

Study Questions: Machine Translation

(Based on lecture and readings from Dec. 21, 2005)

Basic questions

1. What is machine translation?
2. What is *transfer* in translation?
3. Give an example of the following types of transfer problems between a source and a target language (goal language). (Choose well-known languages (i.e. I'd be really happy if you can find example with Dutch and English), or if you choose an unusual language make sure you explain what is going on.)
 - a. Word-to-word mismatches
 - b. Word-to-phrase mismatches
 - c. Tempus-aspect-voice mismatches
 - d. Thematic divergence
 - e. Categorial divergence
 - f. Structural divergence
 - g. Lexical ambiguity
 - h. Part-of-speech ambiguity
 - i. An ambiguity in the source language that doesn't exist in the target language.
 - j. An ambiguity in the target language that doesn't exist in the source language.
4. When do you get more problems with translating: when you have an ambiguity in the source language that doesn't exist in the target language, or when you have an ambiguity in the target language that doesn't exist in the source language?
5. Name 5 types of knowledge that human translators need to have to translate.
6. What did Bar-Hillel claim in his famous memo from 1959? Is his criticism still relevant today?
7. What are the three traditional methods of machine translation? What are the advantages and disadvantages of each method?
8. What recent 'dirty' methods are being used to do machine translation?
9. What are the two types of example based methods that are being used for machine translation?

Analysis & Discussion Questions

10. You tell your aunt that you are learning about machine translation in a course. She says "Machine Translation?! What a waste of time. Everyone know machine translation will never work. Why how could a computer ever translate a song or a poem" What do you tell her to convince her that she misunderstood the goals and applications of MT?
11. You are asked to build a translation system according to the following specifications. What method will you choose? Why: explain why this method has advantages for the type of translation that will be done.

- a. You need to build a system to translate train announcements from Dutch to English for the NS. They have no future plans for expanding to use different languages, and are only interested in a high quality system that can translate standard announcements.
- b. A group of flower sellers needs to translate flower orders and memos between them. Right now the group includes native speakers of Japanese, Chinese, Dutch and English, but eventually they might expand to add other languages. The type of communication that takes place is fairly predictable, and the group already standardly uses the European Union Ontology for flowers to code orders.
- c. You need to quickly build a translation system that translates Afrikaans to Dutch for a large trading company. The final product doesn't have to be perfect, just understandable.