

Syntactic Analysis of Movement Transformation in *Bahasa Indonesia*

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ABSTRACT

The objective of this article was to analyse the types of movement transformation which is applied in *Bahasa Indonesia*. This article aims to collect ideas, theories, and reported empirical data within the context of scholarship in the library. The theory used in this article was taken from the theory of Transformational Generative Grammar (TGG) introduced by Noam Chomsky. This article was an attempt to highlight how Chomsky's concept called movement transformation works in *Bahasa Indonesia*. The data were taken from some sentences in Bahasa Indonesia. In this article, the sentences were analysed by using IC analysis. IC analysis is a method of analysing sentences by dividing them into their constituent structures. The methods used in analysing sentences were bracketing and tree diagram. Some types of movement transformation that were applied in *Bahasa Indonesia* were Affix Hopping, Interrogative (Aux Movement), Wh-Movement, Passive Transformation, Dative Movement, Topicalization, Particle Movement, and Relative Movement.

Keywords: *Movement Transformation; Deep Structure; Surface Structure; Transformational Rule.*

INTRODUCTION

Language does not consist of a single system; however, it consists of some sub systems such as phonology, morphology, and syntax. These sub systems are called grammar of language. Chomsky states that a grammar is a *model* (=systematic description) of those linguistic abilities of native speakers of a language which enable them to speak and understand their language fluently (Radford, 1988). From the description above, it can be concluded that language consists of a set of rules which is known as grammar. Chomsky (1965) introduced a concept, namely competence and performance. Competence is the fluent native speaker's knowledge of his language; meanwhile, performance is what people actually say or understand by what someone else says on a given occasion. On the other hand, competence is 'the speaker-hearer's knowledge of his language', while performance is 'the actual use of language in concrete situations'.

Based on the concept, Chomsky introduced a theory of grammar called Transformational Generative Grammar (TGG) or Transformational Syntax. TGG or Transformational Syntax is a method of sentence formation. In sentence formation, a sentence derives from Deep Structure (DS) or D-Structure. D-Structure exists in the mind of speakers. D-Structure will show the meaning intended by the speakers. Syntactic rules will be applied in the D-Structure; then, Surface Structure (SS) or S-

Structure will be obtained. D-Structure can be defined as the structure of a sentence which is represented in the tree diagram and phrase markers which becomes the input of the application of (a) syntactic rule(s), which underlies the meaning of the sentence; meanwhile, S-Structure is the structure which is obtained from the application of (a) syntactic rule(s) to the deep structure of a sentence, which is generally used in communication. There are three kinds of transformational rule, namely movement transformation, deletion transformation, and substitution transformation. In this research, movement transformation is the focus of discussion. Movement Transformation consists of some types such as Affix Hopping, Interrogative (Aux Movement), Wh-Movement, Passive Transformation, Dative Movement, Topicalization, Particle Movement, and Relative Movement.

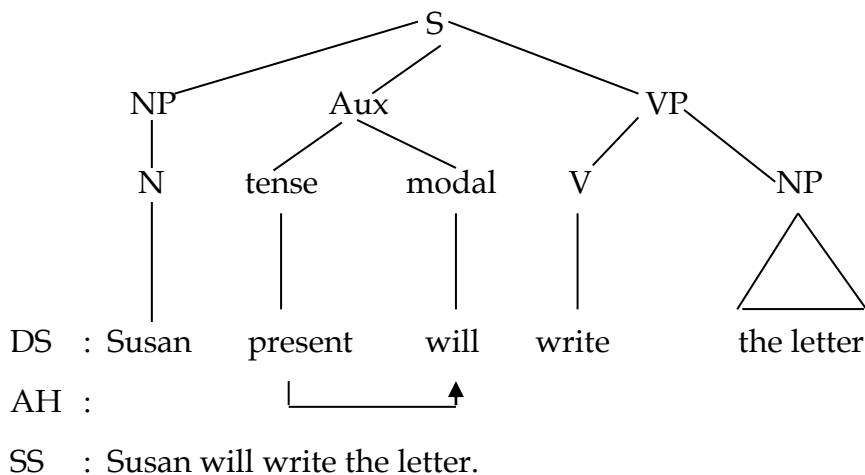
Affix Hopping

The transformational rule that joins Tense with the verb in English is called Affix-hopping (Ouhalla, 1999). The rule says, "Move Tense (from Aux) to V provided Aux does not dominate a Modal". Another linguist such as Lester (1971) names this rule in another term, i.e. the flip-flop rule as he says in the following:

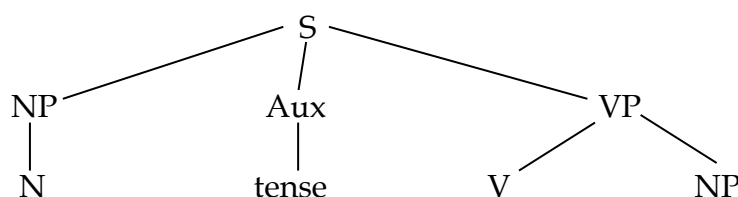
Since the tense is generated to the left of whatever verb it will be eventually attached to, we must have some way of moving the tense marker from the left side of the verb to the right side of the verb so that it may be attached as a suffix....This particular transformational rule is used so often that it has a special nickname: the flip-flop rule.

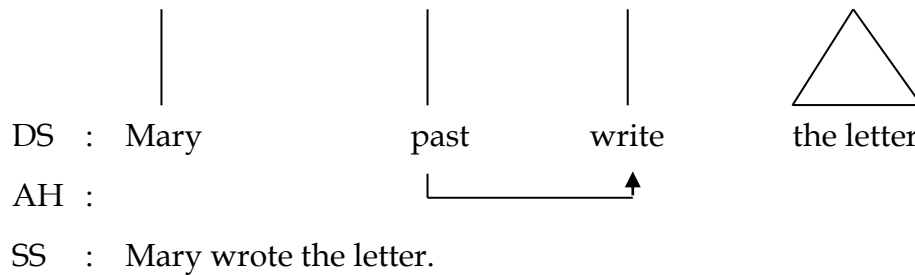
For example:

a. Susan will write the letter.



b. Mary wrote the letter.

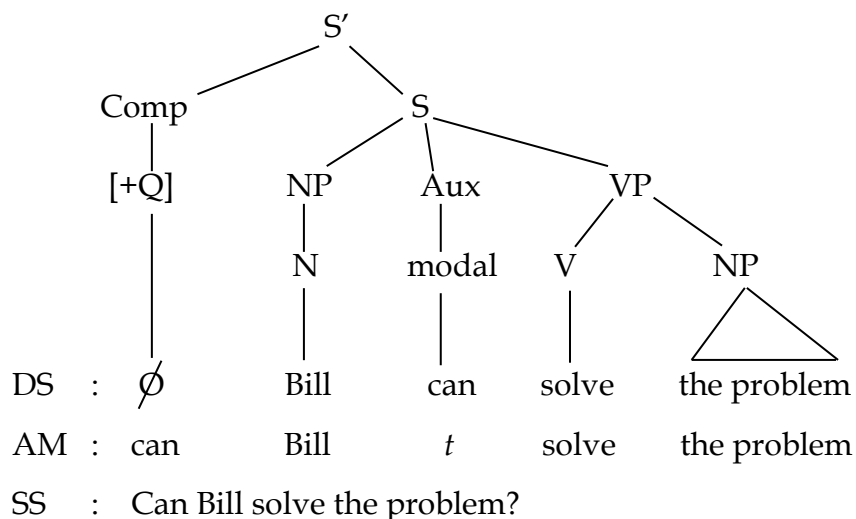




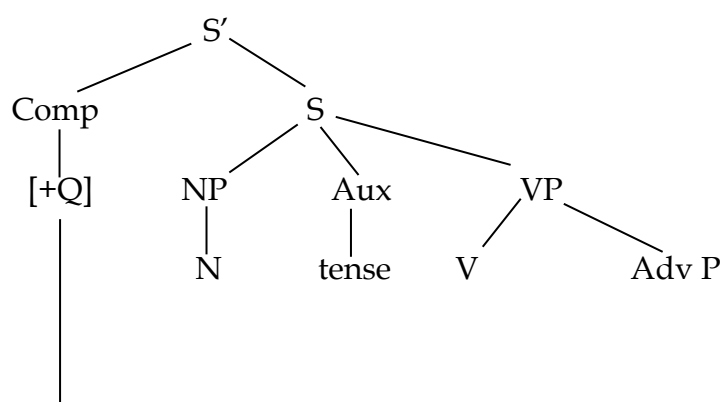
Interrogative (Aux Movement)

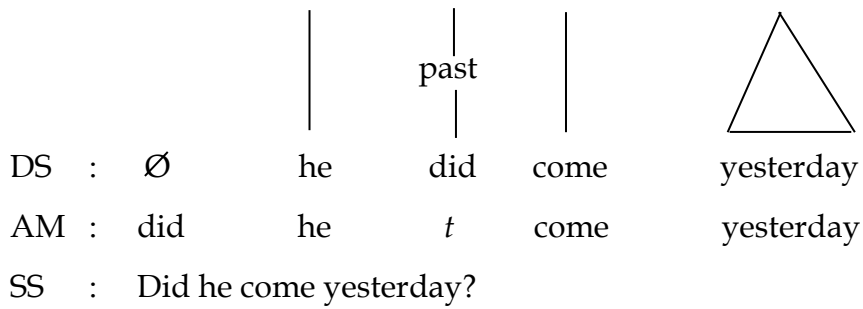
The main characteristic of yes-no questions (questions which typically require 'yes' or 'no' for an answer) is that Aux and the subject appear 'inverted' compared to their order in declarative sentences. Presumably, yes-no questions are derived from a DS representation where Aux is to the right of the subject seen in declarative sentences. The position in question is Comp. Comp (Complementizer) is a super constituent as it is the constituent of a super clause or sentence. The Comp of yes-no questions is marked with the feature [+Q], and therefore requires movement to it. The rule is called Aux-raising (Aux Movement). The rule says, "Move Aux to Comp, provided Comp has the feature specification [+Q]". For example:

a. Can Bill solve the problem?



b. Did he come yesterday?

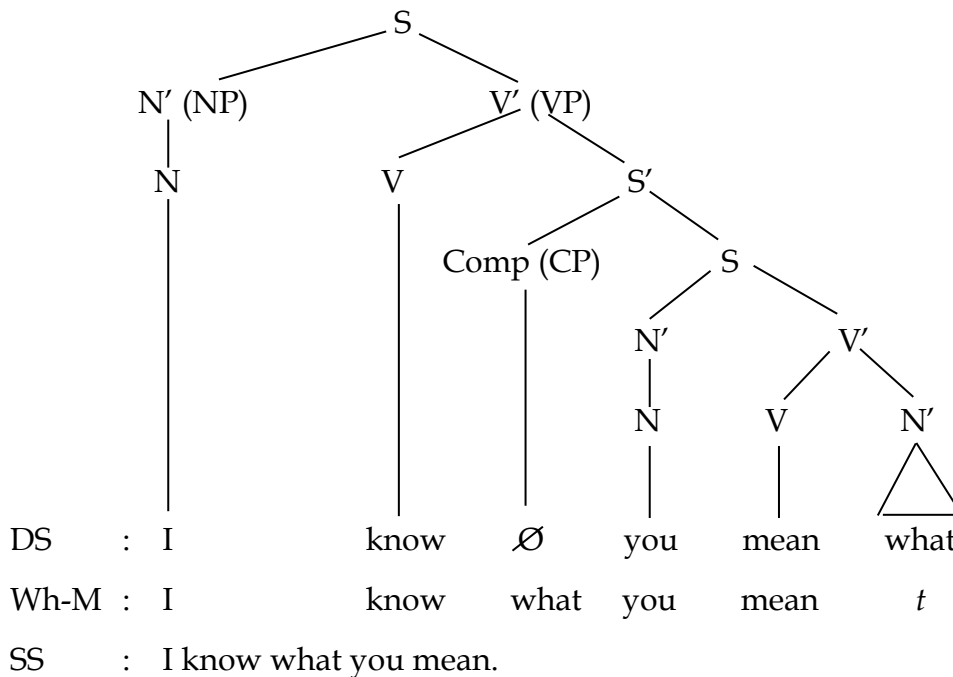




't' stands for 'Trace'. Trace is an empty category which encodes the base-position of a moved constituent. The moved element is called the antecedent of the trace (Haegeman, 1994).

Wh-Movement

The transformation responsible for movement of the wh-phrase to the sentence initial position is called Wh-Movement (Ouhalla, 1999). The rule says, "Move wh-XP to Comp". For example: I know what you mean.



Passive Transformation

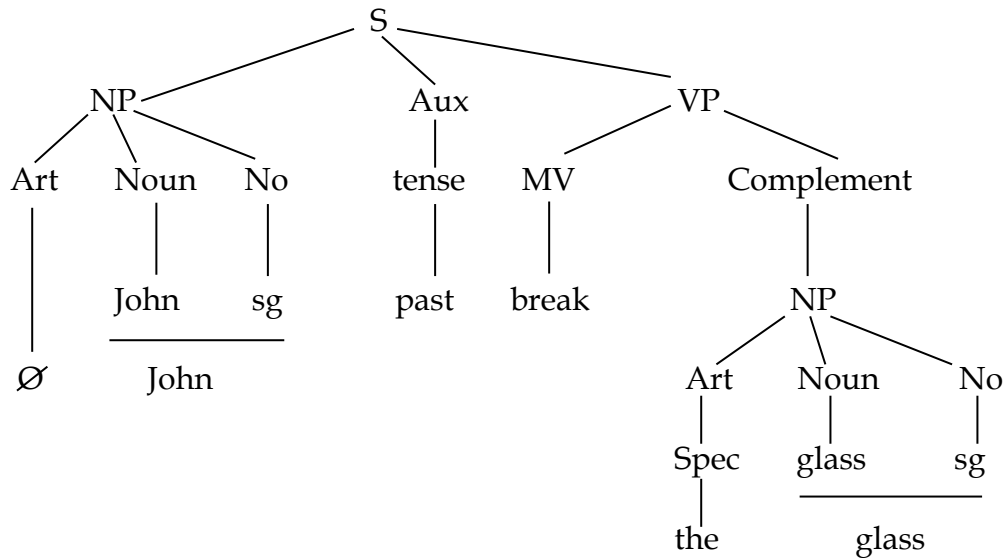
The passive transformation can be broken down into a group of elementary transformational operations. The order in which these are presented is solely a matter of convenience, since there is no compelling evidence that indicates that the operations are relatively ordered. They are:

- NP switch rule: the subject NP and object NP change places.
- by*-insertion rule: *by* is inserted between the main verb and the following NP (which was the original subject).

- c. *be -EN* insertion rule: *be -EN* is inserted between the last element of the auxiliary and the main verb.

For example:

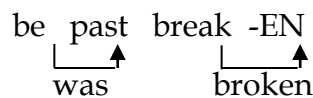
The glass was broken by John.



by passive

- (1) NP-switch rule: the glass past break John
(2) *by*-insertion rule:
 be -EN by
(3) *be -EN* insertion rule:

by flip-flop rule:



Jumino (2004) states that a passive sentence was derived from the corresponding active by applying an optional transformational rule such as:

Structural Description (SD)	:	NP	Aux	V	NP
Structural Index (SI)	:	1	2	3	4
Structural Change (SC)	:	4	2 + be	3 + en	by + 1

Therefore, the rule above can be simplified as follows:

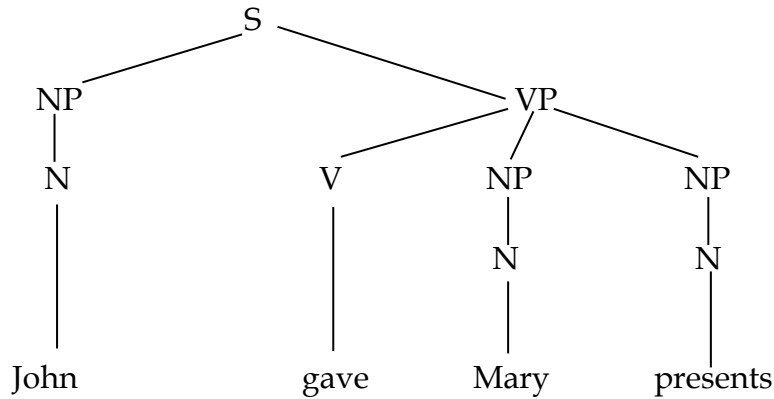
The glass was broken by John.

DS :	John	past	break	<u>the glass</u>
SI :	1	2	3	4
SC :	4	2 + be	3 + en	by + 1
SS :	The glass was broken by John.			

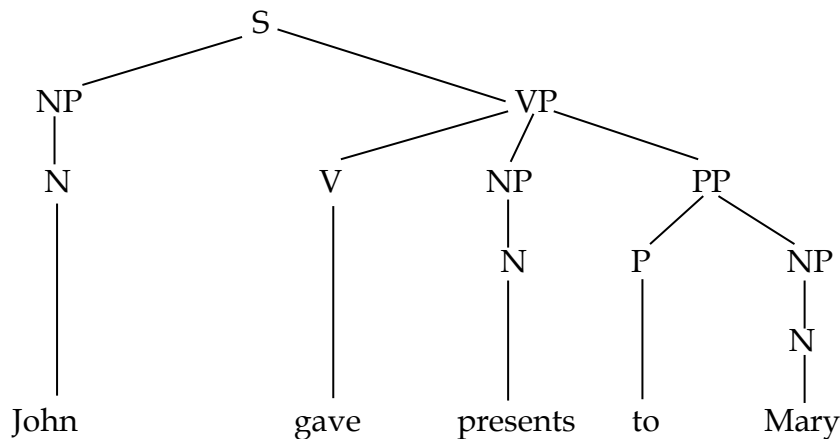
Dative Movement (Dative Shift)

Dative movement is called as *Dative Shift* as Ouhalla says in his book. This is the movement of NP as an object. Radford (1981) gives a simple example of dative movement (dative shift), 'John gave Mary presents'.

a.



b.



Topicalisation

Topicalisation is a process of moving NP as an object into the initial position of a sentence. The NP is moved because the speaker wants to emphasize it. It is regarded as the most important message that the speaker wants to emphasize. Ouhalla (1999) gives an example of topicalisation.

This problem, I can solve.

DS : [S [NP [N I]] [Aux can] [VP [V solve] [NP this problem]]]

Top. : [S [NP this problem] [NP [N I]] [Aux can] [VP [V solve] [NP t]]]

SS : This problem, I can solve.

Particle Movement

Particle movement is very unique. It means that the movement can be optional, compulsory, or even restricted based on some conditions (requirements).

a. Particle movement is optional if the object is a simple NP, for example:

Mark sent the boy out.

DS : Mark sent out the boy

SI : 1 2 3 4

SC : 1 2 4 3

SS : Mark sent the boy out.

If the rule is not applied in the Deep structure, 'Mark sent out the boy', the structure is still acceptable because the object is a simple NP. Both of the structures, deep structure and surface structure, are acceptable.

- b. Particle movement is also compulsory if the object is a pronoun, for example:

Mark sent him out.

DS : Mark sent out him

SI : 1 2 3 4

SC : 1 2 4 3

SS : Mark sent him out.

The rule must be applied in the sentence because the object is a pronoun 'him'.

If the particle 'out' is not moved, the sentence becomes ungrammatical.

- c. Particle movement can be restricted if the object is a heavy NP, for example:

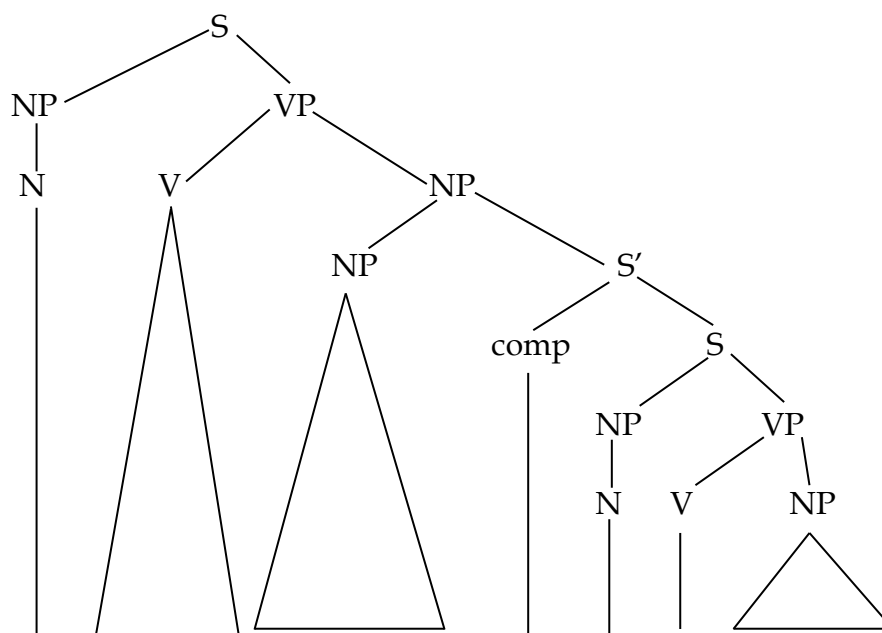
DS : Mark sent out the boy who always makes noise in the class ↑
 Part.M: _____

SS : *Mark sent the boy who always makes noise in the class out.

In the above example, if the particle 'out' is moved into the final position, the surface structure becomes unacceptable.

Relative Movement

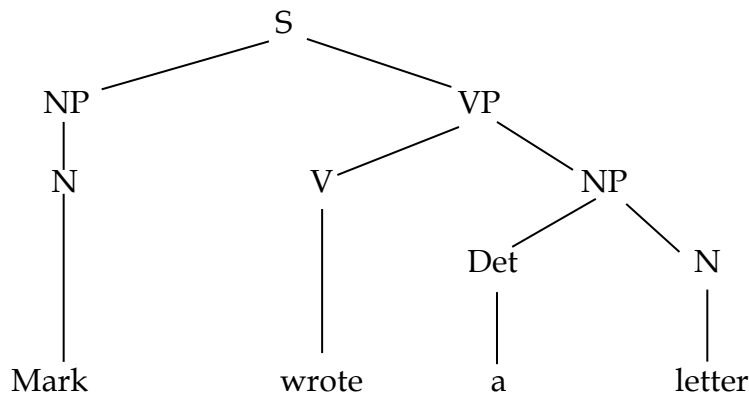
Relative movement is a part of Wh-Movement. Relative has a role as an adjective to modify a noun. The clause which modifies a noun is called relative clause. This relative must be moved into Comp position. Comp also accommodates the constituent such as the relative, for example: 'Mary will invite her old friend whom she loves'.



DS : Mary will invite her old friend O/ she loves her old friend
 Rel. : Mary will invite her old friend O/ she loves whom
 Rel. M : Mary will invite her old friend whom she loves *t*
 SS : Mary will invite her old friend whom she loves.

METHOD

The objective of this article was to analyse the types of movement transformation which is applied in *Bahasa Indonesia*. This article aims to collect ideas, theories, and reported empirical data within the context of scholarship in the library. The theory used in this article was taken from the theory of Transformational Generative Grammar (TGG) introduced by Noam Chomsky. This article was an attempt to highlight how Chomsky's concept called movement transformation works in *Bahasa Indonesia*. The data were taken from some sentences in *Bahasa Indonesia*. In this article, the sentences were analysed by using IC analysis. IC analysis is a method of analysing sentences by dividing them into their constituent structures. The methods used in analysing sentences were bracketing and tree diagram. The sentences are divided into some phrase markers such as Noun Phrase (NP), Verb Phrase (VP), Adverb Phrase (Adv P), Adjective Phrase (Adj P), and Prepositional Phrase (PP). A sentence consists of Noun Phrase (NP) and Verb Phrase (VP). Then, grammatical categories can be determined from those phrase markers. For example: 'Mark wrote a letter'.



In bracketing, the sentence is analysed as follows:

[S [NP Mark] [VP [V wrote] [NP [Det a [N letter]]]]]

FINDINGS AND DISCUSSION

Movement Transformations in *Bahasa Indonesia*

Before we come to the description about movement transformations in *Bahasa Indonesia*, we will see the brief history of *Bahasa Indonesia*. Indonesia lies between 6° LU-11° LS and 95° BT-141° BT. The official language of Indonesia is *Bahasa Indonesia*.

Bahasa Indonesia derives from Malay language which has already been used as a lingua franca not only in Indonesia, but also in South East Asian countries (Arifin and Tasai, 2000). *Bahasa Indonesia* was legalised as an official language in Indonesia by *Kongres Pemuda Indonesia* on 28th October 1928. The Congress produced several things which are known as Youth Oath (*Sumpah Pemuda*). One of the contents of *Sumpah Pemuda* is to declare a unity language, i.e. *Bahasa Indonesia*. From that moment, *Bahasa Indonesia* is used as an official language in Indonesia (Arifin and Tasai, 2000). Structurally, *Bahasa Indonesia* is not too much different from English. *Bahasa Indonesia* consists of at least Subject (S) and Predicate (P). Predicate (P) can be occupied by Verb (*Kata Kerja*) only, or Verb (*Kata Kerja*) and Object (*Objek*), or Verb (*Kata Kerja*) and Adverb (*Kata Keterangan*), etc. So, phrase markers in *Bahasa Indonesia* are similar to that in English, we can find Noun Phrase (*Frasa Nominal/Benda*), Verb Phrase (*Frasa Verbal/Kerja*), Adverb Phrase (*Frasa Adverbial/Keterangan*), Adjective Phrase (*Frasa Adjektival/Sifat*), Prepositional Phrase (*Frasa Preposisional*), etc. Therefore, from those similarities, we will see the application of movement transformations in *Bahasa Indonesia*.

Affix Hopping

In *Bahasa Indonesia*, there is no tense. The time marker is indicated by adverbs (*kata keterangan*) such as *kemarin* 'yesterday', *besok* 'tomorrow', etc. In English, an adverb may be omitted because the time marker is predicted from the verb form whether it is in the present or in the past tense. However, the adverb of time may be given to emphasize the time. For example:

Wahyu wrote a letter yesterday.

Wahyu wrote a letter yesterday
 menulis sebuah surat kemarin

Wahyu menulis sebuah surat kemarin.

Actually, the D-Structure of the sentence is 'Wahyu did write a letter yesterday'. Meanwhile, in *Bahasa Indonesia*, 'did' has no meaning. However, in *Bahasa Indonesia*, 'did' can be replaced by *finit ada* (Saragih, 2003). Saragih (2003) says that *finit ada* has a similar function with finite 'do', 'does', and 'did' in English. Finite is a verbal operator or another part of verb which limits the linguistic experience based on tense, modality, and polarity. Furthermore, finite functions to form declarative, interrogative, and imperative as Saragih (2003) says in the following:

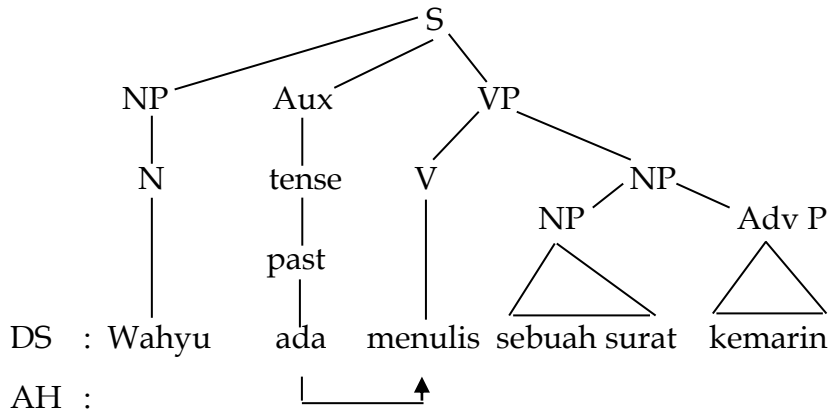
Finit adalah operator verbal atau bagian dari kata kerja yang membatasi pengalaman linguistik berdasarkan kala, modalitas, dan polaritas. Selanjutnya finit berfungsi membentuk modus deklaratif, interogatif, dan imperatif....

In English, Finite is a verbal operator or a part of verb which limits linguistic experiences based on tense, modality, and polarity. Furthermore, finite functions to form declarative, interrogative, and imperative. Therefore, from the description, the sentence can be analysed as follows:

Wahyu did write a letter yesterday.

Wahyu did write a letter yesterday
 ada menulis sebuah surat kemarin

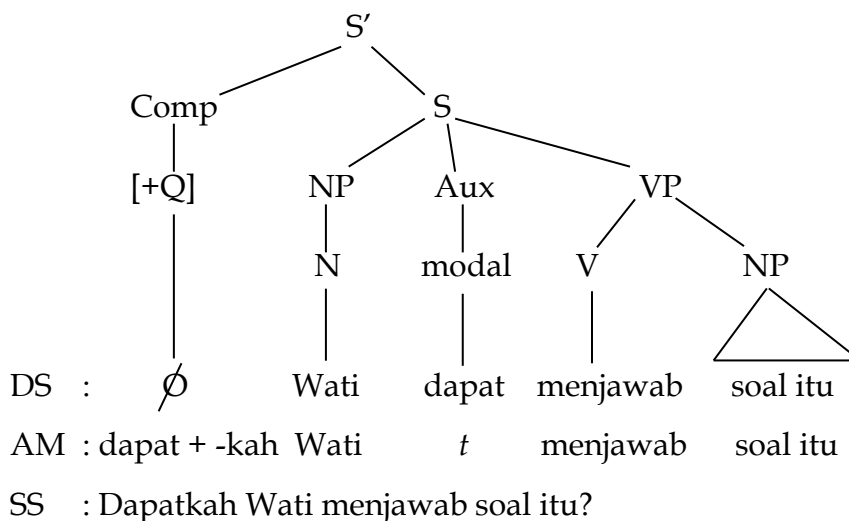
Wahyu ada menulis sebuah surat kemarin.



Interrogative (Aux Movement)

In making yes-no questions (questions which typically require 'yes' or 'no' for an answer) in *Bahasa Indonesia*, the *finit* must be put into the initial position of the sentence, and then the particle *kah* is added in the *finit* (Chaer, 2006). For example: *Dapatkah Wati menjawab soal itu?*

Dapat + -kah Wati menjawab soal itu
 can answer question the
 Can Wati answer the question?



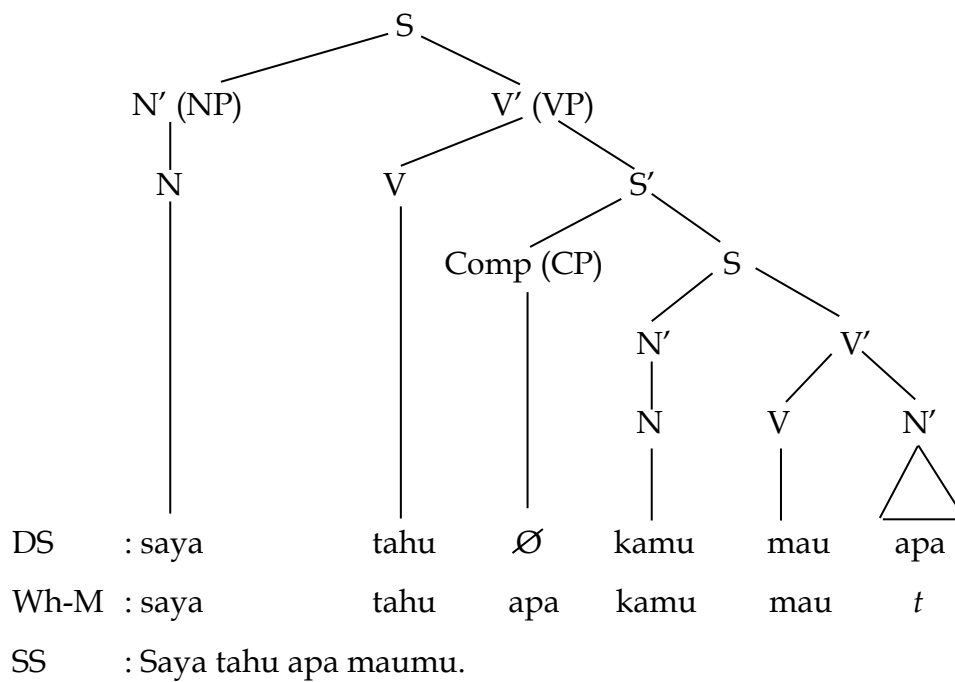
Wh-Movement

Wh-phrase is marked by the word 'what', 'where', 'who', 'whom', 'which', 'when', 'why', and 'how'. In *Bahasa Indonesia*, it is also marked by the word *apa*,

kemana, siapa, yang mana, kapan, mengapa, and bagaimana. These wh-phrases are used as subordinator conjunction. Wh-Movement in Bahasa Indonesia can be optional and compulsory.

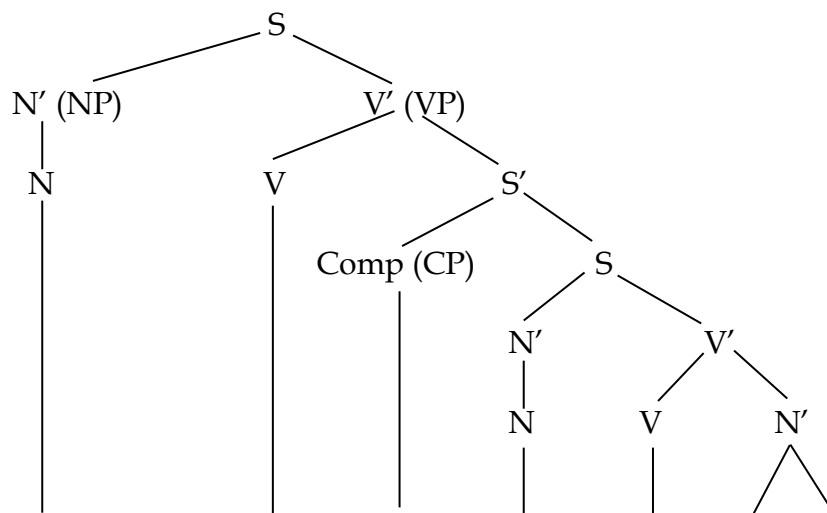
- a. Wh-Movement is optional for the wh-phrase *apa, siapa, kemana, kapan, and yang mana*, for example: *Saya tahu apa maumu*.

Saya tahu apa mau mu
 I know what want you
 I know what you want.



Saya tahu siapa yang kamu jumpai.

Saya tahu siapa yang kamu jumpai
 I know whom you meet
 I know whom you meet.



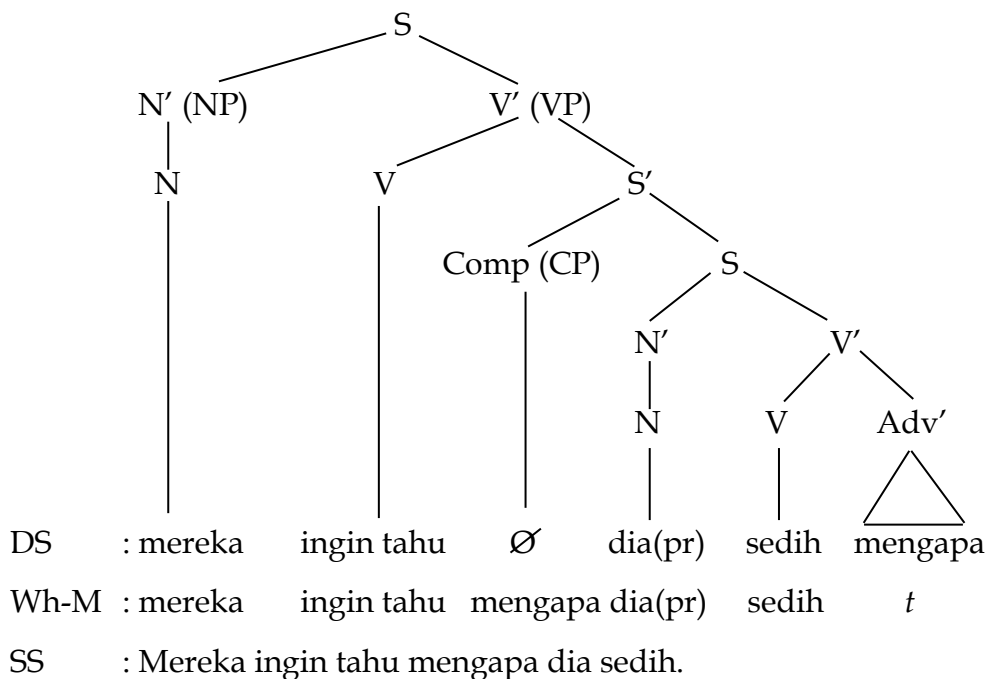
DS : saya tahu Ø kamu jumpai siapa
 Wh-M : saya tahu siapa kamu jumpai *t*
 SS : Saya tahu siapa yang kamu jumpai.

From those examples above, it can be concluded that Wh-movement is optional in *Bahasa Indonesia*. If the wh-phrase is not moved, the sentence is still acceptable.

b. Wh-Movement is compulsory for the wh-phrase *mengapa*, and *bagaimana*.

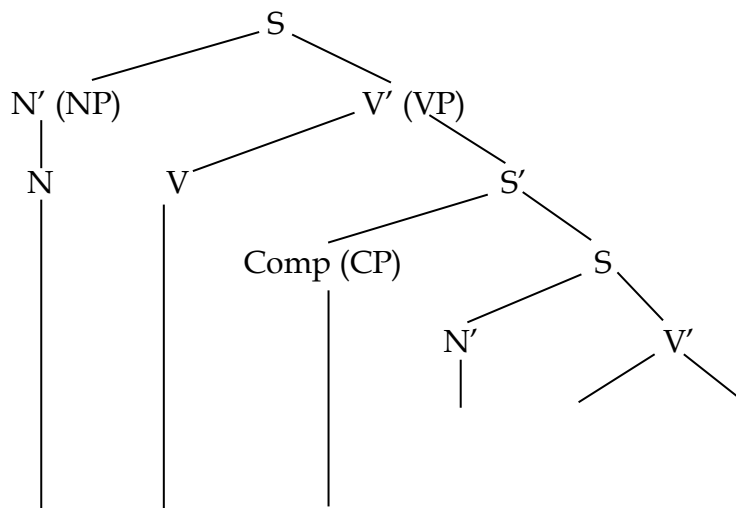
Mereka ingin tahu mengapa dia(pr) sedih.

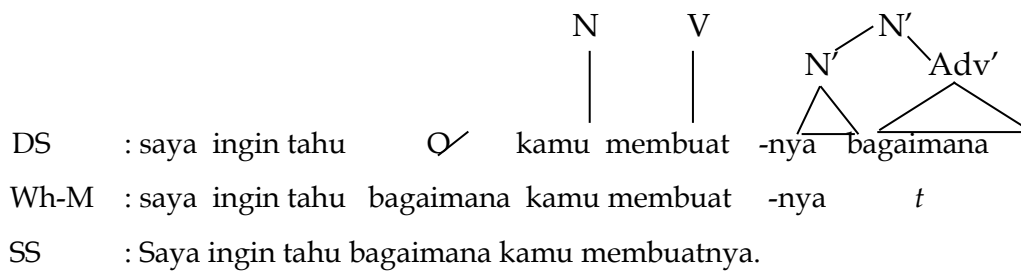
Mereka ingin tahu mengapa dia(pr) sedih
 they wonder why she sad
 They wonder why she is sad.



Saya ingin tahu bagaimana kamu membuatnya.

Saya ingin tahu bagaimana kamu membuat + -nya
 I wonder how you make it
 I wonder how you make it.





In the above sentences, the wh-phrase *mengapa* and *bagaimana* must move. Otherwise, the sentences become unacceptable. The sentence, *Mereka ingin tahu mengapa dia sedih*, is acceptable in Bahasa Indonesia not *Mereka ingin tahu dia sedih mengapa*.

Passive Transformation

Passive transformation in English is similar with that in *Bahasa Indonesia*. When making a passive sentence in *Bahasa Indonesia*, the subject of active sentence must be moved into the final position of the sentence as an agent, and the object moves into the initial position of the sentence as a subject. Then, the prefixes *di-* or *ter-* are added in the verb (*kata kerja*) of active sentence. The prefixes which form the passive sentence in *Bahasa Indonesia* are *di-* or *ter-*. For example:

- a. *Kursi itu dibuat oleh paman saya.*

Kursi itu di- + buat oleh paman saya
 chair the pref.pass. make by uncle my
 The chair was made by my uncle.

DS: paman saya me- + buat kursi itu
 SI : 1 2 3
 SC: 3 di- + 2 oleh + 1
 SS : Kursi itu dibuat oleh paman saya.

- b. *Jam saya dicuri oleh seseorang.*

Jam saya di- + curi oleh seseorang
 watch my pref.pass. steal by someone
 My watch was stolen by someone.

DS: seseorang me- + curi jam saya
 SI : 1 2 3
 SC: 3 di- + 2 oleh + 1
 SS : Jam saya dicuri (oleh seseorang).

Oleh seseorang can be omitted because it refers to an unknown person. Therefore, it is put into bracket. However, in informal conversation, people usually say *Jam saya dicuri orang*. Passive transformation is optional in *Bahasa Indonesia*. If the active is not changed into passive, the sentence is still acceptable. Therefore, both of the sentences, active and passive, are acceptable in *Bahasa Indonesia*.

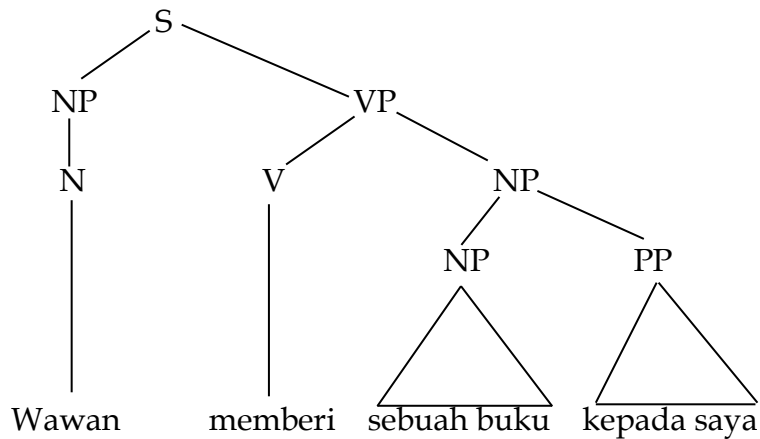
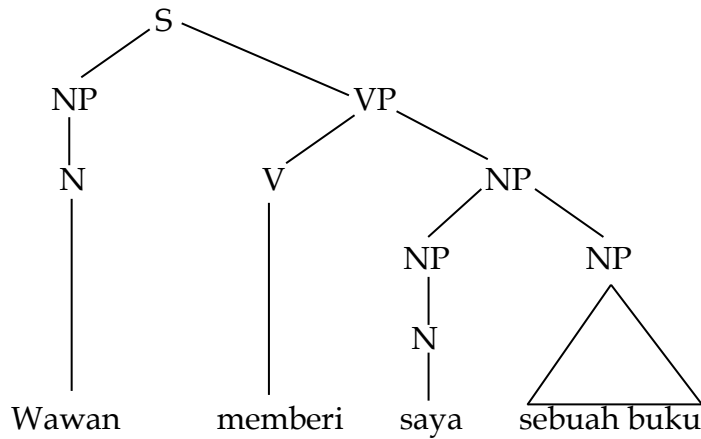
Dative Movement (Dative Shift)

In English, a sentence may have two objects, i.e. Indirect Object and Direct Object, for example 'John gave Mary a present'. 'Mary' is indirect object and 'a present' is direct object. In *Bahasa Indonesia*, indirect object is known as *objek tak langsung* or *objek penyerta* and direct object is known as *objek langsung* or *objek penderita*, for instance *Wawan memberi saya sebuah buku*. *Saya* is objek tak langsung/penyerta, and *sebuah buku* is objek langsung/penderita. The movement of these objects is called *Dative Movement* (*Dative Shift*). For example:

Wawan memberi saya sebuah buku.

Wawan memberi saya sebuah buku
gave me a book

Wawan gave me a book.



Dative shift is optional in *Bahasa Indonesia*. Both of the sentences, *Wawan memberi saya sebuah buku* and *Wawan memberi sebuah buku kepada saya*, are acceptable in *Bahasa Indonesia*. Both of the sentences can be used in conversation.

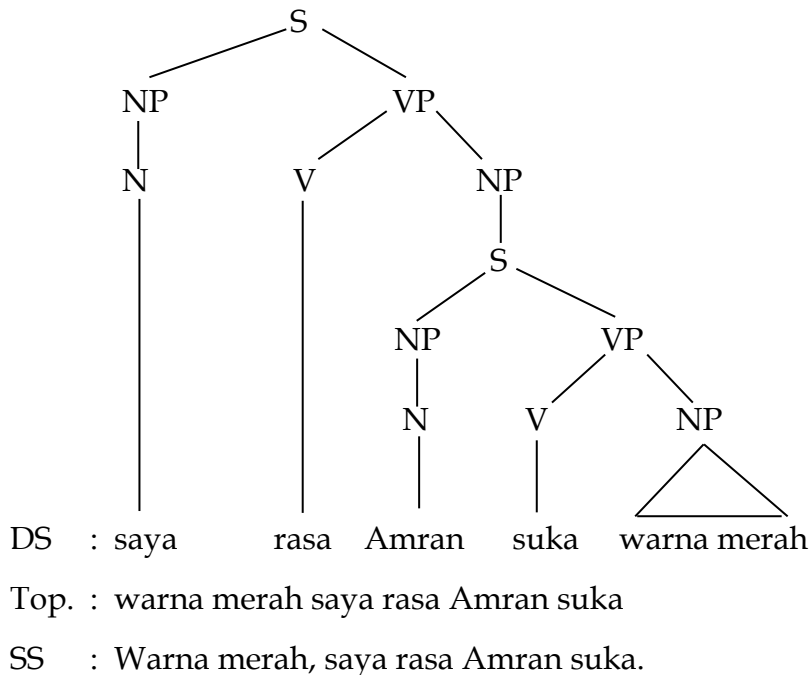
Topicalisation

Topicalisation can be applied in *Bahasa Indonesia*. Topicalisation is a process of moving NP as an object into the initial position of a sentence. Topicalisation occurs when the emphasis falls on the object. For example:

Warna merah, saya rasa Amran suka.

Warna merah saya rasa Amran suka
 colour red I think like

Red colour, I think Amran likes.



Topicalisation is optional in *Bahasa Indonesia*. The sentences, *Saya rasa Amran suka warna merah* and *Warna merah, saya rasa Amran suka*, are acceptable in *Bahasa Indonesia*.

Particle Movement

Particle in English is different from that in *Bahasa Indonesia*. Particle in *Bahasa Indonesia* are *-lah*, *-kah*, *-tah*, *-pun*, *-per* (Chaer, 2006). So, there is no particle movement in *Bahasa Indonesia*. However, we can compare it from the example of particle movement in English. In English, particle movement can be optional, compulsory, and restricted as we can see in the sentences below. If we compare it into *Bahasa Indonesia*, the rules of those sentences are similar with English.

- a. Mark sent the boy out.

Mark sent the boy out
 menyuruh itu anak laki-laki keluar

Mark menyuruh anak laki-laki itu keluar.

DS: Mark menyuruh keluar anak laki-laki itu

SI : 1 2 3 4
 SC: 1 2 4 3
 SS : Mark menyuruh anak laki-laki itu keluar.

Both of the sentences, *Mark menyuruh anak laki-laki itu keluar* and *Mark menyuruh keluar anak laki-laki itu*, are acceptable in *Bahasa Indonesia*.

- b. Mark sent him out.

Mark sent him out
 menyuruh dia(lk) keluar
Mark menyuruh dia keluar.

DS: Mark menyuruh keluar dia
 SI : 1 2 3 4
 SC: 1 2 4 3
 SS : Mark menyuruh dia keluar.

In the above example, the word *keluar* must move to the final position of the sentence, so the sentence *Mark menyuruh dia keluar* is acceptable in *Bahasa Indonesia*. If the word *keluar* is not moved, the sentence *Mark menyuruh keluar dia* is not acceptable in *Bahasa Indonesia*.

- c. *Mark sent the boy who always makes noise in the class out.

Mark sent the boy who always makes noise in the class out
 menyuruh anak laki-laki yang selalu membuat keributan di kelas keluar
Mark menyuruh anak laki-laki yang selalu membuat keributan di kelas keluar.

DS : Mark menyuruh keluar anak laki-laki yang selalu membuat keributan di kelas
 PM: Mark menyuruh anak laki-laki yang selalu membuat keributan di kelas keluar
 SS : *Mark menyuruh anak laki-laki yang selalu membuat keributan di kelas keluar.

The word *keluar* cannot be moved into the final position of the sentence. If the word *keluar* moves, the sentence becomes unacceptable. So, the sentence must be *Mark menyuruh keluar anak laki-laki yang selalu membuat keributan di kelas*.

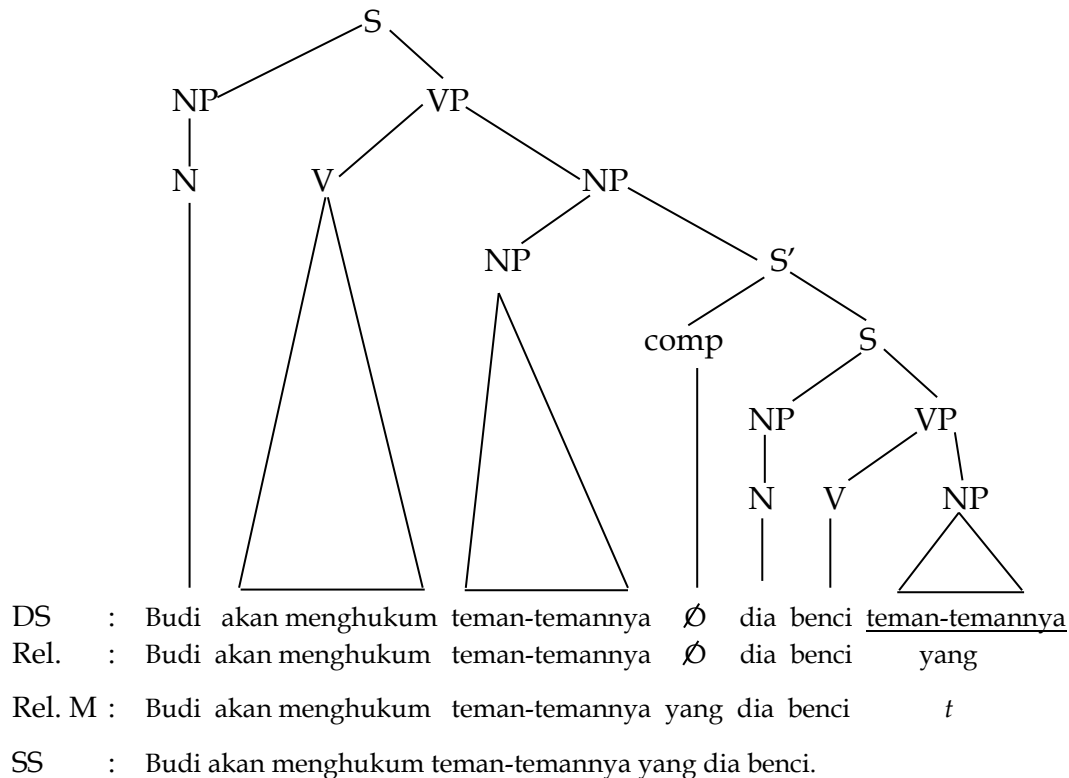
Relative Movement

Relative in *Bahasa Indonesia* is marked by the word *yang*. It has a role as an adjective to modify a noun. Therefore, it must move near the noun which is its antecedent. For example:

Budi akan menghukum teman-temannya yang dia benci.

Budi akan menghukum teman-teman + -nya yang dia benci
 will punish friends his whom he hate

Budi will punish his friends whom he hates.



CONCLUSION

Noam Chomsky introduced a concept, namely competence (the fluent native speaker's knowledge of his language/the speaker-hearer's knowledge of his language) and performance (what people actually say or understand by what someone else says on a given occasion/the actual use of language in concrete situations). Based on the concept, Chomsky introduced a theory of grammar called Transformational Generative Grammar (TGG) or Transformational Syntax. TGG or Transformational Syntax is a method of sentence formation. In sentence formation, a sentence derives from Deep Structure (DS) or D-Structure. D-Structure exists in the mind of speakers. D-Structure will show the meaning intended by the speakers. Syntactic rules will be applied in the D-Structure; then, Surface Structure (SS) or S-Structure will be obtained. D-Structure can be defined as the structure of a sentence which is represented in the tree diagram and phrase markers which becomes the input of the application of (a) syntactic rule(s), which underlies the meaning of the sentence; meanwhile, S-Structure is the structure which is obtained from the application of (a) syntactic rule(s) to the deep structure of a sentence, which is generally used in communication. One of syntactic rules is movement transformation that consists of some types such as Affix Hopping, Interrogative (Aux Movement), Wh-Movement, Passive Transformation, Dative Movement, Topicalization, Particle Movement, and Relative Movement.

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