AN ANALYSIS OF TRADITIONAL GRAMMAR, IMMEDIATE CONSTITUENT ANALYSIS, AND X-BAR SYNTAX THEORY

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Abstract

Daily usage of a language leads people to understand more about how the language is produced. The different understanding of a language leads to a different interpretation of the people who use it or even listen to it. Analyzing a human language is very important to minimize the miscalculation of the aspects inside the language. Letters which form a word and words or phrases which form a sentence are the parts that need to be examined. The analysis of those parts can be done in many ways. This paper presents three of many ways to analyze a sentence. They are traditional grammar, Immediate Constituent (IC) analysis, and X-bar theory. How the analysis works in understanding a sentence will be accompanied by a few examples that make them clearer. The paper will find out the weaknesses and the strengths of those analyzed through the explanations and examples.

Keywords: traditional grammar, IC-analysis, X-bar theory, strength, weakness

1. INTRODUCTION

Sentences are used as a daily tool for everybody in doing a conversation with others. From those created every day, the correctness is the thing to be maintained. To know whether a sentence is correct or incorrect, we need to analyze it. Analyzing a sentence can be done in various ways. We have to know how the theory works first before we realize the strengths and weaknesses of it. The result can be very useful to understand how good the sentence is.

In the following, the researcher will try to explain the analysis using traditional grammar, IC-analysis, and X-bar theory. A few examples accompanying the explanations help us to understand of what are discussed. Realizing about the discussion leads to the understanding of strengths and weaknesses of those theories. It is very important since the theories have been used for so many years.

2. TRADITIONAL GRAMMAR

Diachronically, Priscian as the most respected grammarian in the medieval period based his grammatical descriptions on the writing and speech of the best models available to him. With a few comments on his grammar the new pronunciation and grammar were preferred with the legalization of grammar in Latin language. This is the embryo that makes grammar as an important part of any language. The part of speeches were introduced in this period by grammarians as the noun which meant "substance" or "quality", the verb which meant "action" or "passivity", and so on.

Traditional grammar states the reason why certain grammatical features of a language occur and to explain how important the features are. This leads to the positive idea that traditional grammar gives a good explanation of the language. The traditional understanding of a sentence division is as subject and predicate or noun phrase (NP) and verb phrase (VP) as in
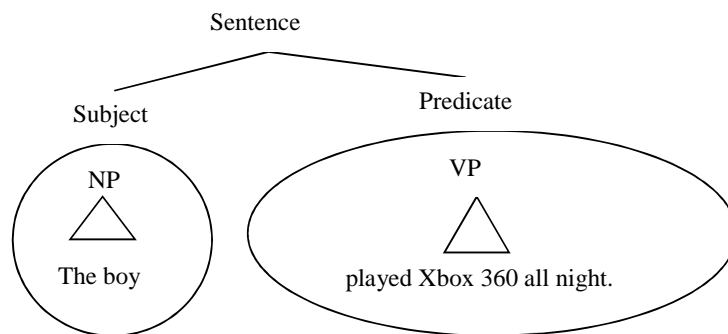
One way to analyze sentence structure is to think in terms of form and function. Form refers to a word class such as noun, verb, adjective, adverb, and preposition as well as types of phrases, such as prepositional phrase, nominal clause, and adverbial clause. Function word refers to a word that is important in grammar rather than its meaning in a sentence.

There are few forms of subject as a noun phrase in the sentence such as a bare noun phrase such as singular or plural noun phrases and a mass noun as in "*Students are at work*", a determiner phrase, a noun phrase which is preceded by a determiner (determiner + noun phrase) as in "*The teacher's car stopped outside our classroom*", a gerund, a phrase without a determiner. This gerund behaves like a noun phrase as in "*Watching movie is a pleasure*", an infinitive which is preceded by question words, who, what, why, when, where, and how, as an embedded clause as in "*To speak is easier than to do*" and "*What to do is a start for everything new*", a full clause which is introduced by a complementizer as in "*That the students do not understand the lesson is not important*", a direct quotation as in "*I like you is what she wants to hear from me*", imperative mood which states "you" as the subject recipient as in "*Submit the paper immediately!*", the words like *it* or *there* which do not refer to anything or place "*It's dangerous* and *There is a student in the room*", and the word *it* which is used as co-referent with a subordinate clause that comes after it as in "*It is known by his friends that he never cheats in every test*".

This predicate is one of the two main parts of a sentence. It must contain a verb as in "She sings" and other sentence elements that can make the predicate complete. They can be as direct objects (She reads the syntax book), indirect objects (She gave me a book), or object of preposition (She watches to the movie), noun predicative (Jakarta elected him governor), and adjuncts (She met me in the library). These predicates provide information about the subject, such as what the subject is, what the subject is doing, or what the subject is like.

There are forms of subject and predicative which must be connected by a linking verb. A *predicative nominal* such as *Pak Dwi is the lecture of Syntax* is the first form. "*the lecture of syntax*" here is a predicative nominal. It is a noun phrase that functions as the main predicate of the sentence. A *predicative adjective* as in *This lesson is attractive* is the second form. "*Attractive*" is the predicate adjective which functions as a predicate of the sentence.

Objects fall into three classes. They are direct objects, indirect objects, and objects preceded by a preposition. A direct object must be placed in a sentence when there is an indirect object in it. A direct object answers the question "What?" as in "The students watched The Dark Night Rises", while an indirect object which functions as the recipient of the direct object answers the question "To whom?" or "For whom?" as in "The students sent the lecturer a ticket", and in "The students listen to the radio", *radio* is the object of the preposition *to*, and the **prepositional object** of the verb *listen*.

An object is nominal which can take a number of forms. They are as a noun or noun phrase, as in "The student knows *his number*", an infinitive, as in "The student likes *to learn*", a gerund, as in "The student loves *doing the test*", and a noun clause, as in "The student does not know *that the paper is typed*."

In English, adverbials most commonly take the form of adverbs (*The students leave hurriedly*), temporal noun phrases (*The students were tested this morning*) or prepositional phrases (*The students presented in English*), or clauses of time, cause (*The students asked and answered in English because they were in English study class*), condition, manner, place, and contrast.

An adverbial is a construction that modifies, or describes, verbs. When an adverbial modifies a verb, it changes the meaning of that verb. Word groups that are also considered to be adverbials can also modify verbs: for example, a prepositional phrase, a noun phrase, a finite clause or a non-finite clause. In every sentence pattern, the adverbial is a clause element that tells where, when, why, or how. There can be more

than one adverbial in a sentence. In addition, the same adverbial can be moved to different positions in a sentence.

Adverbials are typically divided into four classes; adverbial complements, adjuncts, conjuncts, and disjuncts. Adverbial complements are adverbial that can make a sentence meaningless if removed as in "The student presents the paper in the class." Adjuncts are part of a sentence. They are not too important because if they are omitted, the sentence is still meaningful as in "One of the students helped me with an idea." Conjuncts are words that link two sentences together such as "She helped me, therefore I can do my thesis." Disjuncts are words that make comments on the meaning of the rest of the sentence, for example "*Suddenly, We passed all of the exams*."

The purpose of traditional grammar is to prescribe the way people speak, or simply, to tell people how to speak and let people know the correct way of their speaking. That is why traditional grammar is said to be prescriptive. Traditional grammar is normative as the different usage from the rules is said to be ungrammatical. This makes people difficult to produce a language for daily conversation when they have to think about the correct from first. It is different with modern linguistic which is said to be descriptive, to describe the way people speak, which deals with pragmatics, sociolinguistics, etc. In the prescriptive way, traditional grammar pays more attention to the written form of language which makes it restricted mainly to syntax, the way of words making patterns to form sentences.

Traditional grammar cannot resolve the ambiguity existing in the grammatical forms. Its methods are inaccurate, incomplete and inconsistent, and the descriptions are inexplicit and intuitive. The sentence *On Friday* (adjunct)*, the students* (the subject argument) *did* (the predicate) *the test* (the object argument) *in Palem room* (adjunct) uses adjuncts of time and place. The adjunct *in Palem room* modifies the verb *did* in which case it is "The student who did the test while the student in Palem room" or the noun phrase *the test* in which case it is "the test which is in Palem room". It means that the adjunct *in Palem room* is ambiguous.

Basically, it is the most widespread, influential, and best understood method of discussing the language. It is consistently applied by most of those who teach and study it as it is available in every language. It gives a fairly thorough and consistent analysis of the declarative sentence in written and spoken discourse. The theory contained in it can be explained, and this is the vehicle for ordinary students and scholars to master the language successfully for centuries. This study can justify fairly within the forms of speech and writing which makes all languages is equal and share aspects beside their uniqueness.

The differentiation shown in morphology and syntax is as the result of inadequate notion of modification and inadequate distinction of part of speech. The researcher can never understand the usages of the sentence as "ungrammatical", "exceptions", and "idioms". It is difficult to know whether a language is more sophisticated and cultured than the other or not.

3. IMMEDIATE CONSTITUENT ANALYSIS

Carni (2006) gave a definition of constituent as a syntactically unit combined with other syntactically unit to form a construction. He mentioned that each constituent can be classified based on its arrangement of internal constituent itself and with the grammatical function related with other constituent. It is clear that constituent is a part or component of a construction.

Constituent Analysis is a sentence analysis by cutting into smaller units. To know whether a structure is constituent or not we need to have a constituency test. This test can be done with topicalization (...the student is doing the test), clefting (It is the student who is doing the test), pseudoclefting (The one who is doing the test is the student), pro-form substitution (She is doing the test), and answer ellipsis (Who is doing the test? -the student). One can safely assume that the noun phrase *The student* in the example sentence is a constituent.

Immediate constituent analysis or IC analysis is a sentence analysis method that was first mentioned by Leonard Bloomfield. He did not divide a sentence into "subject" and "predicate", but he replaced them with the terms "actor" and "action" because he did not create a terminology for phrasal categories.

IC-Analysis in Phrase Structure Grammar

IC analysis is a very important tool for syntactically analysis. The technique applies that a sentence must be analyzed into immediate constituents actor and action. The construction inside the immediate constituents must be further analyzed until the final constituents ice reached that is a word.

Firstly, a sentence is divided into major parts or immediate constituents. These constituents are divided into further immediate constituents. This continues until each constituent consists of only one meaningful part of a word. All is presented in a diagram, usually in trees form, that reveals the hierarchical immediate constituent structure.
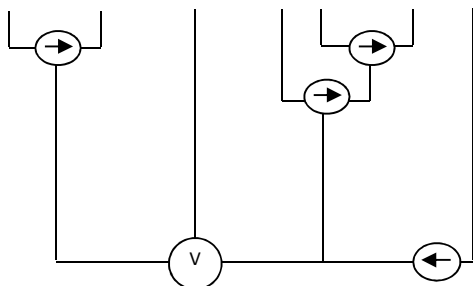
The lecturer presented the IC   course clearly
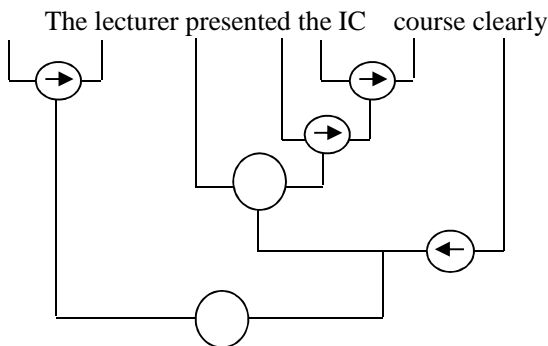
This tree illustrates the manner in which the entire sentences is divided first into the two immediate constituents *the lecturer* and *presented the IC course clearly.* These two constituents are further divided into the immediate constituents *the* and *lecturer* and *presented the IC course* and *clearly.* Then *presented* and *the IC course.* The last one is *the* and *IC course.*

Each individual word is a constituent by definition. This is a significant aspect of IC analysis is phrase structure grammar. A word as the smallest constituent is the final process of IC-analysis. A different process happens in a dependency grammar where individual words are not as the final result of constituents.

IC-Analysis in Dependency Grammar

The finite verb functions as the root of all sentence structure. There is no initial binary actor-action division of the clause. A finite verb phrase (VP) constituent and many individual words are not qualified as constituents in the IC-analysis as in the sample below.

The lecturer presented the IC course clearly

While the structures that IC-analysis identifies for dependency and constituency grammars differ in significant ways, as the two trees just produced illustrate, both views of sentence structure are acknowledging constituents.

Immediate constituent produces the preference for binary analyses. Breaking down sentences into two and only two immediate constituents was one example of the work. Obviously, in morphological analysis, many words can also be divided in two. Thus, English *incompleteness* consists of the suffix *–ness* and the word *completeness,* which in turn consists of the prefix *in-* and *complete*. In a bigger example of a sentence, we can make components in first cutting in constituent analysis as in *The teacher teaches a lesson.* This sentence has two immediate constituents, i.e. *The teacher* and *teaches a lesson*. *The teacher teaches a lesson* has six ultimate constituents i.e. *The, teach, –er, teach, –es, a lesson.*

It can also be used for any languages. Here is an example taken from Indonesian language. The sentence "Pemuda itu mengerjakan skripsi" has two immediate constituents, "pemuda itu" and "mengerjakan skripsi". There are seven ultimate constituents of the sentence i.e. *pe-, muda, itu, me-, kerja, -kan, skripsi*.

It helps translators recognize autonomous units, any stretch of language that can be translated as a single unit. The clause can be broken into three distinct autonomous units. *The classes/are divided/into*

three is broken up into noun phrase (determiner + noun), verb phrase (verb + particle), and prepositional phrase.

The word order in IC-analysis cannot be disturbed. This can be seen when a sentence composed of the same words is in different word order as in:
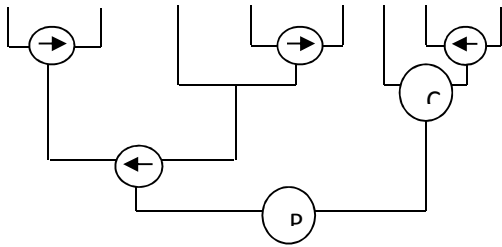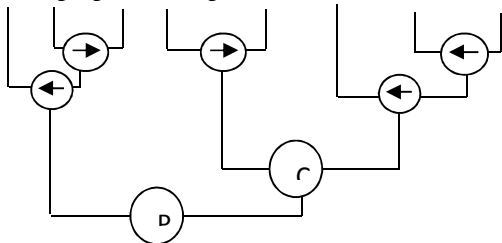
1. The students played card games on the floor
 (the prepositional phrase "on the floor" modifies the verb phrase)

2. The students on the floor played card games
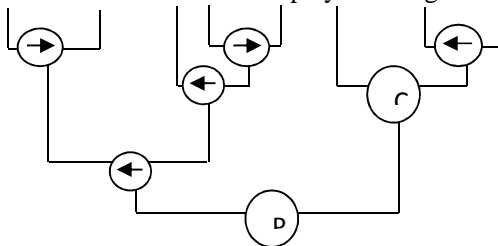
(the prepositional phrase "on the floor" modifies the noun phrase)

3. On the floor the students played card games
(the prepositional phrase "on the floor" modifies the rest of the sentence)
Unlike the traditional grammar, the IC-analysis can account for ambiguities and distinguish them. "good boy and girl" can be paraphrased in two ways. It can be "good boy and girl of all ages". It can also be "good boy and good girl". The expansion of "good boy" is as a single morpheme or "boy and girl" as a single morpheme. The recognition of two different IC analysis shown by the tree diagram:
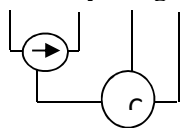
Good boy and girl   Good boy and good girl
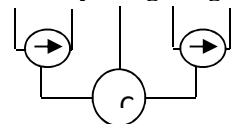
The IC-analysis makes an early assumption about grammatical status of the elements. The words "going to leave" can be cut in two ways. They are "going/to leave" and "going to/leave". In IC-analysis "to leave" is the best possibility because it is a constituent. It forces the language user to accept "to leave" as a nominal element comparing with "going home" in the case that both have the same grammatical type.

The end result of IC analysis is mostly presented in a diagram revealing the hierarchical immediate constituents structure of a sentence. However, when the structure is unusual, the diagram may become complex. The IC-analysis cannot make a binary division when the elements in the sentence are separated in the sequence or discontinuous. In a "Never did I cheat in a test" the word "did" is nearer to "cheat" than to "I".

Never   did I cheat   in a   test
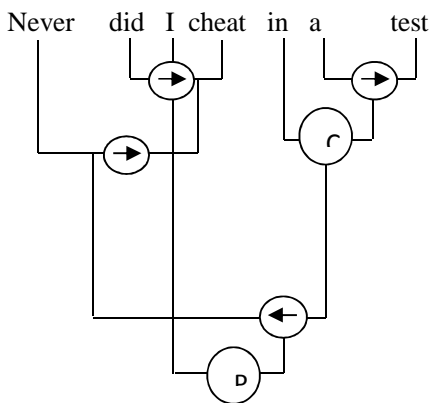
IC-analysis should be based on a linear string. The sequences of single morpheme in a sentence are broken when it is discontinuous. Permitting the discontinuity makes it nonlinear.

The IC-analysis cannot analyze the phrase further than just a level of words. The phrase like "civil law" which in practice means law that deals with the rights of private citizens rather than with crime cannot go further into a meaningful way when it is analyzed in IC-analysis. The phrase comes out in meaning clearly when it is cut in the way like "civil-law".

4. X – BAR THEORY

X-bar theory is discussed in almost all modern textbooks of syntax. It attempts to identify syntactic features. It claims that among their phrasal categories, all those languages share certain structural similarity that does not appear in traditional grammar for English. X-bar theory was first proposed by Noam Chomsky in 1970 and further developed by Ray Jackendoff in 1977. An X-bar theoretic understanding of sentence structure is possible in a constituency-based grammar only. It is not possible in a dependency-based grammar.
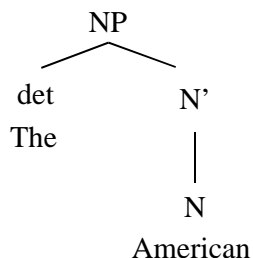
The letter X is used to signify part of speeches; when analyzing a specific utterance, specific categories are assigned. Thus, the X may become an N for noun, a V for verb, an A for adjective, or a P for preposition.

The term *X-bar* is derived from the notation representing this new structure. Certain structures are represented by X (an X with an over bar). Because this is difficult to typeset, this is often written as X . In English, however, this is still read as "X bar". The notation XP stands for *X Phrase*, and is equivalent to *X-bar-bar* (X with a double over bar), written X , usually read aloud as *X double bar*.
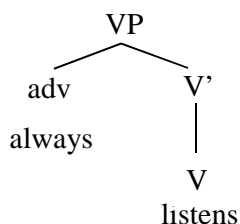
Three level structures are needed to express the relationship between head and their complements. Under the highest node of any phrase (XP) will be a specifier, which is optional, to the left which modifies everything generated under X' on the right.
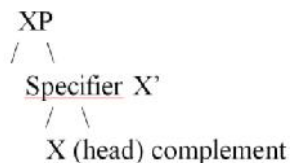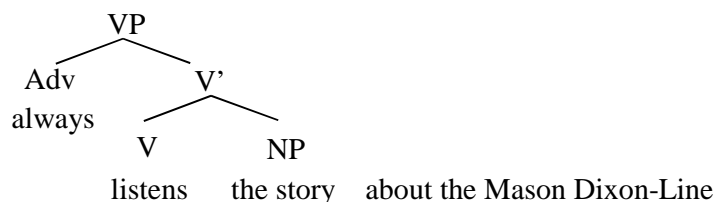

X-bar distinguishes syntactically among complements, specifiers, adjuncts. Here is an example with this structure which will generate the following NP:
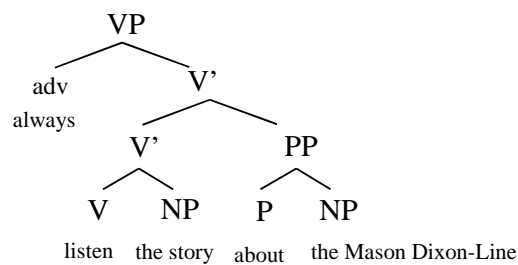

The specifier *the* modifies the N *American*

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```
              VP
           ╱      ╲
        adv        V'
      always        │
                    V
                 listens
```
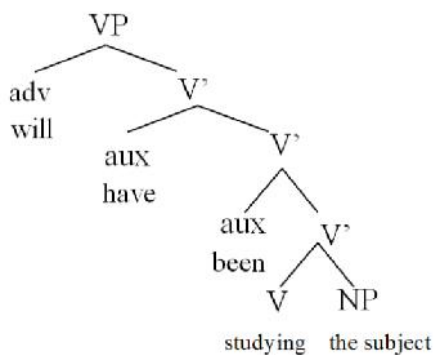
And the following VP
The specifier *always* modifies the V *talks*

```
              VP
           ╱      ╲
        Adv        V'
      always     ╱    ╲
                V       NP
             listens  the story   about the Mason Dixon-Line
```

The expansion of X' level includes complements or adjuncts.
The adverb *always* modifies the V'. Under V' and to the left is the head of the phrase with its complement to the right. V' is the node which an adjunct is attached.

```
              VP
           ╱      ╲
        adv        V'
      always    ╱     ╲
             V'        PP
           ╱   ╲     ╱   ╲
          V     NP  P     NP
       listen the story about the Mason Dixon-Line
```

The repeated X' node happens in the following example:

```
              VP
           ╱      ╲
        adv        V'
        will     ╱    ╲
              aux      V'
              have   ╱    ╲
                   aux     V'
                   been  ╱    ╲
                        V      NP
                     studying the subject
```

Determiner under the N cannot be the head of the NP. To make the theory to be consistent, the specifier position is allowed to be empty. In this theory, NP is analyzed as DP (Determiner Phrase). In the following structure NP is as a complement to D.
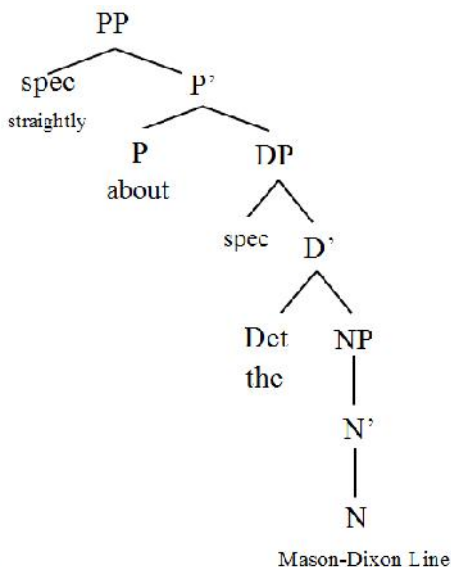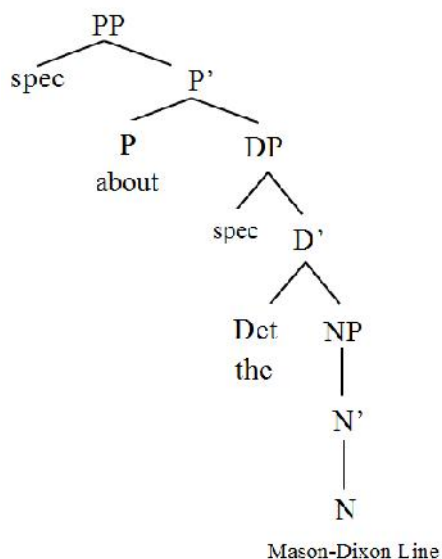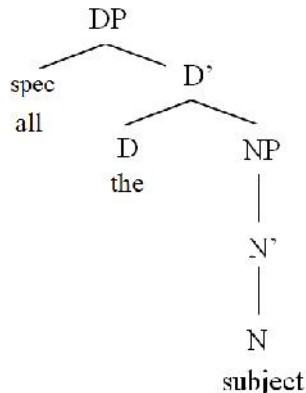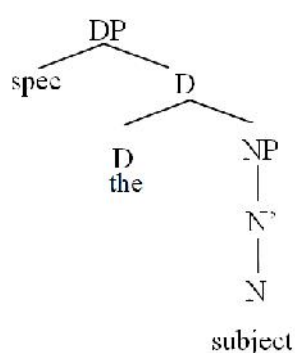
It is obvious that the X-bar theory offers a unified approach to all phrasal structures and simplifies the concepts of syntactic categories as well as syntactic nature of complements and adjuncts. The tree diagrams above can distinguish syntactically among complements, specifiers, and adjuncts in a phrase.

From the above descriptions about x-bar theory, analyzing sentences using an x-bar can avoid the repetitive use of phrasal categories (NP, VP, PP, AdvP or AdjP) within one sentence. We can differentiate different relationships of words in a noun phrase. Correctly represents constituents smaller than XP, bigger than X. The nature of the relationships of different NP's which serve as post modifiers for a deverbal noun can be determined.

Unlike traditional grammar, when we use X-bar, we can recognize ambiguity. A phrase "a teacher of Christian faith" can be clearly differentiated in x-bar syntax in the following way. In the first tree structure, the meaning of the sentence is the teacher teaches Christian faith. In the second one, the teacher is a person who has a Christian faith. The complement is closest to the head noun that is sister of the N, and the adjunct is sister of the N'.
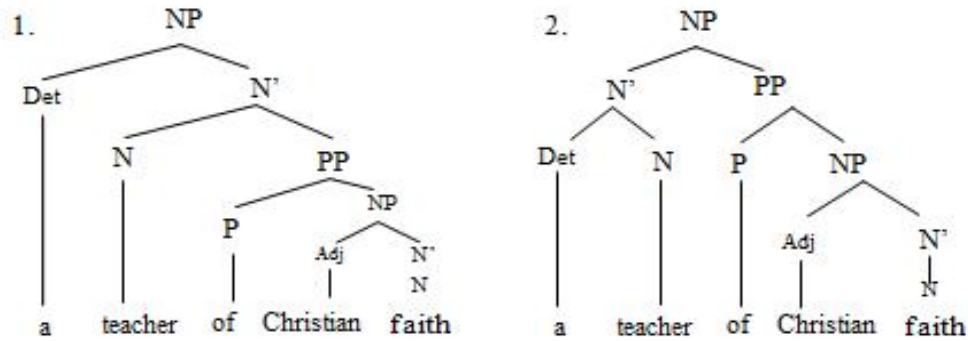
We can distinguish between a complement and adjunct in the distributional properties of PP (prepositional phrase). For example, it is more grammatical to have one complement in a phrase "the governor of Jakarta" than "the governor of Jakarta of Indonesia". We can also say a phrase which has more than one adjunct as in "the governor without moustache with a great smile in plaid shirt". The complement always precedes the adjunct. It is acceptable to say "the governor with a great smile in plaid shirt" and not "the governor in plaid shirt with a great smile." There is a possible way to coordinate either adjuncts or complements together as in "the governor with a great smile and plaid shirt" and not "the governor with a great smile and in plaid shirt".
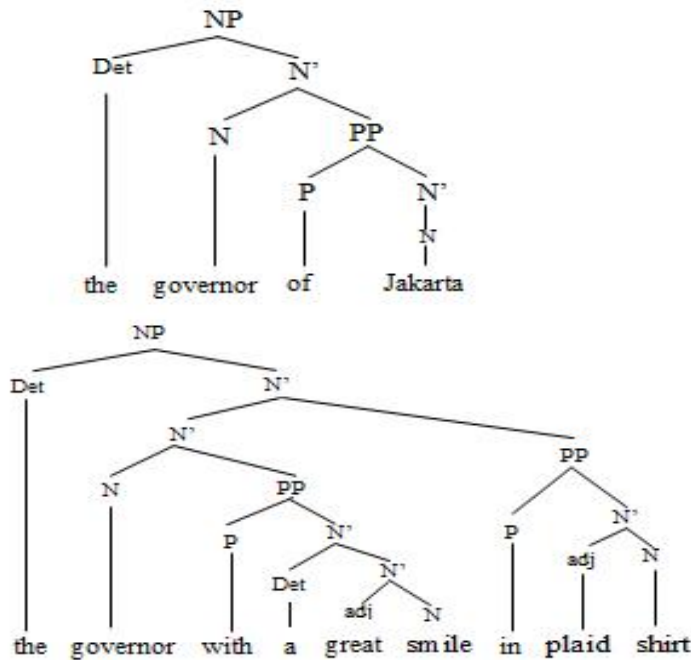

We can describe the occurrence of premodifiers, which are divided into determiners, attributes, and complements, using the x-bar syntax. This can be seen in comparing the following phrases:
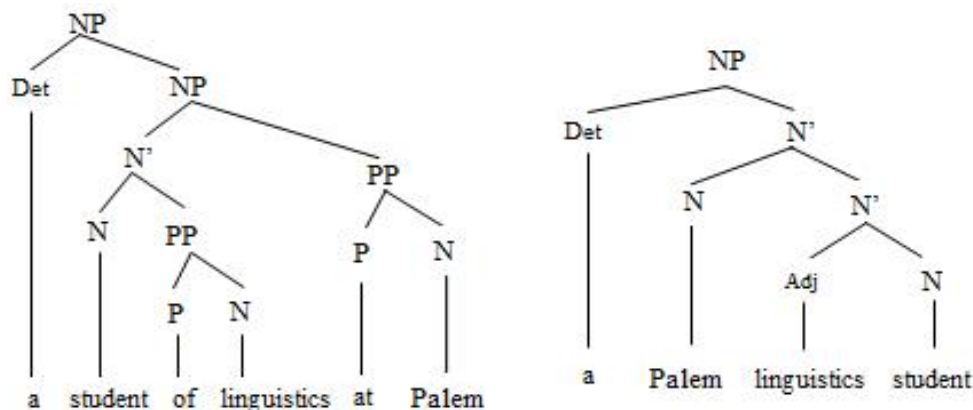
We see that PP *of linguistics* is a complement (modifies N) whereas the PP *at Palem* is an adjunct (modifies N'). In the second phrase, we see that *Linguistics* is a complement because it is the sister of the N *student*, whereas *Palem* would be an attribute because it is the sister (and daughter) of N'.

The x-bar syntax is also useful to analyze languages other than English. The theory takes into account N – ADJ in Indonesian as well as to ADJ – N in English. The semicolon that separates the constituents in the rule shows that the linear order is not fixed.
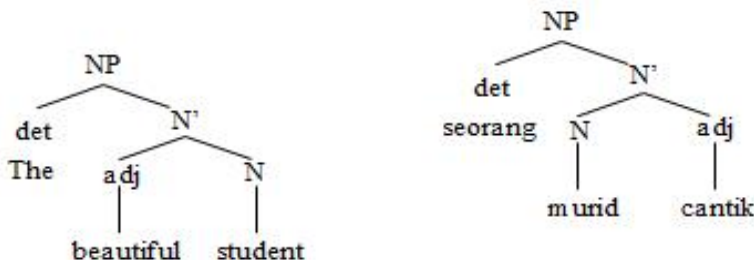
However, in writing the x-bar theory, we have to generate the articulated trees to replace the flat structure. It has three rules to be generated because it has three levels (NP as the phrase level, N' as the intermediate level, and N as the word/head level). NP is divided into (det) and N', N' is divided into (AP) N' or N' (PP), and N (PP). They are all binary branching, and all elements in x-bar rules are the projections of the head N. The NP represents the maximal projections and the N' represents the intermediate projections. This surely needs lots of space.

5. CONCLUSION

There are hierarchical orders in analyzing sentences. In traditional grammar, the hierarchy can be seen from the parts of sentences. That is to say, words are the constituents of the phrases and phrases are the constituents of sentences or clauses. The hierarchical order in immediate constituent analysis and X-bar theory can be seen clearly from the tree structures made as the last result.

At this point, it can be said that sentences have a hierarchical constituent structure in which words are grouped together into phrases and phrases into sentences or clauses. Furthermore, it is necessary to know the features of the categories as constituents of the own sentence. The features can be used to analyze sentences using those three ways explained above.

From the explanations given along with examples about those three theories chosen, each has its own way to analyze a sentence. The theories used to analyze sentences have their own strengths and weaknesses. They are understood as the problems that have to be dealt by language analyst. This also makes us realize that there is no perfect theory in analyzing a sentence.

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