Notes on UNDERLYING REPRESENTATION

Procedure for establishing Underlying Representation (UR):

1. URs are established for morphemes, not for words. More accurately, there are URs for words, but they are simply a combination of the URs of the morphemes of a given word.

2. Principle: one UR per one morpheme (in the default case).

3. Two criteria for establishing URs:
   - Criterion 1: Alternations.
   - In the typical case one of the alternating segments is the underlying segment.
   - Criterion 2: Predictability.
   - Predictable information is supplied by phonological rules, and not stored in the UR.

Practice

1. Division into morphemes

   **Morpheme (roughly): the smallest unit of meaning**, where ‘meaning’ can be lexical or grammatical.
   - Lexical meaning exists to something that exists in the outside world, for example, *table* is a morpheme whose meaning refers to an object that exists in the outside word. The *s* in *tables* also has a meaning, but this meaning refers to grammar, for example, we say *tables are* and not *tables is*.

Divide nationalize into morphemes:

Answer:

- *national+ize*, where *-ize* means ‘verb’, i.e. *–ize* is a verbalizing morpheme
- *nation+al+ize*, where *–al* means ‘adjective’, i.e. *–al* is an adjectivizing morpheme
- *nat+ion+al+ize*, where *–ion* means ‘noun’, i.e. *–ion* is a nominalizing morpheme;
  - compare also rebel – rebell+ion.

*nat* is a bound root that can be identified independently as a root by comparing *nat+ion* and *nat+ive*. The meaning of bound roots is hard to determine; here: *nat* is a general concept referring to ‘birth’.
Roots: free roots and bound roots.

Free roots that can occur as words, e.g. the root taste in the adjective taste+ful.
Bound roots: roots that can’t occur as independent words e.g. nat.

Divide into morphemes: napisala, pobrudzila

Answer: na+pis+a+l+a, po+brudz+i+l+a

2. Alternations
Alternation: exchange of segments in the same place of a given morpheme.

Example 1: the negative prefix

<table>
<thead>
<tr>
<th></th>
<th>[ɪm]</th>
<th>[ɪn]</th>
<th>[ɪŋ]</th>
</tr>
</thead>
<tbody>
<tr>
<td>im+polite</td>
<td></td>
<td>[ɪ]</td>
<td></td>
</tr>
<tr>
<td>in+tolerant</td>
<td>[ɪ]</td>
<td>[ɪ]</td>
<td></td>
</tr>
<tr>
<td>in+comparable</td>
<td>[ɪ]</td>
<td>[ɪ]</td>
<td>[ŋ]</td>
</tr>
</tbody>
</table>

[ɪ] does not alternate with any other segment, so by default [ɪ] is the underlying segment = //ɪ//. The nasals alternate due to Nasal Assimilation.

Nasal Assimilation: the nasal consonant assumes the place of articulation of the following stop or affricate.

Which of the three alternats goes into the UR?

Answer: in+accurate [n]. Here the nasal can’t assimilate because it is not followed by a stop or affricate, so [n] must come from the UR.

CONCLUSION: the UR of the negative prefix is //ɪn//.

Example 2: Polish chleb ‘bread’ vs. sklep ‘shop’.

3. Predictability
The English word tip is pronounced [tʰɪp], with aspirated t. The aspirated t never alternates with any other segment. If the criterion of alternations were the only criterion for establishing URs, we would have to conclude that the UR of tip is //tʰɪp//.

This would be incorrect because the occurrence of aspiration on t is 100% predictable.

Aspiration: Voiceless stops are aspirated at the beginning of the syllable.

CONCLUSION: the UR of tip is //tɪp//, not //tʰɪp//