

COGS 200

REVIEW OF TRANSLATION

“Word for Word” Translation

- ◉ Is a recipe for disaster...
- ◉ ...because a sentence is not a heap of meaningful words.
- ◉ Understanding the meaning of a sentence requires you to pick up on its structure.
- ◉ Reading structure from surface form is computationally difficult.

Meaning

- ◉ Denotation
- ◉ Connotation
- ◉ Implication vs. Implicature
 - Conversational Implicature
 - Conventional Implicature ('The', 'yet')

Meaning

- ◉ Versions and analogies
- ◉ Style
- ◉ Meanings as Concepts
 - Prototypes
 - Definitions

Three Kinds of Semantic Indeterminacy

- ◎ Vagueness:
 - The thing meant has no clear borderlines.
- ◎ Context sensitivity:
 - What the words mean varies, depending on who says them, and when.
- ◎ Ambiguity:
 - There is more than one candidate denotation.
- ◎ (In this context, at least, it might be helpful to think of meanings as truth-conditions.)

Two Sources of Ambiguity

- ◎ Lexical
 - Tap, Book
- ◎ Structural
 - 'All', 'Only', 'and', ' $3 + 5 \times 2$ '
 - Pronoun reference.
 - Anaphors, Cataphors, Antecedents

Statistical Machine Learning

- ◉ Exploit the patterns in large data sets
- ◉ ...as a way to dodge the need to identify the syntactic structure of sentence.
- ◉ Proves to be 'unreasonably' powerful.

Translating *within* computers

One of the fundamental problems of computer design can be thought of as a hard translation problem:

- ◉ The computer starts of 'knowing a language' that is adequate to express only instructions about strings.
- ◉ It gets itself into a state where it can respond to instructions in Java (say).
- ◉ The computational burden of this can be reduced by using an interlanguage.

Bilingualism

- ⊙ All known languages are doing things all the time.
- ⊙ Dominant Languages therefore have to be suppressed
- ⊙ This manifests itself in reaction times and switch costs.
 - Cognate Advantage
 - Interlingual Homograph Disadvantage
 - Paradoxical Switch Costs
- ⊙ It probably involves some sort of 'executive control' (despite being largely unconscious).

Bilingualism

- ⊙ Multi-lingualism affects the exclusivity assumption in word learning.
 - Understand the experimental protocols that establish this.
- ⊙ Even non-proficient speakers of a second language aren't first forming thoughts in their first.
 - Evidence from picture naming RTs