

MT Summer Term 2021 Ex1: Introduction; Why is MT hard?; RBMT.



1. In your own words, why is MT hard?

2. Please give at least two interpretations for each of the following (examples from Chris Manning):

- *Minister Accused Of Having 8 Wives In Jail*
- *Juvenile Court to Try Shooting Defendant*
- *Teacher Strikes Idle Kids*
- *Miners refuse to work after death*
- *Local High School Dropouts Cut in Half*
- *Red Tape Holds Up New Bridges*
- *Clinton Wins on Budget, but More Lies Ahead*
- *Hospitals Are Sued by 7 Foot Doctors*
- *Police: Crack Found in Man's Buttocks*



3. Give an example of lexical ambiguity and an example of structural ambiguity

4. Can you bracket the following in different ways to show how they are ambiguous:

- *Chinese history teacher*
- *Unlockable*
- *She saw the boy with the telescope*
- *Visiting relatives can be dangerous*



5. What is “culture translation”?

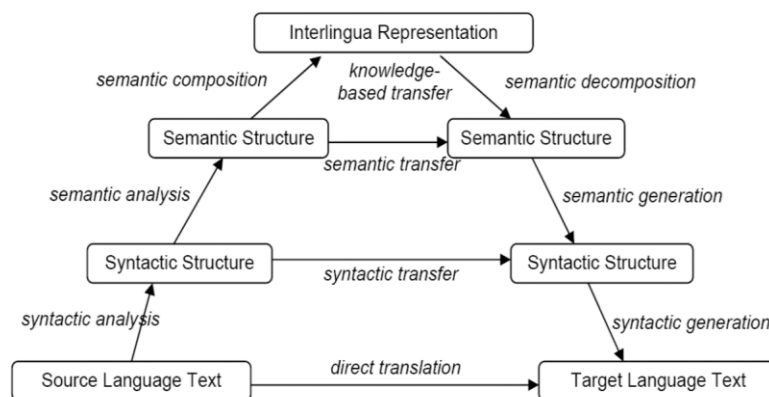


6. What is a pro-drop language?



7. What are SVO, SOV and VSO languages? How many possible orderings of {S,V,O} are there?

8. In your own words, describe the “Vauquois Triangle” for rule-based MT (RBMT) below:



9. Design a set of direct translation rules that translate:

an English garden ⇔ *ein englischer Garten*

an English garden ⇔ *un jardin anglais*



10. Design a set of analysis, transfer and generation rules (incl. lexical rules) based on CFG representations that translate. It may help to draw them as CFG trees.

$$\left[[X]_{np_subj} \left[[Y]_v \left[[Z]_{np_obj} \right]_{vp} \right]_s \right] \Leftrightarrow \left[[X']_{np_subj} \left[[Z']_{np_obj} \left[[Y']_v \right]_{vp} \right]_s \right]$$



11. How many transfer-based MT systems do you need to translate between n languages?



12. What is interlingua-based MT?



13. In your own words, what are the pros and cons of RBMT?