PRACTICE EXERCISES

PHONOLOGICAL PROBLEMS AND PHONOLOGICAL RULES

1. SOUTH EAST AMBRYM (a Malayo-Polynesian language)

In the following problem, separate the possessive morpheme from the noun stems. Consider the resulting variation in these noun stems and account for it.

a. What phonological process is illustrated here? Argue for your solution.

b. Formulate a maximally general rule for the observed variation.

1. hil \( \rightarrow \) hair \( \rightarrow \) hilin \( \rightarrow \) his hair
2. vaŋ \( \rightarrow \) belly \( \rightarrow \) vaŋen \( \rightarrow \) his belly
3. luh \( \rightarrow \) tooth \( \rightarrow \) luhon \( \rightarrow \) his tooth
4. asou \( \rightarrow \) wife \( \rightarrow \) asoun \( \rightarrow \) his wife
5. he \( \rightarrow \) hand \( \rightarrow \) hen \( \rightarrow \) his hand

2. Using feature notations, write rules for expressing the following phonological processes.

a. A vowel becomes short when it occurs before a consonant word-finally, or before a consonant cluster.

b. Word-final consonants are deleted after an unstressed vowel.

3. State in plain English what the following rules do.

a. \([-\text{sonorant}] \rightarrow [\alpha \text{ voice}] / \_\text{-sonorant} \alpha \text{ voice}\]

b. \(V \rightarrow [+\text{stress}] / \_\text{C_o#}\)

c. \(C \rightarrow [+\text{sonorant}] \rightarrow [+\text{syllabic}] / C \_\#\)
4. JAPANESE

Consider the sounds [t] and [tf] in Japanese and determine whether they are allophones of the same phoneme, or represent two different phonemes. If allophones, state the complementary distribution; if phonemes, state the contrast. Argue for your solution. What phonological process is illustrated here? If the two sounds are allophones, write a rule that accounts for their distribution using feature notation.

1. tatami     mat
2. tegami     letter
3. tfitʃi     father
4. shita      under
5. tfizu      map
6. koto       fact
7. utʃi       house
8. te         hand
9. degutʃi    exit

5. For each segment, if you change the value of the feature indicated, what new segment will be derived?

<table>
<thead>
<tr>
<th>Old segment:</th>
<th>Feature to be changed:</th>
<th>New segment:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example:</td>
<td>[b]</td>
<td>[voice]</td>
</tr>
<tr>
<td>a.</td>
<td>[z]</td>
<td>[anterior]</td>
</tr>
<tr>
<td>b.</td>
<td>[ə]</td>
<td>[reduced]</td>
</tr>
<tr>
<td>c.</td>
<td>[p]</td>
<td>[SG]</td>
</tr>
<tr>
<td>d.</td>
<td>[I]</td>
<td>[tense]</td>
</tr>
<tr>
<td>e.</td>
<td>[z]</td>
<td>[strident]</td>
</tr>
</tbody>
</table>
6. HYPOTHETICAL LANGUAGE

Consider the sounds [s] and [z] and determine whether they are allophones of the same phoneme, or represent two different phonemes. If allophones, state the complementary distribution; if phonemes, state the contrast. Argue for your solution. What phonological process is illustrated here? If the two sounds are allophones, write a rule that accounts for their distribution using feature notation.

1. seri  
2. idos  
3. mosta  
4. lize  
5. tuga  
6. tiva  
7. sozi  
8. mizas  

finger
pot
sky
top
pain
dog
light
loud