

Foundations of Statistical Natural
Language Processing
Chapter 8: Lexical Acquisition



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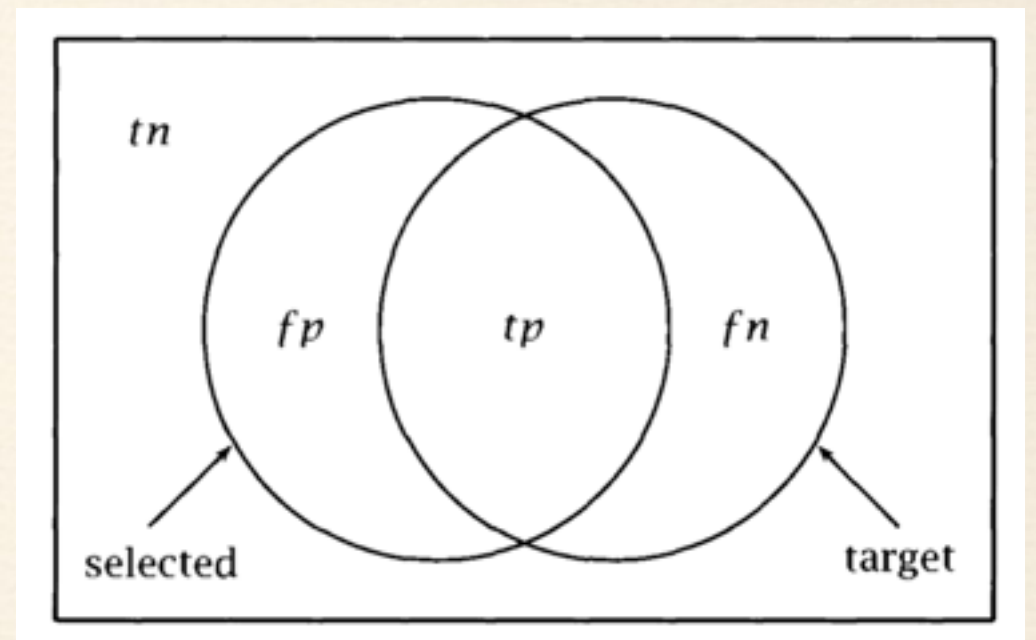
1. I'm sorry.

8.1 Evaluation Measures

$$P = \frac{tp}{tp + fp}$$

$$R = \frac{tp}{tp + tn}$$

$$F = \frac{1}{\alpha^{\frac{1}{P}} + (1 - \alpha)^{\frac{1}{R}}}$$



8.2 Verb Subcategorization

- ❖ She told [the man] [where Peter grew up].
- ❖ She found [the place [where Peter grew up]].

Frame	Functions	Verb	Example
NP NP	subject, object	greet	<u>She</u> greeted <u>me</u> .
NP S	subject, clause	hope	<u>She</u> hopes <u>he will attend</u> .
NP INF	subject, infinitive	hope	<u>She</u> hopes <u>to attend</u> .
NPNPS	subject, object, clause	tell	<u>She</u> told <u>me</u> <u>he will attend</u> .
NP NP INF	subject, object, infinitive	tell	<u>She</u> told <u>him</u> <u>to attend</u> .
NP NP NP	subject, (direct) object, indirect object	give	<u>She</u> gave <u>him</u> <u>the book</u> .

8.3 Attachment Ambiguity

- ❖ The children ate the cake with a spoon.
 - ❖ eating spoon or using spoon
- ❖ A simple model to solve this is likelihood ratio.

8.4 Selectional Preferences

- ❖ Most verbs prefer arguments of a particular type.
- ❖ The word “eat” tend to have food as an object.

8.5 ~

❖ I'm sorry.