

G. K. Chesterton: "**There are two** ways to get enough. One is to continue to accumulate more and more. The other is to desire less.

A. Einstein: "**There are two** ways to live: you can live as if nothing is a miracle; you can live as if everything is a miracle."

*The Good, the Bad, and the Ugly*: "**There are two** kinds of people in the world, my friend: Those with a rope around the neck, and the people who have the job of doing the cutting."

D. Ellington: "**There are two** kinds of music. Good music, and the other kind."

B. Russell: "**There are two** motives for reading a book; one, that you enjoy it; the other, that you can boast about it."

T. Robbins: "**There are two** kinds of people in this world: Those who believe there are two kinds of people in this world and those who are smart enough to know better."



## Sprogteknologi sans frontières

- Sprogteknologi uden sætningsgrænser
- Sprogteknologi uden domænegrænser

## Sprogteknologi uden (sætnings-)grænser

Why are people  
always using Google  
Translate as an  
example?



(Franz Och.)

**Translate**

From: Danish - detected ▼  To: English ▼

English Spanish French **Danish - detected** French **English** Spanish

Huset ligger nede i dalen. På trods af det sælger vi det til rimelig pris.

The house is situated in the valley. In spite of it, we sell it at a reasonable price.

## Sprogteknologi uden (domæne-)grænser

Why are people  
always using Twitter  
as an example?



(Jack Dorsey.)

**Translate** From: Danish - detected To: English Translate

English Spanish French **Danish - detected** French **English** Spanish

@LolzenHabbo Nogen gange får de ikke logget ud af hinandens.. De samtaler jacob og jeg har haft, har han ikke haft 1 sproglig fejl

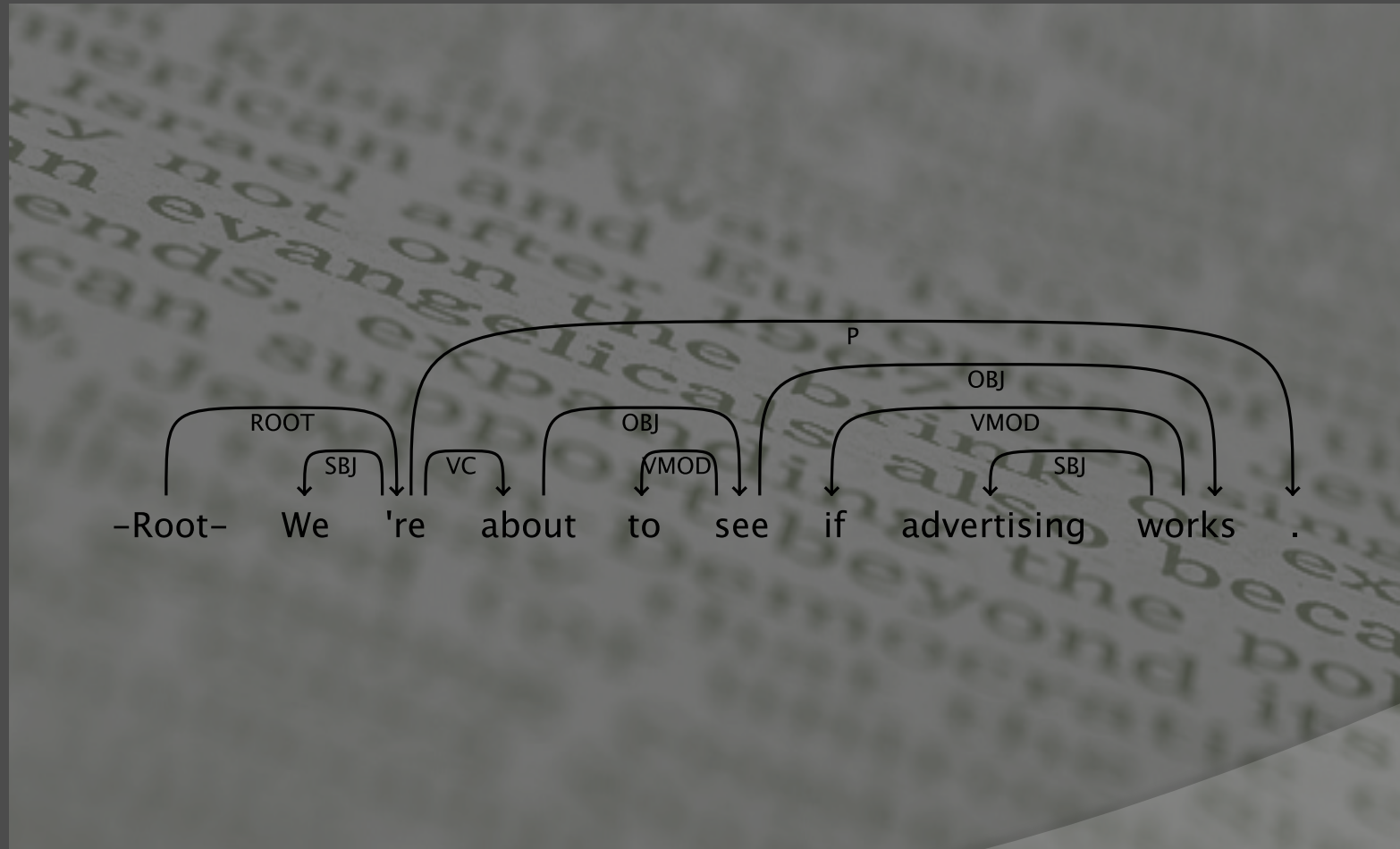
@ LolzenHabbo Sometimes they do not get logged out of each others .. The interviews jacob and I have had, he has not had 1 linguistic errors

# Making sense of language





# Making sense of language



# Parsing's @ the core of the future

**Translate** From: English - detected To: German

English Spanish French English Spanish **German**

John says that he loves the princess who lives in the castle.

John sagt, dass er die Prinzessin, die im Schloss wohnt liebt.



# State-of-the-art parsers induced from annotated newspapers





to Iran,  
Builds  
Identity

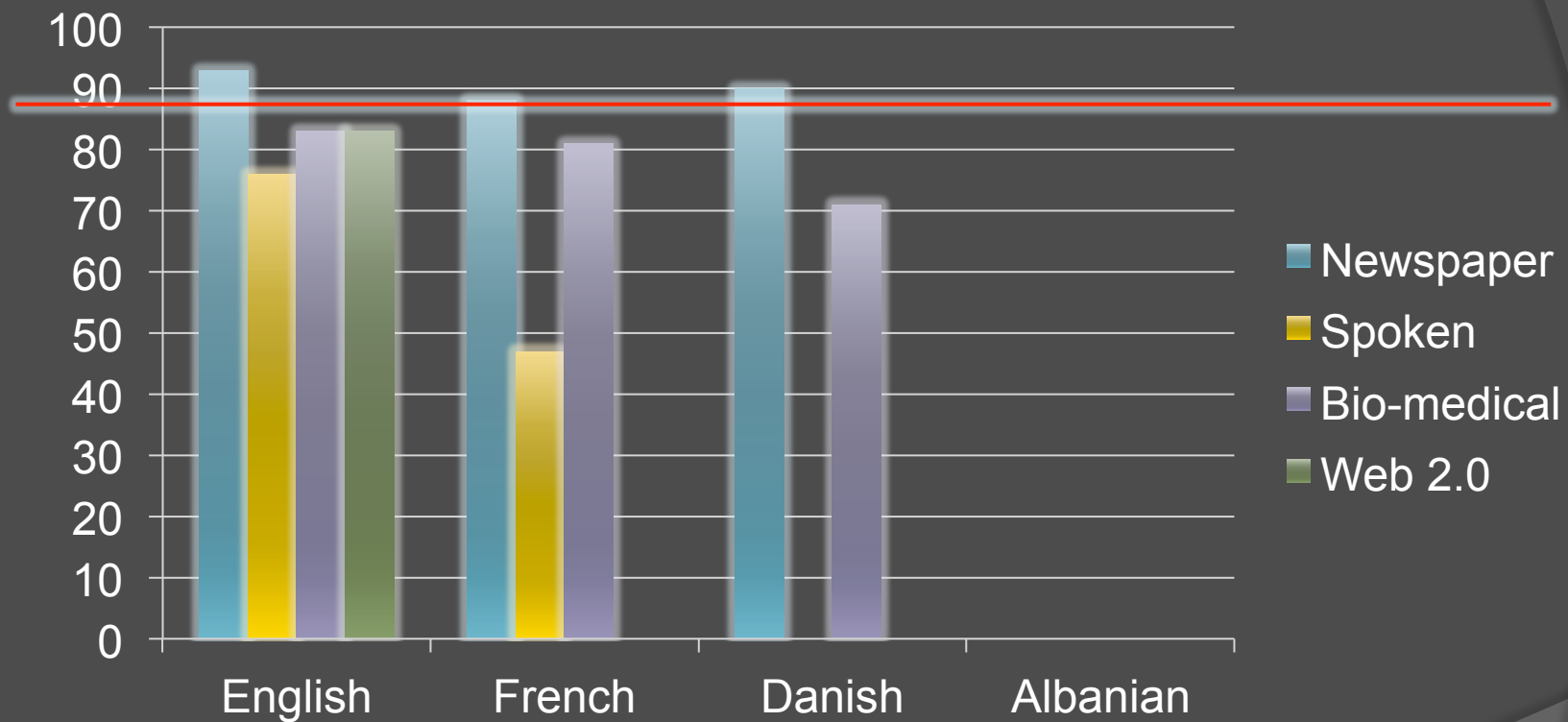


Federal authorities are investigating a criminal case against a former executive and two stock-options holders at the bank.



## Language use

# Out-of-domain performance drops



# What's the problem?

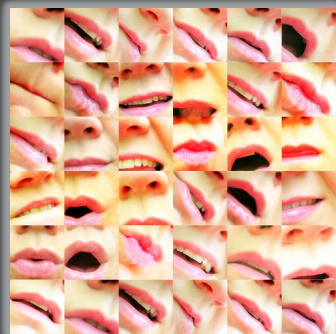
Languages



Domains



Group differences



Language change

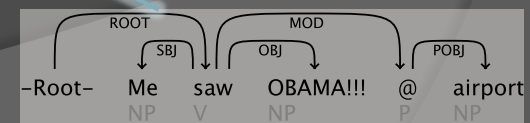
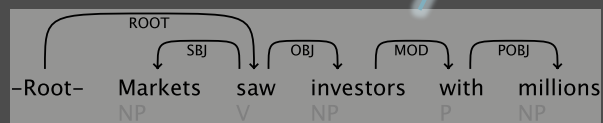
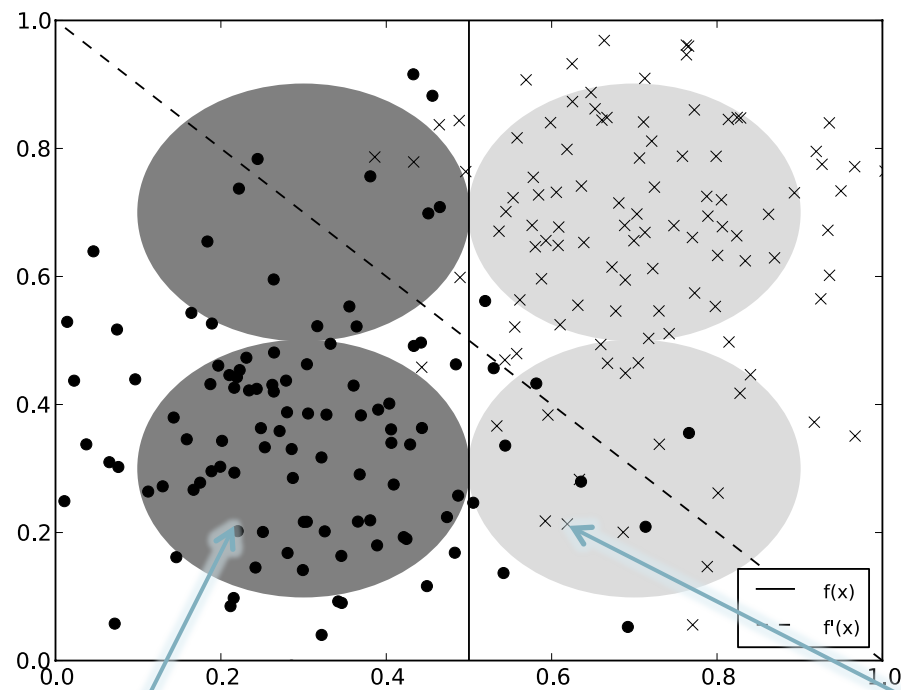


- Annotation rate: ~40 words/hour. Entire treebank: ~5 years.
- It is not feasible to construct linguistic resources for all use cases.
- We need to learn how to **adapt** parsers across languages and domains.

Supervised parsing, estimated cost:  $6,909 * \infty * \alpha * \beta * 5PY \sim \text{Expensive}$

PP-attachment

Importance weighting



Raising the bar

Adapting to the unknown

