1. Spanish Lenition

Spanish is an Indo-European language, spoken by 350 million people in Spain, Latin America, and the U.S.

(a) Find the fricatives [β] and [ɣ] on the audible IPA charts online and listen to them. Also, make a note of their features (place, manner, and voicing).

(b) Based on the words below, do [b] and [β] belong to separate phonemes of Spanish, or are they allophones of a single phoneme? What about [d̪] vs. [ð]? What about [ɡ] vs. [ɣ]?

a. [drama] ‘drama’
   i. [sueld̪o] ‘salary’
   q. [imbierno] ‘winter’

b. [dolor] ‘pain’
   j. [durar] ‘to last’
   r. [bino] ‘s/he came’

c. [aŋ̃a] ‘s/he walks’
   k. [tol̪do] ‘certain’
   s. [uβa] ‘grape’

d. [kaða] ‘each’
   l. [fal̪da] ‘skirt’
   t. [golpe] ‘hit’

e. [díme] ‘tell me’
   m. [diβino] ‘divine’
   u. [gaβo] ‘cat’

f. [komid̪a] ‘food’
   n. [kaβo] ‘end’
   v. [ayo] ‘I do’

g. [laðo] ‘side’
   o. [leyal] ‘legal’
   w. [iyaðo] ‘liver’

h. [oðío] ‘hatred’
   p. [broτar] ‘to sprout’
   x. [teŋgo] ‘I have’

(c) In each case where you found two allophones of one phoneme, give a rule predicting where each of the two allophones will occur. Also, which of the two allophones would you consider to be the basic one?

(d) If you wrote more than one rule in part (c), try to consolidate them into a single general rule that refers to natural classes of sounds rather than specific sounds. For example, if you had to refer to [p], [t] and [k], you could just say voiceless stops.

(e) Consider the Spanish word [deðo] ‘finger’. In Spanish orthography (which we’ve been ignoring up until now), this word is spelled dedo. Why do you think the sounds [d] and [ð] would both be spelled with the letter D? If you ran into a Spanish word that you’d never heard before (e.g. dentadura) could you predict how each D would be pronounced?

(f) Consider the Spanish words [baka] ‘cow’ and [baka] ‘roof-rack’. In Spanish orthography these words are spelled vaca and baca respectively. Why do you think there would be two ways of spelling the single sound [b]? (Hint: What might this tell us about an earlier stage of the language?) Does this pose a problem for people learning to spell Spanish words based on the modern pronunciation?

(g) Continuing with the two words in part (f), what do you think the following sentence means? Could it mean more than one thing? Why are the two highlighted words pronounced with a [β] rather than a [b]? What caused the pronunciation to change in this context?

   IPA: [ es imposible poner una βaka en una βaka]
   Translation: ‘It’s impossible to put a ________ on a ________.’
2. Distribution of [ju] in British and American English

(a) In a number of words where British English has the sound [ju], many Americans have just [u]. Let's assume that in 1776, American colonists pronounced all these [ju] sounds the same way British people do today. Which words changed from having [ju] to having [u]? Write a concise rule that states the circumstances in which the change took place.

<table>
<thead>
<tr>
<th>British</th>
<th>American</th>
<th>British</th>
<th>American</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. [pjuwə]</td>
<td>[pjʊ]</td>
<td>‘pure’</td>
<td>h. [vju]</td>
</tr>
<tr>
<td>b. [tjulɪp]</td>
<td>[tulɪp]</td>
<td>‘tulip’</td>
<td>i. [sjut]</td>
</tr>
<tr>
<td>c. [kjʊt]</td>
<td>[kjʊt]</td>
<td>‘cute’</td>
<td>j. [hju]</td>
</tr>
<tr>
<td>d. [əbjʊs]</td>
<td>[əbjʊs]</td>
<td>‘abuse’ (n.)</td>
<td>k. [mjʊz]</td>
</tr>
<tr>
<td>e. [dʊz]</td>
<td>[dʊz]</td>
<td>‘dues’</td>
<td>l. [nju]</td>
</tr>
<tr>
<td>f. [ɑɡjʊ]</td>
<td>[ɑɹɡjʊ]</td>
<td>‘argue’</td>
<td>m. [ljud]</td>
</tr>
<tr>
<td>g. [ʃjʊ]</td>
<td>[ʃjʊ]</td>
<td>‘few’</td>
<td></td>
</tr>
</tbody>
</table>

(b) Now consider the word enthuse, which is pronounced in [ɛnθjʊz] British and [ɛnθuz] in American English. Does this example require you to modify your rule from above? How so?

(c) Given the data below, do the sounds [ju] and [u] contrast in British English? What about in American English? For each dialect, if the two sounds do contrast in that dialect, is there a set of environments where the contrast is neutralized? Connect your answer here to your discussion from above.

<table>
<thead>
<tr>
<th>British</th>
<th>American</th>
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<th>American</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. [ʃjʊl]</td>
<td>[ʃjʊl]</td>
<td>‘fuel’</td>
<td>k. [dju]</td>
</tr>
<tr>
<td>b. [fʊl]</td>
<td>[fʊl]</td>
<td>‘fool’</td>
<td>l. [du]</td>
</tr>
<tr>
<td>c. [mɪjʊz]</td>
<td>[mɪjʊz]</td>
<td>‘muse’</td>
<td>m. [nɪd]</td>
</tr>
<tr>
<td>d. [mʊz]</td>
<td>[mʊz]</td>
<td>‘moos’ (like a cow)</td>
<td>n. [nʊd]</td>
</tr>
<tr>
<td>e. [kju]</td>
<td>[kju]</td>
<td>‘cue’</td>
<td>o. [tʃʊn]</td>
</tr>
<tr>
<td>f. [kʊ]</td>
<td>[kʊ]</td>
<td>‘coo’ (like a bird)</td>
<td>p. [tʊn]</td>
</tr>
<tr>
<td>g. [jʊz]</td>
<td>[jʊz]</td>
<td>‘use’</td>
<td>q. [lʊt]</td>
</tr>
<tr>
<td>h. [ʊz]</td>
<td>[ʊz]</td>
<td>‘ooze’</td>
<td>r. [lʊt]</td>
</tr>
<tr>
<td>i. [bjuːtɪ]</td>
<td>[bjuɾi]</td>
<td>‘beauty’</td>
<td>s. [ʃjʊpə]</td>
</tr>
<tr>
<td>j. [bʊtɪ]</td>
<td>[bʊɾi]</td>
<td>‘booty’</td>
<td>t. [ʃp]</td>
</tr>
</tbody>
</table>

(d) British English has words like room [ɹʊm] and rude [rʊd], but no British words start with [ʃju]. Similarly, British English has zoo [zu] and zoom [zʊm], but has no words starting with [zju]. Do these facts necessitate a revision to your discussion above? How so?
3. **English Plural Allomorphy**

In English, we add a suffix to the end of a noun to mark it as plural, as in the -s at the end of *cups*. This suffix is called the plural morpheme.

(a) The English plural morpheme can be pronounced in three different ways. These differing pronunciations of a morpheme are called *allomorphs*.

After identifying the three allomorphs, give a concise rule that predicts how the plural form of a noun will be constructed from the singular form. In writing your rule, use natural classes whenever possible.

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a. [kʌps] ‘cups’  i. [mɪθs] ‘myths’  q. [wajəz] ‘wires’
b. [pleɪts] ‘plates’  j. [leɪdʒ] ‘lathes’  r. [wilz] ‘wheels’
c. [klɑks] ‘clocks’  k. [bʌsəz] ‘busses’  s. [dejz] ‘days’
d. [dʒɑbz] ‘jobs’  l. [mejzəz] ‘mazes’  t. [jəwz] ‘shows’
e. [kɪdz] ‘kids’  m. [bʌʃəz] ‘bushes’  u. [kluz] ‘clues’
g. [ɡɹæfs] ‘graphs’  o. [wɪtʃəz] ‘witches’
h. [kejvz] ‘caves’  p. [dʒəɹæf] ‘giraffe’
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(b) Which of the three allomorphs would you say is the *basic* one, and why?

(c) Choose ten nouns that end with the sound [p]. Write them down in English orthography, and also give their IPA. Which allomorph of the plural form would be used with these words?

(d) Pronounce to yourself the plural forms of the 33 nouns in the chart below. Which of the nouns follow the regular pattern you saw above? For the nouns that don’t follow the pattern, how is the irregular plural formed?

Can you predict based on the sounds in a particular word whether it will follow the regular pattern or the irregular pattern? If so, give a rule that predicts when each form will be used. If not, give a minimal or near-minimal pair that shows why it is not likely to be predictable.

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g. [ɛlf] ‘elf’  C. [kæf] ‘cough’  N. [pleɪʃ] ‘playoff’
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(e) From the 33 words in part (d), pick five that you feel have probably been in the English language for a long time. These should be words that are either extremely basic vocabulary, or words that you can imagine hearing in old fairy tales or fables. Write down how these words pluralize. Next, pick five words out of the 33 that you are fairly confident are relatively recent additions to English, and write down how these words pluralize.

State a generalization about how the plural is formed based on how old the word is. Don’t worry if there appear to be some exceptions.

(f) In Old English (~450–1150 A.D.), the plural was typically formed by adding the sounds [ɛs] to the end of a noun. Also, recall from the Intermediate Phonology Worksheet that in Old English, [f] and [v] were allophones of a single phoneme. The sound [v] only occurred in between two voiced sounds, and [f] occurred elsewhere.

Do these facts help to explain the irregular plurals above? How so? Let’s assume that in 1150, knife sounded like [knif]. What would happen when the plural morpheme [ɛs] was added?

(g) What happened to the plural morpheme itself between 1150 and now?

(h) Are [f] and [v] still allophones of one phoneme? How do you know? If I invented a new word, and told a modern English speaker the plural was [skɪəʊvz], what would they think the singular was, and why?

(i) Did the words giraffe and goof exist in Old English? Find the date of their first recorded use in the Oxford English Dictionary (linked on the course webpage). If these words had existed in Old English what would you guess their plural forms would have sounded like in the year 1150? And if they’d had this history, what would their plural forms sound like today?

(j) Extra Credit: Based on your answers in (c–h), how do you think the Old English phoneme /p/ was pronounced when it occurred in between two voiced sounds? Is it likely that /p/, like /f/, had a voiced allophone that occurred between voiced sounds? Why or why not?

(k) Extra Credit: Based on your answers above, do you think the word turf existed in Old English? Why or why not? Now check the OED. Were you right? If not, ponder deeply.