NATIONAL LIBRARY
OTTAWA

BIBLIOTHÈQUE NATIONALE
OTTAWA

6247

NAME OF AUTHOR.....IRENE FOONG-HENG WONG.....

TITLE OF THESIS.....OBJECT COMPLEMENTS IN MALAY.....

.....

.....

UNIVERSITY.....OF ALBERTA.....

DEGREE FOR WHICH THESIS WAS PRESENTED.....PH. D.....

YEAR THIS DEGREE GRANTED.....1970.....

Permission is hereby granted to THE NATIONAL LIBRARY OF CANADA to microfilm this thesis and to lend or sell copies of the film.

The author reserves other publication rights, and neither the thesis nor extensive extracts from it may be printed or otherwise reproduced without the author's written permission.

(Signed).....Irene Wong.....

PERMANENT ADDRESS:

Dept. of English
.....
University of Malaya
.....
KUALA LUMPUR
.....
MALAYSIA

DATED.....February 16/70.....19

NL-91 (10-68)

THE UNIVERSITY OF ALBERTA

OBJECT COMPLEMENTS IN MALAY

BY

© IRENE FOONG-HENG WONG

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

OF DOCTOR OF PHILOSOPHY

DEPARTMENT OF LINGUISTICS

EDMONTON, ALBERTA

SPRING, 1970

UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "Object Complements in Malay" submitted by Irene Foong-Heng Wong in partial fulfilment of the requirements for the degree of Doctor of Philosophy.

Gary D. Prideaux
Supervisor

External Examiner

Date February 13th, 1970

ABSTRACT

This thesis examines, within the framework of current transformational grammar, the syntactic processes involved in the object complement system of Malay. Its primary purpose is to construct and incorporate within the grammar of Malay the means for correctly generating sentences containing object complements.

The study has revealed that two types of deep structure trees underlie the object complements, depending on the presence or absence of the indirect object in the matrix sentence. Context-free branching rules are written to generate these trees.

Transformations are then proposed to account for the various surface structures of the object complements, and the ordering of these transformations with respect to each other is discussed. Two types of complements are found for Malay, depending on the presence or absence of the subject of the embedded complement. It is claimed that both these types of complements have the same deep structure, and result only from different transformational processes.

Finally, features are formulated for the lexicon in order to help generate well-formed object complements in Malay, and two types of constraints are formulated in order to prevent ill-formed object complements from being generated by the grammar.

ACKNOWLEDGEMENTS

I wish to express my deep appreciation to all of the following, who have contributed in many valuable ways to the completion of this thesis.

Dr. Gary Prideaux, for his insightful guidance in the writing of this thesis. His very valuable comments and suggestions have helped to improve the final form of this work.

Professor Alan Stevens, for his helpful comments on the pre-final draft of this thesis.

Dr. George Waldo, for having encouraged me in so many ways to go on with graduate study.

Ismail Hussein, who patiently spent hours with me as my informant and without whose cooperation this thesis could never have materialized.

The Commonwealth Scholarship and Fellowship Committee, for sponsoring the award which supported me through the years of my study in Canada.

The Ford Foundation, for its grant to attend the Linguistic Institute at the University of Illinois in the summer of 1968. There I had the opportunity to listen to Drs. Ross, Lakoff and McCawley, and the ideas for this thesis started taking root.

Professor C.I.J.M. Stuart, Dr. L.C. Green, and Dr. J. Anderson, for their help as members of my Committee.

Mrs. Helga Radvanyi, for her help in the various non-academic matters connected with this work, and Mrs. Betty Berube, for her valuable assistance in the typing of this thesis.

TABLE OF CONTENTS

CHAPTER I

INTRODUCTION

1.1 The Malay Language

Malay is the name given to the native language of the Malay people in Malaysia, and is also the official and national language of Malaysia's multiracial citizens. There are many different dialects of the language. The language of the south, of the Johore area, is regarded as correct, standard Malay, and is closest to the dialect adopted as the official language of the country.

Bahasa Indonesia, the official language of the neighbouring country of Indonesia, is another dialect of Malay. Many of the different dialects of Malay are, on the whole, mutually intelligible, with the main variations being in the vocabulary and phonology.

The dialect of Malay examined in this thesis is standard Malay, the dialect used as the official language of the country. Judgments of acceptability are therefore made in the course of this study with this particular concern in mind, that the sentences be acceptable within the framework of educated, formal and standard Malay.

1.2 The Informant

Since the author is not a native speaker of Malay, though she has had formal training in the language and a

close acquaintance with it, it was necessary to use an informant who was a native speaker of the language, against whose native intuition the utterances could be checked for their acceptability. The sentences studied in this thesis did not come from the informant, but were collected from the Berita Harian, a Malay daily newspaper published in Kuala Lumpur, Malaysia. The informant's role was to decide on the acceptability of the sentences produced by the various tests performed on the data. This then formed an indirect check on whether or not the transformations and deep structures were adequate.

It was important to use a native speaker of standard Malay and the informant selected was Ismail Hussein, a native speaker of Johore Malay and at present a third-year science student at the University of Alberta.

Ismail was born and brought up in Johore. He was born in Benut, a little Malay village whose inhabitants speak mainly Malay and Javanese. His mother was born in Singapore and his father in central Java in Indonesia. His father moved to Malaysia in his early childhood. The Javanese influence is therefore not too strong in Ismail's speech.

Ismail spoke both Malay and Javanese before he went to school. The first four years of his school life were spent in a school where the medium of instruction was solely Malay. This was in Pontian, in Johore. Then he transferred to another school in Pontian, where the medium

of instruction was English. The first three years in this school were spent in special classes formed to help Malay-speaking students reach the stage where they could later have their education entirely in English. The five years following this, Ismail remained in the same school and had his instruction in English. However, he took Malay as a subject in each of those five years, and continued to speak Malay and Javanese in his home and in the village.

Two more years were spent in school, in pre-university classes, at the Johore English College in Johore Bahru, the capital of Johore. All his education was therefore in Johore, until he left Malaysia in September 1967 to read for his B. Sc. in the University of Alberta.

1.3 Malay Spelling

Malay uses both the Arabic and Roman scripts for its writing system. The latter is used in this work. Standard Malay spelling will be used, without regard to the phonemic problems involved, since this thesis is purely a syntactic study and does not deal with the phonological component at all.

Efforts have been under way for the past few years to consolidate the spelling systems of Malay and Bahasa Indonesia, and the recommendations are expected to be put into effect soon. However, at the present time, that common spelling is still not in use, and the available publications

still use the old spelling system. The spelling used in this thesis, therefore, will be the old spelling system in use at the present time, which is that most commonly found in government publications, the newspapers and official bulletins. This should in no way affect the validity of the study undertaken here.

1.4 Malay Syntax and Morphology

The following is intended to be only a very brief sketch of the main syntactic and morphological features of the language which will help in understanding the study undertaken in this thesis. No attempt is made to be exhaustive.

Word order is of prime importance in the language, since Malay does not make use of declension and conjugation. Malay is a SVO language, the word order in simple declarative sentences being subject + predicate. The predicate may consist of either a verb or an adjective, followed by an optional object. In the case of the predicate containing a verb, an optional indirect object may intervene between the verb and the direct object. The predicate may also consist of another noun, an adverb, a prepositional phrase, or an adverbial clause. No copula is necessary where the predicate does not contain a verb, though for purposes of emphasis either ia-lah or ada-lah can function as the copula.

The word order in the noun phrase is: noun head + adjective(s) + determiner. If a relative clause is inserted into the noun phrase, the order is: noun head + adjective(s) + relative clause + determiner. A remark must be made about the use of the determiner in the language. Malay does not require an article, definite or indefinite, with each noun. The determiner is used where specificity is intended, and can be translated into the definite article or the demonstrative in English. The determiners in Malay are ini (the/this/these) and itu (the/that/those), as in the following examples:

orang yang tua itu

(person who old that) = that old man

rumah-rumah kechil ini

(house PL. small these) = these small houses

The following types of words can be found in the verb phrase together with the verb head:

(a) negatives: jangan (imperative negative), tidak (ordinary negative), bukan (equational negative);

(b) auxiliaries: e.g. boleh (can), harus (should);

(c) aspectuals: e.g. sudah (already), telah (PAST), belum (not yet), baharu (just), maseh (still), sedang and tengah (be in the course of), akan and hendak (anticipative).

These constituents of the verb phrase will not be dealt with in this thesis as they are not directly relevant to the study

of object complementation. The grammar will therefore not generate any of these constituents of the verb phrase, apart from the head verbal, although some of these constituents will be found in the surface structures of the sentences used as examples.

The adjective, which is treated as belonging to the same class of verbals as the verb, can itself optionally be preceded by a copula like rasa (feel) or ada-lah (COPULA). Adverbs also function in the adjective phrase, but again these will be omitted from the study here.

Nouns indicate the plural in one of two ways: firstly, by duplicating the noun, e.g. buku (book), buku-buku (books). This duplicating process is often indicated by the use of the numeral 2 immediately after the word, as in buku2; (Other classes of words, like the verbals, can also undergo this duplicating process. However, plurality is not indicated when any word apart from a nominal is involved. The verb menchita, for example, means "to create, invent, or produce", while the verb berchita2 means "to hope for, aspire to". The verb chuba means "to try, to attempt", and the verb chuba2 means "to try half-heartedly, not seriously".); secondly, by using a preceding adjective which is indicative of number, e.g. the cardinals, or adjectives like banyak (many), and semua (all), in which case it is no longer necessary for the noun head to be duplicated. It should therefore be banyak rumah (many houses), and not

*banyak rumah2. Another frequent method of indicating the number of the noun is by context. Thus, rumah (house) can be either singular or plural, depending on the wider context.

The verb is not inflected for person, number, mood or tense. The subject of the verb is sufficient to indicate the person and number, while tense, like number, need not be overtly expressed. Tense is often determined by the context, but it can be expressed by the aspectuals already referred to on page five, or by adverbial phrases which contain indications of time, e.g. minggu lalu (last week), or esok (tomorrow).

Malay has a complex system of affixation which is commonly used with the verbs. This system of affixation will be ignored in this thesis. The verbs appear in the lexicon in their simple uninflected form. In a more complete grammar of Malay, morphophonemic rules will be required to provide the appropriate affixes for the verbs. In this thesis, however, the simple uninflected form of the verb will be used in the deep structure trees, but the rules required to provide the appropriate affixes in the surface representation will not be dealt with. It will be assumed that such a set of morphophonemic rules is available and operates before the final surface structure is produced. This side-steps the problem of the relationship of the affixes to the syntax, which will have to be dealt with in a

more complete grammar of Malay. This thesis represents only a partial grammar of the language, dealing with the main syntactic processes involved in the generating of object complements in Malay.

1.5 The Model Used

The framework adopted in this study is that of current transformational grammar, the basis of which is Chomsky 1965. The field of transformational grammar is an ever progressing one, however, and no complete model has as yet been constructed. Suggestions therefore continue to be made for the revision and extension of the existing model, and there is no general agreement on which of these suggestions should be adopted.

This section of the thesis is intended to indicate which suggestions have been incorporated into the model used here, without attempting to defend the incorporation of one suggestion rather than another. Such a defence of the merits of each suggestion is far beyond the scope of this thesis. The reader will be referred to the relevant literature on the subject, where the merits and demerits of each suggestion are usually weighed.

Chomsky's model of 1965 has the following three features, which remain unchanged in this thesis:

(1) The grammar of a language consists of three components: the central syntactic component, which is the

only generative component, and the two interpretative components, the phonological and the semantic components. The analysis in this thesis is entirely within the syntactic component.

(2) The syntactic component itself has two subcomponents: the base and the transformational components.

(3) Every sentence in a language has a deep and a surface structure. The deep structure is generated by the rules of the base component of the grammar, and the semantic component gives these deep structures their semantic interpretation. The surface structure is produced by the application of transformational rules to the deep structure, and the phonological component assigns to each of these surface structures their phonetic representation in a universal phonetic alphabet.

The following points to be brought out now indicate where some modifications and extensions of the basic model of Chomsky 1965 have been incorporated into this thesis.

(4) In Chomsky's model of 1965, the base component consisted of a categorial component and a lexicon. The former included (a) a set of branching rules, which were context-free rewrite rules introducing syntactic categories and defining their grammatical relationships in the deep structure; (b) a set of context-free subcategorization rules which introduced inherent features; and (c) two kinds of context-sensitive subcategorization rules which introduced

strict subcategorization features and selectional features into the matrices of complex symbols, the former specifying the immediate contextual feature of a given category, and the latter determining the inherent feature composition of the subject and object for a given verb. After the operation of these rules, the lexical insertion rule would select items from the lexicon to insert into the P-marker to produce the deep structures for the transformations to operate on. Chomsky viewed the lexicon as an unordered set of lexical items, each item being specified with (a) a phonological feature matrix, (b) a syntactic feature matrix, and (c) a semantic feature matrix, together with any idiosyncratic feature(s) of that lexical item.

Both Matthews (1967) and McCawley (1968a) objected to the redundancy present in Chomsky's model where the same information is introduced in the subcategorization rules and then in the lexicon, and where the information given in the subcategorization rules can be dispensed with if the lexical insertion rule is modified. McCawley (1968a) suggested that (1) the context-free subcategorization rules which introduce inherent features be better regarded as lexical redundancy rules, (2) the strict subcategorization rule and the selectional rule be removed from the grammar altogether and the same information be provided for each lexical item in the lexicon, and (3) the lexical insertion rule be modified so that, instead of looking at the complex

symbol of features, it directly examines the P-marker to determine whether or not it provides the correct environment for the insertion of a lexical item.

All subcategorization rules are now removed from the base component of the grammar. In fact, Chomsky had discussed this possibility as an alternative proposal (1965:120-3), and Rosenbaum and Lochak (1966) adopted this in their core grammar of English. The lexicon remains an unordered set of lexical items but each item, in addition to the features already mentioned, has a context-sensitive feature indicating the environment into which the item can be inserted in the P-marker.

McCawley (1968a) furthermore argued that the base rules must be regarded as unordered. These suggestions of McCawley's have been adopted into the model used in this thesis.

(5) Chomsky (1957) had allowed for both optional and obligatory transformations. The passive was therefore treated as being optional, although Chomsky said that the passive was not always synonymous with the active. Katz and Postal (1964) proposed that transformations like the passive, negative, imperative and question, all of which used to be considered optional, should be re-analyzed as obligatory transformations, whose applicability to a string is determined by the presence or absence of a certain marker in the string, like PASS, NEG, IMP, or Q.

Katz and Postal (1964) argued that the verbs which allowed manner adverbs were also the verbs whose sentences could be passivized. Therefore, in order to capture the relations between manner adverbs and passivizability, they claimed that the underlying forms of passive sentences contained the Adverb Manner constituent dominating by plus a passive dummy marker. In the phrase structure rules, one could choose either the by plus passive or an actual manner adverb. The passive was therefore an obligatory transformation for them.

However, Lakoff (1965:Appendix F) pointed out that there were a number of exceptions to the manner adverb-passivizability correlation, Rosenbaum and Lochak (1966) and Rosenbaum (1968) used both obligatory and optional transformations in their grammars of English, and Kac (1969) also argued that the passive should not be obligatory. This thesis has adopted the view that the passive is an optional transformation, since Katz and Postal's arguments have not been demonstrated to be valid. Moreover, in the sentences studied in this thesis, there was no semantic difference between the passive and the active sentences, apart from the matter of "focus", which has not been assigned a place in the grammar yet.

(6) Chomsky (1965) mentioned the transformational cycle, where rules have to apply first of all to the most deeply embedded sentence, and then work their way up the

tree to the highest sentence when the cycle terminates. The question of the transformational cycle has been investigated in greater depth and detail in more recent work, such as Lakoff (1966a). The transformational component of the grammar contains three types of rules: (1) pre-cyclic rules which apply first, and apply only once to the entire P-marker, (2) cyclic rules which apply in a certain order on each cycle, there being as many cycles as there are S's in the sentence, and (3) post-cyclic or last cycle rules which are also ordered in the cycle but apply only on the last cycle.

The principle of the transformational cycle is adopted in this thesis, and readers are referred to Chomsky (1965) where references to the cycle are scattered through the book, Rosenbaum and Lochak (1966:28-32), Rosenbaum (1968: 21-3), and Jacobs and Rosenbaum (1968:235-49).

(7) In Chomsky's grammar of 1965, determiners were nodes in the NP and tense was part of the Aux node. Rosenbaum and Lochak in 1966 were considering the possibility of treating aspectuals as features of the verbal, thus eliminating Aux from the grammar (1966:8-9). In Rosenbaum (1968), articles are no longer constituents in deep structure, but features on segments with [+N], i.e. nouns. Articles are generated transformationally by the article segmentalization transformation which creates a segment marked [+Art] and copies in that segment the relevant article features from

tree to the highest sentence when the cycle terminates. The question of the transformational cycle has been investigated in greater depth and detail in more recent work, such as Lakoff (1966a). The transformational component of the grammar contains three types of rules: (1) pre-cyclic rules which apply first, and apply only once to the entire P-marker, (2) cyclic rules which apply in a certain order on each cycle, there being as many cycles as there are S's in the sentence, and (3) post-cyclic or last cycle rules which are also ordered in the cycle but apply only on the last cycle.

The principle of the transformational cycle is adopted in this thesis, and readers are referred to Chomsky (1965) where references to the cycle are scattered through the book, Rosenbaum and Lochak (1966:28-32), Rosenbaum (1968: 21-3), and Jacobs and Rosenbaum (1968:235-49).

(7) In Chomsky's grammar of 1965, determiners were nodes in the NP and tense was part of the Aux node. Rosenbaum and Lochak in 1966 were considering the possibility of treating aspectuals as features of the verbal, thus eliminating Aux from the grammar (1966:8-9). In Rosenbaum (1968), articles are no longer constituents in deep structure, but features on segments with [+N], i.e. nouns. Articles are generated transformationally by the article segmentalization transformation which creates a segment marked [+Art] and copies in that segment the relevant article features from

the noun segment. This is also presented in Jacobs and Rosenbaum (1968:81-91).

The suggestion that determiners are found in deep structure as features on the noun segment is adopted in this thesis. However, the article segmentalization transformation will be omitted from the grammar. No claim is made in this thesis as to the deep structures of tense and negation in Malay. For convenience, negation is treated as a feature of the verb. Tense, however, cannot be considered to be a feature of the verb since tense belongs rather with the adverbs in Malay. As the grammar proposed here will not generate adverbs at all, tense will also be omitted. These omissions will not affect the validity of the results of this thesis.

The grammar presented in this thesis, and the P-markers given as illustrations, will be highly simplified, ignoring those aspects which are not relevant to the point under discussion. Furthermore, no effort is made to justify those aspects of structure which have no relevance to the questions at issue. This simplified grammar has the aim of focusing attention on the issues basic to the complementation process in Malay.

CHAPTER II

COMPLEMENTATION

2.1 Complements

Complements, like relative clauses, are sentences embedded in other sentences. However, complements differ both grammatically and semantically from relative clauses. Relative clauses function only to modify a preceding noun phrase, and one NP in the clause must be identical to the NP head. Complements, on the other hand, have many more functions in the sentence, as shown in the following examples.

A. As subject

1. #Bahawa dia telah memberikan sokongan
   (that he PAST give support)
   moral kapada pegawai2 daerah# amat-lah
   (moral to officers district very)
   menggembirakan.
   (heartening)
   = That he has given moral support to the district officers is very heartening.

2. #Menerima wang lama dari pembeli2#
   (accepting money old from customers)
   menyusahkan mereka.
   (make difficult them)
   = The accepting of old currency from customers

created difficulties for them.

3. #Untok umat Arab mempersatukan barisan-
(for people Arab consolidate stand)
nya menghadapi Israel# amat-lah penting.
(their face Israel very important)
= It is very important for the Arabs to
consolidate their stand in facing Israel.

B. As object

4. Beliau berharap #bahawa mereka akan
(he hope that they FUT.)
memberi sokongan kapada ranchangan- nya#.
(give support to programme his)
= He hoped that they would support his programme
in the future.

5. Dia berasa kesal #bahawa dia tidak
(he feel annoyed that he NEG.)
mendapat biasiswa itu#.
(get award the)
= He felt annoyed that he did not get the award.

6. Beliau berchadang #melancharkan kempen
(he propose launch campaign)
penerangan#.
(instruction)
= He proposed to launch a campaign of instruction.

C. As modifier of a NP head

7. Tentera itu memberi amaran #ia akan
(army the give warning it FUT.)
menghanchorkan sa-barang kebangkitan#.
(crush any uprising)
= The army warned that it would crush any political uprising.

8. Usaha #mengubah ejaan# baharu di-
(effort change spelling recently PASS.)
jalankan.
(set up)
= Efforts to change the spelling have just been set up.

D. As modifier of a NP head in a prepositional phrase

9. Kempen itu di- dasarkan kapada
(campaign the PASS. based on)
anggapan #bahawa dalam pilehan raya
(assumption that in election general)
ini ia menghadapi "lawan" dalam erti
(the it face opposition in sense)
kata yang sa-benar-nya#.
(word which true)
= The campaign was based on the assumption that in the general elections, it faced opposition in the true sense of the word.

E. As predicate noun

10. Faedah- nya ia-lah #bahawa kita
(advantage its COP. that we)
akan mengokohkan perhubongan persahabatan
(FUT. strengthen relation friendship)
dengan negara2 lain#.
(with countries other)
= Its advantages are that we will be strengthening our friendly relations with other countries.

11. Apa yang jelas sekarang ia-lah
(what clear now COP.)
#kebenchian terhadap 'junta' itu
(resentment towards junta the)
terdapat di- kalangan2 politik dan
(found in circles political and)
ra'ayat#.
(public)
= What is clear at present is that resentment towards the junta is to be found among the politicians and the general public.

12. #Meninggikan taraf hidup ra'ayat2 di-
(raising standard living citizens in)
Malaysia# ia-lah chita2 Kerajaan.
(Malaysia COP. aim Government)
= Raising the standard of living of the citizens

of Malaysia is the aim of the Government.

In this thesis, the scope of the study has been restricted to those complements which function as objects of sentences. This has been necessitated by the desire to have a fairly exhaustive study of one type of complement, the results of which can then be applied to the other types of complements. While many of the issues of complementation remain the same, regardless of the function and position of the complement in the sentence, yet there are a number of issues which are dissimilar, just because of this difference in function and position. It is due to these dissimilarities that the scope of this study was restricted. The other complements will be discussed where they are closely related to certain issues basic to the study of the object complements in Malay.

A further limitation is that only declarative sentences are used as illustrations, both in the complements as well as in the matrix sentences, in order to avoid problems which are not central to the object complements in particular but which have rather to do with sentence types in general. This limitation is designed to focus attention on the complement system of the language, and the results remain valid even if the sentences are other than declarative. The only way this limitation will affect the grammar presented is that other rules will be necessary to account for the increased number of sentence types, for example rules like

the imperative and question formation.

2.2 Complementizers

Complementizers are markers attached to the beginning of complements and have little meaning of their own. They remain outside the structure of the complement sentence, whereas relative pronouns belong within their respective relative clauses. Malay has a number of different complementizers, and different ones are grammatical in different sentences. Which complementizer is used depends on the verbal in the matrix sentence. Some verbals can occur with only one complementizer, and there are other verbals which can occur with two or more complementizers.

This study will concentrate on only three complementizers in Malay, bahawa, supaya, and untok. They are among the most frequently used complementizers in the language, although certain other words, like yang and bagi, are also found functioning as complementizers in Malay.

Bahawa, supaya and untok do not function solely as complementizers in Malay. This means that they cannot always be taken to mark a following complement; only the structure of the sentence can determine whether a certain group of words forms a complement or not. Supaya and untok, for example, are both also used to introduce adverbial clauses of purpose, as in the following two sentences:

13. Jawatan itu di- bentok #untok
(position the PASS. set up COMP.)
menyiasat pengaduan2- nya#.
(investigate reports his)
= The position was set up in order to investigate his reports.

14. Guru2 itu mustahak juga di-
(teachers the important also PASS.)
tukarkan ka- kampong #supaya dapat
(transfer to village COMP. get)
pengalaman#.
(experience)
= It is important that the teachers be transferred to the villages in order to gain experience.

2.3 Terminology and Notational Conventions

The term "matrix sentence" is used for the sentence into which a complement is embedded. The embedded sentence is referred to as the embedded S, or as the complement when it functions as a complement. Sometimes, for abbreviatory purposes, the matrix sentence will be known as S_1 and the embedded sentence as S_2. Where there are more levels of embedding in a sentence, the highest sentence is always the matrix sentence, S_1, the next highest sentence is an embedded S, S_2, and so on until the most deeply embedded

sentence is reached. For purposes of simplicity, many of the examples presented are restricted to only one embedded S, although more embeddings are, of course, possible.

The term "simplex sentence" refers to sentences without any embeddings but not to embedded S's. A simplex sentence, therefore, is not itself embedded into another sentence, and does not have any sentences embedded into it.

The term "head" is used for that word which is modified by the other words in an endocentric construction. For example, the noun is the head in a NP construction, modified by determiners, adjectives, embedded S's or prepositional phrases.

Complements occurring in subject position in the matrix sentence are called subject complements; complements occurring in object position in the matrix sentence are called object complements; and complements which modify a preceding NP are called modifier complements. The complements are named after their function in the sentence, whether in deep or in surface structure.

The term "indirect object" will always refer to the indirect objects of the matrix sentences. It has not been necessary to refer to the indirect objects of the complements. Where there are two NP's after the verb in the matrix sentence, the first NP is the indirect object. Where there is only one NP after the verb in the matrix sentence, that NP is the direct object. Matrix sentences with indirect

objects will be known as [+I.O] sentences, and matrix sentences without indirect objects will be known as [-I.O] sentences. [+I.O] sentences therefore have two NP's after the verb in the matrix sentence, and [-I.O] sentences only have one NP after the verb in the matrix sentence.

Verb complements are those complements which are governed by a verb in the predicate of the matrix sentence, and adjective complements are those complements which are governed by an adjective in the predicate of the matrix sentence. Object verb complements occur after the verb of the matrix sentence and object adjective complements occur after the adjective of the matrix sentence. Subject verb complements, on the other hand, occur before the verb of the matrix sentence, and subject adjective complements occur before the adjective in the predicate of the matrix sentence.

Complements are of two types, clausal and non-clausal. The clausal complements have the structure [NP VP] while the non-clausal complements have the structure [VP]. This means that clausal complements have their own subjects, and non-clausal complements do not have their own subjects.

Sometimes, for the sake of brevity, the subject of the matrix sentence will be referred to as "subject$_1$", and the subject of the complement will be referred to as "subject$_2$". The verb or adjective of the matrix sentence

will also be referred to as "$verb_1$" or "$adjective_1$", and the verb or adjective of the complement as "$verb_2$" and "$adjective_2$".

All the Malay forms in this thesis are underlined, whether in the body of the text or used as examples. The embedded S's under discussion, which may be complements or relative clauses, will be placed within a pair of sentence boundary markers #-----#. The complementizer has been placed together with the embedded S within the boundary markers in the text, although the complementizer does not belong within the structure of the sentence but is outside it.

More than one variable in the transformations may be referred to as $\underline{X}$, and there need be no identity between any one $\underline{X}$ and another. A symbol like $[X]_{NP}$ refers to anything that is directly dominated by the NP. If the NP directly dominates S, this variable $\underline{X}$ refers to the S. In the same way, a symbol like $[X]_V$ refers to anything that is directly dominated by V. There will be occasion to use these symbols in the transformational rules to be formulated later.

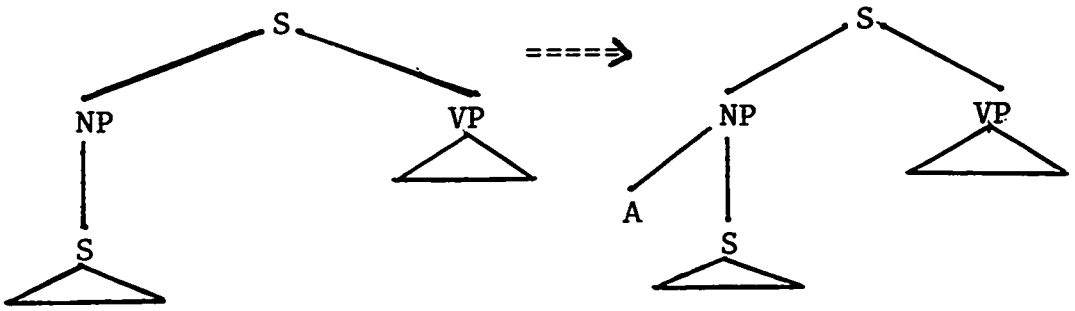
In any transformation which adjoins certain items to nodes already present in the P-marker, the convention of sister-adjunction is used in this thesis. The reader is referred to Rosenbaum and Lochak (1966:22-7), Rosenbaum (1968:19), and Lakoff (1966a) for some literature on sister-adjunction versus daughter-adjunction and Chomsky-adjunction. If $\underline{A}$ is to be attached to $[X]_{NP}$, for example, and NP directly

dominates S, then A is attached to the dominating NP and becomes a sister to S, as in:

SD. X $[X]_{NP}$ X

1 2 3

SC. 1, A + 2, 3



Where the structure of any part of the sentence is not relevant to the point under discussion, that structure will not be given in the P-marker, and a triangle will be drawn under that node, as in the example above, to indicate that the details of that structure are not given.

2.4 Phrase Structure Rules

The phrase structure rules to be given in this section are intended to account mainly for the facts of object complementation in Malay, and will be used to generate the deep structure trees for the transformations to operate on. That the same set of rules also accounts for a number of basic sentence types in the language lays the basis for the claim that these rules are not ad hoc.

As was stated in the Introduction, the phrase structure rules of the grammar consist of branching rules,

the subcategorization rules having been taken over by the lexicon. The lexicon will be discussed in Chapter VI. The branching rules are unordered and context-free. They are numbered only for convenience and ease of reference.

The phrase structure rules of the base component have been divided into branching rules and grammatical feature rules. Although subcategorization features have been removed from the base component of the grammar in this post-Aspects model, yet there is evidence that some feature rules like the grammatical feature rules are necessary to allow a choice to be made between certain features like negation and specificity, before lexical insertion takes place. In this model where there is no NEG or DET node, but where negation and specificity are found as features on the V and the N segments respectively, grammatical feature rules are required in order to introduce these features into the deep structure P-marker. The grammatical feature rules therefore introduce features which are different from the features contained in the lexicon. The grammatical feature rules introduce features for which there is a choice, whereas the features found in the lexicon are marked for each lexical item, and the features are automatically selected together with the lexical item. Moreover, no noun in Malay can be marked as [α def], and no verbal in Malay can be marked as [α neg], for specificity and negation do not belong to the lexical item, but are rather separate and

distinct choices. This then is the argument for introducing a set of grammatical feature rules into the grammar.

In a complete grammar of Malay, there will definitely be more features which should be introduced by the grammatical feature rules, but for the purposes of this thesis, only negation and specificity will be dealt with. These features are introduced only into the deep structure, and no rules are given in this thesis to convert these features into their surface representations.

It will be noticed that the rules, formulated to generate the complement structures of Malay, can also account for many other types of structures in the language. More will be said about this in the concluding chapter of this thesis, but special notice should be given to how sentences with embeddings function very much like simplex sentences.

Following Lakoff (1965:Appendix A) and Jacobs and Rosenbaum (1968:100-107), verbs and adjectives have been treated as belonging to one lexical class, the verbal (or V in the phrase structure rules). This view is adopted since the verbs and adjectives function almost as one part of speech, as far as the grammar of object complements is concerned. The grammar is therefore much simplified if both verbs and adjectives are treated as one class. Where it is necessary to distinguish between the two types of verbals, the verbs will be referred to as true verbs or [+verb],

and the adjectives as adjectives, or [-verb]. If no distinction is necessary, then the term "verbal" is used.

The phrase structure rules which will be used in this thesis now follow:

BASE COMPONENT

Branching Rules

1. S $\longrightarrow$ NP VP
2. VP $\longrightarrow$ V ((NP) NP)
3. NP $\longrightarrow$ $\left\{\begin{matrix}(\text{NP}) & \text{S} \\ \text{N} & \end{matrix}\right\}$
4. X $\longrightarrow$ [+X], where X = N,V

Grammatical Feature Rules

5. [+V] $\longrightarrow$ [±neg]
6. [+N] $\longrightarrow$ [±def]

A fuller defence of the rules given above can only come through the course of this entire study, when examples are given and it is seen how these rules function in the grammar presented. However, some explanatory comments can be offered now.

A sentence in Malay consists of a NP and a VP. The NP is the subject, and the VP the predicate. In the predicate, the verbal may be intransitive, or it may be followed by one or two object NP's. If there is only one NP, then that is the direct object of the sentence; if there are two NP's, then the one immediately after the verb is the indirect object, followed by the direct object of the

sentence. The parentheses show that if only one NP is chosen, it has to be the direct object of the sentence, for the indirect object NP can only be selected if the direct object has first been chosen. In deep structure, therefore, no sentence can have an indirect object without having a direct object. The indirect object is therefore the marked case, and the direct object the unmarked. Since this study is of object complements, it follows that the verbal in the matrix sentence is always transitive and that the only optional NP is the indirect object.

There is one major restriction on the indirect object which is not reflected in the rules given, and that is the fact that the indirect object can never be a complement. This is not an ad hoc restriction, but is closely related to the fact that indirect object NP's must always be [+animate] and complements are automatically [-animate]. Therefore the restriction is not that indirect objects can never be complements, but rather that indirect objects must always be animate. Complements are therefore automatically excluded from functioning as indirect objects of sentences. This point about the restriction of indirect objects to animate nouns is further discussed in Chapter VI when the lexicon is dealt with. The term "object complement", therefore, always refers to its position as the direct object of the sentence.

Chapter VI on the lexicon will discuss in some detail

how such restrictions are to be mirrored in the grammar so that ungrammatical sentences will not be generated. A solution which is rejected on the grounds that it is ad hoc and that it unnecessarily complicates the grammar, is to derive all complements directly from S without a dominating NP, as in the following phrase structure rules:

*1. $S \longrightarrow \left\{\begin{matrix} NP \\ S \end{matrix}\right\} VP$

2. $VP \longrightarrow V \quad ((NP) \left\{\begin{matrix} NP \\ S \end{matrix}\right\})$

3. $NP \longrightarrow N$

While this solution would prevent complements from functioning as indirect objects of sentences, yet it is inadequate in many other respects. Firstly, only by making the grammar very complicated will it be possible to show that relative clauses can also function as indirect objects of sentences, and that NP - S structures can also function as the subjects and direct objects of the sentence. Then the transformational rules, like the passive, will also be complicated and lose the generalization that all complements function as NP's when undergoing the passive transformation. In this ad hoc solution, it will be purely a coincidence that complements function as do the simple nouns, whereas in the original solution proposed for this grammar, that complements function as do simple nouns is a natural and automatic consequence of the phrase structure rules presented, where NP's can rewrite as complements or as simple nouns. This ad hoc solution is

therefore rejected, and the original solution adopted. Chapter VI will present methods of dealing with this restriction on the indirect object NP, without having to resort to ad hoc solutions which are not independently motivated.

Phrase structure rule 3 was given as

$$NP \longrightarrow \begin{Bmatrix} (NP) & S \\ N & \end{Bmatrix}$$

This means that NP's can rewrite as S, N, or NP - S. The first will produce complements, the second nouns, and the third either relative clauses or factives. This third alternative will be defended in the following section on modifier complementation.

2.5 Modifier Complementation

The term "modifier complement" refers to the embedded S functioning as the modifier of a preceding NP head, whereas the term "factive" refers to the entire NP head together with its modifier complement. The main purpose of this section is to defend the claim made that factives and relative clauses both have the structure NP - S, and also to examine the relationships between the complements, factives, and relative clauses.

That factives have the structure NP - S is shown in the following examples, where the head of each factive construction is a noun followed by its modifier, thus making the head a NP, and not a N.

15. Tudohan2 Nasser #bahawa kapal2-terbang
(allegations Nasser's COMP. planes)
Amerika membantu angkatan udara Israel# ...
(U.S. help force air Israel) ...
= Nasser's allegations that U.S. planes are helping Israel's air force ...

16. Tidak-lah benar tudohan- nya #bahawa
(NEG. true allegation her COMP.)
wad di- rumah sakit ini kotor#.
(ward in house sick this dirty)
= Her allegation that the wards in this hospital are dirty is not true.

17. Britain telah pun menyatakan maksud-
(Britain PAST also express intention)
nya #untok bertindak sendiri#.
(her COMP. take action herself)
= Britain has announced her intention to take action herself.

Since modifiers can frequently occur with the head nouns in factive constructions, it follows that factives must have the structure NP - S rather than N - S. This then makes the factives related to the relative clauses, which have the same NP - S structure.

The phrase structure rules proposed in this thesis claim that the three types of embedding processes in language, relativization, complementation and factivization, are to

be accounted for in the same rule. The difference between complementation and the other two processes lies in the optional selection of the preceding NP in the rule NP $\longrightarrow$ (NP) S. The second part of the same rule, NP $\longrightarrow$ N, contains no embeddings at all.

The relationship between the factives and relative clauses will not be studied in detail in this thesis, but certain features will be mentioned in order to help justify the analysis adopted. There are noticeable similarities between these two constructions, as opposed to the complement structures. Some of these are

(a) Both have simple nouns or noun phrases as heads;

(b) Both can function in any position in the sentence where simple nouns can function, and are not restricted as to the verbal predicates in the matrix sentences as the complement structures are;

(c) Both have the same function of modifying the head in an adjectival way;

(d) Both can undergo a transformation which extraposes the embedded sentence to the end of the matrix sentence, leaving behind the head N or NP in its original position. Two examples are given below, the first with a factive construction and the second with a relative clause:

18. Harapan2 amat besar #bahawa rundingan2
(hopes very great that discussions)
yang berjalan akan berhasil#.
(which in process FUT. succeed)
= Hopes are very great that the discussions taking place will be successful.

19. Peristiwa berlaku #yang memeranjatkan kita#.
(something occur which surprised us)
= Something occurred which surprised us.

Then there are features which distinguish the factive constructions and the relative clauses from each other:

(e) For relative clauses, it is imperative that one of the NP's contained in the clause be identical with the NP head, and it is imperative that this identical NP in the clause be deleted and leave a copy behind as the relative pronoun yang (who/whom/which). For factives, however, there can be no identity between the head NP and any NP in the complement sentence. The only identity allowed for the factives is between a subject or object NP in the complement sentence and the subject or indirect object of the matrix sentence. The deletion of the former is then optional, and no copy is left behind at all. This process will be illustrated in greater detail in the following chapter on

verb complementation;

(f) Factives are much more restricted as to the types of nouns which can appear as the heads, for only [-concrete] nouns can be heads of factive constructions:

20. tudohan2 Nasser #bahawa kapal2-terbang
(allegations Nasser's COMP. planes)
Amerika membantu Israel# ...
(U.S. help Israel)
= Nasser's allegations that U.S. planes are helping Israel ...

21. *budak itu #bahawa saya pukul# ...[1]
(child the that I beat) ...

Relative clauses, on the other hand, can have either [+concrete] or [-concrete] nouns as heads:

22. budak #yang saya pukul# itu ...
(child who I beat the)
= the child whom I beat...

23. Jaminan #yang beliau beri kelmarin#
(guarantee which he gave yesterday)
di- wartakan oleh Berita Harian.
(PASS. report by Berita Harian).
= The guarantee which he gave yesterday was

---

[1]In Malay, the complementizers can never function as the relative pronoun. Yang, in addition to its many other functions in the sentence, functions also as the relative pronoun. The syntax of yang is very complex, but it is sufficient to note here that it is used as the relative pronoun.

reported by the Berita Harian.

(g) Factives are also much more restricted as to the types of modifiers which may occur in the NP with the [-concrete] N. Possessive modifiers are the most commonly used. Relative clauses, on the other hand, allow for a much freer range of adjectival modifiers for the N head.

These facts suggest that both factives and relative clauses have the same deep structure markers, differing only when lexical insertion takes place, and also in the transformational component of the grammar.

The factives are also related to the complements. Many factives can result in complements if the NP head is deleted, leaving just the S to function as the complement, without altering the meaning of the sentence. This deletion of the NP head is possible only if the noun is "neutral", that is, marked with the least semantic features of any noun. In the examples below, the first of each pair of sentences contains a factive, while the second sentence contains a complement since the nominal head of the factive has been deleted. Both the sentences in each pair are synonymous in meaning.

24. Faktor #bahawa Jabatan Pengajian Melayu
(fact COMP. Dept. Studies Malay)

sekarang mempunyai pelajar yang bagitu
(now possess student which so)
ramai# ia-lah juga satu pertimbangan
(many COP. also one reason)
penting maka Jabatan itu patut di-
(important why Dept. the should PASS.)
berikan kedudokan sa-buah fakalti.
(give status a faculty)
= The fact that the Department of Malay Studies now has so many students is also one important reason why the Department should be given the status of a faculty.

(b) #Bahawa Jabatan Pengajian Melayu sekarang
(COMP. Dept. Studies Malay now)
mempunyai pelajar yang bagitu ramai#
(possess student which so many)
ia-lah juga satu pertimbangan penting
(COP. also one reason important)
maka Jabatan itu patut di- berikan
(why Dept. the should PASS. give)
kedudokan sa-buah fakalti.
(status a faculty)
= That the Department of Malay Studies now has so many students is also one important reason why the Department should be given the status of a faculty.

25. Dia menyedari hakikat #bahawa dia
(he aware fact COMP. he)
mesti mengadakan sendiri penasihat2- nya#.
(must provide himself advisers his)
= He is aware of the fact that he must provide his own advisers.

(b) Dia menyedari #bahawa dia mesti
(he aware COMP. he must)
mengadakan sendiri penasihat2- nya#.
(provide himself advisers his)
= He is aware that he must provide his own advisers.

26. Kerja #mengator penyelesaian di- Timor
(job arrange settlement in East)
Tengah# ada-lah lebeh susah daripada
(Middle COP. more difficult than)
memasakan perdamaian di- kawasan itu.
(exact peace in area the)
= The job of arranging a settlement in the Middle East is more difficult than exacting peace in the area.

(b) #Mengator penyelesaian di- Timor Tengah#
(arrange settlement in East Middle)
ada-lah lebeh susah daripada memasakan
(COP. more difficult than exact)

perdamaian di- kawasan itu.

(peace in area the)

= Arranging a settlement in the Middle East is more difficult than exacting peace in the area.

However, if the head of a factive construction is semantically more marked, then it cannot be deleted to produce a complement structure. Either the meaning of the sentence is altered or the result is an ungrammatical sentence. Examples follow: the first of each pair of sentences below gives the factive construction, and the second shows what happens when the head of the construction is deleted.

27. Beliau menyatakan harapan #supaya murid2

(he express hope COMP. students)

sekolah itu dapat melanjutkan pelajaran-

(school that get further studies)

nya#.

(their)

= He expressed the hope that the students in that school would get to further their studies.

(b) *Beliau menyatakan #supaya murid2 sekolah

(he express COMP. students school)

itu dapat melanjutkan pelajaran- nya#.

(that get further studies their)

= *He expressed that the students in that school would get to further their studies.

28. Britain sudah pun menyatakan maksud-
(Britain already also express intention)
nya #untok bertindak sendiri#.
(her COMP. take action herself)
= Britain has already expressed her intention to take action herself.

(b) *Britain sudah pun menyatakan #untok
(Britain already also express COMP.)
bertindak sendiri#.
(take action herself)
= *Britain has also expressed to take action herself.

29. Usaha2 #untok memulehkan keamanan di-
(efforts COMP. restore peace in)
Vietnam# hampir berjaya dalam masa
(Vietnam nearly succeed in time)
genchatan senjata Tahun Baru Vietnam.
(armistice year new Vietnamese)
= Efforts to restore peace to Vietnam almost succeeded during the armistice of the Vietnamese New Year.

(b) *#Untok memulehkan keamanan di- Vietnam#
(COMP. restore peace in Vietnam)

hampir berjaya dalam masa genchatan
(nearly succeed in time armistice)
senjata Tahun Baru Vietnam.
(year new Vietnamese)
= *To restore peace to Vietnam almost succeeded during the time of the armistice of the Vietnamese New Year.

However, factives differ from the complements in that the factives can serve more functions in the matrix sentence than the complements can. Complements can only occur as subjects or objects of sentences, or as predicate nouns, and are restricted to certain predicates in the matrix sentence. For example, not all verbals can take subject or object complements. The verbals will need to be marked in the lexicon with features to indicate their co-occurrence relationships with complements. The factives, on the other hand, are not as restricted with respect to (1) their co-occurrence with the verbal predicates of the matrix sentence, or (2) the positions in the matrix sentence in which they may be found. Verbs like beri (give) which cannot have an object complement can easily have a factive as object, and this is true for many other verbs like this. Then, the factives can also be found in prepositional phrases, as in 30 below, and in subordinate clauses, as in 31 below:

30. Kempen di- dasarkan kapada anggapan
(campaign PASS. based on assumption)

#bahawa dia menghadapi "lawan" dalam

(COMP. he face opposition in)

erti kata yang sa-benar-nya#.

(sense word which true)

= The campaign was based on the assumption that he faced opposition in the true sense of the word.

31. Walau pun amaran U Thant #bahawa

(even though warning U Thant's COMP.)

peperangan di- Vietnam merupakan titek

(war in Vietnam become point)

permulaan satu peperangan dunia yang

(starting one war world which)

ketiga# ...

(third)

= Even though U Thant's warning that the war in Vietnam might become the starting point of a third world war ...

CHAPTER III

VERB COMPLEMENTATION

3.1 Two Types of Deep Structure

The phrase structure rules given in Chapter II for the generating of object complements in Malay allow for two basic types of deep structure P-marker, depending on the presence or absence of the indirect object. As the rules have been formulated, the indirect object NP can only be optionally selected if the direct object NP has first been chosen. Since the study undertaken here is that of object complements, it follows that the main verb in the matrix sentence is necessarily transitive, and that the direct object NP has already been chosen, leaving the indirect object NP to be optional.

It is claimed that these two types of deep structure P-marker underlie all the object complements and that there is no other deep structure difference between the various types of surface structure object complements produced. The presence or absence of the indirect object node in deep structure is therefore the crucial difference between these two types of P-marker.

In the examples given below, the first two sentences have no indirect object, and their deep structure is given in Figure 1, while sentences three and four have indirect objects, and their deep structure is given in Figure 2.

1. Hanoi menuntut #Amerika Sharikat
   (Hanoi demand United States)
   menghentikan serangan2 udara itu#.
   (stop attacks air the)
   = Hanoi demanded that the U.S. stop the air attacks.

2. Polis menerangkan #ayer telah naik
   (police explain water PAST rise)
   tiga kaki#.
   (three feet)
   = The police explained that the water had risen three feet.

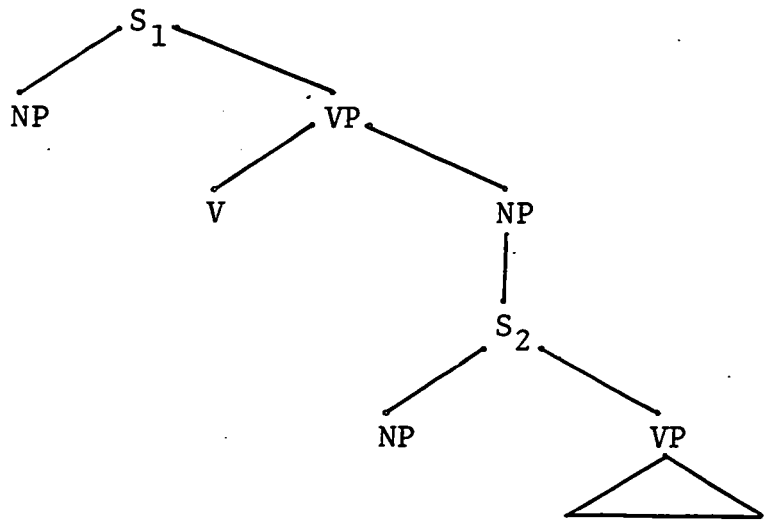


FIGURE 1

3. Dia memberitahu saya #John sudah
   (he tell me John already)
   mengirimkan surat itu#.
   (send letter that)

= He told me that John had already sent that letter.

4. Dia mengingatkan kita #bahawa kita
(he remind us COMP. we)
menghadapi nasib yang sama#.
(face fate which same)
= He reminded us that we face the same fate.

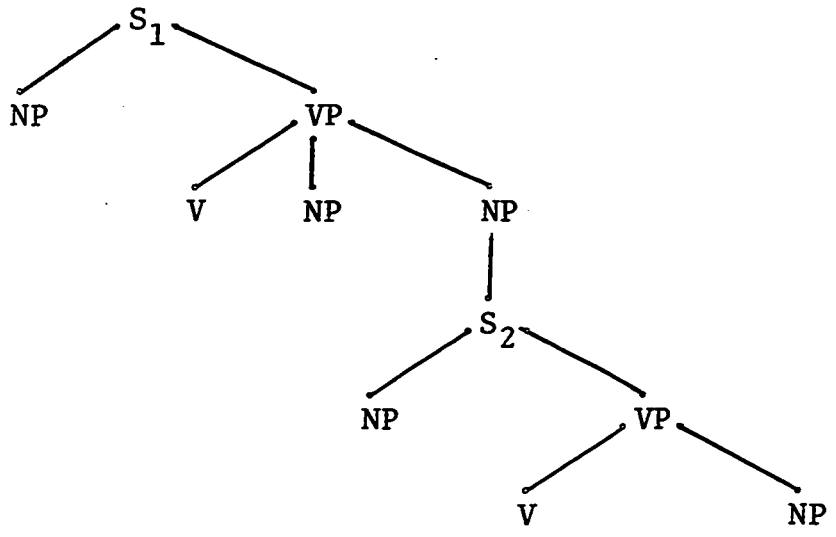


FIGURE 2

3.2 Clausal and Non-Clausal Complements

Although the deep structure P-markers for the object complements differ only in the presence or absence of the indirect object NP, the surface structure P-markers differ in yet another way. In the surface structure, object complements may or may not have their own subjects. Those object complements which have their own subjects are called clausal complements, and those object complements which do

not have their own subjects are called non-clausal complements. This is purely a surface structure differentiation, due to the operation of transformational rules which will be discussed later in this chapter.

In the deep structure, therefore, there are only two basic types of P-marker, while in the surface structure there are four types of P-marker, of the following structures:

(a) NP V $[NP\ VP]_S$

(b) NP V $[VP]_S$

(c) NP V NP $[NP\ VP]_S$

(d) NP V NP $[VP]_S$[2]

Sentences one and two in the preceding section 3.1 were examples of structure (a) above, and sentences three and four in the same section were examples of structure (c) above. Sentences five and six below are examples of structure (b), and sentences seven and eight are examples of structure (d).

5. Dia memohon #menyertai guru- nya#.
(he beg accompany teacher his)
= He begs to accompany his teacher.

---

[2]Apart from the structure assignment, there is no difference between the structures listed under (a) and (d). However, they are put under separate lists since their deep structures are different, as will be demonstrated in this section. The VP's in (b) and (d) will for the moment be said to be dominated by S. Discussion later on in the chapter will modify this, but the point there will not be anticipated here.

6. Dia berchita2 #melanjutkan pelajaran- nya#.
(he aspire further studies his)
= He aspires to further his studies.

7. Saya membenarkan dia #pergi#.
(I allow him go)
= I allow him to go.

8. Kerajaan menolong mereka #menchapai
(Govt. help them achieve)
kemajuan#.
(prosperity)
= The Government helped them to achieve prosperity.

It is claimed that the deep structure of sentences five and six is the same as that for sentences one and two, given in Figure 1 previously, and that the deep structure for sentences seven and eight is the same as that for sentences three and four, given in Figure 2 previously. This means that, of the four types of surface structure P-marker, (a) and (b) have identical deep structures, and (c) and (d) have identical deep structures. The only difference between these two pairs is that in the latter instances, that is, (b) and (d), the subjects of the embedded complements are not present in the surface structure.

The surface structures assigned to sentences one to six need no justification, since it is quite obvious from the sentences themselves what the surface structures are. For example, the sentences given in one and two above show

that the main verb in the matrix sentence is followed by a NP and then a VP, and the sentences given in three and four above show that the main verb in the matrix sentence is followed by two NP's and then a VP. In sentences five and six, the main verb in the matrix sentence is followed only by a VP, with no intervening NP. The structure assigned to sentences seven and eight need some explanation however. Following the main verb of the matrix sentence are a NP and then a VP. As far as the surface structure is concerned, then, sentences seven and eight are identical to sentences one and two. However, it is claimed that their deep structures are different, that the NP after the main verb in sentences one and two is indeed the subject of the embedded complement, but the NP after the main verb in sentences seven and eight is not the subject of the embedded complement but rather the indirect object of the matrix sentence. The following discussion is intended to justify this claim.

Two sets of sentences will be given below, which exhibit identical surface structures, of the type NP_1 V NP_2 VP. In the A sentences below, NP_2 functions as the subject of the embedded complement, while in the B sentences below, NP_2 functions as the indirect object of the matrix sentence and the subject of the embedded complement has been deleted. The first set of sentences therefore contains clausal complements, and the second set of sentences contains

non-clausal complements. The A sentences can have the complementizer bahawa, but the B sentences cannot.

A. 9. Dia menulis #adek- nya sakit#.
(he write brother his sick)
= He wrote that his brother was sick.

10. Mereka bersetuju #Presiden harus beruchap
(they agree President should speak)
kapada Kongres#.
(to Congress)
= They agreed that the President should speak to Congress.

11. Dia yakin #bahawa Ali akan menulis
(he sure COMP. Ali FUT. write)
pidato#.
(speech)
= He is sure that Ali will write a speech.

12. Dia tegaskan #ra'ayat Indonesia tidak
(he confirm citizens Indonesia NEG.)
akan terpechah#.
(FUT. divided)
= He confirmed that the citizens of Indonesia will not be divided.

B.13. Ibubapa membenarkan anak2 gadis mereka
(parents allow children young their)
#berlakon#.
(perform)

= The parents allow their children to perform.

14. Ann mengajak dia #menyembah#.

(Ann invite him do obeisance)

= Ann invites him to do obeisance.

15. Dia mengajar anak- nya #membacha#.

(he teach child his read)

= He teaches his child to read.

16. Dia menolong Ali #tulis surat#.

(he help Ali write letter)

= He helped Ali to write a letter.

One important test which indicates that the deep structures of these two types of sentences are really different is the pseudo-cleft transformation. The crucial issue is the function of NP_2 in the surface structure, whether it is the subject of the embedded complement or the indirect object of the matrix sentence. The test is to pre-pose NP_2 before the passive main verb of the matrix sentence, and then have the entire matrix sentence undergo the pseudo-cleft transformation. NP_2 in the B sentences can be pre-posed in this way and grammatical sentences result, but NP_2 in the A sentences cannot be pre-posed in this way for this results in unacceptable Malay sentences. The test is to determine whether acceptable sentences result, such that the meaning of the original sentences is not altered.

A rough formulation of the pseudo-cleft transformation

will be given below. This rule will be adequate for the sentences dealt with here, but will not attempt to explain all the pseudo-cleft sentences in the language. At the present stage of transformational grammar, it is not yet understood exactly how pseudo-cleft sentences function in a language, and how to account for them in a non ad hoc manner. The reader is referred to Bach and Peters (1968), and to Stockwell, Schachter and Partee (1968:797-841) concerning pseudo-cleft sentences in English.

Pseudo-cleft transformation

SD	X	NP	V	W	[(NP)	VP]$_S$	Y
	1	2	3	4	5		6

Cond. 2 does not dominate S

SC 1, apa yang + 2, 3, 4, ia-lah + 5, 6

This transformation is not one of those studied in detail in this thesis, and the question of its ordering relative to the other transformations has been left undecided. This explains the NP being in parentheses in the SD. Once the ordering of the transformations is decided, the SD of the rule can be modified accordingly. However, this rule will have to be ordered after the passive, for the purpose at hand, so that NP_2 can occur before the verb to produce the sentences for the test used here. The passive will be discussed in detail later on in this chapter and need not be described here. The operation of the passive transformation, followed by the pseudo-cleft transformation, will produce the

following derived sentences from sentences nine to sixteen above:

A. 9(a). *Apa yang adek- nya di- tulis
(what brother his PASS. write)
ia-lah sakit.
(COP. sick)
= *What his brother was written was sick.

10(a). *Apa yang Presiden di- setuju oleh
(what President PASS. agree by)
mereka ia-lah harus beruchap kapada
(them COP. should speak to)
Kongres.
(Congress)
= *What the President was agreed by them was to speak to Congress.

11(a). *Apa yang Ali di- yakinkan oleh dia
(what Ali PASS. believe by him)
ia-lah akan menulis pidato.
(COP. FUT. write speech)
= *What Ali was believed by him was to write a speech.

12(a). *Apa yang ra'ayat Indonesia di- tegaskan
(what citizens Indonesia PASS. confirm)
oleh dia ia-lah tidak akan terpechah.
(by him COP. NEG. FUT. divided)

= *What the citizens of Indonesia were confirmed by him was not to be divided.

B.13(a). Apa yang anak2 gadis mereka di- benarkan
(what children young their PASS. allow)
oleh ibubapa ia-lah #berlakon#.
(by parents COP. perform)
= What their young children were allowed by them (to do) was to perform.

14(a). Apa yang dia di- ajak oleh Ann ia-lah
(what he PASS. invite by Ann COP.)
#menyembah#.
(do obeisance)
= What he was invited (to do) by Ann was to do obeisance.

15(a). Apa yang anak- nya di- ajar oleh-
(what child his PASS. teach by)
nya ia-lah #membacha#.
(him COP. read)
= What his child was taught (to do) by him was to read.

16(a). Apa yang Ali di- tolong oleh- nya
(what Ali PASS. help by him)
ia-lah #tulis surat#.
(COP. write letter)
= What Ali was helped by him (to do) was to write a letter.

It will be noticed that, as far as Malay is concerned, the sentences from 9(a) to 12(a) are all ungrammatical, whereas sentences 13(a) to 16(a) are all acceptable.[3]

The test so far has demonstrated that there are two underlying structures to these sentences with identical surface structures, but has not shown why NP_2 in the B sentences should indeed be considered to be the indirect objects of their matrix sentences. An examination of those sentences which have two NP's after the main verb in surface structure, that is, sentences three and four or surface structure (c), will throw light on this matter.

Sentences three and four will be found to undergo the passive transformation and then the pseudo-cleft transformation to produce grammatical sentences, in the same way as with sentences thirteen to sixteen demonstrated above.

3(a) Apa yang saya di- beritahu oleh- nya
(what I PASS. tell by him)
ia-lah #John sudah mengirimkan surat
(COP. John already send letter)
itu#.
(that)

---

[3]It is difficult to give the English glosses such that they indicate the acceptability or unacceptability of the sentences in the Malay original, and so the reader is cautioned not to place more value on the glosses than is intended. The glosses are intended only as rough guides to the meaning of the Malay sentences, and cannot indicate the acceptability of the utterances in Malay.

= What I was told by him was that John had sent that letter.

4(a) Apa yang kita di- ingatkan oleh- nya
(what we PASS. remind by him)
ia-lah #bahawa kita menghadapi nasib
(COP. COMP. we face fate)
yang sama#.
(which same)
= What we are reminded of by him is that we face the same fate.

This indicates that the NP which is pre-posed before the passive verb and then put into a pseudo-cleft sentence is the indirect object of the sentence. If the passive transformation were to apply first, then it may pre-pose either the direct or indirect objects of the matrix sentence to be the surface structure subject (this will be demonstrated in detail later in this chapter). If the direct object is selected, then the pseudo-cleft transformation can no longer apply for the structural description is not met. However, if the indirect object is selected, then the pseudo-cleft transformation will apply, and this produces the type of pseudo-cleft sentences which have been used as examples in this section.

It will be necessary to demonstrate this procedure first with one of the sentences with indirect objects and clausal complements, and then with one of the sentences with

indirect objects and non-clausal complements.

3. Dia memberitahu saya #John sudah
(he tell me John already)
mengirimkan surat itu#.
(send letter that)
= He told me that John had already sent that letter.

(b) Passive:

Saya di- beritahu oleh- nya #John
(I PASS. tell by him John)
sudah mengirimkan surat itu#.
(already send letter that)
= I was told by him that John had already sent that letter.

(c) Pseudo-cleft:

Apa yang saya di- beritahu oleh- nya
(what I PASS. tell by him)
ia-lah #John sudah mengirimkan surat
(COP. John already send letter)
itu#.
(that)
= What I was told by him was that John had already sent that letter.

16. Dia menolong Ali #menulis surat#.
(he help Ali write letter)
= He helped Ali to write a letter.

(b) Passive:

Ali di- tolong oleh- nya #menulis
(Ali PASS. help by him write)
surat#.
(letter)
= Ali was helped by him to write a letter.

(c) Pseudo-cleft:

Apa yang Ali di- tolong oleh- nya
(what Ali PASS. help by him)
ia-lah #menulis surat#.
(COP. write letter)
= What Ali was helped by him (to do) was to write a letter.

Finally, for these sentences with indirect objects and non-clausal complements, it will have to be shown what the missing subject of the embedded complement is. It is claimed that the subject is identical with the indirect object NP of the matrix sentence, and that it has been transformationally deleted only because the conditions of identity have been met. Chomsky (1965) suggested that no item can be irrecoverably deleted by a transformation, and this condition is satisfied in these object complements where the $subject_2$ NP is deleted when it is identical with the indirect object of the matrix sentence.

Two factors suggest that this analysis is the correct one. Firstly, the following pairs of sentences are seen to

be identical semantically, as far as the dialect under study is concerned. The first of each pair contains a non-clausal complement, while the second sentence inserts a subject into the complement to make it a clausal complement. This inserted subject is identical to the indirect object of the matrix sentence. That the two sentences are regarded as conveying identical meanings is one indication that the subject of such non-clausal complements is indeed identical to the indirect object of the matrix sentence.

17(a). Kerajaan menolong mereka #untok
(Govt. help them COMP.)
menchapai kemajuan#.
(achieve prosperity)

(b). Kerajaan menolong mereka #untok
(Govt. help them COMP.)
mereka menchapai kemajuan#.
(they achieve prosperity)
= The Govt. helped them to achieve prosperity.

18(a). Saya membenarkan dia #supaya pergi#.
(I allow him COMP. go)

(b) Saya membenarkan dia #supaya dia pergi#.
(I allow him COMP. he go)
= I allow him to go.

19(a). Saya mengajar dia #untok membacha baik#.
(I teach him COMP. read well)

(b). Saya mengajar dia #untok dia membacha
(I teach him COMP. he read)
baik#.
(well)
= I teach him to read well.

20 (a). Saya minta dia #untok menukarkan saya#.
(I ask him COMP. transfer me)

(b). Saya minta dia #untok dia menukarkan saya#.
(I ask him COMP. he transfer me)
= I ask him to transfer me.

21 (a). Saya memerentahkan dia #untok pergi#.
(I order him COMP. go)

(b). Saya memerentahkan dia #untok dia pergi#.
(I order him COMP. he go)
= I order him to go.

Secondly, it will be noticed that these main verbs which take indirect objects and non-clausal complements belong to one main semantic class of verbs, which have been called verbs of ordering by Robin Lakoff (1968:20,23). It has been noticed with these verbs that the subject of the matrix sentence can never be identical with the subject of the embedded complement. On the other hand, however, the subject of the embedded complement must be identical with the indirect object. This is part of the semantic features of the main verb for this particular class of verbs. A cannot order, ask,

command, or tell B (indirect object) so that C do something. If B is the indirect object of the main verb, it has also to be the subject of the embedded complement. The main issue at the moment is to justify the claim that the subject of the embedded complement is indeed identical with the indirect object NP.

It is now necessary to justify the assignment of functions to these NP's in the structures just discussed above, that is, those sentences which have both indirect objects and non-clausal complements. The first NP has been called the indirect object, and the complement has been called the direct object. Several factors have led to this assignment of object functions in the sentence.

Firstly, in simplex sentences (that is, sentences without any embeddings and containing simple nouns), if there are two NP's following the main verb, the first NP is the indirect object and the second NP the direct object. The following pairs of sentences will attempt to indicate how matrix sentences containing object complements parallel the structures of such simplex sentences. Notice that in the matrix sentences below, the embedded object complement occurs in the position occupied by direct object NP's in simplex sentences.

22(a). Saya mengajar dia bahasa Inggeris.
(I teach him language English)
= I teach him English.

(b). Saya mengajar dia #membacha#.

(I teach him read)

= I teach him to read.

23(a). Ali memberitahu dia cherita itu.

(Ali tell him story that)

= Ali tells him that story.

(b). Ali memberitahu dia #meninggalkan bilek

(Ali tell him leave room)

itu#.

(the)

= Ali tells him to leave the room.

24(a). Saya mengingatkan dia peristiwa itu.

(I remind him incident that)

= I remind him of that incident.

(b). Saya mengingatkan dia #pergi#.

(I remind him to)

= I remind him to go.

It is also interesting to note that in cases where English makes use of the same main verb to take both simple nouns and embedded complements as direct objects, Malay quite often uses two different verbs, though both with similar meanings.

25(a). Saya memesankan sa-buah buku untok dia.

(I order a book for him)

= I order a book for him.

(b). Saya menyuroh dia #keluar dari bilek itu#.

(I order him go out from room ~that)

= I order him to leave that room.

26(a). Saya tanya dia satu soalan.

(I ask him a question)

= I ask him a question.

(b). Saya menyuroh dia #membacha buku itu#.

(I ask him read book that)

= I ask him to read that book.

The parallels between the pairs of sentences in twenty-two to twenty-four are also seen in the way both sentences of each pair can undergo the passive transformation. Taking sentence twenty-three as an example, the following will show how the passive transformation (which will be formulated only later on in the chapter) operates on both the sentences there:

23(a). Ali memberitahu dia cherita itu.

(Ali tell him story that)

(b). Ali memberitahu dia #meninggalkan bilek itu#.

(Ali tell him to leave room that)

The indirect object as surface subject of the sentence:

(c). Dia di- beritahu cherita itu oleh Ali.

(he PASS. told story that by Ali)

= He is told that story by Ali.

(d). Dia di- beritahu #meninggalkan bilek
(he PASS. told to leave room)
itu# oleh Ali.
(the by Ali)
= He is told by Ali to leave the room.

The direct object as surface subject of the sentence:

(e). Cherita itu di- beritahu dia oleh Ali.
(story that PASS. tell him by Ali)
= That story was told him by Ali.

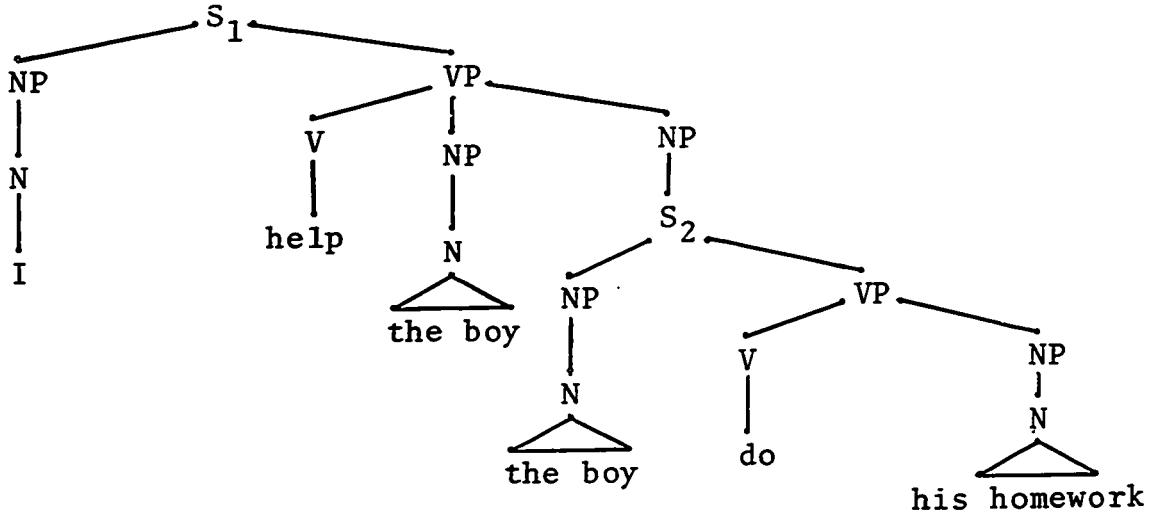
(f). #Dia meninggalkan bilek itu# di-
(he leave room the PASS.)
beritahu dia oleh Ali.[4]
(tell him by Ali)
= That he leave the room was told him by Ali.

It should be noticed too that it is the indirect object which is restricted to animate nouns, while the direct object is not restricted in any way. This means that the indirect object NP can be rewritten either as a [+animate] noun or as NP- S, but only with a [+animate] noun as the NP head. Since factives have been shown to have [-animate] nouns as their NP heads, these are excluded from the indirect

[4]It will be shown in the course of this thesis how the passive transformation operates on the object complements, and why the subject has to be left within the complement if it is to function as the surface subject of the matrix sentence.

object position in the sentence. Relative clauses are possible however, as long as the NP head is a [+animate] noun. This means therefore that the indirect object NP must be rewritten as a [+animate] noun, with or without its modifiers. The indirect object NP cannot be rewritten as S, since the S cannot be marked as [+animate]. This is therefore a natural consequence of restricting the indirect object NP to [+animate] nouns. The direct object NP, however, is not so restricted, and the full range of possible NP expansions is permitted. If an embedded complement is found in the position of one of the objects of the sentence, therefore, it has to be in the position of the direct object.

This analysis also indicates that direct objects may sometimes be deleted from the surface structure of sentences, leaving behind an indirect object. In the deep structure however, the direct object has to be present before the indirect object can be selected. In sentences like I help the boy, the deep structure is seen as the following:



The subject of the embedded complement is deleted on conditions of identity with the indirect object, leaving the sentence as:

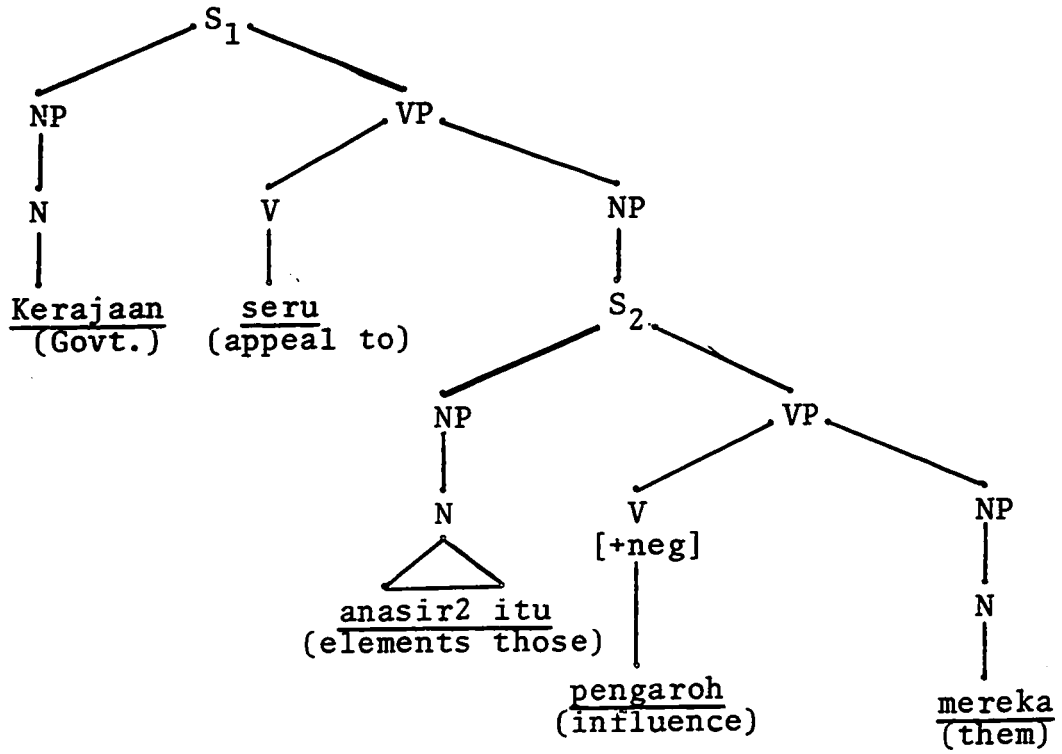
I help the boy do his homework.

The direct object complement is then optionally deleted to produce: I help the boy. In surface structure, therefore, sentences may be found with only an indirect object after the main verb and no direct object, but never in deep structure.

One final piece of evidence will be presented for insisting that these sentences with surface structure (d) are really of the deep structure assigned to them and that they are different from NP V $[NP\ VP]_S$ sentences. Consider a sentence like the following:

27. Kerajaan menyeru mereka supaya jangan
(Govt. appeal to them COMP. NEG.)
di- pengarohi oleh anasir2 itu.
(PASS. influence by elements those)
= The Government appealed to them not to be influenced by those elements.

If there were no indirect object node, then the deep structure of the sentence would have to be:



However, this deep structure conveys a different meaning from the original sentence. The deep structure sentence is:

Kerajaan menyeru #anasir2 itu jangan

(Govt. appeal to elements those NEG.)

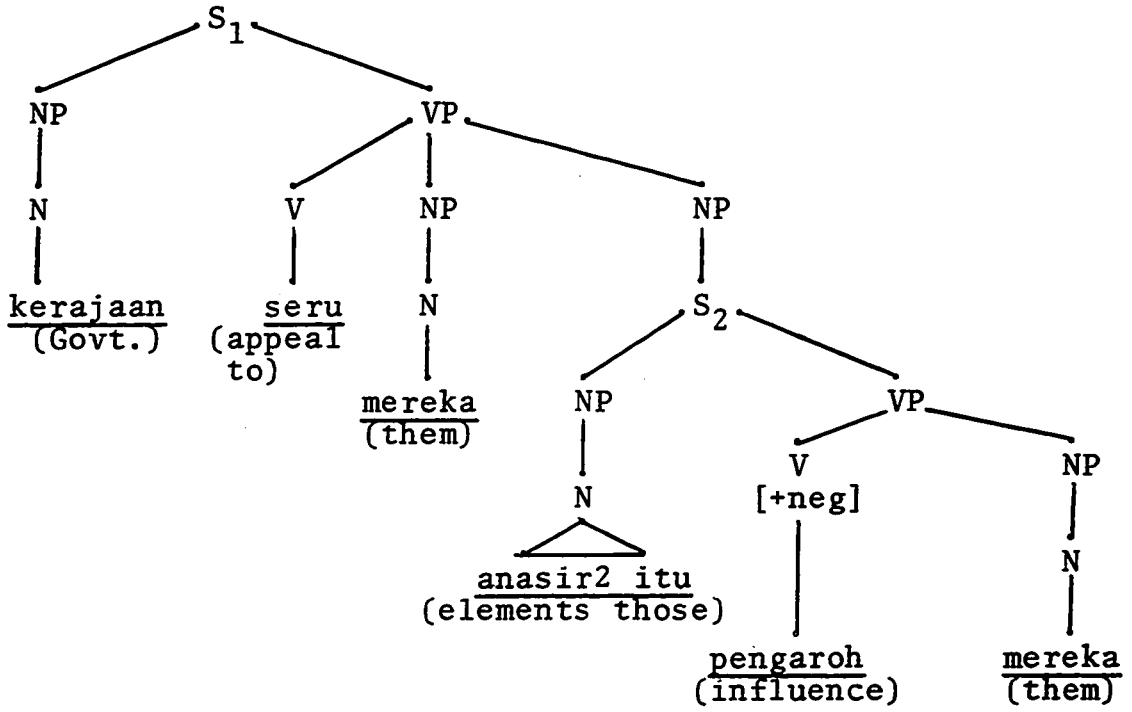
mempengarohi mereka#.

(influence them)

= The Govt. appealed to those elements not to influence them.

In the original sentence, the Government appealed to "them", whereas in the phrase marker given above, the appeal is made to "those elements". Having the embedded complement in the active or the passive should not destroy the meaning of the original sentence, and this can only be achieved if the deep

structure has an indirect object node, as in the phrase marker below.



Now the meaning is preserved regardless of whether the embedded complement is in the active or passive.

27(a). Kerajaan menyeru mereka #supaya anasir2
(Govt. appeal to them COMP. elements)
itu jangan mempengarohi mereka#.
(those NEG. influence them)
= The Govt. appealed to them so that those elements would not influence them.

(b). Kerajaan menyeru mereka #supaya mereka
(Govt. appeal to them COMP. they)
jangan di- pengarohi oleh anasir2 itu#.
(NEG. PASS. influence by elements those)

= The Govt. appealed to them so that they not be influenced by those elements.

The subject of the embedded complement in sentence b above is then deleted because it is identical to the indirect object, giving the surface structure of the original sentence:

Kerajaan menyeru mereka #supaya jangan di-
(Govt. appeal to them COMP. NEG. PASS.)
pengarohi oleh anasir2 itu#.
(influence by elements those)
= The Govt. appealed to them not to be influenced by those elements.

The passivizing of the embedded complement is therefore another important test to determine the deep structure of a sentence. If the meaning of the original sentence is altered, then it is likely that the deep structure assigned to it is incorrect, and another deep structure should be sought.

All these arguments indicate that the so-called "indirect object" has a close relationship with the main verb, perhaps even more so than the so-called "direct object". The indirect object stands immediately beside the main verb, either before or after it, depending on whether the sentence is in the active or passive. The analysis of these complement structures is thus much simplified if it is recognized that the following four surface structures are possible, but that in deep structure structures a and b are identical, and so are structures c and d, the only

difference being that b and d have transformationally undergone the deletion of the subject of the embedded complement:

(a) NP V [NP VP]$_S$
(b) NP V [VP]$_S$
} without indirect object

(c) NP V NP [NP VP]$_S$
(d) NP V NP [VP]$_S$
} with indirect object

3.3 Transformations Required

The transformations which are required in this study of the complement system of Malay will be discussed in this section in some detail. The question of their ordering, however, will only be considered in Chapter V. The formulation of these rules will only become clear when the ordering of the transformations with regards to each other is taken up, since the ordering of the transformations affects the way the rules are formulated. In this chapter it will only be demonstrated how the rules work, and a defence of how the rules have been formulated will be left to Chapter V.

3.3.1 Passive

The way that the passive transformation operates on the structures of the object complements is one of the important reasons for assigning all embedded complements to a dominating NP. Earlier in this chapter, it was shown how sentences containing embedded complements undergo the

passive transformation in the same way as do the sentences without any embedded complements. The same rule therefore suffices to account for both these types of structures. This following section is intended to show in fuller detail how the object complements undergo the passive transformation just as any simple noun in the same position in the sentence, and there is no necessity for distinguishing between those sentences which have simple nouns in the object position and those sentences which have complements in the object position.

The passive transformation as formulated below is adequate for this study of the object complements of Malay. It does not, however, deal with all the passive structures in the language, and does not handle all the problems connected with Malay passives, since that is beyond the scope of this thesis. The rule captures only the main relevant points. Since modals and temporals have not been generated by the grammar presented in this thesis, these modals and temporals will not be found in this passive rule. (In a more complete grammar, the modals and temporals will be found to occur before the passive morpheme di-). The rule will also need to be modified for those dialects of Malay where passives with 1st and 2nd person agents function differently from the passives with 3rd person agents. However, this is not necessary for the dialect under study, since the passive functions in the same way, whether the agent is in the 1st, 2nd, or 3rd persons.

In Malay, the agentive preposition oleh can quite often be deleted from the passive sentence, a sentence like 28(a) below resulting in 28(b) below:

28(a). Saya di- suroh oleh- nya #pergi#.

(I PASS. ask by him go)

= I was asked to go by him.

(b) Saya di- suroh- nya #pergi#.

(I PASS. ask him go)

= I was asked to go by him.

However, this thesis will not deal with the instances of when oleh can be deleted. This will have to be handled in a more complete grammar of the passive in Malay.

The passive transformation is formulated as follows in this thesis:

Passive transformation

$$\text{SD} \quad X \quad [X]_{NP} \quad \left[\left[\begin{matrix} X \\ +\text{verb} \end{matrix} \right]_{V} \quad W \quad [X]_{NP} \right]_{VP} \quad Y$$

$$1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6$$

Cond. $2 \neq 5$

2, 5 do not directly dominate VP

SC 1, 5, di- + 3, 4, oleh + 2, 6

The first condition is necessary, since, if the two NP's are identical, reflexivization takes place instead of the passive for these two transformations are mutually exclusive. The second condition will only be understood after the

discussion of the relative orderings of the transformations in Chapter V.

It will be noticed that the passive only operates on sentences where the verbal is a true verb. Moreover, only transitive verbs can be passivized. Some verbs must be made transitive when going from the active to the passive, by the addition of either the suffix -kan or the suffix -i. Since this grammar does not deal with the verbal affixes at all, the distinction between -kan and -i will not be discussed. Moreover, this grammar will also not provide any rules by which verbs are made transitive when going from the active to the passive. Two examples are given below to illustrate this. The first of each pair of sentences is in the active, and the second in the passive.

29(a). Dia yakin #bahawa Ali telah menulis
(he believe COMP. Ali PAST write)
pidato itu#.
(speech the)
= He believed that Ali had written the speech.

(b). #Bahawa Ali telah menulis pidato itu#
(COMP. Ali PAST write speech the)
di- yakinkan oleh- nya.
(PASS. believe by him)
= That Ali had written the speech was believed by him.

30(a). Dia bersetuju #bahawa Ali harus beruchap
(he agree COMP. Ali should speak)
kapada Kongress sa- chepat mungkin#.
(to Congress as soon possible)
= He agreed that Ali should speak to Congress as soon as possible.

(b). #Bahawa Ali harus beruchap kapada Kongres
(COMP. Ali should speak to Congress)
sa- chepat mungkin# di- setujui oleh-
(as soon possible PASS. agreed by)
nya.
(him)
= That Ali should speak to Congress as soon as possible was agreed upon by him.

In sentences which have only one NP after the main verb, that object NP is moved to the front of the sentence to become its surface subject, the main verb is preceded by the passive morpheme di-, and the deep structure subject becomes the agent, preceded by the agentive preposition oleh. The derived structure will treat this agentive phrase as the surface object of the sentence, since no special node like "Manner" has been used in the deep structure at all.

In sentences which have two NP's after the main verb, the transformation can then work in two ways, depending on which parts of the tree are assigned to the variable W. If

W is treated as null, then index 5 in the SD will refer to the first NP following the verb, which is the indirect object. The rule will then move this indirect object to the front of the sentence to become its surface subject, and the deep structure subject takes the place of the indirect object in the derived P-marker, preceded by the agentive preposition. If W is treated as referring to the first NP after the main verb, then index 5 in the SD will refer to the direct object of the sentence and the rule will move that to the front to become the derived subject. This means that the same rule can be made to apply in either one of the two ways. The rule allows two mutually exclusive possibilities of application, which are unordered. The choice is arbitrary, and the rule is so formulated as to reflect this arbitrariness. There is no semantic significance (apart from emphasis perhaps) to which NP is chosen to function as the surface subject of the sentence. To impose any sort of ordering in the rule would be to claim, wrongly in this case, that order is important in how the passive functions in the language. No alteration of the meaning is effected whether the indirect object NP or the direct object NP is moved to the front of the sentence.

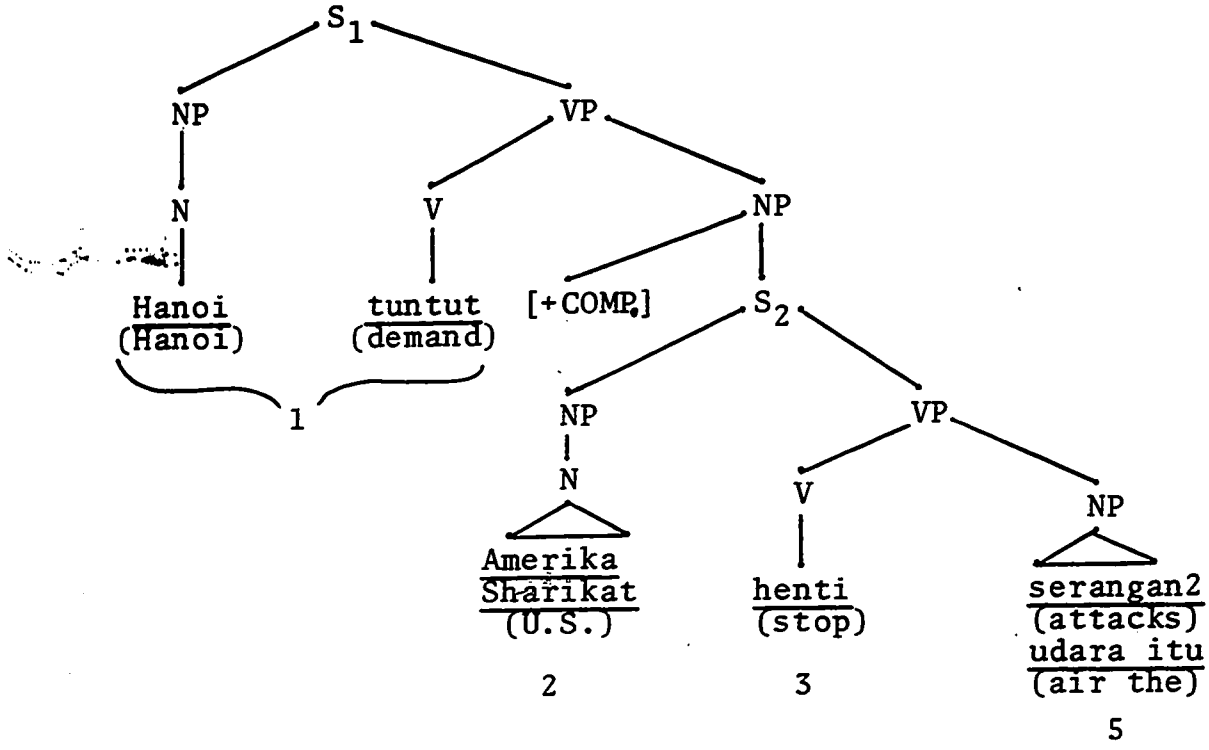
The rule states that the passive morpheme di- is to be attached in sister-adjunction to anything which has the feature [+verb] and which is dominated by V, and that the agentive preposition oleh is to be attached in sister-

adjunction to anything which is dominated directly by NP. This means, therefore, that the passive morpheme is to be adjoined directly to the dominating V, so that the di- and the verb are both considered to be a verbal, and that the agentive preposition is to be adjoined directly to the dominating NP so that both oleh and whatever was previously the NP will both be considered to be a NP. This will become clearer with the examples to follow.

The passive is an optional rule in the grammar presented here. The following section will now illustrate how this rule functions with sentences containing object complements.

In the following sentence, the passive operates on the derived structure given in the P-marker below:

(a) Hanoi menuntut #bahawa Amerika Sharikat
(Hanoi demand COMP. U.S.)
menghentikan serangan2 udara itu#.
(stop attacks air the)
= Hanoi demanded that the U.S. stop the air attacks.



The passive transformation is repeated below, for convenience.

SD X $[X]_{NP}$ $\left[\left[X \right]_{+verb,V} W [X]_{NP} \right]_{VP}$ Y

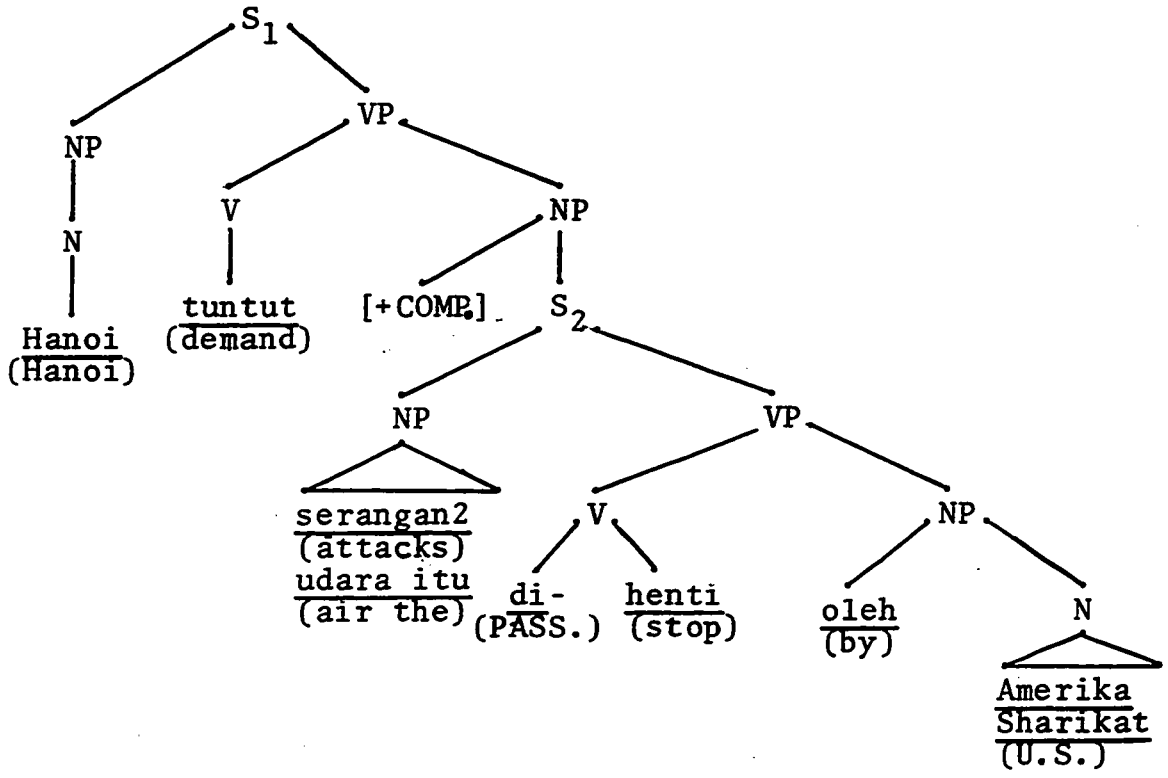
1 2 3 4 5 6

Cond. 2 ≠ 5

2, 5 do not directly dominate VP

SC 1, 5, di- + 3, 4, oleh + 2, 6

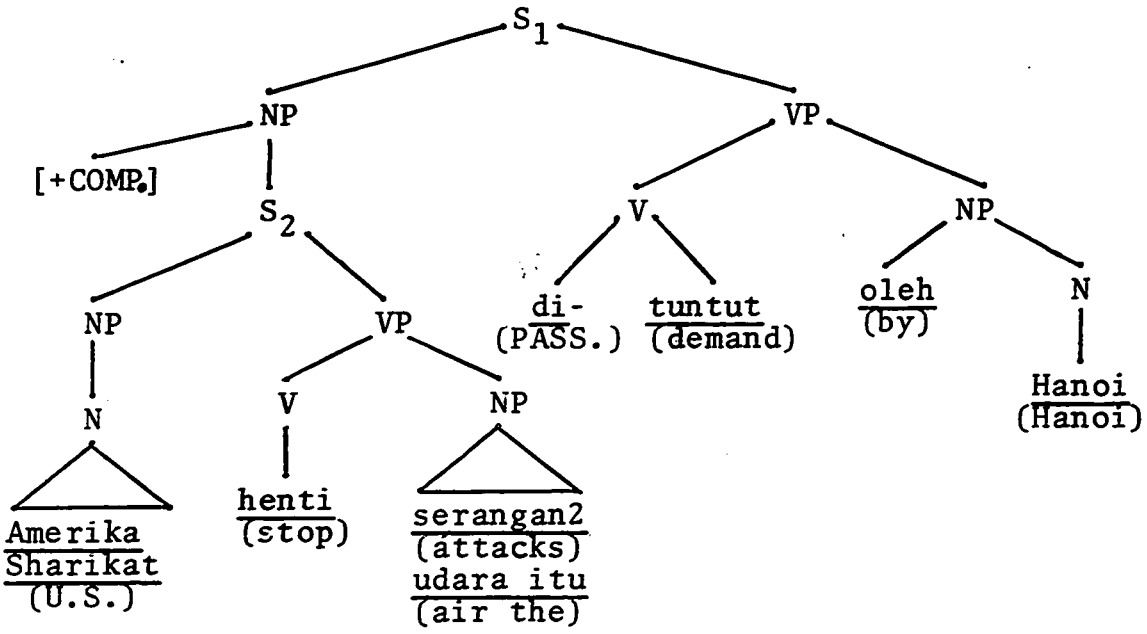
The numbers in the P-marker indicate how the deep structure meets the SD of the passive rule, resulting in the derived P-marker below.



The resulting sentence is

31(b). Hanoi menuntut #bahawa serangan2 udara
(Hanoi demand COMP. attacks air)
itu di- hentikan oleh Amerika Sharikat#.
(the PASS. stop by U. S.)
= Hanoi demanded that the air attacks be stopped by the U.S.

The passive is a cyclic rule however, and it can apply again on the second cycle to the matrix sentence, resulting in the following derived P-marker:



The resulting sentence is

31(c). #Bahawa Amerika Sharikat menghentikan
(COMP. U. S. stop)
serangan2 udara itu# di- tuntut oleh
(attacks air the PASS. demand by)
Hanoi.
(Hanoi)
= That the U.S. stop the air attacks was demanded by Hanoi.

Since the rule is cyclic, it can apply on both the complement as well as the matrix sentence, though on different cycles, producing

31(d). #Bahawa serangan2 udara itu di- hentikan
(COMP. attacks air the PASS. stop)

oleh Amerika Sharikat# di- tuntut oleh

(by U. S. PASS. demand by)

Hanoi.

(Hanoi)

= That the air attacks be stopped by the U.S. was demanded by Hanoi.

The functioning of the complementizer in the P-markers will be explained later in this chapter. For the present, the complementizer bahawa is represented in the P-marker as [+COMP]. When the passive operates on the first cycle on the embedded complement, the complementizer is not affected since it lies outside the bounds of S_2. When the passive operates on the second cycle on the matrix sentence, however, the complementizer is shifted together with the object complement to the position of the derived subject of the sentence, since the complementizer and the embedded S are both dominated by NP.

It will now be illustrated how the passive operates on a sentence which has two NP's after the main verb, as in the sentence below:

32(a). Dia memberitahu saya #bahawa John

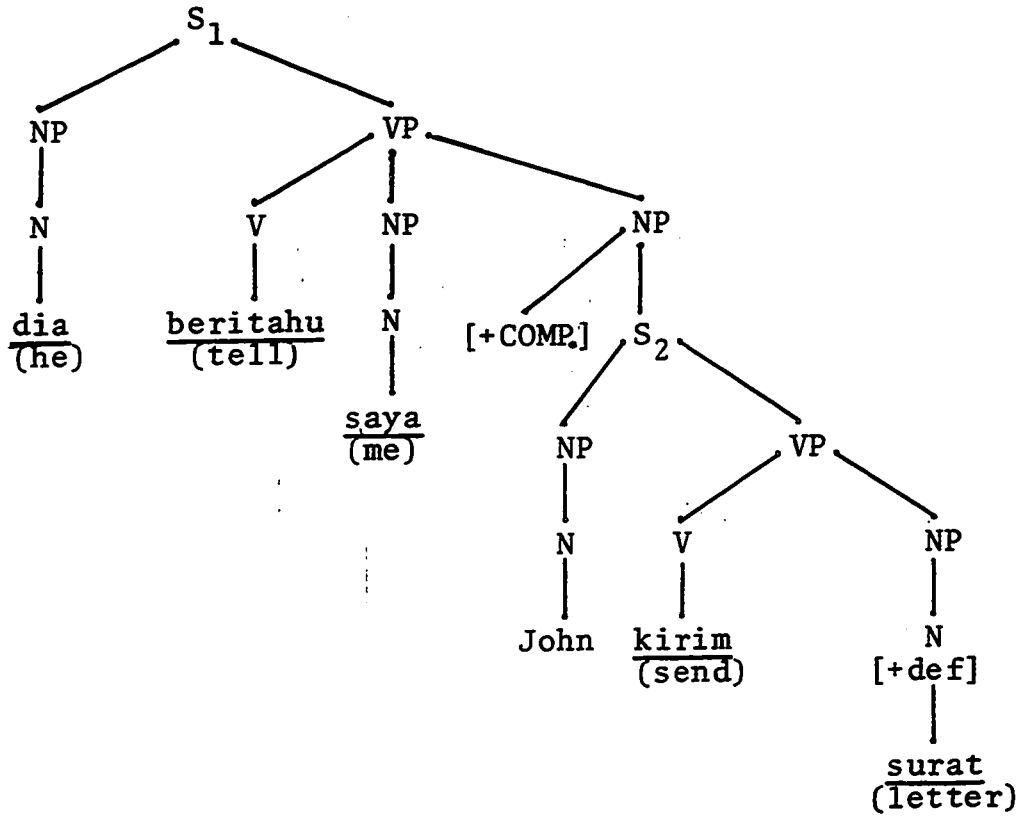
(he tell me COMP. John)

sudah mengirimkan surat itu#.

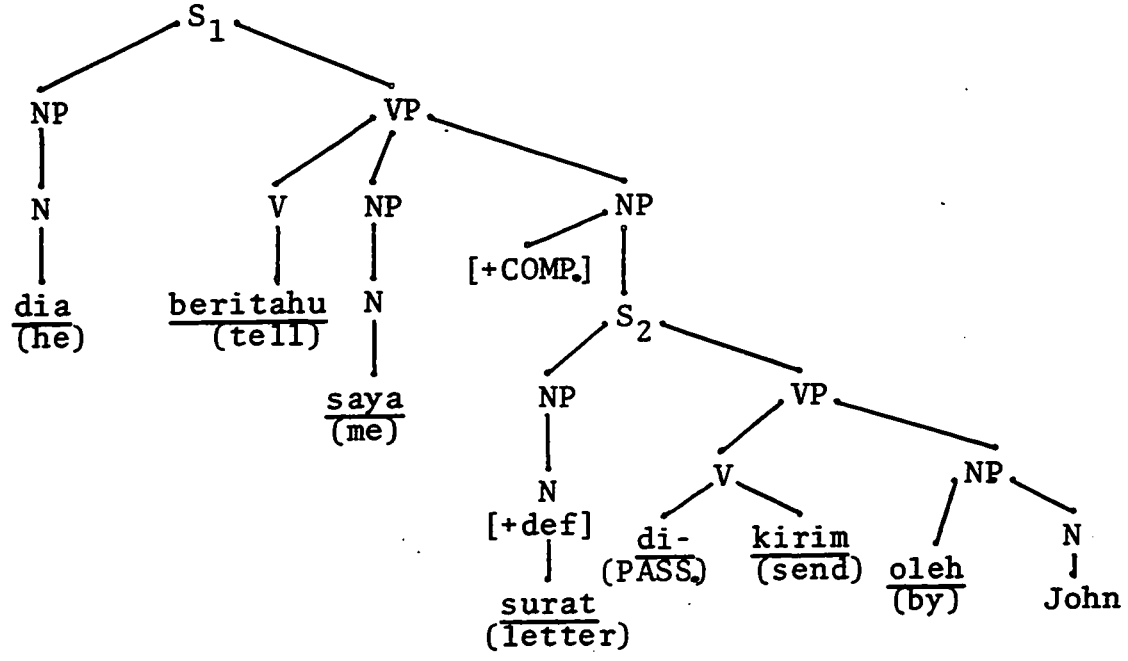
(already send letter the)

= He told me that John had already sent the letter.

The structure of the sentence is



On the first cycle, the passive works on the embedded complement to produce

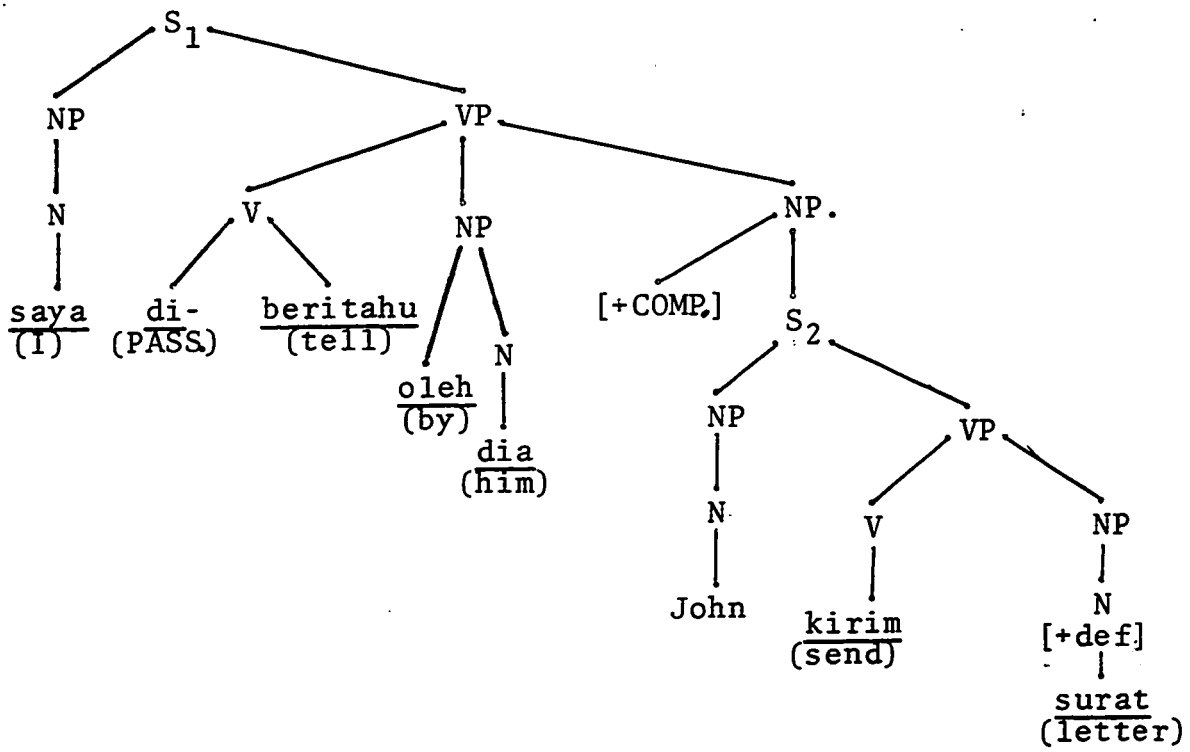


32(b). Dia memberitahu saya #bahawa surat
(he tell me COMP. letter)
itu sudah di- kirimkan oleh John#.
(the already PASS. send by John)
= He told me that the letter had already been sent by John.

On the second cycle, when the passive applies to the matrix sentence, two ways are possible of assigning the SD to the P-marker, resulting in two types of passives. To move the first NP, the indirect object, to the position of surface subject of the sentence, the deep structure has to meet the SD of the rule in the following way:

Dia memberitahu saya #bahawa John sudah mengirimkan surat itu#.
2 3 5 6

The resulting P-marker is

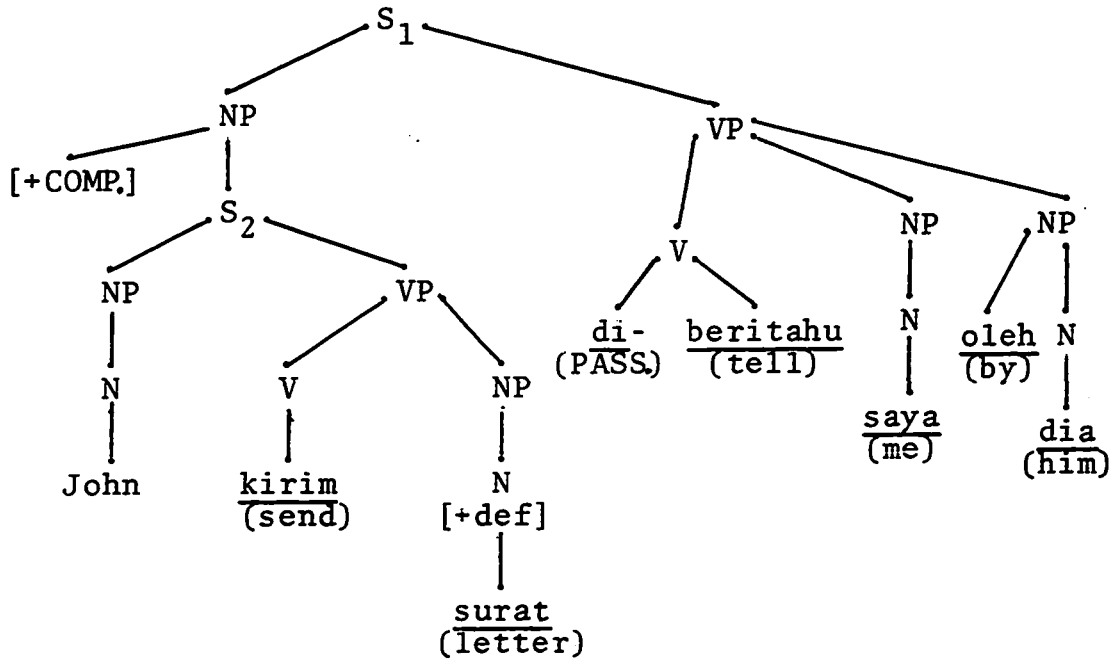


32(c). Saya di- beritahu oleh dia #bahawa
(I PASS. tell by him COMP.)
John sudah mengirimkan surat itu#.
(John already send letter the)
= I was told by him that John had already sent the letter.

To move the second NP, the embedded complement, to the front of the sentence, the deep structure has to meet the SD of the rule in the following way:

Dia memberitahu saya #bahawa John sudah mengirimkan surat itu#.
2 3 4 5

The resulting P-marker will be



32(d). #Bahawa John sudah mengirimkan surat
(COMP. John already send letter)
itu# di- beritahu saya oleh dia.
(the PASS. tell me by him)
= That John had already sent the letter was
told me by him.

If the passive had applied to the embedded complement on the first cycle, and then again was selected to apply to the matrix sentence on the second cycle, then two types of sentences result, the first with the indirect object at the front of the sentence, and the second with the embedded complement functioning as the surface subject of the sentence.

32(e). Saya di- beritahu oleh dia #bahawa
(I PASS. tell by him COMP.)
surat itu sudah di- kirimkan oleh
(letter the already PASS. send by)
John#.
(John)
= I was told by him that the letter had already
been sent by John.

32(f). #Bahawa surat itu sudah di- kirimkan
(COMP. letter the already PASS. send)
oleh John# di- beritahu saya oleh dia.
(by John PASS. tell me by him)
= That the letter had already been sent by John
was told me by him.

As the passive is an optional transformation, the above instances of the operation of the rule on the various sentences assumed that the rule was selected to apply. If it was not selected, then no change would be effected on the original sentence. The passive is optional on every cycle of operation.

3.3.2 Identity Erasure

This transformation deletes the subjects of embedded complements if they are identical to another NP in the matrix sentence. In this way, non-clausal complements result, not from deep structure, but from the operation of the IE rule. Clausal and non-clausal complements can therefore have identical deep structure P-markers, and differ only in surface structure because the non-clausal complements have had their subjects deleted by the IE transformation.

Identity Erasure transformation

$$\text{SD}\quad X\quad NP\underset{a}{\left[\begin{array}{ll} V & \emptyset \\ [+ID]_V & NP \end{array}\right]_a}\quad W\quad \left[NP\left[\begin{array}{l} +\text{verb} \\ -\text{stat} \end{array}\right]_V\quad Y\right]_S\quad X$$

$$1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9$$

Cond. $W \neq NP$

$$\underset{a\ a}{\begin{bmatrix} 2 \\ 4 \end{bmatrix}} = 6$$

SC 1, 2, 3, 4, 5, $\emptyset$, 7, 8, 9

Two rules are collapsed into the SD above, the first dealing with [-I.0] sentences, and the second with [+I.0] sentences. The square brackets with the labels "a ... a" indicate that, for the [-I.0] sentences, the condition is that 2 = 6, and for the [+I.0] sentences, the condition is that 4 = 6. The variable W should not refer to a NP, in order that the first line of the SD will refer exclusively to [-I.0] sentences. This IE transformation can only operate if the verbal in the embedded S is a true verb which is also non-stative.[5] Moreover, the rule can only operate if the embedded S is not in the past tense. This condition has not been captured by the rule formulated above, since tense has been omitted from this grammar and has not been assigned to any specific part of the sentence. This condition should be included in a more complete grammar of Malay.

For the [-I.0] sentences, the subject of the embedded complement has to be identical to the subject of the matrix sentence before it can be deleted. For this type of sentence, the rule works on all types of main verbs. For the [+I.0] sentences, however, the rule only works on a certain subset of verbs, designated in the rule as [+ID]. A common feature with all these verbs is that they require that the subject of the embedded complement be identical to the

---

[5]For the feature of stativity, refer to Lakoff (1966b).

indirect object of the matrix sentence. On page fifty-nine of this chapter it was noticed that this feature of subject$_2$ and indirect object identity was associated with the "verbs of ordering" by Robin Lakoff (1968).

Many of these [+ID] verbs can be included with these "verbs of ordering", for example:

suroh	-	command	beritahu	-	tell
arah	-	direct	paksa	-	force
perentah	-	order	wajib	-	compel

However, many other verbs which require that there be identity between subject$_2$ and the indirect object cannot be called verbs of ordering at all, as in the following examples:

minta	-	ask	rayu	-	petition
benarkan	-	allow	pujok	-	appeal
ajak	-	invite	galak	-	encourage
tolong	-	help	seru	-	urge
bolehkan	-	enable	ajar	-	teach
perbolehkan	-	permit			

Hence, these [+ID] verbs are not equivalent with the verbs of ordering, although they include the verbs of ordering.

These [+ID] verbs are like causatives[6] in that they cause an agent to perform an action. This agent is

---

[6]See Lakoff (1965:Section IX).

therefore the subject of the embedded complement and the action is contained in the predicate of the embedded complement. However, these [+ID] verbs are not fully equivalent to the causatives, although they contain many causative features.

An important distinction between the [+ID] verbs and the causatives is that not all causatives need indirect objects, whereas the [+ID] verbs do. Dalamkan parit itu (deepen the ditch), for example, has no indirect object and the verb dalamkan is a causative. The verb is therefore not a [+ID] verb. Moreover, not all the predicates in the embedded complements of causative constructions have to contain true verbs which are also non-stative. "Cause the ditch to be deep" contains an adjective which is stative, and yet the construction is a causative one. [+ID] verbs, on the other hand, require that the predicate of the embedded complement contain a true verb which is non-stative, and also that this predicate should contain no indications of the past tense.

All the [+ID] verbs are non-stative, but not all [-stative] verbs belong to the [+ID] class. All the [+ID] verbs require [+animate] subjects in the matrix sentence, and [+animate] indirect objects which also function as $subject_2$. All [+ID] verbs therefore have the environmental frame $[+an]_{NP}$ --- $[+an]_{NP}[S]_{NP}$. However, not all verbs which also occur in the same environmental frame belong to

the set of [+ID] verbs.

These [+ID] verbs are therefore not directly equivalent to any other recognized set of verbs. Rather, they contain features belonging to different sets of verbs. These [+ID] verbs are thus best regarded as an intersection of several sets and not freely correlated with any one of the sets. These [+ID] verbs are most fully correlated with semantic features. All of them have certain semantic features in common. It has been seen that the semantic feature of "order" does not apply to the entire group of [+ID] verbs. A semantic feature like "influence" or "affect", on the other hand, will apply to all the verbs of the [+ID] set. All these verbs indicate some type of influence, ranging from coaxing to compelling, exerted by $subject_1$ on the indirect object, in order that the indirect object function as $subject_2$ to perform an action. It is semantically impossible for any of these [+ID] verbs to have non-identity between the indirect object and $subject_2$, and semantically impossible for the predicate in the embedded complement to be in the past.

This IE rule deletes the subjects of the embedded complements if they are identical to the subject of the matrix sentence (in the case of [-I.O] sentences) or to the indirect object (in the case of [+I.O] sentences), only if the embedded complement has no indications of past tense, and contains a verbal with the features [+verb] and [-stat].

Two examples will now be given to show how this rule operates. The first example will be a [-I.0] sentence, and the second example a [+I.0] sentence.

33(a). Dia berchita2 #melanjutkan pelajaran- nya#.

(he aspire further studies his)

= He aspires to further his studies.

The sentence above contains a non-clausal complement, but in deep structure the subject of this embedded complement is dia (he). That this is correct is indicated by the fact that the following sentence is considered synonymous with the sentence above:[7]

33(b). Dia berchita2 #dia melanjutkan pelajaran-

(he aspire he further studies)

nya#.

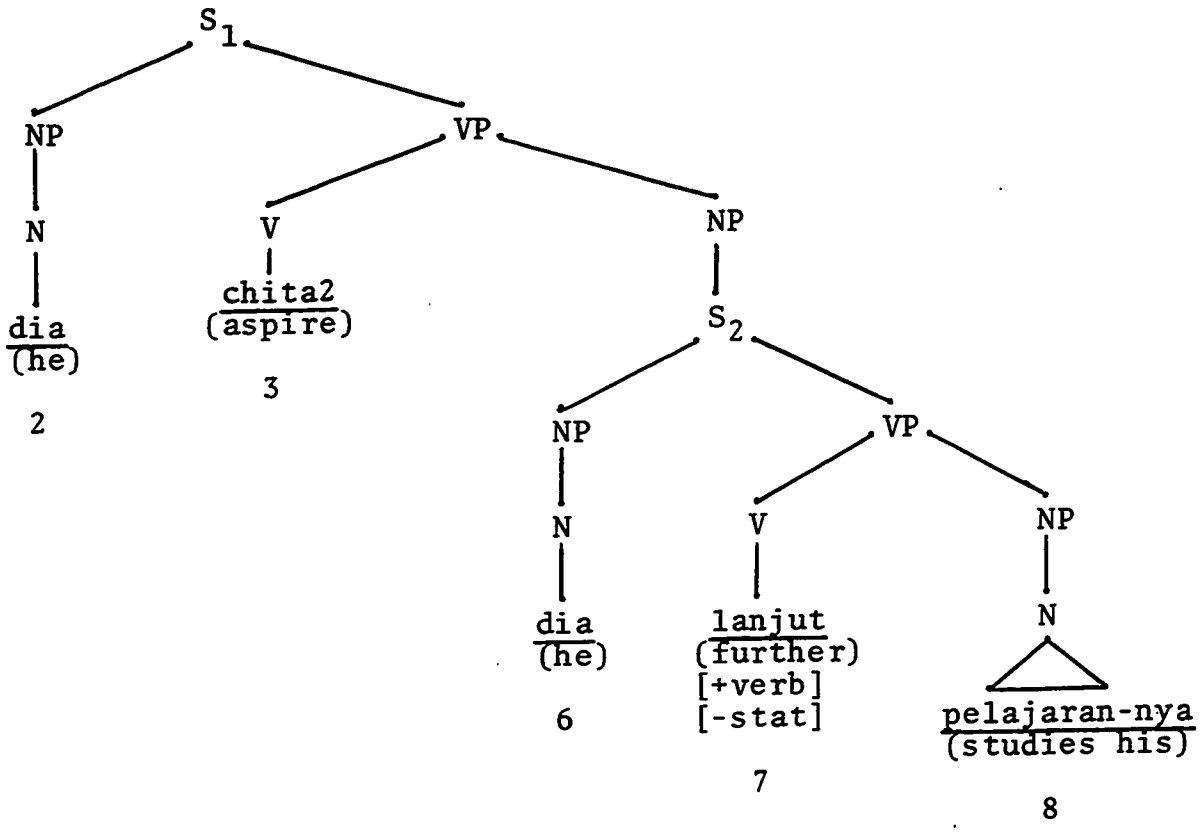
(his)

= He aspires to further his studies.

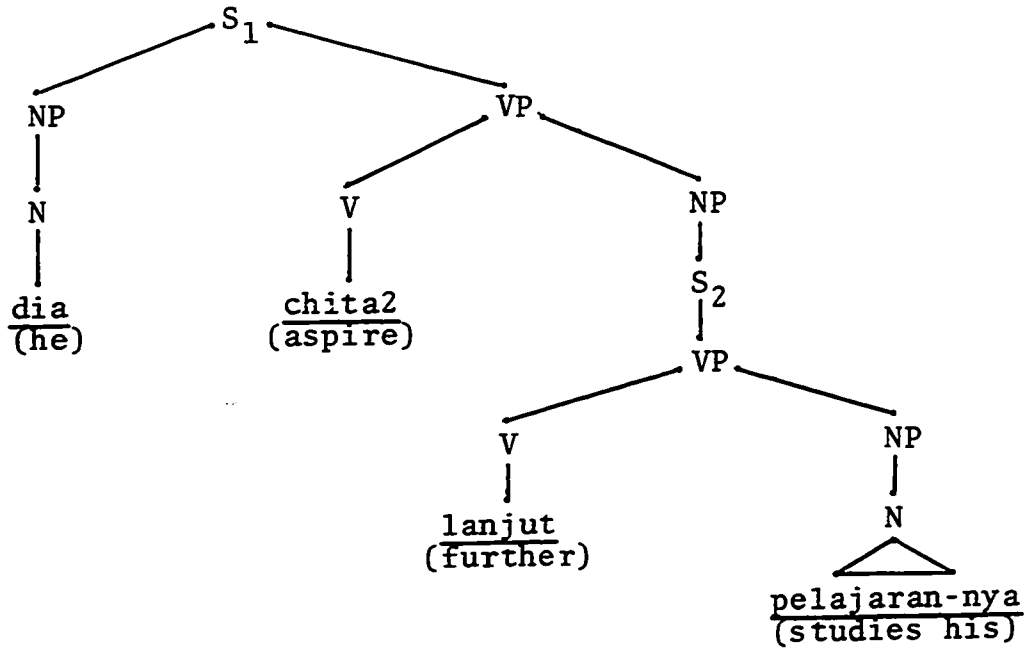
The deep structure of the sentence must therefore be:

---

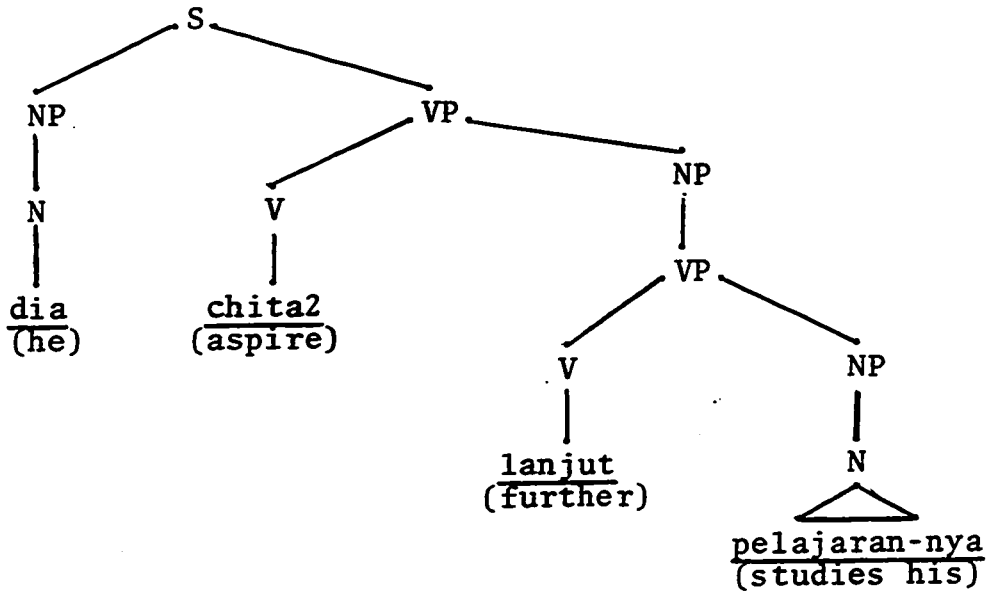
[7]In some dialects, these sentences which retain the identical subject NP in the embedded S are considered unacceptable in the surface structure. However, even in these dialects, it would be correct to claim that the subject of the embedded S is the inserted NP in question. The difference in these dialects therefore lies in the IE rule being obligatory instead of optional, and not in the question of which NP is the subject of the embedded S.



The numbers in the P-marker indicate how the sentence meets the SD of the IE rule. Index 6 is therefore deleted, and the derived P-marker is



Ross (1966) has established a convention that any S which dominates only one category be pruned out of the tree, and this applies to S_2 above, which has only VP branching from it. S_2 is therefore pruned out of the tree, leaving the complement VP to be dominated directly by NP. The derived P-marker now is



The surface structure of sentences with non-clausal complements is therefore radically different from the surface structure of sentences with clausal complements, though in deep structure the two types of sentences have identical structures. In surface structure, the sentences with non-clausal complements no longer contain embedded S's.

A second example of how the IE rule works will be with a sentence which has an indirect object.

34(a). Kerajaan menolong mereka #menchapai
(Govt. help them achieve)
kemajuan#.
(prosperity)
= The Govt. helped them to achieve prosperity.

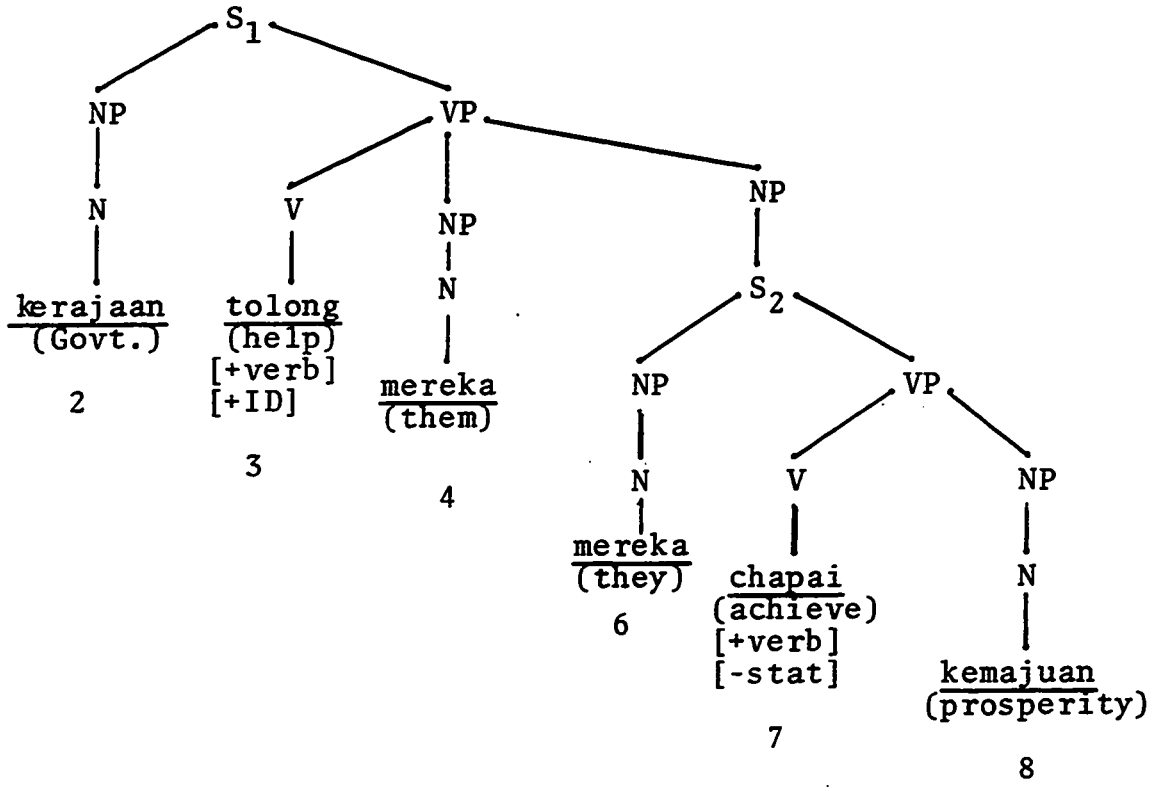
Again, there is no subject of the embedded complement in the surface structure, but in deep structure this subject must be identical to the indirect object of the matrix sentence, mereka. That this is correct is indicated by the fact that the following sentence, which has inserted this $subject_2$, is considered to be synonymous with the original sentence.[8]

34(b) Kerajaan menolong mereka #untok mereka
(Govt. help them COMP. they)
menchapai kemajuan#.
(achieve prosperity)
= The Govt. helped them to achieve prosperity.

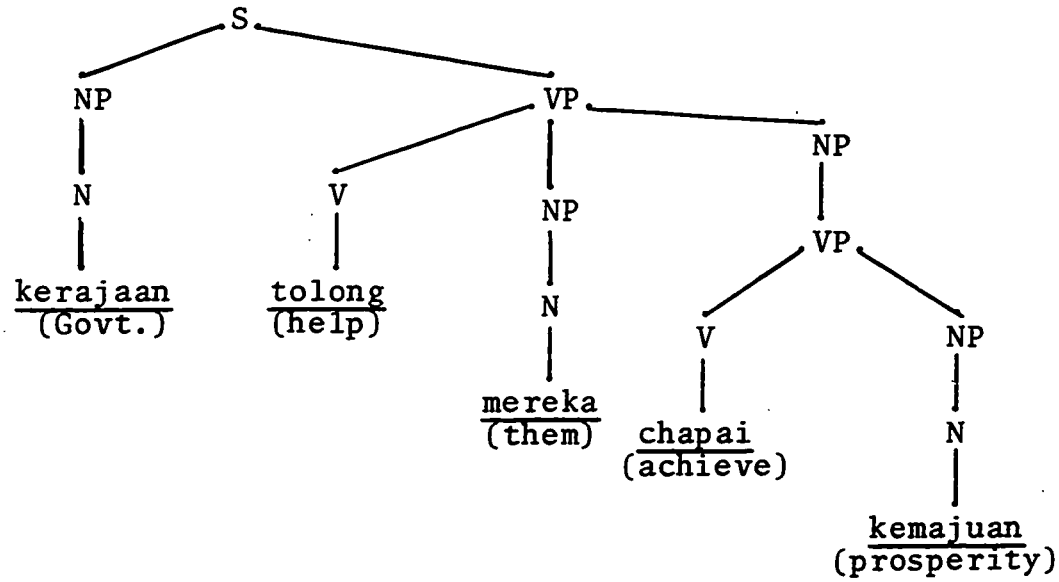
The deep structure of the sentence therefore is the following:

---

[8]See footnote 7.



The numbers in the P-marker indicate how the sentence meets the SD for the IE rule to work. All the conditions are met, and 6 is deleted because it is identical with 4. The derived P-marker, after the S_2 node has been pruned, is



The IE rule must be optional since the following pairs of sentences are considered to be equally acceptable and synonymous.[9] The first of each pair of sentences has undergone the IE rule, while the second has not.

35(a). Dia berchadang #melancharkan kempen
(he propose launch campaign)
penerangan#.
(information)

(b). Dia berchadang #dia melancharkan kempen
(he propose he launch campaign)
penerangan#.
(information)
= He proposed to launch an information campaign.

36(a). Dia memutuskan #untok menukar nama- nya#.
(he decide COMP. change name his)

(b). Dia memutuskan #untok dia menukar nama-
(he decide COMP. he change name)
nya#.
(his)
= He decides to change his name.

37(a). Ann mengajak dia #supaya pergi dahulu#.
(Ann invite him COMP. go first)

---

[9]This is true for the dialect under study. For some other dialects, however, the IE rule is obligatory and the (b) sentences are not acceptable.

(b). Ann mengajak dia #supaya dia pergi
(Ann invite him COMP. he go)
dahulu#.
(first)
= Ann invited him to go first.

38(a). Dia menyeru Kerajaan #untok mendirikan
(he appeal Govt. COMP. set up)
Universiti Islam di- negeri ini#.
(university Islamic in country this)

(b). Dia menyeru Kerajaan #untok Kerajaan
(he appeal Govt. COMP. Govt.)
mendirikan Universiti Islam di- negeri
(set up University Islamic in country)
ini#.
(this)
= He appealed to the Govt. to set up an Islamic university in this country.

Notice that the deep structure of the pairs of sentences must be identical, and that clausal complements result when the IE rule has not been selected to apply, and non-clausal complements result when the IE rule has been selected to apply. The difference between these types of complements is therefore a surface structure difference. In many of these [+I.O] sentences, the indirect object may be optionally deleted. However, the indirect object must first be in the deep structure in such sentences before it is

optionally deleted from the surface structure. This grammar has not provided the optional indirect object deletion rule. However, the arguments in this thesis are in no way affected by the presence of such a rule in the grammar.

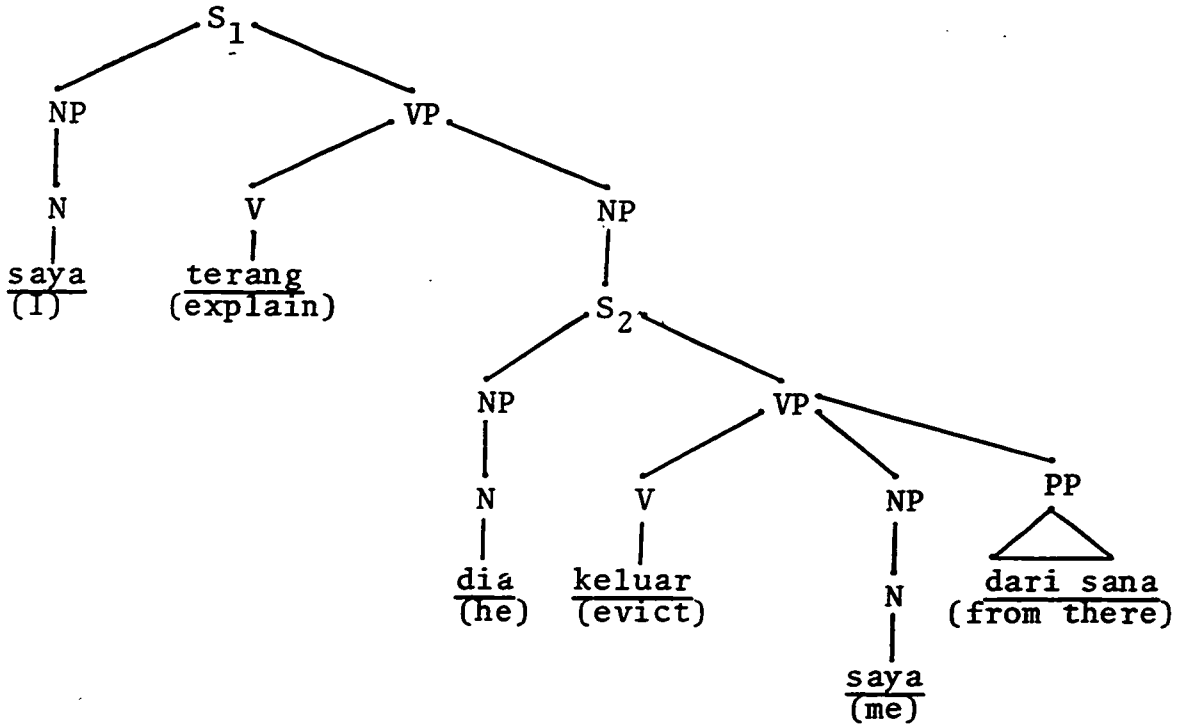
The IE rule has been formulated so that it only deletes the subjects of the embedded complements, and never the objects. Although certain verbs obligatorily require identity between the deep structure subject of the embedded complement and another NP in the matrix sentence, there are no identity restrictions on the deep structure objects of the embedded complements. Deep structure objects of embedded complements are therefore only optionally identical to either the indirect object or the subject of the matrix sentence. However, the IE rule deletes the subjects of embedded complements regardless of whether these subjects are really deep structure subjects or deep structure objects of the complements, and therefore regardless of whether there are obligatory identity restrictions on these subject NP's or not. This indicates, then, that the passive rule must apply prior to the IE rule, in order that deep structure objects become the derived subjects of the embedded complements. However, this ordering does not involve the question of the ordering of these two rules within the same transformational cycle, since this ordering only means that the passive must apply first within the embedded complement before

the IE can apply to the matrix sentence, an ordering assumed by the adoption of the transformational cycle. The question of the ordering of these two rules within the same cycle will be taken up in Chapter V.

That the IE rule cannot allow the deletion of surface structure objects of complements is shown in the following example:

39(a). Saya menerangkan #dia mengeluarkan
(I explain he evict)
saya dari sana#.
(me from there)
= I explained that he had evicted me from there.

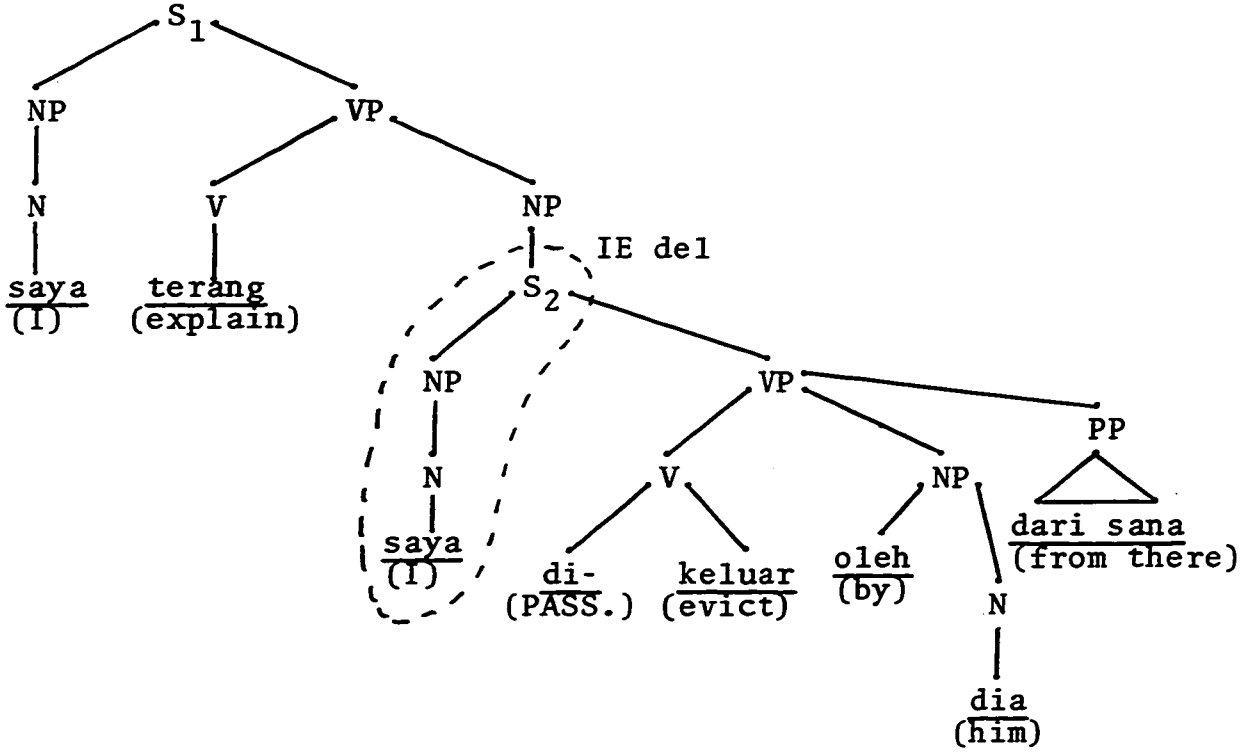
The deep structure P-marker is



If the passive is not selected to apply to S_2, then the deep structure object of the complement is also its surface object. If the IE were to allow the deletion of this surface object of the complement, because it is identical to $subject_1$, an ungrammatical sentence would result.

39(b) *Saya menerangkan dia mengeluarkan
(I explain he evict)
dari sana.
(from there)

However, this deep structure object of S_2 can be deleted if it has become the surface subject of the complement through the passive applying on the first cycle, to produce the following P-marker. This P-marker also indicates what happens after the IE rule has applied on the second cycle to the matrix sentence.[10]



The resulting sentence is

39(c). Saya menerangkan #di- keluarkan oleh
(I explain PASS. evict by)
dia dari sana#.
(him from there)
= I explained (that I) had been evicted from there by him.

The IE rule is therefore correctly formulated to allow only the deletion of the subjects of complements, since the deletion of the objects of complements results in ungrammatical sentences. The operation of the transformational cycle explains how both deep and surface structure subjects of the complements can be deleted, on conditions of identity with another NP in the matrix sentence.

As the rule is formulated, in [+I.O] sentences without [+ID] verbs in the matrix sentence, the IE rule cannot apply although the conditions of identity may be met. In the following sentence for example, the verb in the matrix sentence is not functioning as a [+ID] verb, and if the IE rule is forced to apply, an ungrammatical sentence would result.

40(a). Saya memberitahu dia #bahawa dia
(I tell him COMP. he)

---

[10]Here the IE rule is not obligatory even for those dialects where the rule was obligatory in earlier examples (i.e. sentences 33-38 of this chapter).

akan di- keluarkan dari sana#.

(FUT. PASS. evict from there)

= I tell him that he will be evicted from there.

The subject of the embedded complement is identical with the indirect object, but yet the IE rule cannot apply, or else the following ungrammatical sentence would result:

40(b). *Saya memberitahu dia #bahawa akan

(I tell him COMP. FUT.)

di- keluarkan dari sana#.

(PASS. evict from there)

=*I tell him that will be evicted from there.

What makes the sentence ungrammatical is that in the surface structure there is ambiguity as to whether $subject_1$ or the indirect object NP is the missing subject of the complement.

In [-I.0] sentences there is no such ambiguity, since there is only one NP in the matrix sentence, that functioning as its $subject_1$. Hence the IE rule can apply to all types of verbals in [-I.0] sentences, but only to [+ID] verbs in [+I.0] sentences. Examples of the IE rule having applied to different types of verbals in [-I.0] sentences follow. The examples are given in pairs of sentences, the first of each pair showing the sentence before the IE rule has applied, and the second of each pair showing the sentence after the IE rule has applied.

41(a). Saya cheritakan #saya di- langgar oleh

(I relate I PASS. knock down by)

kereta itu#.

(car that)

(b). Saya cheritakan #di- langgar oleh kereta itu#.

= I relate that I was knocked down by that car.

42(a). Dia berharap #dia tidak di- bunoh

(he hope he NEG. PASS. kill)

oleh musoh- nya#.

(by enemy his)

(b). Dia berharap #tidak di- bunoh oleh musoh-nya#.

= He hoped that he would not be killed by his enemy.

43(a). Dia ingat #dia di- minta membeli

(he remember he PASS. ask buy)

buku itu#.

(book that)

(b). Dia ingat #di- minta membeli buku itu#.

= He remembered that he was asked to buy that book.

44(a). Dia chuba #dia mengertikan tiap

(he try he understand every)

mas'alah yang timbul#.

(problem which arise)

(b). Dia chuba #mengertikan tiap mas'alah yang timbul#.

= He tries to understand every problem which arises.

45(a). Dia berpura2 #bahawa dia mengakui

(he pretend COMP. he acknowledge)

bahawa dia sa-orang bodoh#.

(COMP. he a person stupid)

(b). Dia berpura2 #mengakui bahawa dia sa-orang bodoh#.

= He pretends to acknowledge that he is stupid.

46(a). Dia menjelaskan #dia akan meletakkan

(he explain he FUT. leave)

jawatan- nya#.

(post his)

(b). Dia menjelaskan #akan meletakkan jawatan- nya#.

= He explained that he was leaving his job.

47(a). Dia yakin #dia akan menang#.

(he believe he FUT. win)

(b). Dia yakin #akan menang#.

= He believed that he would win.

48(a). Saya malu #saya hendak keluar negeri

(I ashamed I FUT. leave country)

ini#.

(the)

(b). Saya malu #hendak keluar negeri ini#.

= I am ashamed to leave the country.

49(a). Mereka merasa gentar #mereka menghadapi

(they feel afraid they face)

sa-barang ujian#.

(any test)

(b). Mereka merasa gentar #menghadapi sa-barang ujian#.

= They are afraid to face any test.

In summary, therefore, the IE rule deletes only the derived subjects of embedded complements. For [-I.O]

sentences, the condition is that these derived subjects be identical to the subject of the matrix sentence, and that the predicate of the embedded complement contain a true verb which is non-stative and also contain no indication of past tense. For [+I.0] sentences, the condition is that these derived subjects be identical to the indirect object of the matrix sentence, that the verbal in the matrix sentence be a true verb and with the feature [+ID], and that the predicate of the embedded complement contain no indications of past tense, and also contain a true verb which is non-stative.

3.3.3 Complementizer Placement

The complementizer is not regarded as being in the deep structure, but is inserted through a transformational rule. The main reason for this is that, in deep structure, the rules introduce syntactic categories and define their grammatical relationships, but the complementizer does not play such an important role in the sentence. In fact, the complementizer does not serve any function other than to introduce a succeeding embedded complement. The complementizer is therefore best regarded as a redundant element, introduced by the transformational component of the grammar.

Of the three complementizers dealt with in this thesis, bahawa, supaya, and untok, all three can occur before complements which have their own subject, but only

supaya and untok can occur before non-clausal complements. In the surface structure, not every matrix sentence containing an embedded complement requires a complementizer.

There are several alternative ways of accounting for these facts. To account for the complementizer not being found in every matrix sentence containing an embedded complement, one may posit that (1) the complementizer has been optionally deleted by a later transformation after it has been obligatorily inserted into the phrase marker; (2) there is a zero complementizer which freely functions as a fourth complementizer; or (3) the complementizer placement rule is optional, and no complementizer is found in the sentence if the rule has not been applied.

The first solution is not satisfactory because the complementizer is inserted into the phrase marker, and then later deleted without having served any function at all in the sentence, not even to block some T-rules. This first solution also requires a complementizer deletion rule, which the second and third solutions do not. Of the second and third solutions, the third is simpler since it does not have to make use of a fourth complementizer. Moreover, in each sentence where there was no complementizer, it was possible to insert either bahawa, supaya or untok into the phrase marker as an item which was "understood". This would indicate that there is in fact no zero complementizer, but that the correct complementizer can be optionally

inserted into the appropriate phrase marker. For example, in the sentences below which have no complementizers, either bahawa, supaya or untok can be inserted into the phrase markers as the correct complementizers or as "understood". This would indicate, therefore, that there are only these three main complementizers in the language and no zero complementizer.

50. Dia mengatakan #Ali telah meninggal
(he say Ali PAST leave)
dunia#.
(world)
= He said that Ali had passed away.
Complementizer: bahawa

51. Dia berchadang #menchari pasangan
(he propose search partner)
hidup- nya#.
(life his)
= He proposes to search for a life partner.
Complementizer: untok

52. Dia memohon #di- benarkan meninggalkan
(he beg PASS. allow leave)
jawatan- nya#.
(post his)
= He begged to be allowed to leave his post.
Complementizer: supaya

53. Mereka meminta #barang2 mereka di-
(they ask goods their PASS.)
bayar dengan mata-wang baharu#.
(pay with currency new)
= They asked that their goods be paid in the new currency.

Complementizer: bahawa, supaya

These considerations lead to the adoption of the third solution proposed, that the complementizer placement rule be optional. The main feature of the complementizer placement rule is that the verbal of each sentence governs the choice of the particular complementizer to be used in the embedded complement. It is therefore the presence of this verbal in the above sentences which indicated which complementizer was "understood", whether it was actually used or not. This means that the environment is there for the selection of a particular complementizer, but this complementizer may or may not be used without affecting the meaning of the sentence.

In the analysis presented in this thesis, an element COMP. is optionally inserted into phrase markers to function as the complementizer in the sentence. Only in the morphophonemic component of the grammar will COMP. be realized as bahawa, supaya or untok. This analysis claims that a generalization is captured in this way in the phrase marker, and that the various realizations of COMP. are actually surface structure variations, to be dealt with

therefore not in the base component of the grammar but only in the morphophonemic component. Another point in favour of this proposal is that no rules have been found which have to make mention of the individual complementizers as distinct from each other; rather, the rules only have to take into account the fact that there is a complementizer morpheme in a particular position, regardless of which particular complementizer it is. COMP. is therefore seen as belonging to a deeper level of structure than the individual realizations of the complementizers.

Since the verbal of each sentence governs the choice of complementizer, each verbal will have to be marked in the lexicon with features which indicate which particular complementizer will have to appear in the surface structure, after the operation of the MP rules. These features will be partially ad hoc inherent features, independent of the other features of the verbal because the choice of a particular complementizer is not fully correlated with any other feature of the verbal. There is some arbitrariness in the choice of the complementizer, as there are arbitrary aspects of all languages, but that the choice of complementizer is not totally arbitrary is seen in the following:

(a) verbs of communicating like the following most often take the complementizer bahawa, although untok and supaya are sometimes possible.

tulis	-	write	cheritakan	-	relate
jelaskan	-	explain	umumkan	-	announce
tegaskan	-	confirm	nafikan	-	deny
berkata	-	say	terangkan	-	clarify
ramalkan	-	guess	nyatakan	-	express

(b) [+ID] verbs, with the semantic feature [+influence], take the complementizers supaya and untok.

paksa	-	force	ajar	-	teach
minta	-	ask	tolong	-	help
perentah	-	order	galakkan	-	encourage
arahkan	-	direct	pujok	-	coax
suroh	-	order	benarkan	-	allow
			biarkan	-	allow

(c) other verbs, like the following, also regularly take bahawa and only occasionally also supaya or untok, but these verbs cannot be included with the verbs of communicating because they do not have this semantic feature of [+communication].

da'awa	-	accuse	anggap	-	consider
perchayai	-	believe	tahu	-	know
bayangkan	-	imagine	faham	-	understand

The features which the verb will have to carry to indicate which complementizer is to be used will be of the following type:[11]

---

[11]This follows the suggestion in Rosenbaum (1967:26).

$[+C] \longrightarrow [\pm D]$

$[+D] \longrightarrow [\pm E]$

$\begin{bmatrix} +C \\ -D \end{bmatrix}$ is realized morphemically as bahawa

$\begin{bmatrix} +C \\ +D \\ +E \end{bmatrix}$ is realized morphemically as supaya

$\begin{bmatrix} +C \\ +D \\ -E \end{bmatrix}$ is realized morphemically as untok

These features indicate that supaya and untok most often function together, as opposed to bahawa. However, since there is arbitrariness in the language in the use of these complementizers, there are occasions when a verbal will occur with either bahawa and untok, or with bahawa and supaya, showing that the features given above only capture the regularities in the language and do not deal with its irregularities.

The verb tahu (know), for example, will have the feature [-D] to indicate that the complementizer should be bahawa in the surface structure. The verb suroh (order) will have the feature [+D] to indicate that the complementizer can be either supaya or untok in the surface structure. The verb merayu (petition) will have the feature [-E] to indicate that the complementizer should be untok, and the verb anjorkan (suggest, advocate) should have the feature [+E] to indicate the complementizer supaya.

After the deep structure phrase markers have been generated, lexical insertion takes place, during which the verbals, together with their features specified in the lexicon, will be inserted into the P-marker for the transformations to work on. The complementizer placement rule will then insert the element COMP. optionally into the P-marker, before any S dominated by a NP, as indicated below:

Complementizer Placement

$$\text{SD} \quad X \begin{bmatrix} +V \\ \alpha D \\ (\beta E) \end{bmatrix}_V \quad W \quad [S]_{NP} \quad Y$$

$$\qquad 1 \qquad 2 \qquad\quad 3 \qquad 4 \qquad\quad 5$$

$$\text{SC} \quad 1, \quad 2, \quad 3, \quad \begin{bmatrix} +\text{COMP} \\ \alpha D \\ (\beta E) \end{bmatrix} \quad + \quad 4, \quad 5$$

The rule scans the complementizer features of the verbal in the matrix sentence and duplicates these features under the inserted element COMP. Later MP rules will change the COMP. into one of the appropriate complementizers according to the features assigned to it. The feature [α E] being in parentheses means that it may or may not be mentioned in the P-marker.

The morphophonemic part of the grammar is not the direct concern in this thesis, but some indication will be given below of the various MP rules which will be needed to deal with these features of complementation in Malay.

MP 1. $\begin{bmatrix} +\text{COMP} \\ -\text{D} \end{bmatrix} \longrightarrow$ bahawa

2. $\begin{bmatrix} +\text{COMP} \\ +\text{D} \end{bmatrix} \longrightarrow \begin{Bmatrix} \text{supaya} \\ \text{untok} \end{Bmatrix}$

3. $\begin{bmatrix} +\text{COMP} \\ +\text{C} \end{bmatrix} \longrightarrow \begin{Bmatrix} \text{bahawa} \\ \text{supaya} \\ \text{untok} \end{Bmatrix}$

4. $\begin{bmatrix} +\text{COMP} \\ +\text{E} \end{bmatrix} \longrightarrow$ supaya

5. $\begin{bmatrix} +\text{COMP} \\ -\text{E} \end{bmatrix} \longrightarrow$ untok

6. $\begin{bmatrix} +\text{COMP} \\ -\text{D} \end{bmatrix} \longrightarrow$ null / $\text{---}[\text{VP}]_{\text{NP}}$

The sixth MP rule above will delete any complementizer to be realized as bahawa, if it occurs before a non-clausal complement. When the element COMP. is first inserted into the P-marker, all embedded complements still have their subjects. However, the IE rule may operate later to delete the subjects of the embedded complements. Any COMP. with the feature [-D] left occurring before a non-clausal complement will therefore be deleted by MP rule six above, so that bahawa will never be found before a non-clausal complement.

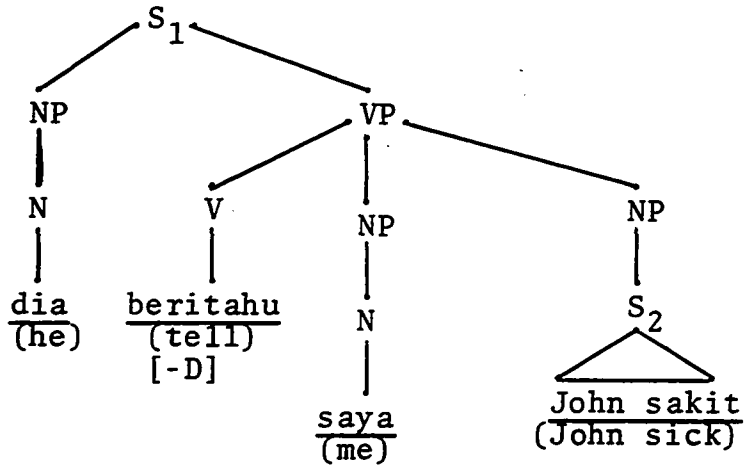
The transformational component of the grammar is therefore much simplified when COMP. is inserted into the deep structure instead of the various complementizers. However, it is often the case that economy in one part of the grammar will require that another part of the grammar be made more complex, and this analysis throws the burden

onto the MP portion of the grammar. The question of which portion of the grammar should best be simplified is far beyond the scope of this thesis. The motivation for simplifying the transformational component at the expense of the MP component has been the desire to capture what generalizations there are in the syntactic component of the grammar, leaving the surface phonological variations to be dealt with in the phonological component.

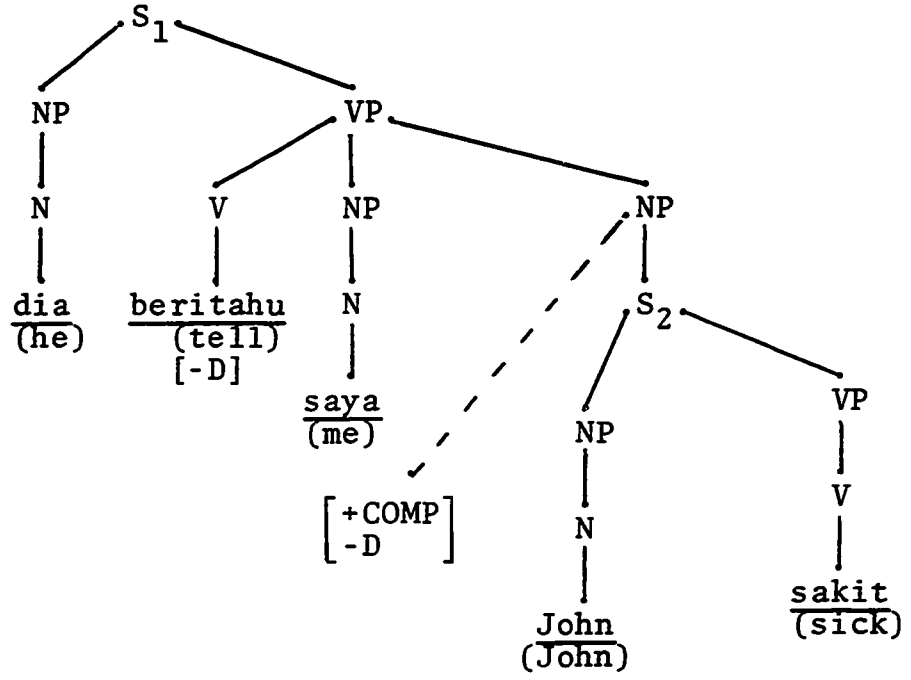
A few examples will now be given to illustrate the operation of this complementizer placement rule. The deep structure of the sentence

54. Dia memberitahu saya #bahawa John sakit#.
(he tell me COMP. John sick)
= He told me that John was sick.

is the following P-marker



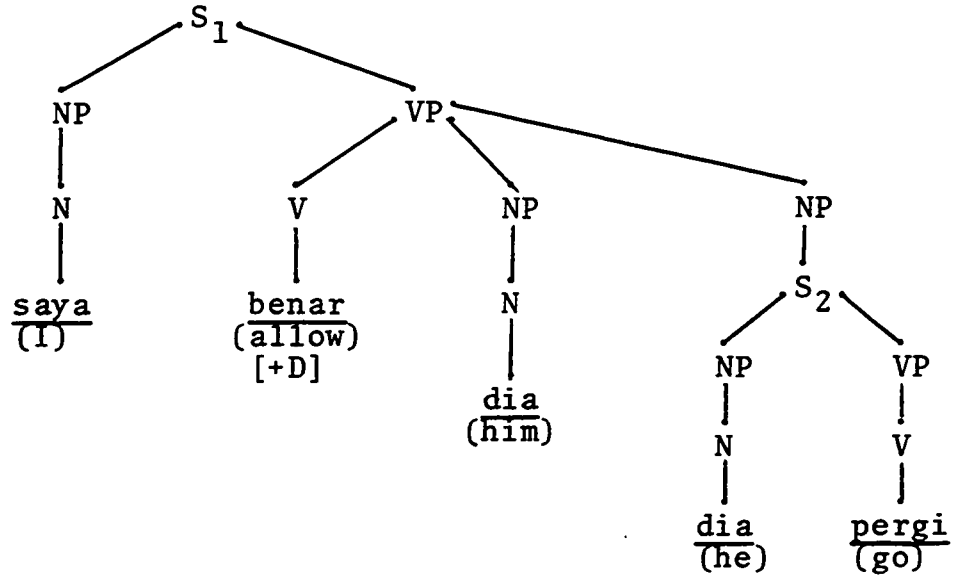
The derived P-marker, after the operation of the complementizer placement rule, is as follows:



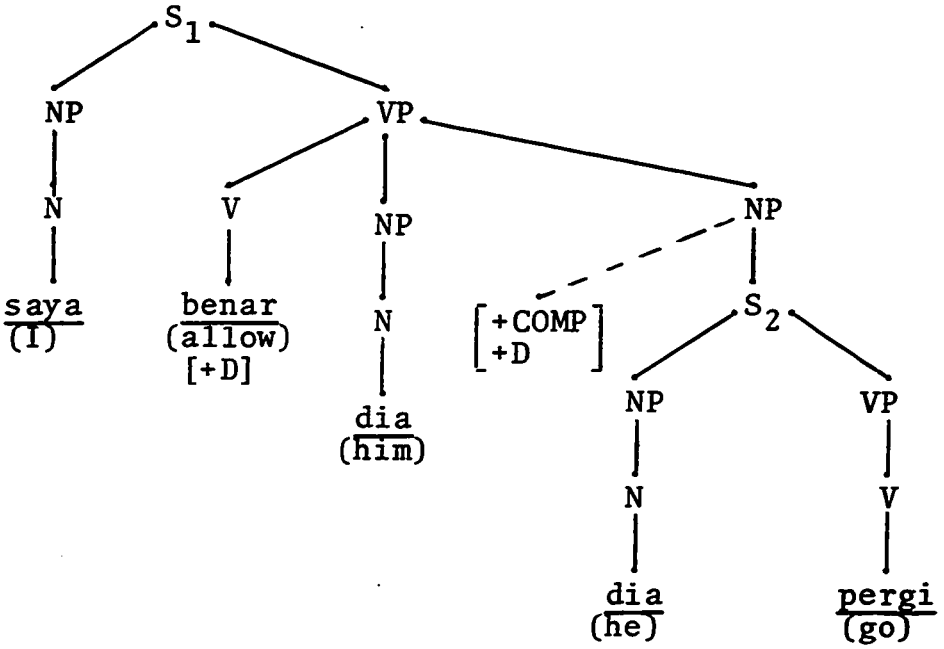
A later MP rule will convert the complementizer to bahawa.

The deep structure of the following sentence is given immediately after it:

55. Saya membenarkan dia #supaya dia pergi#.
(I allow him COMP. he go)
= I allow him to go.



The complementizer placement rule will produce the following derived P-marker:



The verb membenarkan (allow) occurs with either supaya or untok, which is why the feature given it is [+D]. In this derived P-marker, the choice between supaya and untok is arbitrary and both are equally acceptable in the matrix sentence.

3.4 Complements in Subject Position

Some discussion of the complements which are found in the position of the deep structure subject of the sentence is necessary to throw light on some issues relevant to the study of the object complements, though subject complements are not the direct topic of research in this thesis. This section will illustrate some similarities and differences

between subject and object complements, with the chief aim of clarifying the study of the object complements.

Subject complements are very restricted as to the predicates they can occur with. The most commonly found predicates are adjectival or nominal as in the following examples.

Adjectival

56. #Bahawa akibat2 ini membimbangkan# ternyata
(COMP. consequences these alarming clear)
dari kenyataan2 itu.
(from notices those)
= That these consequences are alarming is clear from those notices.

57. #Untok mengubah apa2 yang telah di-
(COMP. change what which PAST PASS.)
warisi itu# tentu-lah tidak mudah.
(inherit that certainly NEG. easy)
= To change whatever has been inherited is certainly not easy.

Nominal

58. #Memelihara perpaduan antara ra'ayat#
(maintaining solidarity between citizens)
bukan-lah tugas orang2 politik.
(NEG. duty people political)
= Maintaining the solidarity of the people is not the duty of the politicians.

59. #Meninggikan taraf hidup ra'ayat2
(raising standard living citizens)
di-Malaysia itu# ia-lah chita2 kerajaan.
(in Malaysia the COP. aim Govt.)
= The raising of the standard of living of the citizens in Malaysia is the aim of the Govt.

There are examples, however, of the predicate being a transitive verb phrase, as in the following sentences.

60. #Mengeringkan sotong# tidak memerlukan
(drying cuttlefish NEG. need)
banyak garam.
(much salt)
= Drying cuttlefish does not need much salt.

61. #Menerima wang lama dari pembeli2#
(accepting money old from customers)
menyusahkan mereka.
(create difficulty them)
= The acceptance of the old money from the customers created difficulties for them.

It is also possible to have a sentence where both the subject and direct object NP's are embedded complements, though this is rather infrequent. The following is an example:

62. #Bahawa soal penyatuan ejaan telah
(COMP. question unification spelling PAST)
tergantong2 bagini lama# ada-lah
(hanging so long COP.)

menunjokkan #bahawa soal itu tidak
(show COMP. question the NEG.)
sa- mudah yang di- sangka#.
(as easy which PASS. expect)
= That the question of the unification of spelling has been left hanging for so long shows that the problem is not as easy as has been expected.

Subject complements are interesting for the study undertaken here in one main respect, and that is to see how non-clausal complements differ from the clausal complements. As far as the object complements were concerned, both clausal and non-clausal complements had the same deep structure, the difference being a result of the Identity Erasure transformation. There are also the clausal and non-clausal types of subject complementation. Sentences fifty-six and sixty-two were instances of clausal complementation, and sentences fifty-seven to sixty-one were sentences of non-clausal complementation. The difference again seems to be that the non-clausal complements do not have subjects in surface structure. However, this subject has not been deleted by the IE transformation, for there is no identical NP to the left of the deleted subject. This means either that the IE rule has been incorrectly formulated, or that another rule has operated to delete the subjects of non-clausal subject complements.

As the IE rule has been formulated, the rule is left-sensitive, and therefore automatically excludes the subjects of complements in subject position. However, even if the rule were modified so that it would be right-sensitive too, it would still not work for these subject complements, for there is no other NP even to the right of the complement which may have been identical to the deleted subject. The IE rule therefore was correctly formulated in excluding subject complements. Another rule must now be found as the basis for the deletion taking place in these subject complements.

Taking the following sentence as an example, it will be seen that there is nothing in the surface structure of the sentence to indicate what the deep structure subject of the complement is.

68. #Untok mengubah apa2 yang telah di-
(COMP. change whatever PAST PASS.)
warisi itu# tentu-lah tidak mudah.
(inherit the certainly NEG. easy)
= To change whatever has been inherited is certainly not easy.

The only NP mentioned in the sentence is contained within the complement itself, as the direct object, and there is no other NP in the matrix sentence. However, when the sentence is expanded to include the subject for the verb mengubah (change), the following is acceptable as preserving the meaning of the original sentence:

63(b). #Untok orang2 mengubah apa2 yang
(COMP. anyone change whatever)
telah di- warisi itu#...
(PAST PASS. inherited ...)

The inserted subject is therefore some NP like "anyone", "someone", "people", etc. The same situation holds for the other sentences with subject complements which do not have their own subjects. The missing subject is therefore an unspecified noun which is [+animate]. Sometimes the context, either within the bounds of the same sentence, or in the neighbouring sentences, gives a clue as to which is the subject of the complement, but this still does not negate the fact that the subject of the non-clausal complement is unspecified in deep structure.

This unspecified subject of non-clausal subject complements will be designated as PRO in this thesis. A rule of PRO deletion is now necessary to delete this unspecified subject from the surface structure. This rule must be obligatory since no sentence exists in surface structure with the PRO in it.

PRO-deletion

SD X $\left[\text{(oleh)} \; [\text{PRO}]_N \; X \right]_{NP}$ Y

1 2 3

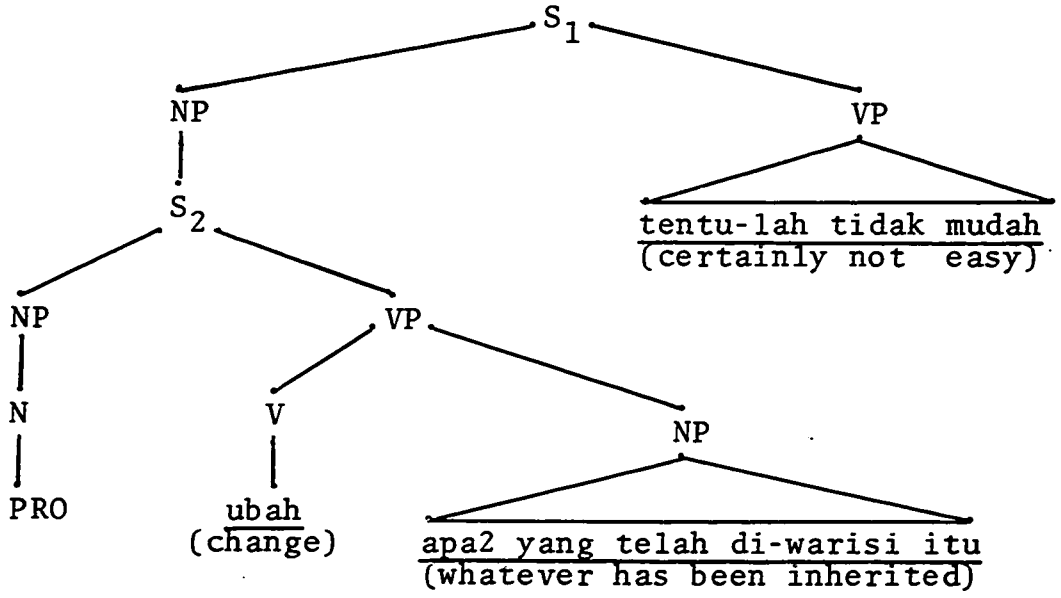
SC 1, Ø, 3

This PRO-deletion rule deletes any unspecified NP in the sentence, including the unspecified agents of passive sentences (which explains oleh being in parentheses). There is therefore independent motivation for this rule, since there is already the need for some rule to delete the unspecified agents from passive sentences.

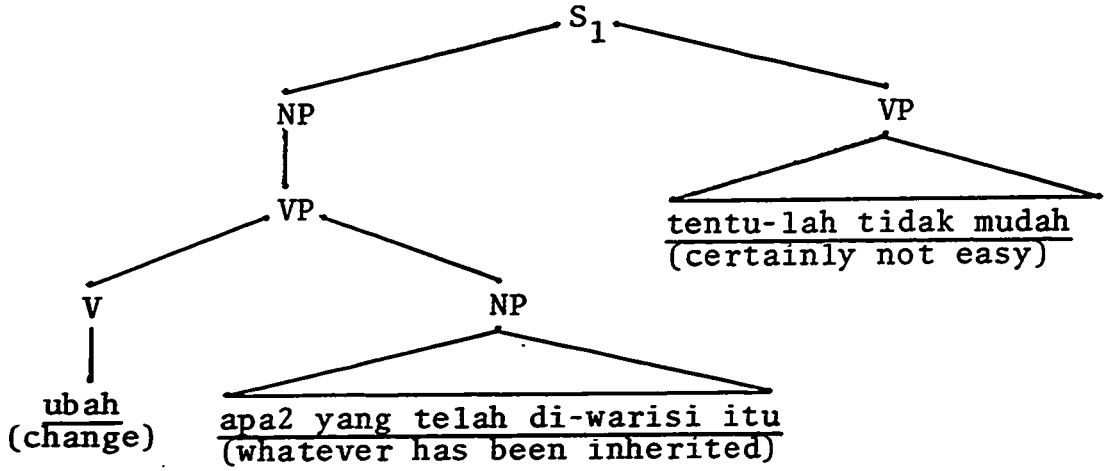
Examples will now be given to illustrate how this rule operates. The deep structure of the sentence

#Untok mengubah apa2 yang telah di- warisi
(COMP. change whatever PAST PASS. inherit)
itu# tentu-lah tidak mudah.
(the certainly NEG. easy)
= To change whatever has been inherited is certainly not easy.

is given in the following P-marker.



The PRO-deletion rule operates to delete PRO from the tree, and prunes away S_2 too since it only dominates VP, leaving the derived P-marker to be



This means that any non-clausal complement in subject position has a deep structure PRO subject, whereas non-clausal complements in object position have subjects which have been erased by the IE rule. This explains why non-clausal complements in deep structure object position cannot be shifted by the passive to become the derived subjects of their sentences, for if they were, this would imply that the subject of the complement were PRO in deep structure. The passive can therefore only shift clausal complements to the position of derived subject of their sentences, without altering the meaning of the original sentence. Any non-clausal complement functioning as the subject of the sentence at any level of the derivation must therefore have had its subject deleted by the PRO-deletion rule. This is one important way in which

subject complements differ from the object complements studied in this thesis.

The same PRO-deletion rule also deletes the unspecified agents of passive sentences. In a sentence like

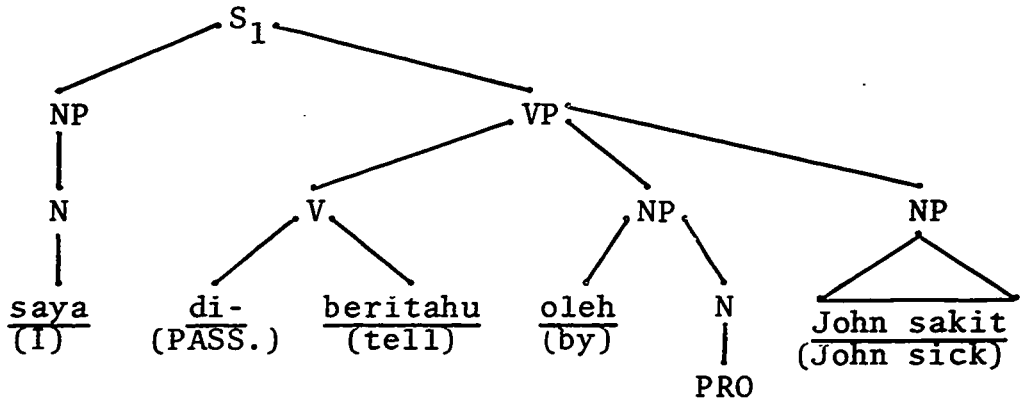
PRO memberitahu saya #bahawa John sakit#.

(tell me COMP. John sick)

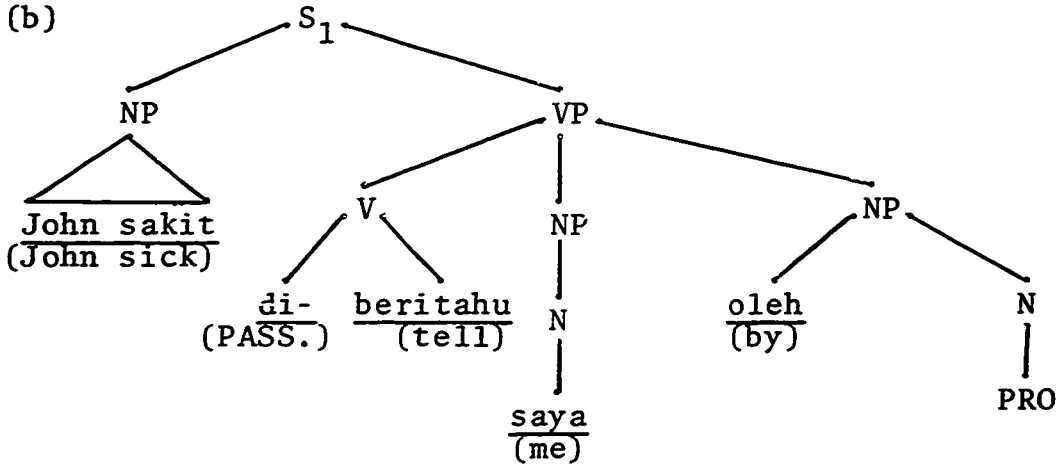
= PRO told me that John was sick.

the passive operates first to produce either of the two derived P-markers below:

(a)



(b)



In both the above P-markers, the PRO-deletion rule would delete the PRO and its agentive preposition oleh from the tree, to produce the sentences

64 (a). Saya di- beritahu #bahawa John sakit#.
(I PASS. tell COMP. John sick)
= I was told that John was sick.

(b). #Bahawa John sakit# di- beritahu saya.[12]
(COMP. John sick PASS. tell me)
= That John was sick was told me.

It will be noticed that the PRO-deletion rule does not delete only deep structure subjects of sentences, for if it did, then the two passive sentences given above would never be generated once the PRO subject has been deleted from the deep structure tree. The PRO-deletion rule therefore deletes unspecified NP's only after the passive has applied.

[12]For many speakers, the sentence is stylistically more acceptable with kapada (to):
#Bahawa John sakit# di- beritahu kapada saya.
(COMP. John sick PASS. tell to me)
However, the sentence is still considered grammatical without kapada.

CHAPTER IV

ADJECTIVE COMPLEMENTATION

This chapter is intended to show that complements with adjectives in the predicates of the matrix sentences behave very much like complements with verbs in the predicates of the matrix sentences. This is one strong argument for viewing both verbs and adjectives as belonging to one major category of verbals. The grammar is thus much simplified if V can refer to both verbs and adjectives. If only the verbs are referred to, then the feature [+verb] is used, and if only the adjectives are referred to, then the feature [-verb] is used.

Adjectives in the matrix sentences can have either object or subject complements, just as the verbs in the matrix sentences. The main concern is, as usual, the complements in object position, but the complements in subject position will also be discussed where they exhibit features relevant to the study of the object complements.

4.1 Adjective Complements in Object Position

Adjective complements differ in one main way from the verb complements discussed in the previous chapter: adjectives do not take indirect objects, so that there is only one type of deep structure tree possible instead of two. In the surface structure, two types of trees are found

instead of four, these two types having the same deep structure but differing as a result of the operation of some transformational rules. The following sentences show these two types of surface structure which have identical deep structures. The first two sentences contain clausal complements and the second two sentences contain non-clausal complements.

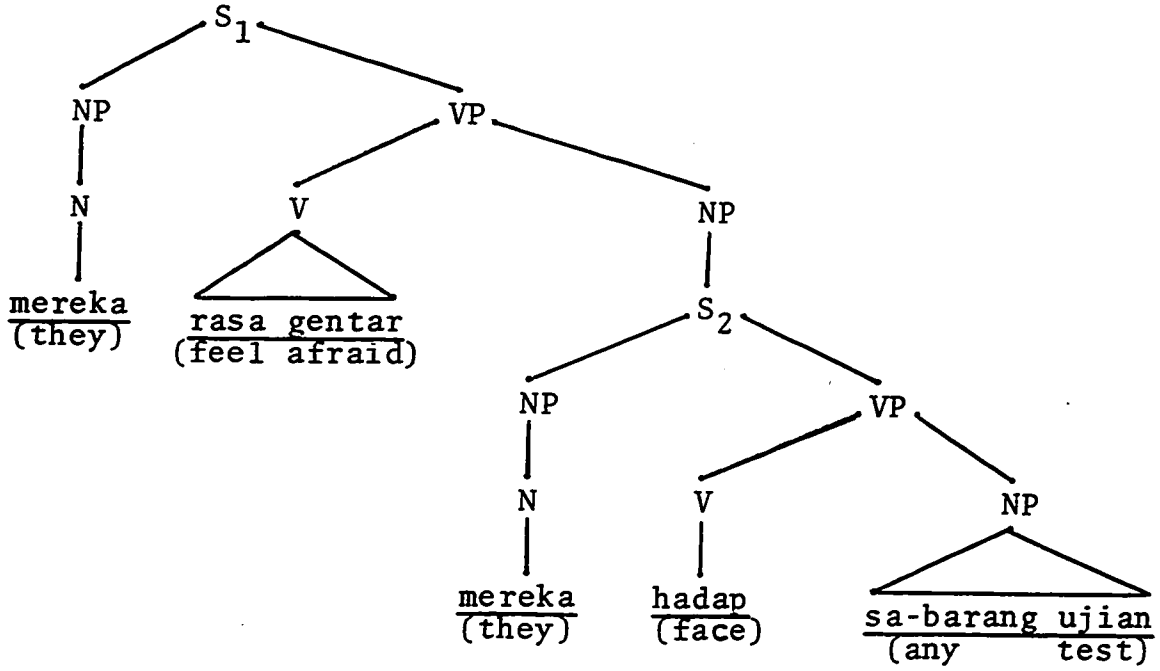
(1) Dia merasa bimbang #bahawa Ali
(he feel anxious COMP. Ali)
mendapat banyak publisiti#.
(get much publicity)
= He felt anxious that Ali got too much publicity.

(2) Dia berasa kesal #bahawa Ali tidak
(he feel annoyed COMP. Ali NEG.)
memberitahu dia sa-chara langsong#.
(tell him manner directly)
= He was annoyed that Ali did not inform him directly.

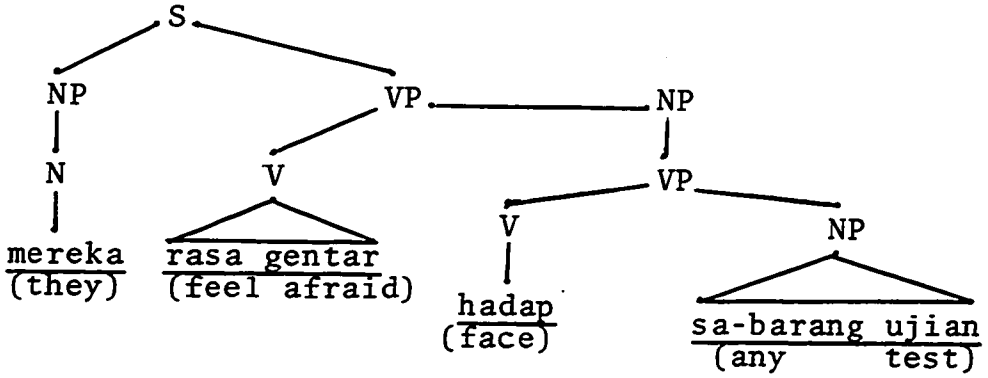
(3) Saya malu #hendak keluar negeri#.
(I ashamed FUT. leave country)
= I am ashamed to be leaving the country.

(4) Mereka merasa gentar #menghadapi
(they feel afraid face)
sa-barang ujian#.
(any test)
= They are afraid to face any test.

For the non-clausal complements, the missing subject must be identical to the subject of the matrix sentence since there is no indirect object NP in these sentences. The deep structure of sentence four above is therefore the following P-marker:



The same IE rule which was formulated in the previous chapter will delete the subject of the embedded complement. S_2 will then be pruned out of the tree, leaving the derived P-marker as

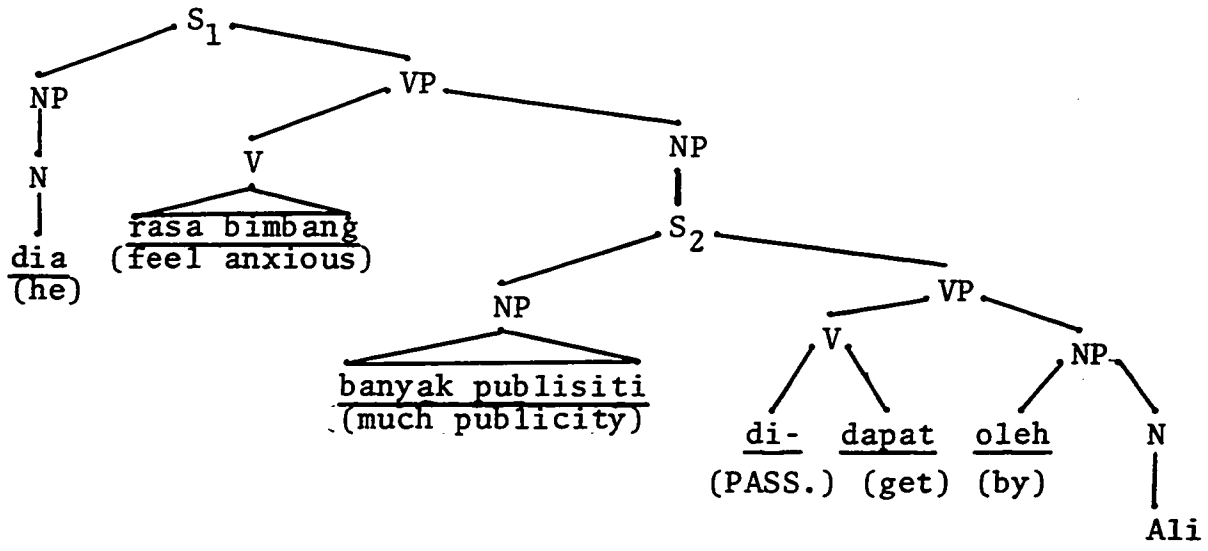


Thus it is seen that the Identity Erasure transformation also operates on adjective complements in the same way as on verb complements, which means that in the SD of the rule, only V need be mentioned for the matrix S to refer to both adjectives and verbs.

The passive transformation is restricted to [+verb], as indicated in the SD of the rule. This means that the passive cannot apply to matrix sentences containing adjective complements, but the passive may apply to the embedded complement if it contains [+verb] in its predicate. The following example shows this.

(1) Dia merasa bimbang #bahawa Ali
(he feel anxious COMP. Ali)
mendapat banyak publisiti#.
(get much publicity)
= He felt anxious that Ali got too much publicity.

After the passive transformation applies on the first cycle to the embedded complement, the derived structure is



1 (b). Dia merasa bimbang #bahawa banyak
(he feel anxious COMP. much)
publisiti di-dapati oleh Ali#.
(publicity PASS. got by Ali)
= He felt anxious that too much publicity was got by Ali.

As the passive can never apply to the matrix sentence, the complement does not move to the front of the sentence to become the surface subject.

With regard to the complementizer placement transformation, the adjective also governs the use of the particular complementizer. The same features therefore that were proposed for the verbs will have to be used for the adjectives. These features will be found with each individual lexical item in the lexicon. The complementizer placement transformation inserts an element [+COMP] before any S dominated by a NP, and also assigns to this COMP the complementizer features of the adjective, so that the MP rules can later produce the appropriate complementizer for the surface structure.

4.2 Adjective Complements in Subject Position

The following complements do not in surface structure appear to be in subject position, but this will be demonstrated in the course of this section.

5. Ada-lah jelas #bahawa bantuan Kerajaan
(COP. clear COMP. aid Govt.)
itu tidak akan kena mengena dengan politik#.
(the NEG. FUT. relevant with politics)
= It is clear that Govt. aid will no longer have anything to do with politics.

6. Tetapi nyata-lah #bahawa ra'ayat akan
(but clear COMP. public FUT.)
merasa ... kesulitan#.
(experience difficulty)
= But it is clear that the public will continue to experience difficulty.

7. Tentu-lah payah #anak itu hendak belajar
(truly difficult child that FUT. study)
membacha#.
(reading)
= It is truly difficult for that child to study reading.

8. Ada-lah perlu #untok menggembleng sumber2
(COP. necessary COMP. combine sources)
wang dalam negeri ini#.
(money in country this)
= It is necessary to combine the sources of money in this country.

9. Tidak adil #memandang serong kapada
(NEG. right look aslant to)

pegawai2 kastam#.

(officers customs)

= It is not right to distrust customs officers.

10. Agak sukar-lah #untok memujok Hanoi

(rather difficult COMP. persuade Hanoi)

supaya berunding#.

(COMP. discussion)

= It is rather difficult to persuade Hanoi to attend a discussion.

Sentences five to seven above contain clausal complements, and sentences eight to ten contain non-clausal complements. Firstly, it has to be demonstrated that these complements are indeed subject complements, for they appear to be in object position, like the complements in sentences one to four given earlier in this chapter. The only difference between sentences one to four and sentences five to ten is that the former have NP's preceding the adjectives, while the latter do not. Sentences one to four, said to contain object complements, have the structure in (i) below, and sentences five to ten, said to contain subject complements, have the structure in (ii) below:

(i) NP Adj S_2

(ii) Adj S_2

If the only difference between these two structures is the presence or absence of a subject NP, the structures listed under (ii) would be identical to those listed under

(i) if these missing subjects were inserted. However, this is not correct, as is indicated by the fact that the following sentence is ungrammatical:

7 (a). *Tentu-lah saya payah anak itu
(truly I difficult child that)
hendak belajar membacha.
(FUT. study reading)
=*Truly I difficult that child to study reading.

On closer examination of the adjectives used in sentences five to ten, it is noticed that these adjectives cannot be used with [+animate] subjects. *Saya jelas (I clear), *saya payah (I difficult), and so on, are ungrammatical, whereas the adjectives in sentences one to four can take [+animate] subjects. Therefore there appear to be at least two types of adjectives, as far as the study of complements is concerned: (1) those which take [+animate] subjects, and (2) those which do not take [+animate] subjects.[13] For the latter, the subjects must therefore be the embedded complements, which are necessarily [+abstract].

A list of the two types of adjectives is given below. As a mnemonic term, those adjectives which take [+animate] subjects are called descriptive adjectives, and those adjectives which require complements as subjects are called

[13]Some adjectives can function in both ways.

non-descriptive adjectives.

descriptive			non-descriptive		
dukachita	-	sad	patut	-	proper
mampu	-	able	jelas	-	clear
sanggup	-	capable	nyata	-	clear
giat	-	enthusiastic	mustahil	-	impossible
geram	-	eager	mungkin	-	likely
gembira	-	happy	sayang	-	pity
pandai	-	clever	sunggoh	-	undoubted

For these non-descriptive adjectives, which take [+abstract] subjects, the deep structure subjects of the sentences must therefore be the embedded complements. Structures with non-descriptive adjectives thus resemble those sentences with verb complements in subject position, the difference being that with subject adjective complementation, a transformation is needed to move the embedded complement to the end of the sentence (or, alternatively, the transformation may be considered to move the adjectival predicate to the front of the embedded complement). Within the scope of the structures studied in this chapter, there is nothing to choose between the post-posing (moving the complement to the end of the sentence) and the pre-posing (moving the adjectival predicate in front of the complement) views. However, evidence will be given in the concluding chapter of this thesis to show why the transformation should

be considered a post-posing rule rather than a pre-posing one. In this chapter, the post-posing view is adopted without defence.

Post-posing

SD # X $\_{}_{NP}[(\text{[+COMP]})\ S]_{NP}\ {}_{VP}[X\ \text{[-verb]}_V\ Y]_{VP}$ #

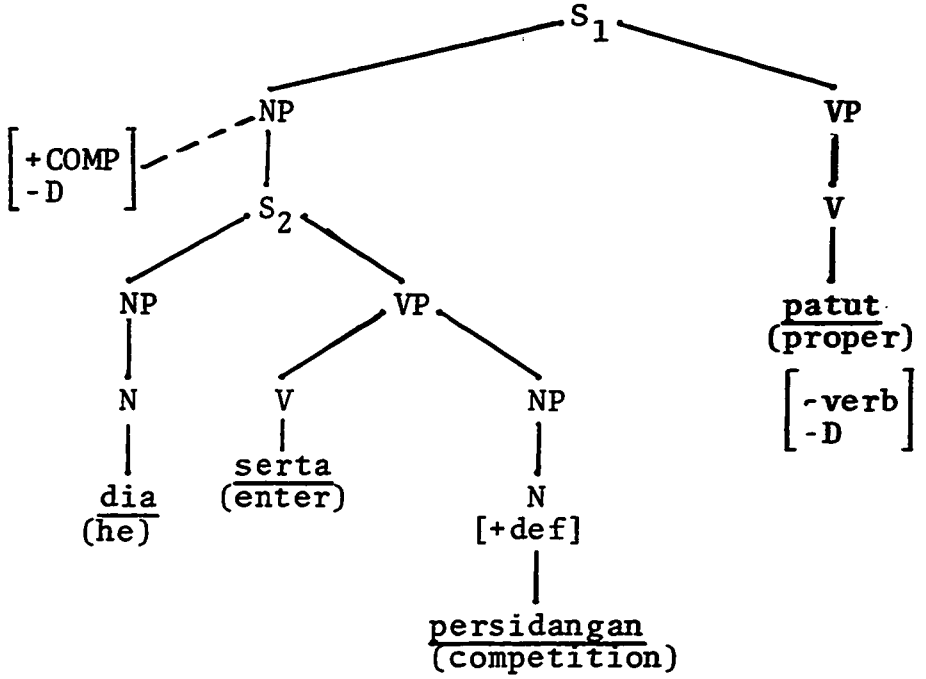
1 2 3 4 5

SC 1, 2, Ø, 4, 3, 5

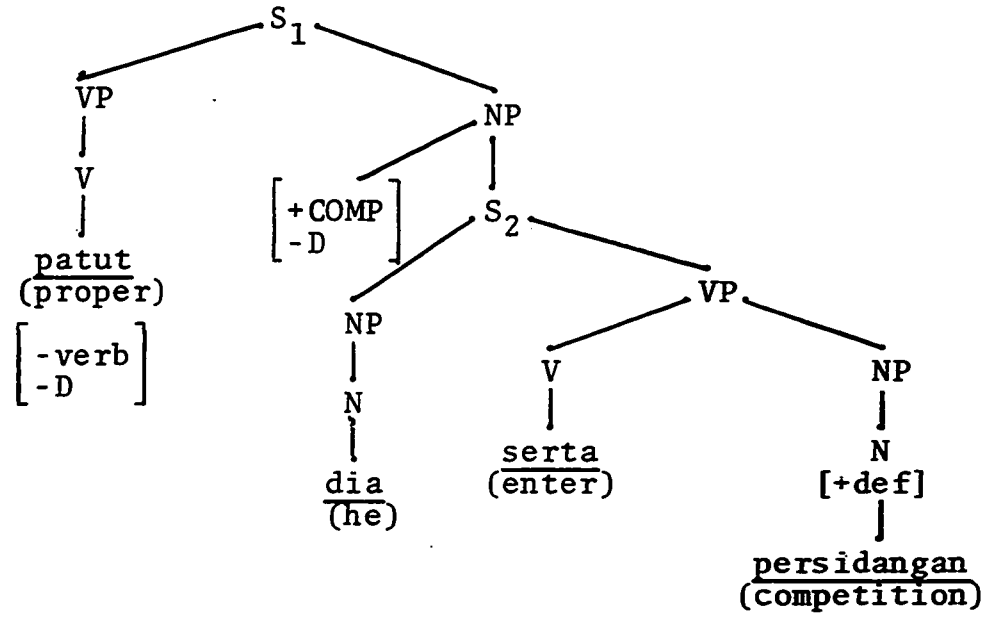
According to the rule formulated above, if there is a complementizer preceding the embedded S, that complementizer is moved together with the embedded S to the end of the matrix sentence. If there is no complementizer, only the embedded S is moved. As an illustration of how the rule works, consider the following sentence:

11. Patut-lah #bahawa dia menyertai
(proper COMP. he enter)
persidangan itu#.
(competition the)
= It is proper that he enter the competition.

The deep structure, together with the inserted complementizer, is the following P-marker:



After the operation of the Post-posing rule, the derived P-marker will be[14]



[14]The particle lah is a stylistic rather than a grammatical morpheme, for it has no meaning of its own. The grammar here will not account for its use in the language.

This Post-posing transformation must be optional because the sentences which retain the $[S]_{NP}[\text{-verb}]_{V}$ structure are also acceptable, although stylistically the post-posed sentences are considered to be better. Sentences five to ten, given previously in this chapter, are also acceptable if the Post-posing transformation has not been selected to apply, as in the examples below.

5 (a). #Bahawa bantuan Kerajaan itu tidak
(COMP. aid Govt. the NEG.)
akan kena mengena dengan politik#
(FUT. relevant with politics)
ada-lah jelas.
(COP. clear)
= It is clear that Govt. aid will no longer have anything to do with politics.

6 (a). Tetapi #bahawa ra'ayat akan merasa
(but COMP. public FUT. experience)
kesulitan# nyata-lah.
(difficulty clear)
= But it is clear that the public will continue to experience difficulty.

7 (a). #Untok anak itu hendak belajar
(COMP. child that FUT. study)
membacha# tentu-lah payah.
(reading truly difficult)
= It is truly difficult for that child to study reading.

8 (a). #Untok menggembleng sumber2 wang
(COMP. combine sources money)
dalam negeri ini# ada-lah perlu.
(in country this COP. necessary)
= It is necessary to combine the sources of money in this country.

9 (a). #Memandang serong kapada pegawai2
(look aslant to officers)
kastam# tidak adil.
(customs NEG. right)
= It is not right to distrust customs officers.

10 (a). #Untok memujok Hanoi supaya berunding#
(COMP. persuade Hanoi COMP. discussion)
agak-lah sukar.
(rather difficult)
= It is rather difficult to persuade Hanoi to attend a discussion.

There is further evidence to support the view that the subjects of these sentences with non-descriptive adjectives are the embedded complements, which have transformationally been moved to the end of the sentence. One of the productive processes in the language is the post-posing of embedded sentences to the end of their matrix sentences. It is not within the scope of this thesis to examine all the types of predicates which permit an embedded sentence to be post-posed after them, but a few examples will be given to support

the analysis adopted for these sentences with non-descriptive adjectives as predicates.

Embedded sentences can be post-posed after verbal predicates in the passive. In the deep structure, these embedded S's are the direct objects of their sentences, but the passive applies to shift them to the position of the derived subject of the matrix sentence. The Post-posing transformation then shifts these embedded S's back to the end of the sentence. The Post-posing transformation therefore applies to embedded S's which function as the derived subjects of their matrix sentences, and not on deep structure subjects. Some examples follow.

11. Di- tegaskan oleh dia #bahawa hadiah
(PASS. explain by him COMP. gift)
itu hanya sa-bagai permulaan untok
(that only as beginning COMP.)
memperbaiki masjid itu#.
(repair mosque the)
= It was explained by him that the gift was only meant as a beginning for the repair of the mosque.

12. Tidak-lah di- ragukan #bahawa kemungkinan
(NEG. PASS. doubt COMP. possibilities)
itu memang ada#.
(the naturally exist)

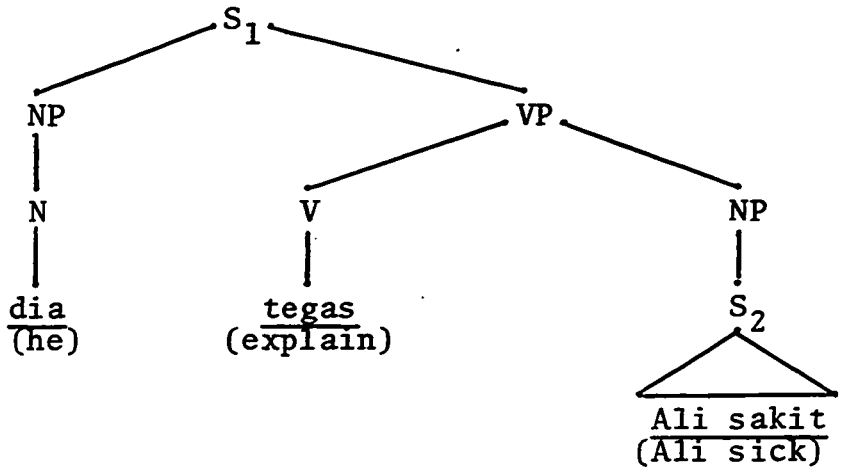
= It is not doubted that the possibilities still exist.

13. Dapat-lah di- duga #bahawa Kerajaan
(can PASS. expect COMP. Govt.)
akan menolak usul2 itu#.
(FUT. reject proposals these)
= It can be expected that the Government will reject these proposals.

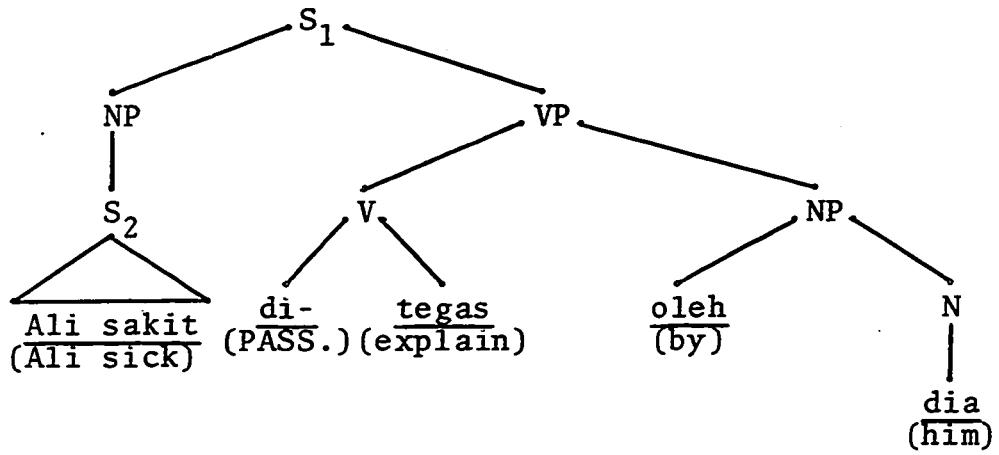
14. Di- harap #kerjasama ini akan
(PASS. hope cooperation this FUT.)
menghapuskan sama sakali kejadian2 lamun
(wipe out all at once piracy)
di- perayeran selat itu#.
(in Straits the)
= It is hoped that this cooperation will completely eradicate piracy in the Straits.

An illustration will now be given to show how the passive and Post-posing rules interact to produce the sentences given in eleven to fourteen above. The following P-marker gives the deep structure for the sentence

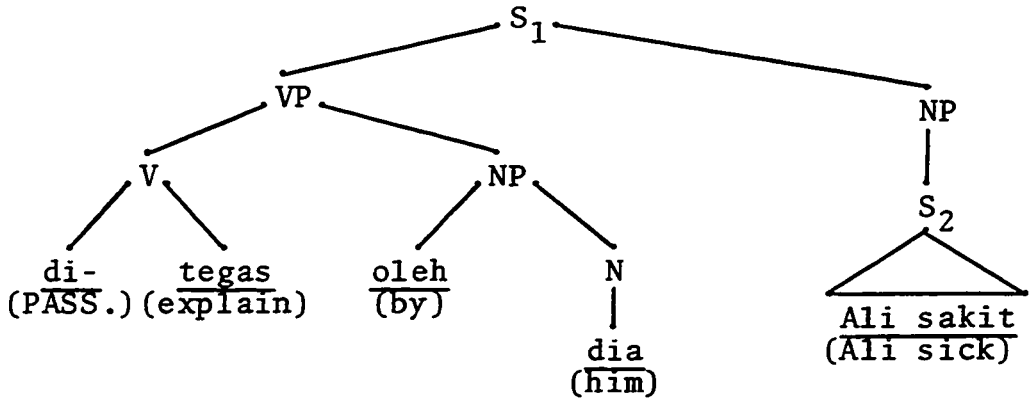
Di- tegaskan oleh dia #bahawa Ali sakit#.
(PASS. explain by him COMP Ali sick)
= It was explained by him that Ali was sick.



The passive operates first on S_1 to produce the following P-marker:



The environment is now met for the Post-posing rule to operate, moving S_2 to the end of S_1, as in the P-marker below:



It will be noticed that the embedded S, which in deep structure was at the end of the matrix sentence, is moved back to the end of the matrix sentence by the Post-posing rule. However, the derived structure is different from the deep structure. In the deep structure, the embedded S was part of the VP, and therefore an object of the verbal, while in the derived structure after the passive and Post-posing rules have operated, the embedded S is no longer part of the VP but only of S_1.

It will also be noticed that embedded S's can be post-posed after verbal predicates in the passive, whether these predicates have the structure $[V]_{VP}$ or $[V\ NP]_{VP}$. In those passive predicates with the structure $[V]_{VP}$, the PRO-deletion rule has already operated to delete the unspecified agents of the sentences.

Embedded sentences can be post-posed after still other types of predicates, as in the following examples:

15. Amat-lah menggembirakan #bahawa menteri
    (very heartening COMP. minister)
    besar telah memberikan sokongan moral
    (chief PAST give support moral)
    kapada pegawai2 daerah#.
    (to officers district)
    = It is very heartening that the chief minister has given moral support to the district officers.

16. Tidak-lah perlu menchemaskan #bahawa
(NEG. necessary alarming COMP.)
sekarang ada sa-tengah2 gulongan dalam
(now exist some groups within)
Angkatan bersenjata pula yang mahu
(forces armed also who want)
menunggu pilehan raya#.
(wait elections general)
= It does not necessarily alarm us that now there are some groups within the armed forces who also want to wait till the general elections.

17. Tidak-lah shak lagi #bahawa Parti
(NEG. doubt more COMP. Party)
Kongres memerlukan perubahan#.
(Congress need change)
= It is without doubt that the Congress Party needs a change.

18. Tentu-lah tidak masok akal pula #bahawa
(certain NEG. enter mind also COMP.)
sa-orang pegawai kerajaan saperti dia
(a officer Govt. like him)
hendak membuat da'awaan yang bukan2
(FUT. make report which wrong)
sa-mata2#.
(clearly)

= It certainly never occurred to us that a Govt. officer like him would issue a report that is obviously wrong.

19. Ada-lah menjadi harapan kita juga
(COP. become hope our also)
#bahawa rundingan tersebut akan
(COMP. proposal said FUT.)
berhasil baik#.
(succeed well)
= It has become our hope also that the said proposal will succeed well.

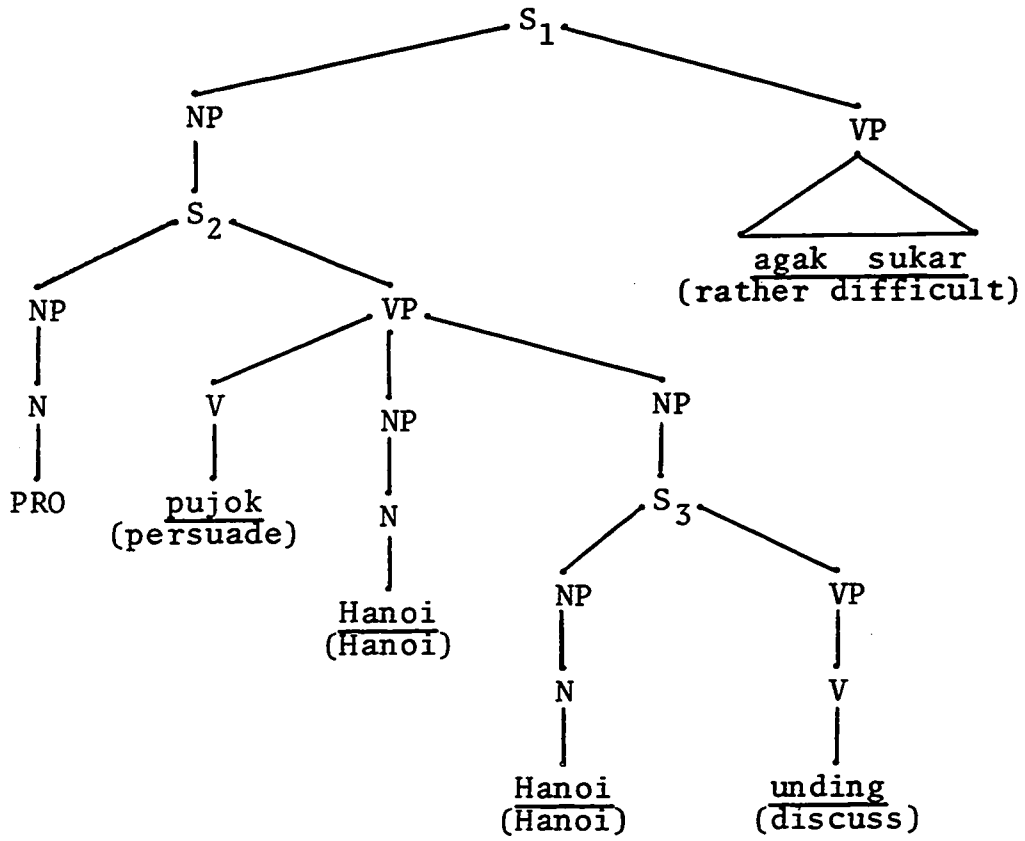
The above examples therefore show that a Post-posing rule is independently motivated. The transformation as it has been formulated in this thesis can be modified to include other predicates when a detailed study has been made of what types of predicates undergo this Post-posing rule. However, for the purposes of this thesis, the rule as it is formulated is sufficient.

These adjective complements in subject position are also of the clausal and non-clausal types. Like the verb complements, the adjective non-clausal complements in subject position differ from their counterparts in object position in that the missing subject$_2$ is unspecified, a PRO form. The PRO-deletion rule is therefore required to produce non-clausal complements in subject position, while the IE rule

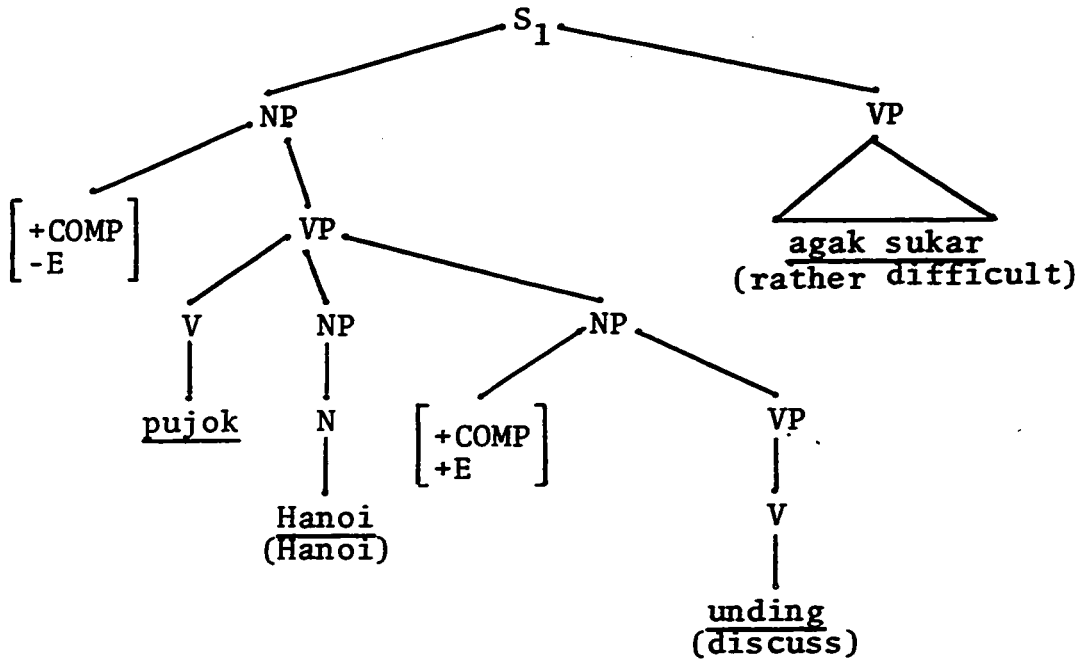
produces non-clausal complements in object position. An example is seen in sentence ten given earlier in the chapter.

10. Agak sukar-lah #untok memujok Hanoi
(rather difficult COMP. persuade Hanoi)
supaya berunding#.
(COMP. discussion)
= It is rather difficult to persuade Hanoi to attend a discussion.

No subject of memujok (persuade) is specified in the surface structure, and there is no NP in the matrix sentence with which this missing subject could possibly be identical. From the meaning of the sentence, the subject is taken to be unspecified, and the action of the verb is considered to be more important than the subject of the action. Such an unspecified subject has been called a PRO form in this thesis. The deep structure of the sentence above is therefore the following P-marker:



The IE transformation works first within the embedded S_2 to delete the subject of S_3. The PRO-deletion rule then deletes the subject of S_2. After the complementizers have been added and the appropriate S nodes pruned out of the tree, the derived structure is



$\begin{bmatrix}+\text{COMP}\\-\text{E}\end{bmatrix}$ will be changed by MP rules into the complementizer untok, and $\begin{bmatrix}+\text{COMP}\\+\text{E}\end{bmatrix}$ will be changed into supaya. The Post-posing rule then takes place as described, to produce the original sentence.

CHAPTER V

ORDERING OF TRANSFORMATIONS

In this chapter, the various transformations proposed in the previous chapters will be studied, with a view to determining the most efficient ordering among them. The ordering of transformations is an important issue, the overall considerations being the simplicity and generality of the grammar produced. Unlike the phrase structure rules and the lexicon, which are unordered, many transformations must be ordered with respect to each other. Questions of ordering among transformations only arise with rules that are related to each other in some way, for example, where the output of one rule affects the input of another. Transformations which are unrelated need not be ordered with respect to each other. However, it is often the case that two rules which are unrelated to each other have to be ordered with respect to a third rule. This third rule then forms the basis for deciding on the ordering of the first two rules. Such questions of ordering among the transformations proposed will be the focus of attention in this chapter. Each transformation will be examined in relation to the other transformations proposed in this thesis.

5.1 Passive and Identity Erasure

The passive is a rule which operates only within

sentence boundaries, while the IE rule operates across sentence boundaries and is therefore necessarily a second cycle rule. For each succeeding cycle, however, there are arguments for ordering the passive before the IE, and there are also arguments for ordering the IE before the passive. When there are such conflicting arguments, the decision for one ordering rather than another must be based on the relative weights and merits of the individual arguments, and on general issues of simplicity.

Firstly, arguments will be presented for ordering the passive before the IE. The main reason for this ordering is so that the passive rule may be simplified. It will be remembered that a non-clausal object complement may not become the derived subject of the sentence without altering the meaning of the deep structure P-marker, since any non-clausal complement functioning as the subject (deep structure or derived) of a sentence must have a PRO subject in deep structure and not a subject that has been deleted by the IE rule.[15]

In the following sentence, for example,

Ali membenarkan dia #untok dia pergi#.

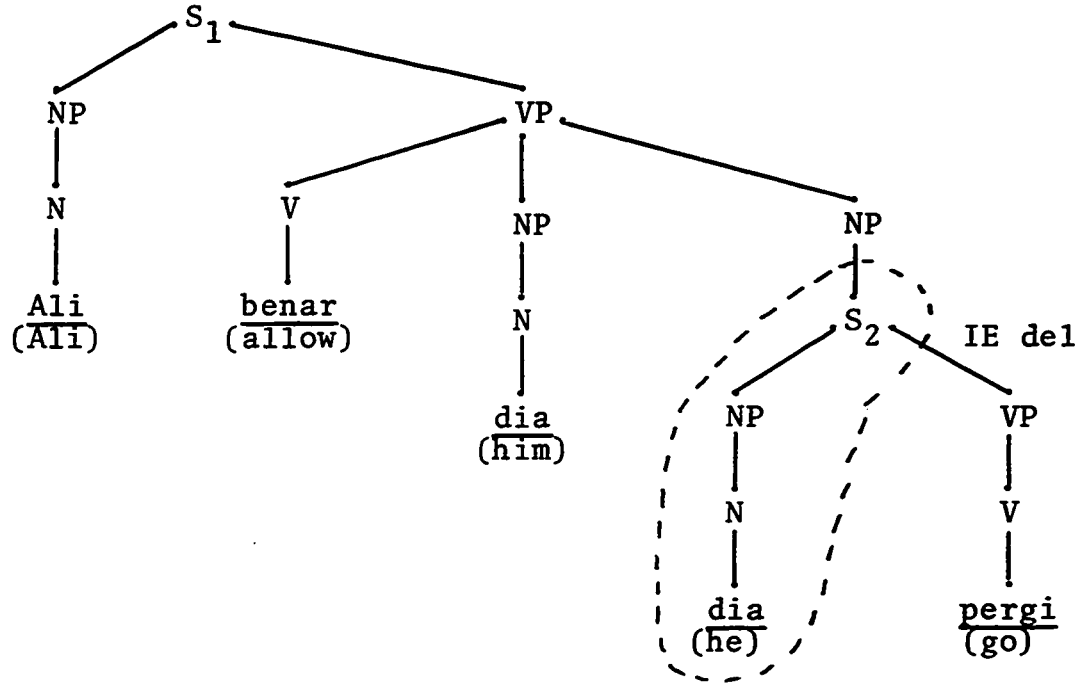
(Ali allow him COMP. he go)

= Ali allows him to go.

the deep structure is

---

[15]See section 3.4.



After the IE rule has operated on the second cycle to delete subject$_2$ as indicated above, the passive can now apply to shift this non-clausal complement to become the surface subject of the sentence, since there is a NP dominating this non-clausal complement and the passive rule operates on NP's. However, this results in the ungrammatical sentence

*Pergi di- benarkan dia oleh Ali.[16]

(go PASS. allow him by Ali)

= *Going was allowed him by Ali.

---

[16] Pergi- nya di- benarkan dia oleh Ali.
(going his PASS. allow him by Ali)
is possible, although this grammar does not deal with such nominalization of verbs. However, even in such nominalization, it will be noticed that the embedded S has its own subject in nya. It remains true, therefore, to claim that object complements which have had their subjects deleted by the IE rule cannot be moved by the passive transformation to become the derived subjects of their sentences.

The passive should therefore be blocked from applying to NP's dominating non-clausal complements, and one way of doing this is to order the rules so that the passive precedes the IE. In this way, no complement which has had its subject deleted by the IE rule can undergo the passive transformation, since the passive has already operated on that cycle and cannot operate again on the same cycle. In the same way too, no complement which has been shifted to the position of the surface subject of the sentence can undergo the IE rule, since this IE rule is left-sensitive and cannot delete a NP at the beginning of a sentence. This therefore prevents non-clausal complements from being shifted from object position to become the subjects of their matrix sentences. However, this does not prevent a clausal complement in object position from becoming the derived subject of the sentence. Therefore, non-grammatical sentences are prevented while the grammatical ones are generated.

With this ordering of passive before IE, if the passive applied on the second cycle, either of the two following sentences would be produced, depending on which object NP is selected to become the derived subject of the sentence.

1 (a). Dia di- benarkan oleh Ali #untok

(he PASS. allow by Ali COMP.)

dia pergi#.

(he go)

= He is allowed by Ali to go.

(b). #Untok dia pergi# di- benarkan dia

(COMP. he go PASS. allow him)

oleh Ali.

(by Ali)

= That he go is allowed him by Ali.

The IE rule, which is allowed to operate next on the same cycle, cannot now delete the subject$_2$ in the (b) sentence above since it is at the beginning of the sentence. Thus, an ungrammatical sentence is blocked.

Taking the same sentence as example, if on the second cycle, the passive, which operates first and is optional, is not selected to apply, then the environment is met for the IE rule to delete subject$_2$, resulting in

Ali membenarkan dia #untok pergi#.

(Ali allow him COMP. go)

= Ali allows him to go.

The passive cannot now apply to shift the non-clausal complement to the position of derived subject of the sentence, since the rule has already applied on this cycle and cannot apply again. Thus an ungrammatical sentence is blocked too.

However, there are strong arguments too for selecting the reverse ordering of IE before passive. The IE rule was formulated in Chapter III to apply to (1) all verbs which did

not take indirect objects, and (2) to only that subset of verbs with the feature [+ID], of those verbs which did take indirect objects. It is the latter which provides the argument for ordering the IE before the passive. For these [+ID] verbs, the deep structure identity is obligatorily between the indirect object and the subject of the complement. The IE rule only deletes the subjects of the complements if these subjects are identical to the deep structure indirect objects of the sentences. If the passive were allowed to operate on the matrix sentence before the IE, then the deep structure indirect object may become the derived subject of the sentence. IE deletion can still delete $subject_2$ because of its identity with this deep structure indirect object, which is now in the position of the surface subject of the sentence. However, the IE rule cannot delete the subjects of complements if they are identical with deep structure subjects of the matrix sentences.

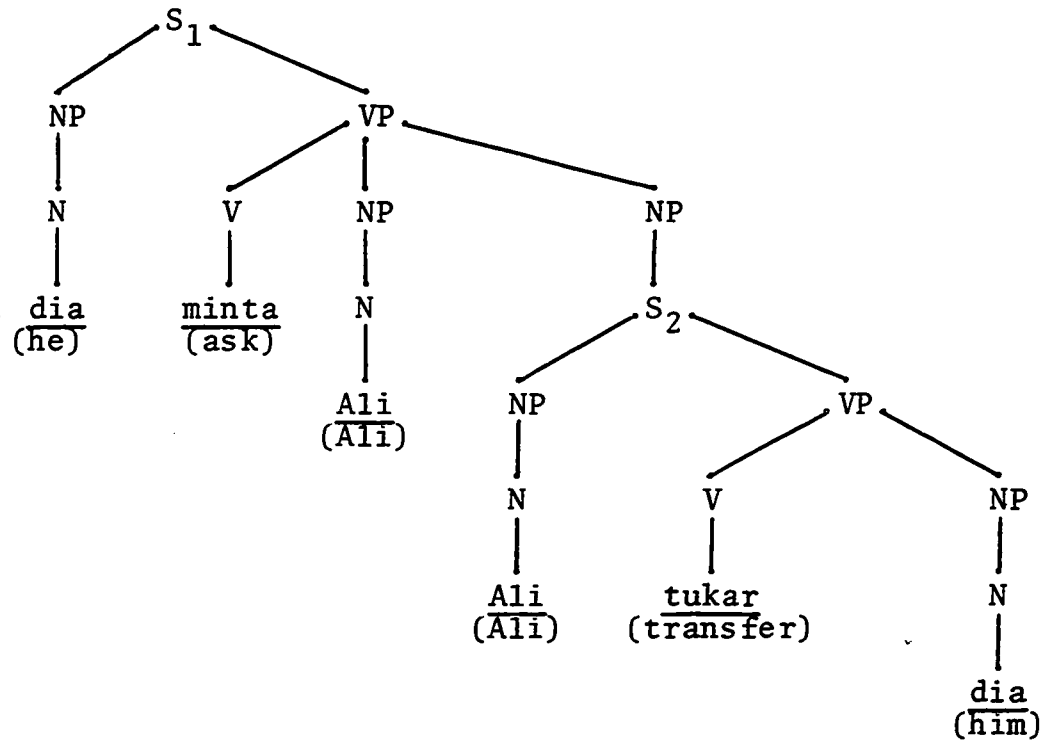
An example will be given to illustrate these statements.

2. Dia minta Ali #untok Ali menukarkan
   (he ask Ali COMP. Ali transfer)
   dia#.[17]
   (him)

[17]The optional indirect object deletion rule, which is not dealt with in this work, can produce Dia minta untok Ali menukarkan dia.

= He asks Ali to transfer him.

The deep structure of the sentence is



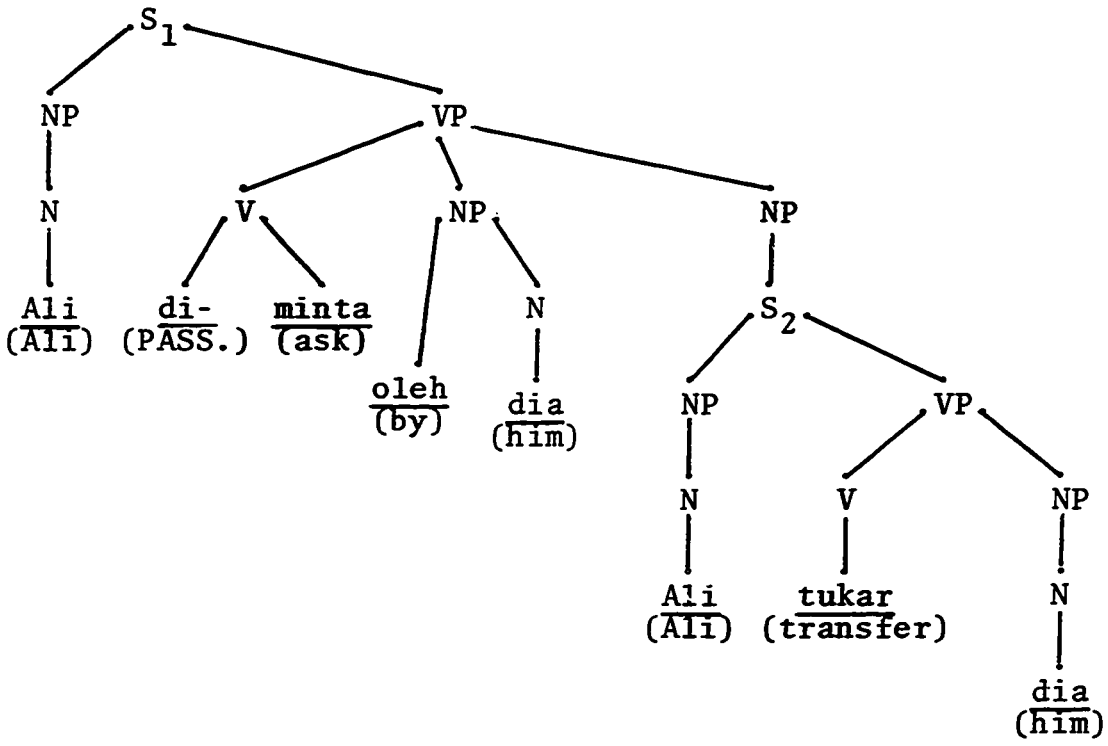
The IE rule can delete subject$_2$ in the deep structure above since subject$_2$ is identical with the indirect object of the matrix sentence. This produces

Dia minta Ali #untok menukarkan dia#.

(he ask Ali COMP. transfer him)

= He asks Ali to transfer him.

If the passive were to apply to the matrix sentence before the IE, the following P-marker would be produced (on one reading of the passive rule).



The IE rule is still needed to delete subject$_2$, since the following sentence is grammatical and needs to be produced, but subject$_2$ is no longer identical with the indirect object but with subject$_1$.

Ali di- minta oleh dia #untok
(Ali PASS. ask by him COMP.)
menukarkan dia#.
(transfer him)
= Ali is asked by him to transfer him.

However, if the passive were to apply on the first cycle to make dia (he) the derived subject of the complement, the IE rule would not, on the second cycle, delete this dia (he) even though it is identical with subject$_1$, or otherwise an ungrammatical sentence would result.

*Dia minta Ali #untok di- tukarkan
(he ask Ali COMP. PASS. transfer)
oleh Ali#.
(by Ali)
= *He asks Ali to be transferred by Ali.

This leads to difficulties since the IE rule needs to recognize the deep structure of the deleting NP, and not just its structure at that level of derivation. If the passive were to apply first, as previously argued, then the deleting NP in the IE rule may be either the indirect object or subject$_1$. This leads to two problems. The first is that not all subjects of the matrix sentences can function as the deleting NP node, as already illustrated. The second is that, if the deleting node may be either the indirect object or subject$_1$, then there is no way to recover the deleted subject$_2$ since there is no way of knowing whether it is identical to subject$_1$ or the indirect object. This second problem is one of irrecoverable deletion.

The only solution is to let the IE rule work on deep structure subjects and objects, which means that it has to precede the passive. This will mean, then, that in sentences with indirect objects, this deep structure indirect object has to be the deleting NP node. There are therefore two parts to the IE rule, the first referring to those sentences without indirect objects, when subject$_1$ is the deleting node, and the second referring to those sentences with indirect objects

and [+ID] verbs, when the indirect object is the deleting node.

The IE rule is ordered so that the deleted NP node is always the surface subject of the complement, but the deleting NP node is the deep structure $subject_1$ NP (in the case of sentences without indirect objects) and the indirect object NP (in the case of sentences with indirect objects). This is possible because of the transformational cycle, which operates first of all on the embedded complement. The IE rule, which is allowed to apply first, is not a first cycle rule, and can therefore not operate on the complement, but the passive can optionally apply to this complement. If the passive is selected to apply on the first cycle, then $object_2$ becomes the surface subject of the complement. If this $object_2$ is identical with the deep structure indirect object (since the passive has not yet operated on the second cycle), then $object_2$, which is also the surface structure subject of the complement at this level of derivation, is deleted.

The arguments for ordering IE either before or after the passive have been presented. The decision has now to be made between the various arguments. Whichever ordering is selected, some solution is necessary to block ungrammatical sentences. The decision finally made is based on the simplicity of these solutions. If the IE were to precede the passive, some solution is necessary to block the passive from applying to non-clausal complements in object position. If

the passive were to precede the IE, some solution is necessary to show that the deleting node, in sentences with indirect objects, must be the deep structure indirect object. It is a simpler task to provide a solution for the first ordering (IE before passive), than for the second (passive before IE). To block the passive from applying to non-clausal complements in object position, a condition can be put on the passive rule to the effect that NP does not immediately dominate solely a VP. This would mean that all NP's, apart from those dominating non-clausal complements, can be passivized. The ordering adopted here is that of the IE before the passive, and this ordering is the motivation for the NP condition on the passive transformation.

5.2 Passive and PRO-deletion

The passive should precede the PRO-deletion rule. Firstly, as the PRO-deletion rule operates to delete unspecified agents in passive sentences, it is natural that the passive should operate first to produce the environment for the PRO-deletion rule to apply. If the passive did not operate first, then the PRO-deletion rule would not be able to delete these unspecified agentive phrases.

Secondly, the PRO-deletion rule also deletes the subjects of complements in subject position, and prunes away the S_2 node, leaving behind a complement with the

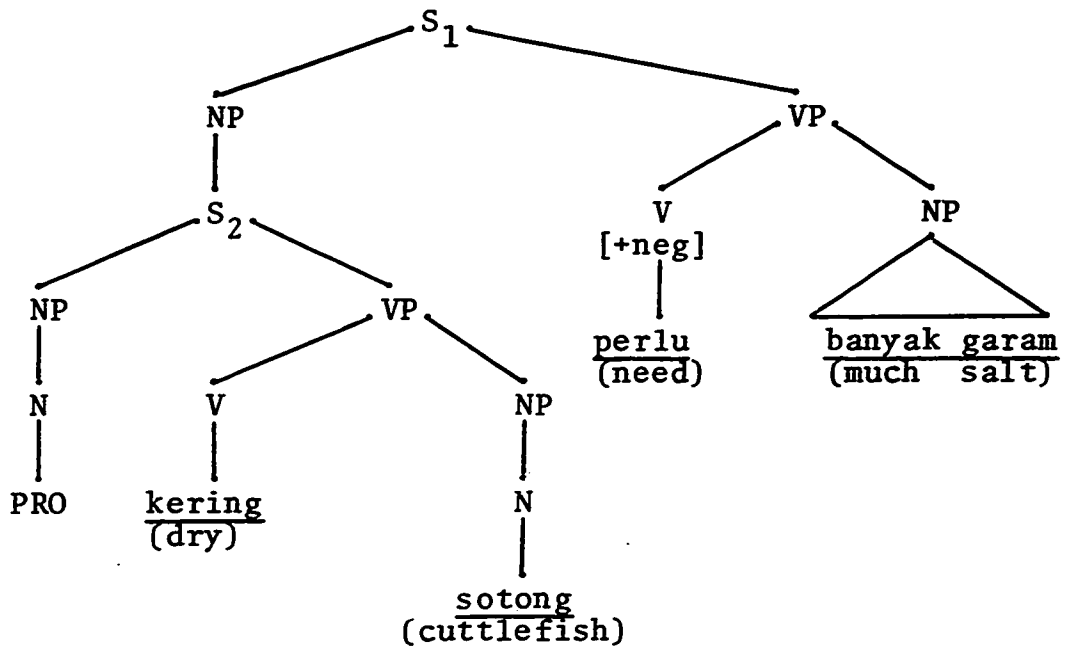
$[VP]_{NP}$ structure. In the preceding section, 5.1, it was argued that the passive rule should not apply to NP's dominating VP's. However, unlike non-clausal complements in object position, these non-clausal complements in subject position can undergo the passive to become the derived objects of their matrix sentences. If the passive were to follow the PRO-deletion rule, then the environment would be lost for the passive to shift the complement to become the derived object of the sentence. With this ordering then, there is no simple way to block the passive from applying to the $[VP]_{NP}$ complements in object position, and yet to let it apply to $[VP]_{NP}$ complements in subject position.

However, by ordering the rules so that the passive precedes the PRO-deletion, this problem is solved. At the stage of the derivations when the passive applies, complements with PRO subjects still have the structure of NP dominating S, and there is nothing to block the passive from applying to such NP's. Only after the passive has operated will the PRO-deletion rule now apply to delete the PRO subjects of these complements. An example follows.

3. #Mengeringkan sotong# tidak memerlukan
   (drying cuttlefish NEG. need)
   banyak garam.
   (much salt)

= Drying cuttlefish does not need much salt.

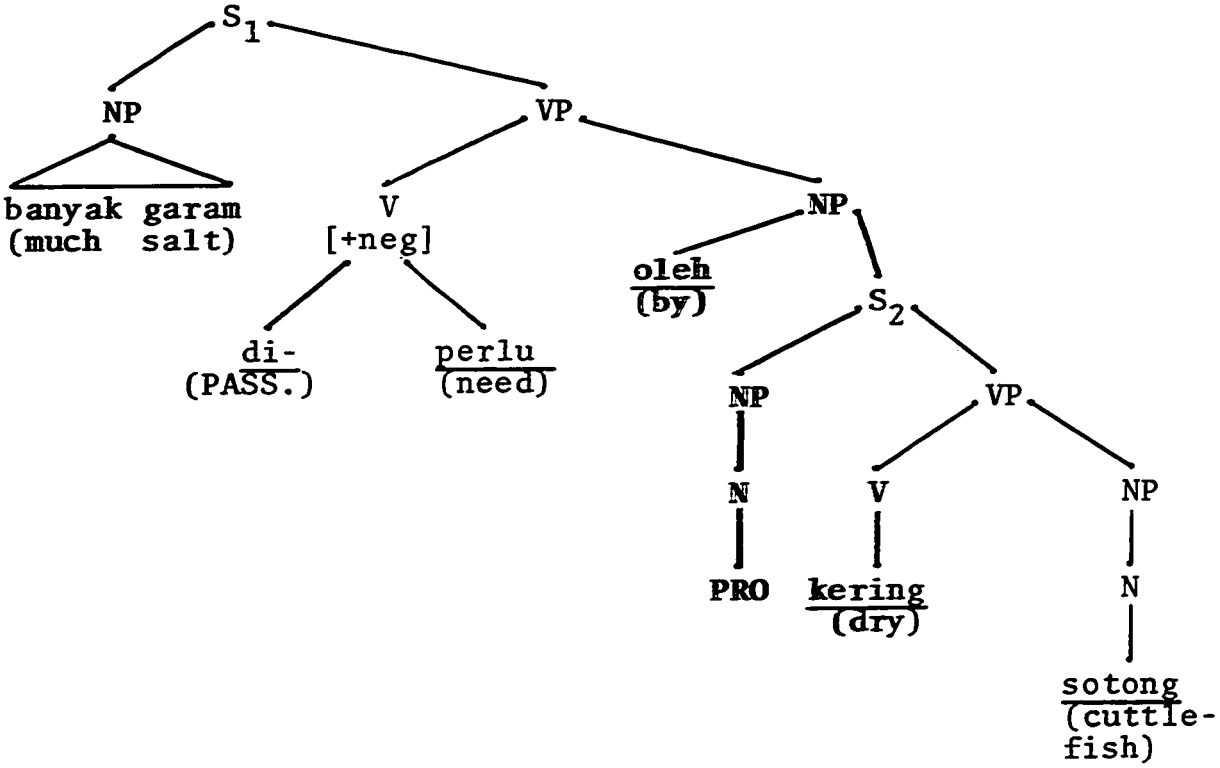
The deep structure is roughly



In English, the surface structure "drying cuttlefish" is ambiguous and can have at least two readings: (i) the act of drying cuttlefish, or (ii) cuttlefish which are drying. In Malay, however, the construction mengeringkan sotong (drying cuttlefish) can have only the first reading, since any relative clause construction, whether reduced or not, has to follow the noun head in Malay. The deep structure of the sentence given above therefore contains a complement and not a relative clause.

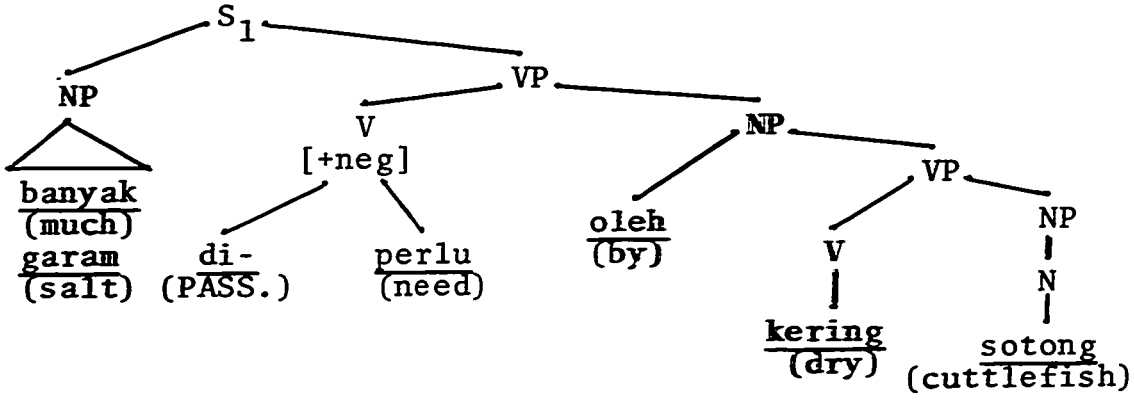
On the second cycle of transformations, the passive applies first, before the PRO-deletion. As the complement is of the structure $[S]_{NP}$, the environment of the passive

rule is met, resulting in the derived P-marker below:



3 (b). Banyak garam tidak di- perlukan oleh
(much salt NEG. PASS. need by)
#PRO mengeringkan sotong#.
(PRO drying cuttlefish)
= Much salt is not needed by PRO drying cuttlefish.

Then the PRO-deletion rule operates to delete the subject of S_2, producing the P-marker



3 (c). Banyak garam tidak di- perlukan
(much salt NEG. PASS. need)
oleh #mengeringkan sotong#.
(by drying cuttlefish)
= Much salt is not needed by the drying of cuttlefish.

5.3 Passive and Complementizer Placement

Since the complementizer to be inserted by the complementizer placement rule takes on the features of the verbal in the matrix sentence, it would simplify the SD of this rule if the passive did not apply till later. This would mean then that the [+COMP] takes on the complementizer features of a preceding verbal, since the embedded complements studied here are in object position in the deep structure. (Deep structure subject complements are subject to other restrictions in the choice of the appropriate complementizer, and not to the features on the verbal of the matrix sentence).

If the passive were to apply first, then the complementizer placement rule would have to state that the features of the verbal, which may either precede or follow the complement, are to be incorporated into the features of [+COMP]. However, by allowing the complementizer placement rule to operate on deep structure object complements, before the passive transformation, the rule can now be

formulated so that the governing verbal always precedes the embedded complement. The complementizer placement rule is thus made much simpler in this way.

Since the passive is formulated to move NP's, and since the complementizers are always in daughter-adjunction to the NP's (because they are sister-adjoined to whatever is directly dominated by NP), the rule will move the complementizer together with anything else dominated by the NP. The passive therefore is not affected by ordering the complementizer placement rule prior to the passive.

5.4 Passive and Post-posing

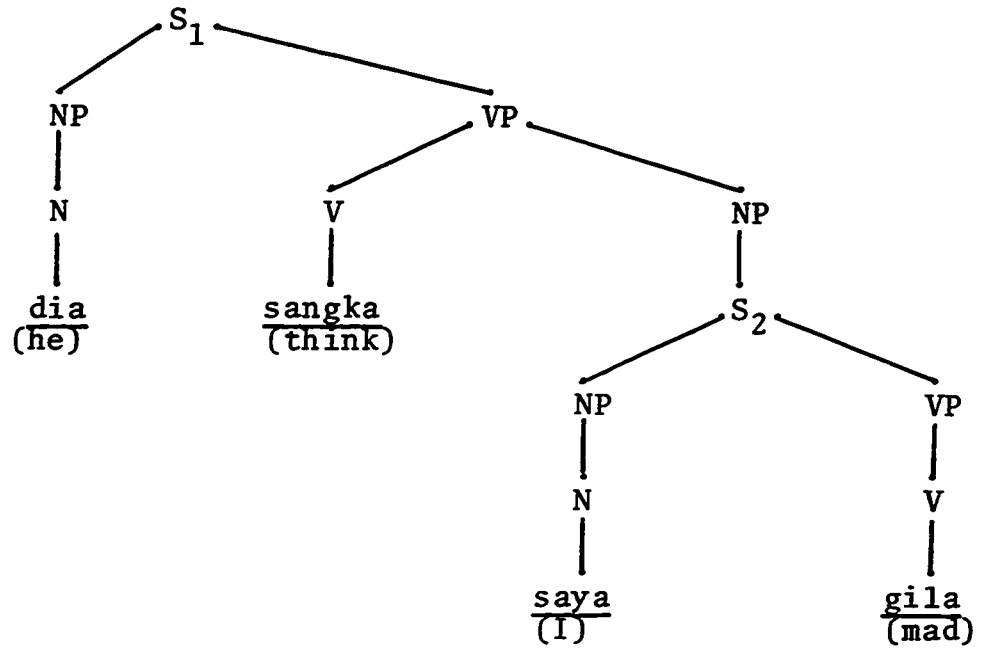
If the Post-posing transformation were limited to just the adjective complements, then the rule would not be related to the passive. However, if the Post-posing rule were extended to include verbal predicates in the passive, then this would be sufficient motivation for ordering the transformations so that the passive precedes the Post-posing. For example, in a sentence like

Di- sangka oleh dia #saya gila#.

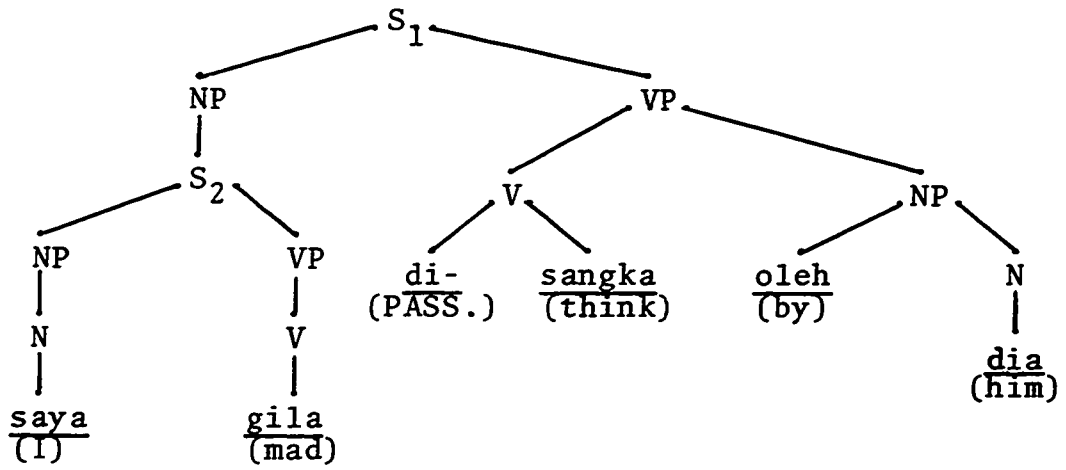
(PASS. think by him I mad)

= It is thought by him that I am mad.

the deep structure is



If the Post-posing transformation were to apply first, on the second cycle, then the original sentence would not be produced at all since Post-posing is not possible on the deep structure above. Only after the passive has applied first to produce the following derived structure can the P-marker meet the SD of the Post-posing rule.



Now the Post-posing rule can apply on the same cycle to produce the original sentence: Di-sangka oleh dia saya gila. This demonstrates that the passive should precede the Post-posing rule in the transformational cycle.

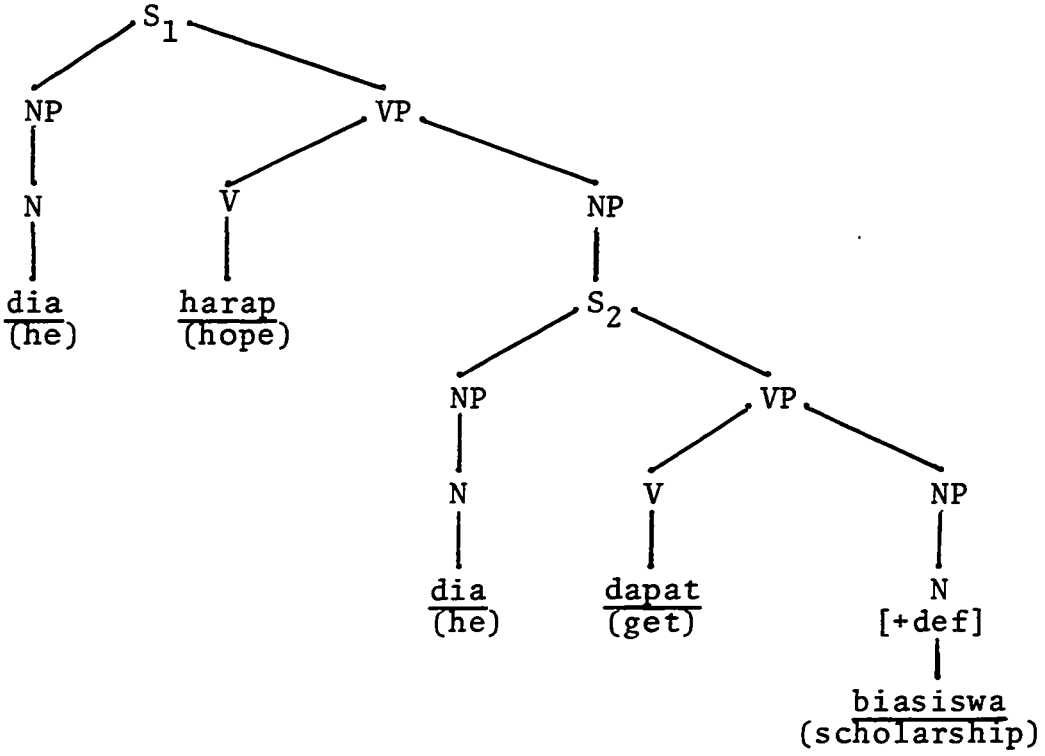
5.5 Identity Erasure and Complementizer Placement

Both the IE and complementizer placement rules are second cycle rules and cannot apply on the first transformational cycle. Considerations of simplicity once again dictate that the complementizer placement rule precede the IE, in order to simplify the SD of the complementizer placement transformation. If the IE rule were to apply first, deleting the subject of the embedded complement and pruning away the subject NP node and the dominating S node, the structure of the complement left behind would be $[VP]_{NP}$. The complementizer placement rule would then have to be formulated for the insertion of complementizers before $[NP\ VP]_S$ structures (clausal complements) as well as $[VP]_{NP}$ structures (non-clausal complements). However, this complexity in the complementizer placement rule is avoided if this rule is allowed to precede the IE. When the complementizer placement rule applies, all complements have the structure $[NP\ VP]_S$, or $[S]_{NP}$, and the structural description of the rule need mention only this. The complementizer is then inserted under the domination of the NP, in sister-adjunction to the embedded S. The IE

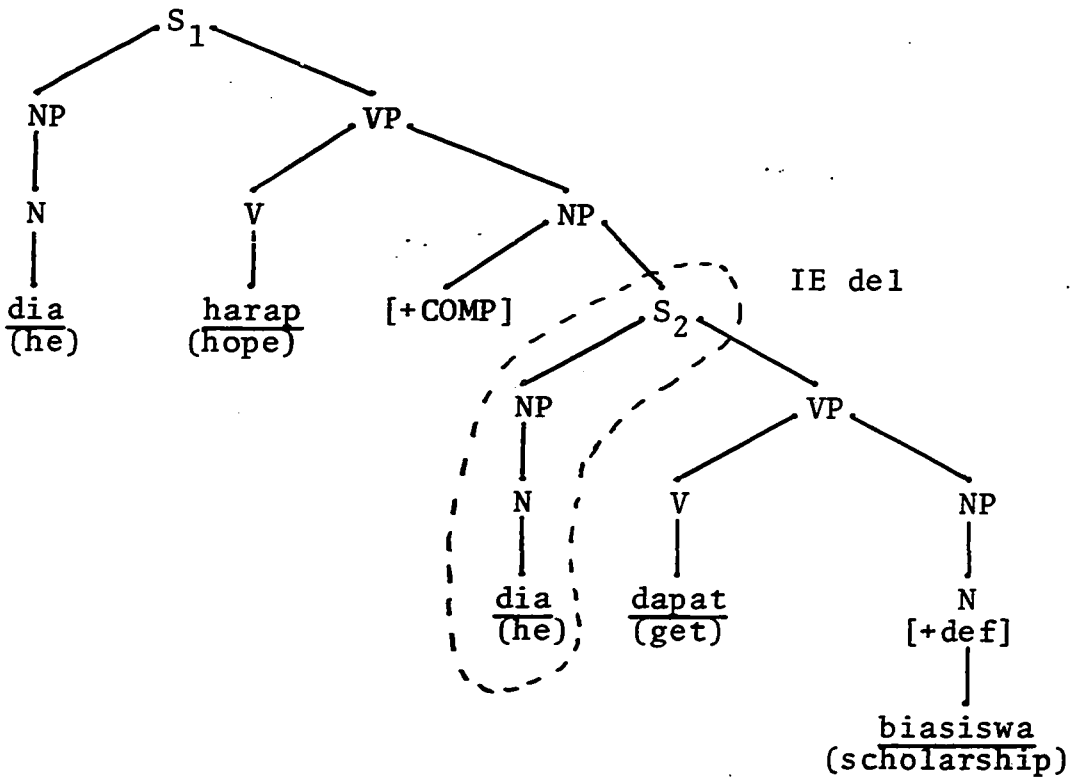
rule which follows will have to use a variable between (1) the main verb or the indirect object of the sentence and (2) the subject of the embedded complement in order to account for the presence of the complementizer in the P-marker. However, the presence of the variable in the SD of the IE rule is independently needed since adverbial words or phrases can also intervene between either the main verb or the indirect object of the sentence and the embedded complement. This ordering of the complementizer placement rule before the IE therefore results in a simpler solution. One example will be given below.

4. Dia berharap #mendapat biasiswa itu#.
   (he hope get scholarship that)
   = He hoped to get that scholarship.

The deep structure of the sentence is



If the IE rule were allowed to operate first, it would delete subject$_2$ because it is identical with subject$_1$ and would also prune away the S_2 node. This means that the complementizer placement transformation, formulated in terms of NP's dominating S's, will not be able to apply unless the rule is modified to apply also to NP's dominating VP's. However, if the complementizer placement rule were to operate first, the environment is there for the insertion of [+COMP] in sister-adjunction to S_2, as in the following P-marker:



The above P-marker now meets the SD of the IE rule, and subject$_2$ is deleted from the P-marker, together with the S_2 node, as indicated in the P-marker above. MP rules later

change [+COMP] into untok, producing the sentence

Dia berharap #untok mendapat biasiswa itu#.

(he hope COMP. get scholarship that)

= He hoped to get that scholarship.

5.6 Identity Erasure and Post-posing

These two rules are unrelated to each other because the IE rule applies to complements in object position, and the Post-posing rule to complements in subject position. Their environments are therefore different, and they do not affect each other in their operations on P-markers.

5.7 Identity Erasure and PRO-deletion

The IE rule is not related to the PRO-deletion rule, whether the latter rule deletes unspecified agents of passive sentences or unspecified subjects of complements. There is therefore no necessity to order these two rules with respect to each other.

5.8 Complementizer Placement and PRO-deletion

Considerations of simplicity dictate that the complementizer placement rule precede the PRO-deletion rule because the latter deletes the subjects of complements. The complementizer placement rule is ordered before the PRO-deletion rule for the same reason that the complementizer placement rule was ordered before the IE rule. This is because the PRO-deletion rule has the same effect on

complements as the IE rule in that both delete the subjects of complements and prune away the S_2 nodes, so that the environment is lost for the complementizer placement rule to operate next. By letting the complementizer placement rule operate first, therefore, the grammar is much simplified.

5.9 Complementizer Placement and Post-posing

If only these two rules were considered by themselves, there would be some motivation for ordering the Post-posing rule before the complementizer placement because, if the complementizer placement rule were to apply first, then the Post-posing rule would need one more symbol in its SD to account for the presence of the complementizer. Instead of referring to the embedded complement as $[S]_{NP}$ then, the Post-posing rule would have to refer to the embedded complement as $\left[([+COMP])\ S \right]_{NP}$, the complementizer being in parentheses because it is optionally inserted into P-markers. If the complementizer placement rule did not operate till after the Post-posing, then there would be one symbol saved in the Post-posing rule since the complementizer would not have to be mentioned.

However, any two rules in a grammar are to be considered, not only with respect to each other, but to all the other rules of the grammar. When these other considerations are brought in, it will be remembered that there was sufficient motivation for ordering the complementizer

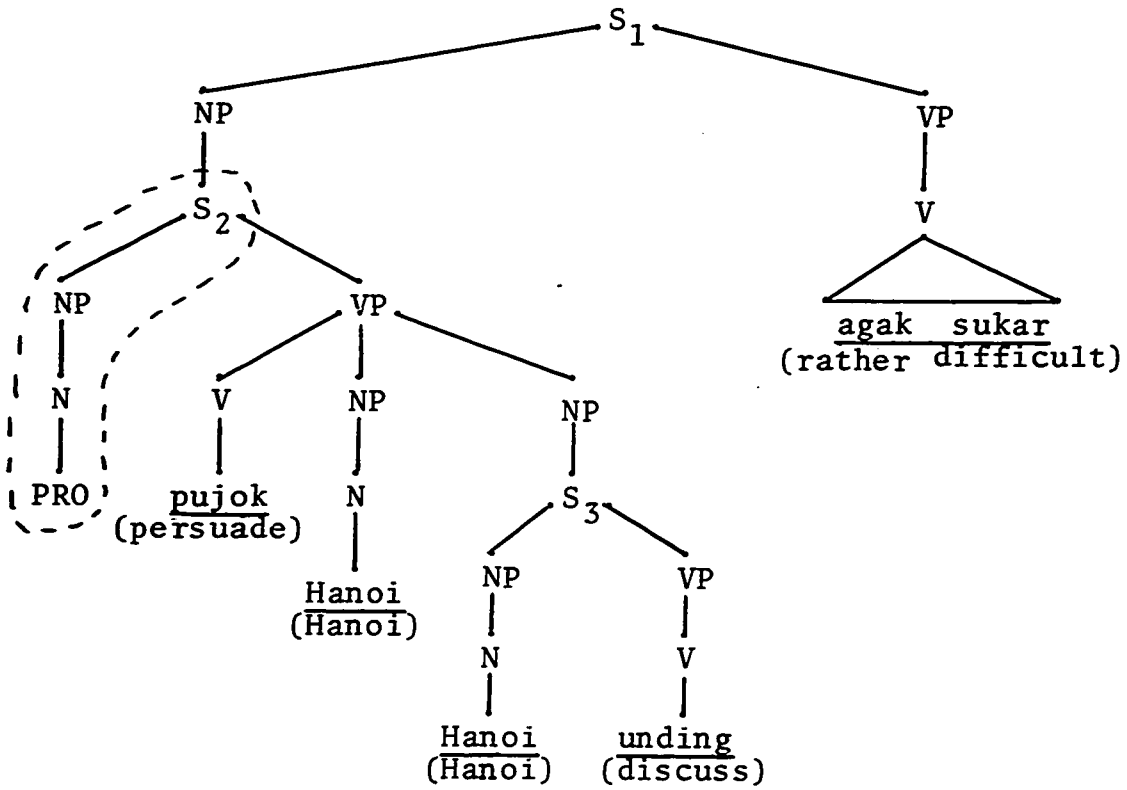
placement rule before the passive, and the passive before the Post-posing. This ordering is now violated if the Post-posing rule is ordered before the complementizer placement. When such conflicting issues of ordering are confronted, one has to evaluate the types of savings that are effected with the various orderings. The arguments for ordering the complementizer placement before the passive are strong, as are the arguments for ordering the passive before the Post-posing rule. The argument for ordering the Post-posing rule before the complementizer placement is, on the other hand, not very strong, since the only difference is the presence or absence of one extra symbol. For the other rules, the difference is much greater, and much more saving in symbols is effected by the ordering adopted. This therefore is the motivation for preserving the ordering of complementizer placement before passive, and passive before Post-posing, which automatically means that the complementizer placement is to apply before the Post-posing.

5.10 Post-posing and PRO-deletion

Considerations of simplicity again dictate the ordering of the Post-posing rule before PRO-deletion. If PRO-deletion were to apply first, then the Post-posing rule would have to be formulated so that both $[S]_{NP}$ and $[VP]_{NP}$ complements are post-posed after verbal predicates, since the PRO-deletion rule changes the structure of the embedded

complement. However, if the Post-posing rule were to apply first, then it can be formulated to move $[S]_{NP}$ complements alone, and the $[VP]_{NP}$ structures are not produced until after the Post-posing rule has applied. In the deep structure P-marker given below, it will be seen how the PRO-deletion rule, if allowed to apply first, will delete the PRO subject of the complement as well as prune away the S_2 node, leaving behind a $[VP]_{NP}$ complement.

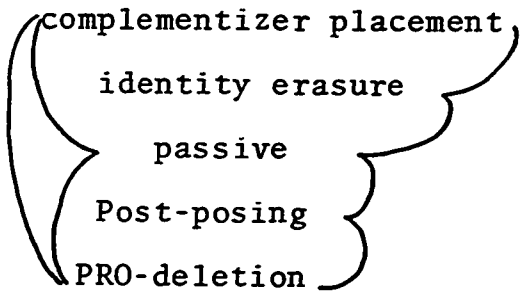
5. Agak-lah sukar #untok memujok Hanoi
(rather difficult COMP. persuade Hanoi)
supaya berunding#.
(COMP. discuss)
= It is rather difficult to persuade Hanoi to attend a discussion.



Considerations of the simplicity of the grammar therefore motivate ordering the Post-posing rule before the PRO-deletion rule. The Post-posing rule will move the embedded S to the end of the sentence. Only then will the PRO-deletion rule apply obligatorily to delete the PRO subject of the embedded complement.

5.11 Final Ordering

The final ordering of the transformations is summed up below, and the relationships between the individual rules are also indicated. Lines are drawn between any two rules which have to be ordered with respect to each other. For example, the complementizer placement transformation has to be ordered before the identity erasure, passive, and PRO-deletion rules. If there is no line drawn between any two transformations, that means that the two rules are unordered with respect to each other, as in the identity erasure and Post-posing rules.



CHAPTER VI

THE LEXICON

This chapter will deal with only certain aspects of the lexicon of a grammar which are of special relevance to the study of the object complements of the language. The first section of the chapter will discuss the features which will be needed in order to help generate the correct complement structures in the language, and the second section of the chapter will examine two methods of preventing the generation of ungrammatical complement structures in Malay.

6.1 Feature Rules

Of special interest in this section is the behaviour of the verbals in the complementation process. The verbals in the matrix sentence govern the selection of the correct complementizers in Malay, and are therefore one of the main classes of words which should be examined in somewhat greater detail.

After the deep structure P-markers have been generated by the phrase structure rules of the base component of the grammar, lexical insertion takes place to provide the deep structure terminal strings for the P-markers. Lexical insertion is unordered, and the lexical items in the lexicon are also unordered. Each lexical entry is of the nature

(D,C)/E, where D is a phonological distinctive feature matrix (represented in this thesis by the conventional orthography), C is a complex symbol containing specified syntactic and semantic features, and E is a contextual frame which indicates the environments into which the lexical item may be correctly inserted in the P-marker. Lexical insertion then takes place subject to the following conditions:

> A lexical item, (D,C)/E, may be inserted into the phrase marker under the dominance of any node Q, provided that (a) the complex symbol C bears the feature [+Q], and (b) the contextual frame E is not distinct from the domain of the P-marker into which the item is to be inserted.

When each lexical item is inserted into the P-marker, it carries with it all the features marked for it in the lexicon. Of these features, only the inherent feature which marks each lexical item as belonging to one major lexical category, like [+N] or [+V], and the contextual features play a role in lexical insertion. The other features, for example rule features and idiosyncratic features, are used for various other purposes, as the input to the semantic component of the grammar or for providing information as to the correct functioning of the transformations.

The lexicon also contains lexical redundancy rules,

of the type [+human] ⟶ [+animate], and [+abstract] ⟶ [-animate]. This means that human nouns are automatically animate, and that abstract nouns are automatically non-animate. This information need not then be given with each entry in the lexicon, for the lexical redundancy rules will operate to fill in these extra features for each lexical item which is inserted into the P-marker.

Of the features specified for each lexical entry, only the inherent features and the contextual features will be discussed in this chapter, as being of special importance to this study of object complements in Malay. Moreover, since the main concern here is the study of complements, the following discussion will focus on the verbals in their co-occurrence restrictions with NP's.

To take the contextual features first, the verbals have to be marked for their co-occurrence restrictions with the other NP's in the sentence. For example, certain verbals can only occur with direct objects, certain verbals have to be intransitive, and other verbals can occur with both indirect and direct objects. It will not only be necessary to indicate which NP's the verbals can co-occur with, but also to indicate what types of NP's these must be. Some verbals can have complements as their subject NP, while others cannot. Some verbals can take either simple nouns or embedded sentences as objects, while other verbals can only take one or the other, but not both. One feature

for each lexical entry will suffice to indicate both (1) the co-occurrence relationships of the verbal with the NP's in the sentence, and (2) what types of NP's these must be.

According to the phrase structure rules used in this thesis, there are three alternatives for expanding the NP node: (1) as N; (2) as S; and (3) as NP - S. These are therefore the three types of NP's the verbal can co-occur with in the sentence. It would be possible, for example, to indicate that a certain group of verbals took direct objects, and to indicate the types of NP's these direct objects must be, in the following fashion:

--- $[S]_{NP}$: embedded sentence as direct object;

--- $[N]_{NP}$: simple noun as direct object;

--- $[NP - S]_{NP}$: relative clause, factive construction, as direct object.[18]

However, if the contextual feature were formulated in the above manner, it would imply that the choice between the three types of NP's is strictly arbitrary. On the contrary, the choice between the types of NP's is rather determined by the features of animacy or abstractness on the head noun of the NP construction. If animacy or

---

[18]These are not the only types of NP's possible in the language, since nouns modified by adjectives, for example, have not been considered, but these are the types of NP's directly relevant to the study undertaken here.

abstractness were not considered, it would be difficult to explain why verbals allow relative clauses as indirect objects but not the factive constructions, since both have the structure $[NP - S]_{NP}$. Moreover, verbals only allow a subset of relative clauses to occur as their indirect objects and not the other relative clauses. The criterion in these cases is not so much the structure of the NP, but rather the features of animacy or abstractness on the head noun of the NP construction. Factives, which obligatorily have [+abstract] head nouns, cannot therefore be the indirect objects of any sentence. Relative clauses with [+animate] head nouns can function as the indirect object, but not relative clauses with [-animate] head nouns. The governing factor, therefore, is that only [+animate] nouns can function as indirect objects of sentences. From this, it is automatic that factives and embedded complements cannot function as the indirect objects of sentences since they are [+abstract] and therefore, redundantly, [-animate].

These same features of animacy and abstractness not only govern the NP's in the indirect position in sentences, but also in the other functions in the sentence. Some verbals require [+animate] direct objects, which would exclude (1) complements, (2) factives, (3) relative clauses with [-animate] head nouns, and (4) [-animate] simple nouns. The verbals which can occur with [-animate] direct objects may occur with any of the four types of

NP's mentioned above. However, some verbals are more constrained than that. Not only must their direct objects be [-animate], but they may need to be embedded complements, or factives, rather than simple nouns. Where this is the case, then the contextual feature for these verbals will have to mention not only the features of animacy or abstractness but also specify the type of NP it has to be.

The contextual feature for each lexical entry will be formulated so that only the relevant restrictions will be mentioned. If a verbal does not restrict the type of direct object it co-occurs with, then the feature [---NP] will suffice, to indicate that any type of NP can function as the direct object of that verbal. If the verbal requires an abstract direct object, and co-occurs with either factives or complements or relative clauses with abstract NP heads, then the feature $[---[+abs]_{NP}]$ will suffice. When the features of animacy or abstractness are mentioned in the contextual feature for a lexical entry, it is to be understood in the metatheory that they refer to the noun head of a NP construction. In the feature $[---[+abs]_{NP}]$ for example, the direct object may be a relative clause; the feature of abstractness refers only to the noun head of the relative clause. If the verbal specifies which type of abstract NP it has to have as its direct object, occurring only with complements but not with factives and relative clauses, then the contextual feature will have to be

$[---[S]_{NP}]$. The feature $[---[+abs]_{NP}]$ is therefore more general than the feature $[---[S]_{NP}]$.

The contextual feature in the lexicon will therefore be formulated so that generalities will be captured wherever possible. However, there is no formal indication given within the contextual feature itself of whether or not it is more general than another contextual feature. The counting of symbols does not indicate this, for $[---[+abs]_{NP}]$ has the same number of symbols as $[---[S]_{NP}]$, and yet the former contextual feature is more general than the latter. The features have not been formulated to indicate which contextual features are more general than others, but only to help generate the correct deep structure terminal strings for the transformations to operate on.

The following provides some examples of the contextual features used with the verbals in this grammar:

$[+an]_{NP}$ ---;	intransitive V; subject is any animate noun head, e.g. tidor (sleep), bangun (get up), jalan (walk).
$[+an]_{NP}$ --- $[+abs]_{NP}$;	transitive V; subject the same as above, direct object is any abstract noun head, e.g. chadangkan (propose), cheritakan (relate), faham (understand).
$[+an]_{NP}$ --- NP;	transitive V; subject the same as above, direct object is any type of NP at all, e.g. perchayai (believe).
$[+an]_{NP}$ --- $[S]_{NP}$;	transitive V; subject the same as above, direct object must be a complement, e.g. berchita2 (aspire), geram (eager).

$[+an]_{NP}$ --- $[+an]_{NP}$ $[+abs]_{NP}$;	transitive V; subject the same as above, indirect object is any animate noun construction, and direct object is any abstract noun head, e.g. beritahu (tell).
$[+an]_{NP}$ --- $[+an]_{NP}$ $[S]_{NP}$;	transitive V; subject the same as above, indirect object is any animate noun construction, and direct object must be an embedded S, e.g. bantu (help), suroh (order).
$[+abs]_{NP}$ ---;	intransitive V; subject is any abstract noun head construction, e.g. nyata (clear), payah (difficult).

Following Lakoff,[19] these contextual features, $[X]_{NP}$ --- $[Y]_{NP}$, are regarded as two features instead of one, that is, the first feature being $[X]_{NP}$ --- and the second feature being ---$[Y]_{NP}$.

Features which are optional for each lexical item will be placed within parentheses. For example, if a certain verbal can either be intransitive or take a direct object, the direct object NP will be placed within parentheses. All adjectives cannot occur with indirect objects. Therefore, if the P-marker has been generated to have an indirect object node, no adjective may be chosen from the lexicon to be the verbal in that P-marker. The contextual feature for each individual adjective in the lexicon, plus the lexical insertion rule, will determine that the correct verbal is

---

[19] Lakoff (1965:Appendices D and E).

inserted into the P-marker.

A number of inherent features have to be marked for each verbal in the lexicon, in order to generate the correct complement structures in the language. Firstly, the verbals will have to be divided into two classes, the true verbs, marked [+verb], and the adjectives, marked [-verb]. One reason for the necessity of this distinction in the lexicon is that certain transformational rules like the passive and IE can operate only if the verbal in the SD is a true verb. Since the P-marker does not distinguish between these two classes of verbals, the choice of whether to insert a true verb or an adjective under a V in the P-marker is arbitrary, and made during lexical insertion. Lexical insertion is arbitrary, subject only to the conditions mentioned in the lexical insertion rule given at the beginning of this chapter. However, once the choice has been made, this determines the functioning of the transformational rules to follow.

The feature of stativity also needs to be indicated, for the IE rule in particular depends on this feature being present in the P-marker by the time the transformational rules are set to apply. Both adjectives and the true verbs can be either stative or non-stative. Examples are:

tahu (know [+V, +verb, +stat];

pergi (go) [+V, +verb, -stat];

minta (ask) [+V, +verb, -stat];

ada (exist) [+V, +verb, +stat];

tinggi (tall) [+V, -verb, +stat];

kaya (rich) [+V, -verb, +stat];

benar (honest) [+V, -verb, -stat];

suka hati (glad) [+V, -verb, -stat].

Complementizer features are also marked as inherent features on each verbal in the lexicon. These features have been discussed in Chapter III, and it will be sufficient just to give a few examples here of the verbals being marked with these features. The choice of the correct complementizer is dependent on the choice of the verbal during lexical insertion.

tolong (help) [+D] realized morphemically as either supaya or untok;

paksa (force) [+D] realized morphemically as either supaya or untok;

anjorkan (advocate) [+E] realized morphemically as supaya;

pelawa (invite) [+E] realized morphemically as supaya;

desak (urge) [-E] realized morphemically as untok;

rayu (petition) [-E] realized morphemically as untok;

terangkan (explain) [-D] realized morphemically as bahawa;

fikir (think) [-D] realized morphemically as bahawa.

One of the most important features to be marked for the verbal is the feature of identity between NP's. This is an important issue, for it affects a great number of

complement structures. Some verbals require that the indirect object of the matrix sentence be identical with the subject of the embedded complement, whereas for other verbals this identity is optional. Some verbals require that the subject of the matrix sentence be identical to the subject of the embedded complement, and this is again optional for other verbals. The important point is to indicate these different types of verbals in the grammar, in the identity restrictions they set upon the NP's that they occur with.

These restrictions are not haphazard, but are firmly based on the semantic features of the verbals themselves; that is, the meaning of each verbal either requires or prohibits certain identity co-occurrences between the NP's. The following types of identity requirements or prohibitions will be discussed in this chapter:

(a) where $subject_1$ must be identical with $subject_2$, e.g. chuba (try), berchita2 (aspire);

(b) where $subject_1$ can never be identical with $subject_2$, e.g. bawa (escort), jalankan (walk an object);

(c) where the indirect object must be identical with $subject_2$, e.g harapkan (expect), galakkan (encourage);

(d) where the indirect object can never be identical with $subject_2$, e.g. beri (give).

These four types of identity phenomena will be indicated for each verbal in the lexicon by some arbitrarily chosen feature. However, it will be emphasized that even though the features to represent these identity phenomena are arbitrary, yet the phenomena themselves are not arbitrary but are firmly based on, and correlated with, the semantic features of each lexical item. The feature of identity between the indirect object and $subject_2$ has already been referred to as [+ID] in Chapter III. Where there can be no identity between the indirect object and $subject_2$, the feature [-ID] will be used. The feature of identity between $subject_1$ and $subject_2$ will be referred to as [+SD], and the feature [-SD] will be used where there can be no identity between $subject_1$ and $subject_2$.

Another class of verbals should also be considered, although its membership is rather small. There are the true verbs which optionally function as do those verbs marked [+ID]. If this only means that $subject_2$ may or may not be identical with the indirect object, then the verbs may be left unmarked since identity is optional and not obligatory. However, when these verbs do have identical indirect objects and $subjects_2$, they need to be governed by the other restrictions which govern the verbs specifically marked for [+ID] identity. This therefore indicates that identity is not only optional for this class of verbs, but that rather what is optional is what class of verbals this

particular subset of verbs will function as.

Verbs which may function optionally as [+ID] verbals are ingatkan (remind) and beritahu (tell). In the following sentences, each verb is used twice, the first time when it functions as a [+ID] verbal, and the second time when it functions as an unmarked verbal as far as the identity restrictions are concerned.

1 (a). Saya mengingatkan dia #untok pergi#.
(I remind him COMP. go)
= I remind him to go.

(b). Saya mengingatkan dia #bahawa John
(I remind him COMP. John)
pergi ka-rumah- nya esok#.
(go to house his tomorrow)
= I remind him that John will be going to his house tomorrow.

2 (a). Saya memberitahu dia #untok pergi#.
(I tell him COMP. go)
= I tell him to go.

(b). Saya memberitahu dia #bahawa saya
(I tell him COMP. I)
tidak sehat#.
(NEG. well)
= I tell him that I am not feeling well.

When these verbs function as the [+ID] verbals, they co-occur with those complementizers which are compatible with

the notion of futurity, that is, supaya and untok. Moreover, these verbs also then require that the verbal in the predicate of the complement be a true verb which is non-stative, and that the complement contain no indications of past tense. When these verbs function as unmarked verbals as far as identity requirements go, then they most often occur with the complementizer bahawa. For these reasons, it is suggested that these verbs be mentioned twice in the lexicon, once with the feature [+ID], and the second time unmarked as far as identity restrictions are concerned.

Redundancy rules can be used to predict some complementizer features for some verbals. For example, all verbals marked either [+ID] or [+SD] automatically require that the complementizer be either supaya or untok. The following redundancy rule will therefore predict the complementizer feature for these two classes of verbals:

$$\left\{\begin{matrix}[+ID]\\[+SD]\end{matrix}\right\} \longrightarrow \quad [+D]$$

These [+ID] and [+SD] verbals thus do not require any complementizer features to be specified for them in the lexicon, since the redundancy rule supplies these. However, the other verbals will need to have complementizer features in the lexicon for each lexical entry since there is no redundancy rule which can operate to specify what these features are to be. These other verbals arbitrarily use one

or more of the complementizers bahawa, supaya and untok, and the proper complementizer(s) will have to be indicated for each verbal in the lexicon.

Identity features need be marked only for those verbals which exhibit such restrictions, either in that the specified NP's have to be identical, or that they can never be identical. For other verbals where the identity or non-identity of NP's is optional, no identity features are necessary.

Finally, rule features are needed to deal with irregular verbals which are exceptions to certain transformational rules. These rule features will not be dealt with in this thesis, but reference is made to Lakoff (1965) for a full treatment of irregularity in a grammar.

6.2 Filtering Conventions

The discussion so far in this chapter has suggested that a number of necessary features be indicated for each item in the lexicon. At this point, more features have been indicated for the lexical items than have been put to use. The features suggested were not intended to provide the input for the semantic component of the grammar, for the concern here is with the syntactic component alone. The suggested features are therefore intended to be used in the syntactic component in order to ensure that only grammatical and acceptable sentences are generated by the

rules proposed for the grammar.

Thus far, however, there is little to prevent the generating of numerous ungrammatical sentences, although numerous grammatical sentences will also be produced. The lexical insertion rule states that items from the lexicon will be inserted into the P-markers as long as the dominating node is identical with the inherent feature marked for that item, and the domain of the P-marker is not distinct from the contextual frame specified for that item. However, these two conditions alone are insufficient to prevent many unacceptable sentences from being produced. It is the purpose of this second section of the chapter to examine what further conventions are necessary in order to block unacceptable sentences from being generated by the grammar. In the ensuing discussion, the features suggested for the lexicon in the preceding section will be put to use and therefore justified.

The issue of filtering conventions for the grammar has been a dominant concern of transformational grammarians for some time. Chomsky (1965) suggested that the transformational component of the grammar be used as a filter, and that any sentence remaining at the end of the transformational last-cycle rules which still contained sentence boundaries would be rejected from the grammar as ill-formed. For Chomsky, in any sentence where a relative clause did not contain a NP identical to the antecedent of the clause, the obligatory

relative clause transformation would not operate, and the sentence boundaries therefore would remain in the matrix sentence. Chomsky suggested that the blocking of the transformation was the appropriate means of characterizing the sentence as ill-formed. If the sentence were well-formed, the obligatory relative clause transformation would apply and also delete the sentence boundaries from within the matrix sentence. The result is therefore a well-formed sentence containing no internal sentential boundaries.

Chomsky's suggestion of using the transformations as a filter cannot handle the ill-formed sentences produced by the grammar proposed here, since the deep structure terminal strings do not have to be subject to any obligatory transformation before the surface structures are produced. For instance, for verbals requiring identity between $subject_1$ and $subject_2$, no transformation need operate on the deep structure terminal string before a well-formed surface structure can be produced, as the IE transformation is optional. The transformation therefore provides no means of blocking an ungrammatical sentence from being generated. Even if the IE transformation were not selected to apply, in cases where the $subject_1$ - $subject_2$ identity condition was met, some other transformation would be required to delete the internal sentence boundaries to result in a well-formed sentence. The same situation holds for those cases with verbals marked for the identity of the

indirect object with subject$_2$. For those verbals which are marked for non-identity between NP's, again no transformation is required to operate on the matrix sentence before acceptable surface structures are produced, so that the transformations do not provide any means for blocking ill-formed sentences. Therefore at least two other filtering conventions are necessary, and these will be discussed in some detail in the rest of the chapter.

The Lexical Filter

In the grammar proposed in this thesis, the deep structure phrase marker (after the application of the PS rules of the base component and before lexical insertion takes place) does not constrain the choice of lexical item as the grammar in Chomsky (1965) does. Chomsky's model had subcategorization feature rules in both the pre-terminal deep structure P-marker and in the lexicon. Lexical insertion was then in terms of non-distinct features. In the present grammar, however, there are fewer constraints on the choice of lexical item. While this results in a saving for the grammar, yet another undesirable result is that it generates many more ill-formed sentences.

However, this problem can be solved by adopting a convention to let the lexical items act as the filter after lexical insertion has taken place. This lexical filtering convention can be stated as:

> If an lexical item (D,C)/E contains a feature which is distinct from another contextual feature E for that same domain of the P-marker, that entire sentence is rejected from the grammar as ill-formed.

This convention therefore requires that the entire P-marker be scanned for possible places where a feature of one lexical item may have violated the contextual frame specified for that same domain of the P-marker in another lexical item. For example, since lexical insertion is unordered and quite free from constraints, a verbal may have been selected which requires an animate NP as the direct object, but the direct object selected is [-animate]. This feature of the direct object is therefore distinct from the contextual frame specified for the same domain of the P-marker by the verbal, and the lexical filtering convention will reject this sentence from the grammar.

This lexical filter will therefore be able to block a number of ill-formed sentences from being generated. However, it is able to block only those sentences where the features contained in one lexical item conflict with the features contained in another lexical item in the same sentence. This filter can only deal with conflicting features contained in the lexical entries, but cannot deal with identity restrictions, for example, where verbals require certain identity conditions between the NP's they

co-occur with. Another convention is needed, therefore, in order that another large number of ill-formed sentences be blocked, and this is presented in the following discussion.

Deep Structure Constraints

Perlmutter (1968 a & b) has found evidence to support his claim that grammars need deep and surface structure constraints in addition to those already suggested, so that unacceptable sentences will be rejected. His arguments are also based on the identity restrictions which verbals place on the NP's they can co-occur with. Only the deep structure constraint will be of direct relevance to the study here.

Perlmutter has defined a deep structure constraint as a constraint which a deep structure must satisfy if it is to result in a well-formed sentence. Phrase markers which fail to satisfy these deep structure constraints will be discarded as ill-formed. This will filter out ill-formed inputs to the transformational component of the grammar. Adopting Perlmutter's suggestion, some necessary deep structure constraints will now be formalized for the grammar proposed here.

The deep structure constraints are given in the form of a rule, each constraint being presented in a different rule. The rule is of two parts, the first being a structural

description of the environment in the P-marker on which the rule is to apply. The second part of the rule is in the form of a condition. This resembles a transformational rule except that there is no structural change to be produced. Any P-marker which satisfies the conditions of the deep structure constraint will be rejected from the grammar as ill-formed. This view is a modification of Perlmutter's. Perlmutter suggested that the deep structure constraints should specify which are well-formed sentences, and that sentences not meeting these constraints should be rejected as ill-formed. The grammar presented in this thesis utilizes his notion of deep structure constraints. However, it has been found more economical to interpret these constraints as constraints to specify the ill-formed sentences of the language. P-markers which meet these constraints are therefore rejected as ill-formed. It would appear to be much more economical to the grammar to specify the ill-formed sentences rather than the well-formed ones, although a final decision cannot be made within the scope of a fragment grammar like this.

The deep structure constraints which are needed for this grammar are presented in the following six rules. Any P-marker meeting the structural description of one or more of the following deep structure constraints is rejected as ill-formed.

DSC 1. SD X $[_{V}$ NP NP$]_{VP}$ Y

1 2 3 4 5

Cond. 3 directly dominates S

This constraint has already been anticipated in Chapter II, where the necessity of finding some means to prevent an embedded S from functioning as the indirect object of a sentence was discussed. It was shown that this restriction could be incorporated into the phrase structure and transformational rules of the grammar only at the expense of the rules being ad hoc and unnecessarily complicated. The simplicity of the grammar can be preserved if a deep structure constraint is utilized to handle the indirect object constraint, since deep structure constraints have already been shown to be needed in a grammar in order to handle a number of restrictions other than that involving the indirect object. There is therefore much independent motivation for the use of deep structure constraints in a grammar.

DSC 2. SD X $[+ID]_{V}$ NP $\left[\left[\text{NP VP}\right]_{S}\right]_{NP}$ Y

1 2 3 4 5 6

Cond. 3 $\neq$ 4

This constraint ensures that, in sentences with verbals marked [+ID], there must be identity between the indirect object NP and subject_2, or otherwise the sentence is rejected as ill-formed.

DSC 3. SD X $[-ID]_V$ NP $\left[[NP \quad VP]_S\right]_{NP}$ Y

1 2 3 4 5 6

Cond. 3 = 4

This constraint states that, for verbals which require non-identity between the indirect object and $subject_2$, the sentence is rejected if these two NP's are found to be identical.

DSC 4. SD NP $[+SD]_V$ $\left[[NP \quad VP]_S\right]_{NP}$ Y.

1 2 3 4 5

Cond. $1 \neq 3$

This constraint ensures that, for verbals requiring identity between $subject_1$ and $subject_2$, the sentence is rejected if such identity is not found.

DSC 5. SD NP $[-SD]_V$ $\left[[NP \quad VP]_S\right]_{NP}$ Y

1 2 3 4 5

Cond. 1 = 3

This constraint states that, in a sentence with a [-SD] verbal in the matrix sentence, the sentence is rejected if $subject_1$ is identical to $subject_2$.

DSC 6. SD X $[+ID]_V$ NP $\left[[NP \quad V \quad X]_{S_2}\right]_{NP}$ Y

1 2 3 4 5 6 7

Cond. 5 does not contain $\begin{bmatrix} +verb \\ -stat \end{bmatrix}$

S_2 contains [+past]

This constraint deals with the fact that [+ID] verbals require that the predicates of their complements contain true verbs which are non-stative, and that the embedded complement contain no indication of past tense. If the verbal in the complement does not contain [+verb] and [-stat], or the embedded complement contains some indications of the past tense, then the sentence is rejected from the grammar as ill-formed.

There is some motivation for ordering these deep structure constraints so that they apply at several points in the grammar, though always before the transformations are made to apply to the P-markers. Deep structure constraint 1 can apply even before lexical insertion, as the constraint is not dependent on the features introduced by lexical insertion, but rather on the P-marker generated from the base rules of the grammar. Deep structure constraints 2 - 6, however, must be ordered after lexical insertion, as they work on the features introduced with each lexical item into the P-marker.

These two filters, the lexical filter and the deep structure constraints, must be incorporated into the grammar in order to prevent ill-formed sentences from being generated, and thus to help ensure that only well-formed grammatical sentences are produced.

CHAPTER VII

CONCLUSION

The rules of the syntactic component have now been presented to generate the object complements of Malay, together with some devices to block the ill-formed sentences from being produced. Though only a fragment grammar has resulted from this thesis, yet every effort was made to produce a grammar which can be readily integrated to fit other facts of the language. In this final chapter, some indication will be given of how the rules also account for a number of other common constructions in the language.

The PS rules can generate the following three types of simplex sentences:

(a) Dia jatoh. - N V
(he fall)
= He fell.

(b) Dia membacha buku itu. - N V N
(he read book that)
= He is reading that book.

(c) Dia memberi John buku itu. - N V N N
(he give John book that)
= He gave John that book.

The passive transformation can operate on sentence (b) above to produce sentence (d) below, and on sentence (c) above to produce either sentence (e) or (f) below:

(d) Buku itu di- bacha oleh- dia.

(book that PASS. read by him)

= That book was read by him.

(e) John di- beri oleh dia buku itu.

(John PASS. give by him book that)

= John was given that book by him.

(f) Buku itu di- beri John oleh- dia.

(book that PASS. give John by him)

= That book was given John by him.

In the three types of sentences presented above, any of the N's can be replaced by relative clauses, of the structure NP S, as in the examples below.

(g) Budak yang jahat itu jatoh.

(child who naughty the fall)

= The naughty child fell.

NP-S V.

(h) Budak yang pandai itu membacha buku.

(child who clever the read book)

= The clever child is reading a book.

NP-S V N.

(g) Dia menolong budak yang jatoh itu.

(he help child who fall the)

= He helped the child who fell.

N V NP-S.

(h) Orang yang gemok itu menolong budak

(person who fat the help child)

yang jatoh.

(who fall)

= The fat man is helping a child who fell.

NP-S V NP-S.

(i) Orang yang gemok itu memberi John

(person who fat the give John)

sa-buah buku.

(a book)

= The fat man is giving John a book.

NP-S V N N.

(j) Orang yang gemok memberi budak yang

(person who fat give child who)

jatoh itu satu ringgit.

(fall the one dollar)

= A fat man is giving one dollar to the child who fell.

NP-S V NP-S N.

(k) Orang yang gemok memberi John sa-buah

(person who fat give John a)

buku yang besar.

(book which big)

= A fat man is giving John a big book.

NP-S V N NP-S.

The passive can also operate on any of the sentences (h) to (k) above, to move objects, whether N or NP-S relative clauses, to the position of the derived subject of the

sentence. For example, sentence (k) above can undergo the passive to produce sentence (l) below.

(l) Sa-buah buku yang besar di- beri John
(a book which big PASS. give John)
oleh orang yang gemok.
(by person who fat)
= A big book was given to John by a fat man.
NP-S V N NP-S.

Some types of relative clauses, generally those with abstract nouns as heads, can also undergo the Post-posing rule, as mentioned in Chapter II. Thus, sentence (m) below undergoes the Post-posing rule to produce sentence (n) below. It will be noticed that in sentence (n) below, the Post-posing rule has separated the embedded clause from its nominal head.

(m) Peristiwa #yang memeranjatkan kita# berlaku.
(something which surprise us occur)
= Something which surprised us occurred.

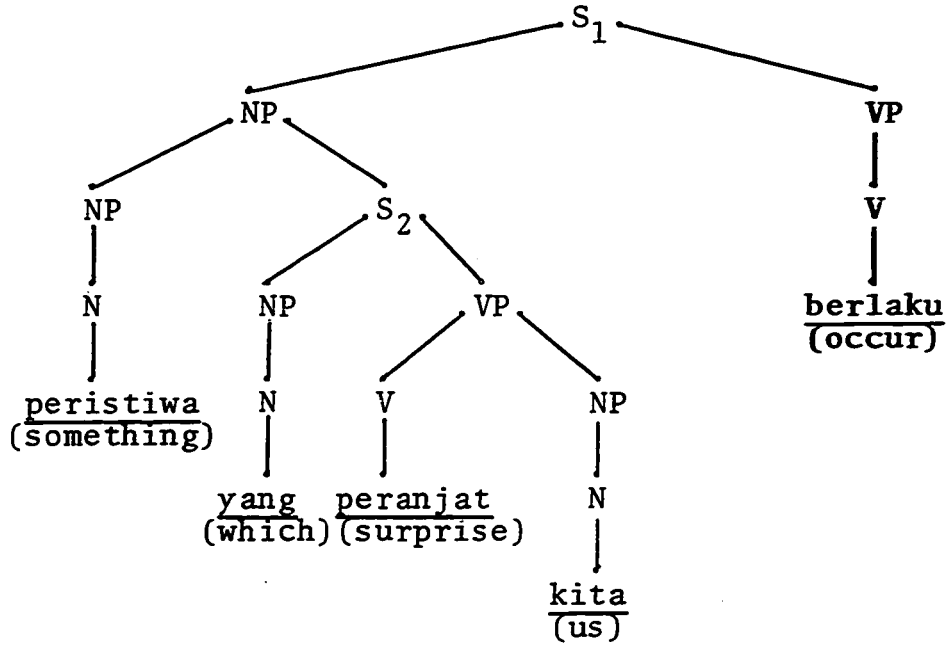
(n) Peristiwa berlaku #yang memeranjatkan kita#.[20]
(something occur which surprise us)
= Something occurred which surprised us.

Evidence can now be presented why this rule has to be a Post-posing rule instead of a Pre-posing one. For sentence

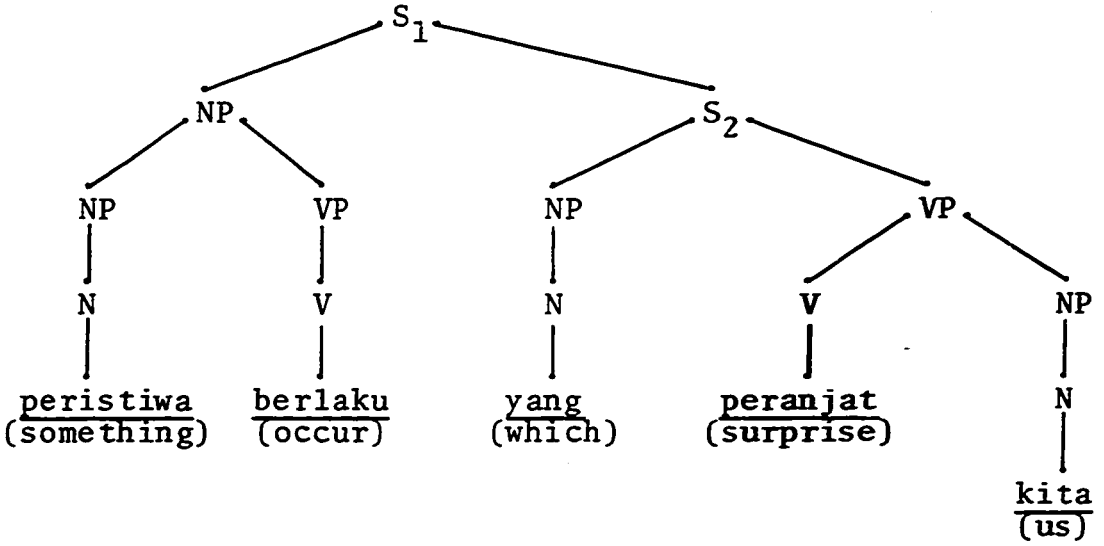
---

[20]For some speakers, this sentence is possible only with the right intonation. The question of intonation has not been handled by this grammar, which limits itself to the syntactic component alone.

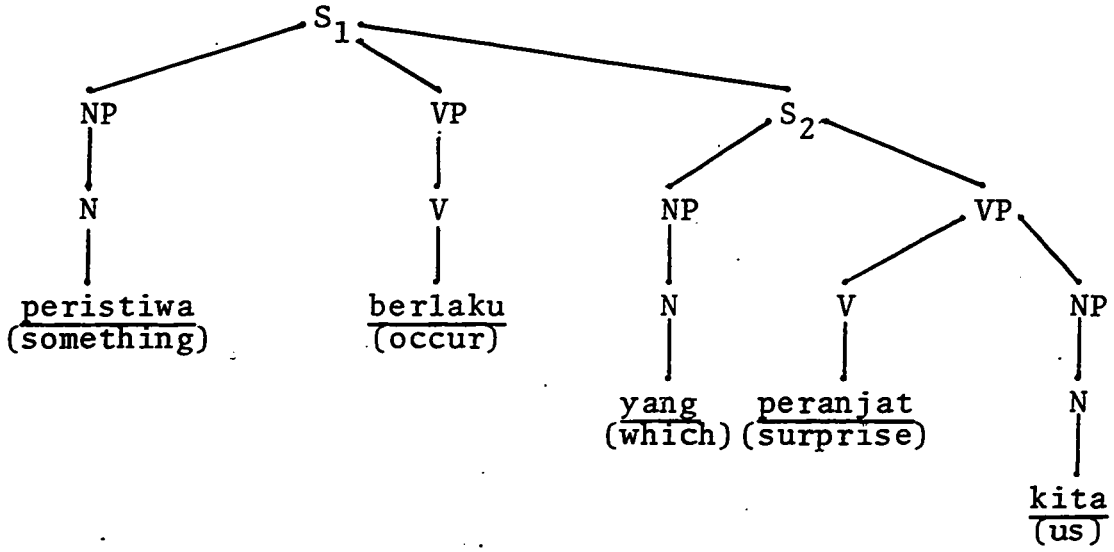
(m) above, the Post-posing rule operates on a derived P-marker like the following (after the relative clause transformation has taken place):



If the rule were to be a Pre-posing one, and place the VP of the matrix sentence in front of the embedded S, a weird derived structure results, as indicated in the following P-marker:



If the rule were to be considered a Post-posing one which moved the embedded S to the end of the matrix sentence, a more acceptable derived structure results.[21]



Therefore, the motivation for considering the rule a Post-posing rule instead of a Pre-posing one comes only from the study of NP - S constructions and not from the study of complements, which have no NP head. It has already been noted in Chapter IV that this Post-posing rule is also needed to account for many other types of sentences not covered in this study, which place the embedded S to the end of the matrix sentence, and examples were given there of some of these types of sentences. This Post-posing rule is therefore seen to be needed to account for a number of constructions in the language, other than those which

---

[21] Any node which dominates solely itself is deleted from the P-marker. This explains why the dominating NP has been deleted from the first NP in the P-marker.

motivated the rule in the first place.

The same phrase structure rules can also generate sentences which have factives for NP's. The PS rules cannot differentiate between the factives and relative clauses, since both are of the structure NP - S. It is not until lexical insertion takes place that the factives will be generated as distinct from the relative clauses. The distinction depends on two factors: (1) whether the nominal chosen as the head of the construction is concrete or abstract, and (2) whether or not there is identity between this nominal head and another NP in the embedded S. Examples of the factives functioning in different positions in the sentence have already been given in Chapter II. The PS rules given can only generate factives in subject and direct object position, and further rules will be necessary to account for the other occurrences of the factives in sentences. Factives, as NP's, can also undergo the passive transformation. Two examples are given below, the first showing the factive functioning as the derived object of the sentence, and the second showing the factive functioning as the derived subject of the sentence.

(o) Beberapa landasan yang kuat di- kandongi
(some grounds which solid PASS. contain)
oleh shor pengarah itu #supaya Jabatan
(by suggestion director the COMP. Dept.)

Pengajian Melayu di- Universiti Malaya di-

(Studies Malay at University Malaya PASS.)

naikkan taraf- nya menjadi sa-buah fakalti#.

(raise standard its become a faculty)

= Some solid grounds for support are contained by the director's suggestion that the status of the Dept. of Malay Studies in the University of Malay be raised to that of a faculty.

(p) Harapan #supaya murid2 sekolah itu dapat

(hope COMP. students school that get)

melanjutkan pelajaran- nya# di- nyatakan

(further studies their PASS. express)

oleh beliau.

(by him)

= The hope that the students of that school would get to further their studies was expressed by him.

The Post-posing rule also applies to the factives. Sentence (p) above, for example, can undergo the Post-posing rule and become sentence (q) below.

(q) Harapan di- nyatakan oleh beliau #supaya

(hope PASS. express by him COMP.)

murid2 sekolah itu dapat melanjutkan

(students school that get further)

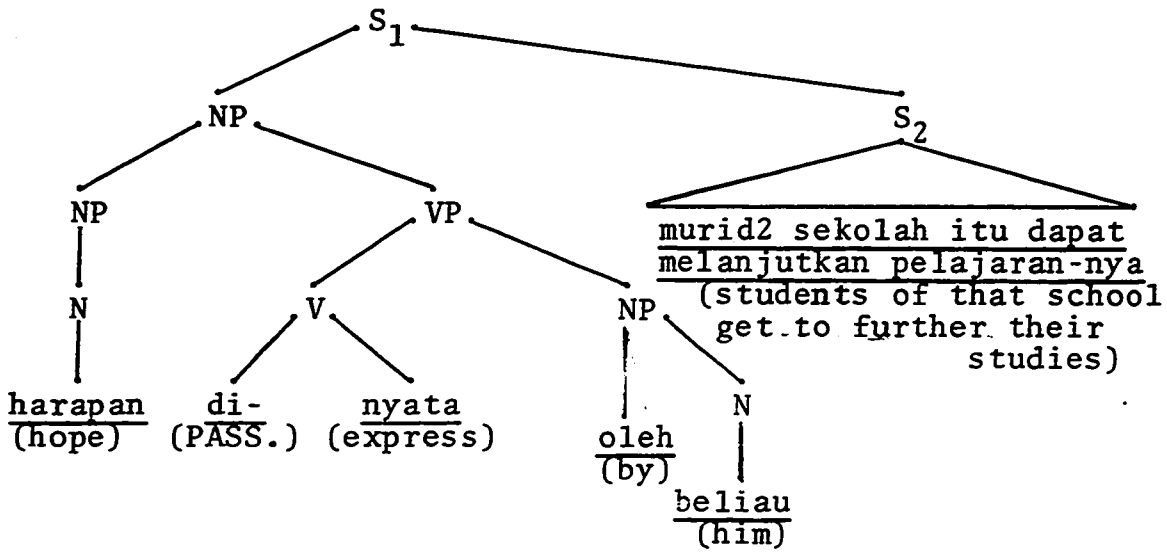
pelajaran- nya#.

(studies their)

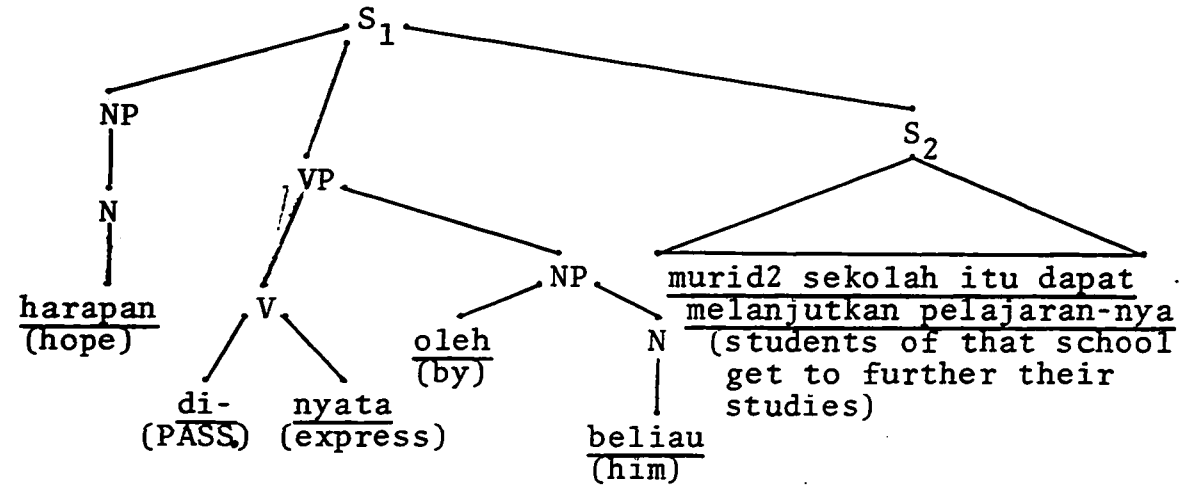
= The hope was expressed by him that the students of that school would get to further their studies.

The Post-posing rule, therefore, functions for almost all types of matrix sentences which contain embedded sentences, as evidenced by the relative clauses, factives, and complements. For the factives as well as the relative clauses, the Post-posing rule separates the nominal head of the construction and the embedded S, by moving the embedded S to the end of the matrix sentence.

Only by studying how the factives and relative clauses undergo the Post-posing rule can the decision be made as to whether the rule moves the embedded S to the end of the matrix sentence (i.e. Post-posing), or the rule moves the embedded S in front of the VP of the matrix sentence (i.e. Pre-posing). The decision to consider the rule a Post-posing one rests on the fact that a Pre-posing rule would produce an unnatural derived structure for the factives and relative clauses, as has been shown in this chapter with an example from the relative clauses. The same holds true for the factives. In sentence (p) for example, a Pre-posing rule would produce the following unnatural derived structure:



A Post-posing rule, however, would produce the following acceptable derived structure:



The factives are quite a common construction in Malay, and they are similar in many ways to the complements studied here, so that the fragment grammar in this thesis also accounts for many of the features of the factives. Firstly, factives also have complementizers optionally preceding the embedded S.

It would appear to be the case that the head noun of the factive construction governs the choice of the complementizer. In many cases, this head noun is a nominalization of a verbal, e.g. menudoh (accuse) -- tudohan (accusation), berharap (to hope) -- harapan (hope), menjamin (to guarantee) -- jaminan (guarantee). This therefore does not contradict the view that, for the object complements, it is the verbal in the matrix sentence which governs the correct choice of the complementizer. This also indicates that many factives are very closely connected with the object complements, in that the verbal is nominalized to become the head noun of the factive construction, and the object complement then functions as the modifier complement in that factive construction. The same three complementizers, bahawa, supaya and untok, are frequently used in these factive constructions.

The embedded sentence in factive constructions is also either clausal or non-clausal, and the IE rule or the PRO-deletion rule can account for the absence of the $subject_2$ in the case of the non-clausal embedded sentences. For example, in the sentence below, the missing $subject_2$ is an unspecified PRO in deep structure, later deleted by the obligatory PRO-deletion rule.

(r) Usaha2 #untok memulehkan keamanan di-
(efforts COMP. restore peace in)
Vietnam# hampir berjaya dalam masa
(Vietnam nearly succeed in time)

genchatan senjata Tahun Baru Vietnam.

(armistice year new Vietnamese)

= Efforts to restore peace to Vietnam almost succeeded during the armistice of the Vietnamese New Year.

In the sentence below, it will be noticed that in the deep structure the missing $subject_2$ is identical not with the head noun of the construction but rather with the pronominal modifier of this head noun.

(s) Britain sudah pun menyatakan maksud-

(Britain already also express intention)

nya #untok bertindak#.

(her COMP. take action)

= Britain has already expressed her intention to take action.

In the deep structure, the subject of the embedded S must be "Britain", and not PRO or any other NP. It would appear that the IE rule will not work here, since this $subject_2$ is not identical to the nominal head noun. However, the deep structure of the factive construction is actually

Britain bermaksud #untok Britain bertindak#.

(Britain intend COMP. Britain take action)

= Britain intends to take action.

The IE rule will now work on the above sentence to delete the second occurrence of "Britain". The entire sentence is then nominalized in a way not handled by the present grammar, to

produce

maksud- nya untok bertindak.

(intention her COMP. take action)

= her intention to take action.

This will therefore explain why IE deletion appears to take place between subject$_2$ and the pronominal modifier of the head noun. With this deep structure, the IE rule does not have to be modified, since the identity is between the subjects of the matrix and embedded sentences respectively.

The PRO-deletion rule also operates to delete unspecified agents in any passive sentence, whether matrix or simplex. In the following simplex sentence, the deep structure subject is unspecified, therefore PRO.

(t) PRO memukul budak itu.

(PRO beat child the)

= PRO beat the child.

The passive applies to produce

(u) Budak itu di- pukul oleh PRO.

(child the PASS. beat by PRO)

= The child was beaten by PRO.

The PRO-deletion rule now obligatorily deletes the agentive phrase since it contains PRO, and the resultant sentence is

(v) Budak itu di- pukul.

(child the PASS beat)

= The child was beaten.

It has already been mentioned that, while this thesis only studied the object complements in some detail, complements are also found in other positions in sentences. Subject complements and modifier complements can be generated by this fragment grammar, and many of the rules for the object complements will also be valid for the complements in other positions in the sentence. This has been indicated for the modifier complements, also called the factives, in this chapter, and for the subject complements in the course of the thesis where reference was made to the subject complements to illustrate some points about the complements under study.

Finally, there is another common group of constructions which bears some resemblance to the complements studied here, and these are the adverbial clauses of purpose. They differ from the complements in that they are not dominated by NP, and are therefore not subject to the passive transformation. As this grammar has not dealt with the adverbs, these adverbial clauses will not be generated. However, many of the transformations proposed will be found to be valid for these adverbial clauses, and hence this would also help justify the rules proposed. Without too much modification or expansion, the present grammar will therefore also account for these adverbial clauses of purpose.

The IE rule will apply equally well to these adverbial clauses of purpose to delete $subject_2$, on conditions of its

identity with subject$_1$. An example is

(w) Mereka singgah di- Penang untok
(they stop at Penang COMP.)
bertukar kapalterbang.
(change planes)
= They stop at Penang to change planes.

The subject of the embedded S must also be mereka (they), and thus deleted because of its identity with subject$_1$, as formulated in the IE rule.

These adverbial clauses of purpose are also of the clausal and non-clausal types, and the difference is also dependent on the presence or absence of subject$_2$. Moreover, these adverbial clauses of purpose also use complementizers in front of the embedded S, and the most common complementizers are untok, supaya and bagi.

This chapter has demonstrated that there is much independent motivation for the rules which have been proposed to account for the object complements under study here, and that the same set of phrase structure and transformational rules need only to be expanded in order to account for a great number of related structures in the language. Many features of these related structures are already covered by the present set of rules, and this provides some evidence for the claim that the rules, though confined to the study of object complements, are not ad hoc, but are related to the other facts of the language.

This thesis is, in the end, intended to be a contribution to the grammar of Malay.

B I B L I O G R A P H Y

REFERENCES

Bach, Emmon. (1964). An Introduction to Transformational Grammars. New York: Holt, Rinehart and Winston.

_____. (1968). "Nouns and Noun Phrases," in Universals in Linguistic Theory (eds. E. Bach and Robert T. Harms). New York: Holt, Rinehart and Winston. Pp. 91-122.

_____ and Stanley Peters. (1968). "Pseudo-Cleft Sentences," Preliminary version. Unpublished paper, University of Texas.

Bowers, Frederick. (1968). "English Complex Sentence Formation," Journal of Linguistics, 4, 83-88.

Chomsky, Noam. (1957). Syntactic Structures. The Hague: Mouton.

_____. (1964). Current Issues in Linguistic Theory. The Hague: Mouton.

_____. (1965). Aspects of the Theory of Syntax. Cambridge: M.I.T.

_____. (1966). Topics in the Theory of Generative Grammar. The Hague: Mouton.

_____. (1968). "Remarks on Nominalization." Unpublished paper, M.I.T. (to appear in R. Jacobs and P.S. Rosenbaum (eds.), Studies in English Transformational Grammar, 1970).

Dardjowidjojo, Soenjono. (1967). "Indonesian Syntax." Unpublished Ph. D. dissertation, Georgetown University.

Dyen, Isidore. (1967). A Descriptive Indonesian Grammar: Preliminary edition. New Haven: Yale University.

Fillmore, Charles J. (1963). "The Position of Embedding Transformations in a Grammar," Word, 19, 2, 208-231.

_____. (1965). Indirect Object Constructions in English and the Ordering of Transformations. Ohio State University, Project on Syntactic Analysis, Report No. 1. The Hague: Mouton.

_____. (1966). "A Proposal Concerning English Prepositions," Monograph Series on Language and Linguistics, Number 19, (ed. F.P. Dineen). Washington, D.C.: Georgetown University Institute of Languages and Linguistics. Pp. 19-33.

_____. (1968a). "The Case for Case," in Universals in Linguistic Theory (ed. E. Bach and R. Harms). New York: Holt, Rinehart and Winston. Pp. 1-88.

_____. (1968b). "Lexical Entries for Verbs," Foundations of Language, 4, 4, 373-393.

Gruber, Jeffrey C. (1965). "Studies in Lexical Relations." Unpublished Ph. D. dissertation, M.I.T.

Hall, Barbara C. (1965). "Subject and Object in Modern English." Unpublished Ph. D. dissertation, M.I.T.

Hasegawa, Kinsuke. (1968). "The Passive Construction in English," Language, 44, 230-243.

Jacobs, Roderick A. and Peter S. Rosenbaum. (1968). English Transformational Grammar. Waltham, Mass.: Blaisdell.

Kac, Michael B. (1969). "Should the Passive Transformation be Obligatory?" Journal of Linguistics, 5, 1, 145-7.

Katz, Jerrold J. and Paul M. Postal. (1964). An Integrated Theory of Linguistic Descriptions. Cambridge: M.I.T.

Kiparsky, Paul and Carol Kiparsky. (1968). "Fact." Unpublished paper, M.I.T. (to appear in Bierwisch and Heidolph (eds.), Recent Advances in Linguistics. The Hague: Mouton).

Kursus Bahasa Kebangsaan I, II, III. (1960, 61, 63). (Course in the National Language). Kuala Lumpur: Dewan Bahasa dan Pustaka.

Lakoff, George. (1965). On the Nature of Syntactic Irregularity. Mathematical and Automatic Translation (Report No. NSF 16, the Computation Laboratory, Harvard University). Cambridge: Harvard.

_____. (1966a). "Deep and Surface Grammar." Unfinished and unpublished paper. Harvard University.

_____. (1966b). "Stative Adjectives and Verbs in English," Mathematical and Automatic Translation (Report No. NSF 17, the Computation Laboratory, Harvard University). Cambridge: Harvard University. Section I.

Lakoff, Robin. (1968). "The Structure of the Complement," in Abstract Syntax and Latin Complementation, by R. Lakoff. Cambridge: M.I.T., Ch. 2, pp. 13-72.

Lees, Robert B. (1960). The Grammar of English Nominalizations. Indiana University Research Center in Anthropology, Folklore, and Linguistics. Publication 12 (identical with IJAL, XXVI, No. 3, Part II). Bloomington: Indiana University.

Lewis, Martha B. (1968). Sentence Analysis in Modern Malay. London: Cambridge University Press.

Matthews, Peter H. (1967). "Review of: Aspects of the Theory of Syntax (Chomsky)," Journal of Linguistics, 3, 1, 119-152.

McCawley, James D. (1968a). "Concerning the Base Component of a Transformational Grammar," Foundations of Language, 4, 3, 243-69.

_____. (1968b). "The Role of Semantics in a Grammar," in Universals in Linguistic Theory (eds. E. Bach and Robert T. Harms). New York: Holt, Rinehart and Winston. Pp. 125-69.

Ōshima, Shin. (1969). "The Hierarchy in a Lexicon with a Special Reference to Word-Derivation in English," Studies in English Literature. The English Literary Society of Japan. XLV, No. 2, pp. 193-204.

Othman bin Sulaiman. (1963, 64, 65, 66). Suloh Bahasa I, II, III, IV. (Language Guide). Kuala Lumpur: Dewan Bahasa dan Pustaka.

Perlmutter, David M. (1968a). "Evidence for Deep Structure Constraints in Syntax." (Unpublished and preliminary version of the Introduction and Chapter One of his doctoral dissertation Deep and Surface Structure Constraints in Syntax, M.I.T.).

_____. (1968b). "The Like-Subject Constraint in English." (Unpublished and preliminary version of Chapter Two of his doctoral dissertation Deep and Surface Structure Constraints in Syntax, M.I.T.).

Postal, Paul M. (1968). "Cross Over Phenomena: A Study in the Grammar of Coreference," in Specification and Utilization of a Transformational Grammar, by W.J. Plath, Scientific Report No. 3, IBM. Section I.

Rosenbaum, Peter S. (1967). The Grammar of English Predicate Complement Constructions. Cambridge: M.I.T.

_____. (1968). English Grammar II, Section I of Scientific Report 2 on Specification and Utilization of a Transformational Grammar, IBM.

_____. and Dorita Lochak. (1966). "The IBM Core Grammar of English," in Specification and Utilization of a Transformational Grammar, by D. Lieberman, Scientific Report No. 1, IBM.

Ross, John R. (1966). "A Proposed Rule of Tree-Pruning," Mathematical and Automatic Translation (Report No. 17, the Computation Laboratory, Harvard University), Cambridge: Harvard University. Section IV.

_____. (1967). "Constraints on Variables in Syntax." Unpublished Ph. D. dissertation, M.I.T.

_____. (1968). "On Declarative Sentences." Unpublished paper, M.I.T. (to appear in R. Jacobs and P. Rosenbaum (eds.), Readings in Transformational Grammar).

Sarumpaet, J.P. and J.A.C. Mackie. (1966). Introduction to Bahasa Indonesia. New York: Cambridge University Press.

Stockwell, Robert P., Paul Schachter and Barbara Hall Partee. (1968). Integration of Transformational Theories on English Syntax. Bedford, Mass.: Electronic Systems Division.

Takdir Alisjahbana, Sutan. (1964). Tatabahasa Baru Melayu Indonesia. (New Grammar of Malay). Kuala Lumpur: Zaman Baru Ltd.

Teeuw, A. (1961). A Critical Survey of Studies on Malay and Bahasa Indonesia. Koninklijk Instituut voor Taal-, Land- en Volkenkunde, Bibliographical Series No. 5. The Hague: Martinus Nyhoff.

Wagner, K. Heinz. (1968). "Verb Phrase Complementation: A Criticism," Journal of Linguistics, 4, 88-92.

Winstedt, R.O. (1914). Malay Grammar. Oxford: Claredon Press.

Zainal-'Abidin bin Ahmad. (1965). Pelita Bahasa Melayu. (Guide to Malay). Kuala Lumpur: Dewan Bahasa dan Pustaka.

A P P E N D I X

APPENDIX

The following fragment grammar summarizes the rules proposed in this thesis to account for the object complements in Malay.

A FRAGMENT GRAMMAR OF THE OBJECT COMPLEMENTS IN MALAY

BASE COMPONENT:

Branching Rules

$S \longrightarrow NP \quad VP$

$VP \longrightarrow V \ ((NP) \ NP)$

$NP \longrightarrow \begin{Bmatrix} (NP) \ S \\ N \end{Bmatrix}$

$X \longrightarrow [+X]$, where X = N, V

Grammatical Feature Rules

$[+V] \longrightarrow [\pm neg]$

$[+N] \longrightarrow [\pm def]$

Deep Structure Constraint 1

SD $\quad X \quad [V \quad NP \quad NP]_{VP} \quad Y$

$\qquad\quad 1 \quad 2 \quad 3 \quad 4 \qquad 5$

Cond. 3 directly dominates S

LEXICON:

Lexical Redundancy Rules

$[+hum] \longrightarrow [+an]$

$[-an] \longrightarrow [-hum]$

$[+abs] \longrightarrow [-an]$

$\begin{Bmatrix} [+ID] \\ [+SD] \end{Bmatrix} \longrightarrow [+D]$

Lexical Entries

minta (ask) [+V, +verb, -stat, +ID]/$[+an]_{NP}$--$[+an]_{NP}[S]_{NP}$

suroh (order) " "

tolong (help) " "

benar (allow) " "

ajar (teach) " "

ingat (remind) " "

beritahu (tell) " "

galak (encourage) " "

harap (expect) " "

beri (give) [+V, +verb, -stat, -ID]/$[+an]_{NP}$--$[+an]_{NP}[-abs]_{NP}$

ajar (teach) [+V, +verb, -stat]/$[+an]_{NP}$--$[+an]_{NP}[-abs]_{NP}$

ingat (remind) [+V, +verb, -stat, -D]/$[+an]_{NP}$--$[+an]_{NP}[-abs]_{NP}$

beritahu (tell) " "

chuba (try) [+V, +verb, -stat, +SD]/$[+an]_{NP}$--$[S]_{NP}$

chita2 (aspire) " "

bawa (escort) [+V, +verb, -stat, -SD]/$[+an]_{NP}$--$[-abs]_{NP}$

jalan (walk) " "

tahu (know) [+V, +verb, +stat, -D]/$[+an]_{NP}$--NP

kata (say) [+V, +verb, -stat, -D]/$[+an]_{NP}$--$[+abs]_{NP}$

setuju (agree) " "

tunjok (show) [+V, +verb, -stat, -D]/NP--$[+an]_{NP}$ NP

jelas (clear) [+V, -verb, +stat, -D]/$[+abs]_{NP}$--;

nyata (clear) " "

patut (proper) " "

kesal (annoyed) $[+V, -verb, -stat, -D]/[+an]_{NP}--[+abs]_{NP}$

malu (ashamed) $[+V, -verb, -stat, \begin{Bmatrix}-D\\-E\end{Bmatrix}]/[+an]_{NP}--[+abs]_{NP}$

anak (child) [+N, +hum]

rumah (house) [+N, -an, -abs]

ayer (water) [+N, -an, -abs]

tudohan (allegation) [+N, +abs]

surat (letter) [+N, -an, -abs]

maksud (intention) [+N, +abs]

orang (person) [+N, +hum]

Deep Structure Constraint 2

$$\begin{array}{cccccccc} SD & X & [+ID]_V & NP & \left[[NP & VP]_S\right]_{NP} & Y \\ & 1 & 2 & 3 & 4 & 5 & & 6 \end{array}$$

Cond. $3 \neq 4$

Deep Structure Constraint 3

$$\begin{array}{cccccccc} SD & X & [-ID]_V & NP & \left[[NP & VP]_S\right]_{NP} & Y \\ & 1 & 2 & 3 & 4 & 5 & & 6 \end{array}$$

Cond. $3 = 4$

Deep Structure Constraint 4

$$\begin{array}{cccccc} SD & NP & [+SD]_V & \left[[NP & VP]_S\right]_{NP} & Y \\ & 1 & 2 & 3 & 4 & & 5 \end{array}$$

Cond. $1 \neq 3$

Deep Structure Constraint 5

$$\text{SD} \quad \text{NP} \quad [\text{-SD}]_{V} \quad \left[[\text{NP} \quad \text{VP}]_{S} \right]_{NP} \quad \text{Y}$$

$$1 \qquad 2 \qquad 3 \quad 4 \qquad 5$$

Cond. 1 = 3

Deep Structure Constraint 6

$$\text{SD} \quad \text{X} \quad [\text{+ID}]_{V} \quad \text{NP} \quad \left[[\text{NP} \quad \text{V} \quad \text{X}]_{S} \right]_{NP} \quad \text{Y}$$

$$1 \qquad 2 \qquad 3 \qquad 4 \quad 5 \quad 6 \qquad 7$$

Cond. 5 does not contain $\begin{bmatrix} \text{+verb} \\ \text{-stat} \end{bmatrix}$

TRANSFORMATIONAL COMPONENT:

1. Complementizer Placement - optional.

$$\text{SD} \quad \text{X} \quad \begin{bmatrix} \text{+V} \\ \alpha\text{D} \\ (\beta\text{E}) \end{bmatrix}_{V} \quad \text{W} \quad [\text{S}]_{NP} \quad \text{Y}$$

$$1 \qquad 2 \qquad 3 \qquad 4 \qquad 5$$

$$\text{SC} \quad 1, \quad 2, \quad 3, \quad \begin{bmatrix} \text{+COMP} \\ \alpha\text{D} \\ (\beta\text{E}) \end{bmatrix} \quad + \quad 4, \quad 5$$

2. Identity Erasure - optional

$$\text{SD} \quad \text{X} \quad \text{NP} \quad \begin{bmatrix} \text{V} & \emptyset \\ [\text{+ID}]_{V} & \text{NP} \end{bmatrix}_{a \quad a} \quad \text{W} \quad \left[\text{NP} \quad \begin{bmatrix} \text{+verb} \\ \text{-stat} \end{bmatrix}_{V} \quad \text{Y} \right]_{S} \quad \text{X}$$

$$1 \quad 2 \qquad 3 \qquad 4 \quad 5 \quad 6 \qquad 7 \qquad 8 \qquad 9$$

Cond. W $\neq$ NP

$$\begin{bmatrix} 2 \\ 4 \end{bmatrix}_{a \quad a} = 6$$

SC 1, 2, 3, 4, 5, ∅, 7, 8, 9

3. Passive - optional.

SD X $[X]_{NP}$ $\left[\left[\begin{matrix}X\\ +verb\end{matrix}\right]_{V}\right.$ W $[X]_{NP}\left.\right]_{VP}$ Y

Cond. 2 ≠ 5

2, 5 do not directly dominate VP

SC 1, 5, <u>di-</u> + 3, 4, <u>oleh</u> + 2, 6

4. Post-posing - optional

SD # X $\left[([+COMP])\ S\right]_{NP}$ $_{VP}\left[X\ [-verb]_{V}\ Y\right]_{VP}$ #

1 2 3 4 5

SC 1, 2, ∅, 4, 3, 5

5. PRO-deletion - obligatory.

SD X $\left[(\underline{oleh})\ [PRO]_{N}\ X\right]_{NP}$ Y

1 2 3

SC 1, ∅, 3