Morphology Assignment

February 13, 2014
Underlying forms and surface forms

• Phonology:
  – Underlying: 㱦Nkʌmplǐt (incomplete)
  – Surface: 㱡ŋkʌmplǐt

• Orthography
  – Underlying: happy+ness
  – Surface: happiness
Underlying and surface forms

• Underlying forms can be glosses of morphemes.

  • Underlying: happy[AdjCmpr]
  • Surface: happier

  • Underlying: happy[NDer][Npl]
  • Surface: happinesses
Where do those things in square brackets come from?

- You make them up.
- I decided to call –er [AdjCmpr] for “adjective, comparative”
- You could call it something else.
What will you do for this assignment?

• You will use a program called XFST (Xerox Finite State Transducer).
• If you give it an underlying form, it will give you the surface form.
• If you give it a surface form, it will give you the underlying form.

Simplest way

Multichar_Symbols [NSg] [NPl] [Adj] [AdjCmpr] [AdjSupr] [NDer]

LEXICON Root
0:0  NRroot ;
0:0  AdjRoot ;

LEXICON AdjRoot
happy[Adj]:happy  # ;
happy:happi       AdjSuffs ;

LEXICON AdjSuffs
[AdjCmpr]:er     # ;
[AdjSupr]:est     # ;
[NDer]:ness      NSuffs-es ;

LEXICON NRroot
book:book        NSuffs-s ;
pencil:pencil    NSuffs-s ;
child[NSg]:child # ;
child[NPl]:children # ;
rash:rash        NSuffs-es ;

LEXICON NSuffs-s
[NSg]:0  # ;
[NPl]:s   # ;

LEXICON NSuffs-es
[NSg]:0  # ;
[NPl]:es  # ;
Another way

LEXICON NRoot
book;book NSuffixes;
pencil;pencil NSuffixes;
child[NSg]:child #;
child[NPl]:children #;
rash;rash NSuffixes;

LEXICON NSuffixes
[NSg]:0 # ;
[NPl]:s # ;
Break the job down into small pieces

- Test Suite Sentences (More detail later)
- Design your inflectional paradigms.
  - Give a square bracket name to each morpheme.
- Design your derivational morphemes.
  - Give a square bracket name to each morpheme.
- Install XFST and learn to run it.
- Write a file called a lexc file.
- Optional: write a rule file.
- Test:
  - If you input a word that is well-formed in your language, the output is the underlying form.
  - If the word is not ambiguous, you should get one underlying form.
  - If the word is ambiguous (e.g., [unlock]able, un[lockable]), you should get one underlying form for each meaning.
  - If you input an ill-formed word (e.g., happyness), there should be no underlying form and the FST will output three question marks (???).
Test suite sentences

• The wind blew.
• The car started.
• All the people shouted.
• The weary traveler slept soundly.
• The kind old man laughed pleasantly.

• Based on Rossman and Mills, 1922. Graded Sentences for Analysis.

• Vary these sentences: e.g., plural subjects, indefinite subjects, verbs in other tenses, etc.
More sentences coming soon

- Transitive verbs
- Relative clauses
- Other embedded clauses
- Negation
- Possession
- Many other constructions