

24.902 Outline (October 20-22) Raising to Subject vs. Subject Control

[Monday, we covered some material that is on the previous summary as well as beginning our discussion of Raising. Wednesday we covered the material in this summary.]

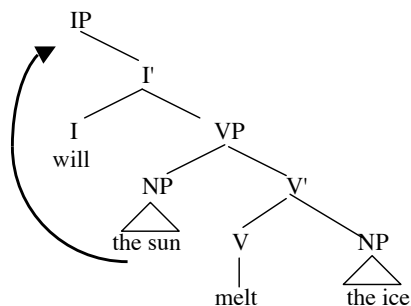
1. Predicates and arguments: review

Many of the lexical items we use in sentences are *predicates*. A predicate, as you learn in semantics class, denotes a *property* of some entity E. E is called the *argument* of P.

In order for a sentence containing a predicate *P* to be meaningful (have a truth value), the syntax must allow *P* to combine semantically with E. It turns out that this happens (in the grammar we have been developing in class) when the phrase that denotes E is *the sister of a projection of P*. This makes a lot of sense: argument-taking happens in a very local configuration.

Let's look at an example. In a simple example like (1), according to the model we have been developing, *the ice* is the sister of V, and *the sun* starts out as the specifier of VP (i.e. a sister to V'). Each NP is thus located in a position (before movement) where it can function semantically as an argument of the predicate *melt*:

(1) *The sun will melt the ice.*



The argument that moves to Spec,IP¹ in (1) is the argument that starts as Spec,VP, i.e. the higher of the two arguments of *melt*. This is the argument that lacks case, of course. The NP *the ice* is assigned accusative case by the active verb *melt*, but *the sun* is not assigned case by V. It receives nominative case only after movement to Spec,IP.

Some useful terminology:

(2) Internal vs. External argument

Where *X* is a predicate:

- a. *Internal argument of X*: an argument that starts as the complement of X° .
- b. *External argument of X*: an argument that starts as the specifier of XP.

In a semantics class, you will learn a more sophisticated treatment of internal and external arguments. A predicate like *melt* in (1) is called a *two-place predicate*. It belongs to a particular semantic type that requires it to have one internal and one external argument. The way it works is as follows: the V *melt* is listed in the lexicon as a predicate that combines with an argument to yield a phrase (a V') that itself requires an argument. We won't worry about the details of the semantics, except to note the syntactic result: that *melt* takes *the ice* as its sister, yielding a phrase that itself must take *the sun* as its sister.

2. Raising-to-subject predicates

One-place predicates with only an internal argument

A few verbs and adjectives take a finite-clause Theme as their only argument. These include the verbs *seem* and *appear* (which also take an optional Experiencer argument) and the adjectives *likely* and *certain*. The principals that link \square -roles to syntactic positions tell us that a Theme is an internal argument. If the Theme does not move to Spec,IP, another principle of English, called the *Extended Projection Principle (EPP)* -- never mind why! -- comes into play in such sentences, and requires the use of a dummy subject *it* as in the sentences of (4):²

(3) Extended Projection Principle (EPP)

IP must have a filled specifier.

(4) Dummy *it* with predicates that take only a Theme

- a. It seems that Sue has made up her mind.
- b. It appeared that nobody was in the building.
- c. It is likely that the new building will impress the critics.
- d. It is certain that the workmen will finish on time.

We can easily see from these examples that *seems* etc. are *one-place predicates*. We then have to wonder what is going on when these predicates take an infinitival complement. The subject of the infinitive is obligatorily unpronounced or missing from its clause --

- (5) a. *It seems Sue to have made up her mind.
- b. *It appeared nobody to be in the building.
- c. *It is likely the new building to impress the critics.
- d. *It is certain the workmen to finish on time.

² Alternatively, the CP can raise to Spec,IP, in which case no *it* is inserted. This is possible with *likely* and *certain* (*The the workmen will finish on time is certain.*) but not with *seem* and *appear*. We will not account for this difference (**That Sue has made up her mind seems.*). Sorry!

¹ "Spec,IP" (read "spec of IP") is a standard abbreviation for *Specifier of IP*.

-- but seems to be popping up as the subject of the higher clause:

- (6) **Raising to subject**
- a. Sue seems [IP ___ to have made up her mind].
 - b. Nobody appeared [IP ___ to be in the building].
 - c. The new building is likely [IP ___ to impress the critics].
 - d. The workmen are certain [IP ___ to finish on time].

We know that we are dealing with the specifier of the higher IP because the higher verb agrees with this NP in person and number (*Sue seems...*, *The workmen are...*) It looks like the subject of the embedded infinitive moved from Spec,IP of the embedded infinitive to Spec,IP of the higher clause, a process we call **Raising to Subject** (or just **Raising**):

- (7) $\sqrt{\quad}$ seems [IP Sue to have made up her mind].

Raising to Subject

This kind of movement should be very familiar by now. It is exactly what happens when we passivize an ECM verb, as discussed in the previous outline. Compare the sentences in (8), with passive of an ECM verb, with the sentences of (6) that show raising:

- (8) **Passive of an ECM verb**
- a. Sue is believed [IP___ to have made up her mind.]
 - b. Nobody was considered [IP___ to be in the building.]
 - c. The new building is said [IP___ to impress the critics.]
 - d. The workmen were predicted [IP ___ to finish on time.]

We hypothesized that the infinitival complement of an ECM verb is an IP, and showed that the passive of an ECM verb (like the passive of other verbs) does not assign accusative case. That is why the embedded subject has to move. We now advance the same hypothesis for verbs like *seem* and *appear*, as well as for adjectives like *likely* and *certain*. These are one-place predicates that have the following properties:

- (9) **Properties of a Raising-to-Subject Predicate (e.g. *seem*)**
- a. does not take an external argument; and
 - b. does not assign accusative case;³ and
 - c. subcategorizes for an infinitival IP complement.⁴

Raising to Subject: \bar{A} -properties

³ Of course, adjectives *never* assign accusative case. But that's OK, what's important is that their properties are the same as the properties of *seem* and *appear*.

⁴ in addition to a finite CP, in the case of the predicates we are examining

Key to the analysis of raising constructions is the fact that the subject of the clause that contains the raising predicate does not receive a \bar{A} -role from the raising predicate. It is not an argument of the raising predicate at all, but merely a syntactically moved argument of a lower predicate. We can see this in many ways.

First, there is our intuition that there is not much difference in meaning between *It seems that Sue has made up her mind* and *Sue seems to have made up her mind*. The second sentence, perhaps, calls more attention to Sue than the first (we feel it's more "about" Sue), but the truth conditions of the two sentences are the same.

In addition, we observe that special NPs, such as pieces of idioms formed in a lower clause, are free to show up as the subject of a raising predicate. That is what we expect from movement. The raising predicate has no semantic relation whatsoever to the subject of its clause:

- (10) **Idioms unaffected by Raising to Subject**
- a. The shit really seems [___ to have hit the fan]!
approx. 'It really seems that trouble has started.'
 - b. The cat appears [___ to be out of the bag].
'It looks like the secret has been discovered.'
 - c. The wind is likely [___ to be taken out of their sails by that proposal].
'It is likely that support and enthusiasm for what they want to do will be suddenly drastically diminished because of that proposal.'
 - d. The jig is certain [___ to be up when the boss comes back].
'It is certain that one won't be able to get away with it any more when the boss comes back.'

Also, an NP like meteorological *it* that must be an argument of a verb of atmospheric or emotional weather (*It's boring in there!*) may be the subject of a Raising verb, so long as it is the argument of a lower verb.

- (11) **Meteorological *it* unaffected by Raising to Subject**
- a. It seems to be raining in Brazil right now.
(cf. It is raining in Brazil right now.)
 - b. It is likely to be boring at that conference.
(cf. It is boring at that conference.)

These properties are familiar from passive of ECM verbs:

- (12) **Idioms unaffected by passive of an ECM verb**
- a. The shit is believed [___ to have hit the fan]!
etc.

(13) **Meteorological *it* unaffected by passive of an ECM verb**

- a. It is believed to be raining in Brazil right now.
 b. It is considered to be boring at that conference.

The data in (10) and (11) are often called *Tests for Raising to Subject*. This is true, but somewhat misleading. These are just the facts we expect if the subject of the higher clause is not an argument of the higher predicate. We can see this situation even in our raw intuition that the higher predicate is not assigning a \square -role to the higher subject. Construction of sentences with idioms or meteorological *it* is a way of clarifying and sharpening this intuition, but doesn't teach us anything new.

3. False twins: Subject Control vs. Raising to Subject

The (a) and (b) examples in (14) and (15) look at first glance very similar. In each case, we do not hear a subject in the embedded infinitival clause, and the subject of the matrix clause is somehow also the subject of the embedded clause.

- (14) a. Sue seemed to be happy.
 b. Sue tried to be happy.
- (15) a. John appeared to win a prize.
 b. John arranged to win a prize.

If you consult your intuitions about the *meaning* of these sentences, you will probably realize that semantically they are put together quite differently. In particular:

- The matrix verbs in the (a) sentences of (14) and (15) are *one-place predicates*, and do *not* assign a \square -role to the subject of the sentence.
- The matrix verbs in the (b) sentences of (14) and (15) are *two-place predicates*, and do assign a \square -role to the subject of the sentence.

How would you paraphrase the meaning of (14b) or (15b), for example. We might do it something like this:

- (16) **Paraphrase of (14b)**
Sue did things so that *she* would be happy.
- (17) **Paraphrase of (15b)**
John made arrangements so that *he* would win a prize.

Note in (16) that *Sue* is the argument of *did things* and that *she* (which corefers with *Sue*) is the argument of *happy* -- i.e. there are two occurrences of an NP referring to Sue, and a separate \square -role assigned to each. Something quite similar can be said about *John* and *he* in (17).

Much the same can be said about the actual (b) sentences in (14) and (15). We are clearly not dealing with an NP that is only an argument of the lower clause and just moves for syntactic reasons to the higher clause. We are dealing with *two separate arguments* that happen to refer to the same individual. The second argument is phonologically null -- the source of the confusion! We call it *PRO*. **Note: PRO is just a phonologically null pronoun.**

(18) **Subject Control**

- a. Mary tried [_{CP} PRO to be happy].
 [*Mary* is the Agent argument of *try*.
 PRO is the Experiencer argument of *happy*.]
- b. John arranged [_{CP} PRO to win a prize].
 [*John* is the Agent argument of *arrange*.
 PRO is the Recipient (or whatever) argument of *win*.]

PRO and its antecedent in each of these examples are separate NPs, arguments of different verbs. They corefer because it is a property of *try* and *arrange* that the agent of the higher verb *controls* the subject of the embedded clause. For this reason, these are called constructions of *Subject Control*.⁵

We can bring out the contrast between raising and control by looking at idioms and meteorological *it*. The subject of a verb like *try* or *arrange* gets its own \square -role (here, Agent) from *try* or *arrange*. Not surprisingly, if we try to have the NP *the shit* or *the cat* as subject of these verbs, even if elsewhere in the sentence we have the phrases *hit the fan* or *be out of the bag*, we can only understand these NPs as non-idiomatic and as agents of the higher verbs. The result is deviant or comical, depending on your sense of humor (I use asterisks to mark them anyway), but the idiomatic reading is completely missing:

- (19) **Idioms incompatible with Subject Control**
 a. *The shit tried [PRO to hit the fan].
 b. *The cat arranged [PRO to be out of the bag].

Likewise with meteorological *it*:

- (20) **Meteorological *it* incompatible with Subject Control**
 a. *It tried [PRO to rain].⁶
 b. *It arranged [PRO to snow in July].

⁵ The word "subject" in "Subject Control" refers to the fact that the controller (the *higher* NP) is a dsubject, not the fact that PRO itself is a subject. PRO is (almost) always a subject.

⁶ One sometimes hears things like *It's been trying to rain all afternoon*, which I take to be more or less a joke.

A few other notes about subject control. These are important remarks not stressed in class this week:

- **Do not worry about how PRO gets case.** But if you insist on worrying, the answer is: it gets case from *to*, which can assign case (nominative?) to PRO but not to anything else. If you don't like this answer, well, then follow my initial instructions and don't worry about it (for now). We'll get back to this point fairly soon.
- **The infinitival clause that contains PRO is a CP, not a bare IP.** The complementizer of these CPs obeys the following rule in standard English:

- (21) **Complementizer of CP complement to *arrange, try, etc.***
 a. Phonologically \emptyset when the subject is PRO.
 b. *for* otherwise

Thus:

- (22) a. Sue arranged [_{CP} \emptyset PRO to leave].
 b. *Sue arranged [_{CP} *for* PRO to leave].
 c. *Sue arranged [_{CP} \emptyset Mary to leave].
 d. Sue arranged [_{CP} *for* Mary to leave].

The rules in (21) are dialect-specific. In many dialects of English spoken in the US, Canada, the UK and Ireland (at least), *Sue arranged for to leave* is quite acceptable.

- Interacting with (21) is the fact that many verbs **require, or come close to requiring, Subject Control**, and thus are bad or fairly bad with a non-PRO subject of the embedded clause. For most speakers (but not for me), *try* is such a verb. For these speakers *Mary tried for John to get elected* is bad. For me, it is pretty much ok, with the expected meaning 'Mary exerted herself so that John might get elected'.

4. Other types of control of PRO

Sentences with Subject Control can masquerade as sentences with Raising because they both contain the sequence *NP Verbed to VP*. Elements other than subjects can control PRO, however.

Some examples:

- (23) **Object-of-PP Control**
 Sue shouted to Bill_i [_{CP} \emptyset PRO_i to leave].
 (Bill's the one who's supposed to leave.)

- (24) **Object Control**
 a. The salesman persuaded the customer_i [_{CP} \emptyset PRO_i to buy the car].
 (The customer's the one who's going to buy the car.)
 b. We convinced Mary_i [_{CP} \emptyset PRO_i to get some sleep].
 (Mary's the one who's going to get some sleep.)

Examples of Object Control like (24a-b) can be mistaken for ECM, just as Subject Control can be mistaken for Raising. That is because Object Control sentences and ECM sentences sound very much alike:

- (25) a. **ECM**
 The salesman considered [_{IP} the customer to have bought the car].
 b. **Object control**
 The salesman persuaded the customer_i [_{CP} \emptyset PRO_i to buy the car].

It should be obvious, however, that appearances are deceiving. ECM verbs like *consider* and *believe* are two-place predicates, taking an external argument and one internal argument. This internal argument can often be a finite CP:

- (26) The salesman considered/believed [that the customer had bought the car].

Object Control verbs like *persuade*, by contrast, are *three-place predicates*, taking an external argument and *two* internal arguments. Here two, one of the internal arguments can often be a finite CP, but the first argument is still present:

- (27) The salesman persuaded the customer [that she should buy the car].

The familiar tests support this analysis:

- (28) a. **ECM**
 We considered [_{IP} the shit to have hit the fan when the boss arrived].
 b. **Object control**
 #We persuaded the shit_i [_{CP} \emptyset PRO_i to hit the fan...]
- (29) a. **ECM**
 John believed [_{IP} it to be raining].
 b. **Object control**
 #John persuaded it_i [_{CP} \emptyset PRO_i to be raining].

It is also worth noting that the controller of PRO can sometimes be missing, as in (30) (compare (23)), where we understand PRO to be controlled by the understood recipient of Mary's shouting:

(30) **Control by an "understood" NP**

Sue shouted [_{CP} \emptyset PRO to leave].

(Those who Sue is addressing should leave.)

Sometimes the controller of PRO is understood as denoting a proper subset of the individuals referred to by PRO itself. This situation is called **Partial Control**:

(31) **Partial Control**

Sue wanted [_{CP} \emptyset PRO to meet at 6:00].

(i.e. Sue wanted a group including Sue herself to meet at 6:00.)

The point of (31) is the fact that the verb *meet* requires a plural or group as its subject. We can easily say *The women met at 6:00* or *The committee met at 6:00* but not *#Sue met at 6:00*.

It is worth returning for a few moments to the fact that Raising sentences can sound a lot like certain sentences with Control.

We can now see that Raising is very different from Control. Raising is a situation in which a NP that gets its \square -role in one position must move to get case-marked in another position. The position in which we hear a Raised NP is due to syntax. Raising, in this sense, is "pure syntax".

Control, by contrast, is partly a creature of semantics. Control is a situation in which a null pronoun PRO receives its interpretation in one of a number of ways — from a subject, from an object, from the object of a preposition or even from an unexpressed argument. There couldn't possibly be a Raising counterpart of control by an "understood" NP as in (30) nor could there be a Raising counterpart of Partial Control as in (31).