

Semantic roles & grammatical relations

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The problem

Identifying functions cross-linguistically

Are there good cross-linguistic definitions of subject and object? Are there good definitions of other grammatical functions?

Syntactic	Subject	Agreed with by verb Nominative case Controlled in nonfinite clauses Precedes Object in canonical word order Inverts in YNQ re-appears in tag questions
	Object	
Semantic	AGENT	Animate instigator or cause
	THEME	Undergoer, changes state or location

Subject test examples

Syntactic subject tests vary cross-linguistically

agreement	The boys run/ *runs.
nominative case	I run./ *Me run.
control	John _i wants [_S PRO _i to see Sue]
	* John _i wants [_S Sue to like PRO _i]
YNQ inversion	Did John go?
tag questions	John _i saw Sue _j , didn't he _j ?
	* John _i saw Sue _j , didn't she _j ?
	* John _i saw Sue _j , wasn't she _j ?
	Sue _j was seen by John _i , wasn't she _j ?

Form/meaning mapping primitives

Perhaps we can characterize subjects semantically...

Roles and grammatical relations

Roles	AGENT, INSTRUMENT, EXPERIENCER, THEME, SOURCE, PATH, GOAL, STIMULUS, BENEFICIARY, RECIPIENT, ACCOMPANIMENT
Relations	subject, object, indirect (secondary) object, oblique, adjunct SUBJ, OBJ, OBJ2, OBL, ADJ
Direct	SUBJ, OBJ
Terms	SUBJ, OBJ, OBJ2

Can we characterize subjects semantically?

Hypothesis I

Subjects are agents.

- a. Hiram fried an egg.
- b. Bill rolled the stone down the hill.
- c. Bilbo gave a ring to Frodo.
- d. The storm frightened Alan.

- e. Alan was frightened by the storm.
- f. The stone rolled down the hill.
- g. The obelisk occupied the top of the hill.
- h. The fog extends from London to Oxford.

Topic: another contender

Definition

Topic: The topic of a sentence is *what it's about*. Often this can be identified with an NP in the sentence.

Maybe subjects are topics. But, here are three sentences about Bill.

- a. *Bill is a very crafty fellow.* Subject
- b. Jack is a pretty reliable fellow, but *Bill I dont trust* Object
- c. As for Bill, *I wouldn't take his promises very seriously.* Neither

Role examples

- a. Hiram fried an egg.
- b. Johan baked a cake for Wilhemina.
 Johan baked Wilhemina a cake.
- c. Bilbo gave a ring to Frodo.
 Bilbo gave Frodo a ring.
- d. The storm frightened Alan.
 Alan was afraid of the storm
- e. Yolanda broke the egg with a spoon.
 The egg broke ? with a spoon.
 The spoon broke the egg.
 The door opened with a key.

Role examples

- a. Hiram fried an egg.
AGENT PATIENT
- b. Johan baked a cake for Wilhemina.
Johan baked Wilhemina a cake.
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Bilbo gave Frodo a ring.
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- a. Hiram fried an egg.
- b. Johan baked a cake for Wilhemina.
AGENT PATIENT BENEFICIARY
- Johan baked Wilhemina a cake.
AGENT BENEFICIARY PATIENT
- c. Bilbo gave a ring to Frodo.
Bilbo gave Frodo a ring.
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 Johan baked Wilhemina a cake.
- c. Bilbo gave a ring to Frodo.
 AGENT THEME GOAL
 Bilbo gave Frodo a ring.
 AGENT GOAL THEME
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 STIMULUS EXPERIENCER
 Alan was afraid of the storm
 EXPERIENCER STIMULUS
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- e. Yolanda broke the egg with a spoon.
 AGENT PATIENT INSTRUMENT
 The egg broke ? with a spoon.
 PATIENT INSTRUMENT
 The spoon broke the egg.
 INSTRUMENT PATIENT
 The door opened with a key.

Role examples

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 Johan baked Wilhemina a cake.
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 The spoon broke the egg.
 The door opened with a key.
 PATIENT INSTRUMENT

Can we characterize subjects semantically?

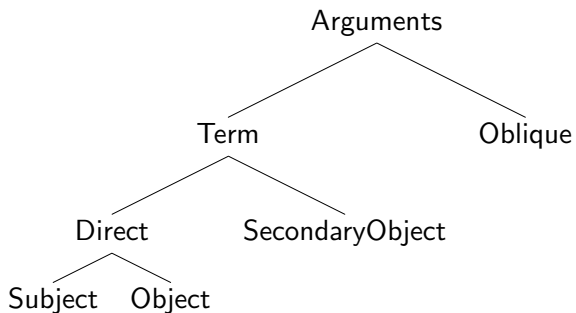
Hypothesis II

When an agent is available, it's a subject. When an agent is unavailable, something with agentlike properties becomes subject (a causer, force or instrument).

- a. Hiram fried an egg.
- b. Bill rolled the stone down the hill.
- c. Bilbo gave a ring to Frodo.
- d. The storm frightened Alan.

- e. The storm broke the window.
- f. The spoon broke the egg.
- g. The egg broke.

Terms and Obliques



Oblique arguments

In English oblique arguments are Prepositional phrases. Cross linguistically obliques will be non subjects/nonobjects, usually marked in some way that makes them more peripheral (adposition, marked [oblique] case)

Examples

- 1 Aragorn gave his heart *to an elf*.
- 2 The king responded *to her arrival with an angry cry*.
- 3 He inserted the key *into the lock*.

A variety of roles, including instrument, goal, beneficiary.

Adjuncts

Peripheral clausal constituents

Adjuncts are optional peripheral syntactic constituents, often marked like obliques, with a wide syntactic distribution. (They occur with many verbs, not just a syntactically select few). They are never agents, patients, or themes, which are canonical direct arguments.

Location and time

Locations and times go with (almost) every verb. They are optional, and syntactically peripheral. They tend not to be subjects or objects.

<p>The rising water overflowed the levy The sun rose The children were running</p>	}	<p>at 3'o'clock. on the east side of the canyon.</p>
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Manner

Manner modifiers go with a large class of verbs, They are optional, and syntactically peripheral. They tend to be adverbs, but do not have to be.

The rising water overflowed the levy	} {	rapidly.
The sun rose		in an unusual way.
The wolf was hunting		the way it always did.

Duration, Frame adverbials

The rising water overflowed the levy	}	{	for three hours.
The sun rose			in ten minutes.
The wolf was hunting			in the morning. last night.

Four diagnostics for arguments

- 1 Terms (Subjects, Objects, secondary objects) are always arguments.
- 2 Obligatoriness
- 3 Can become term with same meaning
- 4 Restricted to verbs of a particular type

Obligatoriness: Revisiting location & manner

- a. He worded the letter carefully.
 - * He worded the letter.
- b. He put the candle in the box.
 - * He put the candle.

Becoming a term

- | | | |
|----|---|-------------|
| a. | John baked a cake <i>for Mary</i> .
John baked Mary a cake. | Beneficiary |
| b. | The cut the fish <i>with a knife</i> .
The knife cut the fish. | Instrument |
| c. | John hit the fence <i>with a stick</i> .
John hit the stick against the fence. | Instrument |
| d. | He drained the blood <i>from the skull</i> .
He drained the skull of blood. | Source |
| e. | He made the log <i>into a canoe</i> .
He the canoe <i>out of a log</i> . | Source/Goal |

Instruments

Instruments have a semantically restricted distribution. They are often treated as adjuncts, but with verbs with the right kind of meaning, may sometimes be oblique arguments and even direct arguments.

Example

- | | | | | |
|----|-----------|-----|------------|--------------------|
| a. | He | hit | the fence | with the stick. |
| b. | He | hit | the stick | against the fence. |
| c. | The stick | hit | the fence. | |
| d. | * He | hit | the stick. | (Goal omitted) |

c. and d. suggest that the instrument/theme might be more **essential** to the core meaning of the verb *hit* than the agent *He* in a. and b.

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| a. | He | hit | the fence | with the stick. |
| | AGENT | | GOAL | INSTRUMENT/THEME |
| b. | He | hit | the stick | against the fence. |
| c. | The stick | hit | the fence. | |
| d. | * He | hit | the stick. | (Goal omitted) |

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| | AGENT | | INSTRUMENT/THEME | |

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Verbs of a particular type

Verbs of surface contact: on/onto/against

- a. He bumped the cart against the wall. The cart bumped against the wall.
- b. He slapped the fish against the table. The fish slapped against the table.
- c. He struck (his fist on/against) the post. His fist struck (against) the post.
- d. He smacked the baloney onto/on the bread. The baloney smacked the bread.

Semantically plausible to call these 2-argument verbs with optional agents. Comparable classes of verbs, again with distinct behavioral patterns, can be identified in other languages, such as Lhasa Tibetan (DeLancey 1995), Berber, Warlpiri, and Winnebago (Guerssel et al. 1985).

Arguments

- 1 Argumenthood is a semantic notion.
- 2 The meaning of a verb determines what its arguments are.
- 3 The meaning constrains how those arguments can be realized (subject/object/oblique [choice of preposition])
- 4 So we start out with idea of a verb meaning as a relation with a small (1,2,3) number of arguments.
- 5 The adjuncts are what's left over.
- 6 Roughly speaking, verbs with the same meaning in different languages should have the same arguments.

Grammatical Relations

- 1 No uniform set of tests for SUBJ, OBJ cross-linguistically.
- 2 We DO find properties that cluster together to identify **syntactically prominent** arguments. They're just not the same properties in each language.
- 3 Some interesting problematic cases: Phillipine language voice systems, ergative languages
- 4 Semantic generalizations for subjecthood are particularly robust. Agents are syntactically prominent arguments (SUBJ).
- 5 The distinction between argument and adjunct most strongly supported for direct arguments (SUBJ, OBJ), because language after language we find two arguments systematically made prominent.

Why semantic roles

Beth Levin's Lexical Semantics Intro (2009 LSA)

1. Semantic generalizations about termhood (SUBJ, OBJ), and about obliques stateable with roles
2. Certain verb groups are treated specially language after language

Verbs of giving (source/goal)	Something like a dative alternation is often found OBJ2 → OBJ
Experiencer verbs	Experiencers are often specially marked, often like an OBJ2, but with subjectlike properties
Surface contact verbs	Less robustly attested group of verbs with special properties
3. Many languages have devices for making certain obliques terms (benefactives, goals, instruments)

For Further Reading I

DeLancey, S. 1995.

Verbal case frames in english and tibetan.
unpublished ms.

Guerssel, Mohamed, Ken Hale, Mary Laughren, Beth Levin, and J. White Eagle. 1985.

A cross-linguistic study of transitivity alternations.

In W. H. Eilfort, P. D. Kroeber, and K. L. Peterson (Eds.), *Papers from the Twenty-First Regional Meeting of the Chicago Linguistic Society*, 48–63, University of Chicago. Chicago Linguistic Society.