# MEASURING DURATION IN DUTCH*

1. Introduction

In this article we wish to give a description of the structure of sentences with
the Dutch verb *duren* + Specifying Complement and sentences with Duration-
Measuring Adverbials. Our starting-point is to be found in the analysis of
the following series of sentences:

(1)   *Gedurende een week* lag Lex plat.
        For a week Lex lay flat on his back.

(1a)   Het platliggen van Lex *duurde een week.*
        Lex's lying flat on his back lasted a week.

(2)   **Gedurende de week* lag Lex plat.
        lit.: For the week Lex lay flat on his back.

(2a)   *Het platliggen van Lex *duurde de week.*
        lit.: Lex's lying flat on his back lasted the week.

(3)   *Gedurende het weekend* lag Lex plat.
        lit.: For the weekend Lex lay flat on his back.

(3a)   *Het platliggen van Lex *duurde het weekend.*
        lit.: Lex's lying flat on his back lasted the weekend.

(4)   *Gedurende die week* lag Lex plat.
        lit.: For that week Lex lay flat on his back.

(4a)   *Het platliggen van Lex *duurde die week.*
        lit.: Lex's lying flat on his back lasted that week.

Traditional grammar has made no specific proposals for dealing with
sentences like (1) and (1a) above. We may fairly sum up traditional attitudes
to these sentences in terms of the following two tree diagrams: (See I and II)

To (I) note that we have declined to ask the question how traditional
grammar can responsibly prepose the Temporal Adverbial. In these struc-
tures we have developed *Aux*. Where this element has no role to play in the
argumentation we shall omit it from the structural description.

(I)

(II)
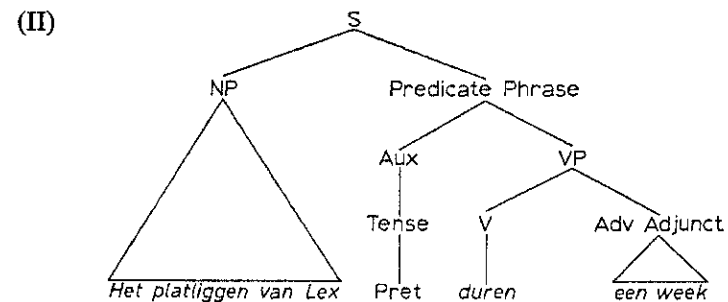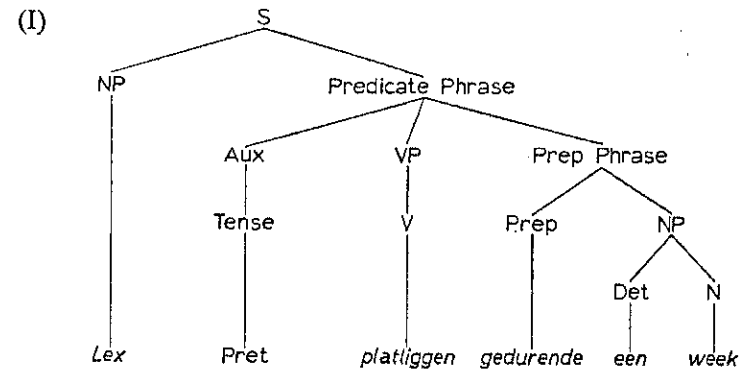
The purpose of this article is to show that structures (I) and (II) are at best
derived structures. In traditional grammar the synonymity between sentences
like (1) and (1a) is insufficiently expressed. We hope to demonstrate that this
relationship should be accounted for in the grammatical description of the
sentences above.

We see that there is a correspondence between (1) and (1a) and between
(2) and (2a) as far as their grammaticality and ungrammaticality are con-
cerned. In the other four cases there is no such correspondence. The reason
for this is that a Specifying Complement cannot contain a Definite Deter-
miner, as is apparent in (2a), (3a) and (4a). The grammaticality of (3) and (4)
as against the ungrammaticality of (2) can be explained in terms of the
difference between Type I Temporal Nouns *minuut* (minute), *uur* (hour),
week (week), *maand* (month), *jaar* (year), etc. and Type II Temporal
Nouns *weekend* (weekend), *middag* (afternoon), *zomer* (summer), *vergadering*
(meeting), etc.[1])

[1] The referents of Noun Phrases in which Type I Nouns occur form a set of temporal units
which is continuously ordered by the relation 'earlier than'. Between an hour H_i and its
successor H_{i+1} there is no interjacent interval. With the referents of Noun Phrases containing
Type II Nouns it is sometimes necessary, sometimes possible and mostly normal to have an

There is between sentences (1) and (1a) a relationship which can be characterised, for all sorts of reasons, as a transformational relationship, i.e. either the structure of (1) underlies that of (1a), or the structure of (1) is derived from that of (1a), or both structures are derived from one common underlying structure. We shall argue that the last is the case and therefore transformational rules will have to be devised for the derivation of these sentences. In section 2 we shall present arguments for the assumption of a transformational relationship and after discussing in Section 3 the structure of sentences with Specifying Complements, we shall give a description of the derivation of (1) and (1a) from one underlying structure. The presentation of the problem as formulated here has already been prepared by us in separate articles, one on Temporal Adverbials, the other on sentences with Measure Phrases. (Verkuyl, 1970; Klooster, 1971a) We refer to the bibliography for elucidation of the terms used here.

In references to the VP containing a Specifying Complement we shall use the abbreviation 'MVP'. The symbol 'MP' will be used for 'Measure Phrase' (*een week* (one week), *drie weken* (three weeks), *12 kilo* (12 kilogrammes) etc.)

2. CO-OCCURRENCE RELATIONSHIPS BETWEEN MVP'S WITH 'DUREN' AND DURATION-MEASURING ADVERBIALS

An important characteristic of Specifying Complements is that they do not admit a Definite Determiner.[2] If we therefore accept that there is a transformational relationship between sentences like (1) and (1a), we shall first have to give some attention to the relation of sentence (1) to the sentences (3) and (4), where a Definite Determiner occurs.

In Verkuyl (1970, Section 13) a number of arguments were given to differentiate between Durational Adverbials with and without a Definite Determiner. These arguments were mainly limited to the identificational function of the Determiner in Temporal Adverbials. To this we would add

---

interjacent interval between two temporal units. Two afternoons A_j and A_{j+1} cannot form an unbroken temporal unity on the time-axis; two meetings M_k and M_{k+1} could do this but in contrast to the temporal units designated by Type I Nouns, they leave open the possibility of a break. The division of the category of Temporal Nouns into two subcategories is syntactically motivated by a host of arguments among which the ungrammaticality of sentences with *tijdens een uur* (during an hour), *tijdens een week* (at a week), *tijdens het uur* (during the hour), *op het uur* (at the hour) against *tijdens een lesuur* (during a lesson), *in het weekend* (at the weekend), *op dat uur* (at that hour). Cf. Verkuyl (1970).

[2] Exceptions to this rule are found in *Dat kost je je baan* (That'll cost you your job). The only exception with MP's with Numerical Elements is discussed under point (g) in this section.

a number of arguments in support of this differentiation, which indirectly confirms the transformational relationship between MVP's with *duren* and Durational Adverbials with an Indefinite Determiner. Compare the following Temporal Adverbials:

(5)   (Gedurende) *iets meer dan* een half uur...
        (For) *a little more than* a half hour...

(6)   (Gedurende) *ongeveer* drie kwartier...
        (For) *about* three quarters of an hour...

(7)   *Ruim* vier jaar (lang)...
        A good four years (long)...

with the MVP in:

(5a)   ... duurde *iets meer dan* een half uur.
        ... lasted *a little more than* half an hour.

(6a)   ... duurde *ongeveer* drie kwartier.
        ... lasted *about* three quarters of an hour.

(7a)   ... duurde *ruim* vier jaar.
        ... lasted *a good* four years.

None of the italicised constituents can be inserted in the adverbials of (3) and (4) nor in the Adverbials of Time (cf. for this term KVL, p. 67, where they are termed 'bijwoordelijke bepalingen van tijd' (Adverbials of Time); they can roughly be compared with Adverbials labelled *Time* in Chomsky's *Aspects of the Theory of Syntax*, 1965, p. 102). Thus we do not have:

(5b)   *Gedurende *iets meer dan* dat halve uur...
        For *a little more than* that half hour...

(6b)   *Gedurende *ongeveer* dat weekend...
        For *about* that weekend...

(7b)   *Tijdens *ruim* een zomervakantie...
        During *a good* (temp. use) summer holiday...

The adverbials in (3) and (4) we shall call *Duration-Dating Adverbials* because the Determiner has a role in the identification of an interval along the time-axis. The adverbials in (1) and (5)–(7) are *Duration-Measuring Adverbials* (DMA). The primary task of MVP's with *duren* is to express the quantification (see under (g)) of temporal units of measurement. It is for this reason that showing a transformational relationship between MVP's with *duren* and DMA's brings with it the necessity of according to the DMA's this quantifying function.

The second argument concerns the possibility of having two alternating forms in DMA's as in (5) and (6) on the one hand and (7) on the other. Alongside *gedurende drie weken* (for three weeks) we have *drie weken lang* (lit. three weeks long). Duration-dating adverbials do not allow (-)*lang*: we do not have **die drie weken lang* (lit. those three weeks long) alongside *gedurende die drie weken* (for those three weeks).

The third argument concerns whether or not adjectives can be included in both sorts of Durational Adverbials. Along with *Gedurende die zenuw-slopende week bleef hij uiterst ontspannen* (During that nerve-racking week he remained extremely relaxed) we do not have the in our view ungrammatical, at best dubious **Gedurende een zenuwslopende week bleef hij uiterst ont-spannen* (For a nerve-racking week he remained extremely relaxed). Notice that the same obtains for **Zijn ontspannenheid duurde een zenuwslopende week* (His relaxedness lasted a nerve-racking week).

A fourth argument centres on the conjunction possibilities of the con-stituents *duren* and *gedurende*. In Adverbials of Time it is possible to conjoin two NP's: *Tijdens de eerste en tweede helft zat ik achter het doel* (During the first and second half I sat behind the goal). *Gedurende die drie en die vijf dagen ben ik met vakantie* (During those three and those five days I am on holiday) is also grammatical whereas the following are not:

(8)   **Gedurende drie en vijf dagen ben ik met vakantie.
       **During three and five days I am on holiday.
(8a)   **Mijn vakantie duurt drie en vijf dagen.[3]
       **My holiday lasts three and five days.

The fifth argument concerns the ungrammaticality of **gedurende drie jaar gevangenisstraf wachtte hij op berichten uit Zwitserland* (For three years of imprisonment he waited for news from Switzerland), and of the MVP ** ... duurde drie jaar gevangenisstraf* (lasted three years imprisonment). However *Gedurende die drie jaar gevangenisstraf...* (During those three years of im-prisonment...) is grammatical. Finally we would adduce the following point. The sentence *Hij legde de bekentenis af dat hij gedurende tien jaar achtereen jaarlijks 200.000 gulden ten nadele van zijn werkgever had verduisterd* (He confessed that he had, for ten consecutive years, embezzled annually fl. 200.000 from his employer) is grammatical, as is... *duurde tien jaar achtereen* (... lasted ten consecutive years.) By contrast, **gedurende die tien jaar achtereen* (for those ten consecutive years) is not grammatical.

To our mind these six arguments would justify the decision to direct our

[3] Disjunction is possible in both cases.

full attention to the relationship between (1) and (1a) with exclusion of Duration-Dating Adverbials.[4])

Meanwhile we have now met four important syntactic characteristics common to Duration-Measuring Adverbials and MVP's with *duren*:

(a) both constituents contain an indefinite Determiner;

(b) both allow of constituents like *iets meer dan, ongeveer, ruim*, etc. (a little more than, about, a good, etc.), i.e. in general quantifying adverbials;

(c) both behave in the same way with constituents in postposition;

(d) in both constituents the conjunction of numerical elements is excluded.

In connection with the last of the above points the following can be remarked. The ungrammaticality of (8) and (8a) can be viewed in terms of quantification. The numerical element in an MP is an economical way of compressing constituents denoting units of measurement. The fact is that we say *Daar lopen vijf vrouwen* (There are five women walking there) and not **Daar lopen drie vrouwen en twee vrouwen* (*There are three women and two women walking there). We do, however, have *Daar lopen drie vrouwen en daar nog twee* (Three women are walking there and two others there) if we feel the need to differentiate. Note that we can also have the following:

(8b)   De vergadering duurde twee uur en daarna nog een uur.
       lit.: The meeting lasted two hours and then another hour.
(8c)   Gedurende twee uur en daarna nog een uur werd er druk ver-gaderd.
       lit.: For two hours and another hour after that we were meeting busily.

The relationship between (8) and (8a) and between (8b) and (8c) is still no argument for our view that (1) and (1a) are related to each other trans-formationally. After all, it could be that the distribution of ungrammaticality and grammaticality in (8)–(8c) is the result of features of conjoined con-stituents which occur with *duren* and *gedurende*. Only when evidence shows that *twee uur en een uur* (two hours and one hour), *vijftien dagen en dertig dagen* (fifteen days and thirty days) can appear in grammatical sentences, can the ungrammaticality of (8) and (8a) be attributed to restrictions imposed by *duren* and *gedurende*. In fact, we do find examples of this type of sentence: *Jan en Piet verdeelden die periode in werktijden van vijftien dagen en dertig dagen* (Jan en Piet split the period up into workstretches of 15 days and

[4] Pieter A. M. Seuren (personal communication) drew our attention to the fact that sentences like *Gedurende die week lag Lex zes keer plat* (For that week Lex lay flat on his back six times) are grammatical, whereas we do not find ** Gedurende een ('n) week lag Lex zes keer plat* (For a week Lex lay flat on his back six times). This brings the number of arguments to seven.

30 days); *Men heeft verlengingen van vijftien en dertig minuten* (Lit.: There are periods of extra time of 15 and 30 minutes); *Vijftien dagen en dertig dagen zijn samen vijfenveertig dagen* (15 days and 30 days make 45 days altogether); *Hij kon kiezen tussen twee maanden en drie maanden* (He could choose between two months and three months), etc.[5]

We shall now put forward another seven common syntactic characteristics in support of our proposal to accept a transformational relationship between (1) and (1a). Over and above that we shall deal with the problem of whether one of the two sentences corresponds with the underlying structure of the other or whether both are derived from one common underlying structure.

(e) Above we mentioned the alternating forms which can be assumed by a DMA. From the sentences:

(9)   Het platliggen van Lex *duurde drie weken.*
        Lex's lying flat on his back lasted three weeks.

(9a)   *Gedurende drie weken* lag Lex plat.
        For three weeks Lex lay flat on his back.

(9b)   Drie weken *lang* lag Lex plat.
        lit.: Three weeks *long* lay Lex flat on his back.

(9c)   *Het platliggen van Lex *duurde* drie weken *lang.*
        lit.: Lex's lying flat on his back *lasted* three weeks *long.*

(9d)   **Gedurende* drie weken *lang* lag Lex plat.
        lit.: *For* three weeks *long* Lex lay flat on his back.

it is apparent that these forms are mutually exclusive. Sentences (9a) and (9b) are to be regarded as variants of each other; sentence (9d) shows that *gedurende* and *lang* are incompatible. The relationship between (9) and (9c) can be described in the same way: *duren* excludes *lang* if there is an MP. A description and explanation of these facts will be proposed in Section 3. Here it suffices to state that (9) and (9c) are related to each other in the same way as (9a) and (9d).

(f) In this connection we would direct our attention to the constituent *lang* which can occur as the complement of *duren*. As a counterpart to *lang* we have *kort* (short). Both constituents are also found in *lange tijd* ((a) long time) and *korte tijd* ((a) short time). Compare:

(10)   Het wachten duurde lang.
        lit.: The waiting lasted long.

(11)   Het wachten duurde kort.
        lit.: The waiting lasted short.

[5] However, a combination like **twee uur en 'n uur* (two hours and an hour) is ungrammatical in every Dutch sentence whatsoever.

(10a)   Het wachten duurde lange tijd.
        lit.: The waiting lasted (a) long time.

(11a)   Het wachten duurde korte tijd.
        lit.: The waiting lasted (a) short time.

with

(10b)   *Gedurende lang...
        *During (for) long...

(11b)   *Gedurende kort...
        *During short...

(10c)   (Gedurende) lange tijd...
        (During) (a) long time...

(11c)   (Gedurende) korte tijd...
        (During) (a) short time...

These examples demonstrate that *lang* and *lange tijd*, and *kort* and *korte tijd* behave in the same way in an MVP with *duren* and in a DMA. The ungrammaticality of (10b) and (11b) can be predicted by the structural description of DMA's such as emerges from the analysis where a transformational relationship between (1) and (1a) is accepted. (See Section 4.)

(g) We shall give some attention to the relationship between quantification and differentiation. By the term 'quantification' we mean the specifying of a certain number of units, objects, entities, etc. The term 'differentiation' is used in order to signify a definite kind of quantification, i.e. the form in which the unit is not given as a whole but in its constituent parts. In general it can be said that the quantification of units can be achieved in three ways: (i) by giving the amount as a whole, e.g. *Daar lopen vijf vrouwen* (There walk five women); (ii) by giving the amount differentiatedly by means of conjunction, as in (8b) and (8c), and (iii) by pluralisation. We shall now elaborate (iii) further.

MVP's are characterized in traditional grammar as constituents that quantify. The traditional name for Specifying Complements which are MP's is *Adverbial Adjunct of Quantity*. An important characteristic of an MP functioning as a Specifying Complement is that in certain cases the Noun occurs in the singular, although the numerical element indicates a plural number. Thus:

(12)   Dit boek kost vijftien gulden.
        lit.: This book costs 15 guilder.[6]

[6] In English slang we often noted sentences like *That cost me fifteen quid* (i.e. fifteen pounds) or *Can you lend me two bob* (=two shillings). **That cost me fifteen quids* is unanimously considered unacceptable. Cf. also O. Jespersen, *Modern English Grammar*, Part II, Heidelberg (1914), 3.61.

(12a)   *Dit boek kost vijftien guldens.
        lit.: This book costs 15 guilders.
(13)   Dat schip meet 50.000 ton.
        lit.: That ship measures 50.000 ton.
(13a)   *Dat schip meet 50.000 tonnen.
        lit.: That ship measures 50.000 tons.

One condition for being able to occur in a singular form is that the relevant Nouns give a fundamental unit of measurement: 'guilder', 'ton', 'ounce', 'kilo', 'metre'. The term 'fundamental' is, in spite of its vagueness, preferable to a term like 'current in everyday usage', for we regard sentences like *Dat kost vijf dubbeltje* (lit.: That costs five penny), *De vloeitjes kosten twee kwartje* (lit.: The cigarette-paper costs two shilling), and *De Noorse ploeg telde tien vrouw en vijftien man* (lit.: The Norwegians had ten woman and fifteen man) as ungrammatical. The Nouns *gulden, ton, kilo*, etc. can occur in plural form: *Dit boek kost ettelijke guldens* (lit.: This book costs several guilders), *Dat pakje weegt verscheidene kilo's* (lit.: That parcel weighs several kilos), etc. Constituents like *ettelijke* (several), *verscheidene* (several), *duizenden* (thousands) differentiate the quantity to which we refer, i.e. the units of measurement are individualised. Differentiation excludes singular forms: *ettelijke ton, *veel gulden*, etc.

If we take a look at the Temporal Nouns which can occur in a Specifying Complement of *duren*, we see that the possibility of having a singular form is limited to the group of Type I Nouns: *jaar* (year), *uur* (hour), *maand* (month), *minuut* (minute), *week* (week), etc. Thus we have:

(14)   De receptie van Jan en Greetje duurde drie uur.
        lit.: The reception of Jan and Greetje lasted three hour.
(15)   Zijn schoolgaan duurde drie jaar.
        lit.: His going to school lasted three year.

The other Nouns from this group do not have this possibility, at least in Standard Dutch. Various dialects, mainly in the east, also permit constituents like *twintig minuut* (lit.: twenty minute), *drie week* (lit.: three week), etc. In contrast to (12) and (13) we have the situation where, after *duren*, plurality is permissible after a Definite Cardinal Numeral:

(14a)   De receptie van Jan en Greetje duurde drie uren.
        lit.: The reception of Jan and Greetje lasted three hours.
(15a)   Zijn schoolgaan duurde drie jaren.
        lit.: His going to school lasted three years.

The above two sentences differ in meaning from (14) and (15), respectively.

The a-sentences have an individualizing effect on the three temporal units in question. Sentence (14a) is preferable to (14) if the intention is to intimate that the reception was long and tedious, and (15a) seems to imply that he did not stay down a year, whereas (15) does not exclude that possibility. In both cases the temporal units are differentiated. One could compare the relationship between (14) and (15) and their a-counterparts to some extent with the difference between '3' and '1 + 1 + 1' in the equation $3 = 1 + 1 + 1$. In this connection we would draw attention to such sentences as:

(16)   Het duurde de volle drie uur.
        lit.: It lasted the full three hour.
(16a)   *Het duurde de volle drie uren.
        lit.: It lasted the full three hours.
(17)   *Het duurde drie volle uur.
        lit.: It lasted three full hour.
(17a)   Het duurde drie volle uren.
        lit.: It lasted three full hours.

which show that if we want to modify the whole period of three hours with *volle* (full) the singular is obligatory; whilst the plural form is necessary if we measure the units of measurement. We would remark that (16) is the only type of sentence we know of in which a Definite Determiner occurs. The same is true for *Het duurde het hele uur* (It lasted the full hour). Probably this phenomenon serves as a springboard for an analysis of MP's. However we shall not here take that any further. Consider the following sentences:

(18)   De cursus telde drie jaren en in elk van deze moesten we zijn colleges volgen.
        The course numbered three years and in each of these we had to follow his lectures.
(18a)   *De cursus telde drie jaar en in elk van deze moesten we zijn colleges volgen.
        lit.: The course numbered three year and in each of these we had to follow his lectures.

The sentence *De cursus telde drie jaar* (lit.: The course numbered three year) is grammatical; the ungrammaticality of (18a) can only be explained in terms of the presence of *elk van deze* (each of these). The properties of constituents like *drie jaar* and *drie jaren* are not only typical of or dependent on their occurrence in an MVP or a DMA. We also have such sentences as *Drie jaar ging (en) voorbij zonder dat we iets hoorden van ze* (three years went by without our hearing from them) and *Tien gulden is niet zoveel meer waard tegenwoordig* (Ten guilders is not worth very much anymore nowadays). On

the other hand we can observe that such constituents have restrictions of another kind than when they occur in an MVP or a DMA. Compare: *Hij rekende op drie jaar gevangenisstraf* (He reckoned on three years imprisonment), *Drie jaar vol met spanningen ging(en) voorbij* (Three years full of excitement passed by) with the ungrammatical construction which we dealt with in our discussion of the fifth and sixth points of our argument in favour of the distinction between Duration-Dating Adverbials and Duration-Measuring Adverbials: **gedurende drie jaar gevangenisstraf* (for three years imprisonment), **gedurende die tien jaar achtereen* (for those ten consecutive years). That is, the Noun Phrase *drie jaar gevangenisstraf* can occur freely as a Prepositional Object after *rekenen op* (count on) but not after *gedurende*. We have an analogous situation in *De schaatsploeg telde vijf man* (The skating team numbered five men) against a contextually dependent sentence like *Vijf man... ging(en) de stad in* (Five men... went into town), where the series of dots represent the wanting information about the group to which the five men belong.

Moreover we can state that Verbs like *kosten, wegen, meten, tellen, duren*, etc. (cost, weigh, measure, count, last, etc.) determine the manner of quantification and thereby demonstrate systematically corresponding selectional restrictions with regard to the specifying complement. Thus sentences like **Zij woog die eigenschap* (She weighed that quality), **Dat kostte een windhoos* (That cost a whirlwind), **Dat duurde een getuige à charge* (That lasted a witness for the prosecution) show that not every noun can occur in an MVP. It is true that nominal constructions like *vier eigenschappen* (four qualities), *vijftien windhozen* (fifteen whirlwinds), *drie getuigen à charge* (three withnesses for the prosecution) are permissable, but their Nouns, unlike *gulden* (guilder), *uur* (hour), *kilo* (kilo), etc. cannot occur in the singular after a Definite Cardinal Numeral, in any function whatsoever. Thus the following sentences are ungrammatical **Hij rekende op drie getuige à charge* (lit.: He counted on three witness for the prosecution), **Vijftien windhoos vernielde(n) de oogst* (lit.: Fifteen whirlwind destroyed the harvest), **Zijn gevoelsleven wordt hoofdzakelijk bepaald door vier eigenschap* (lit.: His emotional life is mainly determined by four quality), as are

(19)   *Hun liefde duurde vier nacht.
         lit.: Their love lasted four night.
(20)   *Hun gesprek duurde vier middag.
         lit.: Their talk lasted four afternoon.

From this argumentation we can derive a rule which determines that constituents which can occur in the singular after a Definite Cardinal Numeral in functions such as Subject, Direct Object, Prepositional Object,

etc. can always occur in an MVP. The reverse is not always the case. Our conclusion is that the MVP is the most natural place for Nouns denoting units of measurement. Applied to *duren* + Complement the term 'most natural' is to be so interpreted that those nouns that can occur in the singular best lend themselves to the manner of quantifying as expressed by *duren*. Somewhat more generally applied we could say that the group of Nouns to which *uur* (hour) and *jaar* (year) belong has an optimal correspondence to the meaning of *duren*. Temporal Nouns of Type II, *nacht* (night), *middag* (afternoon), *vergadering* (meeting), *wedstrijd* (match), etc., are restricted with respect to *duren* in a way that Type I Nouns are not. Sentences like:

(19a)   Hun liefde duurde vier nachten.
          lit.: Their love lasted four nights.
(20a)   Hun gesprek duurde vier middagen.
          lit.: Their talk lasted four afternoons.

illustrate this. In sentence (20a) it is clear that the talk has been interrupted three times by a break of at least 18 hours. In order to represent the length of the conversation as one period it is necessary to overlook these conversational pauses. The same applies to (19a): their love relationship will exist during the day too, so that their love will probably have lasted for four days and nights, but only the relevant periods are given, abstracted from the actual course of time.

If we now bring our attention back to the Duration-Measuring Adverbials we see that what has been observed in this sub-section with regard to MVP's with *duren*, is also valid for DMA's. All restrictions that hold for *duren* also hold for *gedurende*. Thus Temporal Nouns of Type 1 are also the most natural partners for *gedurende*, and with Type II Nouns we are again aware of the necessity to abstract from the actual course of time, as in the a-sentences above:

(19b)   Vier nachten lang beminden zij elkaar.
          lit.: For four nights they were in love with each other.
(20b)   Gedurende vier middagen hebben ze met elkaar gesproken.
          lit.: They talked together for four afternoons.

At this stage we would point out one or two difficulties which result from the appearance of *duren* and *gedurende* with constituents containing plural Type II Nouns. There are, for example, sentences like:

(21)   Gedurende vier middagen wandelden ze naar het strand.
         lit.: For four afternoons they walked to the beach.

which do not seem to correspond with:

(21a)   Hun wandeling naar het strand duurde vier middagen.
       lit.: Their walk to the beach lasted four afternoons.

Similar cases are encountered in the sentences:

(22)   Jarenlang werd Yvonne de USA uitgezet.
       lit.: Yvonne was deported from the USA for years.

(22a)   *Het uitzetten van Yvonne uit de USA duurde jaren.
       lit.: Yvonne's deportation from the USA lasted years.

The cause of these incongruities is apparently to be found in the fact that (21) and (22) contain a Terminative and a Momentaneous VP respectively (cf. Verkuyl, 1970, Section 5 and KVL, Ch. 5, Section 2).

The four examples above do not form sufficient evidence to reject our thesis. However, they do make it improbable that sentences like (1) are derived from (1a). We shall return to this in Section 4. As far as point (g) is concerned we may confirm that sentences with *duren* and *gedurende* behave in a similar way in relation to the distinction between Type I Temporal Nouns and Type II Temporal Nouns.

h) In this connection we would broach the question of how Type II Nouns behave with *duren* and *gedurende* when they occur in the singular. The sentences:

(23)   *Gedurende een vergadering heeft er een collectieve woede geheerst tegen een aantal stafleden.
       lit.: During a meeting there prevailed a collective anger against a number of members of staff.

(24)   *Gedurende een wedstrijd is Rinus erg opgewonden geweest.
       lit.: During a match Rinus was very excited.

are ungrammatical when *een* (a) is read as an Indefinite Article and not as a Numeral. Similarly:

(23a)   *De collectieve woede tegen een aantal stafleden heeft een vergadering geduurd.
       lit.: The collective anger against a number of members of staff has lasted a meeting.

(24a)   *Rinus' opgewondenheid heeft een wedstrijd geduurd.
       lit.: Rinus's excitement has lasted a match.

All four sentences have a perfective predicate, so that *een wedstrijd* (a match) and *een vergadering* (a meeting) in (23) and (24) refer to just one (indefinite) event (see Verkuyl, 1970, Section 10). In:

(25)   Gedurende een wedstrijd gedroeg hij zich erg opgewonden.
       lit.: During a match he behaved very excitedly.

we are given the information that when there was a match he behaved in an excited manner. The article *een* is here a categorical Article (cf. Kraak and Klooster, 1968, Ch. 5. Section 7; KVL, Ch. 2. Section 2.1).

(25a)   *Zijn opgewondenheid duurde een wedstrijd
       lit.: His excitedness lasted a match.

is ungrammatical: the categorical Article cannot occur in MVP's. Even if we add the constituent *altijd* (always) to (25a) it still cannot be called grammatical.

We are of the opinion that the Adverbial in (25) is not a DMA, for the insertion of *ongeveer* (about), *iets meer dan* (a little more than) is not possible and we can, moreover, substitute *gedurende wedstrijden* for *gedurende een wedstrijd* without a change of meaning, which is not possible for *een uurlang* and *urenlang*. In (25) *gedurende* is largely synonymous with *bij* (at), in *bij wedstrijden* (at matches). On the basis of these facts we conclude that the ungrammaticality of (25a) and the grammaticality of (25) do not affect our thesis.

We should mention that in the case of (23) and (24), plus their a-counterparts, we feel that there is a difference in meaning between *gedurende* en *tijdens* (see Verkuyl, 1970, Section 8). For those speakers who regard *tijdens* and *gedurende* completely synonymous and therefore find sentences (23)–(24a) grammatical, our thesis will in no way be supported by these four sentences. However their disagreement by no means proves the thesis wrong either.

(i) We would now like to comment on the ungrammaticality of such sentences as

(26)   *De onlusten duurden zijn presidentschap.
       lit.: The riots lasted his presidency.

(27)   *De onlusten duurden vier presidentschappen.
       lit.: The riots lasted 4 presidencies.

(28)   *Gedurende vijf afwezigheden kon ik rustig werken.
       lit.: During five absences I could work quietly.

According to the argument under (a) of this section, (26) above is ungrammatical on account of the Definite Determiner *zijn*, which causes the complement of *duurde* (lasted) to be definite, but another factor involved in the ungrammaticality of (26) is the fact that *presidentschap* (presidency) is a

Non-Count Noun. Every MP serving as a specifying complement can contain a plural Numerical element such as *twee* (two), *drie* (three), *ettelijke* (several), *enkele duizenden* (a few thousand), etc., thus presupposing Count Nouns. The combination **duren... presidentschap* is therefore ungrammatical. The same applies to (28): *gedurende* in DMA's does not take Non-Count Nouns. We would draw attention to the fact that Proper Nouns like *Angström*, *Joule*, *Ohm*, *Volt*, etc., are not usually used in plural form. The explanation for this is probably that these units are usually given quantified. A physicist would practically never talk of *ettelijke Weber* (various Weber) or *ettelijke Webers*, referring to a certain unit of strength of magnetic fields. An everyday construction like *ontzettend veel ampères* (an awful lot of ampères) sounds a little more normal, thus indicating that pluralisation is not excluded.

(j) We shall now occupy ourselves with negation. In sentences with negation it also appears that arguments can be found for a transformational relationship between sentences like (1) and (1a). The following argument can moreover be added to those for a distinction between Duration-Dating Adverbials and Duration-Measuring Adverbials.

Compare:

(29)   Onze vakantie duurt geen drie weken.
          Our holiday does not last three weeks (at all).

(29a)   We gaan geen drie weken op vakantie
          We are not going on a three-week holiday (at all).

Our analysis of these sentences is based on a stress on *duurt* and *gaat* respectively, for example in answer to the assumption that our holiday was indeed going to last three weeks.

Alongside (29a) we have:

(29b)   We gaan (gedurende) die drie weken niet op vakantie
          lit.: We are not going on a holiday (for) those three weeks.

(29c)   We gaan niet (gedurende) die drie weken op vakantie.
          lit.: We are not going (for) those three weeks on a holiday.

Sentence (29c) seems a little less acceptable, but stress on *die* (those) or *gaan* (go) gives a grammatical reading.

The difference between (29b) and (29c) as against (29a) is that the latter offers the information that we are going on holiday albeit less than three weeks (we could restrict (29a) further by the addition of *nog* (*nog geen* = not even or less than), as for (29) too, incidentally. It is impossible in the (b) and (c) sentences to add *nog* in the sense intended here.) Sentence (29b) can be read in many ways depending on the position of the sentence stress; but in each of those readings an interpretation as in (29a) is impossible. Note that

(29b) and (29c) presuppose different things than (29a): (29c) presupposes that we are going on holiday during another period of three weeks, and (29b) presupposes, according to interpretation, that we are going to do something in those three weeks other than holidaying or that we actually had been expecting to go in that period, or (29b) could also be interpreted similarly to (29c). The sentences (29) and (29a) behave identically even as far as presupposition is concerned.

We shall now turn our attention to the following irregularity in the transformational relationship, between (1) and (1a) when Negation occurs. Compare:

(1b)   Het platliggen van Lex duurde geen week.
        Lex's lying flat on his back didn't last a week.

(1c)   *Gedurende geen week lag Lex plat.
        For no week Lex lay flat on his back.

(1d)   Het platliggen van Lex duurde nog geen week.
        Lex's lying flat on his back didn't even last a week.

(1e)   Gedurende nog geen week lag Lex plat.
        Not even for a week Lex lay flat on his back.

Sentence (1e) is a little more acceptable if *gedurende* is left out. Compare also: *We gaan nog geen drie weken met vakantie* (We are going on a holiday for hardly three weeks) We have no explanation for the ungrammaticality of (1c). Probably we have here to deal with a rule that in certain cases Negation cannot occur after prepositions: **Ik woon in niet Amsterdam* (lit.: I live in not Amsterdam), **Tijdens niet de Tweede Wereldoorlog* (lit.: During not the Second World War), **Ik werd verliefd op niet een meisje* (lit.: I fell in love with not a girl), etc. The precise domain of this rule is not known. If the prevalent attitude within transformational theory that prepositional constituents are derived structures is true, then we can regard this rule as one that does not hold good in cases like *Na nog geen drie weken verveelde hij zich stierlijk met haar* (After less than three weeks he was bored stiff with her) and (1e) due to the presence of *nog*. Nor is it valid in: *Na geen vijf minuten was hij er weer* (After not even five minutes he was back again). With Temporal Setting Prepositions negation is not, however, possible (cf. for terminology Verkuyl, 1970, Section 6; KVL, p. 69). We confirm incidentally that (1d) is synonymous with (1b) and (1e). For this reason too it seems acceptable that the ungrammaticality is due to the rule mentioned above. Thus (1e) does not affect our hypothesis.

In conclusion of this section we maintain that sufficient arguments have been given in order to accept the existence of a transformational relationship between (1a) and (1). In the following section we shall subject structure

(II) to closer scrutiny. It will be apparent that it is necessary to take a far more abstract structure for (1a) than structure (II). Our intention is to come to a description of the structure which underlies sentences like (1) and (1a) and which expresses simply the above-mentioned relations.

3. THE UNDERLYING STRUCTURE OF AN MVP WITH 'DUREN'

In Klooster (1970a) a number of arguments are given in favour of the hypothesis that sentences with MP's, dependent on the type of unit referred to, contain in their underlying structure one or more Prepositional Phrases. These arguments can be summed up as follows: in spite of the fact that sentences with MP's show clear differences in appearance there is reason to assume that essentially they have a corresponding underlying structure. The surface difference is firstly that some MVP's contain a Verb like *kosten* (cost) or *wegen* (weigh) and no Measure Adjective; secondly that in certain cases they contain neither Measure Adjectives nor Verbs like *kosten* or *wegen*, simply the Verb *zijn* (be), which is then followed by the Measure Phrase. We designate verbs like *kosten* and *wegen* 'semicopulas'.

A few examples will illustrate this:

(30)   Hij WEEGT 80 kilo.
        lit.: He weighs 80 kilo.
(31)   Hij IS 2 meter LANG.
        lit.: He is 2 metre tall.
(32)   Hij IS 80 kilo.
        lit.: He is 80 kilo.
(33)   Hij IS 2 meter.
        lit.: He is 2 metres.

One of the reasons for assuming that sentences like (30)–(33) have strongly corresponding underlying structures is that they can all be paraphrased in the same way:

(30a)   Hij heeft een gewicht van 80 kilo.
        lit.: He has a weight of 80 kilos.
(31a)   Hij heeft een lengte van 2 meter.
   lit.: He has a height of 2 metres.

The sentences (30a) and (31a) are not only paraphrases of (30) and (31) but also of the synonymous (32) and (33). Sentence (32) can be regarded as a reduction of sentence (30), and (35) of (31). The hypothesis of correspondence in underlying structure of sentences like (30) and (31) becomes attractive if we remember that it opens up the possibility of uniformly deriving the reduced forms (32) and (33) from the structures which form a basis to sentences (30) and (31) – this in spite of the fact that (30) and (31) apparently differ so greatly from each other. Notice, moreover, that for example with sentences referring to weight, the *zijn* + Measure Adjective combination can freely alternate in certain cases with the semicopula, without any change of meaning.

(34)   Hij is zwaarder dan zij.
        lit.: He is heavier than she.
(34a)   Hij weegt meer dan zij.
        lit.: He weighs more than she.
(35)   Hoe zwaar is hij?
        lit.: How heavy is he?
(35a)   Hoeveel weegt hij?
        lit.: How much does he weigh?

On the basis of this sort of observation we could consider analysing a semicopula like *wegen* as *zijn* + *zwaar* or as *hebben* + *gewicht*. However neither analysis seems very satisfying. The first possibility has, at first sight, the advantage of deriving the reduced forms simply and uniformly: deletion of the underlying Adjective produces a reduced surface structure with *zijn* + MP. However the disadvantage is that in this way the relation between *zijn* + Measure Adjective and *hebben* + Parameter Noun (weight, height, etc.) can only be expressed with ad hoc rules. The disadvantage of the second possibility (analysing as *hebben* + *gewicht*) is of a similar nature: the above-mentioned relationship between sentence-types would now have to be formulated in the other direction, which would of course encounter the same objections. Such considerations lead us to examine whether a more abstract underlying structure cannot be postulated from which sentences with a semicopula can be derived as well as sentences with *zijn* + Measure Adjective and their variants with *hebben* + Parameter Noun.

Thus, for sentences (30) and (31) structure (III) appears to be adequate. The category symbols BE, WITH, WEIGHT, HEIGHT should not be confused with phonologically 'spelled' lexical elements. They are abstract elements which are generated in the same way as the category symbols NP, VP, etc. The form of the former symbols is therefore relatively arbitrary. It is, for example, not impossible that in place of a symbol of the form 'BE' it would be justifiable to use the symbol 'TENSE'. The copula *zijn* does not seem to be much more than the tense-carrier. The category 'WITH' is a further specification of the more general category P and must be regarded as the representation of a specific relationship which is sometimes expressed in

(III)
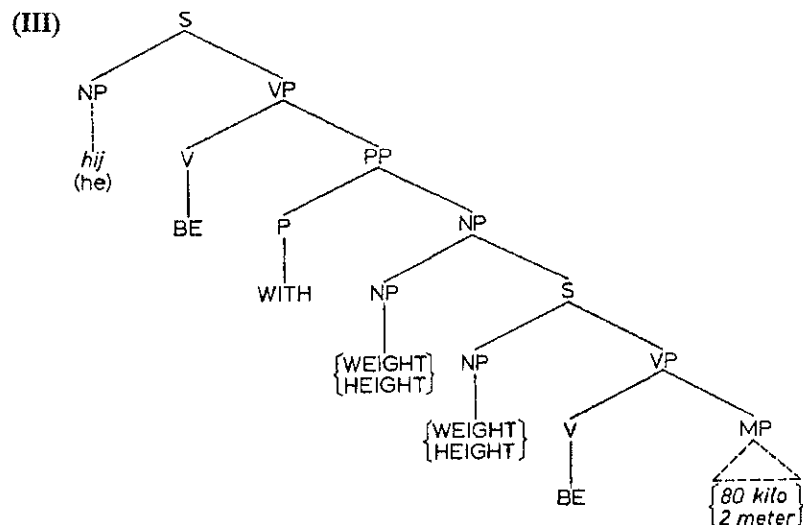
Dutch by the word *met*. The categories WEIGHT and HEIGHT are tentative. Such an underlying structure assumes however a function of the lexicon which strongly deviates from what is attributed to it in the so-called 'standard theory'.[7] However, before we go into this more fully, here are a few more arguments in favour of the assumption of an underlying WITH. The argumentation is presented in Klooster (1971a) but we shall touch upon it here shortly.

The relationship between the surface Verb *hebben* and the Preposition *met* can be illustrated in all sorts of ways. Compare the following examples, which could be supplemented by numerous others:

(36)   Een man die een gewicht heeft van 80 kilo.
       lit.: A man who has a weight of 80 kilos.
(36a) Een man met een gewicht van 80 kilo.
       lit.: A man with a weight of 80 kilos.
(37)   Een man die een rode neus heeft.
       lit.: A man who has a red nose.
(37a) Een man met een rode neus.
       lit.: A man with a red nose.
(38)   Een patient die geelzucht heeft.
       lit.: A patient who has jaundice.

---

[7] This Standard Theory is formulated in Noam Chomsky, *Aspects of the Theory of Syntax*, Cambridge, Mass. (1965), and in an unpublished paper by the same author, called 'Deep Structure, Surface Structure and Semantic Interpretation' (1968).

(38a) Een patient met geelzucht.
       lit.: A patient with jaundice.

If we assume that the above a-sentences owe their existence to deletion of underlying BE, then the derivation of such attributive *met*-Adjuncts can be carried out in exactly the same way as with sentences with other attributive adjuncts:

(39)   Een jongen die zonder echte vrienden *is*.
       lit.: A boy who *is* without real friends.
(39a) Een jongen zonder echte vrienden.
       lit.: A boy without real friends.
(40)   De jongens die op straat *zijn*.
       lit.: The boys who *are* in the street.
(40a) De jongens op straat.
       lit.: The boys in the street.

The deletion-transformation which is responsible for the formation of the attributive adjuncts in (39a) and (40a) from the adjectival clauses is known as Relative Clause Reduction and could, given the analysis of *hebben* as BE WITH, also be applied to the underlying structure of the sentences (36), (37) and (38), thus gaining generality.[8]

An analysis of sentences with MP's such as suggested here demands as we have said a function of the lexicon which deviates from the 'standard theory'. One of the most important principles typical of such a lexicon is that of polycategorical attachment. Basically this principle is that a lexical entry no longer consists of an unordered set of syntactic and semantic features but has the form of a tree diagram accompanied by the phonological specification of the word appertaining to it. That part of the tree diagram to which the terminal modes of the relevant lexical item are attached is called 'simultaneous environment' (Gruber, 1967), the rest of the lexical entry, the 'context', is the 'peripheral environment'. Thus the lexical entry for *lang* (tall) could look something like (IV).

---

[8] Relative Clause Reduction has been stated as follows:

S.D   X −ₙₚ[NP − ₛ[$\begin{bmatrix} NP \\ + WH \end{bmatrix}$ $\begin{Bmatrix} Aux & be \\ _{Aux}[U & be]_{Aux} \end{Bmatrix}$ − Y]ₛ]ₙₚ − W

	1	2	3	4	5	OPT ⇒
S.C.	1	2	∅	4	5	

where *X*, *Y*, *U* and *W* are variables, and the NP marked [+ WH] is the Relative Pronoun.

(IV)

lang
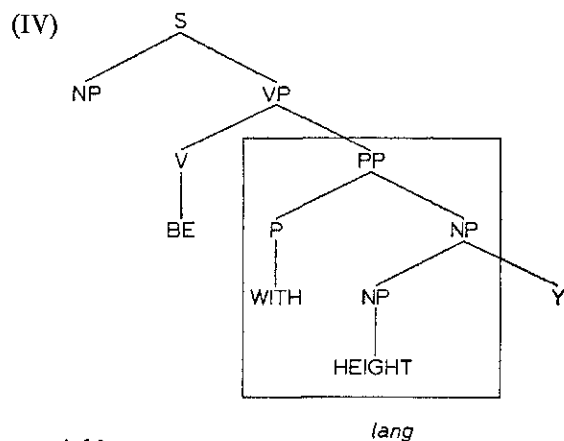
where *Y* is a variable.

The simultaneous environment is in the above lexical entry surrounded by a frame. Before the lexical item can be attached the relevant part of the tree diagram must undergo some changes in structure. For the details of the procedure we refer to Gruber (1967) and Klooster (1971a). Now we would deal with the question of what the underlying structure of the sentences with the semicopula *duren* can be. For this it is useful first of all to compare *duren* with other semicopulas, *wegen* for example. In the illustrations below certain clear distinctions are brought to light between sentences referring to weight and those referring to duration:

(41)   De wedstrijd duurde *lang*.
        lit.: The match lasted long.

(42)   *Jan woog *zwaar*.
        lit.: Jan weighed heavy.

(43)   *De wedstrijd was *lang*.
        lit.: The match was long.

(44)   Jan was *zwaar*.
        lit.: Jan was heavy.

(45)   De wedstrijd had een *lange* duur.
        lit.: The match had a long duration.

(46)   *Jan had een *zwaar* gewicht.
        lit.: Jan had a heavy weight.

(47)   De wedstrijd duurde 10 minuten *langer*.
        lit.: The match lasted 10 minutes longer.

(48)   *Jan woog 10 kilo *zwaarder*.
        lit.: Jan weighed 10 kilo heavier.

(49)   *De wedstrijd duurde 10 minuten *meer*.
        lit.: The match lasted 10 minutes more.

(50)   Jan woog 10 kilo *meer*.
        lit.: Jan weighed 10 kilo more.

(51)   *De wedstrijd duurde *veel*.
        lit.: The match lasted much.

(52)   Jan woog *veel*.
        lit.: Jan weighed much.

We can conclude from the first pair of examples above that the Measure Adjective *lang* used in the temporal sense, unlike the Measure Adjective *zwaar* (heavy) can occur in combination with a semicopula. In the case of *wegen* (weigh) this was to be expected in view of the hypothesis that *wegen* should be analysed into BE WITH WEIGHT and *heavy* as WITH WEIGHT. The underlying structure of the ungrammatical sentence (42) contains therefore the string WITH WEIGHT once too often. Obviously nothing of the sort is the case with a sentence like (41). We may conclude from (43) and (44) that reduction to *zijn* (be) is possible in the case of *wegen* (weigh) but not in the case of *duren* (last). This could indicate that *duren* has an underlying structure essentially different from that of *wegen*. The ungrammaticality of sentence (46) can be explained in the same way as that of sentence (42). The same applies to (48) whose underlying structure would be something like 'John was with weight with 10 kilos more weight' and would contain one WITH-string too many. Sentence (50) is correct as we would expect but sentence (49) shows that in comparative constructions with MP's *duren* demands the presence of a string WITH LENGTH realised as an Adjective (cf. sentence (47)). *Mutatis mutandis*, the same can be said of *duren*-sentences without MP's as seen in sentence (51). The correctness of (52) corresponds again with the analysis of *wegen* as BE WITH WEIGHT. The underlying structure of (52) must be something like 'John was with much weight', as in (44). The word *lang* in (41) can be analysed as something like 'with much length', and so its underlying structure could be expressed as 'the match is with duration with much length'; the same applies to sentence (45). The structure underlying sentence (47) could be something like 'the match is with duration with 10 minutes more length'.

The most significant point of our observations is that sentences with *duren* contain not one but two underlying WITH-strings. However there are a number of difficulties. The Measure Adjective *lang* does not turn up in non-comparative constructions containing an MP as we saw in (9c) *Het platliggen van Lex duurde drie weken lang* (lit.: Lex's lying flat on his back lasted three weeks long). The question is then, whether *duren* occurs in all circumstances in sentences with an underlying string WITH LENGTH. We can attempt to solve the problem in three ways: (i) we set up a deletion-rule to prevent *lang*

from occurring with *duren* in non-comparative constructions with MP; (ii) we set up two different entries for *duren*, one where WITH LENGTH is incorporated in *duren* and one where this string is not incorporated in the Semicopula, so that it will have to be realised as *lang*; (iii) we assume that there are two sorts of *duren*-sentences, one containing the underlying structure WITH LENGTH and the other doing without it altogether. This last possibility seems inadmissible to us for the following reason: there is a clear synonymity relationship between the sentences (9) *Het platliggen van Lex duurde drie weken* (Lex's lying flat on his back lasted three weeks), (9a) *Gedurende drie weken lag Lex plat* (For three weeks Lex lay flat on his back), and (9b) *Drie weken lang lag Lex plat* (lit.: Three weeks long Lex lay flat on his back). As we have ascertained the occurrence of *gedurende* and *lang* in Duration-Measuring Adverbials is mutually exclusive. In view of the fact that there is much to be said for the assumption of a transformational relationship between sentences like (9) on the one hand and like (9a) and (9b) on the other, it is obvious that we should assume that the elements that underlie *lang* in sentence (9b) are also present in the underlying structure of sentence (9) and (9a), even if this Measure Adjective does not occur in these last two sentences. Therefore we shall henceforth disregard the third possible solution as mentioned above. Let us now examine possibility (i) above, the transformational solution. The deletion of the string of elements underlying *lang* in MP-sentences with *duren* can be represented approximately as follows:

S.D.: NP BE WITH DURATION – WITH LENGTH – MP $_{OBL}$

1		2	3 $\Rightarrow$

S.C.:   1 $\emptyset$ 3

The objection that could be made against the setting-up of such a rule is that the generalising power that syntactic rules are thought to have is reduced. It is going a little far to set up a separate deletion-transformation for sentences with *duren*. Thus there is reason to look out for sentences with MP's that behave in a way analogous to sentences with *duren*.

The number of cases where things happen similar to sentences with *duren* is not large. We can point out the Semicopulas *dragen* (said of artillery, sound etc.), *reiken* (reach, stretch) and *steken* (draw, said of ships). From the examples below we shall see that these Verbs differ from the Semicopulas *wegen* and *kosten* in a way analogous to *duren*.

(53)   Het geschut droeg ver. (cf. (41))
         The heavy artillery fire carried far.
(cf.   *Jan woog zwaar* and *Dat huis kostte duur*)
         Jan weighed heavy. That house cost expensive.

(54)   *Het geschut was ver. (cf. (43))
         The heavy artillery fire was far.
(cf.   *Jan was zwaar* and *Dat huis was duur*.)
         John was heavy. That house was expensive.
(55)   Het geschut droeg twee kilometer verder. (cf. (47))
         The artillery fire carried two kilometers further.
(cf.   *Jan woog tien kilo zwaarder* and *Dat huis kostte tien mille duurder*.)
         Jan weighed ten kilo heavier. That house cost ten mille more expensive.
(56)   *Het geschut droeg twee kilometer meer. (cf. (49))
         The artillery fire carried two kilometers more.
(cf.   *Jan woog twee kilo meer* and *Dat huis kostte tien mille meer*.)
         Jan weighed ten kilo more. That house cost ten mille more.
(57)   *Het geschut droeg veel. (cf. (51))
         The artillery fire carried much.
(cf.   *Jan woog veel* and *Dat huis kostte veel*)
         Jan weighed much. That house cost much.
(53a)   Het geluid reikte ver.
         lit.: The noise reached far.
(54a)   *Het geluid was ver.
         lit.: The noise was far.
(55a)   Het geluid reikte 2 kilometer verder.
         lit.: The noise stretched 2 kilometer further.
(56a)   *Het geluid reikte 2 kilometer meer.
         lit.: The noise stretched 2 kilometer more.
(57a)   *Het geluid reikte veel.
         lit.: The noise stretched much.
(53b)   De boot stak diep.
         lit.: The boat drew deep.
(54b)   *De boot was diep.
         lit.: The boat was deep.
(55b)   De boot stak een vadem dieper.
         lit.: The boat drew a fathom deeper.
(56b)   *De boot stak een vadem meer.
         lit.: The boat drew a fathom more.
(57b)   *De boot stak veel.
         lit.: The boat drew much.[9]

---

[9] Some of the ungrammatical sentences given can be considered grammatical, but then in a completely different interpretation, irrelevant to the present analysis, from the one we have taken.

It is not improbable that verbs like *dragen* should similarly be analysed as BE followed by two (or even more) Prepositional Phrases. Thus we could think in terms of a more generally formulated deletion-transformation like:

$$\text{S.D.: NP BE WITH NP} - \text{WITH NP} - \text{MP}_{\text{OBL}}$$
$$\qquad\quad 1 \qquad\qquad\quad 2 \quad\ 3 \quad \Rightarrow$$
$$\text{S.C.:} \quad 1 \qquad\qquad\quad \emptyset \quad\ 3$$

There is however a complication which may indicate that the underlying structure of sentences with *dragen* (carry), *reiken* (reach), and *steken* (draw) deviates from that of sentences with *duren*. As we have remarked, all sentences with an MVP can be paraphrased with the assistance of *hebben* (have). This also applies to sentences which do not contain an MP but do have a semicopula or a Measure Adjective. The examples below illustrate that we must take for granted a difference between sentences with *duren* on the one hand and sentences with *dragen*, etc. on the other.

(58)   De wedstrijd had een lange duur.
        lit.: The match had a long duration.
(59)   *Het geschut had een verre reikwijdte.
        lit.: The artillery fire had a far range.
(60)   *De zender had een ver bereik.
        lit.: The transmitter had a far range.
(61)   *De boot had een diepe diepgang.
   lit.: The boat had a deep draught.

Instead of the sentences (59)–(61) we have (62)–(64) below:

(62)   Het geschut had een grote reikwijdte.
        lit.: The artillery fire had a great range.
(63)   De zender had een groot bereik.
        lit.: The transmitter had a great range.
(64)   De boot had een grote diepgang.
        lit.: The boat had a great draught.

Whereas *duren* and *duur* are associated with *lang*, the other semicopulas reviewed above are associated with *ver* and *diep* respectively but not the corresponding nouns, *reikwijdte* (range), *bereik* (range, reach) and *diepgang* (draught) respectively. It is not impossible that the structural description of sentences with *duren* differs so greatly from that of the other three semicopulas here under consideration, that a deletion-transformation as proposed above will produce fundamental difficulties.

Possibility (ii) where various entries for *duren* are drawn up seems to have one advantage: we need not worry ourselves about the deviant behaviour, on a definite point, of so many sentence-types that otherwise have an ana-

logous behaviour pattern. Irregularities are best dealt with in the lexicon.[10] But since we do not want to occupy ourselves in this article primarily with the setting forth of arguments for a transformational or non-transformational solution to the problems of the non-occurrence of *lang* in some sentences with *duren*, we shall restrict ourselves here to presenting alternatives. The diagrams (V) and (VI) represent the two different entries for *duren* which could be taken up as a pair in the lexicon:

(V)

duren₁

(VI)

duren₂
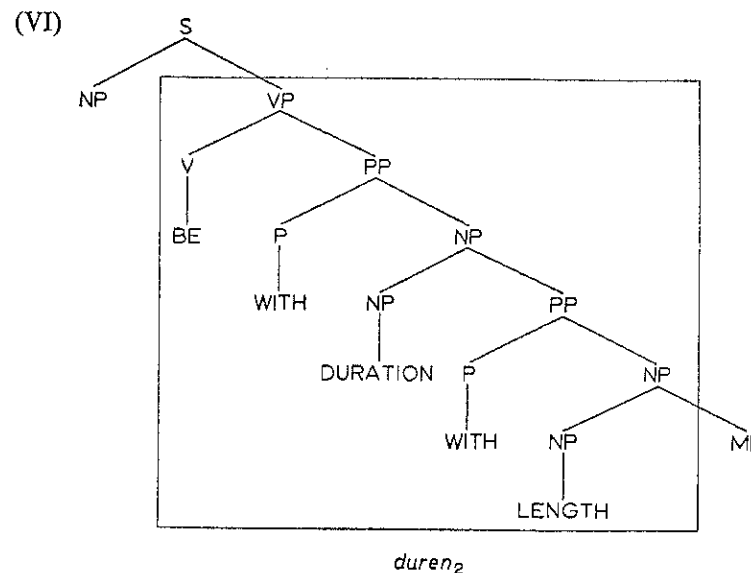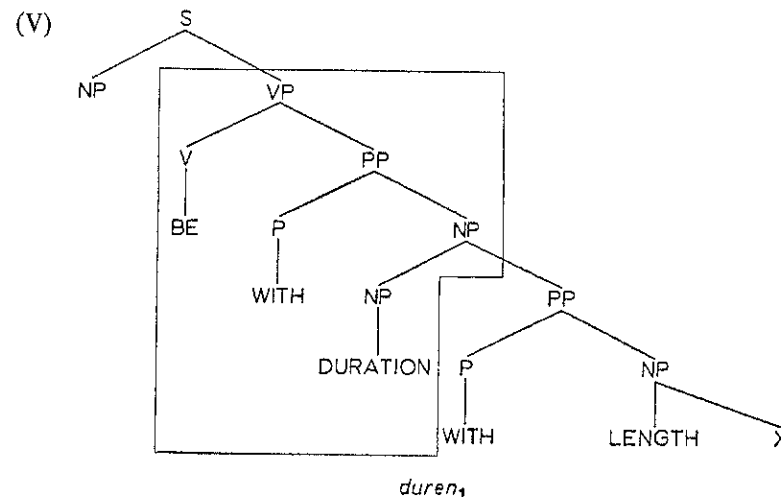
[10] L. Bloomfield, *Language*, London (1953), p. 274, regards the lexicon as "a list of basic irregularities". The same position is held by Chomsky, and Gruber (1967).

In (V) the categories underlying *lang* are not included in the simultaneous environment, but they are in (VI). The peripheral environment, working as a contextual restriction, determines which of the two entries is applicable. The category marked 'X' in the first entry is one that is present in the underlying structure of comparative constructions and in the underlying structure of constructions where the length of the duration remains unspecified, as in sentences (41) *De wedstrijd duurde lang* (The match lasted long), (47) *De wedstrijd duurde 10 minuten langer.* (The match lasted 10 minutes longer), and (58) *De wedstrijd had een lange duur* (The match had a long duration), and:

(65)   Hoe lang duurde de wedstrijd?
          lit.: How long did the match last?

This element 'X' is probably the same as the one that underlies words like *veel* and constitutes part of *meer*. In this connection note that the synonymous sentences (44) *Jan was zwaar* (Jan was heavy) and (52) *Jan woog veel* (Jan weighed much) as remarked on p. 83 have, we assume, the same underlying structure. The word *zwaar* in (44) is not used in a neutral sense, as in the following examples:

(66)   Hoe zwaar is Jan?
          lit.: How heavy is Jan?
(67)   Jan is net zo zwaar als Piet.
          lit.: Jan is as heavy as Piet.

The underlying structure of sentence (66) can be given as 'with how much weight is Jan', of (67) as 'Jan is with just as much weight as Piet'. In both sorts of case we can also assume an underlying element that corresponds to *veel*. This element is also present in the structure of sentences (44) and (52). We can make completely analogous observations with regard to *lang* in sentences with *duren*.

There are also sentences with Measure Adjectives where the underlying element which we have here called 'X' is absent. This occurs as a rule in those cases where a semicopula is not available in the lexicon. One example is sentence (31) *Hij is twee meter lang* (He is two meters tall), whereas a sentence like (68) does contain the element 'X' in its deep structure, incorporated in the Measure Adjective.

(68)   Jan is lang.
          Jan is tall.

In general we can say that occurrence of the category MP precludes the category 'X' and vice versa.

It is possible that all the phenomena connected with *duren* that we have looked at so far have to be accounted for transformationally, although we do have the impression that a solution in the lexicon is more adequate. However the question is not important to the further development of our thesis since we wish in this article to concentrate our interest upon the underlying structure of sentences referring to duration and upon the relation between Duration-Measuring Adverbials and the Verb *duren*.

Two paragraphs earlier we observed that as a rule sentences with Measure Adjectives alone do not have to contain an underlying element 'X' if there is no suitable semicopula. Once again sentences expressing duration form an exception. For it is evident that a sentence like (9b) *Drie weken lang lag Lex plat* (For three weeks Lex lay flat on his back) contains a word *lang* in which the element 'X' cannot be incorporated. If we are right in saying there is a transformational relationship between (1) and (1a) and between (9), (9a) and (9b), and if it is correct to assume the existence of two entries for *duren*, then we could conclude that DMA's with an MP are related to $duren_2$, i.e. the entry where WITH LENGTH is incorporated and is associated with MP's. WITH LENGTH is without doubt the deep Prepositional Phrase for *lang* used neutrally in the DMA *drie weken lang*. DMA's without an MP, as in

(69)   Lex lag lang plat.
          Lex lay long flat on his back.

are then related to $duren_1$ which is not associated with an MP. In this connection it is to be noted that we have beside *drie weken lang*, for example, the synonymous expression *gedurende drie weken*, but there is no equivalent *gedurende* to the non-neutral *lang* in (69). This strongly suggests that DMA's without MP should be connected with $duren_1$, and not with $duren_2$. In other words there can be nothing like 'with much length' incorporated in *gedurende*. In conclusion we offer in diagram (VII) how in our opinion the deep structure of sentences (9), (9a) and (9b), and of (1) and (1a) could be represented: (see VII).

4. THE DERIVATION OF SENTENCES WITH 'DUREN' AND SENTENCES WITH DURATION-MEASURING ADVERBIALS

Firstly we shall derive sentence (1a) *Het platliggen van Lex duurde een week* (The lying flat on his back of Lex lasted a week) transformationally from structure (VII). For this it is necessary for *Nominalisation* to take place. In sentences like

(70)   De tentoonstelling duurde een week.
             The exhibition lasted a week.

such a transformation is not necessary. Notice that there is no sentence of the form *Gedurende een week ... de tentoonstelling* (lit.: For a week... the exhibition) that stands in the same relationship to (70) as (1) to (1a) and (9a)

(VII)

(Lex) (platliggen)   duren   (een week) (drie weken)
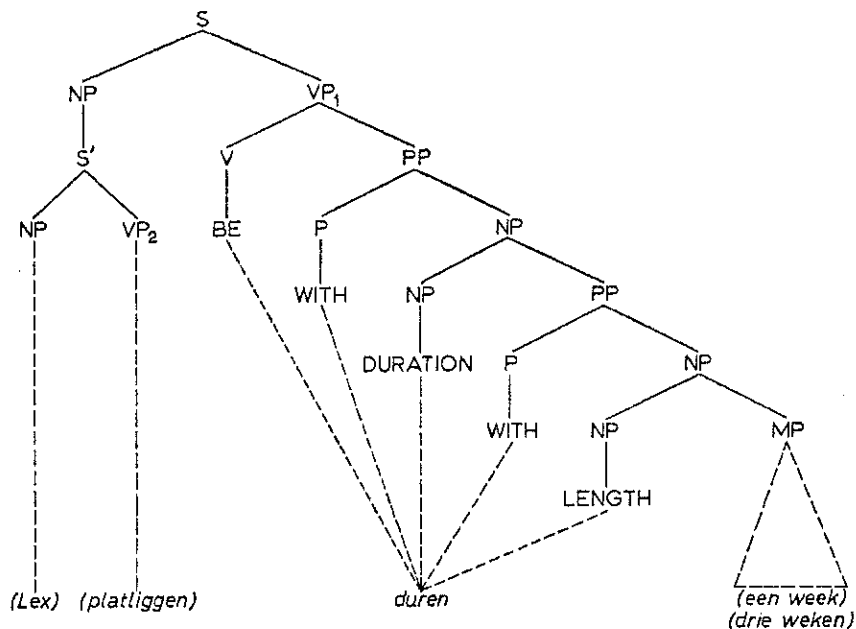
to (9) unless the NP is derived from an underlying subject-predicate combination such as *Men stelde iets ten toon* (Someone put something on exhibition) with a structural string having roughly the form △ *Pret. exhibit* △ where '△' is an unspecified subject, and possibly, object too. We shall not embark on an analysis of sentences like (70) here. It was brought into the discussion because what follows below can be generalised if nominal constituents like *tentoonstelling, vergadering* (meeting), etc. can be shown to be derived from subject-predicate combinations.

The derivation of sentence (1a) from structure (VII) can be sketched in two stages:

(i) a *Nominalisation transformation*. This transformation operates on S' and already exists for structures other than those with *duren*. Somewhat modified for structure (VII) it takes on the following form:
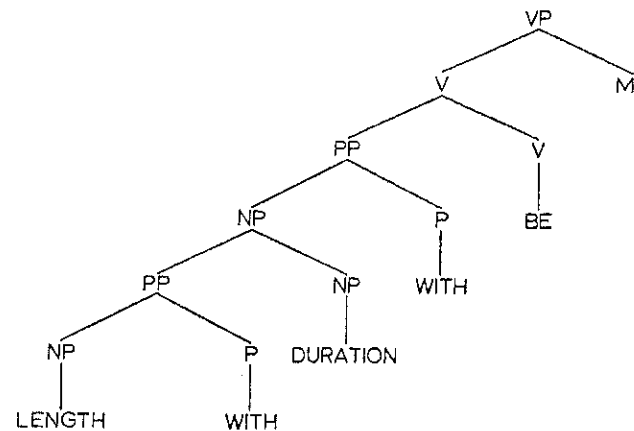
(VIII) *NOMINALISATION.*

$$\text{S.D.} \quad _S[X-_{NP}[_{S'}[NP-VP]_{S'NP}]-VP_1]_S \qquad \text{OPT}$$
$$\qquad\qquad 1 \qquad 2 \quad 3 \qquad 4 \qquad \Rightarrow$$

$$\text{S.C.} \quad 1 \; _{DET}[DEF]_{DET} \qquad 3 \; VAN \; 2 \; 4$$

(ii) the *lexical attachment* of *duren*. For a description of this see Klooster (1971a). Here suffice it to observe that the lexical element *duren* is attached to the string consistent of the categories BE, WITH, DURATION, WITH, LENGTH, after some lexical restructuring rules have been applied to that part of the categorial tree which is dominated by VP. This string has the form LENGTH WITH DURATION WITH BE and is dominated by V as is shown in diagram (IX).

(IX)

Below we shall return to a few conditions that will have to be set up for the *Nominalisation*-transformations. The derivation of sentence (1) will first be given in three steps as there are two elementary transformations concerned, *Deletion* and *Adjunction*. To derive (1) from structure (VII) the following operations are necessary:

(i) a deletion-transformation operating on BE. Recall the introduction of BE in structure (III) where we suggested that BE must not be analysed as a lexical element but possibly as a tense element. The transformation would then have to look something like the following:

(X)   S.D. $X-_{NP}[_{S'}NP \quad VP_2]_{S'}]_{NP}-[_{VP_1}BE-PP]_{VP_1}-Y$

	1	2		3	4	5	OPT ⇒
S.C.	1	2		∅	4	5	

(ii) The output of rule (X) forms the input of an *adjunction*-transformation which is then obligatory:

(XI)   S.D. $X-[_{NP}[_{S'}NP-VP_2]_{S'}]_{NP}-PP-Y$ OBL
   1   2   3   4   5 $\Rightarrow$
         S.C.   1   2   3+4 $\emptyset$ 5

It is clear that we can combine both elementary transformations to what we call an '*Adverbialisation*-transformation'. The effect of this is the deletion of BE in (X) and the adjunction in (XI). The transformation has this form:

(XII) *ADVERBIALISATION*

         S.D.X $-[_{NP}[_{S'}NP-VP_2]_{S'}]_{NP}-[_{VP_1}BE-PP]_{VP_1}-Y$ OPT
                   1   2   3   4   5   6 $\Rightarrow$
         S.C.   1   2   3+5 $\emptyset$ $\emptyset$ 6

The result of this transformation is structure (XIII).

(XIII)
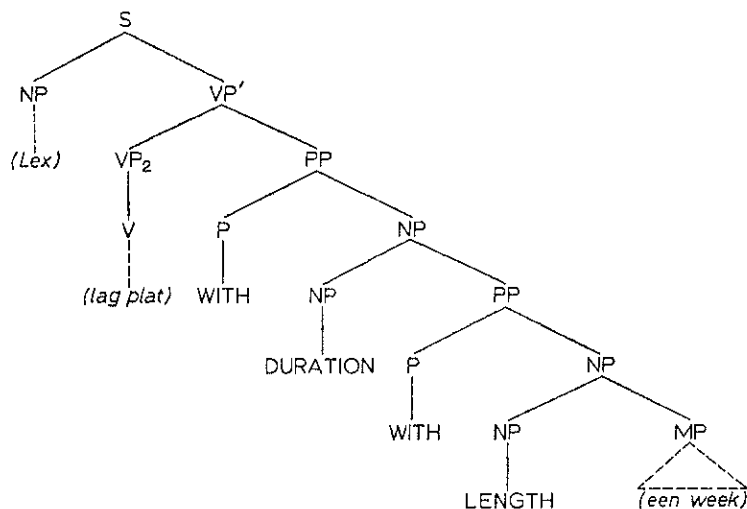
As this structure is generated before the lexical attachment takes place, we have put the categorial nodes that are lexicalised in structure (XIII) between brackets.

(iii) step three is the lexicalisation of *gedurende*. Here we have three lexical transformations in view. If nothing is deleted from the non-lexicalised part of structure (XIII) we get by lexicalisation *gedurende een week*. If WITH DURATION is deleted we get *lang een week* which becomes *een week lang* by a post-lexical transformation. This *lang* can also be dropped so that

the result is *Lex lag een week plat*. The already existing *Adverb Preposing*-transformation ensures that the PP dominated by VP' from (XIII) is brought forward. The result is sentence (1). Notice that the node VP' agrees with the node that we have called in structure (1) 'Predicate Phrase'.

The two transformations (VIII) and (XII) are both optional. As far as we know, structure (VII) is the input of the two transformations given and no others. This means that structures like (VII) are transformed either to structures from which sentences with *duren* emerge or to those from which sentences with DMA's are derived. Sentences like (1) and (1a) are in other words the only two derivational possibilities offered by structure (VII).

The result of this is that if a structure which is partly identical to (VII) has restrictions that preclude *Nominalisation*, it must be able to serve as input for the *Adverbialisation*-transformation and vice versa. Thus the *Nominalisation* of the subordinate clause in *Ik heb een hekel aan de militairen die daar zijn ondergebracht* (I hate the soldiers who are billeted there) is not possible. The fact that (VIII) and (XII) are alternative transformations agrees with the fact that we do have

(71)   Zij gingen daar pamfletten uitdelen aan de Duitse militairen die
         daar gedurende acht dagen zijn ondergebracht.
         (They went there to distribute pamphlets to the German soldiers
         who have been billeted there for eight days)

It is facts as these that make it improbable that sentence (1) is derived from (1a) or (1a) from (1). Here factors play a role which concern the acceptability of *Nominalisation*-transformations. A construction like '*Het daar ondergebracht zijn duurde acht dagen* (lit.: The having been billeted there lasted eight days) is either ungrammatical or unacceptable. The degree of ungrammaticality or unacceptability determines to what extent *Adverbialisation* is the only alternative left.

Another factor rendering the derivation of sentences like (1) and (1a) from each other improbable concerns examples (21)–(22a).

In Verkuyl (1970) arguments are given for a distinction between Durative, Terminative and Momentaneous VP's. From the point of syntax the Durative VP can be distinguished from the other two by the following paradigm where the primary semantic characteristics of the three VP's are also given.

(72)   Jarenlang *woonde* ik *in Parijs* (Dur. VP) – duration.
         lit.: For years I lived in Paris.

(73)   Urenlang *zong* hij *die aria*. (Term. VP) – duration + terminal point
         lit.: For hours he sung that aria.

(74)   Dagenlang *won* hij *zijn partij*. (Mom. VP) – indivisible moment
         lit.: For days he won his game.

The grammaticality of (73) depends on an interpretation where he is reported to have repeatedly been singing the aria; and (74) asserts that he has won a number of games over a period of a number of days. If we return to (21)–(22a) we see that a structure like (VII) presents no difficulties if the VP_2 of the embedded sentence S′ is a Durative VP. Only when S′ contains a Terminative or Momentaneous VP do restrictions occur. Let us take another look at the sentences:

(21)　　Gedurende vier middagen wandelden ze naar het strand.
　　　　lit.: For four afternoons they walked to the beach.
(21a)　Hun wandeling naar het strand duurde vier middagen.
　　　　lit.: Their walk to the beach lasted four afternoons.

In sentence (21a) they have taken one walk with the beach as their objective. This walk is interrupted three times. Although sentence (21) lends itself more readily to the interpretation that they took four walks to the beach, it can also mean that they made one trip. Cf. for example *Gedurende drie dagen wandelden ze naar Parijs maar bij de Nederlands-Belgische grens gaven ze het op* (For three days they were walking to Paris but gave it up at the Dutch-Belgian border).

Sentence (21) is open to a similar interpretation but this seems a little improbable as one usually reaches the beach in one go. In (21a) *naar* has the meaning 'in the direction of'; this is also the meaning of *naar* in the second reading of (21). In other words, we do have here a transformational relationship between (21) and (21a) in the relevant reading. If the underlying structure of (21) contains a Perfective predicate with BE instead of the Imperfective predicate, the *Nominalisation*-transformation (VIII) is blocked: **Hun gewandeld zijn naar het strand...* (lit.: Their having walked to the beach...) is ungrammatical. Hence in that case only

(21b)　Gedurende vier middagen zijn ze naar het strand gewandeld.
　　　　During four afternoons they walked to the beach.

can be generated according to our argumentation with respect to a sentence like (71) above.

The first interpretation of (21) can be derived by making the *Adverbialisation*-transformation obligatory in the case where (21a) and (21b) are synonymous. The underlying structure must in that case contain the information that the end of the walk has been reached. In other words, that *naar* does not mean 'in the direction of' but 'up to and including'.

This analysis is supported by the ungrammaticality of (22a) over and against the grammaticality of (22). A characteristic property of Momentaneous VP's is that if they occur in sentences with Perfect or Imperfect

Tense, the event referred to has always happened. With Terminative VP's this is not necessarily the case, as we have seen. Thus the sentence *Jan wandelde naar huis* (Jan was walking home) does not explicitly mean that he has ever reached his house. In *De bom ontplofte* (The bomb exploded) we know that it did indeed explode.

We can generate sentence (21) in the first reading and exclude (22a) if we provide the *Nominalisation*-transformation as formulated in (VIII) with the following condition:

Condition on (VIII): Transformation is blocked if VP is Momentaneous, or Terminative + an element 'terminated' or 'completely realised'.

This condition suggests that the *Nominalisation*-transformation must precede the *Adverbialisation*-transformation in the Transformational cycle.

In conclusion we would remark that it is very well conceivable, even probable, that structure (VII) cannot be considered the deep structure of the sentences (1) and (1a). Recent developments in generative semantics confirm this by assuming a far more abstract semantic level of representation instead of the deep structure (e.g. McCawley, 1967). This semantic representation shows much agreement with the manners of expression developed by symbolic logic in the propositional calculus and predicate calculus with the analysis of the meaning structure of propositions. Through this quite recent development the problem has arisen of how to represent the formal derivation of such abstract representations towards surface structures. This article can be regarded as an attempt to make more abstract the base structures laid down in the formal apparatus which has been developed in recent years within the transformational-generative (standard) linguistic theory, and to find a link with the semantic representation of the sentences with *duren* and those with DMA's.[11])

University of Amsterdam

BIBLIOGRAPHY

Gruber, J. S.: 1967, *Functions of the Lexicon in Formal Descriptive Grammars*, Technical Memorandum 3770/000/00, SDC, California.
Klooster, W. G.: 1971a, 'Reductie in zinnen met "maatconstituenten"', *Studia Neerlandica 5*, 62–98. A revised version entitled 'Reduction in Measure Phrase Sentences' will appear in F. Kiefer and N. Ruwet (eds.), *Generative Grammar in Europe*, Dordrecht.
Klooster, W. G.: 1971b, *The Structure Underlying Measure Phrase Sentences*. (Diss. University of Utrecht). To appear in the *Foundations of Language Supplementary Series*.

[11] See for further elaborations on the points at issue in this paper and for some amendments, Klooster (1971b) and Verkuyl (1971).

Klooster, W. G., Verkuyl, H. J. and Luif, J. H. J.: 1969, *Inleiding tot de Syntaxis*, Culemborg/Keulen, Abbreviated as KVL.

Kraak, A. and Klooster, W. G.: 1968, *Syntaxis*, Culemborg/Keulen.

McCawley, J. D.: 1967, 'Meaning and the Description of Languages', *Kotoba no uchu* **2**, 10–8; 38–48; 51–7.

Verkuyl, H. J.: 1970, 'De relevantie van logische operatoren voor de analyse van temporele bepalingen', *Studia Neerlandica* **2**, 7–33. A revised version entitled 'Temporal Prepositions as Quantifiers' will appear in F. Kiefer and N. Ruwet (eds.), *Generative Grammar in Europe*, Dordrecht.

Verkuyl, H. J.: 1971, *On the Compositional Nature of the Aspects*. (Diss. University of Utrecht). To appear in the *Foundations of Language Supplementary Series*.