

Syntax

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Syntax and Two magics

- The subject matter of English Syntax: studies the rules that speakers of English follow when they combine words into sentences
- Two magics:
 1. In 19c Swiss Linguist Ferdinand de Saussure: the arbitrariness relation between sound symbols and meanings
 2. In 1950's Noam Chomsky: language makes infinite use of finite media (we generate an infinite set of grammatical English sentences with a finite set of rules)

Evidence for the finite set of rules

- word ordering restriction
 - (1) a. *Mary glanced at John.
b. John glanced at Mary.
 - (2) a. Kim lives in the house Lee sold to her.
b. *Kim Lee to her sold house lives.
- structural knowledge: words/their meanings are not enough
 - (3) a. *This man going to the station.
b. This man is going to the station
 - (4) a. *Jack read the book that M bought it for him.
b. Jack read the book that M bought for him

Consequences: finite media or rules

- can account for the sheer vastness of language: we can speak and understand sentences we have never heard, seen, talked about before.
- can explain the autonomous property of syntax from cognition: A grammar specifies how words may combine to express meanings: this specification is independent of the particular meanings
 - (5) Colorless green ideas sleep furiously.

Generative Grammar

An English generative grammar is the one that can generate an infinite set of well-formed English sentences with a finite set of rules or principles.

Making a sentence

- Step by Step process
Word → Phrase → Clause → Sentence
- Sentence Types
 - (6) a. Simple Sentence: The dog ran away.
 - b. Compound The dog ran away, and the cat chased him.
 - c. Complex Sentence: Although it is tempting, I will not be going to Las Vegas.

Lexical categories

A large number of words often exhibit the same properties. Thus words can be grouped into a relatively small number of words classes, lexical categories. There are three main criteria to decide which word belongs to what syntactic category (part of speech).

Semantic Frame

- Frames

- (7) a. referring to an individual or entity
- b. referring to an action
- c. referring to a property
- d. referring to manner, location, time, the like

- Problems

- (8) a. construction, destruction
- b. happiness, difficulty, diligence
- c. this week, this month, yesterday, last night

Morphological frame

- Frames

- (9) a. ___ + es (plural morpheme)
b. ___ + -es (tense/3rd sng)
c. ___ + -er/est (or more/most)
d. ___ + -ly

- Not complete: information, round, friendly,...

syntactic frame

- (10) a. The ___ hits the ball.
b. The man may ___ the ball.
c. The ___ man hits the ball.
d. The man ___ hits the ball.
e. The man hits the ball ___ the yard.
f. ___ hits the ball
g. ___ man hits the ball.
h. The man hits the ball ___ the girl kicks the ball.

Lexical categories in English

- noun (pronoun), verb, adjective, adverb, preposition, conjunction, determiner, particle
- determiners (including articles)
 - (11) a, an, this, that, any, some, my, his, whose,...
 - (12) a book, this book, that book, my book, his book, whose book,...
 - (13) *my the book, *whose the book, *that the book

Preposition vs. particle

- Basic data

(14) a. The umpire called *off* the game.

b. The umpire fell *off* the deck.

(15) a. The two boys looked *up* the high stairs (from the floor).

b. The two boys looked *up* the word.

Preposition vs. particle: differences

- Movement

- (16) a. The umpire called the game *off*.
b. The two boys looked the word *up*.

- (17) a. *The umpire fell the deck *off*.
b. *The students looked the high stairs *up* (from the floor).

- Pronoun *it* as the object

- (18) a. The umpire called it *off*. (particle)
b. *The umpire called *off* it.

- (19) a. *The umpire fell it *off*.
b. The umpire fell *off* it. (preposition)

Intuition

- Individuals words are organized into natural, semantically coherent groupings, that is constituents. Try to group words into group in the following
 - (20) Many students eat at really fancy restaurants.
 - (21) The art student looked at a very beautiful painting.
- What does a sentence constitute of?

Constituent Tests

- Preposing

- (22) a. I can't stand [your elder sister]
b. Your elder sister, I can't stand

- (23) a. *Your elder, I can't stand sister.
b. *Elder sister, I can't stand your.
c. *Sister, I can't stand your elder.

Constituent Tests

- Postposing (extraposition)

(24) a. He explained [all the terrible problems that he had encountered] to her.

b. He explained to her all the terrible problems that he had encountered.

(25) *He explained all the to her *terrible problems that he had encountered*.

Constituent Tests

- **Wh-question** and fragment answers: see particle vs. preposition again
- (26) a. Where did you put your book? → I put the book in the box.
b. Where did he go? → Up the hill.
- (27) Who were you calling up? → *Up my sister.

Constituent Tests

- pronominalization

- (28) a. What do you think the man who is standing by the door is doing now?
b. What do you think he is doing now?
- (29) a. Have you been [to Seoul]? I have never been *there*.
b. John might [go home], *so* might Bill
c. John might [pass the exam], and *as* might Bill.
d. If John can [speak French fluently] – *which* we all know he can.

Constituent Tests

- Clefting

(30) a. Stefan painted a picture of Mary.

b. Stefan gave a book to Mary.

(31) a. It was a picture of Mary that Stefan painted.

b. *It was a book to Mary that Stefan gave.

- Can you apply this test to 'preposition' and 'particle'?

Tests for NP (Noun Phrase)

- NP testing environment: __ VP[liked ice cream].

(32) Mary, students, you, most dogs, some tall children, my friend from Seoul, the man who wears a hat, I, you, John's sister, a moderately short program, some very old car, six plants in the shop, an old building's fences, a park's six tall trees, etc

- Phrase Structure (PS) rule:

$$(33) \text{ NP} \rightarrow (\text{Det}) (\text{Adj}^*) \text{N} \begin{Bmatrix} \text{PP}^* \\ \text{S} \end{Bmatrix}$$

- (34) a. *The leads the army.
 b. *The ran the club.
 c. *Unable ran away.

Tests for VP (Verb Phrase)

- VP testing environment: NP ___

(35) snored, loved music, walked the dog through the park, wanted to leave, will sleep soundly, can lift 50 pounds, etc

- VP PS rule:

$$(36) \text{ VP} \rightarrow \text{V (NP) } \left\{ \begin{array}{l} \text{PP}^* \\ \text{S} \end{array} \right\}$$

(37) a. The monkeys want to leave the meeting.
b. *The monkeys eager to leave the meeting.

(38) a. The monkeys approve of their leader.
b. *The monkeys fond of their leader.

(39) a. The men practice medicine.
b. *The men doctors of medicine.

AP rule

- AP environment: be AP (John is __)

(40) very smart, very expensive, as tall as his father, certain to leave, quite old, moderately expensive, tall, ruthless with his enemies, etc

- PS rule:

$$(41) AP \rightarrow A \left\{ \begin{array}{l} VP[\text{inf}] \\ PP^* \\ S \end{array} \right\}$$

(42) a. *The monkeys seem want to leave the meeting.

b. The monkeys seem eager to leave the meeting.

(43) a.*John is approve of their leader.

b. John is fond of their leader.

(44) a. *John seems know about the bananas.

b. John seems certain about the bananas.

AdvP

- Template:

(45) He acted ___

(46) very strangely, almost certainly very slowly, weirdly, etc

- PS rule:

(47) AdvP \rightarrow (Adv) Adv

(48) a. He behaved very well.

b. They worded the sentence very carefully.

c. He treated her very well.

PP

• Test

(49) John came ___

(50) from Seoul, with John and his dog, in the box, under the table,
etc

• PS rule

(51) $PP \rightarrow P NP$

(52) a. They put the book ___ . [locative]

b. They stayed in the hotel. [locative]

c. They fell into the soup. [motion]

(53) a. John kept her dog over there [locative]

b. John took her dog over there [motion].

Forms and Grammatical Functions

- Subject

- (54) a. He played in the park.
b. The film crew left the location for lunch.
c. That John is honest is obvious to us.
d. It rained.
e. There was a riot in the park.

- Predicate: The thing the subject is doing or the property it has.

- (55) a. John played in the park.
b. John looked unstable.

- Direct/Indirect/Oblique Object

- (56) a. Mary kissed him.
b. John gave a book to Mary.
c. John gave Mary a book.
d. John put the book in the box.
e. John believed that Tom left the town.

Head

- Head
 - a. the essential element in forming a phrase (NP, VP, AP, PP, etc)
 - b. the head play a key role in the **formation/projection** of a larger structures.

- (57)
 - a. The defendant denied the accusation.
 - b. *The defendant denied.

- (58)
 - a. The teacher handed a book to the student.
 - b. *The teacher handed the student.

Complement vs. Modifier

- Complements are certain types of phrases that are selected/subcategorized/required by a head lexical word.
- Modifiers are phrases that are not selected(unselected) by a head but function to augment a minimal phrase projected from the head.

(59) a. Tom met his beloved in a train.
b. *Tom met his beloved a train.

(60) a. Tom offered advice to his students *in his office*.
b. Tom offered advice to his students *with love*.

- Specifiers: specifiers help to make more precise the meaning of the head.

(61) a. the man, the book, this book, that book...
b. John kicked the ball/The student kicked the ball.

Subcategorization

- (62) a. The boy found the ball.
b. *The boy found quickly.
- (63) a. *John put the milk.
b. *Tom slept the baby.
- (64) a. The conductor wanted the passengers to leave.
b. The conductor forced the passengers to leave.
- (65) a. The conductor wanted to leave.
b. *The conductor forced to leave.
- (66) a. *John hopes him to win the game.
b. John wishes him to win the game.
- (67) a. I hope that you will win the game.
b. I wish that you won the game.
- (68) The teachers believe/say Susan is outstanding.
The teachers believe/*say Susan to be outstanding
- (69) a. The president gave Freda the trophy

Properties of PS rules: Generativity

Generativity: PS rules can generate the infinite set of grammatical sentences using a finite set of rules. This is possible because the PS rules allow infinitive **recursion**.

1. Adjective recursion

(71) $NP \rightarrow Det (A^*) N (PP^*)$

(72) a. He's a big (furry, shy, energetic) dog.

2. PP recursion

(73) a. $NP \rightarrow NP, PP$

b. $PP \rightarrow P NP$

(74) the man at the desk from Seoul in Korea.....

Properties of PS rules: Generativity

3. S Recursion:

- (75) a. $S \rightarrow NP, VP$
 b. $VP \rightarrow V S$

(76) John believes Mary thinks Bill claims Mary is honest.

4. Possessive Recursion

- (77) a. $NP \rightarrow \text{PosP } N$
 b. $\text{PosP} \rightarrow NP \text{ 's}$

(78) Mary's mother's borther's father..

5. Coordination:

- (79) a. X^* and X
 b. Some sentences can go on and on and on

Properties of PS rules: Hierarchical structure

- Sentences are structured strings (constituents). That is, they are hierarchically structured in accordance with PS rules.

(80) The art student looked at a very beautiful painting.

- Hierarchical structure: can capture structural ambiguity (cf. Lexical ambiguity vs. structural ambiguity)

(81) a. The little boy hit the child with the toy.
b. We need more intelligent leaders.
c. The mother of the boy and the girl will arrive soon.
d. Chocolate cakes and pies are my favorite desserts
f. The boy saw the man with the telescope

Transformation Rule: Passive

- (82) a. John kicked the ball.
b. The ball was kicked by John.
- (83) a. John hired him.
b. John was hired by him.

Transformation Rule: Subject-Aux Inversion

- (84) a. The boy is sleeping.
b. Is the boy sleeping?
c. Can the boy do it?

Particle Movement

- (85) a. John called the meeting off.
b. John called off the meeting.

Wh-question

- (86) a. John can sing a song.
b. Can John sing a song?
c. What can John sing?
- (87) a. Helen said the senator wanted to hire her aide.
b. Who did Helen say the senator wanted to hire?
c. Who did Miss Marple ask whether Poirot had solved the crime?
d. Who did you say Mary thinks John believes Mary loves?

Homework 1

- Do Exercises in the textbook
- Draw trees for the following sentences:
(88) a. We were in Seoul at that time.
b. The relatives of my husband live in Seoul.
c. Alfred drove his car into a tree.
d. The thieves opened the door with a credit card.
e. Michael suspects his friend cheated him.
f. The experienced chefs complained about the excessively sweet sauce on the duck.
g. John would leave the party early.
h. Drinking and Driving should not be mixed.
i. That dentist charged much money for the dentures.
j. John persuaded Mary to leave the party early.
k. Chefs from many countries competed in a difficult contest.
l. Some people like cats and dogs, but many people hate snakes.