

## English Purpose Infinitives

(Baxter, 1999; Johnston, 1999)

Course on "Locality of grammatical relations"  
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## English Purpose Infinitives

(Baxter, 1999, sec. 2.3.3)

### Phenomenon:

- (1) Jack hired Sandy<sub>i</sub> [<sub>i</sub> to steal the giant's golden harp].
- (2) Jack brought the beans<sub>i</sub> home [for his mother to plant <sub>i</sub> behind the house].
- (3) Jack brought the beans<sub>i</sub> home [<sub>i</sub> to plant <sub>i</sub> behind the house].

**Relevant issue:** Identification of the referent of the obligatory gap which occurs in purpose infinitives.

**Conclusion:** The gap in a purpose infinitive is always coreferential with an argument in the modified phrase.

## What needs to be captured where?

- Syntactic: requires coreferential argument in the modified phrase
- Semantic/Pragmatic: determines which of the arguments in the modified phrase is coreferent with the gap in the purpose infinitive

- (4) a. Dana bought **War and Peace** [to give <sub>i</sub> to Chris].  
 b. \* Dana did so [to give <sub>i</sub> to Chris].

How about other arguments not locally realized in modified phrase?

- (5) **This book**<sub>i</sub> is hard to believe Dana bought <sub>i</sub> [to read <sub>i</sub> on the train]
- (6) These shoes were brought to us [to mend <sub>i</sub> before the end of the week].
- (7) We forced the students to be assembled in the large room [in time for us to administer the examn to <sub>i</sub>].

## Expressing the insight

The syntactic constraint is expressed by requiring in the lexical entry of PI-*to* that the ARG-ST list of the modified phrase contain an element whose index is shared with that of the element that is bound off by PI-*to*.

Sketch of entry of PI-*to*:

$$\left[ \begin{array}{l} \text{HEAD|MOD} \left[ \text{L|C|HEAD|ARG-ST} \left\langle \dots, \left[ \text{L|C|HEAD|INDEX} \ \boxed{1} \right], \dots \right\rangle \right] \\ \text{L|C} \left[ \begin{array}{l} \text{COMPS} \left\langle \left[ \text{L|C|HEAD} \left[ \begin{array}{l} \textit{verb} \\ \textit{VFORM} \ \textit{inf} \end{array} \right] \right. \right. \\ \left. \left. \text{NONLOC|INHER|SLASH} \ \boxed{3} \cup \left\{ \boxed{2} \right\} \right\rangle \right] \\ \text{NONLOC} \left[ \begin{array}{l} \text{TO-BIND|SLASH} \ \left\{ \boxed{2} \left[ \text{INDEX} \ \boxed{1} \right] \right\} \\ \text{INHER|SLASH} \ \boxed{3} \end{array} \right] \end{array} \right] \end{array} \right]$$

## Baxter's answers to the guiding questions

### Which properties need to be accessible?

- Semantic index of all arguments of a non-finite verbal head.

### How far and when is the index visible?

- In the entire head domain, up to the PI-*to* as lexical trigger.

### Theoretical interpretation:

- Which representation and percolation mechanisms make the index visible?
  - ARG-ST list containing *synsem* values of all arguments
  - redefined as *head* feature to be percolated by Head-Feature Principle
- How is the index integrated once it is visible?
  - Stipulation in lexical entry of PI-*to* ensures identity of index with that of the bound off extracted element

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## Johnston's answers to the guiding questions

### Which properties need to be accessible?

- The semantic index filling a particular semantic role (AFFECTED-OBJ.).

### How far and when is the index visible?

- The semantic indices of all semantic roles are generally assumed to be visible in the entire semantic head domain via the Semantics Principle.

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## An alternative approach

Johnston (1999), also discussed by Baxter (1999, pp.39f)

Johnston (1999, sec. 3) assumes that the argument in the modified phrase for which a purpose is predicated can always be accessed under the semantic attribute AFFECTED-OBJECT (using a hierarchy of attributes labels).

The Semantics Principle ensures the semantic roles of a predicate are visible in the entire head projection — with some complications for intervening adjuncts, for which Johnston (1999, p.99) employs a new attribute LAST.

As acknowledged by Johnston, his approach cannot handle cases like (8), where the umbrella is an affected object not in the situation of being in the closet, but in the situation in which it was put there.

(8) John has an umbrella in the closet to use when it rains.

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## References

- Baxter, David Paul (1999). *English Goal Infinitives*. Ph. D. thesis, University of Illinois.
- Johnston, Michael J. R. (1999). A Syntax and Semantics for Purposive Adjuncts in HPSG. In R. D. Levine and G. M. Green (Eds.), *Studies in Contemporary Phrase Structure Grammar*, pp. 80–118. Cambridge, UK: Cambridge University Press.

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