1. Transformation

1.1 Deep and surface structures

<table>
<thead>
<tr>
<th>Deep structure:</th>
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<td>- Plays a special role in the interpretation of sentences.</td>
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<td>- Shows the architecture of phrases.</td>
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<table>
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<th>Surface structure:</th>
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<td>- It results from applying transformations (movement of categories within the syntactic structure) to form questions.</td>
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1.2 Inversion in yes-no questions

a) The inversion transformation moves the auxiliary in the Infl. Position from its original position to the beginning of the sentence in order to signal a question.
b) The basic structure is the same in both the Deep structure and the Surface structure.

c) We do not have to say that there are two types of auxiliary verbs in English: those that occur at the beginning of the sentence and those that occur in the usual Infl position between the subject and the VP.

Ex.: Will the boy ___ leave? (surface structure)

1.3 Wh-movement

The sentences below are called *wh* questions because of the presence of a question word beginning with *wh*.

Examples:

a) Which car should the man repair?
b) What can the child sit on?

We treat the *wh* words “who” and “what” as simple nouns and “which” as a determiner.
1.4 A more detailed look at inversion

a) **Problem**: In what position does the auxiliary verb ‘land’? (There is no position available to the left of the subject, which is the specifier!) This problem can be solved by the assumption that all Ss occur within a CP.

b) A transformation can do no more than change an element’s position. It does not change the categories of any words and it cannot eliminate any part of the structural configuration created by the phrase structure rules.

This tree (Deep Structure) illustrates the movement of an auxiliary from Infl to C. Thus “will” retains its Infl label even though it is moved into the C position, and the position that it formerly occupied remains in the tree structure. The symbol $e$ (for empty) is called a trace.

**To summarize:**

1. we assume that Ss occur inside CPs.
2. we assume that the inversion transformation moves the auxiliary from its position within S to an empty C position to the left of the subject NP.

c) **Do-Insertion**

Insert interrogative “do” into an empty Infl position as the example below shows.

2. **Some extensions**

We will examine a number of additional structure patterns: coordinate structures, modifier constructions and relatives clauses.
2.1 coordinate structures

Grouping of two or more categories of the same type with the help of and or or. There is coordination possible with NPs, VPs, PPs, APs and Ss.

Ex.: Coordination of NPs: [the man] and/or [a child].

1.1.1 Four important properties:

- There is no limit in the number of coordinated categories.
- A category at any level (NP, S...) can be coordinated.
- Coordinated categories must be of the same type (NP – NP...)
- The category type of the coordinate phrase is identical to the category type of the elements being conjoined.

2.2 Modifier constructions

Modifier: a class of elements that encode optionally expressible properties of heads. All lexical categories can have modifiers.

2.2.1 Three types of modifier

- APs serving as modifiers of N – Ex.: She made exceptional progress (the AP precedes the head)
- AdvPs serving as modifiers of V – Ex.: We arrived early (the AdvP follows the head)
- PPs serving as modifiers of V – Ex.: He stayed for three days (the PP precedes or follows the head)

2.3 Relative clauses

Ex.: Sue may know the man [whom Bob criticized __].
The relative clause helps identify the man by indicating that he is the person criticized by Bob.

2. Another type of syntactic analysis

3.1 Passive structures

Ex.:
- The thieves (agent) took the painting (theme): active sentence
- The painting (theme) was taken by the thieves (agent): passive sentence
The first sentence is called active because the agent is encoded as subject of the sentence while the second sentence is called passive because the theme is encoded as subject.

Pinker (chapter 4 - p.103-p.126)

Nouns are often used to name things, and verbs for something being done, but they are not limited to those uses.

In a phrase:
- What the entire phrase is about is what its head is about.
- The head and its role-players are joined together in a subphrase, smaller than NP or VP, written N-bar and V-bar. (Ex.: governor (head) of California (role-player)
- A modifier is different from a role-player: Californianess plays a role (is essential to the meaning of governor), from Illinois for example is just a bit of information.
- The role-player has to be closer to the head than the modifier is (Ex.: the governor of California from Illinois)
- Role-players are grouped with the head inside a subphrase (the N-bar or V-bar), modifiers appear outside the N- or V-bar.
- General rule: A phrase consists of an optional subject, followed by an X-bar, followed by any number of modifiers. The X-bar consists of a head word, followed by any number of role-players.

Some verbs like dine, refuse to appear in the company of a direct object noun phrase. Others, like devour will not appear without one.

A direct object role-player has to come right after the verb, before any other role-player.

If a noun phrase is a phrase built around a noun, and a verb phrase is a phrase built around a verb, what is a sentence built around?

- Ex: The Red Sox will win the World Series soon
- The auxiliary “will” is the head of the sentence in exactly the same way that a noun is the head of a noun phrase.
- Since will occurs in the Infl. Position, we call the sentence an IP.

- An auxiliary is an example of a “function word”. Function words include articles (the, a, some), pronouns (he, she), the possessive marker ‘s, meaningless prepositions like of, words that introduce complements like that and to, and conjunctions like and and or.