

Summary of important allophones and their most likely environments

N= may be tested in 'live' narrow transcription

G = 'general knowledge' may be tested in multiple choice, short answer or other focused questions (and may appear in homework assignments)

CONSONANTS

Aspiration of voiceless stops (N, G)

Aspiration of voiceless stops (transcribed with raised h). Voiceless stops are:

- 1) Always aspirated: word initially OR at beginning a syllable with a stressed vowel.
- 2) Optionally aspirated word finally before a pause.
- 3) NEVER aspirated before a vowel or sonorant following /s/ in same syllable.
- 4) Usually NOT aspirated it occurs in other environments it is usually unaspirated or weakly aspirated.
- 5) Optionally aspirated elsewhere (but not often, except for emphasis).

Flapping (N,G)

Alveolar stops /t/ and /d/ are realized as flaps (taps):

- 6) Usually: when both after a primary stressed vowel and before a reduced syllable.
- 7) Optionally: when both after a primary stressed vowel and a non-primary stressed vowel.

Inaudible release of stops (G, N with directed attention)

Stops show inaudible release or 'are unreleased' (e.g. [p̚, t̚, d̚, g̚] , etc).

- 8) Usually inaudibly released: when preceding another stop.
- 9) Optionally inaudibly released: word finally before pause.

Glottal stop

10) Almost always: /t/ is realized as a glottal stop [ʔ], (or perhaps as a simultaneously articulated [ʔ] + [t]) before syllabic [ŋ] , as in 'button' /'bʌtən/ --> ['bʌʔŋ] or ['bʌt̚ŋ]

Special release (G)

- 11) Always: /d/ before /n/ or syllabic /n/ shows nasal release [dⁿ],
- 12) Always: /d/ before /l/ (and possibly syllabic /l/ shows lateral release [d^l]

Note: Some dialects may also allow /t/ to show lateral release. In which case the release might be devoiced (combining aspiration with the lateral release). Usually /t l/ combinations lead to 'simultaneously glottalized' /t/ or [ʔ], and the character of release is masked by the glottal stop. Compare 'butler', casual ['bʌt̚l̥ər], emphatic ['bʌt̚^lər]. The first pronunciation is somewhat analogous to what happens to /t/ before /ŋ/ in 'button' in (10) above.

Devoicing of sonorant consonants (G)

13) In environments where voiceless stops are aspirated, a sonorant consonant following the aspirated stop will show partial devoicing. (The aspiration of the stop is realized in the sonorant consonant).

Clear and dark 'l' (N,G)

14) Always: /l/ is realized 'dark' [ɫ] syllable-finally (including syllabic l).

Syllabic consonants 'l' and 'n' (G, N)

- 15) Usually: /ən/ is realized as a syllabic 'n' following /t/ or /d/ ('sudden, button, mountain')
- 16) Optionally: /ən / and /əl / are realized as syllabic [ŋ] and [ʔ]. /ər / may similarly be represented by a syllabic 'r' [ɹ], also written as [ø̥] .

Devoicing of voiced obstruents (G)

17) English voiced obstruents are usually fully voiced when they occur between voiced sounds. Otherwise they are often partly devoiced. Other secondary characteristics of voiced sounds (such as their shorter duration and their effects on preceding vowels) may remain.

VOWELS**Nasalization of vowels (N,G)**

18) Vowels are nasalized when they precede nasal consonants in the same syllable.

(Vowels may be slightly nasalized following nasals, but this is relatively negligible).

Vowel length (G)

19) Except for /æ/ which is as long as any other vowel (including /ɑ/ or /ɒ/) in the same circumstances, lax vowels are shorter than tense of the same general height class (i.e. /ɪ/ is shorter than /i/, /ʊ/ is shorter than /u/, /ʌ/ is shorter than /ɑ/ or /ɒ/). All other things being equal, vowels before voiceless obstruents are shorter than vowels elsewhere (i.e. before voiced sounds or in final position). The following table indicates how such relative durations could be transcribed. It is not necessary to do so ordinarily in 'live transcription'. However, you should understand the pattern and be able to transcribe words like the following indicating three rough degrees of length as follows.

Short	Half long	Half long	Long	Long
'bit' [ˈbɪt]	'bid' [ˈbɪd]	'beat' [ˈbi:t]	'bead' [ˈbi:d]	'be' [ˈbi:]
'foot' [ˈfʊt]	'hood' [ˈhʊd]	'hoot' [ˈhu:t]	'food' [ˈfu:d]	'who' [ˈhu:]
'but' [ˈbʌt]	'bud' [ˈbʌd]	'bought' [ˈbɔ:t]	'baud' [ˈbɔ:d]	'bah!' [ˈbɔ:]

Lax vowels before voiceless obstruents receive no mark.

Lax vowels before voiced consonants and tense vowels before voiceless obstruents receive a half-long diacritic [ˑ]. Tense vowels elsewhere receive a long diacritic [ː].

Vowels before dark /l/ (G)

20) Vowels before dark /l/ are often somewhat different, usually 'retracted' before [ɫ].

Retracted means articulated with less advancement (or more backing) than usual. This is indicated by a 'minus' sign under the vowel. So 'coal' might be transcribed in extra narrow transcription as [ˈk^hoɫ]. In my own speech, there is not much diphthongization of this vowel before /l/, so I dropped the [w] that would normally be there

Vowels before /ɪ/ (G)

21) Most dialects of North American English show an extreme reduction of the number of possible vowel sounds in syllables ending with /ɪ/. In particular, vowels that occur in tense lax pairs of the same general height and advancement class often show only one vowel. These are the pairs [i ɪ], [e j, ɛ] and [u, ʊ]. We will follow the text and use the lax vowel symbol in broad transcription (no penalty for using the other, however). The vowel quality is usually intermediate between the tense and lax version. But frankly, I think they may be closer to the quality of the tense member in local speech. This can be indicated by a 'raised' [V̥] or 'lowered' [V̄] diacritic on the lax and tense vowels respectively in an extra narrow transcription. Some examples are shown below.

Some vowels before /ɪ/. Extra narrow transcription (XNarrow)

Spelling	Broad	XNarrow (raised lax)	XNarrow (lowered tense)
'beer'	/ˈbɪɪ/	[bɪ̟ɪ]	[bɪ̠ɪ]
'bear'	/ˈbɛɪ/	[bɛ̟ɪ]	[bɛ̠ɪ]
'poor'	/ˈpʊɪ/	[pʊ̟ɪ]	[pʊ̠ɪ]

Canadian raising. [G]

22) Always (at least for some CE dialects). The vowels /aj/ and /aw/ show raised nuclei [ʌj] [ʌw] before voiceless consonants.

Examples of allophones

Examples : (Length of vowels is not noted)

1) The word 'potato' /pəˈtʰeɪtəʊ/ can be pronounced in a number of ways. Here are a few. a) [pʰəˈtʰeɪtəʊ] b) [pʰəˈtʰeɪtʰəʊ] c) [pʰəˈtʰeɪrəʊ]

Rules 1 applies to /p/ and /t/ in all cases. Optional rules 4, 5 or 7 might apply to the second /t/ for cases a, c and d respectively. Note for the alternate pronunciation with a reduced final vowel /pəˈtʰeɪtə/ the second /t/ would almost certainly be flapped [pʰətʰeɪrə] by rule 6.

2). 'Battle' /ˈbætəl/ would probably show up as a) [ˈbʰæɾət] or b) [ˈbʰæɾʰt]. Rule 15 applies to /b/ and rule 6 applies to /t/ and the final /l/ is dark by rule 11 in both forms.

If the final l is realized as a syllabic /l/, then there also maybe a lateral release of the flap in form b).

3). 'blackboard' /ˈblækˌbɔːrd/ is most likely pronounced [ˈbʰlækˌbɔːɾd]. The /k/ is unreleased by rule 8. And the two /b/s and the /d/ are partly devoiced by rule 14.

We'll do more in class and I'll try to post a few more interesting examples.

4). 'punter' /ˈpʌntər/ is most likely pronounced a) [ˈpʰʌntər] or b) [ˈpʰʌntʰər].

The /p/ is aspirated by rule 1. The first vowel is nasalized by rule 15. The /t/ is either a simple unaspirated [t] by rule 4, but may be aspirated in rule 5. Note the /t/ is not flapped. Rule 6 requires that the /t/ or /d/ be immediately after the stressed vowel. Here /n/ intervenes.

Questions for discussion:

- 1) What do you call the little shelf on top of a fireplace? How do you pronounce it.
- 2) How many different ways can you think of pronouncing the word 'hunting'?