

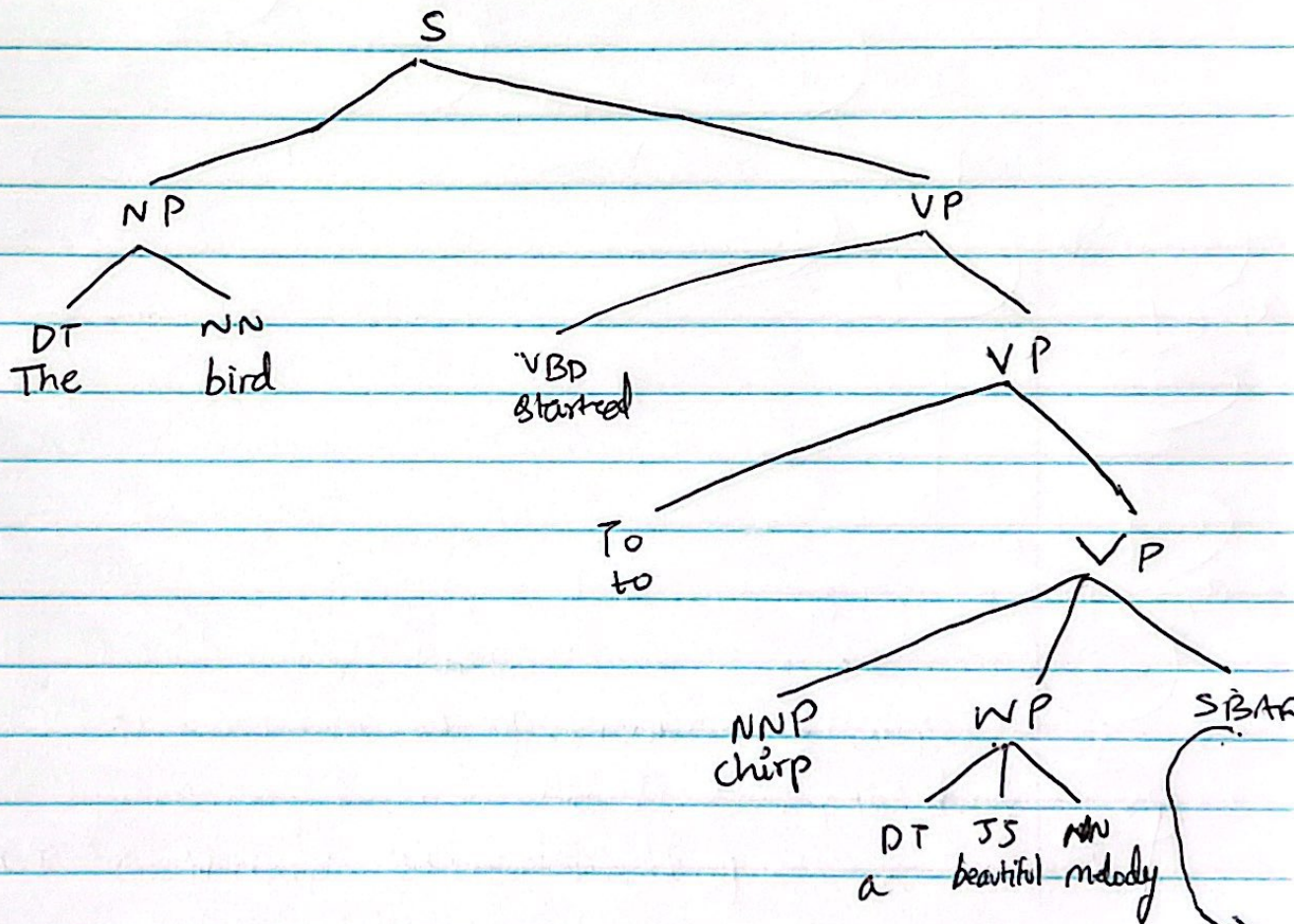
# Sentence Parsing

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## Portfolio Assignment

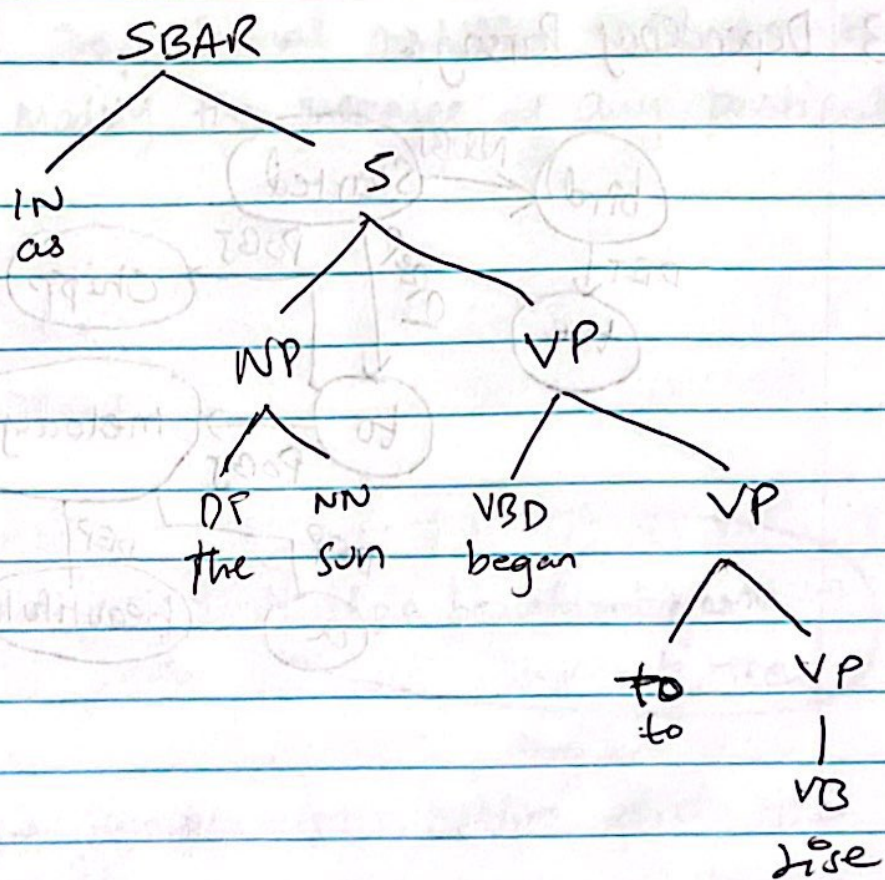
1. Sentence :- The bird started to chirp a beautiful melody as the sun began to rise.

2. PSOT Tree :-



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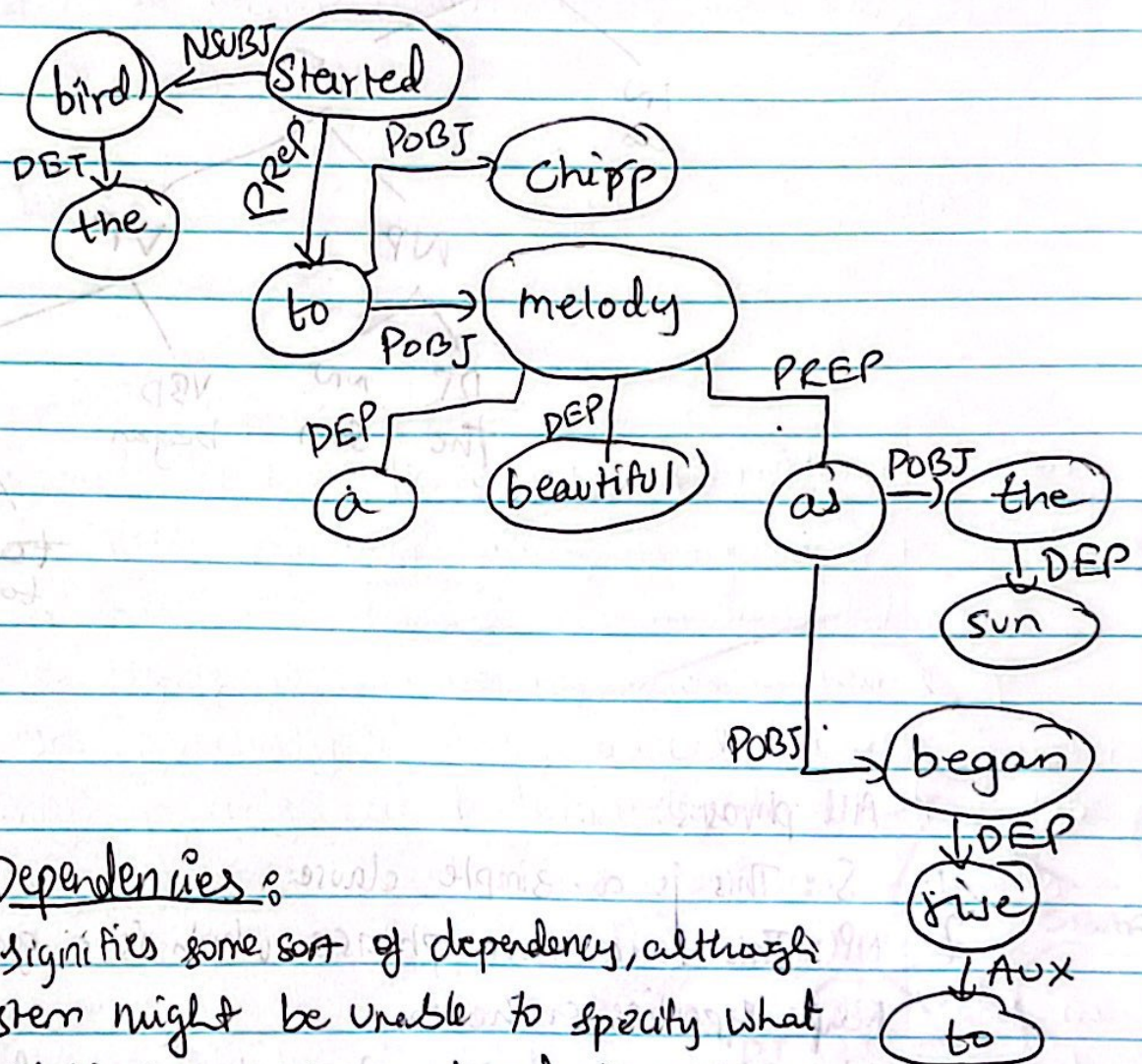


All phrases:

1. S: This is a simple clause
2. NP: This is a noun phrase which is a group of words help supporting a noun
3. VP: similar to a noun phrase, but now for verbs.
4. To: to
5. NNP: This signifies a proper noun in singular form
6. DT: This signifies a determiner in the sentence
7. JJ: This signifies an adjective.
8. VBD: This is a verb in past tense
9. VB: Verb in present tense or base form.



### 3- Dependency Parsing:



#### All Dependencies:

- DEP: signifies some sort of dependency, although the system might be unable to specify what
- DET: relationship between head of a noun phrase and its determiner.
- AUX: A ~~clause~~ non-main verb of a ~~clause~~ clause  
example is :- began to give, we must leave
- NSUBJ: The ~~main~~ noun phrase which is the subject of the clause (nominal subject)
- POBJ: object of a preposition, basically the head of a noun phrase in a sentence, but after the preposition



- PREP: A prepositional modifier, this relationship exists to modify the meaning of any particular verb.

#### 4. SRL Parse: (3 verbs)

4(a) Started:

(the) bird (started) to chirp a beautiful melody as the sun  
Arg0 verb Arg1  
began to rise

- ⇒ Here, Arg1 signifies the action which the bird "started".
- ⇒ Arg0 serves as the determiner for the ~~verb~~ noun/subject.
- ⇒ (Even though not stated, "sun began to rise" could be a
- (b) began: (PNC: motivation for action).

" " " (began) (to rise)  
verb Arg1

- ⇒ Arg1 signifies the task which began, in this case would be rising.



(C) rise:

The bird started to chirp a beautiful melody as the sun began to rise.

Arg1

↓  
~~the~~  
verb

⇒ Arg1 signifies the ~~verb~~ subject that performs the verb action.

5: PSG vs Dependency vs SRL

Firstly, each of the three parsing methods has its own goal. The PSG parsing is great at breaking sentences into subphrases. This is especially useful when you are trying to analyse languages in terms of subphrase connectivity and syntactical accuracy. However, dependency parsing would definitely do a better job at mining relationships between individual words in a sentence. Semantic Role Labelling (SRL) is a good middle ground, in terms of classifying verbs in a sentence and ~~the role of~~ computing the role of other parts of the sentence in giving meaning to the verb. Overall, each parsing method has its pros and cons, but for the purpose of my sample sentence, I believe that PSG parsing does a great job at predicting the 2 clauses, and identifying the pos in ~~each~~ each clause, to provide more detail on breaking down the english language.