Allophones of American English

1. Speaker

is me, with a migratory childhood; Seattle WA (0-5), Cambridge, MA (6), Riverside CA (7), Ithaca NY (8-18).

2. Consonants in word-initial position before similar (low) vowels

<table>
<thead>
<tr>
<th>p</th>
<th>pa</th>
<th>t</th>
<th>tot</th>
<th>k</th>
<th>cot</th>
</tr>
</thead>
<tbody>
<tr>
<td>b</td>
<td>Bach</td>
<td>d</td>
<td>dot</td>
<td>g</td>
<td>got</td>
</tr>
<tr>
<td>f</td>
<td>fa</td>
<td>θ</td>
<td>thaw</td>
<td>s</td>
<td>sot</td>
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<tr>
<td>v</td>
<td>Vons</td>
<td>ŋ</td>
<td>thy</td>
<td>z</td>
<td>zap</td>
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<tr>
<td>m</td>
<td>mop</td>
<td>n</td>
<td>not</td>
<td>ʃ</td>
<td>Zha-Zha</td>
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<tr>
<td>l</td>
<td>lot</td>
<td>j</td>
<td>yacht</td>
<td></td>
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<td>w</td>
<td>walk</td>
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<tr>
<td>ʍ</td>
<td>whopper</td>
<td></td>
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</tr>
</tbody>
</table>

3. Observations on Consonants

- Dental fricatives are dental, not interdental, except in emphatic speech
- /s/ is tongue tip down, not up (laminal [ʃ], not apical [ʂ])
- /ɻ/ is bunched, not retroflexed ([ɻ])
- The labialization observed on /ɹ/ and palatoalveolars is modest.

4. Vowels in a single context

<table>
<thead>
<tr>
<th>Front</th>
<th>Back</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front</td>
<td>Back</td>
<td>Back</td>
</tr>
<tr>
<td>unrounded</td>
<td>Unrounded</td>
<td>Rounded</td>
</tr>
<tr>
<td>[i] peat</td>
<td>[u] pooh</td>
<td>[putʃ]</td>
</tr>
<tr>
<td>[ɪ] pit</td>
<td>[ʊ] put</td>
<td>[put]</td>
</tr>
<tr>
<td>[ɛ] pet</td>
<td>[ɔ] taut</td>
<td>[tɔt]</td>
</tr>
<tr>
<td>[æ] pat</td>
<td>[ɑ]</td>
<td></td>
</tr>
</tbody>
</table>
plus rhotacized upper mid central: [ɾ] pert

5. Unusual Vowels

a. Schwa: telegraph, standardization, centrifugal, abracadabra
   - Schwa can vary; its other version is a high central vowel [i]
   - Some speakers have both vowels as separate phonemes: Ros’a’s [ə] vs. roses [i]

b. Stressed Syllabic /ˈl̩/
   - pull, bull, full (other speakers have /ol/)
     - vary between [ʌl] and [ˈl̩]: null, dull, hull

   SOME PHONOLOGICAL RULES THAT APPLY TO VOWELS

6. Vowel Nasalization

   Vowels are nasalized before nasals:
   - bead - bean; bide - bind; pad - pan

   But not when the nasal is part of a suffix:
   - Venus - freeness

7. Transcription practice

   Answers in footnote below; give AB or BA
   - “bow-ness” “bonus”
   - “Oness” (resemblance to the letter O) onus
   - “intra-V-ness” (property of being between two V’s) intravenous
   - “furness” (property of resembling fur) furnace

   By this criterion, should “highness” as in “your highness” count as suffixed?

8. /æ/ Diphthongization

   /æ/ optionally is realized as [iə] before /m/ and /n/:
   - mad - man; lab - lamb  [Socratic q: what else would you check?]

1 AB AB BA BA
[io] is not a phoneme: banner, banner

9. /au/ Diphthongization

Similarly, /au/ optionally is realized as [ɛʊ] before /m/ and /n/:

out - town; German kaum ‘hardly’

10. Vowels are shorter when they precede voiceless consonants:

You can use the symbol [ä] for this.

moo - mood - moot Lou - lose - loose Lee - leave - leaf
cab - cap lug - luck

11. Fricative Devoicing

Fricatives are often devoiced at the end of a phrase.

[z] lose vs. loose
[v] live vs. life
[3] leash vs. (my) liege
[Ø] soothe vs. forsooth

You can use a transcription like [z̥] for these allophones.

12. Transfer of Contrast

The devoicing of final fricatives doesn’t mean we lose word identity (phonology: “it is not neutralizing”). Reason: we can identify the word by the vowel length, which is itself determined by the phonemic character of the fricative, not its phonetic character.

lose /luːz/ [luːs]
loose /luːs/ [lus]

13. Dark /l/

/l/ is fairly back everywhere, but is especially back word finally and before a consonant. In those position, it may become non-alveolar.

listen, lay, look, law [l̩] = dark, velarized/pharyngealized /l/
allow, relay, release, allude

fall, pill, peel falter, Falk, palm, elm, helper)
14. Allophonic effect of dark /l/ on vowels

Vowels have different, backer allophones before dark [ɫ]:

- peel, pill, pale, Pell, pal, pol, Paul, pole, pool

/l/ = [ɫ]
/ejl/ = [ɛɬ]
/owl/ = [oɬ]

15. /u/ Fronting

/u/ is central [u] when it follows a palato-alveolar and precedes an alveolar:

- chew - ooze - choose
- Jew - jewel - Bruce - juice
- shoe - loot - shoot

16. /ai/ is optionally raised to [ʌɪ] before a voiceless consonant

<table>
<thead>
<tr>
<th>Can only have [ai]</th>
<th>Can have either [ai] or [ʌɪ]</th>
</tr>
</thead>
<tbody>
<tr>
<td>bide</td>
<td>bite</td>
</tr>
<tr>
<td>eyes</td>
<td>ice</td>
</tr>
<tr>
<td>jibe</td>
<td>hype</td>
</tr>
<tr>
<td>live</td>
<td>life</td>
</tr>
</tbody>
</table>

This is a dialectal trait of areas a few hundred miles from where I grew up: coastal New England, NYC, Philadelphia, Canada. But in these locations the raising is obligatory.

17. Transcription practice

Answers in footnote below; give AB or BA

knife [najf] [nʌjɪf]
fight [fajt] [fæjt]
twice [twajs] [twʌjs]
height [hʌɪt] [hæɪt]

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2 AB BA AB AB
18. The glide part of [ju] is vocalized in less formal speech. The result is a single syllable (diphthong).

    few: [fju, fiu]
    Ditto for pew, cute, beauty, etc.

[ju] is illegal after alveolars (tune, suit, dune)

19. Transcription practice

    Answers in footnote below; give AB or BA³

    shoes [ʃuz] [ʃuz]
    man [mæn] [mæn]
    view [vju] - [vju]
    whether [weðə] - weather [weðə]
    on [ən] - Ahn [an]

SOME PHONOLOGICAL RULES THAT APPLY TO CONSONANTS

20. The nasal /n/ optionally takes on the place of articulation of a following consonant:

    unpleasant, in Boston phone book, phone for me, phone thing,
    envelope, in France phone call
    month, in the garden
    pancake, engrossed

21. The nasal /m/ becomes labiodental before a labiodental

    symphony, emphatic labiodental m: [m̃]

22. The nasal /m/ otherwise remains unaltered (come quickly), but assimilates to a following consonant in very common words

    something, I’m gonna...

23. All alveolars except for fricatives assimilate to following dentals:

    width, add the... eighth, at the... tenth, on the... wealth, all the...

    We could use [t d n] for these.

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³ AB BA BA AB AB
but: miss the

24. **Apical alveolar /t/ becomes laminal after laminal alveolar /s/**

   top vs. stop  
   to the left vs. pass to the left  
   apical:  †
   laminal:  †

25. **Voiceless stops are aspirated**

   if:
   i. They are word-initial; or
   ii. They precede a stressed vowel; but
   iii. They are not preceded by /s/.

   i. po'tato, to'morrow, col'lection
   ii. ap'lectionpend, at'tend, a'kin vs. 'apple, 'battle, 'tickle
   iii. 'spit, 'stint, 'skit a'spire, a'stound, a'skew

26. **Approximants are (partially) voiceless after word-initial stops**

   play, clay, pray, tray, cray, puke, cute, twin, quick

   Transcription: for a voiceless approximant: [l̥]
   for a partially-voiceless approximant: [l̊]

   This is probably the same process as aspiration, viewed abstractly.

27. **Voiceless stops are longer than voiced**

   Take a cap now vs. Take a cab now
   cat  vs. cad
   back vs. bag

28. **Voiced stops are optionally unreleased when word final after an approximant**

   bib, bulb, barb; bid, build, bard; big, Borg  unreleased: [bˀ, dˀ, gˀ]
   but  banned, sagged, waged, sneezed

29. **Voiceless stops are optionally unreleased, and optionally preglottalized, when word final after an approximant or nasal**

   pip, pulp, harp, camp; sit, silt, sort, can’t; Bic, bulk, hark, hunk
   but  clasp, act, apt, last, risk  glottalized: [ʔt] or [ʰt]
30. **Alveolar stops are usually realized as tap when**

    (i) *they follow a non-lateral approximant* and
    (ii) *precede a stressless vowel*

(a) latter, ladder, outer, louder, barter, harder
    vs. falter, older, Sumter, Camden, actor, Ogden, Astor, Cazden

(b) at'tack vs. 'attic; a'dore vs. ado'ration

Note laterally released tap in: battle, settle.

31. **/nt/ Tapping**

    In the same environment in which alveolars are realized as tap, the phoneme /n/ and the
    sequence /nt/ are optionally realized as a nasalized tap.

    'enter, 'winter, onto'logical vs. in'tend, On'tario, on'tology
    'Kenner, 'winner, onomato'poeia i'nert, pla'narian, oe'nology

32. **Syllabic /ŋ/ Formation**

    When stressless /əŋ/ follows /t, d/, it optionally becomes syllabic /ŋ/. The /t/ or /d/ is
    unreleased; and /t/ is usually glottalized

    button, Latin, sweeten, get in the car
    sudden, Madden, Sweden, when I’m good and ready

33. **Velar fronting**

    The velar stops /k/ and /g/ become fronted when preceding front vowels

    key, kitten, Kate, Ken, cat vs. coo, cook, coat, cup, cop, caught
    geese, Gipper, gape, get, gap vs. goose, good, goat, guppy, got, gawk

    The transcription is [k ̃].

34. **Limitation on distribution of /ju/**

    The sequence /ju/ may not appear after dentals, alveolars or palato- alveolars.

    putrid, beauty, few, view, mute enthusiasm
    cute, argue tune, duty, news, suit, lurid, rude
    human issue, visual, chew, juice
exception: /ju/ may appear after /n/ or /l/ if a stressless vowel follows:

annual, cellular

35. Transcription practice

Answers in footnote below; give AB or BA⁴

- tune [tjun] - [tun]
- lose [luːz] - [luːz]
- sudden [ˈsʌdən] - [ˈsʌdən]
- pip [pɪp] [pɪp]
- something special [nθ] - [mθ]

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⁴ BA AB AB AB AB