# Basics of pronouns & anaphora

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## 1. Syntax of pronouns

We now consider adding to our language pronouns, like 'he', 'she', 'him', 'it', 'herself'. We can distinguish several different uses of pronouns. *Anaphoric* uses of pronouns are uses in which the semantic value of the pronoun depends upon the semantic value of some other expression. *Demonstrative* or *deictic* uses are ones in which the semantic value of the pronoun is fixed by an accompanying demonstration, like an act of pointing. We will return to deictic uses when we discuss context-sensitivity, and confine ourselves to anaphoric uses here.

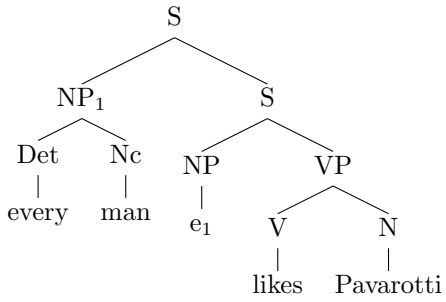
Syntactically, anaphoric pronouns are in the category $N_p$. (Just as $N_c$ is for 'common noun', so $N_p$ is for 'pronoun.') An NP (noun phrase) can consist of just a $N_p$. (By contrast, it can't just consist of a $N_c$; rather, to get an NP, an $N_c$ must be combined with a determiner (Det) like 'the', 'a', 'every.'

## 2. Semantics of pronouns

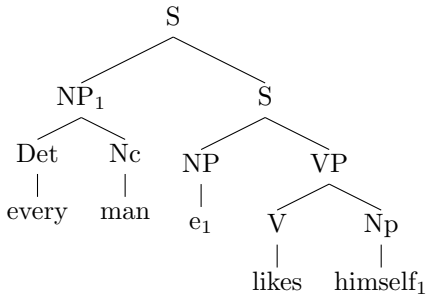
Semantically, anaphoric pronouns are treated like we treated variables in the predicate calculus, and like we treated traces in $F_2$. That is, they are given a semantic value by the assignment, which is then modified if the trace is bound.

(One complication is that in English the values of many pronouns are restricted by gender, or by the requirement that the value be animate. We'll be ignoring this for now, and simply assuming that the relevant assignments, and modifications thereof, are constrained to provide only appropriate values.)

The simplest uses of pronouns, given our previous discussion, are ones in which the pronoun is bound by a quantifier, as in "Every man likes himself." We can think about this sentence by an analogy with the simpler sentence "Every man likes Pavarotti", which gets a tree like




"Every man likes himself" then gets the tree




where the semantics treats 'himself$_1$' just like it would treat 'e$_1$' — as bound by the coindexed quantifier phrase which c-commands it.

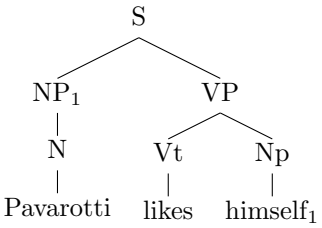
How would you compute the truth conditions of this sentence? How about 'Some woman likes Pavarotti and Pavarotti likes her'?

## 3. Pronouns bound by names

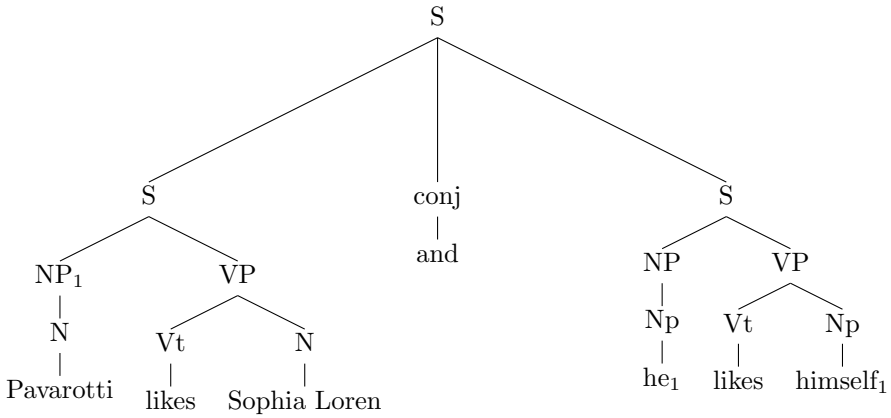
Of course not all anaphoric pronouns get their semantic value as a result of being bound by a quantifier. Consider

Pavarotti likes himself.

This use of 'himself' seems to be just the same as the one in "Every man likes himself" — it's just that here it is bound by a name rather than a quantifier phrase. How should we think about the syntax of sentences like this? One might think that we should simply index names and let them bind co-indexed pronouns which they c-command, and treat this sentence as having the structure

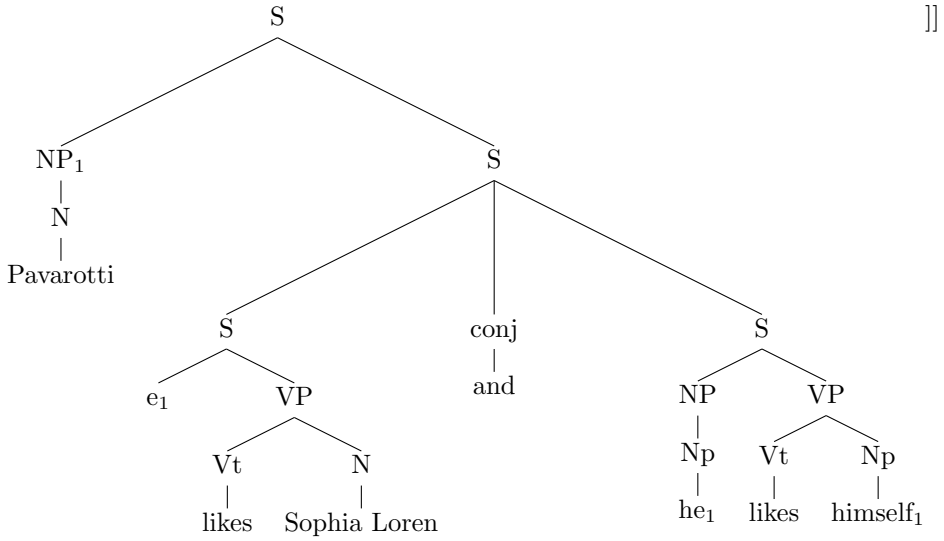



But this won't work for every sentence of this form. Consider 'Pavarotti likes Sophia Loren and he likes himself.' It looks like 'Pavarotti' should be binding both 'he' and 'himself.' But if we treat this sentence as we treated the one above, it can't, since its structure would be something like




Why can't the pronouns be bound by 'Pavarotti', if this is the correct tree for the sentence?

One way around this is to think of names, like quantifiers, as exhibiting movement, and leaving behind traces which they bind. On this view, the above sentence would be of the form




How would you formulate the semantic clause for traces which are the result of the movement of a name? What would the relevant modification of the assignment function be? How would this extend to the semantic value of the bound pronoun?

You might wonder: would it be easier just to ditch our requirement that traces be bound by NPs which c-command them? Justifying the requirement of c-command would take us into more syntax than we are going to cover in this course, but the basic idea is that we want to be able to explain the grammaticality of examples like the ones discussed above as well as the ungrammaticality of strings like 'Himself likes Pavarotti.' This is done in part by using restrictions on binding, like c-command, and by formulating rules governing movement.

This is enough for you to understand the basics of our account of pronouns. However, the behavior of pronouns also gives rise to some puzzles for which the theory sketched so far cannot account. We'll turn to some of those next.