

Phrases

Phrases

1. The Phrase
 1. The Noun Phrase (NP)
 2. The Adjective Phrase (AdjP) and Adverb Phrase (AdvP)
 3. The Verb Phrase (VP)
 4. The Prepositional Phrase (PP)
2. Phrases in the Sentence
3. Coordination of Phrases
4. Finding Phrases
5. Building Trees

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Phrase Structure

- A phrase is a syntactic unit headed by a lexical category such as Noun, Adjective, Adverb, Verb, or Preposition.
- Phrases are named for their heads:
 - NP
 - VP
 - AdjP
 - AdvP
 - PP

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Phrase Structure Rules

- ... are generative.
- ... give different analyses of syntactically ambiguous sentences.
- ... have a hierarchical structure.
- ... allow recursion.

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Phrases

- NP
 - The new student from Hungary
- AdjP
 - so beautiful
- AdvP
 - quite happily

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Phrases

- VP
 - ate the cake
 - sat in the yard
 - seemed very quiet
- PP
 - in the yard
 - with glasses
 - under the apple tree
- S
 - They left.
 - She bit her tongue.

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Phrase Structure Rules are Generative

- Use a finite set of rules and elements to produce an infinite set of grammatical sentences. E.g.,
 - NP → (D) N (PP)
 - PP → P NP (PP)
- Routine, family, fishing
- The president, a member, the contenders
- Time with family, the University of Wisconsin, a budget for the State of Wisconsin

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Phrase Structure and Ambiguity

1. The journalist interviewed the actor in a tuxedo.
2. The journalist interviewed [_{NP} the actor in a tuxedo].
3. The journalist interviewed [_{NP} the actor] [_{PP} in a tuxedo].
4. The journalist interviewed [_{NP} the actor [_{PP} in a tuxedo]].

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Phrase Structure Rules are Hierarchical



- In (3), the VP interviewed the actor in a tuxedo is the mother of the PP in a tuxedo.
- The PP in a tuxedo is the daughter of the VP interviewed the actor.

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Phrase Structure Rules are Hierarchical



- In (4) the N' actor in a tuxedo is the mother of the PP in a tuxedo.
- The PP in a tuxedo is the daughter of the N' actor in a tuxedo.

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Phrase Structure Rules are Hierarchical

- In (3), the VP is interviewed the actor in a tuxedo.
- The V' interviewed the actor and the PP in a tuxedo are sisters.



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Phrase Structure Rules are Hierarchical

- In (4), the NP is the actor in a tuxedo.
- The NP actor and the PP in a tuxedo are sisters.



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Phrase Structure Rules Allow Recursion

- $NP \rightarrow (D) N (PP)$
- $PP \rightarrow P NP (PP)$



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Phrase Structure Rules Allow Recursion

- The frogs
- The frogs on the log
- The frogs on the bump on the log
- The frogs on the bump on the log in the pond
- The frogs on the bump on the log in the middle of the pond

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Phrase Structure Rules Allow Recursion

- The frogs
- The frogs [_{PP} on the log]
- The frogs [_{PP} on the bump [_{PP} on the log]]
- The frogs [_{PP} on the bump [_{PP} on the log [_{PP} in the pond]]]
- The frogs [_{PP} on the bump [_{PP} on the log [_{PP} in the middle [_{PP} of the pond]]]]]

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Phrase Structure Rules Allow Recursion

- $S \rightarrow NP VP$
- $VP \rightarrow V S$
- The jury decided the defendant was guilty.



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Tests for Phrases

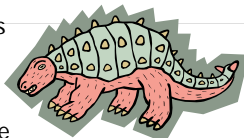
Three Tests for Phrases

1. Pronominalization
2. Coordination
3. Movement

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Pronominalization

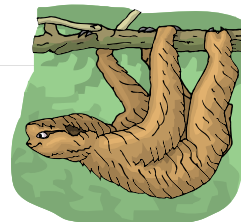
1. Many people I know like armadillos.
2. My next-door neighbors keep an armadillo as a pet.
3. The other people on the street think that my next-door neighbors are weird.



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Pronominalization

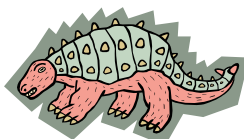
4. But my next-door neighbors haven't told the other people on the street about the three-toed sloth asleep in their maple tree.



20

Pronominalization

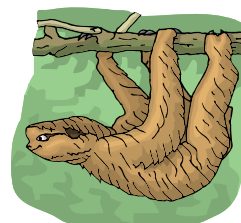
1. Many people I know like armadillos.
2. My next door neighbors keep [_{NP} an armadillo] as a pet.
3. The other people on the street think that [_{NP} my next-door neighbors] are weird.



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Pronominalization

4. But [_{NP} my next-door neighbors] haven't told [_{NP} the other people on the street] about [_{NP} the three-toed sloth asleep in their maple tree].



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Three Tests for Phrases

- ✓ Pronominalization
2. Coordination
3. Movement

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Coordination

- Coordination is the process by which two words or phrases are connected by a conjunction.
- Conjunctions: FANBOYS
 - For, And, Nor, But, Or, Yet, So

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Coordinated Clauses

- I talked to the mechanic and I took a close look at the car.



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Coordinated VPs

- I listened to him and kicked the tires.



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Coordinated NPs

- The car didn't have tail lights or windshield wipers.



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Coordinated PPs

- The owner hadn't parked it in a garage but on the street.



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Coordination

- Is this coordination?
 - The car was in such bad shape that I decided not to buy it.



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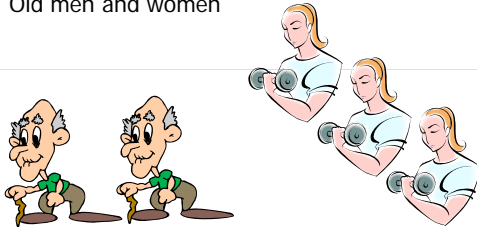
Coordination

- What's wrong with the coordination in this sentence?
 - In my view Alaska pipeline is not going to be a solution to the US shortage of oil, because of many things such as high costs, earthquake, and it takes a long time ...

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Ambiguous Coordination

- Old men and women



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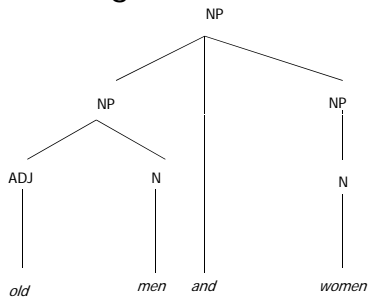
Ambiguous Coordination

- Old men and women



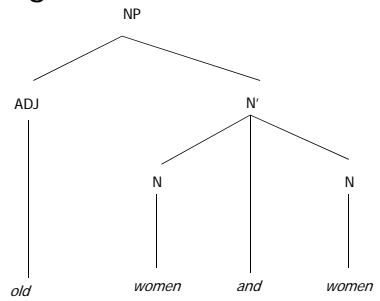
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Ambiguous Coordination



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Ambiguous Coordination



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Three Tests for Phrases

- ✓ Pronominalization
- ✓ Coordination
- 3. Movement

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Movement



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 — We followed your dreams *all over the world.*
 Good thing we had a Land Cruiser.

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Movement

- Passive movement
 - Algernon was driving the Toyota Land Cruiser.
 - The Toyota Land Cruiser
 - The Toyota Land Cruiser was being driven
 - The Toyota Land Cruiser was being driven by Algernon.

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Movement

- What are the noun phrases?
 - [_{NP} Algernon] was driving [_{NP} the Toyota Land Cruiser].
 - [_{NP} The Toyota Land Cruiser]
 - [_{NP} The Toyota Land Cruiser] was being driven
 - [_{NP} The Toyota Land Cruiser] was being driven by [_{NP} Algernon].

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Movement

- Use passive movement to identify the NPs in these sentences.
 1. The police arrested Algernon.
 2. They charged him with DUI.
 3. Tawanda D. Lane will defend him.
 4. The judge might suspend Algernon's license for 12 months.
 5. What can you say about his chances?

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Movement

- Use passive movement to identify the NPs in these sentences.
 1. The police arrested Algernon.
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 5. What can you say about his chances?

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Movement

- Particle shift
 - She looked up [the word] in the dictionary.
 - She looked [the word] up in the dictionary.
 - She looked up [the word 'antecedent'] in the dictionary.
 - She looked [the word 'antecedent'] up in the dictionary.

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Movement

- Particle shift
 - Algernon's attorney straightened out the charge of driving under the influence to the judge's satisfaction.
 - Algernon's attorney straightened [the charge of driving under the influence] out to the judge's satisfaction.

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Movement

- Indirect object movement
 1. I bought my wife a bunch of flowers.
 2. I gave my son a new Pokemon game.
 3. I sent my daughter the check.
 1. I bought a bunch of flowers for my wife.
 2. I gave a new Pokemon game to my son.
 3. I sent the check to my daughter.

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Movement

- Wh- movement
 1. I bought my wife a bunch of flowers.
 2. I gave my son a new Pokemon game.
 3. I sent my daughter the check.
 1. Who did you buy a bunch of flowers for?
 2. Who did you give a new Pokemon game to?
 3. Who did you send the check to?

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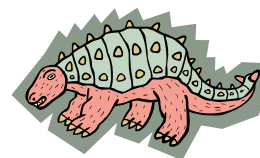
Wh- Movement

1. Many people I know like armadillos.
 2. My next-door neighbors keep an armadillo as a pet.
- Your next-door neighbors keep what as a pet?
 - What do your next-door neighbors keep what as a pet?
 - Who ...?

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Wh- Movement

3. The other people on the street think that my next-door neighbors are weird.
- Who ... ?
 - Who ... ?
 - What ... ?



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Wh- Movement

4. But my next-door neighbors haven't told the other people on the street about the three-toed sloth asleep in their maple tree.
- Who ... ?
 - Who ... ?
 - What ... ?



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Three Tests for Phrases

- ✓ Pronominalization
- ✓ Coordination
- ✓ Movement

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Summary

1. Phrases and Trees
2. Phrase Structure Rules
 - ... are generative (they allow recursion)
 - ... resolve ambiguity
 - ... are hierarchical
3. Three Tests for Phrases
 1. Pronominalization
 2. Coordination
 3. Movement