

# Assignment 1

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Assignment: Below we describe two phenomena and four different kinds of production theories. Briefly spell out the predictions of availability and domain minimization accounts for PP-ordering in English and the predictions of availability, ambiguity avoidance, and uniform information density accounts for complementizer mentioning. How do the predictions of each of these accounts overlap? How do they differ? Can you think of a phenomenon in another language (or a different phenomenon in English, even) that might be suited to distinguish between two or more of these accounts?

Please type your assignments and hand in a **paper copy** no later than Thursday, July 9. **Please remember that TAs are people too—your write-up should not be longer than 2 pages, single-spaced!**

## 1 Question 1

Part of the task of human sentence production is deciding between multiple ways, provided by the grammar of our language, of encoding the same message. Sentence production research largely centers on these choice points, and a number of theories have been developed to predict speakers' choices. I will describe one kind of choice point that has been identified in the literature and ask you to think about how the different theories/frameworks we discussed in class would deal with it.

### 1.1 Constituent Ordering

English is a relatively fixed order language, though some variation is allowed in how constituents are ordered. For example, the post-verbal prepositional

phrases (PPs) in (1) can also be ordered as in (2).

- (1) Judith [<sub>VP</sub> went [ to the institute] [ with a group of her friends]].
- (2) Judith [<sub>VP</sub> went [with a group of her friends] [to the institute]].

The question is, given that both orders are possible, what determines which order we choose?

### 1.1.1 Domain Minimization

Domain minimization or dependency length accounts of sentence production state that speakers will prefer orders which minimize the distance between dependent elements in the sentence (Hawkins 1994, Hawkins 2004; you should have read Hawkins 2007; see the course webpage for optional readings on this). In the above examples, the verb phrase contains dependencies between each of the prepositions (*to* and *with*) and the verb *went*. Discuss what predictions domain minimization (MiD—the abbreviation for the current incarnation of Hawkins’ principle, “Minimize Domains”) accounts make for the alternation exemplified by (1) and (2), and what property or properties of the PPs are predicted to be important under MiD accounts.

### 1.1.2 Accessibility

For the purposes of this class, accessibility refers to ease of retrieval. Accessibility-based accounts for word order alternations say that the relative accessibility of the referents described by the different constituents affects speakers’ word order preferences. Accessibility accounts can be further broken down into alignment accounts and availability accounts. Under alignment accounts (e.g. Bock and Warren 1985), speakers prefer to align conceptually accessible referents with grammatically higher functions. Availability accounts state that speakers prefer to mention more accessible referents earlier in the sentence (you should have read Branigan et al. 2007 and Jaeger and Norcliffe 2009; refer to the class webpage for further reading). Since the present example does not involve constituents with different grammatical functions, we will focus on availability accounts. What do these accounts predict in cases where speakers choose between (1) and (2)? How might the constraints on the production mechanism proposed in accessibility accounts and in MiD accounts compete or lead speakers in opposite directions? Discuss what we would have to know about the context in which (1) or (2) would be uttered

to know whether accessibility and MiD pull in opposite directions. As before, briefly tell which properties of the PPs are predicted to be most important or relevant in accessibility accounts.

## 2 Question 2

### 2.1 Syntactic Reduction: The Case of Complementizer Omission

A second choice point in English that has been investigated extensively is so-called complementizer omission. English speakers have the option of omitting or including the complementizer *that*, as demonstrated in (3) and (4, respectively).

- (3) Peter thinks he doesn't snore.
- (4) Peter thinks that he doesn't snore.

Again, the question that is of interest to psycholinguists is what leads speakers to choose one over the other; and as in the case of PP ordering, a number of theories have been brought to bear on this question.

#### 2.1.1 Accessibility

We would like you to discuss what predictions accessibility (focusing again on availability) makes concerning complementizer omission. Comment briefly on what properties of the complement clause should be relevant for availability accounts.

#### 2.1.2 Ambiguity Avoidance

Next, discuss what theories of ambiguity avoidance predict about complementizer omission. It has been noted that many English verbs that take complement clauses as arguments can also take direct objects, giving rise to temporary ambiguities, as in (5), where *Judith* can be interpreted as a direct object until the point of disambiguation at *had*.

- (5) Peter believed Judith had a complex and beautiful soul.

A number of psycholinguistic studies have shown that a processing cost (measured by reading times, in this case) is incurred at the point of disambiguation, since, in our example, *had* is unexpected (has a low probability) if we have assigned a direct object interpretation to *Judith* (see Garnsey et al. (1997) for a summary of the findings concerning this phenomenon). There is no ambiguity when *that* is included, as in (6).

(6) Peter believed that Judith had a complex and beautiful soul.

Nevertheless, people do not always avoid the potential ambiguity. What properties of the embedding verb and/or the complement are relevant in explanations that appeal to ambiguity avoidance? Does an ambiguity avoidance account of complementizer omission make different predictions from accessibility accounts?

### 2.1.3 Uniform Information Density

Finally, discuss what Uniform Information Density predicts about *that*-omission. Uniform Information Density (UID) is a theory of language production which states that speakers' online choices are constrained by an over-arching preference to uniformly distribute information across the linguistic signal (Probably the quickest and most accessible introduction is in Frank and Jaeger (2008); see also Jaeger (2006), Levy and Jaeger (2007), Jaeger (ttd)). Information is defined information-theoretically (Shannon 1948); basically, the less probable something (say, a word) is in a given context, the more *information* that word conveys (where probabilities are computed using some large corpus of the language in question). What would UID predict about our example? What about the complement clause is most important for this theory? Discuss whether and how the predictions of UID differ from accessibility and ambiguity avoidance accounts of *that*-omission.

Enjoy! Please let Florian, Alex, or Judith know if you have questions about this assignment, the class, TV shows about vampires<sup>1</sup>, or the futility of human existence.

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<sup>1</sup>For information about the *Twilight* book series by Stephenie Meyer, please consult the statistics TA.

## References

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