Mustansiriyah University /Collage of basic education /Department of English / Fourth stage/ Morning and Evening study

Transformational Generative Grammar

T.G.G

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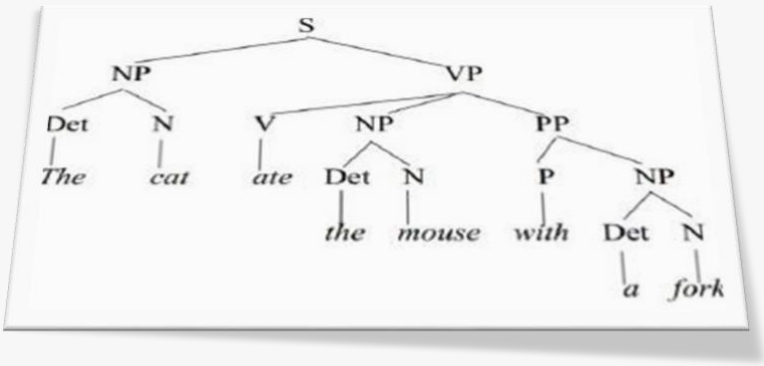


Traditional grammar

Chapter 1

Grammar of English

Traditional grammar followed Latin grammar in concentrating on parts of speech that are subcategorized according to case, person, number, gender, mood, tense, etc.. These concepts are informative in a study of Latin, but many of the categories are hard to justify for English. Word order was usually ignored. Sentences were classified as simple, compound, complex or compound complex . Clauses were classified as independent, noun clauses, adjective clauses, or adverb clauses. Phrases were propositional, participial, gerund, or infinitive. Many school grammars used the study of English grammar as nothing more than a background for a study punctuation, subject-verb agreement, pronoun case forms, and other matters of usage.

Structural Grammar

During the second quarter of the 20th century a new approach to the study of language evolved. Structural linguistics followers of this approach felt that it was necessary to study the structure of a language as objectively as possible without reference to any other language, and they felt that meaning was a poor guide to the analysis of structure. Instead of talking about what a noun means, for example, they began looking for other devices to identify nouns. They attempted to analyse other grammatical elements in terms of structure rather than meaning.

Objections against traditional grammar

Linguists saw that traditional grammar was inadequate. They found that it would not account for many ordinary sentences that are encountered in modern newspapers and magazines; for exercises they were limited to carefully selected sentences in their texts. They often noticed that in their teaching traditionalists were relying more upon observations they had made about the language than upon explanations in the texts. Linguists criticized traditional grammar for being followed latin grammar in concentrating on parts of speech.

Transformational Grammar

Starting formally in 1957 with the publication of Noam Chomsky's Syntactic Structures, a new approach to the study of language was inaugurated. This newer grammar has gone under various names: generative, transformational, generative-transformational, and transformational-generative.

- The transformational grammarian is not content with describing what he finds in a corpus of sentences collected from native speakers. He feels that his grammar should enable one to produce all the sentences of a language, and he is as interested in possible sentences as he is in the ones actually recorded. Since the number of possible sentences in English or any other language is infinite, no one could have heard all of them. Every day the native speaker hears, reads, and creates new sentences, An adequate grammar of English should enable a person to produce not just those sentences that have been said in the past, but all the sentences that a native speaker is capable of creating or understanding. In addition, the grammar should not generate sentences that a native speaker would reject, such as " The man horrified the door" or" Boy on the roof is"., Notice that these last two sentences are ungrammatical.

- The transformationalist is more concerned with the system, that underlies the language than he is with the actual speech of an individual at any given time. It is language (the underlying system), not actual speech output, that is of primary interest to the transformationalist, Another way of stating this is to say that he is interested in the speaker's competence, or knowledge of the language, rather than in his performance, or actual use of it, In some respects transformational grammar is similar to traditional grammar. Transformational grammar assigns each sentence an underlying structure that is called a deep structure. Some traditional grammars used a similar concept in speaking of " Understood" elements. For example, they said that " Tom is taller than I" has the underlying form "Tom is taller than I am tall" and that imperative sentences such as "Come here" have an understood subject "You".

Transformational grammarians agree, but apply this idea of underlying structure to every sentence and express it in a more abstract form than traditional grammarians did.

- As transformationalists began studying deep structures, they noticed that languages which are quite different on the surface often show many similar features in their deep structures. Some linguists are now investigating the possibility that there is a universal deep structure underlying all languages..

These are questions about the previous lecture – Grammars of English- that should be answered carefully.:

Q1.Complete each of the following statements:

1. Structuralists attempted to analyze grammatical elements in terms of they attempted to analyze other grammatical elements in terms of structure rather than meaning.
2. Transformationalists say that every sentence has a more abstract from than traditional grammarians did.
3. Transformational grammar assigns each sentence an underlying structure that is called a deep structure
4. Traditional grammar followed Latin grammar in concentrating on parts of speech, kinds of sentence, classifying verbs into past, present and future.

Q2. What are the objections linguists have to traditional grammar?

Q3. Distinguish between the traditional grammar and the structural grammar.

Q4. In some respects, transformational grammar is similar to traditional grammar. Explain.

Chapter 2

The structure of the sentence

Sentences in English, are formed not only of words in a specific order, but also of words arranged in hierarchical groupings, in which words combine to form groups which are in turn parts of larger groups. If you examine the sentence Yes, my neighbor has seen the dog, you notice that the words are arranged in a definite order . Any other arrangement is ungrammatical.

My neighbor has seen yes the dog.

Yes, neighbor my has seen the dog

We will use names to label structures so that we can show which ones are similar. My neighbor and the dog are called noun phrases since a noun is the chief word in each. Now we use abbreviations for terms. Instead of writing sentence many times in our rules, we use the abbreviation S, similarly, sentence modifier is abbreviated SM, noun phrase is NP, and verb phrase is VP. Rules in a transformational grammar are expressed in the following way.

S (SM) NUC

NUC NP + VP

The arrow means "consists of" . These rules say that in English a sentence consists of a sentence modifier and a nucleus; a nucleus (NUC) consisits of a noun phrase and a verb phrase. The parentheses around SM mean that this element is optional; I, e, the sentence may or may not contain it. NP and VP are necessary for every sentence in English. Elements should be arranged in order: the sentence modifier must come first, then the nucleus; in the nucleus the noun phrase must come first, then the verb phrase.

A sentence modifier is a word or group of words like yes, no, certainly, naturally, maybe, perhaps, in fact.

Example/ In Yes, that woman drinks coffee, the SM is yes, and the NUC is that woman drinks coffee; in the NUC, the NP is that woman, and the VP is drinks coffee. Noun phrase is the name of the structure that functions as the complete subject of a sentence; the verb is the structure that functions as the complete predicate. This distinction between structure andfunction is the same one traditional grammar was using when it called a word a noun or pronoun by structure but subject or direct object by function

Our use of the word "rule" is different from that used in traditional grammar . A rule for transformational grammar is not an explanati on of how to punctuate a sentence or how to avoid errors. Rather, it is a direction for forming a sentence or part of a sentence. The rules in a transformational grammar will specify which combinations of words are grammatical sentences

In addition to rules that generate the sentences of English, we also have a means of representing the exact choices that are made in the derivation of specific sentences. This is known as a tree . The sentence Yes, that man drinks milk is represented as follows:

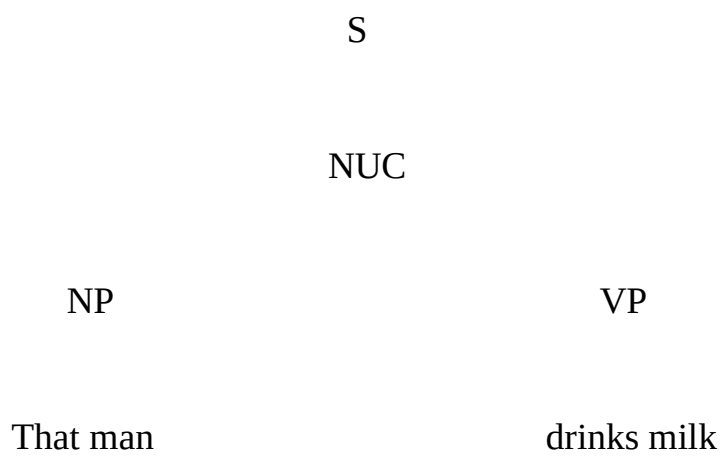
S

SM NUC

Yes NP VP

Yes That man drinks milk

The sentence That man drinks milk is represented without the optional element SM:



Sentences in English are not composed of mere sequences of words; rather, they are composed of words that cluster together. In the above sentence, that man drinks milk is one cluster, which in turn is composed of two subordinate clusters: that man and drinks milk. Notice that the tree diagram shows this arrangements.

Before proceeding to the noun phrase, you should practice drawing a few trees :

1. Certainly, I know the answer.
2. He has gone
3. The fireman fought the fire.
4. Unfortunately, the fish died

All rules in transformational grammar are numbered: P1, P2, P3, etc. P stands for phrase structure. Here we have two rules :

P1: S————(SM) NUC

P2:: NUC————NP+VP

A noun phrase always contains a nominal (N) , which may be a pronoun (he, she, we, they, you, etc.) , a name (John, Mrs. Smith, New York, etc.), or a common noun (book, egg, table, etc.) . They are all classified as Ns. Some nominals are preceded by determiners (Det), such as (the, a, an, that , this, these, those, etc.). Some nominals may be in the plural (Pl).

P7: Np———-(Det) N (pl)

- The parentheses around Det and Pl mean that these elements are optional.

We read book+Pl as books , egg+Pl as eggs , child+ Pl as children, etc.

Here is a representation for this sentence:

Those apples look green.

S

|

NUC

NP. VP

Det. N. Pl. look green

|. |. |

Those. Apple. Pl. look green

Now draw trees for the following :

1. An apple lay on the ground.
2. The ducks are noisy.
3. Certainly, those sheep ran fast.
4. Let us now examine the components of the verb phrase:

P3: VP———-Aux+ MV (manner). (place). (Time). (reason)

This means that a verb phrase consists of an auxiliary (Aux) , a main verb (MV), and optional adverbials of manner (rapidly, carefully), place (there, at home), time (then, at noon), or reason (because of the noise). In the sentence (The man will drive carefully in town today because of the ice), the Aux is will, the MV is drive, manner is carefully, place is in town, time is today, and reason is because of the ice.

P4: Aux————tense

P5: tense————————-{. Present}

{ Past. }

These two rules say that every auxiliary contains tense, and that tense is either present or past. You will notice that tense is not a separate word . We list gave as past+ give , gives as present + give . Every verb will be preceded by a symbol for tense.

P6: MV————-{ be. { NP}

{place}

{ AP }

{V. (NP)

This rule says that an MV is to be rewritten as any one of the following structures:

Be + NP This book is a text.

Be+ place Betty was in the car.

Be + AP. She was very nice.

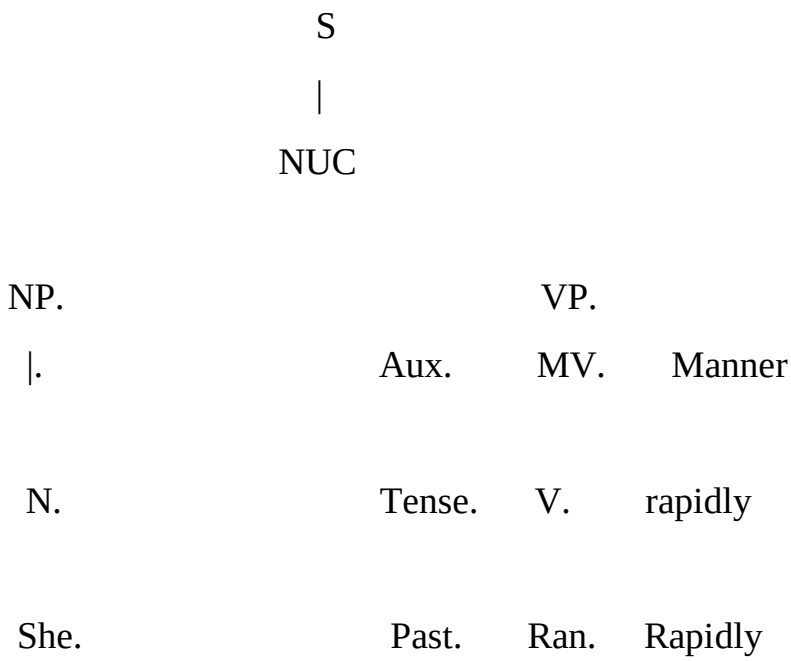
V. John ran.

V + NP. Bill sold the tickets.

AP is an abbreviation for adjective phrase, which consists of an optional intensifier (Intens) such as (very, extremely, rather, etc.) and an adjective (Adj) such as (old, happy, green, etc.). Here is the rule:

P8: AP ————(Intens) Adj

We can incorporate all of the information contained in our rewrite rules in trees:



Exercise

Draw trees for the following sentences:

1. The boy ate a hamburger greedily.
2. Of course, the car is in the garage.
3. Bobby is quite intelligent.

Chapter 3

The auxiliary

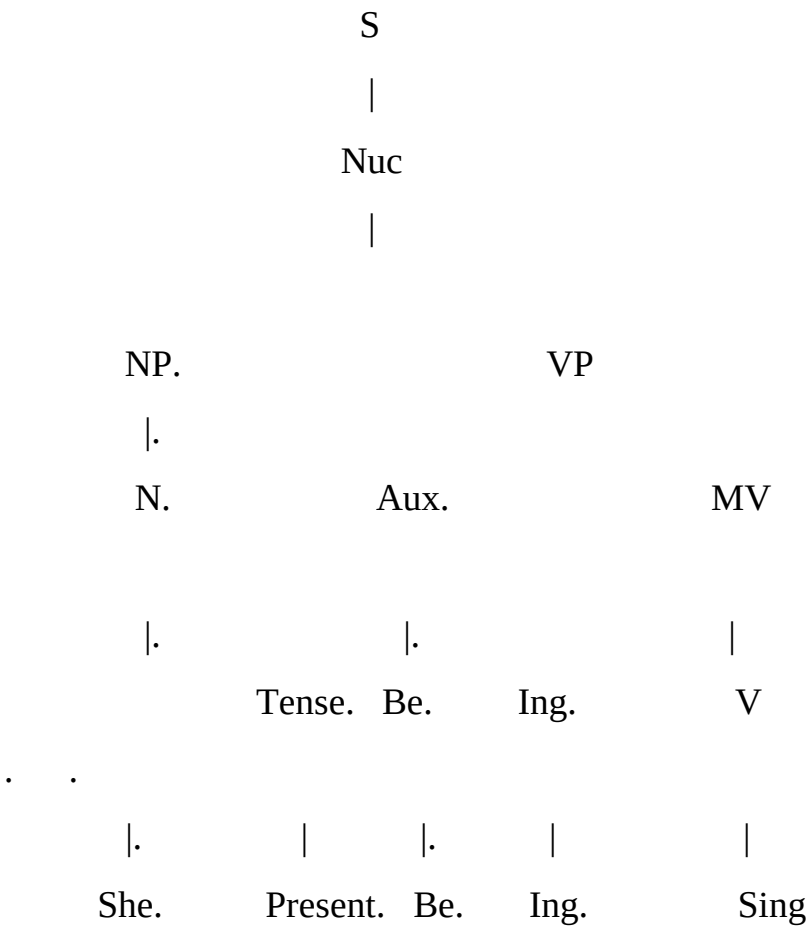
The only element in the auxiliary is tense. We now need to expand our rewrite rule so that it will include such auxiliaries as those in the sentences We had been eating and They must have been looking at us. The sentences in the left column below contain nothing but tense in the auxiliary; those in the right column have had something added to them. Analyze these expanded sentences to see what has been added:

1.The bird sings.	The bird is singing.
2. The bird sang.	The bird was singing

In the sentences on the left, tense is attached to the main verb: sings (present) and sang (past). In the sentences on the right, however, the main verb does not change with variations in tense; it remains singing, regardless of which tense is selected. Variation in tense is shown, rather, in the auxiliary, which is a form of be: is singing (present) and was singing (past). Along with this form of be that has been added to the auxiliary there is another morpheme (a unit that cannot be broken into smaller grammatical units) : the present participle ing. This morpheme is attached to the word that immediately follows the auxiliary be: is singing, was singing. We can now make the first of several expansions of the auxiliary:

P4: Auxiliary tense (be+ing)

This means that every auxiliary contains tense. The elements be and ing are optional, but if they are chosen, both must be selected and they must come in this order, following tense. Ing is attached to the word that follows it. By Ing we are not indicating the pronunciation of this morpheme; we are simply using it as a symbol for present participle. The tree for She is singing looks like this:



Now examine the following pairs of sentences. Again, those on the left have just tense in the auxiliary, but those on the right have been expanded:

1.We take medicine. We have taken medicine.

2. We took medicine. We had taken medicine.

Again, you will notice that with the addition of some element in the auxiliary besides tense, the tense morpheme is no longer attached to the main verb, but rather to the other auxiliary: have or has (present) versus had (past). Since the only change in form that can be made in have taken or has taken is to had taken, we say that have taken and has taken contain the present tense morpheme, had taken the past-

Tense morpheme. Instead of be+ing, this time we have added a form of have in the auxiliary, and with it we have added en (the past-participle

morpheme) to the word (taken) in the sentence above. We represent this morpheme with the symbol en regardless of the actual form of the past participle. En+eat is eaten, en+hear is heard, en+drink is drunk, en+hit is hit, etc. By en we are not indicating the pronunciation of any part of the past participle form of any verb; it is merely a convenient, short symbol so that we do not have to write past participle of each time we use it. We could now rewrite rule P4 as follows:

Aux _____ tense (have+en)

The only reason we do not is that we have already seen that be+ing may also be part of the auxiliary.

We know that either be+ing or have+en may exist between tense and the verb. Examin the following sentence:

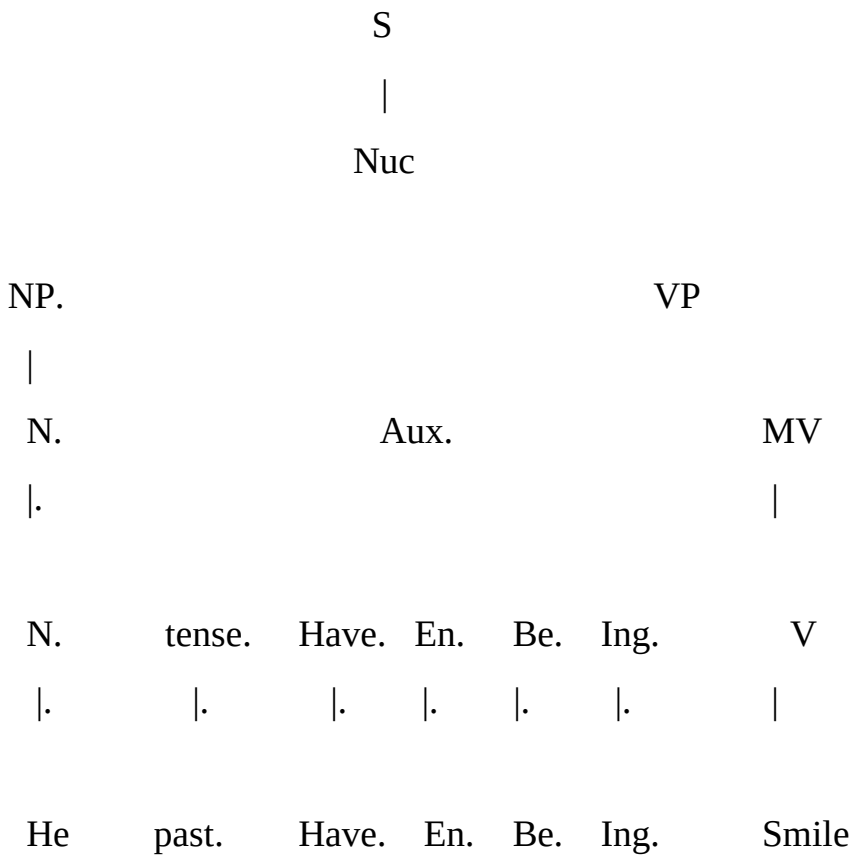
They had been singing song.

They have been singing songs.

It is obvious that both be+ing and have+en may exist in the same auxiliary. When both are present, have+en comes first. Tense is attached to have. We can expand rule P4 like this:

Aux———- tense (have+en). (be+ing)

This means that every auxiliary must contain tense. An auxiliary may contain both the other pairs of elements, one of them, or neither. Here is a tree for a structure in which both have and be have been selected as auxiliaries:



The past form of have is had , the en form of be is been, and the ing form of smile is smiling; the sentence is He had been smiling.

Deep structure and Surface structure

Introduction

_____:

In 1957 Chomsky postulated the generative transformational grammar. The objective is to construct models that would represent the psychological process of language. Chomsky believed that grammar has recursive rules allowing one to generate grammatically correct sentences over and over. Our brain has a mechanism which can create language by following the language principles and grammar.

So generative transformational grammar implies finite set of rules that can be implied to generate sentences, at the same time capable of producing infinite number of strings from the set of rules.

Deep structure—Surface structure

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*Deep structure represents the meaning of the sentence.

*Surface structure represents sentences that express those meanings (superficial appearance) Consider the following sentences

-Charlie broke the window.

-The window was broken by Charlie.

These two sentencp

The sentence is I on es have the same deep structure but are expressed in different surface structure.

Some implications of deep structure and surface structure

:

1. Meaning is contained in deep structure.
2. Language has a deep structure which is often different in form from the surface structure.
3. A small number of phrase structure rules can describe the deep structure.
4. Surface structure usually consists of rearrangements and reoccurrences of the elements of the deep structure.
5. For a grammar to be adequate, it must take all of these things into account and provide a description whose rules will enable us to generate an infinite number of surface structure

Answer these questions

_____:

Q1.Classify the following sentences as grammatical or ungrammatical and decide what constraints on compounding account for the ungrammatical.

1. I read this book and that book.
2. I read a book and the book.
3. He can sing well, and she can too.
4. He can sing well, or she can too.
5. Bill arrived early, but he didn't stay long.
6. I didn't know your name, and there is a fly on my nose.

Q2.Draw the tree diagrams showing the deep for each of the following sentences.

1. Yesterday, I saw her at the bank.
2. She accepted his offer.
3. John will give Mary the book.
4. .He should have been driving the car carefully.

Chapter 4

Lexical Features.

Divisions of a transformational grammar

———————————————————————————:

The phrase structure rules are repeated below:

P1: S ———(SM) Nuc

P2: Nuc ———NP + VP

P3: VP ———Aux+ MV (manner) (place) (time) (reason)

P4: Aux ——— tense (M) (have + en) (be+ ing)

P5: Tense——— { present }

{ past }

P6: MV———{be {NP}

{AP}

{Place}

{V {NP}

P7: NP———-(Det) N (Pl)

P8: AP ———-(Intens) Adj

By starting with rule P1 and progressing in order through the rules, selecting or rejecting optional elements, we may expand S in the following way:

S

P1. Nuc

P2. NP + VP

P3. NP + Aux + MV

P4 NP + tense + be + ing + MV

P5 NP + present + be +ing +MV

P6. NP + present + be + ing + V + NP

P7. Det + N + present+ be + ing + V + NP

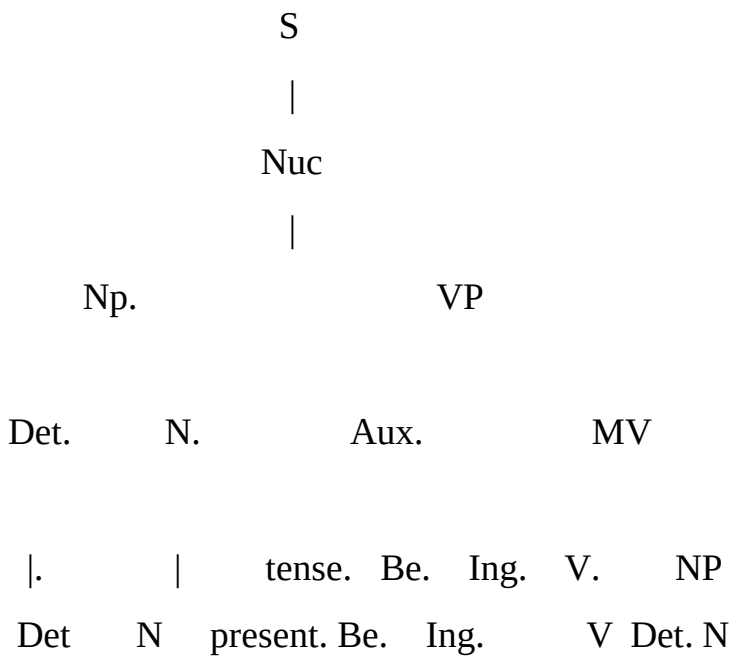
P7 Det + N + present + be +ing + V + Det + N

P8. Does not apply

A p-terminal string such as

Det + N + present + be + ing + V + Det + N

Describes the structure that underlies a grammatical sentence of English, but it is not itself a sentence. It is merely a string of elements. The phrase structure also tells us how the elements in the P- terminal string relate to each other; in other words , it specifies a structure, as exemplified by this tree:



Included in the phrase structure section of the grammar is a lexicon or dictionary, from which we replace such elements as N and V with words:

Det+ N + present+ be + ing + V+ Det + N

The + boy + present + be +ing + read + a + book

We next proceed to the semantic section of the grammar to provide a meaning for the structure. The lexicon will have given meanings for the individual words. The semantic section will tell us how these meanings are combined to provide a meaning for the sentence as a whole. The phrase structure rules do not generate finished sentences of English. In fact, they provide only a small number of elementary structures that underlie the sentences of English. To rearrange, delete or add structures, we need transformational rules. Another set of rules is needed: Phonological rules that tell us how to pronounce the string that we have generated, and how combinations of words are pronounced; for example, present + eat is eats , past + drop is dropped, etc. We call this collection of rules a grammar. The grammar is organized into three sections or components:

1. The syntactic component contains the phrase structure and transformational rules and provides the structure of the sentence.
2. The semantic component operates on the P-terminal string after entries from the lexicon have been added and gives the sentence its meaning.
3. The phonological component operates on the sentence after all transformations have been applied and gives the sentence its final form

Chapter 5

The Negative Transformation

Earlier we listed several sentence modifiers: Yes, no, etc. To these we add not, which distinguishes a sentence such as John could sing well from the negative sentence John could not sing well. By selecting the SM not, we can derive a structure as shown below. This gives not John past can sing well, which is not grammatical. It would be grammatical if we changed the word order to John past can not sing well (John could not sing well). We now need to introduce two new terms: deep structure and surface structure. A structure generated only by phrase- structure and lexical rules, such as not John past can sing well, is a deep structure. A deep structure that has been transformed into a grammatical English sentence, such as John could not sing well, is called a surface structure. All grammatical English sentences are surface structures; underlying each one is a deep structure.

S

M. Nuc.

NP. VP

N. Aux. MV. Manner

M. N. tense. M. V. manner

Not. John. Past. Can. Sing. Well

.

By negative we are referring to sentence negation, not word negation. By selecting the optional SM not, we can generate a number of deep structures like those on the left below:

1. not Jerry could hear me. Jerry could not hear me.
2. not Bill has received it. Bill has not received it
3. not they are going with us. They are not going with us

We need to formulate a rule to transform the deep structures on the left to the surface structures on the right. Since we will have a number of transformational rules, it will be useful to write them in a conventional abbreviation form. The rule can be stated as follows:

Not +X + tense+ Aux + Y=> X +tense + Aux + not +Y

The information on the left of the arrow describes the structure to which the rule is applicable: one with SM not and an Aux. The information on the right of the arrow describes the structure after the change has been made. The double arrow means that this is a transformational rule rather than a phrase- structure rule. Whereas phrase – structure rules merely expand elements, such as Nuc into NP and VP, transformational rules rearrange, delete, add, or substitute elements. The symbol X stands for anything coming between not and tense, such as another sentence modifier or a noun phrase. Similarly, Y stands for anything following Aux. This may beother auxiliaries, a verb, and anything that follows a verb.

This process can be illustrated with trees. Here is the deep structure:

S

SM. Nuc

NP. VP

N. Aux. MV

N. tense. M. V. NP

They. Present. Can. Hear. N

Not. They. Present. Can. Hear. You

The negative transformation rearranges the tree to provide the following surface structure:

S

|

Nuc

NP. VP

N. Aux. MV

N. tense. M. not. V. NP

N

They. Present. Can. Not. Hear. You

After the application of phonological rules, we have the sentence They can not hear you.

You should practice with the following structures:

1. not those apples were smelling rotten.
2. not you are reading fast enough.
3. not we had heard the news
4. not Estelle would have done that.

Now examine the following deep structures on the left and their corresponding surface structures on the right:

1. not they are our friends. They are not our friends.
2. not Jane was friendly. Jane was not friendly.
3. not the bird was there. The bird was not there.

We need to write new rules for these sentences. They demand a rearrangement of the structure. Notice that in these sentences be is not an auxiliary, since there is no verb following it and since there is no ing on the next word. The be in these sentences is part of the MV. We write this rule as follows:

Not + X + tense + be + Y ➔X + tense + be + not +Y

This rule operates on the following deep structure:

S

SM. Nuc

NP. VP

SM. Det. N. Aux. MV

SM. Det. N. tense. Be. AP

SM. The. Answer. Past. Be. Adj

Not. The. Answer. Past. Be. True

The rule transforms the deep structure into the following surface structure:

S

Nuc

Np. VP

Det. N. Aux. MV

Det. N. tense. Be. Not. AP

Adj

The. Answer. Past. Be. Not true

The answer was not true.

Look at the following sentences:

1. not we play often. We do not play often.
2. not they taste the salt. They do not taste the salt.
3. not Terry eats early. Terry does not eat early.

In the surface structure not comes before the verb and after tense, which is attached to do. If we omit do from the surface structure, we obtain the following:

1. We present not play often.
2. They present not taste the salt.
3. Terry present not eat early.

These are not grammatical sentences. Since not cannot be altered to show a contrast between past and present. To provide a grammatical sentence, we add the word do. Although this word has no lexical meaning, it can carry the tense morpheme. To convert the deep structure not we present jump here into a surface structure, we apply the negative not and do transformations as shown in the following trees.

S

SM. Nuc

SM. NP. VP

SM. N. Aux. MV. Place

Not. We. Tense. V. here

Not. We. Present. Jump. Here

The negative transformation applies to this deep structure to produce the following intermediate structure:

S

Nuc

NP. VP

N. Aux. MV. Place

N. tense. Not. V. Place

We. Present. Not. Jump. Here

Now the do transformation applies to produce a surface structure:

S

Nuc

NP. VP

N. Aux. MV. Place

N. tense. Do. Not. V. Place

We. Present. Do. Not. Jump. Here

After the application of phonological rules this becomes

We do not jump here.

Exercise:

Transform the following deep structures into surface structures by applying the negative transformation and, where applicable, the do transformation:

1. not John present be in the room.
2. not she present look tired
3. not they present be the leaders.
4. not those chairs present need paint now.