

L322 Syntax

Chapter 7: Theta Roles and the Lexicon

Linguistics 322

1. Introduction

- A. We already know that some complements are obligatory, but others are optional depending on the head and the context.
- B. Optional complements are there in the sense that they are understood, but they have no phonetic form:
 - (1) a. John likes to smoke.
 - b. Chimneys smoke when it is cold.
- C. In (1a) it is understood that cigarettes are being smoked, While in (1b) there is no understood direct object. The verb is intransitive.

2. Some Basic Terminology

- A. Predicate and Argument
 - i. C. defines a predicate as a relation between “entities” which he then calls arguments.
 - ii. Actually, the definition must go beyond this. In set theory logic all heads are predicates. This includes objects.
 - iii. Hence, V, P, and A are predicates and these take at least one argument with a few exceptions. In a sentence such as:
 - (2) It is raining.
 - iv. the argument of *rain* is not overt. It is covert, or incorporated. The basic idea here is that the argument $[_N \text{rain}]$ is doing something—it is falling. But in English the noun is incorporated into the verb $[_V \text{rain}]$ which has no over argument. If we write it like:
 - (3) $[_V [_N \text{rain}]]$.
 - v. then V indicates an activity, and its argument is rain.

- vi. The pronominal “it” is a special kind of pronoun. Today more linguists tend to think that “it” is coindexed with *rain* and is needed to function as a subject since English normally requires a phonetic subject.
- vii. [_N rain] is a predicate which does not take any arguments. This is typical for objects.
- viii. And, as we have seen, some object function as lexical quantifiers as well as pure objects:

(4) a. glass (object)

b. glass of milk (lexical quantifier and object, milk = object.

- ix. Words like *acre*, *quart*, *pint*, and so forth are lexical quantifiers but are not pure objects as they have a secondary function.

B. Argument Structure

- i. Argument structure refers to the arguments that a predicate assigns.
- ii. Hedberg and I have worked out a system of level in argument structure.

(a). It takes the form of a rectangle with three levels (so far):

(5)

arg	Level C
arg	Level 2
arg	Level 1

- (b). Each argument is assigned by a semantic feature in the predicate.
- (c). I will have to ignore just how this works as it is a property of semantics.
- (d). Each argument is given a name. The name is arbitrary, though it does cause a fair amount disagreement.
- (e). Note that Level 1 corresponds to the direct object, level 2 to the PP complements of the predicate, and Level C to secondary complements such as instrument.
- (f). Later, we will have bring the problem of the subject into this.
- iii. The term *transitive*, *intransitive*, and *ditransitive* aren't bad:
 - (a). intransitive = no complement

- (b). transitive = one complement
 - (c). ditransitive = two complements
- iv. The most notable problem is the term 'intransitive.'
 - (a). Most often it refers to overt or phonetic complements at Level 1; i.e., direct objects.
 - (b). Most linguists call the following verb intransitive:
- (6) Heloise depends on her sister.
 - (c). This verb takes one complement, a PP complement. Yet by C.'s definition, it would be transitive.
 - (d). Hence, *eat* can be transitive or intransitive given this interpretation:
- (7)
 - a. John likes to eat mangos.
 - b. John likes to eat.
 - (e). The problem is *eat* should logically be treated as one verb, not as two verbs, one transitive and the other intransitive.
- v. Different predicates (heads) take different kinds of complements.:
 - (8)
 - a. Bill is sleeping. (intransitive)
 - b. Polly likes syntax. (NP complement, transitive)
 - c. Hillary went after Jeff. (PP complement, transitive or intransitive)
 - d. Samuel kicked Delilah out of the palace. (ditransitive)
 - (a). What about the following:
- (9)
 - a. Mary pushed Tom.
 - b. Mary pushed Tom off the couch.
 - (b). There is only one verb here ~~push~~.
 - (c). Yet according to C., there would have to be two. One is transitive, and the other is ditransitive.
 - (d). If we consider phonetically null arguments as full complements, then there is one verb ~~push~~. And it is ditransitive.
- vi. So, let us agree to define an intransitive head as one which takes no primary complements, null or phonetic; transitive head as one which takes one primary complement, null or phonetic, and ditransitive as one which takes two primary complements, null or phonetic.

C. Selectional Restrictions

- i. Each head places a selectional restriction on its complement(s).
- ii. They are semantically based.

- (10)
- a. #John brushed his ideas with a tooth brush.
 - b. #The earthworm was impressed with Einstein's theory of Relativity.
 - c. #Five sided hexagons can smell pregnant computers in the next galaxy.

3. Thematic Relations and Theta Roles

A. Read the link on theta roles on the course outline.

B. Agent

- i. All animate beings have a central processing unit (CPU) commonly called a brain.
- ii. The CPU (brain) sends out a signal to certain organs including the speech organs to do something, often in response to information coming in but not necessarily.

C. Experiencer

- i. When information comes into the brain, the brain or the animal containing the brain is an experiencer.
- ii. He is experiencing some phenomenon such as being cold or hot, being a listener as opposed to a speaker,
- iii. The experiencer becomes an agent when he responds to the information coming in.

- (11)
- a. Kyle likes Marylou.
 - b. Polly is cold.
 - c. Henrietta is sad.
 - d. Mrs. Jones felt sad.
 - e. The girl next door was touched by her father.
 - iv. In one sense, *touch* is an experiential adjective where Mary is the goal of experience and her father the source of the experience, in another it is an achievement verb where *father* is an agent.

D. Instrument

- i. The instrument is an object that is used to accomplish something.
- ii. It is the item or machine that makes direct contact whereas the agent is sending a message to the instrument, with some exceptions that end up being controversial.
- iii. For example, 'John swept the floor with a broom'. ~~Broom~~ *Broom* is an instrument; it is the thing that actually makes contact with the floor moving dirt. John is the agent.
- iv. Sometimes humans can be instruments:

(12) Bill broke the window by throwing John through it.

- v. Some instruments are not associated with agents:

(13) a. The sun melted all the ice and snow.

b. The wind blew down everyone's fence.

- vi. What about the following:

(14) a. John ran over Mary with his car.

b. John's car ran over Mary.

- vii. Given the above definition, 'car' is an instrument in both examples.

viii. Some writers claim that 'car' is an agent in (14b).

- ix. Since when do cars have a CPU that send a message to one of its parts to release the brake and start rolling?

x. If John forgot to set the break, then isn't it John's fault?

xi. Mystery: what are computers? (2001: a Space Odyssey).

E. Theme

- i. Theme is an object in place or in motion.

F. Location

G. Time

H. Source

- i. Source is initial state of change.
 - I. Goal
 - i. Goal is the terminal state of change
 - J. Path
 - i. Path is an interim state in a change.
 - K. Agent is a source at the causative level.
 - L. Experiencer is a goal at the experience level.
 - M. Source, goal, and path occur whenever t a theme under goes a change in physical state, location, time, and other semantic fields such as reason and purpose.
 - N. Theoretically, these are all the theta-roles that we will actually need. Semantic features plus one of the above theta roles determine theta categories that some/ linguistics call theta roles.
 - i. For example, **patient** is often called a theta role. A patient is a theme that is undergoing a physical change.
 - ii. **Recipient** is a goal of giving or possession.
 - O. External Theta Role
 - i. An external theta is one that is not part of the integral meaning of the lexical item.
 - ii. 'Integral meaning' is hard to define. It refers to the basic meaning that a lexical entry has before certain things are added on.
 - iii. Causative is a feature that plays a role in the grammar of many, many languages. It includes agents and instruments.
 - iv. In English causative is added to a basic lexical entry that results in a causative verb:
- (15) a. The ice melted.
- b. The sun melted the ice.
- (16) MELT (theme)
- v. (16) is a basic lexical entry that takes one argument. This can't be broken down any further.

(17) CAUSE (source [agent], goal)

- vi. CAUSE takes the form of a morpheme which is often empty and is added to a noncausative verb stem to make it causative as in (15b).
- vii. The source (agent) is assigned by the feature CAUSE, not by the integral meaning of MELT.
- viii. source can be broken down into two parts: source₁ (inner source) and source₂ (outer source).
- ix. the instrument is the source₁ (inner source).

P. Are there pseudo source₂ (agents)?

- (18)
- a. The sun melted the ice with its rays.
 - b. ?#The sun used its rays to melt the ice.

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<http://www.sfu.ca/~dearmond/course.outline.322.htm>