

# Theta Roles

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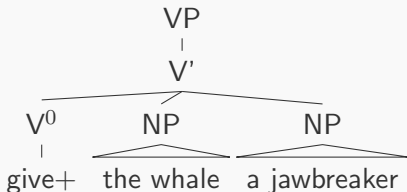
### Problem with X-bar theory

X-bar theory also generates sentences that are not acceptable or grammatical.

- (1) a. Rosemary hates New York.  
b. \*Rosemary hates.
- (2) a. Jennie smiled.  
b. \*Jennie smiled the breadbox.
- (3) a. Traci gave the whale a jawbreaker.  
b. \*Traci gave the whale.  
c. \*Traci gave a jawbreaker.

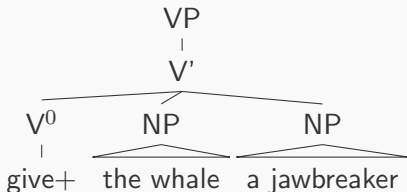
## Subcategorization (or selection)

- ▶ When you see a preposition, most likely it will be followed by an NP.  $\Rightarrow$  This preposition **subcategorizes** for or **selects** an NP.
- ▶ A verb can **subcategorize** for an NP as well.



## Subcategorization (or selection)

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**What is the structural relationship between the verb and the NPs they subcategorize for?**

**Hyp:** A head **subcategorizes** for its sister(s).

▷ **Locality**

## The X-bar schema captures certain locality conditions.

- ▶ There are certain relations that a head can enter only with its specifier, complement or adjunct.
- ▶ And not with anything inside its specifier, complement or adjunct.

## Example

A **THEME** role is given by a verb to its complement NP (but not to any NP inside its complement):

- (4) a. I believe her  
b. I believe that she is the thief  
c. I believe her brother

## Valence and selectional restrictions

Subcategory	Example
V[DP __] (intransitive)	<i>leave</i>
V[DP __ DP] (transitive type 1)	<i>hit</i>
V[DP __ DP/CP] (transitive type 2)	<i>ask</i>
V[DP __ DP DP] (ditransitive type 1)	<i>spare</i>
V[DP __ DP PP] (ditransitive type 2)	<i>put</i>
V[DP __ DP DP/PP] (ditransitive type 3)	<i>give</i>
V[DP __ DP DP/PP/CP] (ditransitive type 4)	<i>tell</i>

- ▶ The subclassification of verbs must constitute part of native speakers' lexical knowledge.
- ▶ The child acquiring English will have to learn not only the syntactic category but also subcategory of the words.

## Thematic relations (1)

We use **thematic relations** to describe the role that the argument plays with respect to the predicate.

### Agent

The initiator or doer of an action.

- (5) a. **Ryan** hit Andrew.  
b. **Michael** accidentally broke the glass.

### Experiencer

Arguments that feel or perceive events.

- (6) a. **Leah** likes cookies.  
b. **Lorenzo** saw the eclipse.  
c. Syntax frightens **Kenna**.

## Thematic relations (2)

### Theme

Entities that undergo actions, are moved, experienced or perceived.

- (7) a. Alyssa kept **her syntax book**.  
b. The arrow hit **Ben**.  
c. The syntactician hates **phonology**.

### Goal

The entity towards which motion takes place is called a goal. Goals may involve abstract motion.

- (8) a. Doug went to **Chicago**.  
b. **Dave** was given the piña colada mix.



## Thematic relations (3)

### Recipient

A special kind of goal. Recipients only occur with verbs that denote a change of possession.

- (9) a. Mikaela gave **Jessica** the book.  
b. **Daniel** received a scolding from Hanna.

### Source

The entity from which a motion takes place.

- (10) a. **Bob** gave Steve the syntax assignment.  
b. Stacy came directly **from sociolinguistics class**.

## Thematic relations (4)

### Location

The place where the action occurs.

- (11) a. Andrew is **in Tucson's finest apartment**.  
b. We're all **at school**.

### Instrument

The object with which an action is performed.

- (12) a. Chris hacked the computer apart **with an axe**.  
b. **This key** will open the door to the linguistics building.

## Thematic relations (5)

### Beneficiary

The one for whose benefit an event took place.

(13) a. He bought these flowers for **Aaron**.

b. She cooked **Matt** dinner.

Any given DP can have more than one thematic relation.

(14) **Jason** gave the books to Anna.

Agent+Source.

### Theta role

Theta roles are bundles of thematic relations that cluster on one argument.

## Thematic grid

The identification of thematic relations is not always easy, though intuitively the idea should be clear.

- ▶ The information as to the semantic relationship between the **predicate** and its **arguments** is part of the lexical knowledge of the native speaker and should hence also be recorded in the lexicon.
- ▶ Rather than merely specifying the number of arguments of a predicate, one may envisage a representation which specifies the type of thematic roles of these arguments
- ▶ In GB Theory this is represented by means of a **thematic grid**.

## Thematic grid

### Example

place	<u>Source/Agent</u>	Theme	Goal
	DP	DP	PP
	i	j	k

- ▶ For each argument that the predicate requires, there is a column.
- ▶ Each of these columns represents a theta role.
- ▶ External theta role: the one assigned to the subject and indicated by underlining.
- ▶ Internal theta role: others.
- ▶ No adjuncts: seem to be entirely optional.

# The theta criterion (1)

## The theta criterion

- ▶ Each argument is assigned one and only one theta role.
- ▶ Each theta role is assigned to one and only one argument.

## Example

love	<u>Experiencer</u> DP	Theme DP

(15) \*Megan<sub>i</sub> loves.

love	<u>Experiencer</u> DP	Theme DP
	i	

## The theta criterion (2)

(16) Megan<sub>i</sub> loves Kevin<sub>j</sub>.

love	<u>Experiencer</u>	Theme
	DP	DP
	i	j

(17) \*Megan<sub>i</sub> loves Jason<sub>j</sub> Kevin<sub>k</sub>.

love	<u>Experiencer</u>	Theme	
	DP	DP	
	i	j	k

## The lexicon

The lexicon contains all the irregular and memorized parts of language. Each lexical entry must contain at least the following information:

- ▶ the **meaning** of the word
- ▶ the **syntactic category** of the word (N, V, A, P, T, C, etc.)
- ▶ the **pronunciation** of the word
- ▶ **exceptional information** of all kinds (such as morphological irregularities)
- ▶ the **theta grid** (argument structure).

When we learn a new word, we memorize all above information

- ▶ UG is our innate knowledge of language
- ▶ Native speaker's lexical knowledge is not innate.



## The projection principle

The lexical items play an important part in its syntactic representation.

- ▶ The lexical category of the head of a phrase determines **the category of the phrase**.
- ▶ The thematic structure of a word, encoded in the theta grid, determine **the minimal components of the sentence**.

### The Projection Principle

Lexical information is syntactically represented at all levels.

Syntactic structure is largely the trivial output of the combination of lexically encoded instructions with general principles which guide the construction of hierarchical constituent structure.

- ▶ *Syntax: A Generative Introduction*.
  - ▶ § 8.
- \* 徐列炯, 沈阳. 1998. 《题元理论与汉语配价问题》