

Class 11: Anaphora and co-reference resolution

What is co-reference resolution?

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May confessed to Patel that although having secret meetings with the Israelis was a sackable offence, it paled in comparison to her own dire performance but “sadly nobody’s willing to pull the trigger.”

Patel said: “It was so awkward. She said ‘You don’t know how often I’ve dreamt of sitting on your side of the desk, finally being summarily dismissed for my gross incompetence.’

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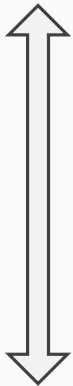
Noun phrases and reference

- NPs usually refer to entities in the world
- NPs may co-refer, meaning they refer to the same entity
- They may also be nested

Однажды **Пушкин** написал письмо **Рабиндранту Тагору**.
« **Дорогой далекий друг**, — писал **он**, — **я** **Вас** не знаю, и **Вы**
меня не знаете. Очень хотелось бы познакомиться. Всего
хорошего. **Саша** ». Когда письмо принесли, **Тагор** предавался
самосозерцанию. Так погрузился, хоть режь его. **Его** жена
толкала, толкала, письмо подсовывала — не видит. **Он**, правда,
по-русски читать не умел. Так и не познакомились.

Kinds of reference

Easier



Harder

Bound variables

She hurt *herself*

Я имею *свой* баян

Free variables

Maša read *her* book

Она очень нравилась.

Referring expressions

Carles Puigdemont

Catalan president

Puigdemont

president of Catalonia

President Puigdemont

Coreference, anaphora, cataphora

- **Coreference**
 - Two *mentions* (NPs) refer to the same entity
 - May be identical or completely different
- **Anaphora, Cataphora**
 - Interpretation is in some way dependent on an antecedent
 - Traditionally the antecedent came first, but not always the case.

С покрытого персидскими чепраками дивана, на котором он лежал, куря, как всегда, одну за другой бесчисленные папиросы, лорд Генри Уоттон видел только куст раkitника – его золотые и душистые, как мед, цветы жарко пылали на солнце, а трепещущие ветви, казалось, едва выдерживали тяжесть этого сверкающего великолепия ...

(Oscar Wilde – The Picture of Dorian Grey)

Two different things

Anaphora resolution



Co-reference resolution



Applications

Machine translation:

Text summarisation:

Information extraction: