I made a slideshow for some reason

Luke Smith

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Our Phrase Structure Grammar

CP → (C) TP
TP → NP (T) VP
NP → (D) (AdjP+) N (PP+) (CP)
VP → (AdvP+) V (NP) ({NP/CP}) (AdvP+) (PP+) (AdvP+)
AdjP → (AdvP) Adj
AdvP → (AdvP) Adv
PP → P NP
XP → XP conj XP
X → X conj X

Some important points

Language isn't just a series of words, but words that have certain *hierarchical relationships* with each other...

Words come in logical bundles called *phrases*, which appear in certain syntactic locations. We can model their distribution with **Phrase Structure Rules**...

Our PS Rules are finite, but because they are *recursive*, we can produce an <u>infite set</u> of sentences, since we can continuously embed phrase within phrase.
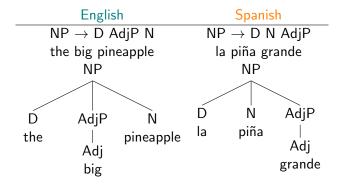
Correlaries:

We have to express language **linearly**, but that's a fact of life that's *independent of language itself*.

Actually existing externalized language is a **pale reflection** of what's going on in your head, because we can't communicate in trees directly.

Languages can vary *greatly* in word order and other "unimportant" ways that have to do with how we linearize/externalize language. But we should be able to abstract away from that and see commonalities.

Languages differ linearly...

	English	Spanish
	NP → D AdjP N	NP → D N AdjP
	the big pineapple	la piña grande

NP
├── D: the
├── AdjP
│   └── Adj: big
└── N: pineapple

NP
├── D: la
├── N: piña
└── AdjP
    └── Adj: grande

But the *structural relationships* between phrases, like the N and the AP that modifies it, remain constant across all languages.

...but the core is the same

We can make different PS Rules for different languages, but they'll just be the *same relations* in different linear order.

Watch making advice: It doesn't matter what order you put the subcomponents of a watch together. You're going to end up with the same watch.

Universal Grammar: All human languages are making the same watch. They just put the pieces together in different orders.

The Acquisition Problem: When children learn a language, they already know where everything goes in the heirarchy, they just have to decide what linear order words come in their language.

Word order irrelevant to the core of language

Linearized language can cause confusion

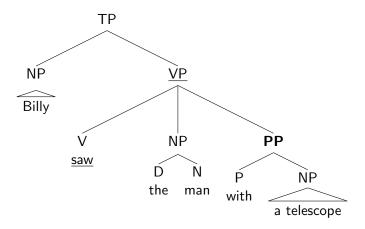Since language is by nature heirarchical and not linear, linear language doesn't capture all the nuance!

Notice that, say, **PPs** can occur in both NPs and VPs.

In a tree, there's no problem telling where the PP is.

But once we linearize it, there can be *ambiguity*.

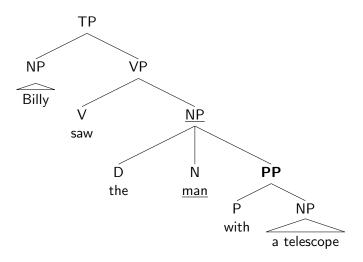# An Over-repeated Example

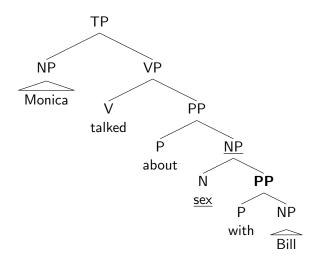Billy saw the man with a telescope.

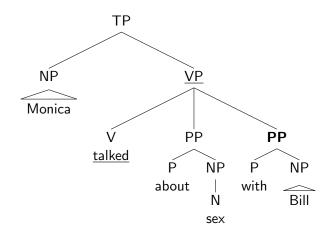# An Over-repeated Example

Billy saw the man with a telescope.

A more salient example

Monica talked about sex with Bill.

```
                          TP
                 _____/_____
                NP                 VP
               /__\            ____/\____
              Monica          V          PP
                            talked    ___/\___
                                     P        NP
                                   about    __/\__
                                           N     PP
                                          sex   _/\_
                                               P    NP
                                             with  /__\
                                                   Bill
```
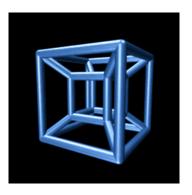
A more salient example

Monica talked about sex with Bill.

Language is richer than its externalization

Again, externalized language is a *pale reflection* of the actual semantic structure of language. Language has an internal representation richer than what actually comes out.

Excercise

Chapter 3, Problem 8 a-d (feel free to try e and f if you have time)

This is a part of your next homework.

Problem 8

GPS8. AMBIGUITY II

[Application of Knowledge and Skills; Basic to Intermediate]
The following English sentences are all ambiguous. Provide a paraphrase (a sentence with roughly the same meaning) for each of the possible meanings, and then draw (two) trees of the *original* sentence that distinguish the two meanings. Be careful not to draw the tree of the paraphrase. Your two trees should be different from one another, where the difference reflects which elements modify what. (For sentence (b) ignore the issue of capitalization.) You may need to assume that *old* and *seven* can function as adverbs. Sentences (c), (d), (e), and (f) are ambiguous newspaper headlines taken from http://www.fun-with-words.com/ambiguous_headlines.html.

a) John said Mary went to the store quickly.
b) I discovered an old English poem.
c) Two sisters reunited after 18 years in checkout counter
d) Enraged cow injures farmer with ax
e) Hospitals are sued by seven foot doctors
f) Dealers will hear car talk after noon