

PAPER 6 (DESCRIPTIVE LINGUISTICS)
DEEP STRUCTURE AND SURFACE STRUCTURE

Any grammatical analysis can be divided into two parts, one of which is about the superficial or apparent structure of sentences, the other about the sentences' underlying structure. For example, we can take the following pair of sentences:

John is easy to please.

John is eager to please.

Syntactically both these sentences seem to be alike but they are not so. Considering the meaning implied in these sentences, we find that the function of John is that of subject in one case and that of object in the other. Both these sentences have identical surface structures but different deep structures. The surface structure is actually produced structure. It refers to the sentence as it is pronounced or written. The deep structure is the abstract structure that allows the native speaker of a language to know what the sentence means. It may then be said that the deep structure expresses the semantic contents of a sentence, whereas the surface structure of a sentence determines its phonetic form. Transformation functions as a link between deep structure of sentences and their surface structures. For example

Surface structure

Visiting doctors can be nuisance.

Deep structure

1. We visit doctors.

It can be nuisance.

2. Doctors visit us.

They can be nuisance.

Noam Chomsky adopts an I.C. analysis to provide information about the constituent structure of sentences. This he refers to as 'Phrase Structure Grammar'. For example, instead of analyzing the sentence

The boy killed the dog, as

The boy killed the dog

in which the order of decision, which produced the analysis, is not explicit (where was second cut made) and the relationship between various cutting points is unclear, Chomsky develops a notation which both orders the analytic decisions and formally relates them to each other by deriving each decision from some previous one. The way used by Chomsky in syntactic structures, is as follows:

Sentence (S)-----NP (noun phrase) + VP (verb phrase)

VP-----NP + V

NP-----Det + N

D-----The

N-----boy

V-----killed

Here we have the concept of sentence and an initial statement about the internal structure in the first rule.

We are told that sentences in a language basically consisting of two elements- noun phrase and verb phrase. But we have not been yet told what 'noun phrase' and 'verb phrase' are. So the next rule makes these concepts more clear and explicit. The 'verb phrase' consists of two elements - a noun phrase and a verb. Referring the first rule now we have-

S-----NP + V + NP

The third rule adds more information about NP, which consists of a 'determiner' and a 'noun'. Now the form will be as follows:

S-----Det + N + V + Det + N

replacing each element in the string D + N + V + D + N by one of these, we can get 'The boy killed the boy' or 'The dog killed the boy'. Both these are possible sentences in English, and thus the grammar has some generative capacity. By increasing the number of vocabulary items in the last three rules, we, of course, increase the number of sentences that these rules can generate.

The first component of generative grammar which consisted of rules that took an initial element (S) and assigned to it a particular phrase structure; these rules then would produce strings of elements which represented the underlying structure of a sentence. The second component consisted of transformational rules - rules which operated on the strings produced by the phrase structure component and altered them in various ways (by turning active string into passive one, by altering word order, by adding inflections and so on) making various relationship between different types of sentences explicit. The passive transformation, for example, alters the order of elements in active sentence and adds three further elements: (a form of the verb 'be' in the appropriate tense; a particle 'by' to indicate the agent following, and a past participle affix, symbolized as - en, attached to main verb). One formation of this rule can be as follows:

The boy will kick the ball-----The ball will be kicked by the boy.

NP1 + Aux + Verb + NP2--NP2 +Aux + be +V + by + NP1

where NP1 stands for the first noun phrase and NP2 for the second one. Aux. stands for the auxiliary verb. The rules say in fact, "To form a passive sentence, reverse the position of NP1 and NP2, and introduce the verb "be" in one of its forms, a past participle affix, and a particle 'by' between verb and NP1.

The syntactic component consists of two sub components - The base sub-component and the transformational sub-component. The base corresponds to the earlier phrase structure rule; its function is to represent the underlying representations of sentences, which is what provides the deep structure information. Transformational sub-component produces surface structure.

While concluding we can quote Noam Chomsky when he says, "The deep structure of a sentence is the abstract underlying form which determines the meaning of a sentence. The surface structure of a sentence is the actual organization of the physical signal into phrases of varying size into words of various categories with certain particles, inflectional arrangement and so on.

Initial elements

Syntactic Components

Base Sub-Component

Transformational Sub-Component

PS Rule

Deep structure

Surface structure