

1/20 idea

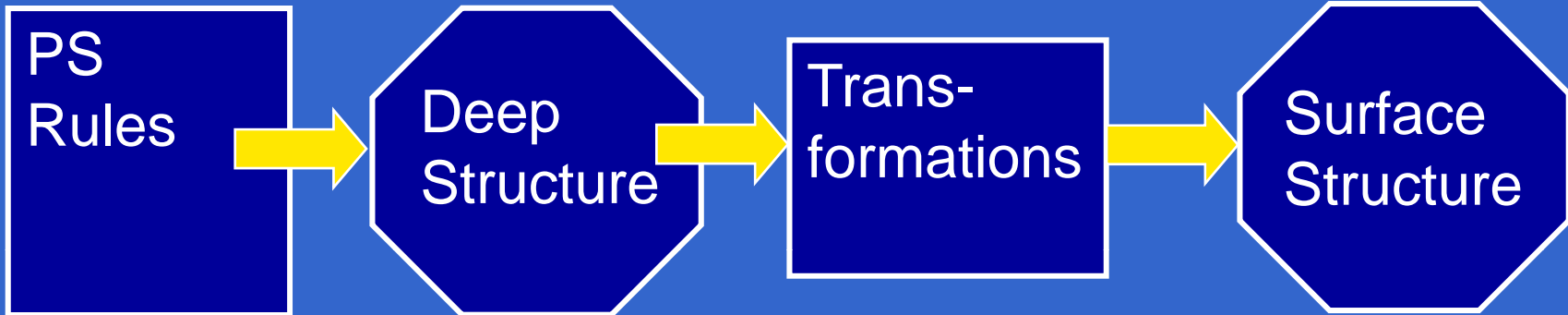
- If we cancel class...
 - We'll spend an extra hour on 1/21
 - I'll give you a brief writing problem for 1/21 based on assigned readings
 - Jot down your thoughts based on your reading so you'll be ready to discuss them in class
 - This counts as a **ticket**; if you don't have it, you don't get to enter the classroom on 1/21

agenda for today

- Brief review & lecture on transformation
- exercise on PS rules / transformations
- how to analyze sentences from other languages
- variation and universals
- more exercise?

Brief Review

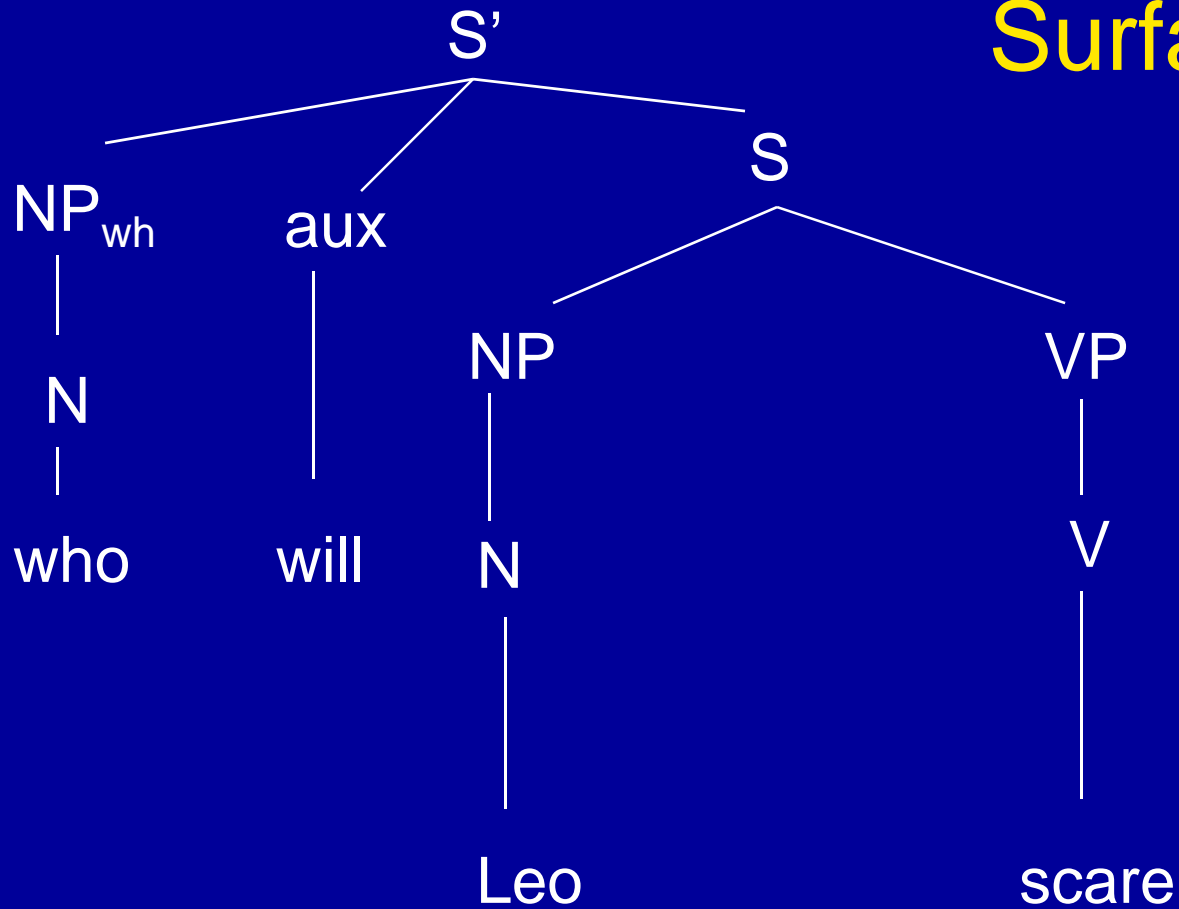
Syntax



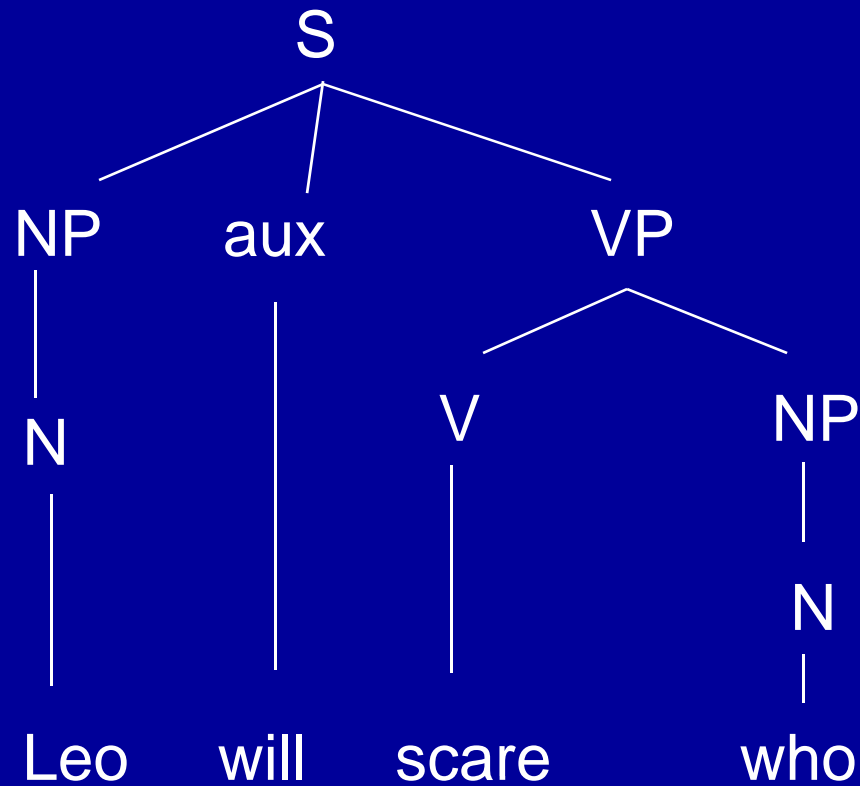
Lexicon

scare [V NP]
gallop [V Ø]
sleep [V Ø]

Surface Structure



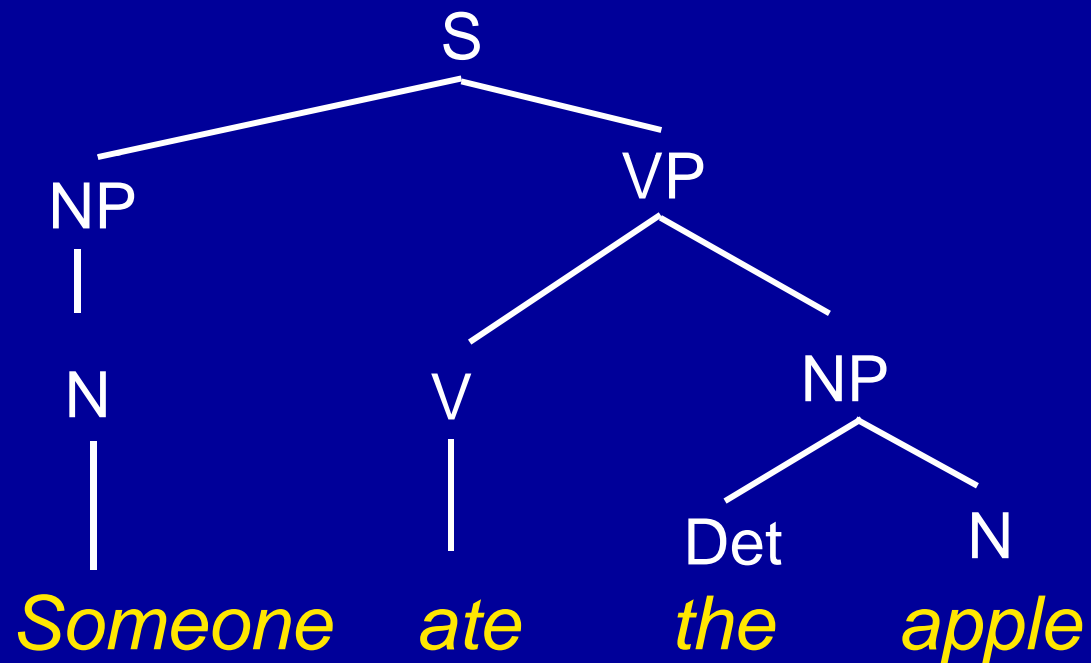
Deep Structure



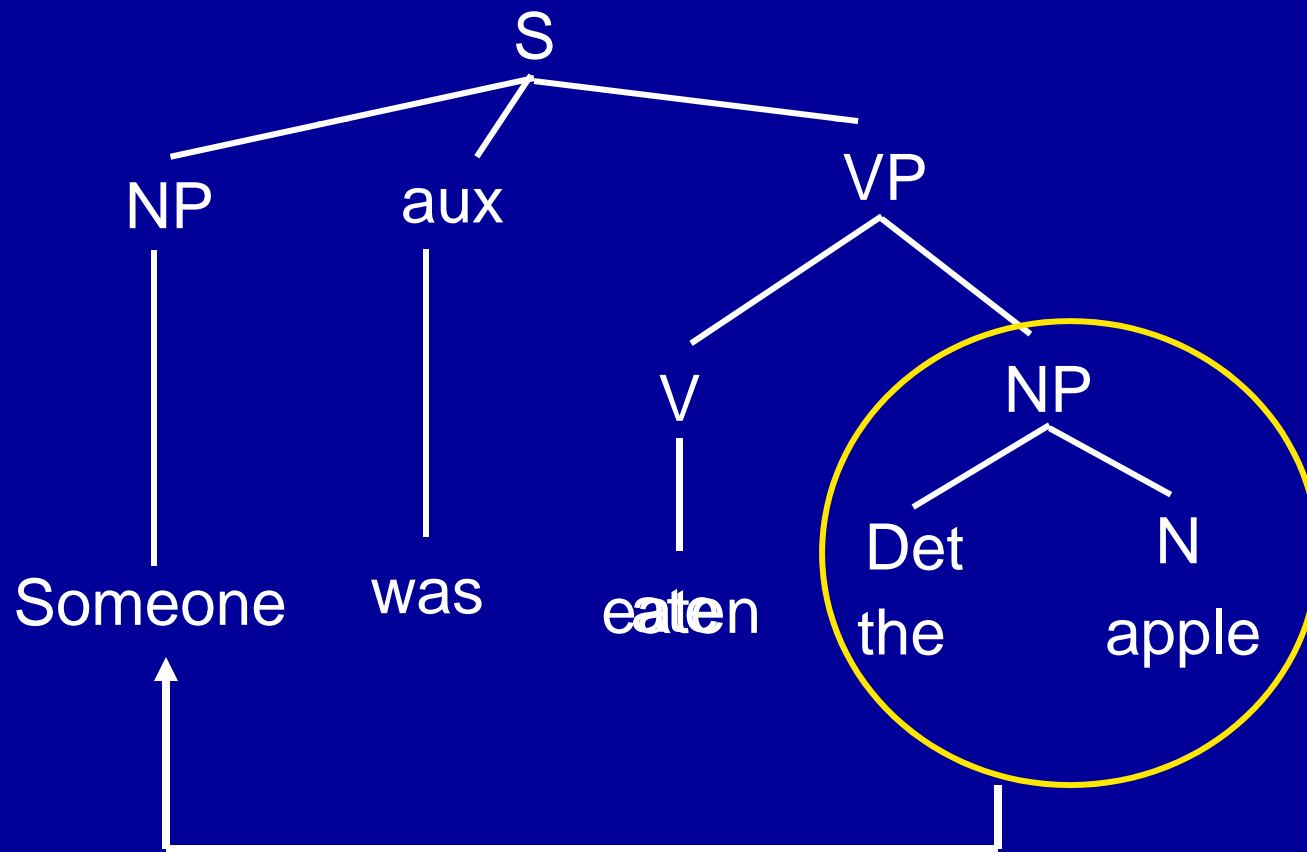
Lexical Insertion

Passive

Deep structure for active and passive:

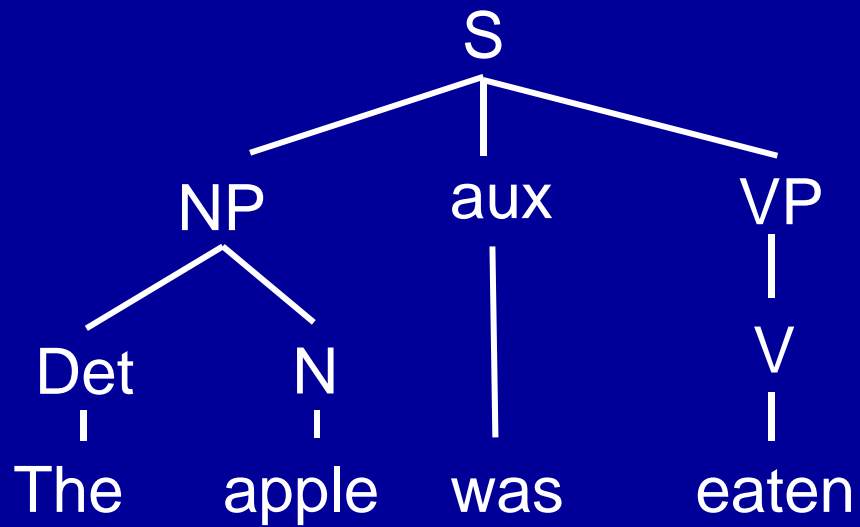


Passive



Passive

Surface structure



Phrase structure rules create **deep structure tree**

Lexical meaning (eg argument structure) is represented in the deep structure (and is not changed by transformations)

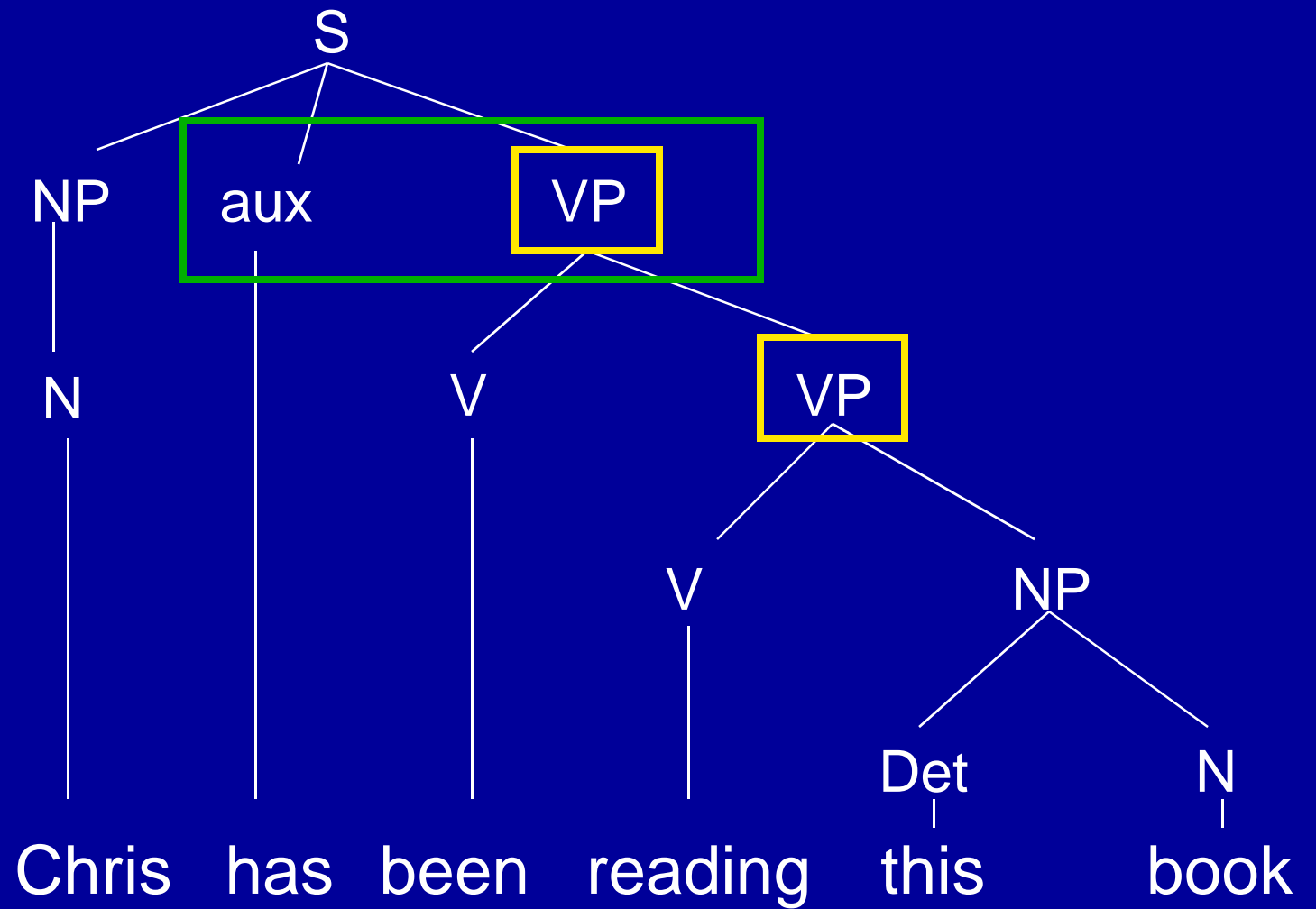
Another transformation: Deletion

*Kim wasn't reading this book
but Chris was ~~reading this book~~*

Deletion

Kim hasn't been reading this book

but Chris has ~~been reading this book~~



Conclusions

Transformations apply to constituents

Constituency tests:

- VP-deletion
- Passive

What else was there?

Conclusions

Transformations are stated in terms of structure (i.e., structure dependent)

This is true in every language!!

More on language universals next time

Small exercise 1

English PS rules

- See handout

PS rule exercise 2

A formal language with the following rules:

$S \rightarrow A (B)$, $A \rightarrow a (c) e$, $B \rightarrow b d (f)$

With this grammar, can you generate:

ae, ace, bd, aebdf, acebdf, aebd, acbd

Small exercise 3

Transformations

- Give the deep structure of the following sentences:

Who did John kiss?

Who kissed John?

Was Mary kissed by John?

Who was kissed by John?

Who was Mary kissed by?

Small exercise 4

- See the handout on passives

note on rule ordering

- multiple transformations can apply: e.g., passive & wh-mvt+subj-aux inversion

John kissed Mary.

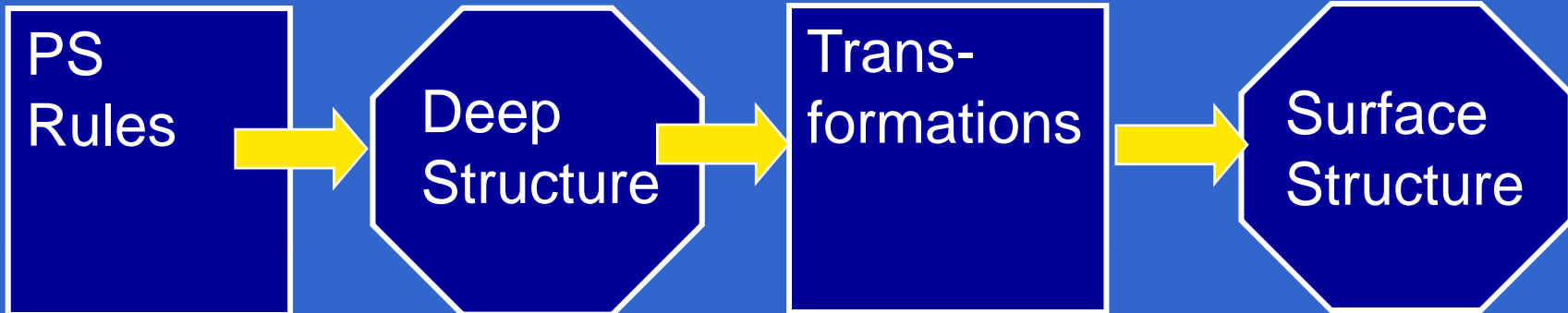
- passive \rightarrow wh-mvt+subj-aux?
- wh-mvt+subj-aux \rightarrow passive?

cross-linguistic variation
and universals

Cross-linguistic variation

What are the ways in which
languages can differ?

Syntax



Lexicon

scare [V NP]
gallop [V Ø]
sleep [V Ø]

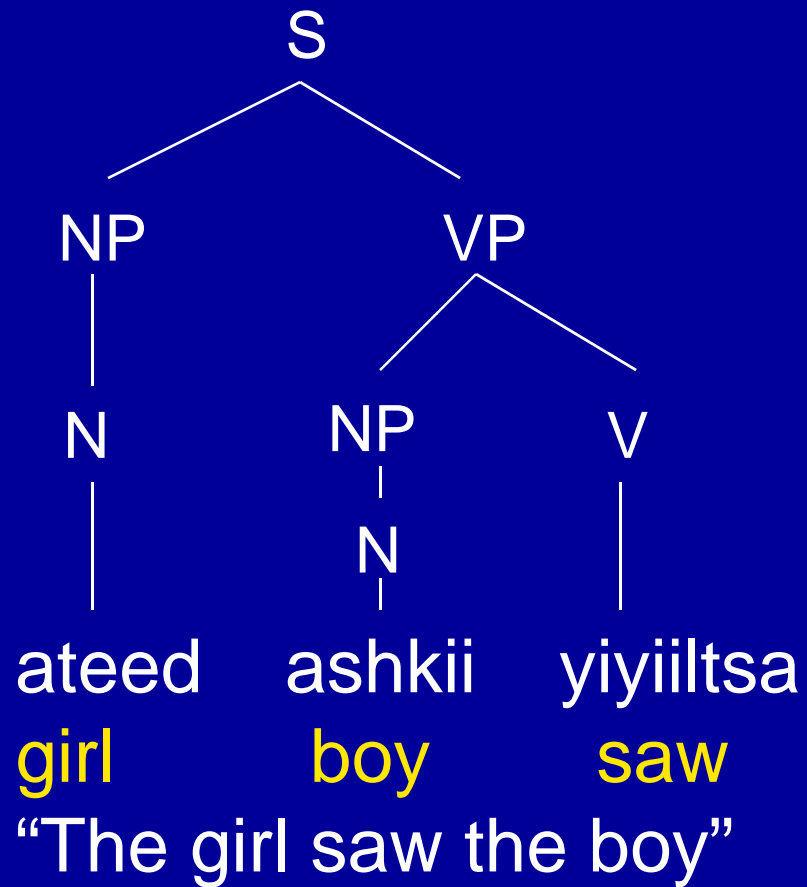
What's (not) different in PS
rules across languages?

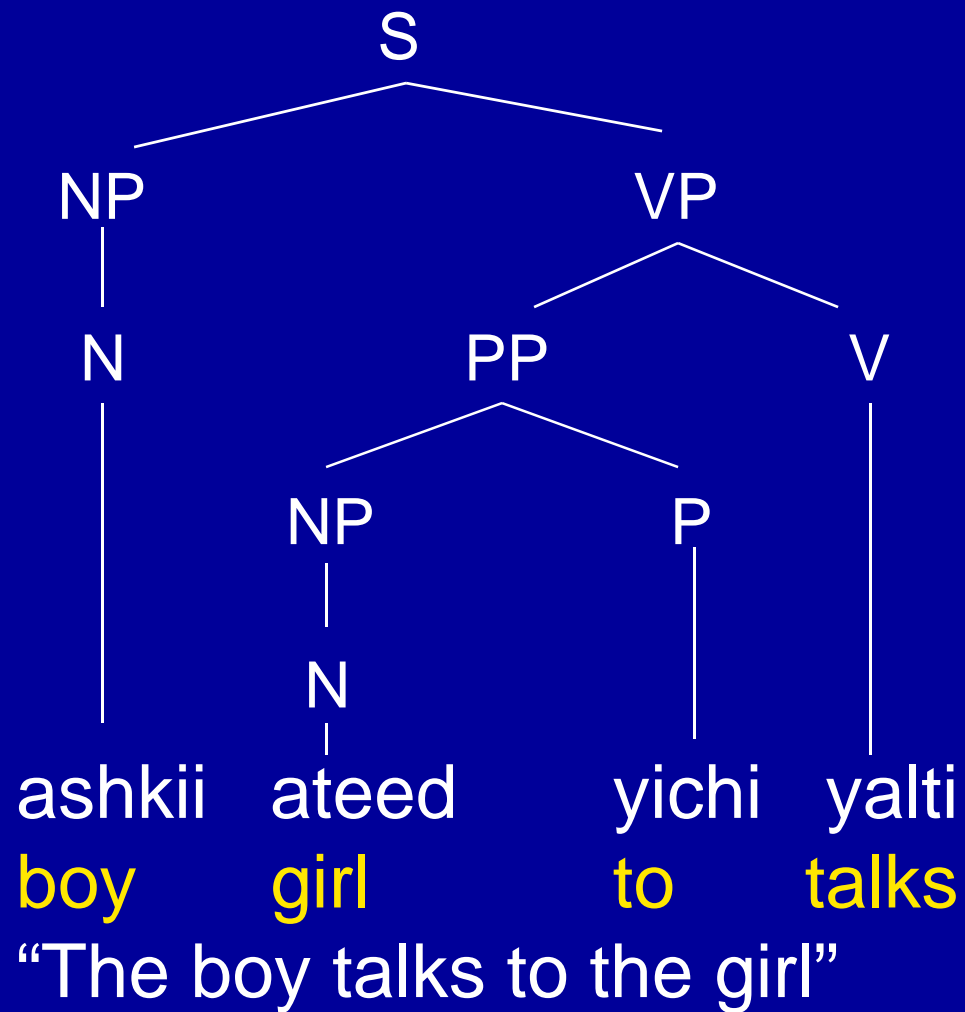
Navajo Handout

i) ateed ashkii yiyiiltsa
girl boy saw
“The girl saw the boy”

v) ashkii ateed yichi yalti
boy girl to talks
“The boy talks to the girl”

Navajo





Navajo Phrase Structure Rules

$S \rightarrow NP VP$

$NP \rightarrow (Det) N$

$VP \rightarrow NP V$

$VP \rightarrow PP V$

$PP \rightarrow NP P$

$VP \rightarrow AdjP V$

Word Order Variation

Navajo

VP -> NP V

PP -> NP P

complement-head

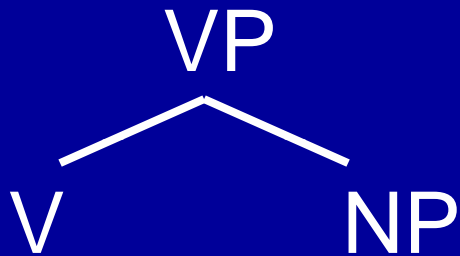
English

VP -> V NP

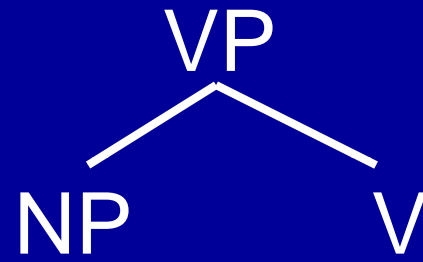
PP -> P NP

head-complement

Word Order Variation



head complement



complement head

No language has rules like

NP \rightarrow Adj P

PP \rightarrow N VP

Linguistic Universals

- abstract, hierarchical structure
- *Endocentricity*: every phrase has a head
- Categories: noun, verb

Cross-linguistic variation

- With respect to PS rules, variation is (mostly) limited to order of elements within a phrase
- but basic parts and properties of PS rules are the same across languages

What's (not) different in
transformations across languages?

Transformations

Who will Kim kiss ?

Which college do you think that Mary went to ?

Questions in Korean

Ne-nun [Mary-ka enu tayhak-ey kat-ta ko]
you Mary which college went that
sayngkakha-ni
think

“Which college do you think that Chelsoo went
to?”

Questions in Korean

No Wh-movement transformation

→ *wh*-in-situ language

(cf. “Who saw what?” in English)

Cross-linguistic variation

- Some transformations are present in some languages, absent in others

Long-distance Wh-movement in English

Sam said that Harold thought that the
teacher had told us that Fred would get
Susie to kiss last Tuesday.

Who did Sam say that Harold thought that the
teacher had told us that Fred would get Susie
to kiss ___ last Tuesday?

Constraints on Movement: Islands 1

John ate bagels and what for brunch?

* **What** did John eat bagels and ____ for
brunch?

coordinate structure constraint (Ross, 1967)

Constraints on Movement: Islands 2

John saw [_{RC} the dog that ate **what**]

* **What** did John see the dog that ate ____?

relative clause island (Ross, 1967)

Universals

- Every language has a set of question words and a way to ask questions
- Transformations are stated in terms of structure
- Movement transformations are subject to island constraints
- Not every language has the same set of transformational rules, but similar types of transformations exist across languages

Explaining Universals

- Why do these universals exist?
- Why don't we see wild variation?

No language reverses the word order of the positive sentence to make a negative sentence

Syntax is my favorite subject.

Subject favorite my is syntax.

Acquisition Question 1

- How do children learn things like island constraints on movement?
- How do children learn that transformations are structure dependent?

Acquisition Question 2

- Most of the language variations are learned within the first 5 years or so
- How do children *uniformly* pick up those cross-linguistic differences without error?

Universal Grammar (UG)

innate constraints on grammar

- things that children don't have to learn - innately given
- Principles & Parameters (Chomsky, 1981)

Principles

- **categories and phrase structure** (nouns, verbs)
 - NP \Rightarrow N + modifiers
 - VP \Rightarrow V + direct object
- **structure dependence** of transformations
- **island constraints** (restrictions on mvt)

Parameters

- **word order within a phrase**: head-complement or complement-head
(Head-directionality parameter)
- **transformations**: Wh-expression moves to front of sentence or stays in place

Research Program

- determine what is innately given and what is learned
- Acquisition: What parts of the grammar are observable in the data (and thus, learnable)? Do children know things that they could not have learned from the input?

Exercise

- Swahili handout
- Pseudo-German handout

Tomorrow

- Homework 4 due!
- A short exercise on morphology & syntax
- Exam 2!!!