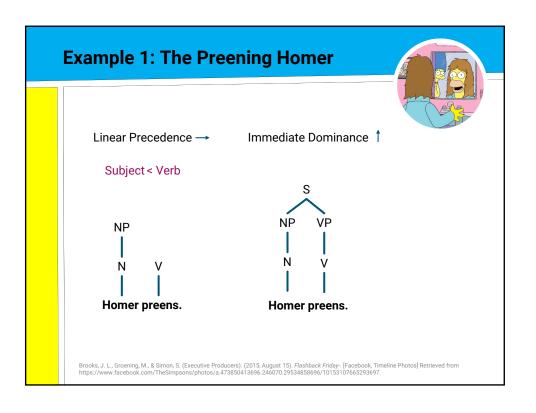
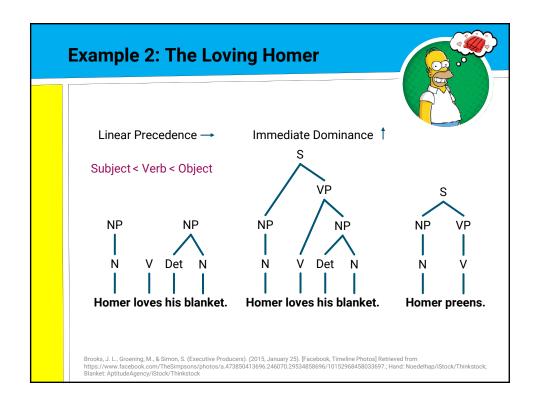
Immediate Dominance and Linear Precedence, Part 2

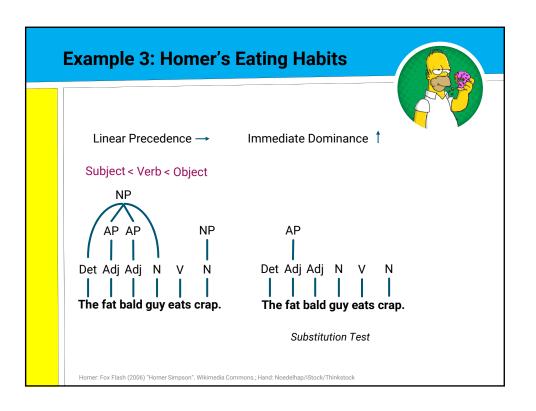
More Sentential Analysis with ID & LP

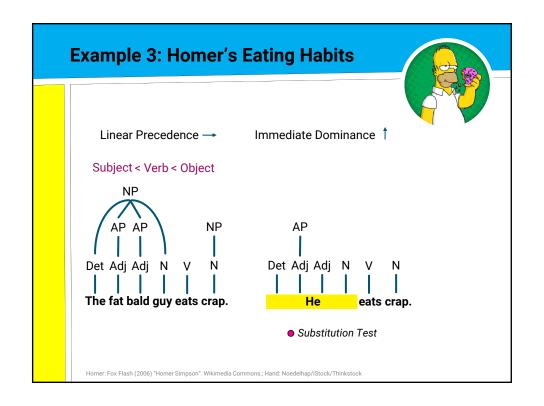
Sentences

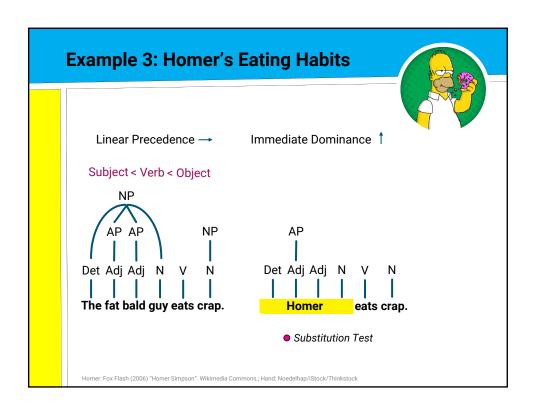
- · Homer preens.
- Homer loves his blanket.
- · Homer eats.
- Homer eats crap.
- The fat bald guy eats crap.
- The fat bald guy eats vast quantities of artery-hardening crap.
- The fat bald guy throws the dog a bone.

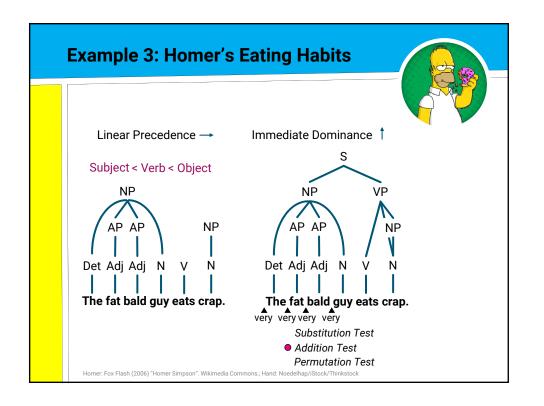


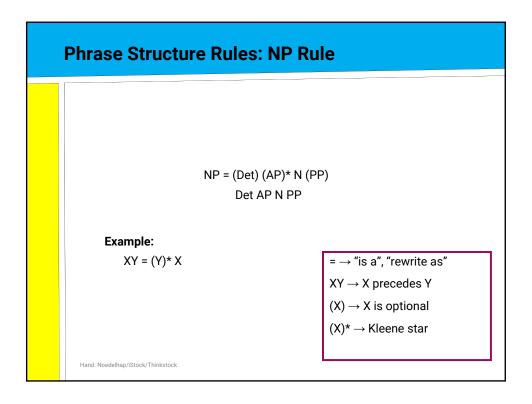


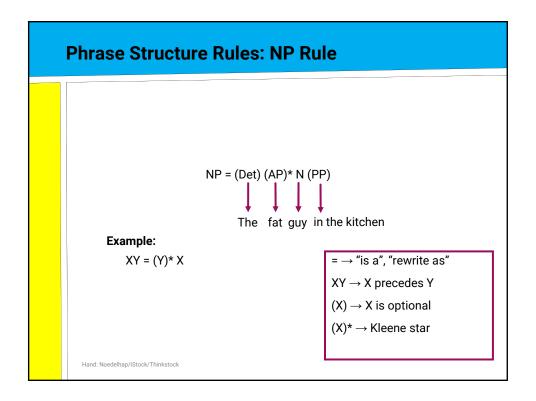












Phrase Structure Rules: NP Rule

Immediate Dominance

NP = (Det) (AP)* N (PP)

Example:

XY = (Y)*X

= \rightarrow "is a", "rewrite as"

 $XY \rightarrow X$ precedes Y

 $(X) \rightarrow X$ is optional

 $(X)^* \rightarrow Kleene star$

Hand: Noedelhap/iStock/Thinkstock

Phrase Structure Rules: NP Rule

Linear Precedence

NP = (Det) (AP)* N (PP)

Example:

XY = (Y)*X

= \rightarrow "is a", "rewrite as"

 $XY \to X \text{ precedes } Y$

 $(X) \rightarrow X$ is optional

 $(X)^* \rightarrow Kleene star$

Hand: Noedelhap/iStock/Thinkstock

Phrase Structure Rules

English basic phrase structure

- NP = (Det) (AP)* N (PP)
- AP = (Deg) A
- PP = P NP
- VP = (Aux) V (NP) (NP) (PP) (AdvP)

$$AdvP = AdV$$

= \rightarrow "is a", "rewrite as"

 $XY \rightarrow X$ precedes Y

 $(X) \rightarrow X$ is optional

 $(X)^* \rightarrow X$ iterates: $\emptyset - \infty Xs$

Hand: Noedelhap/iStock/Thinkstoc

Phrase Structure Rules

English basic phrase structure

S = NP VP

- NP = (Det) (AP)* N (PP)
- AP = (Deg) A
- PP = P NP
- VP = (Aux) V (NP) (NP) (PP) (AdvP)

AdvP = AdV

The very fat guy in the kitchen

has thrown his dog a bone in the park repeatedly.

Hand: Noedelhap/iStock/Thinkstoc

Phrase Structure Rules

English basic phrase structure

```
S = NP VP
NP = (Det) (AP)* N (PP)
AP = (Deg) A
PP = P NP
VP = (Aux) V (NP) (NP) (PP) (AdvP)
```

Det AP AP The big ... big stupid dog

Hand: Noedelhap/iStock/Thinkstock

AdvP = AdV

Phrase Structure Rules

English basic phrase structure

```
S = NP VP
NP = (Det) (AP)* N (PP)
AP = (Deg) A
PP = P NP
VP = (Aux) V (NP) (NP) (PP) (AdvP)
```

AdvP = AdV

Det AP AP

The big fat stupid annoying loud dog

Hand: Noedelhap/iStock/Thinkstock

Phrase Structure Rules

English basic phrase structure

```
S = NP VP
```

$$VP = (Aux) V (NP) (NP) (PP) (AdvP)$$

$$AdvP = AdV$$

The dog in the house in the yard in Milton

3 types of verbs: Intransitive

Transitive

Ditransitive

English Basic Sentence Patterns

English basic sentence patterns

Subject < Verb < Complement

Subject < Verb

Intransitive

Subject < Verb < Object

Transitive

Indirect Object

Subject < Verb < I-Object < D-Object

Ditransitive Direct Object

Preens: Brooks, J. L., Groening, M., & Simon, S/Facebook, 2015.; Smiling: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2015.; Blanket: AptitudeAgency/iStock/Thinkstock; Santa's Little Helper: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2015.; Scale: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2014.



English basic sentence patterns

VCOP

Subject < Verb < Complement

V٦

Subject < Verb Intransitive

 V_2

Subject < Verb < Object

Transitive

Indirect Object

Subject < Verb < I-Object < D-Object
Ditransitive Direct Object

V₁ - Homer preens.

V₂ – Homer loves his blanket.



V₃ – Homer threw the dog a bone.



V_{COP} - Homer is large.

Preens: Brooks, J. L., Groening, M., & Simon, S/Facebook, 2015.; Smilling: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2015.; Blanket: AptitudeAgency/iStock/Thinkstock; Santa's Little Helper: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2015.; Scale: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2014.

adjective

References

Slide 10: Preens: Brooks, J. L., Groening, M., & Simon, S. (Executive Producers). (2015, August 15). Flashback Friday-. [Facebook, Timeline Photos] Retrieved from https://www.facebook.com/TheSimpsons/photos/a.473850473696.246070.29534858696/10153107665293697.; Smilling: Brooks, J. L., Groening, M., & Simon, S. (Executive Producers). (2015, January 25). [Facebook, Timeline Photos] Retrieved from https://www.facebook.com/TheSimpsons/photos/a.473850413696.246070.29534858696/1015296845803697; Blanket: AptitudeAgency/fStock/Thinkstock; Santa's Little Helper is Drooks, J. L., Groening, M., & Simon, S. (Executive Producers). (2015, November 8). West Coast-Santa's Little Helper is begging you to watch an all-new episode of The Simpsons, right now [Facebook, Timeline Photos] Retrieved from https://www.facebook.com/TheSimpsons/photos/a.473850413696.246070.29534858696/10153263218318697.; Scale: Brooks, J. L., Groening, M., & Simon, S. (Executive Producers). (2014, June 16). Doll [Facebook, Timeline Photos] Retrieved from https://www.facebook.com/TheSimpsons/photos/a.473850413696.246070.29534858696/10152196533828697.