# Answer Key <br> to the Exercises of 

## Applied English Phonology

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## Chapter 1: Phonetics

1. Examine the following transcriptions. If you agree, do nothing; if the transcription is erroneous, correct it.
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injured [Injerd] [mndzrd] gelatin [gelətin] [d3\varepsilonlatin]
measure [meshux] [mezər] inches [intfəs] [intfəz]
caution [kЈfən]
telephone [teləphon] [t\varepsilonləfon]
topical [topıkəl] [tapəkəl]
syllable [səlabal] [silabal]
```

2. How many segments are there in each of the following words?

| homophone | 7 | equestrian | 10 |
| :--- | :--- | :--- | ---: |
| broach | 4 | writer | 4 |
| thatched | 4 | middle | 4 |
| knack | 3 | photographer | 9 |
| lesson | 5 | imagination | 10 |

3. State if the place of articulation is same (S) or different (D) in the initial consonants of each pair. In either case, state the place of articulation.

| Example | now - pneumonia | Same; alveolar |
| :--- | :--- | :--- |
|  | sun - sugar | Different; alveolar vs. palato-alveolar |

(a) goose - gerrymander Different; velar vs. palato-alveolar
(b) simple - shackle Different; alveolar vs. palato-alveolar
(c) curious - cereal Different; velar vs. alveolar
(d) phonetic - fictional Same; labio-dental
(e) manners - wicker Different; bilabial vs. labio-velar
(f) normal - location Same; alveolar
(g) wander - yesterday Different; labio-velar vs. palatal
(h) those - Thursday Same; interdental
(i) scissors - zipper Same; alveolar
(j) temperate - chestnut Different; alveolar vs. palato-alveolar
(k) chromosome - chief Different; velar vs. palato-alveolar
(l) baker - delegate Different; bilabial vs. alveolar
(m) happened - usual Different; glottal vs. palatal
(n) neuron - market Different; alveolar vs. bilabial
(o) painting - broccoli Same; bilabial
4. State if the manner of articulation is same (S) or different (D) in the final consonants of each pair. In either case, state the manner of articulation.
$\begin{array}{ll}\text { Example } & \begin{array}{l}\text { bomb - ten } \\ \text { rough - zip }\end{array}\end{array}$
rough - zip Different; fricative vs. stop
(a) album - broken
(b) ideal - keepsake
(c) prologue - confine
(d) aqueous - sociable
(e) variable - watch
(f) waste - adage
(g) barometer - finish
(h) inch - gauge
(i) fiord - equip
(j) barb - relief
(k) alive - fiftieth
(l) laughing - hydraulic
(m) opulence - paramedic
(n) outrage - swivel
(o) dominion - eminent

Same; nasal

Same; nasal
Different; liquid vs. stop
Different; stop vs. nasal
Different; fricative vs. liquid
Different; liquid vs. affricate
Different; stop vs. affricate
Different; liquid vs. fricative
Same; affricate
Same; stop
Different; stop vs. fricative
Same; fricative
Different; nasal vs. stop
Different; fricative vs. stop
Different; affricate vs. liquid
Different; nasal vs. stop
5. State if the vowels in the underlined portions are same or different in the following words. In either case, state the phonetic description of the vowels, together with the phonetic symbols.

$$
\begin{array}{lll}
\text { Example } & \text { keel }- \text { city } & \text { Same; /i/ high, front, tense } \\
& \text { mess }- \text { mass } & \text { Different; / } \varepsilon / \text { mid, front }-/ æ / \text { low, front }
\end{array}
$$

(a) primary - nutrition Different; $/ \varepsilon / \mathrm{mid}$, front, lax $-/ \mathrm{u} /$ high, back, round, tense
(b) heal - electricity Different; /i/ high, front, tense - /i/ high, front, lax
(c) beau - aperture Different; /o/ mid, back, round, tense /æ/ low, front, lax
(d) anywhere - phantasm Different; /i/ high, front, tense - /æ/ low, front, lax
(e) exposure - coaster Same; /o/ mid, back, round, tense
(f) explicable - explicate Same; /I/ high, front, lax
(g) wąve - irrigate Same; /e/ mid, front, tense
(h) measure - finger Different; $/ \varepsilon / \mathrm{mid}$, front, lax - / I/ high, front, lax
(i) butter - tough Same; / $\Lambda$ / low central
(j) cholesterol - bottom Different; / / / mid central - /a/ low back
(k) nymph - jump Different; /I/ high, front, lax $-/ \Lambda /$ low central
(l) abate - caught Different; /e/mid, front, tense - / / / mid, back, round
(m) hydrogen - hydrolysis
Different; /ə/ mid central - /a/ low back
(n) pawn - harrsh Different; /o/ mid back round - /a/ low back
6. Circle the words that:
(a) start with a fricative
foreign, theater, tidings, hospital, cassette, shroud
(b) end in a sibilant
wishes, twelfth, clutch, indicates, admonish, furtive
(c) have an approximant
winter, university, captive, ripe, little, mute
(d) contain a back vowel
putter, boost, roast, fraud, matter, hospital
(e) start with a voiced obstruent
government, pottery, taxonomy, jury, phonograph, sister
(f) contain a lax vowel
auction, redeem, ledger, cram, boat, loom
(g) end in an alveolar
went, atom, rigor, column, multiple, garnish
7. Give the phonetic symbols for the following English sounds.
(a) voiceless stops
(b) voiced fricatives
(c) approximants
(d) alveolar obstruents
(e) nasals
(f) voiced obstruents
/p, t, k/
/v, ð, z, 3 /
/l, ̣̣, j, w/
/t, d, s, z/
/m, n, n/
/b, d, g, v, d, z, 3, d3/

Now give the phonetic symbols for the following sounds that are not found in English.
(g) alveolar affricates
(h) voiceless velar and uvular fricatives
(i) bilabial and palatal fricatives
(j) non-lateral liquids
(k) palatal and uvular stops
$/ \mathrm{t}^{\mathrm{s}}, \mathrm{d}^{\mathrm{z}} /$
/x, $\chi$ /
$/ \phi, \beta$, ç, i/
/r, $\mathrm{f}, \mathrm{R} /$
/c, f, q, G/
8. The sounds in the italicized portions of the following pairs of words share some phonetic properties and are different in some other properties. Give
the phonetic symbol for each sound and state the shared feature(s) and difference(s).

Example [p] 'park' - 'phone [f] Shared: voiceless, obstruent
Difference(s): [p] bilabial, stop [f] labiodental, fricative
(a) telephone - television Shared: labiodental fricative

Different: [f] voiceless, [v] voiced
(b) atop - wiser Shared: alveolar
(c) bitter - easy Shared: high front
(d) mister - enemy Shared: nasal
(e) shipment - justice

Different: [m] bilabial, [ n ] alveolar
Shared: palato-alveolar
Different: [J] voiceless fricative, [d3] voiced affricate
(f) wait - root
(g) lime - window
(h) alone - elevate
(i) feather - fought
(j) $\operatorname{limp}$ - soccer

Shared: tense
Different: [e] mid front unrounded, [u] high back round
Shared: voiced
Different: [m] bilabial nasal, [w] labio-velar glide
Shared: voiced alveolar
Different: [n] nasal, [1] liquid
Shared: mid
Different: [ $\varepsilon$ ] front lax unrounded, [ [〕] back round
Shared: voiceless stop
Different: [p] bilabial, [k] velar
9. The following groups consist of sounds that share a phonetic feature plus one sound that does not belong to this group. Circle the sound that does not belong to the group, and identify the feature shared by the remaining sounds of the group.

Example /l, $\mathfrak{l}, \mathrm{d}, \mathrm{s}, \mathrm{t}, \mathrm{k}, \mathrm{z} / \mathrm{l} / \mathrm{k} /$ is a velar, the rest are alveolars
(a) $/ \mathrm{f}, \mathrm{f}, \mathrm{t} \int, \mathrm{z}, \theta, 3, \mathrm{~d} / \mathrm{t} \int /$ is an affricate, the rest are fricatives
(b) $/ \mathrm{t}, \mathrm{z}, \mathrm{n}, \mathrm{m}, \mathrm{d}, \mathrm{l}, \mathrm{s} / \mathrm{m} /$ is a bilabial, the rest are alveolars
(c) $/ \mathrm{I}, \varepsilon, \mathrm{U}, \mathrm{u}, æ, \Lambda / \quad / \mathrm{u} /$ is tense, the rest are lax
(d) $/ \mathrm{n}, \mathrm{g}, \mathrm{v}, \mathrm{s}, \mathrm{z}, \mathrm{x}, \mathrm{m} / \mathrm{s} /$ is voiceless, the rest are voiced
(e) $/ m, w, y, p, b /$
/p/ is voiceless, the rest are voiced
(f) /i, I, æ, a, e, ع/
/a/ is back, the rest are front
10. Fill in the boxes with the appropriate label for the final sounds of each word.

|  | sipped | latex | triumph | bridge | rough | fought | dogs | palm |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Upper <br> articulator | Alv. <br> ridge | Alv. <br> ridge | Upper <br> teeth | Alveolar <br> rg./hrd. <br> palate | Upper <br> teeth | Alv. <br> ridge | Alv. <br> ridge | Upper <br> lip |
| Lower <br> articulator | Tip of <br> tongue | Tip of <br> tongue | Lower <br> lip | Blade of <br> tongue | Lower <br> lip | Tip of <br> tongue | Tip of <br> tongue | Lower <br> lip |
| Voicing | Vs. | Vs. | Vs. | Vd. | Vs. | Vs. | Vd. | Vd. |
| Manner of <br> articulation | Stop | Fric. | Fric. | Affric. | Fric. | Stop | Fric. | Nasal |

11. Do the same for the initial sounds of the same words.

|  | sipped | latex | triumph | bridge | rough | fought | dogs | palm |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Upper <br> articulator | Alv. <br> ridge | Alv. <br> ridge | Alv. <br> ridge | Upper <br> lip | Hard <br> palate | Upper <br> teeth | Alv. <br> ridge | Upper <br> lip |
| Lower <br> articulator | Tip of <br> tongue | Tip of <br> tongue | Tip of <br> tongue | Lower <br> lip | Tip of <br> tongue | Lower <br> lip | Tip of <br> tongue | Lower <br> lip |
| Voicing | Vs. | Vd. | Vs. | Vd. | Vd. | Vs. | Vd. | Vs. |
| Manner of <br> articulation | Fric. | Liquid | Stop | Stop | Liquid | Fric. | Stop | Stop |

12. Fill in the boxes for the first vowels of the following.

|  | park | ocean | make | ember | hamper | fought | hypocrite | chew |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Tongue <br> height | Low | Mid | Mid | Mid | Low | Mid | High | High |
| Frontness/ <br> backness | Back | Back | Front | Front | Front | Back | Front | Back |
| Lip <br> position | Unrd. | Rd. | Unrd. | Unrd. | Unrd. | Rd. | Unrd. | Rd. |
| Tenseness/ <br> laxness | Tense | Tense | Tense | Lax | Lax | Tense | Lax | Tense |

13．Circle the correct alternative（s）．
（a）Tensing the vocal cords makes them vibrate faster／slower，so that the pitch increases／decreases．
（b）In the production of stops／fricatives／glides／affricates，the air is blocked from going out through the nose and the mouth．
（c）In the production of stops／liquids／fricatives／nasals，the con－ striction of the vocal tract is such that a noisy airstream is formed．
（d）In the production of palato－alveolar sounds，the tip／front／blade ／back of the tongue goes to the forward part of the hard palate／ soft palate／uvula．
（e）In the production of labiodental／bilabial／labio－velar／velar sounds，the two lips approach one another，and the back of the tongue is raised towards the soft palate．

14．Transcribe the following（about＇the spread of English＇）from P．Trudgill and J．Hannah，International English（London：Edward Arnold，2002）．

The English language developed out of Germanic dialects that were ðə inglə længwəd3 dəveləpt aut əv d3əmænik daiəleks ðæt wə brought to Britain，during the course of the 5th and 6th centuries，by Jutes
 （from modern Jutland，Denmark），Angles（from modern Schleswig， fụィm madən d3＾tlænd denmax̣k æygəlz fụィm madən Jlesvik Denmark／Germany），and Frisians（from modern Friesland，Netherlands／
 Germany）．By medieval times，this Germanic language had replaced the
 original Celtic language of Britain in nearly all of England as well as in əশ̣ıdzənəl keltık længwəd3 əv bụitṇ ən nị̣li ol əv inglənd əz wel əz ən southern and eastern Scotland．Until the 1600s，however，English remained
 a language spoken by a relatively small number of people and was confined ə læŋgwəd3 spokən bai ə য̣عlətivli smol n＾mbər əv pipəl ən wəz kənfaind geographically to the island of Great Britain．Indeed，even much of Britain d3iəgụæfəkli tə ðə aIlənd əv gụet bụitṇ．əndid ivən mıtf əv bụitṇ remained non－English－speaking．The original Celtic language of Britain
 survived in the form of Welsh in nearly all of Wales and as Cornish in səvvaivd ən ðə foụm əv welf ən nị̣li al əv welz ən æz kכ̣̣nəf ən much of Cornwall．The Highlands and islands of western and northern mıts əv koụnwol．ðə harləndz ən arləndz əv westərn ən nọ̣ðən Scotland spoke Gaelic，another Celtic language which had been brought skatlənd spok gelik ən＾ðər keltık læŋgwad3 witf hæd bin bụวt across from Ireland in pre－medieval times．And the populations of the əkụas fụィm aụ̣lənd ən p̣̣i medivəl taimz．ænd ðə papjəlefənz əv ðә

Northern Isles - Orkney and Shetland - still spoke the Scandinavian
 language, Norn, which they had inherited from their Viking ancestors. længwad3 nכ̣̣n witf ðe hæd inheụətəd fụəm ðẹ̣ varkin ænsestərz.

## Chapter 2: Phonology

1. Circle the correct alternative(s).
(a) If two languages have the same sounds, then they (sometimes / always / often / never) have different phonologies.
(b) If the phonetic difference between two sounds serves as the basis for distinguishing words, then the difference is (distinctive / phonemic / non-predictable / allophonic / predictable).
(c) Occurrences of the allophones of a single phoneme are (always / sometimes / often / never) predictable.
(d) Allophones of a single phoneme are (sometimes / often / always / never) phonetically similar.
(e) If two phonetically similar sounds are in complementary distribution, then they are (sometimes / often / always / never) the allophones of the same phoneme.
(f) If two sounds are in free variation, then they are (sometimes / always / never) the allophones of the same phoneme.
(g) Speakers of a language tend to be (more / less / equally) consciously aware of phonemes than allophones.
(h) Two sounds that appear in a minimal pair (sometimes / always / never) belong to distinct phonemes.
(i) If two sounds are not phonemically distinct, their distribution overlaps / does not overlap.
2. Create two minimal pairs with each given word in different word positions. Answers may vary. Here are some suggestions.

| Initial |  | Medial |
| :--- | :--- | :--- |
| Example | Final |  |
| /t/ | tea: 'pea', 'sea' | charter: 'charmer', 'charger' | seat: 'seed', 'seal'

/d/ dash: bash, cash budding: butting, bumming bed: bet, been
/g/ gain: rain, pain plugging: plucking, plumbing wig: win, wit
$/ x /$ rain: mane, cane roaring: roaming, rolling four: fall, fog
/z/ zip: tip, sip buzzing: budding, bugging seize: seek, seen
3. Create three words with contrasts by supplying different vowels (diphthongs) in the following consonantal frames. (Answers may vary: here are some suggestions.)

Example [b t]: 'beat', 'bait', 'bet'
(a) [s 1]: seal, sell, soul
(b) [pl ]: plea, plow, play
(c) [sp k]: speak, spoke, spike
(d) [m 日]: math, moth, myth
(e) [1 n]: lean, loan, lawn
(f) [k n]: cone, keen, kin
(g) [d m]: dim, dumb, dam
(h) [t k]: take, took, tick
(i) [gạ nd]: grind, ground, groaned
4. Identify the sounds in contrast in the following minimal pairs.

Example eke - ache /i/ - /e/
(a) ceased - cyst /i/ - /I/
(b) sinned - send /I/ - / $\varepsilon$ /
(c) $\quad$ gym - jam /I/ - /æ/
(d) phase - fuzz $/ \mathrm{e} /-/ \Lambda /$
(e) laugh - life /æ/ - /ai/
(f) $\operatorname{rot}$ - wrote $/ \mathrm{a} /-/ \mathrm{o} /$
(g) how - hi /av/ - /ai/
(h) $\operatorname{limp}$ - lymph /p/ - /f/
(i) white - right /w/ - /x̣/
(j) miff - myth $/ \mathrm{f} /-/ \theta /$
(k) rough - rush $/ \mathrm{f} /-/ \mathrm{f} /$
(l) phi - high /f/ - /h/
(m) thigh - shy $/ \theta /-/ \delta /$
(n) wit - witch /t/ - /tj/
5. Identify the sounds that are alternating in the following morphophonemically related pairs.
(a) profane/profanity
[e/æ]
(b) serene/serenity
[i/ع]
(c) pedagogue/pedagogy
[g/d3]
(d) receive/receptive
[i/ع]
(e) mine/mineral
[aI/r]
(f) verbose/verbosity
[o/a]
(g) consume/consumption
[u/n]
(h) public/publicity
[k/s]
(i) sign/signature
[aI/I]
6. Examine the distribution of [s] and [ $\left.\int\right]$ in the speech of $T(4 ; 3)$, a child with phonological disorders, and determine if their distribution is:
(a) complementary
(b) contrastive minimal pair - [fæsən] [fæfən]

State your evidence.

| sail [ [ el ] | pushy [pufi] | seek [ ik ] |
| :---: | :---: | :---: |
| save [ [ ev] | Sam [ $\int æ \mathrm{~m}$ ] | gas [gæs] |
| grass [g\̣æs] | fasten [fæsən] | crash [kı̣æs] |
| ship [ $\int$ Ip] | Irish [aụ̣is] | fashion [fæృən] |

7. Examine the following data from B $(4 ; 1)$, a child with phonological disorders. The / $\boldsymbol{1} /$ targets show three different realizations: [ب̣], [w], or 'zero' (i.e. deleted). What kind of distribution do these realizations reveal? State your rationale.

| rich [ıبtt)] | raise [ı̣ez] |  |
| :---: | :---: | :---: |
| more [mo] | door [do] | deer [di] |
| wrong [ִ̣ŋy] | correct [kowek] | mirror [mıwə] |
| rain [ı̣en] | room [x̣um] | parrot [pæwət] |
| roller [ụวlə] | parade [pəwed] | Henry [henụi] |


8. (a) Examine the following data from Maasai, a Nilotic language spoken in Kenya and Tanzania, and determine the phonemic status of [t], [d] and [ð] (i.e. if they belong to one, two, or three phonemes). State your evidence.

| [баðа] | "dangerous" | [endorop] | "bribe him" |
| :--- | :--- | :--- | :--- |
| [tasat] | "disabled" | [tisila] | "sift it" |
| [taruбini] | "binoculars" | [oltuli] | "buttock" |
| [iltoi] | "barrel" | [dalut] | "mischievous" |
| [endaraða] "fight each other" | [indai] | "'you' plural" |  |
| [endulelei] "apple" | [engiruðoðo] "fright" |  |  |
| [emбiðir] "female wart hog" | [endaraða] | "thunder" |  |


(b) Note that the same three sounds are also found in English. Are their distributions in the two languages the same or different? Explain. No. Whereas Maasai has a complementary distribution of [t], [d], and [ $ð$ ], English has a contrastive distribution: ten, den, then.
(c) In learning each other's language (English speaker learning Maasai - Maasai speaker learning English), who do you think will have greater difficulty with respect to the three sounds in question? Why? Maasai to English. The sounds have meaning difference in English, but not in Maasai. An English speaker can make errors with these sounds when learning Maasai, and it will not change the meaning.
9. (a) Examine the following data from Hindi and determine the phonemic status of $[t],\left[\mathrm{t}^{\mathrm{h}}\right]$, and [d] (i.e. if they belong to one, two, or three phonemes). State your evidence.

| [tantrik] "tantra" | [than] | "a bolt of cloth" |  |
| :--- | :--- | :--- | :--- |
| [dan] | "donate" | [bat $\left.{ }^{\text {h }}\right]$ | "words" |
| [tal] | "beat" | [thal] | "beat' |
| [pat ${ }^{\text {a }}$ ak] | "one who studies" | [bad] | "later" |
| [dal] | "lentil" | [patak] "a gate" |  |

[ $\mathrm{t}^{\mathrm{h}}$ al], [tal], [dal] = minimal pairs. 3 phonemes.
(b) Note that the same three sounds are also found in English. Are their distributions the same or different in the two languages? Explain. Different.


(c) In learning each other's language (English speaker learning Hindi Hindi speaker learning English), who do you think will have greater difficulty with respect to the three sounds in question? Why? English to Hindi. Hindi makes meaning contrasts out of the allophonic variations of English.
10. Examine the following data from German and determine the phonemic status of [ç] and [x] (that is, whether they are the allophones of the same phoneme or belong to separate phonemes). State your evidence.

| [abmaxə] | "to remove" | [eçtə] | "to ban" |
| :---: | :---: | :---: | :---: |
| [axt] | "eight" | [ع:nliç] | "like, resembling" |
| [ble:çən] | "small blister" | [droliç] | "amusing" |
| [عlç] | "elk" | [fraxt] | "carriage" |
| [fruxt] | "fruit" | [glaiç] | "equal" |
| [knoplaux] | "garlic" | [meçtiç] | "powerful" |
| [ho:x] | "high" | [laxən] | "to laugh" |
| [lox] | "hole" | [feçton] | "to fence" |

/ç/ becomes the velar [x] when preceded by a back vowel.

11. Examine the following data from Persian (Farsi) and determine the phonemic status of [r], [r], and [r] (that is, whether they belong to one, two, or three phonemes). State your evidence.

| [aram] | "calm" | [arezu] | "wish" | [kærim] | "giving" |
| :--- | :--- | :--- | :--- | :--- | :--- |
| [ræhim] | "giver" | [Jir] | "lion" | [pænir] | "cheese" |
| [zire] | "cumin" | [zærd] | "yellow" | [farsi] | "Persian" |
| [musafir] | "traveler" | [kæbir] | "grand" | [bære] | "sheep" |
| [nærm] | "soft" | [ræht] | "laundry" | [ræfid] | "strong" |
| [moder] | "mother" | [sefer] | "trip" | [pærivef] | "angel |
|  |  |  |  |  | looking" |


12. Transcribe the following (about 'the spread of English', cont.) from P. Trudgill and J. Hannah, International English (London: Arnold, 2002).

It was not until the 17th century that the English language began the It wəz nat əntıl ðə sevəntin $\theta$ sentəય̣i ðæt ðə ingləf længwəd3 bagæn ðə geographical and demographic expansion which has led to the situation d3iəgụæfəkəl ən deməg̣̣æfik əkspænfən witf hæz led tə ðə sitfuefən in which it finds itself today, with more non-native speakers than any other ən witf it fainz itself tade wiO mọ̣ nan netəv spikərz ðæn $\varepsilon$ ni $\Lambda \partial \nsim$
language in the world，and more native speakers than any other language længwəd3 ən ðә wぶld ænd mox̣ netəv spikəz ðæn eni $\Lambda \partial ə ~ l æ n g w a d 3 ~$ except Chinese．This expansion began in the late 1600s，with the əksept tfainiz．ðıs əkspænfən bəgæn ən ðə let sıkstin hındụədz wi日 ðə arrival of English－speakers in the Americas－North America（the modern
 United States and Canada），Bermuda，the Bahamas，and the Caribbean－ junaitəd stets ən kænədə bəぃmjudə ðə bəhaməz ən ðə kəハ̣ıbiən and the importation of English from Scotland，into the northern areas of
 Ireland．Subsequently，during the 1700s，English also began to aụ̣lənd．sıbsəkwəntli duụın Әə sevəntin hındụədz ingləऽ also bəgæn tə penetrate into southern Ireland，and it was during this time，too，that penətụet intə s＾ðən aụ̣lənd ən it wəz dựIn ðıs taim tu ðæt Cornish finally disappeared from Cornwall，and Norn from Orkney and koụnəケ fainəli dısəpiụd fụəm koụnwol ən noụn fụ̣om כụkni ən Shetland．During the 1800s，English began making serious inroads into〔عtlənd．duụın ðə etin hındụedz ingləऽ bəgæn mekin sị̣iəs inụodz intə Wales，so that today only twenty percent of the population of that country welz so ðæt təde onli twenti pæsent əv ðə papjulefən əv ðæt kıntụi are native Welsh speakers；and in the Highlands and islands of Scotland， ax netəv welf spikərz ænd ən ðə harlændz ən arləndz əv skatlənd English also began to replace Gaelic，which today has around 70，000 ingləf also bəgæn tə ụəples gelik witf təde hæz əụaund sevənti $\theta a u z ə n d$ native speakers．
netəv spikəz．

## Chapter 3：English Consonants

1．Complete the following statements and give examples（in phonetic tran－ scription）．Your examples should be different from the ones provided in the chapter．
（a）Vowels／diphthongs are longer before voiced stops than before voice－ less stops．
e．g．bæ：g／bæk bi：d／bit
（b）Voiceless（lenis）stops are aspirated when at the beginning of a stressed syllable．
e．g．$p^{h} æ t \quad t^{h} e k \quad k^{h} I d$
（c）Stops are unreleased when followed by another stop． e．g． $\operatorname{sip}\urcorner t \quad \operatorname{sab}\urcorner d \quad$ gud $\urcorner g a l$
（d）Stops are nasally released when followed by a homorganic nasal． e．g．bıtṇ mædnəs sædnuz
(e) Alveolar stops become dental when followed by an interdental.
e.g. bæd $\theta$ minz
gạeṭinz
hædðıs
(f) Alveolar stops are flapped when intervocalic, second syllable not stressed.
e.g. IDəli $\quad$ Dəəm noDəbl
(g) $/ \mathrm{t} /$ is deleted when after $/ \mathrm{n} /$, in unstressed syllable. e.g. ąnl $\quad$ ェモnə denad
(h) /t/ may be replaced by a glottal stop when in syllable-final position. e.g. bæ?mæn ə?læntə æใləs
(i) Velar stops are more front when before a front vowel. e.g. kaụ/ki gus/gis galf/giv
(j) Velar stops are rounded when before a round vowel. e.g. gus/gis kup/kip kom/kin
(k) Vowels, nasals, and /l/ are longer before voiced fricatives than before voiceless fricatives.
e.g. b $\quad$ z/b ${ }^{\prime}$ fenz/fens felv/felf
(l) Interdental fricatives are elided when before alveolar fricatives. e.g. kloz m^nz slos
(m) Stops, fricatives, and nasals are long when followed by the same sound. e.g. bæd:og ðis:tap ten:emz
(n) Alveolar sonorants become dental when followed by an interdental. e.g. $\operatorname{ten} \theta$ bæñðəfilm weñðə beñðex
(o) Non-velar nasals become labio-dental when followed by a labio-dental. e.g. emfasis Imvait
(p) Nasals may be syllabic when preceded by an obstruent.
e.g. sıdṇ bıtṇ kæzṃ
(q) Approximants $/ \mathrm{j} /, / \mathrm{w} /, / \underset{\mathrm{x}}{ } / \mathrm{l} / \mathrm{l} /$ are devoiced when preceded by a voiceless obstruent.
e.g. påe slip swুit twুil
(r) Approximants /x̣/ and /l/ may be syllabic when preceded by a consonant.
e.g. kenl tfænl æpl pikl
2. $/ t /$ is probably the most versatile of all stops of English, as it can undergo several processes such as becoming dental, preglottalization, glottal stop replacement, deletion, flapping, aspiration, etc. Examine the following list of words and indicate the various possibilities for the $/ \mathrm{t} /$ targets together with the phonetic transcription.

```
    Example entity [entrti]
            t-deletion: [\varepsilonnIti], flapping [entIDi], t-deletion and
            flapping [\varepsilonnIDi]
```

| mentality | [mentælıDi] | flapping |
| :---: | :---: | :---: |
| scientist | [saiəntist ${ }^{\text {] }}$ ] | unreleased |
| stunting | [stının] | deletion |
| betting | [beDin] | flapping |
| attest | [ət ${ }^{\text {h }}$ est ${ }^{\text { }}$ ] | aspiration, unreleased |
| trustable |  | aspiration, affrication |
| tractor | [ ${ }^{\text {h }}$ ¢ | aspiration, affrication |
| don't think | [donṫ $\theta$ ink] | dental |
| mortality | [moạt ${ }^{\text {h }}$ ¢ləDi] | aspiration, flapping |
| quarter | [kwoụDr] | flapping |
| battle | [bæDl] | flapping |
| at large | [æPla̦̣d3] | glottal stop |

3. Transcribe the following and discuss the release of the stops.
(a) skip town [skip $\urcorner$ taun]
(b) sheep $\left.\operatorname{dog}\left[\int \mathrm{ip}\right\urcorner \mathrm{d} \mathrm{g}\right]$
(c) great dane [gụet ${ }^{\text { }}$ den]
(d) drip blood [duıp ${ }^{\text {bl }} 1 \wedge$ d]
(e) light bulb [lait ${ }^{\text { }} \mathrm{b} \wedge \mathrm{lb}$ ]
(f) fake gun [fek $\urcorner$ g $\wedge \mathrm{n}]$
(g) ship mate [Jipmet]
(h) club member [klıbmembə]
(i) cat tail [kæt:el]
unreleased /p/ non-homorganic unreleased /p/ non-homorganic unreleased /t/ unreleased /p/ non-homorganic unreleased /t/ non-homorganic unreleased /k/
nasal plosion
nasal plosion
long /t/ homorganic
4. Circle the items that qualify for lateral plosion. State the generalization. puddle, bottle, goggle, apple, head lice, deep lake, red light, pickle

The /l/ is preceded by a homorganic stop.
5. Transcribe the following. Pay special attention to the nasals.

| keep him here | [kipmhiụ] |
| :--- | :--- |
| looking good | [lukingud] |


| I can go | [arkængo] |
| :---: | :---: |
| lamb meat | [læm:it] |
| green thumb | [gxiñ $\theta \wedge \mathrm{m}$ ] |
| citizen Kane | [sitəzəyken] |
| pen-pal | [pempæl] |
| home free | [homfx̣i] |
| run there |  |
| blame me | [blem:i] |
| in Greece | [Ingụis] |

6. If the following were to undergo spoonerisms, what would be the likely and unlikely results, and why?


cheap rate [tfip ụet] $\rightarrow$ [ִִip tfet], not [Jip tụet]

An affricate is a single unit, so it does not split up.
7. Transcribe the following (about 'the spread of English', cont.) from P. Trudgill and J. Hannah, International English (London: Arnold, 2002).

It was also during the 1800s that the development of Southern Hemisphere
 varieties of English began. During the early 19th century, large-scale
 colonization of Australia began to take place and, at a slightly later date, kalənaizefən əv ostụeljə bəgæn tə tek ples ən æt ə slaitli letər det New Zealand, South Africa, and the Falkland Islands also began to be nu zilənd savө æfụəkə ən ðə falklənd aıləndz also bəgæn tə bi colonized from the British Isles. The South Atlantic islands of St. Helena kalənaizd fụィm ðə bụitif ailz. ðə sauӨ ætlæntik ailəndz əv sent həlenə and Tristan da Cunha also acquired English-speaking populations during ən tụıstən də kunjə also əkwaı̣̂d inglə¢ spikin papjulefənz dụ̣ın the 1800s, as did Pitcairn Island and, subsequently, Norfolk Island in ðə etin hınḍ̣əəz æz did pıtkẹn arlənd ən sıbsəkwentli nכশ̣fək aılənd in the South Pacific. Not surprisingly, these patterns of expansion, settlement ðə sauӨ pəsıfık. nat səpụaızıŋli ðiz pætənz əv əkspænfən setllmənt and colonization have had an effect on the relationships, similarities and ən kalənaizefən hæv hæd ən əf\&kt an ðə ય̣əlefənfips siməleય̣ətiz ən differences between the varieties of English which have grown up in difụənsəz bətwin ðə vəハ̣aıətiz əv Ingləf witf hæv g̣̣on $\Lambda p$ ən different parts of the world. For example, there are very many similarities

between Scottish and northern Irish English．North American English and
 the English of southern Ireland also have many points of similarity．And ðə Ingləf əv sムðəぃ aựlənd also hæv meni points əv siməlẹ̣əti．ænd the English varieties of the Southern Hemisphere（Australia，New Zealand，
 South Africa，Falklands），which were transplanted relatively recently sauも æfụəkə falkləndz witf wə tụænzplæntəd ụعlətivli শ̣isəntli from the British Isles，are very similar to those of the south－east of
 England，from where most emigrants to Australasia and South Africa inglənd fụィm wex̣ most eməgụənts tə วstụəlezə ən sau $\theta$ æf̣̣əka came．They are quite naturally much less different from the English of kem．ðe ạ̣ kwait næt〔ụəli mıţ les difụənt fụィm ðə ingləf əv England than are the varieties spoken in the Americas，which were inglənd ðæn ạ̣ ðə vəฺ̣aıətiz spokən ən ðə əmẹฺəkəz witf wə settled much earlier． setld matf ${ }^{r}$ liar．

## Chapter 4：English Vowels

1．In some words，the sequence represented by orthographical or has the pho－ netic realization［ $0 \times 1]$ ，which may be shifted to［ax］．In which of the following words would this be possible？Explain your reasoning．
forge，ignore，divorce，bore，horoscope，Oregon，explore，tomorrow，lord
The vowel and／x̣／are not tautosyllabic．

2．As we saw in section $4.8,[ə]$ has a special relationship with $/ \mathrm{i}, \mathrm{o}, \mathrm{u} /$ whereby the pronunciation of the word can be with an［ə］as well as with one of these vowels．Examine the following words and state which one（s）would qualify for this alternation．
devoid，satisfactory，photography，progress（v），episcopal，calculate，statu－ tory，reserve，meaning，gratefully，supremely，obscene，consumer，vocation

3．Circle the words that contain：
［i］：audible，hitter，lisp，pity，foreign，Nancy，horrible，slowly，leave，heed， crease，Greek
［r］：seen，pitch，sneaker，feast，knit，cheap，sing，fist，greed，simmer， evening，each，eat
[e]: sense, aide, starved, sensational, amaze, enough, nation, revolver, nervous, forgiven
[ع]: locate, perceive, slapped, said, maid, adept, laughed, check, came, tread, grained
[æ]: panda, peptic, cabin, delta, cobra, bandit, camel, alone, inept, coma, acted, dragon
[a]: hopper, dole, hotter, father, tranquil, market, polar, bargain, magnify, organizer, vanity
[o]: could, groan, brook, flowed, boiling, cook, told, boat, crook, poised, posed, bowling
[u]: should, most, coin, could, poled, good, stood, broke, soul, hoop, cooled, wood, booking
[u]: goodness, groom, foot, cooled, woman, root, broom, shook, school, coiled, couch, under
[ar]: imply, ironic, point, arrive, halve, advice, save, thyself, fatherly, breath, decide, lake
[эॅ]: spoiling, beside, guile, pointless, boil, Norwegian, soil, voyages, official, soy, continent
[au]: bought, laundry, bound, owl, vowed, old, nose, cow, ploy, toad, Joan, foul, drowsy
4. Circle the words that have both [ $\Lambda$ ] and [ə].
undone, luckily, abundance, Monday, rushing, redundant, trouble, Paris, plaza, suspend.
5. Circle the words that have both [ $\Lambda$ ] and [ $x$ ].
mustard, award, wonderful, support, guarded, thunder, serpent, walker, tremor, barley, harbor, rubber, custard, under, others
6. Which words have:
(a) both $[x]$ and $[ə]$
(b) both $[з]$ and $[x]$
(c) only $\left[3^{\circ}\right]$
(d) only $[æ]$
(e) only [ə]

Example bourbon: a
cursor $b$, person $a$, career $d$, abort e, verses a, whisper $d$, suburb d, carat e, convert (v) a, surprise d, heard c, Herbert b, under d, shivered d, birthday $c$, worker $b$, serviced c.

7．Transcribe the following（about＇English as a world language＇）from D．Crystal， The Cambridge Encyclopedia of the English Language（Cambridge：Cambridge University Press，1995）．

The movement of English around the world began with the pioneering ðə muvmənt əv inglə əə̣aund ðə wふ̋ld bəgæn wiӨ ðə paıənị̣in voyages to the Americas，Asia，and the Antipodes，continued with the
 19th century colonial developments in Africa and the South Pacific，and naintin日 sentfəụi kəloniəl dəveləpmənts in æfụəkə ən ðə sauө pəsifik ən took a significant further step when it was adopted in the 20th century
 as an official or semi－official language by many newly independent states． æz ən əfifəl د̣ semi əfifəl læŋgwəd3 bai meni nuli indəpendənt stets． English is now the dominant or official language in over 60 countries，and ingləf iz nau ðə damənənt Јশ̣ əfıfəl længwəd3 in ovər sıksti kıntụiz ən is represented in every continent．It is this spread of representation which
 makes the application of the term＇world language＇a reality．The
 present－day world status of English is primarily the result of two factors：
 the expansion of British colonial power，which peaked towards the end ðə Ikspænfən əv bハ̣itif kəloniəl pauər witf pikt twọ̣dz ðə end of the 19th century，and the emergence of the United States as the leading əv Әə naintin $\theta$ sentfəə̣i ən ðə əmぶdzəns əv ðə junaitəd stets æz ðə lidın economic power of the 20th century．It is the latter factor which continues
 to explain the position of the English language today．The USA contains tu əksplen ðə pəzifən əv ðə Inglə læŋgwəd3 təde．ðə ju عs e kəntenz nearly four times as many English－mother－tongue speakers as the next most niụli fox̣ taimz æz meni inglə m $\Lambda \partial \nsim t \wedge y$ spikəz æz Әə nekst most important nation（UK），and these two countries comprise 70 percent of impoụtənt nefən ju ke ən ðiz tu kıntụiz kəmpụaız sevənti pæsent əv all English－mother－tongue speakers in the world．


## Chapter 5：Acoustics of Vowels and Consonants

1．What differences do you expect to find in the spectrograms of the follow－ ing pairs？

Example（a）court－（b）scored
－Initial frication noise of $/ \mathrm{s} /$ in（b）
－Initial aspiration of $/ k /$ in（a）


- longer vowel before /d/ in (b)
- longer duration for final $/ t /$ in (a)
- ?? voice bar in final /d/ in (b)
(i) (a) $\operatorname{sip}$
(b) zip
[s] - longer duration, greater frication noise
[z] - possible voice bar
(ii)
(a) britches
(b) bridges
[tf] - longer duration
[d3] - possible voice bar
(iii)
(a) hat
(b) ahead
hat - one syllable, longer and lower vowel ahead - two syllables, shorter mid vowel Initial voiceless friction for [ h ] in hat; breathy intervocalic [ h ] in ahead. [t] - longer duration, [d] - shorter duration and partial voicing
(iv)
(a) parade
(b) pilot
parade - very short [ə] then diphthongal [e], lower $\mathrm{F}_{3}$ for [̣̣], shorter closure and partially voiced [d]
pilot - distinct diphthong then short [ə], higher $\mathrm{F}_{3}$ for [1], longer closure and voiceless [ t ]
(v) (a) name (b) mine
name - diphthongal mid [e], formant transition from alveolar to bilabial
mine - clear low to high diphthong [ar], formant transition from bilabial to alveolar

2. Match the following spectrograms with the targets open, tiger, package, camel, apple, table. Explain your rationale.

| open | long back diphthongal vowel, short vowel for [ə] unaspirated stop <br> faint nasal |
| :---: | :---: |
| tiger | aspirated stop <br> diphthong <br> voice bar for voiced stop and merging $F_{2}$ and $F_{3}$ for velar weak / $ִ$ /, lowering of $F_{3}$ of vowel |

```
package aspirated stop
        low front vowel
        stop gap and unaspirated stop
        affricate, frication noise, palato-alveolar place of articulation
    camel aspirated stop
        faint nasal
        weak /l/
apple rather long vowel
        unaspirated stop
        weak /l/
table aspirated stop
        diphthongal front vowel
        voice bar for voiced stop
        weak /l/
```

3. Transcribe the following (about 'second language varieties of English') based on P. Trudgill and J. Hannah, International English (London: Edward Arnold, 2002).

English is a language which has more non-native speakers than native inglaf iz ə længwad3 wit؛ hæz mox̣ nan netəv spikəz ðæn netəv speakers. Besides the fact that it is learned by millions of people around spikərz. bəsaidz ðə fækt ðæt it iz læ̋nd bai muljənz əv pipəl əฺ̣aund the world as a foreign language, there are millions of speakers of English
 as a second language in many countries. In the Americas, English is an
 important second language in Puerto Rico, and also has some secondimpox̣tənt sekənd længwad3 in pwex̣to x̣iko ən also hæz s^m sعkənd language presence in Panama. In Europe, it has official status in Gibraltar læŋgwəd3 pụezəns ən pænəmə. In jụ̣əp it hæz əfifəl stætəs ən dzəbụaltə and Malta and is also widely spoken as a second language in Cyprus. In ən maltə ən iz also waidli spokən æz ə sckənd læŋgwəd3 ən saipı̣əs. in Africa, there are large communities of native speakers of English in Liberia, æfụə South Africa, Zimbabwe and Kenya, but there are even larger communities save æfụəkə zimbabwe ən kenjı bıt ðع̣̣ aụ ivən laụdzə kəmjunətiz in these countries of second-language speakers. Elsewhere in Africa, ən ðiz kıntụiz əv sekənd længwəd3 spikəz. عlswex̣ ən æfụəkə English has official status, and is therefore widely used as a second Ingləf hæz əfifəl stætəs ən iz ðex̣fọ̣ waidli juzd æz ə sekənd language lingua franca in Gambia, Sierra Leone, Ghana, Nigeria, læŋgwəd3 lingwə fụæŋkə in gæmbijə siẹ̣ə lion ganə naid3ị̣ijə

Cameroon，Namibia，Botswana，Lesotho，Swaziland，Zambia，Malawi and kæməય̣un namibijə batswanə ləso日o swazilænd zambijə məlawi ən Uganda．It is also widely used in education and for government purposes jugandə．It iz also waidli juzd ən عdjjukefən ən fọ̣ gлvənmənt pふ̋pəsəz in Tanzania and Kenya．In the Indian Ocean，Asian and Pacific Ocean areas， ən tænzənijə ən kenjə．In ðə Indijən ofən e弓ən ən pəsıfək ofən $\varepsilon x i j \partial z ~$ English is an official language in Mauritius，the Seychelles，Pakistan，India， ingləf iz ən əfifəl læŋgwəd3 ən mכハ̣ifวs ðə sefعlz pækəstæn indijə Singapore，Brunei，Hong Kong，the Philippines，Papua New Guinea，the sıŋəpวฺ̣ bụunei həŋ kəŋ ðə fıləpinz papuə nu gıni ðə Solomon Islands，Vanuatu，Fiji，Tonga，Western Samoa，American Samoa， saləmən arləndz vænuatu fid3i tonga westəぃn səmoə əme，̣əkən səmoə the Cook Islands，Guam and elsewhere in American administered ðə kuk ailəndz gwam ən عlswex̣ ən əmeụəkən ædminəstəd Micronesia．It is also very widely used as a second language in Malaysia， markı̣onizə．It Iz also veハ̣i wardli juzd æz ə sعkənd læŋgwəd3 ən məlezə Bangladesh，Sri Lanka，the Maldives，Nepal and Nauru． bæŋglədef ș̣i laŋkə ðə maldivz nəpal ən nauụu．

## Chapter 6：Syllables

1．In section 6.5 ． 6 several patterns for non－suffixed triple codas are discussed． Which ones of these（if any）violate（s）the Sonority Sequencing Principle？ State the example（s）and your rationale．

```
stop-fricative-stop 1,2 }\quad3,4->1,
nasal-stop-fricative }5->1,2->3,
lateral-stop-fricative }6->1,2->3,
flap-stop-fricative }7->1,2->3,
```

The SSP states that the sonority will drop as the coda progresses．All of these have rises and dips within the coda．

2．Do the same as above for the suffixed triple codas．

| nasal－obstruent－／t，d，s，z／ | potential to violate | $(/ \mathrm{nts} /)$ |
| :--- | :--- | :--- |
| $/ \mathrm{s} /-$ stop－$/ \mathrm{t}, \mathrm{d}, \mathrm{s}, \mathrm{z} /$ | potential to violate | $(/ \mathrm{sps} /)$ |
| $/ \mathrm{l} /-\mathrm{obstruent}-/ \mathrm{t}, \mathrm{d}, \mathrm{s}, \mathrm{z} /$ | potential to violate | $(/ \mathrm{lps} /)$ |
| $/ \mathrm{x} /-\mathrm{obstruent-/t,d}, \mathrm{~s}, \mathrm{z} /$ | potential to violate | $(/ \mathrm{xdz} /)$ |
| obstruent－obstruent－obstruent | potential to violate | $(/ \mathrm{pst} /)$ |

3．Which of the following would qualify for ambisyllabicity？Circle the word（s），state your rationale，and give the tree diagram（s）．
metric, regime, anecdote, camera, integrity, person, panic, majesty, Africa, rival
[metụık]
[kæməশ̣ə]
[Integụiti]




A consonant that is part of a permissible onset is ambisyllabic if it occurs after a short stressed vowel.
4. Consider the following:
Short V + CC
Long V/diph. + C
(a) pimp
Long V/diph. + CC lint sink
(b) wipe
(b) wipe
bike
weep
seed
beak
(c) mind BUT * [maimb]
grind * [maing]

* [g̦̣aimb]
* [gụaing]

While certain combinations are possible, certain others (in c) are not allowed. State the generalization.

After a short vowel, double codas should have homorganicity (same place of articulation). After long vowels and diphthongs, stop consonants of all places of articulation are possible as simple codas. Double codas after long vowels or diphthongs are possible only if they are alveolars.

5．In section 6．5．6，we saw that，because of reduced vowel deletions，several normally impermissible consonant clusters can be created（e．g．photography ［ftagrəfi］）．Find five examples of such clusters．

$$
\left.\begin{array}{ll}
\text { potato } \rightarrow \text { [pteto }] & \text { marina } \rightarrow[\text { mụinə }]
\end{array} \quad \text { malaria } \rightarrow \text { [mlex̣iə }\right]
$$

6．English final consonant clusters are simplified by deleting the final mem－ ber of the cluster in certain contexts（e．g．／nd／in sand piles［sæn parlz］， ／st／in first class［frrs klæs］）．The same is not possible in other contexts （e．g．／nd／in canned vegetables［kænd ve ．．．］，／st／in missed goals［mist golz］）．State the generalization and give three examples for each possibility．

When the word ending in a cluster not created by the addition of a gram－ matical ending is followed by a word that begins with a consonant，the final member of the cluster is deleted．

```
hand made }->\mathrm{ [hæn med]
next class }->\mathrm{ [ncks klæs]
left street }->\mathrm{ [lef stụit]
```

```
planned trip \(\rightarrow\) [plænd tụip]
```

planned trip $\rightarrow$ [plænd tụip]
fixed game $\rightarrow$ [fikst gem]
fixed game $\rightarrow$ [fikst gem]
autographed book $\rightarrow$ [วtəgụæft buk]

```
autographed book \(\rightarrow\) [วtəgụæft buk]
```

7．Transcribe the following（about＇English in America＇）from J．Jenkins， World Englishes（London：Routledge，2002）．

Walter Raleigh＇s expedition of 1584 to America was the earliest from the
 British Isles to the New World，though it did not result in a permanent bụtits ailz tu ðə nu wふ̌ld ðо It did nat ụəzılt in ə pぶmənənt settlement．The voyagers landed on the coast of North Carolina near setəlmənt．Әə vəijədろərz lændəd an ðə kost əv nכ̣̣̂ keụəlainə nị̣ Roanoke Island，but fell into conflict with the native Indian population ụoənok ailənd bıt fel intə kanflikt wiӨ ðə netəv indiən papjulefən and then mysteriously disappeared altogether．In 1607，the first permanent ən ðعn mistị̣iəsli disəpị̣d altəgとðər．In sikstin o sevən ðə færst pærmənənt colonist arrived and settled in Jamestown，Virginia，to be followed in 1620 kalənist əụaivd ən setald in dzemztaun v3̌d3inja ta bi falod in sıkstin twenti by a group of Puritans and others on the Mayflower．The latter group landed bai ə g̣̣up əv pjuụətənz ən $\Lambda \partial \partial 乙 ~ a n ~ \partial ə ~ m e f l a u ə r . ~ ð ə ~ l æ t ə ~ g a ̣ u p ~ l æ n d ə d ~$ further north，settling at what is now Plymouth，Massachusetts，in New
 England．Both settlements spread rapidly and attracted further migrants inglənd．bô setəlmənts spụed ụæpədli ən ətụæktəd færðər maigụənts during the years that followed．Because of their different linguistic dựın ðə jị̣z ðæt falod．bəkız əv ðẹ̣ difụənt lıngwistək backgrounds，there were immediately certain differences in the accents of

the two groups of settlers. Those in Virginia came mainly from the West
 of England and brought with them their characteristic rhotic /r/ and
 voiced /s/ sounds. On the other hand, those who settled in New England voist s saundz. an ðә $\Lambda \partial 犭$ hænd ðoz hu setəld in nu inglənd were mainly from the east of England, where these features were not a
 part of the local accent. pạ̣t əv ðə lokəl æksent.

## Chapter 7: Stress and Intonation

1. In the following we observe schwa deletion in fast speech for words (a)-(k); the same is not possible in words (l)-(v). State the generalization. Pay special attention to morphologically related words such as (f and s), ( g and v ), $(\mathrm{h}$ and u$)$, $(\mathrm{i}$ and t$)$, $(\mathrm{j}$ and q$)$, $(\mathrm{k}$ and r$)$.

|  |  | Careful speech | Fast speech |
| :---: | :---: | :---: | :---: |
| (a) | camera | [kæməયฺə] | [kæmụə] |
| (b) | veteran | [vetaụn] | [vetụən] |
| (c) | aspirin | [æspəı̣ən] | [æspụən] |
| (d) | temperature | [tempəı̣ət $\int \nsim$ ] | [tempụət ${ }^{\text {a }}$ ] |
| (e) | reasonable | [ạizənəbl] | [x̣iznəbll] |
| (f) | imaginative | [Imæd3ənətiv] | [Imæd3nətiv] |
| (g) | principal | [pụinsəpəl] | [pı̣ınspal] |
| (h) | management | [mænəd3mənt] | [mænd3mənt] |
| (i) | testament | [testəmənt] | [testmənt] |
| (j) | general | [d3enaụal] | [d3enụal] |
| (k) | opera | [арəય̣ə] | [арı̣ə] |
| (1) | famous | [feməs] | [feməs] not [fems] |
| (m) | vegetarian | [vedzətex̣iən] | [vedzətex̣iən] not [ved3texizn] |
| (n) | motivate | [motəvet] | [motavet] not [motvet] |
| (o) | pathology | [pæӨalədzi] | [pæӨaləd3i] not [pæӨaldzi] |
| (p) | facilitate | [fəsılətet] | [fəsılətet] not [fəsıltet] |
| (q) | generality | [d3^nəụæləti] | [d3^nəụæləti] not [d3enụæləti] |
| (r) | operatic | [apəı̣ætık] | [apəụtık] not [apụætık] |
| (s) | imagination | [əmædzənefən] | [əmædzənefən] not [əmæd3nefən] |
| (t) | testimony | [testəmoni] | [testəmoni] not [testmoni] |
| (u) | managerial | [mænəd3¢x̣iəl] | [mænəd3exial] not [mænd3exial] |
| (v) | principality | [pụnsəpæləti] | [pụinsəpæləti] not [pụinspæləti] |

In English fast speech, a schwa from a word when it is preceded by a stressed vowel and followed by another schwa.
2. Analyze the stress patterns of the following words by using the three parameters (stress, tonic accent, and full vowel), and give the traditional numbers.

Example mineralogy
[mı.nə.!̣a.lə.d3i]
Stress
Tonic Accent - - + Full vowel +-+-+

24143

| (a) | choreography | (b) | discretional | (c) | mythical |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | [kox̣iagụəfi] |  | [dəskụを ${ }^{\text {danəl] }}$ |  | [mi ®əkəl $^{\text {a }}$ |
| St. | +-+ - - |  | - + - |  | + - - |
| T.A. | -+ - |  | + |  | + - |
| F.V. | +++ - + |  | + - |  | + - - |
|  | 23143 |  | 4144 |  | 144 |
| (d) | gratification | (e) | autograph | (f) | modality |
|  | [g̦̣ætəfəkefən] |  | [จtəgụæf] |  | [modæləti] |
| St. | -- + - |  | +- |  | - + - - |
| T.A. | + - - + - |  | +- + |  | + - - |
| F.V. | + -- + - |  | +- + |  | + + - + |
|  | 24414 |  | 142 |  | 3143 |
| (g) | conciliation | (h) | punishable | (i) | phonological |
|  | [kənsıliefən] |  | [p^nifabal] |  | [fonəladzəkəl] |
| St. | - --+ - |  | + - - |  | - - + - - |
| T.A. | - +-+ - |  | + - - - |  | - + - |
| F.V. | - +++ - |  | + + - - |  | + - + - - |
|  | 42314 |  | 1344 |  | 34144 |
| (j) | profundity | (k) | consumptiveness | (1) | resumption |
|  | [pı̣̂of $\wedge$ ndəti] |  | [kəns^mptəvnəs] |  | [x̣izımpfən] |
| St. | - + - - |  | - + |  | - + |
| T.A. | + |  | + |  | + |
| F.V. | + + - + |  | + |  | + + |
|  | 3143 |  | $4 \quad 1 \begin{array}{llll}4 & 4\end{array}$ |  | 3184 |
| (m) | diagnosis | (n) | neutralize | (o) | resignation |
|  | [daiəgnosis] |  | [nutụəlaiz] |  | [ب̣عzagnefan] |
| St. | - - + |  | + - - |  | - - + - |
| T.A. | + - + |  | + - + |  | + - + - |
| F.V. | + - + + |  | + - + |  | + - + - |
|  | 2413 |  | 142 |  | 2414 |

(p) eccentricity
[ $\varepsilon$ ksəntụısəti]
(q) recessional [x̣isefanəl]
St. $\quad-\quad+--$
T.A. +-+--
F.V. $\quad+-+-+$
24143
-+ - -
(r) $\underset{\text { [putatəstefən] }}{\text { protestation }}$
-+ - -

-     -         +             - 

++ - -
3144

+     -         + 
+     -         + 

2414
3. In light of what you have seen regarding the intonation patterns in section 7.8 , determine where the tonic accent will be in the following (in their neutral, non-contrastive readings).
(a) A: Are you coming to the movie?

B: I have exams to grade.
(b) The dog barked.
(c) The building's falling down.
(b) I go to Boston, usually.
4. Match the intonation patterns of the following with the six types indicated below.
(a) low rise
(c) low fall
(e) fall-rise
(b) high (long) rise
(d) long (full) fall
(f) rise-fall
(i) I am so happy for you. d
(ii) Would you like to have coffee or tea? (open choice reading) a
(iii) Would you like to have coffee or tea? (closed choice) c
(iv) Where will the meeting be held? (information seeking) d
(v) Where will the meeting be held? (I couldn't hear you) a
(vi) What am I doing? I am trying to fix the TV.
(vii) Her predictions came true. (clear finality) d
(viii) Who was at the meeting? d
(ix) Whatever you say. c
(x) We should look for him, shouldn't we? f
(xi) You can take the old route. (agree with reservation) e
(xii) Are you out of your mind? b
(xiii) Did you wash the car yet? a
(xiv) I would have done it the same way, wouldn't you? f
5. Transcribe the following (about 'English in America', cont.) from J. Jenkins, World Englishes (London: Routledge, 2002).

During the seventeenth century, English spread to southern parts of dựin ðə sevəntin日 sentfəụi ingləऽ spų̣d tu s^ðəən paụts əv

America and the Caribbean as a result of the slave trade．Slaves were əmعฺ̣əkə ən ðə kəশ̣ıbiən æz ə ય̣əzılt əv ðə slev tụed．slevz wぷ transported from West Africa and exchanged，on the American coast and
 in the Caribbean，for sugar and rum．The Englishes which developed among
 the slaves and between them and their captors were initially contact ðə slevz ən bətwin ðعm әn ðعฺ̣ kæptəz wr inifəli kantækt pidgin languages but，with their use as mother tongues following the birth
 of the next generation，they developed into creoles．Then，in the
 eighteenth century，there was large－scale immigration from Northern etin $\theta$ sent $\int ə \underset{i}{i}$ ðعִ̣̣ wəz laụd3 skel iməgụefən fụəm nכب̣ððən Ireland，initially to the coastal area around Philadelphia，but quickly aụ̣lənd insfəli tu ðə kostəl عب̣iə ə̣̣aund fılədelfiə bıt kwikli moving south and west．After the Declaration of American Independence
 in 1776，many loyalists（the British settlers who had supported in sevəntin sevənti siks meni loiəlists ðə bı̣ıtəノ setlərz hu hæd səpọ̣təd the British government）left for Canada．
ðə bı̣ıtə g g vəハ̣nmənt left fọ̣ kænədə．

## Chapter 8：Structural Factors in Second Language Phonology

1．First，transcribe the following word－pairs，and then，with the contrast－ ive information you had in this chapter，identify the languages whose native speakers would have problems related to these target English word－pairs．
cheap－chip：／ t ip／－／ $\mathrm{t} \int \mathrm{Ip} /$ Arabic，Russian，Korean，Portuguese， Spanish，Turkish，Greek，French，Persian
sieve－save：／siv／－／sev／Arabic
age－edge：／ed3／－／ed3／Spanish，Greek，French，Arabic，Russian， Korean，Persian
bend－band：／bend／－／bænd／Spanish，Turkish，Greek，French， German，Arabic，Russian
band－bond：／bænd／－／band／Spanish，Turkish，Greek，Arabic， Russian
fool－full：／ful／－／ful／Arabic，Russian，Spanish，Turkish，Greek， French，Korean，Portuguese，Persian
backs－box：／bæks／－／baks／Arabic，Russian，Spanish，Turkish，Greek
look－Luke：／luk／－／luk／Arabic，Russian，Spanish，Turkish，Greek， French，Korean，Portuguese，Persian
feast－fist：／fist／－／fist／Arabic，Russian，Spanish，Turkish，Greek， French，Korean，Portuguese，Persian
wait - wet: /wet/ - /wet/ Arabic, Spanish, Greek, Russian, Korean, Persian slept - slapped: /slept/ - /slæpt/ Spanish, Turkish, Greek, French, German, Arabic, Russian, Korean, Portuguese, Persian
2. Now, do the same for the following target pairs in contrast.

```
glass - grass: /glæs/ - / gụæs/ Korean
peach - beach: / pits/ - /bits/ Arabic, Korean
pour - four: / pọ̣/ - /fợ/ Korean
went - vent: /went/ - /vent/ Turkish, German, Russian, Persian
feel - veal: /fil/ - /vil/ Spanish, Arabic
vowel - bowel: /vaul/ - /baul/ Spanish, Korean
dense - dens: /dens/ - /denz/ Spanish
three - tree: /0x̣i/ - /tụi/ Persian, Spanish, Turkish, Greek, Arabic,
    Russian, Korean, Portuguese
thick - sick: / (rk/ - /srk/ Spanish, Greek, French, German, Arabic
those - doze: /ðoz/ - /doz/ Spanish, Turkish, Persian, Greek, Arabic,
    Russian, Korean, Portuguese
leaf - leave: /lif/ - /liv/ Spanish, German, Arabic, Korean
rope - robe: /ụop/ - /x̣ob/ German, Arabic, Russian, Korean
stow - stove: /sto/ - /stov/ Spanish, German, Korean, Persian
curved - curbed: /k3`vd/ - /k``bd/ Spanish, Korean
math - mat: /mæ0/ - /mæt/ Spanish, Turkish, Arabic, Russian, Korean,
        Portuguese
forth - force: /foụ0/ - /fox̣s/ Spanish, German, French, Arabic
soothe - sued: /suð/ - /sud/ Spanish, Turkish, Arabic, Russian, Korean,
    Portuguese, Persian
clothed - closed: /kloðd/ - /klozd/ Spanish, French, German, Arabic
sin - sing: /sin/ - /sin/ Turkish, Greek, French, Arabic, Russian,
    Portuguese
cart - card: /kaụt/ - /kaụd/ German, Turkish, Russian
thin - chin: / 0in/ - /tfin/ Spanish, Greek, Portuguese
lamp - ramp: /læmp/ - /x̣æmp/ Korean
sift - shift: /sift/ - / \ift/ Arabic, Korean
sink - zinc: /sInk/ - /zInk/ Spanish
cheer - sheer: /t\intịִ/ - / \ị̣/ Spanish, Greek, French, Arabic, Korean
surge - search: /s3'd3/ - /smet\int/ German, Russian, Korean
dug - duck: /d ^g/ - /d kk/ German, Turkish, Russian
```

3. Now, do the same for the following triplets.
huck - hock - hawk: /hлk/ - /hok/ - /hak/ Portuguese, Persian, French, German, Arabic, Russian, Korean, Spanish, Turkish, Greek
panned - punned - pond: /pænd/ - /pınd/ - /pond/ Spanish, Turkish, Greek, French, Arabic, Russian, Korean, Portuguese, Persian

bag - bug - bog: /bæg/ - /bag/ - /bag/ Persian, French, German, Arabic, Russian, Portuguese, Spanish, Turkish, Greek, Korean<br>bid - bead - bed: /brd/ - /bid/ - /bed/ Russian, Portuguese, Persian, Spanish, Turkish, Greek, Arabic, Korean<br>stack - stuck - stock: /stæk/ - /stsk/ - /stak/ French, German, Arabic, Russian, Korean, Spanish, Turkish, Greek, Portuguese, Persian

4. Although contrastive phonological information is indispensable for the prediction of learners' difficulties, it is not sufficient in many cases, because for certain phenomena, constraints based on universal markedness have been shown to be influential in explaining the degree of difficulty of targets. Order the following targets in terms of difficulty (from most difficult to least difficult), and state the rationale.
(a) single-coda consonants:
deal, deer, deem, beat, beach
beat, beach, deem, deal, deer.
The higher-sonority codas are easier than low-sonority codas.
(b) liquids:
/l/ full, elect, lamp, fly, belt
/ạ/ green, boring, tire, room, card
full, belt, fly, elect, lamp.
tire, card, green, boring, room.
Postvocalic, postconsonantal, intervocalic, then initial.
(c) $/ \mathrm{s}+\mathrm{C} /$ onsets:
slow, sticker, swing, small
sticker, small, slow, swing.
The higher the sonority jump from $C_{1}$ to $C_{2}$, the less difficult the cluster is.
(d) aspiration:
pig, keep, park, course, torn, tease
park, pig, torn, tease, course, keep.
Aspiration is less difficult as the place of articulation moves further back (bilabial, to alveolar, to velar). Also, if the following vowel is high, rather than low, it facilitates the aspiration.
(e) final voiced stops:
lab, bid, rod, rag, rib, wig
wig, rag, bid, rod, rib, lab.
Velars are the most vulnerable for devoicing, followed by the alveolars and then the bilabials. Also, the higher the preceding vowel, the more difficult the production of the target voiced stop.
5. Japanese lacks English target $/ \theta /$ and learners replace it with a [s] (e.g. thank [sænk]). Also, [ $\int$ ] is an allophone of /s/ in Japanese before /i/. This results in renditions such as sip [ $\left.\int \mathrm{I} p\right]$. While we have these two patterns (/s/ as [J] before /i/, and $/ \theta /$ as [s]) Japanese speakers' rendition of English think is [sink] and not [fink]. Does this support or counterargue for the case made for deflected contrast in section 8.3.2. State your reasoning.

This supports the case of deflected contrast because learners distinguish the three target phonemes $/ \mathrm{s} /, / \mathrm{s} /, / \theta /$ and prevents the neutralization of any contrast.
6. Transcribe the following ('Citations on American English') from T. McArthur, The English Languages (Cambridge: Cambridge University Press, 1998, pp. 220-7).
(a) The American I have heard up to the present is a tongue as distinct from English as Patagonian. (Rudyard Kipling 1889)
 Inglə ææ pætəgoniən.
(b) The rich have always liked to assume the costumes of the poor. Take the American language. It is more than a million words wide, and new terms are constantly added to its infinite variety. Yet, as the decade starts, the US vocabulary seems to have shrunk to child size. (Stefan Kanfer, 1980)
ðә ハ̣ıt§ hæv alwez larkt tu əsum ðə kastjumz əv ðə puヘ̣. tek ðə
 ạ̣ kanstəntli ædəd tu its infənət və̣̣aıəti. jet æz ðə deked stạ̣ts ðə ju

(c) I mean that almost everyone who touches upon American speech assumes that it is inferior to British speech. Just as the Englishman, having endured for a time the society of his equals, goes on to bask in the sunshine of aristocracy, so the American, when he has used the American language for business or for familiar intercourse, may then, for higher or more serious purposes, go on to the aristocratic or royal language of Great Britain. (Fred Newton Scott, 1917)

 ə taIm ðə səsaıəti əv hız ikwəlz goz an tu bæsk in ðə s^nfain əv æฺ̣əstakụəsi so ðə əmeள̣əkən wen hi hæz juzd ðə əmeụəkən læŋgwəd3



## Chapter 9: Spelling and Pronunciation

1. The words in the following pairs are spelt differently; some pairs are pronounced the same (i.e. they are homophonous), and others are not. Identify each pair as either same (S) or different (D), and provide the phonetic transcription(s).

$$
\begin{array}{lll}
\text { Example: } & \text { plain - plane (S) } & \text { [plen] } \\
& \text { price - prize (D) } & {[p+̣ a s] ~-~[p ̣ ̣ a z z] ~}
\end{array}
$$

(a) key - quay S: [ki] D: [ki] - [kwe] or [ke]
(b) gorilla - guerrilla S: [gəaبila]
(c) person - parson D: [pзsən] - [paụsən]
(d) profit - prophet S: [pụafət]
(e) rout - route S: [x̣ut] D: [x̣ut] - [ṛaut]
(f) draught - draft S: [ḍ̣æft]
(g) genes - jeans S: [dzinz]
(h) colonel - kernel S: [kænnal]
(i) raiser - razor S: [ụezə $]$
(j) patron - pattern D: [peţ̣ən] - [pætən]
(k) temper - tamper D: [tempə] - [tæmpə]
(l) cymbal - symbol S: [simbal]
(m) local - locale D: [lokal] - [lokæl]
(n) discreet - discrete S: [daskụit]
(o) review - revue S: [̣̣əvju]
(p) critic - critique D: [kı̣ıtək] - [kıəətik]
2. Identify the vowel changes in the stressed syllables (spelt identically) of the following morphologically related words.

Example: gradient - gradual letter ạ [e] / [æ]

| derive - derivative | i | [ar]/[r] |
| :---: | :---: | :---: |
| provoke - provocative | o | [ol/[a] |
| punitive - punishment | u | [u]/[s] |
| harmonious - harmonic | o | [ol/[a] |
| deduce - deduction | u | [u]/[ $\Lambda$ ] |
| satire - satiric | a | [æ]/[r] |
| serene - serenity | e | [i]/[ [ ] |
| major - majesty | a | [e]/[æ] |
| wild - wilderness |  | [ar]/[1] |

3. Find an appropriate morphologically related word for the similar vowel changes (represented by the same orthographic letter).

Example：letter e［i］／［ $\varepsilon$ ］austere－austerity
（a）letter $\underline{a}[\mathrm{e}] /[æ]$
profane－profanity grateful－gratitude
collate－collateral sane－sanity
（b）letter $\underline{\mathrm{e}}[\mathrm{i}] /[\varepsilon]$
meter－metrical supreme－supremacy
succeed－success discreet－discretion
（c）letter $\underline{i}$［ar］／［r］
decide－decision title－titular
divine－divinity line－linear
（d）letter o［o］／［ $\mathrm{o} / \mathrm{a}$ ］
cone－conic code－codify
protest－protestant vocal－vocative
（e）letter $\underline{u}[u] /[\Lambda]$
duke－duchess consume－consumption
resume－resumption assume－assumption

4．Transcribe the following（＇Citations on American English＇）from T．McArthur，The English Languages（Cambridge：Cambridge University Press， 1998，pp．220－7）．
（a）The foreign language which has most affected English in our own time is contemporary American．．．．The colloquial speech of the American is becoming，largely as a result of the foreign ingredients in the melting－pot，more and more remote from the spoken English of the educated Englishman，but，at the same time，the more slangy element in our language is being constantly reinforced by words and phrases taken from American，especially the type of American which is printed in the cinema caption．（Ernest Weekley，UK，1928）
ðə fox̣ən længwad3 witf hæz most əf\＆ktəd ingləf in aự on taim iz

 moụ ən mox̣ ụəmot fụəm ðə spokən ingləf əv Әə عdзjuketəd ingləfmən bıt æt ðə sem taim ðə mọ̣ slængi عləmənt in aự længwəd3 Iz biņ kanstəntli ụiənfọ̣st bai wぶ dz ən fụezəz tekən fụəm əmex̣əkən ispefəli ðə taıp əv əmeハ̣əkən wit Iz pı̣intəd in ðə sinəmə kæpfən．
（b）It was the British Empire，on which the sun never set，that originally spread English around the world，along with the tea breaks，cuffed trousers and the stiff upper lip．But when the imperial sun finally did
set after World War II，the American language followed American power into the vacuum．（Otto Friedrich et al．，US，1986）
It wəz ðə bụitəノ empaị̣ an witf ðə sın nevər set ðæt əハ̣id孔ənəəli spụed
 lip．bıt wen ðə impị̣ial san fainəli did set æftə wふ̋ld wox̣ tu ðə әmعハ̣əkən længwəd3 falod əmعハ̣əkən paひə兀 Intu ðə vækjum．
（c）Whose English language is it，anyway？From the tone of the new ＇BBC News and Current Affairs Stylebook and Editorial Guide＇， you＇d think the Brits invented it．With unmistakable disdain，the broadcastocrats in London call what we speak＇American＇．As a user of Murkin English，I rise to the defense．（William Safire，US，1993）． huz ingləゝ længwəd3 Iz it eniwe．fụィm ðə ton əv ðə nu bi bi si nuz
 it．WIO＾nmistekəbəl disden ðə bụədkæstəḳ̣æts in lındən kal wıt wi


