally into the set of Dutch sentences containing operators³⁷.

Kraak now remarks (p.177–8) that for Aristotle there are two modes of negation corresponding to the one concept “proposition-negation”: in the case of an unquantified proposition the predicate is denied, but in quantified propositions it is the quantifier which is affected by negation. Since there are only two quantifiers involved, and since a negative proposition dominated by one of the two is truth-functionally equivalent to a proposition having the other quantifier instead of the original one, and the negation transferred to the predicate – so that (66) is equivalent to (68), and (67) to (69)a –, it is possible to present all denied propositions in such a form that only the predicate is denied. Grammatical analysis, however, leads to just one concept “sentence-negation”, covering all negative sentences in an identical way. Whereas in logic it is generally assumed that sentence- (or proposition-) negation amounts to the negation of the predicate, and to the change of quantifier (if there is one), grammatical analysis of at least some natural languages reveals that negation must be taken as something extending at least over subject plus predicate.

Kraak cites a number of authors (p.178–9) who maintain and show that Aristotle’s logical categories depend to a large extent on the structure of Aristotle’s own mother tongue, Greek. If, says Kraak (p.179), logical and grammatical concepts of negation conflict with one another while both rely on grammatical observations, there is reason to question these observations. It is recalled that Kraak’s concept of sentence-negation as something extending over the whole remainder of the sentence, and his concept of partial negation as affecting only part of this remainder, was induced by semantic considerations. Although in Kraak’s rules the scope of negation is delimited only by means of a transformation, (28), we have pointed out that it will be more correct to express it in the structures generated by the base component, the correct position of *neg* (and of other possible operators) being assigned by the transformational component. The concept of negation advocated by Kraak thus seems to be based on a consideration of basic structures. Aristotle’s concept, however, rests directly on the observation of the surface structure of the majority of Greek negative sentences, where the negation element preferably stands just before the finite verb form. Kraak’s conclusion is that Aristotle’s (and most logicians’) concept of negation has evidently been influenced largely by the surface structures of Greek (and Latin). Although even for Latin and Greek the rule ‘negation of the predicate is negation of the proposition’ involved some difficulties, these difficulties became more apparent in the vernaculars of more modern philosophers. Kraak cites Frege³⁸: “Wir sind gewöhnt anzunehmen, das Verneinen erstrecke sich

auf den ganzen Gedanken, wenn sich das “nicht” mit dem Verbum des Prädikats verbindet. Aber das Verneinungswort bildet grammatisch auch zuweilen einen Teil des Subjekts, wie in dem Satze *kein Mensch wird über hundert Jahre alt.*” This grammatical observation, however, correct as it was, was left by Frege without further elaboration, and did not prompt him to revise the old logical concept of negation.

On the whole it emerges clearly that the links between logic and natural language are to be found in deep structures. The discovery of the principle of deep versus surface structures is of the greatest importance not only for grammatical descriptions as such, but also for a better understanding of semantic, logical and psychological problems. In its deep structure natural language is not as whimsical, unclear and irregular as it may seem. On the contrary, as far as we are able to see at present, deep structures display the same categories as logical propositions, at times even in richer variety and greater precision.

At the end of this lengthy discussion of this admirable book, it may be useful to sum up briefly the most important conclusions that emerge from it. It seems that Kraak’s initial hypothesis of a one-to-one correspondence between positive and negative sentences must be considered invalid. On the other hand, he distinguishes clearly between negative and non-negative sentences, although the so-called defining contexts may prove less safe as a criterion than a semantic analysis of negative sentences in terms of “it is not true that”. His arguments for considering negation as something extending over a subject-predicate construction are most convincing. Under his definition, however, of “scope of negation” some difficulties remain unresolved, and these are more likely to find a solution if this concept is defined in terms of priority of operators. His setting apart of a category of categorialness as distinct from the category of indefiniteness is certainly an important achievement, and is necessary also in the description of phenomena of negation. His rule for the assignment of the proper position to the negation element (p.160–1) is found to be correct, though incomplete and needlessly complicated. The introduction of an element *pos* beside *neg* is insufficiently motivated, since it is based on supposed cases of homonymy, which most probably should not be considered as such. His conclusions regarding the relationships between logic and natural language are most convincing and should stimulate further study. There is abundant evidence showing that in some, and even perhaps in all natural languages there is a category of operators, comprising the question element, the negation element, a group of qualifiers and a group of quantifiers, all having a certain scope over the rest of the sentence. This scope embraces at least a construction of subject plus verbal form. Its further extension depends on the priority of the operator in question with respect to other possible operators. Priorities, and consequently scopes, are expressible in basic structures.

I hope and believe that Kraak's study will promote and further not only studies in the grammar of Dutch, but also in the theory of language and grammar.

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1. Noam Chomsky, *Aspects of the Theory of Syntax*, Cambridge, Mass., 1965, p.16.
2. Leonard Bloomfield, *Language*, New York, 1933, p.5.
3. Robert B. Lees, "A Multiply Ambiguous Adjectival Construction in English", *Language* 36 (1960), p. 207.
4. Noam Chomsky, "A Transformational Approach to Syntax", in: Jerry A. Fodor and Jerrold J. Katz (eds.), *The Structure of Language, Readings in the Philosophy of Language*, Englewood Cliffs, New Jersey, 1964, p.211–45.
5. Ferdinand de Saussure, *Cours de linguistique générale* 3, Paris, 1955, p.13.
6. E. M. Uhlenbeck, „De beginselen van het syntactisch onderzoek”, in: *Taalonderzoek in Onze Tijd*, The Hague, 1962, p.32. Idem, "An Appraisal of Transformation Theory", *Lingua* 12 (1963), p.8.
7. The most notable attempt, worked out in most detail, is to be found in Zellig S. Harris, *Methods in Structural Linguistics*, Chicago, 1951.
8. See reference Note 3.
9. A. Reichling, *Verzamelde Studies over Hedendaagse Problemen der Taalwetenschap* 3, Zwolle, 1965, p. 76.
10. E. M. Uhlenbeck, „Betekenis en syntaxis", *Forum der Letteren* 1964, p.69.
11. Rob. M. W. Dixon, *Linguistic Science and Logic*, The Hague, 1963, p.79.
12. Noam Chomsky, "Explanatory Models in Linguistics", in: E. Nagel, P. Suppes and A. Tarski (eds.), *Logic, Methodology and Philosophy of Science*, Stanford, Cal., 1962, p.428–550, esp. p.528 sqq.
13. A. Reichling, *Verzamelde Studies*, p.74–102. See also his "Principles and Methods of Syntax: Cryptanalytical Formalism", *Lingua* 10 (1961), p.1–17.
14. E. M. Uhlenbeck, Appraisal, p.3.
15. Noam Chomsky, "Topics in the Theory of Generative Grammar", in: T. A. Sebeok (ed.), *Current Trends in Linguistics, Vol.III, Linguistic Theory*, The Hague, 1966, Note 4. See also Note 9: "... Reichling's remarks are based on an account of "generative grammar" that has little identifiable relation to any of the actual work in generative grammar."
16. *Proceedings of the Ninth International Congress of Linguists, Cambridge (Mass.) 1962*, The Hague, 1964, p.982.
17. L. Bloomfield, *Language*, p.163–4.
18. *Proceedings of the Ninth International Congress of Linguists*, p. 983–4.
19. H. J. Pos, "Ueber den Aufbau der grammatischen Interpretation", *Blätter für deutsche Philosophie, Band 6* (1933), p.302.
20. Karl Bühler, "Vom Wesen der Syntax", in: *Idealistische Neuphilologie, Festschrift für Karl Vossler*, 1922, p.67.
21. A. Reichling, *Verzamelde Studies*, p.91–2: „Hij (i.e. Chomsky) ziet over 't hoofd datgene wat, al bijna veertig jaar geleden, door Stenzel in het middelpunt van de uitingsanalyse werd gesteld: het feit der „Präsenz" van een uiting als geheel en van de „präsen-tielle Gleichwertigkeit" van al de delen van een uiting, waardoor een Sigma-F-model zoals Chomsky dat construeert, veroordeeld is, voor het is toegepast: het ziet aan het essentiële taalfeit voorbij, dat elke zin pas bestaat in zijn voltooide geheel, zodat de verklonken delen voor de gebruiker alle even „präsen-t" zijn, alle door hem gekend worden in het begrepen geheel."
22. László Antal, "Interpretation and Transformation", *Linguistics* 2 (Dec.1963), p.16–25.
23. A. Reichling, *Het Woord*, Nijmegen, 1935, p.233–8; 265–9. This discrepancy between two of Reichling's views becomes the more surprising, when we see, on p.267–8 – where Reichling vindicates one fixed semantic property for every word, apart

from considerations of context and situation –, that he cites an argument provided by Pos in private correspondence, sustaining Reichling's position. This argument, however, was apparently primarily intended by Pos to refer to sentences, not to words, as is also suggested by Reichling's acknowledgement made to Pos in the Introduction (p.VIII): "A special word of thanks goes to Prof. Dr. H. J. Pos of the Municipal University of Amsterdam, whose observations induced the author to consider the concept of the sentence – at least as a point of comparison – in his study." (Translation mine). A confusion of the concepts of sentence and utterance becomes apparent on p.415–6.

22. E. S. Klima, "Negation in English", in: J. A. Fodor and J. J. Katz (eds.), *The Structure of Language*, p.246–323.

23. An interesting grammatical parallel between questions and negations can be found in the use of words like *any*, *ever* (Dutch: *ooit*), which is heavily conditioned by both negations and questions.

24. Klima, o.c., p.299.

25. R. B. Lees, *The Grammar of English Nominalizations*, Supplement to *International Journal of American Linguistics*, 26 (1960).

26. It is hardly possible to translate (9)b into English. The English sentence given here is grammatical, but the tag belongs to a different class from that of (9)a. (6)b would be grammatical, too, but for the word *surely*, which cannot easily be combined with this class of non-polarized tags. The tag in (9)c is meant to be of the polarized class. The English of (9)c sounds odd, but it seems that *hardly* is negative in this context, more so than the Dutch *nauwelijks*, given such sentences as *He hardly does any work, does he?* or *He hardly works at all, does he?*

In this connection it is interesting to observe the behaviour of some coordinate sentences. *Hij eet wel, maar drinkt niet.* (*He eats but doesn't drink.*) (cf. Kraak p. 109) must be considered a positive sentence, as appears from: *Hij eet wel, maar drinkt niet, zelfs 's avonds.* (*He eats, but doesn't drink, even in the evening.*)

27. A parallel phenomenon is observed by Klima, who gives: *He never rejects anything* beside: *Nothing is ever rejected by him.* (Kraak p.134; Klima, o.c., p.276).

28. J. J. Katz and P. M. Postal, *An Integrated Theory of Linguistic Descriptions*, Cambridge (Mass.), 1964, p.115.

29. cf. J. F. Staal, "Negation and the Law of Contradiction in Indian Thought: a Comparative Study", in: *Bulletin of the School of Oriental and African Studies* 25 (1962), p.52–71.

30. See especially Katz and Postal, *Integrated Theory*, and N. Chomsky, *Aspects*.

31. W. Van Orman Quine, *Mathematical Logic*, New York, Evanston, 1951, p.70-1.

32. "(x)" means: "for all x"; "¬" means: "it is not true that"; "J" means: "implies that".

33. See Klima, o.c., p.276–80.

34. Quine, o.c., p.2.

35. I. M. Bochenski, *Ancient Formal Logic*, Amsterdam, 1951, p.37.

36. For (69) this has been remarked by Prof. Dr. A. Heyting of the University of Amsterdam.

37. I have just come across the following sentence in a Dutch newspaper: *Alle festiviteiten van volgende week zullen geen doorgang vinden.* (*All festivities planned for next week will not take place.*)

38. Gottlob Frege, "Die Verneinung. Eine Logische Untersuchung", *Beiträge zur Philosophie des Deutschen Idealismus* 1 (1918–1919), p.150.