1. **Examples of Finding Constituents:**
   - The smart students of linguistics are completing their projects now.
     1. The smart students of linguistics (Subject)
     2. Are completing their projects (Predicate)
     3. Smart (ADJP)
     4. Of linguistics (PP)
     5. Linguistics (NP)
     6. Their projects (NP)
     7. Now (ADVP)
2. **Constituency Tests:**
   - Substitution Test/Replacement Test/Pro-form
   - Movement Test
   - Clefting Test
   - Stand - Alone (Q/A) Test
   - Note: Sometimes the tests will work even though the bracketed item is NOT a constituent.
   - Note: Sometimes the tests won't work even though the bracketed item is a constituent.
   - You just need 1 test to succeed for something to be a constituent. However, for something to not be a constituent, all 3 tests must fail.
3. **Substitution/Replacement Test/Pro-form:**
   - If you can replace one word or a group of words with a single word, then the selected text is most likely a constituent.
   - To test if an item is a NP/constituent, replace it with a pronoun and check if the sentence is still grammatically correct. If the sentence is still grammatical, then it is a constituent, otherwise, it is not.
   - E.g. [John] went to the store. Is "John" a constituent?
     Answer:
     He went to the store. The sentence is still grammatical after substitution, so it's a constituent.
   - E.g. [The smart students] of linguistics are completing their projects. Is "The smart students" a constituent?
     Answer:
     They of linguistics are still completing their projects. The sentence is not grammatical after substitution, so it is not a constituent.
   - There are very few substitutions you can make for ADJP, so we can't use this method for ADJP.
   - To test if an item is an ADVP/constituent, if it refers to time, you can replace it with "Then."
   - To test if an item is a PP/constituent, if it refers to a place, you can replace it with "There."

- To test if an item is a VP/constituent, we use the "Do - So - Too" test and check if the sentence is still grammatical.
- E.g. John [left the office early]. Is "left the office early" a constituent? Answer: John left the office early and Judy did so too. Since the sentence is still grammatical, it is a constituent.
- E.g. [The happy children] are playing [in the park].
  Is "The happy children" a constituent?
  Answer: They are playing in the park. The sentence is still grammatical after substitution, so it's grammatical.
  Is "In the park" a constituent?
  Answer: The happy children are playing there. The sentence is still grammatical after substitution, so it's grammatical.

4. **Movement Test:**
   - Works best with NP and PP.
   - Works well sometimes with ADVP.
   - You move the bracketed part to the beginning of the sentence and check if the new sentence is grammatical or not. If the new sentence is grammatical, then the bracketed part is a constituent. Otherwise, the bracketed part is not a constituent.
   - E.g. I love [icecream]. Is "icecream" a constituent?
     Answer: Icecream, I love. Since the sentence is still grammatically correct, "icecream" is a constituent.
   - E.g. He left the office [in the evening]. Is "in the evening" a constituent?
     Answer: In the evening, he left the office. Since the sentence is still grammatically correct, it is a constituent.

5. **Clefting Test:**
   - A type of movement.
   - You do "It + is/was (Depending on the tense) + [Bracketed part] + rest of the sentence. If the new sentence is grammatical, then the bracketed part is a constituent. Otherwise, it is not.
   - E.g. I love [icecream]. → It is icecream that I love. The new sentence is grammatical, so icecream is a constituent.
   - E.g. [John] told the truth. → It was John who told the truth. The new sentence is grammatical, so icecream is a constituent.

6. **Stand - Alone (Q/A) Test:**
   - You ask a question about whatever is inside the square brackets.
   - For NP, you ask who or what.
   - For PP and ADVP, you ask why, where, when and/or how.
   - E.g. [He] left the office [in the morning].
     Who left the office? → He
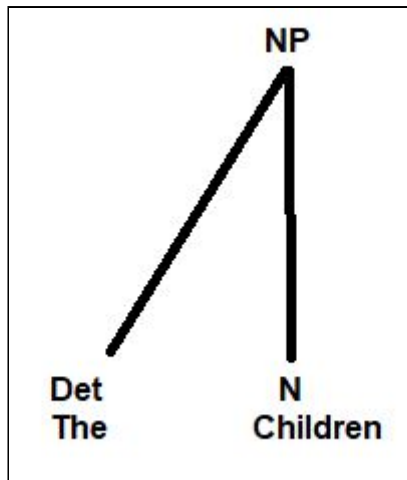   Because the Q/A pair works, therefore it's a constituent.

- E.g. When did he leave the office? → In the morning
  Because the Q/A pair works, therefore it's a constituent.
- For VP, you ask what the person does/did/will do.
- E.g. He [will arrive early.]
  What will he do? → He will arrive early.
  Because the Q/A pair works, therefore it's a constituent.
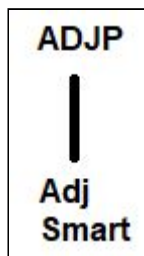
7. **Phrase Structure Rules:**
   - Find the head of the phrase. The head carries the most meaning.
   - If the head of the phrase is a noun, then it is a **noun phrase (NP)**. In a NP, there could be a determiner, an ADJP, or a PP, but there must be a noun.
   - If the head of the phrase is a verb, then it is a **verb phrase (VP)**. In a VP, there could be an ADVP, a NP, a PP, but there must be a verb.
   - If the head of the phrase is a adjective, then it is an **adjective phrase (ADJP)**. In an ADJP, there could be a Degree word, but there must be an adjective.
   - If the head of the phrase is a preposition, then it is a **prepositional phrase (PP)**. In a PP, there must be a preposition and a NP after it.
   - If the head of the phrase is a adverb, then it is an **adverb phrase (ADVP)**. In an ADVP, there could be a Degree word, but there must be an adverb.
   - If the sentence starts with a predicate, it's most likely a PP.
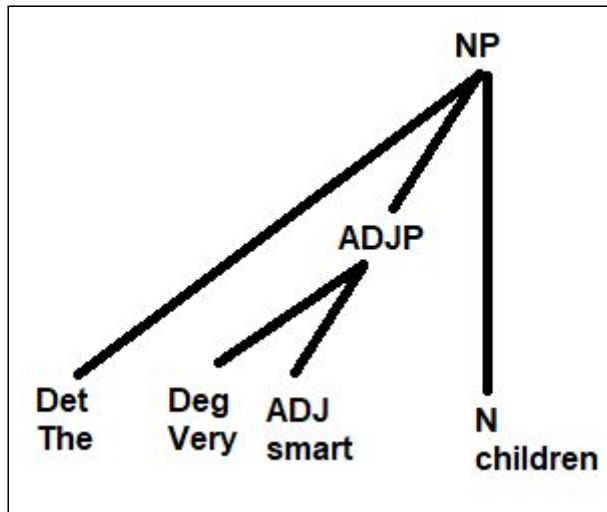   - If the sentence starts with a verb, it's most likely a VP.

8. **Phrase Trees:**
   - The head of the tree is the type of the phrase.
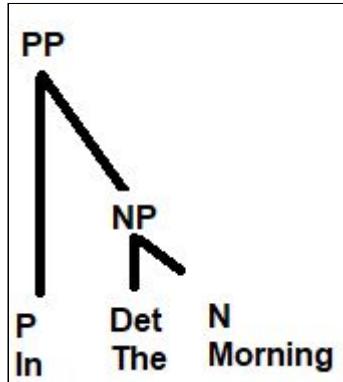   - E.g. Draw the tree for "The children."

- E.g. Draw the tree for "smart."

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ADJP
  |
 Adj
Smart
```

- E.g. Draw the tree for "The very smart children."

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                                    NP

                        ADJP

Det         Deg   ADJ                    N
The         Very  smart                  children
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- E.g. Draw the tree for "In the morning."

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PP

        NP

P       Det   N
In      The   Morning
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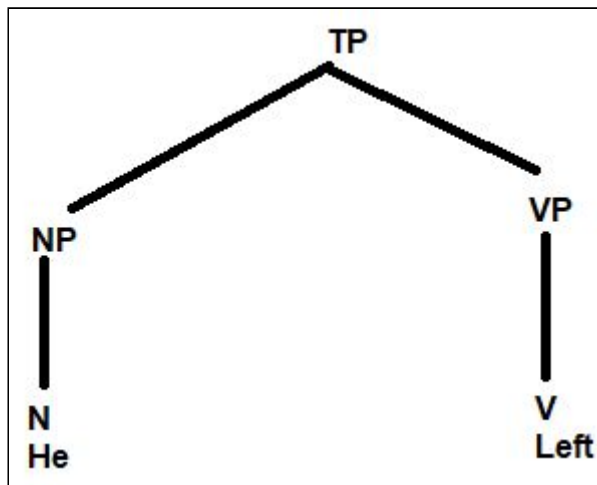
9. **Tense Phrase:**
   - In English, the tense comes from auxiliaries.
     I.e. Auxs tell us whether or not the tense is past, present or future.
   - E.g. She is running.
     The aux "is" is telling us that the sentence is in the present.
   - E.g. She was running.
     The aux "was" is telling us that the sentence is in the past.
     Notice how running stays the same in both cases, so it's not telling us whether the sentence is in the past or present.
   - You need a tense to complete a sentence.
   - In syntax, we call a sentence a tense phrase.

- You can also draw trees for sentences.
- E.g. Draw the tree for "He left."

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              TP
            /    \
          NP      VP
          |       |
          N       V
          He      Left
```

- E.g. Draw the tree for "He left early."

```
              TP
            /    \
          NP      VP
          |      /  \
          N     V    ADVP
          He    Left  |
                      ADV
                      Early
```