PHONETICS FOR COMMUNICATION DISORDERS

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syllable, noninitial /t/ is realized as an alveolar slit fricative (a retracted [θ̠]), and this is one of the most salient features of southern Irish English. Finally, we can note that both Scottish and Irish English tend to preserve the distinction between /w/ and /hw/ in pairs of words such as "witch" and "which."

The first official language of the Republic of Ireland is Irish (a Celtic language), but this is only spoken as a first language by a relatively small number of people. The officially recognized areas of first language Irish are in the west of the country, and the accents of English used there reflect the influence of Irish.

Southern Hemisphere English

The forms of English spoken in South Africa, Australia, and New Zealand share some interesting characteristics, although of course they also have many individual features. South African English, for example, has a monophthong /a/ in place of the diphthong /aɪ/; Australian English is well known for its realizations of /aʊ/ and /oʊ/ ([æo] and [ʌʉ]); and New Zealand is characterized through the retention of the /w/ ~ /hw/ distinction (at least among older speakers).

South Africa has 11 official languages, and many English speakers have another language as their mother tongue. These speakers therefore may show interference from their first language in their use of English. Apart from English, the following languages are recognized: Afrikaans, Ndebele, Northern Sotho, Sotho, Swati, Tsonga, Tswana, Venda, Xhosa, and Zulu.

Among the aspects shared by the three regions is a general raising of the front vowels. The result is that /æ/ sounds like GA /ɛ/, and /ɛ/ sounds like GA /ɪ/. In South Africa /ɪ/ in some contexts is realized as similar to /ʌ/, whereas in New Zealand it is moved to an [ɨ] or [ə] position. A second feature common to these varieties is the use of a high rising nuclear tone (often following a high head) in statements. Thus, a statement such as "I live in Melbourne" may have the intonation pattern "I ˈlive in Melˈbourne" (see chap. 17 for the use of the diacritics), which can sound like a question rather than a statement to American and British listeners. High rising statement forms do, however, appear to be spreading in other English accents, as well.

REGIONAL DIFFERENCES IN AMERICAN ENGLISH

There are several different ways we can divide a map of the United States to show regional variation. The number and placement of such divisions depends on how detailed we wish to be in our analysis, of course. Even if we restrict ourselves to major divisions only, we have to remember that some varieties derive from the social or ethnic background of the speaker, rather than the geographical region. In this section we will look at two regions only, the northeast and the south (as these are the two areas most divergent from GA), but will also discuss aspects of African American English (AAE).

The Northeast

The area under consideration here is the eastern part of New England, centered on Boston. The vowel system of this accent shows systemic, distributional, and realizational differences from

that of GA. First, many speakers of this variety have an additional centralized rounded vowel (/ɵ/) that contrasts with /oʊ/ in various words (there is no set patterns to which words have this vowel). For example, "rode" ~ "road" (/ɹoʊd/ ~ /ɹɵd/); and other words having /ɵ/ include "home," "smoke," "yolk," "toad," "folks," and "bone." Some speakers also have a distinction between /ɒ/ and /ɔ/, for example in "cot" versus "caught" (/kɒt/ ~ /kɔt/).

The major distributional differences include the use of a long /ɑ/ in words such as "path," "ask," and "dance"; the use of front /æ/ (with or without a pronounced /ɹ/) rather than /ɛ/ before <r> in words such as "bear" and "parents"; and the use of /ɪ/ rather than schwa in the final syllables of words such as "hunted," "waited," and "horses." We can also note a tendency to use /ʊ/ rather than /u/ in words such as "broom," "room," and "roof," and the preference for /ʌɹ/ rather than /ɝ/ in words such as "hurry." Speakers in this area also usually prefer the /ɔ/ phoneme rather than /ɑ/ in words such as "law," "call," and "caught."

The realization of many of the vowels differs from GA, also. Although /eɪ/ is usually diphthongal, /oʊ/ is more often not (so [o]); long /ɑ/ is normally very front ([a]); /ɔ/ is usually low ([ɒ]) unless a phonemic contrast exists between /ɒ/ and /ɔ/; and in some areas older speakers have a raised first element to the diphthongs /aɪ/ and /aʊ/ ([ɐɪ], [ɐʊ]).

The major difference with the consonants is the variable use of postvocalic-r. This area (and New York and New Jersey) was once nonrhotic, and many speakers still do not use a postvocalic-r. However, younger speakers have adopted the rhotic norm of GA, so this feature is no longer as strong as it was. Nonrhotic speakers have a range of centering diphthongs in contexts where GA would have a vowel plus /ɹ/. For example, "ear," "care," "door," and "poor" may be /iə/, /kæə/, /doə/, and /puə/. Nonrhotic speakers usually adopt r-liaison (see chap. 17) in connected speech. Many northeastern speakers also retain /j/ after /t, d, n/ and before /u/, which has been lost in GA. Thus "tune," "due," and "news," are /tjun/, /dju/, /njuz/, as in Canadian English, and as also found in most areas of Britain, Ireland, and the Southern Hemisphere dialects.

> Several northern cities (such as Detroit, Chicago, Cleveland) exhibit the "northern cities vowel shift." This shift results in /ɔ/ being realized close to [ɑ]; /ɑ/ close to [æ]; /æ/ to [eɪ]; /ɪ/ to [ɛ]; /ɛ/ to [æ] and to [ʌ]; with /ʌ/ to [ɔ].

The South

There is much regional variation in the pronunciation of English in the South, and here we include only those characteristics that are fairly widespread. The vowel system does not differ from GA in the number of phonemes (except in nonrhotic varieties described below), but there are considerable realizational, distributional, and selectional differences. Perhaps some of the most salient realizational differences include the monophthongization of /aɪ/ to [a] (although some speakers retain a diphthong before voiceless consonants), but the diphthongization of /æ/ to [æɪ], especially before /g, f, θ, s, ʃ, v, n/, as in "bath," "man," "bag," and so forth. The diphthong /ɔɪ/ also reduces (to /ɔ/) for some speakers in certain contexts. Other important patterns are the fully diphthongal nature of /eɪ/ and /oʊ/; the use of /ɔ/ rather than /ɑ/ in words such as "law," "bought," although the realization of this vowel may also be diphthongal ([ɔʊ]); conversely the use of /ɑ/ rather than /ɔ/ before /ɹ/, and the fact that lax vowels are not noticeably shorter than the tense ones.

Some interesting distributional patterns emerge from the study of the lax vowels. For example, before velars and /ʃ, ʒ/, /ɪ/ is replaced by /i/, and /ɛ/ is replaced by /eɪ/ (e.g., "dish" /diʃ/, "thing" /θiŋ/). Before nasals /ɛ/ is realized as /i/, so there may be no difference between the words "pen" and "pin." Further, before /l/, /i/ is lowered to /ɪ/, so "really" is /ˈɹɪli/. The lax

vowels display several interesting realizational features. *Umlaut* refers to the effect a following vowel may have on a lax vowel. For example, /ɑ/ in "horrid" is advanced due to the /ɪ/ in the second syllable, whereas in "cellar" the /ə/ in the second syllable causes the /ɛ/ in the first to be centralized. Another pattern is *shading*, the effect of a following consonant on a preceding /ɪ/. For example, labial consonants cause a preceding /ɪ/ to centralize; others may also have this effect apart from following velars. Finally, we can note *breaking*, the addition of a schwa or /ɪ/ offglide to lax vowels. This is especially common before labial consonants in monosyllables, so "lip" with shading and breaking may be realized as [lɨəp].

Both tense /u/ and lax /ʊ/ tend to be centralized, and the latter may have little rounding, whereas the former may be somewhat diphthongal. The central vowel /ʌ/ is often pronounced as a mid central vowel, causing a virtual collapse of the distinction between /ʌ/ and /ə/. Vowels in weak syllables such as plurals and past tenses are normally /ɪ/ rather than /ə/, so "waited" is /ˈweɪtɪd/ and "horses" is /ˈhɔɹsɪz/. This can also be extended to what would be final schwa in GA, so forms such as "Texas" /ˈtɛksɪs/ and "sofa" /ˈsoʊfɪ/ can occur.

Specific patterns associated with smaller areas within the South exhibit sometimes quite different patterns. For example, in southwest Louisiana, there is a noted tendency to realize <ar> spellings as /ɔɹ/, so "park" and "pork" are homophones.

With the consonants the major issue is whether southern accents are rhotic or not. The situation is very variable both geographically and socially, and the most it is safe to state is that some southern speech is nonrhotic, at least in some contexts. For example, speakers may differentially drop /ɹ/ postvocalically in word-medial position, as compared to word-finally. There is a tendency to retain /ɝ/, even when /ɚ/ is realized as nonrhotic schwa. Finally, we can also note that intervocalic-r (as in "Carolina") may be dropped by some speakers. In nonrhotic speech, the centering diphthongs described in the previous section will be used, although r-liaison is reported less often.

Other consonantal features include the retention of /j/ after alveolars before /u/; the use of /n/ rather than /ŋ/ in "-ing" verb endings; the vocalization of dark-l or the use of a velar lateral [ʟ]; localized replacement of dental fricatives by labiodental ones; and cluster reduction of final /st, ld, nd/ clusters. Intervocalic-l is almost always clear, and vowels before dark-l often exhibit breaking. This can result in a word such as "feel" being realized as [fɪl] (lowering before /l/), whereas "fill" is realized as [fɨəl] (shading and breaking).

Finally, we can note that stress assignment in southern accents may differ from that in GA. For example, "insurance" and "reward" usually take first syllable stress.

African American English (AAE)

The patterns of vowel usage in AAE show some similarity with those in the southern forms just discussed: for example, the "pen" ~ "pin" merger, reduction of /aɪ/ and /ɔɪ/ diphthongs, and the use of centering diphthongs (because AAE is nonrhotic). Some of these centering diphthongs also show mergers, so "poor" and "door" both have /oə/ or even /oʊ/, and "fear" and "fair" both have /eə/.

AAE is nonrhotic, and the loss of /ɹ/ may not be restricted to postvocalic position; /ɹ/ may be omitted in words such as "throw," "Paris," and "secretary." As in the South, dark-l may be vocalized, realized as a velar lateral, or simply omitted. The dental fricatives are usually realized as labiodentals, but initial /ð/ is more usually /d/, and initial /θ/ is often retained.

Many of the features of AAE that are most salient are connected with syllable structure. The canonical syllable shape in natural language is CV, so any move toward that shape in English will require the simplification of clusters and the loss of final consonants. Cluster reduction in

AAE mostly affects final clusters (apart from the loss of /ɹ/ in initial clusters just noted). Final cluster reduction operates in clusters where both consonants share the same voicing, so "list," "find," "called," will be /lɪs/, /fan/, /kɔ/, this last with postvocalic-l deletion. Plurals of nouns with a deleted final consonant often do not replace that consonant: "lists" /ˈlɪsɪz/.

Apart from cluster reduction, final nasals may be deleted, with the preceding vowel being nasalized instead ("tin" /tĩ/); final alveolar stops may be deleted ("cat" /kæ/); final lenis stops may be devoiced ("hid" /hɪt/); and final stops may be replaced by glottal stops ("hid" /hɪʔ/). As in many other varieties of English, verbs ending "-ing" normally have an alveolar rather than a velar nasal at the end. We can also note a tendency to use a voiced stop rather than a voiced fricative in forms such as "isn't," "wasn't," and "even" (/ˈɪdn̩t/, /ˈwʌdn̩t/, /ˈibm̩/). Metathesis occurs with certain lexical items (a feature shared with southern varieties), the best known being "ask" /æks/.

The rhythm of AAE weakens unstressed syllables immediately before stressed ones to such an extent that syllable deletion may occur. So "about," "because," and "around" may be /baʊt/, /kʌz/, /ɹaʊn/.

Rather than view AAE as divergent from English, many researchers today prefer to characterize it as fitting to the canonical syllable structure of natural language and some make reference to the structure of West African precursor languages. Therefore, rather than using "cluster reduction" and "consonant deletion" we can think of these patterns in terms of adherence to natural syllable shape.

Although we have described AAE as if it were one homogenous variety, there is of course much internal variation, and as with other varieties of English, some speakers may use some features, but not others, depending on speech style and context.

SPANISH-INFLUENCED ENGLISH

Spanish-influenced English may be spoken by people whose first language is Spanish, or by those from the Hispanic community who speak no or little Spanish. For this reason we deal with this variety in a section separate both from varieties of English and from second language phonological features. Many of the phonological characteristics of Spanish-influenced English derive from the sound patterns of Latin American Spanish, and we can consider these in terms of the consonant system, the vowel system, and the suprasegmental system.

Spanish is the language with the greatest number of speakers in the United States after English. Recent census figures show that there are 37.4 million Hispanic people, who make up 13% of the population—although the term *Hispanic* does not imply that they speak Spanish. The Hispanic population is especially numerous in California and Texas. Two-thirds of Hispanic people come from Mexico, about 14% from other parts of Central and South America, approximately 9% from Puerto Rico, 4% from Cuba, and the remainder from elsewhere or of Spanish descent within the United States. (Statistics from U.S. Census, 2002.)

The Spanish consonant system differs from the English in lacking the velar nasal (though it has a palatal nasal), the postalveolar fricative position, and phonemic status for voiced fricatives. Spanish has a voiceless postalveolar affricate, but not a voiced one. Although European Spanish does have a voiceless dental fricative, American Spanish normally does not. Spanish has a voiceless velar fricative, unlike English. These systemic differences are complicated by a range of realizational differences. For example, Spanish has both a trilled- and a tapped-r, but

not an approximant-r as in English. Furthermore, noninitial /b, d, g/ are realized as [β, ð, ɣ], and /s/ before voiced consonants is [z]. In many Latin American countries (e.g., Cuba), final /s/ is realized as [h]. We can also note that /p, t, k/ are never aspirated, and so differ in this respect from English.

Spanish-influenced English, therefore, may show some or all of the following characteristics. Fortis plosives will be unaspirated, whereas word-initial lenis plosives will be fully voiced. Word-medial and -final lenis plosives may well be weakened to the fricatives shown above. English /f/ and /s/ will be unaffected, but target /ʃ/ may be realized as the affricate /tʃ/, target /θ/ as /t/, and English /h/ may be omitted or realized as the velar fricative [x]. The voiced fricatives of English are often realized as voiced stops in word-initial position. Elsewhere, although target /ð/ may be correctly realized, target /v/ may be pronounced as [β], and /z/ as [s].

Spanish lacks a velar nasal phoneme, though [ŋ] can occur as an allophone of /n/ before velar sounds. Word-finally nasals do not contrast, and /n/ only is found (although in some dialects there is free variation between the nasals word-finally, but no contrast). These patterns may spill over into Spanish-influenced English. American Spanish has /j/ derived from European /j/ and /ʎ/. This latter is particularly prone in South America to be strengthened to [dʒ], and this realization may also be used for English /j/. Finally, as noted earlier, English /ɹ/ may be realized as a trill or tap.

Consonant clusters are restricted in Spanish, and Spanish-influenced English usually reflects this. /s/-initial clusters are usually broken up by the addition of a vowel before the /s/, so that "star" (/stɑɹ/) may be realized as [ɛstar]. Final clusters in English are nearly all problematic, and consonant deletion is often employed to simplify them, giving [las] for "lasts" and [xol] for "hold."

The Spanish vowel system is much simpler than that of English, with a five-vowel pattern /i, e, a, o, u/. Although in closed syllables slightly laxer variants of these vowels are used, Spanish speakers do not contrast tense and lax vowels and, when speaking English, are likely to merge the English tense–lax distinction, producing vowels that are nearer tense than lax. This affects the English vowel distinctions /i/~/ɪ/, /eɪ/~/ɛ/, /ɑ/~/æ/, /ou/~/ɔ/, and /u/~/ʊ/ in particular. Further, because Spanish has only one low vowel, the entire series /ɛ/~/æ/~/ʌ/~/ɑ/ is likely to be confused. Spanish also lacks any central vowels and speakers tend to give full values (as reflected by the spelling) to vowels we normally pronounce as schwa. Rhotic vowels will be pronounced as [er] (or whatever vowel is shown in the spelling) with a trilled- or tapped-r.

Spanish is a syllable-timed language (see chap. 9) and thus lacks the heavy stress and weak unstressed distinction of English. This means the tendency to reduce unstressed syllables to weak vowels is not found in Spanish and, coupled with the lack of central vowels, means that even unstressed syllables get full vowel status. Spanish stress placement is fairly regular (normally on the penultimate syllable), so there is a tendency to use this pattern in English as well.

PHONOLOGICAL PROBLEMS OF LEARNERS OF ENGLISH

In this section we will give very brief notes on some of the common pronunciation problems speakers of a variety of languages face when learning English. This is not a substitute, however, for a thorough investigation of a specific language, and speech pathologists should undertake this if working with clients with a first language other than English.

Arabic

Arabic lacks the sounds /p/ and /v/, and learners of English may substitute /b/ for /p/, and /f/ for /v/. However, Arabic does have a voicing contrast between other plosives and fricatives, and

thus learners of English do not find it very difficult to acquire /p/, and especially /v/. The dental fricatives /θ, ð/ are found in Iraqi and neighboring dialects of Arabic, but are missing from most others. However, they do occur in classical Arabic, so most Arabic learners of English will have been exposed to these sounds and may be able to attempt them. Some speakers will substitute /s, z/ or /t, d/ for the dental fricatives, nonetheless. Arabic has no affricates, but does have the component parts of the /tʃ, dʒ/ affricates of English, and so speakers are normally able to pronounce them with relative ease. Arabic /r/ is a trill, which tends to be used for English /ɹ/. Consonant clusters in Arabic are restricted to final position and to two consonants only. Clusters in English, therefore, may be simplified by the use of epenthetic vowels (e.g., [laˈriniks] for /ˈlæɹɪŋks /).

The Arabic vowel system lacks the tense–lax distinction used in English, so all lax vowels may be realized as their tense counterparts. Also, Arabic has a single low vowel—/a/—and English /æ/, /ɑ/, and /ʌ/ may all be pronounced as [a]. Finally, we can note that word stress distinctions in Arabic do not result in the reduction of unstressed vowels (e.g., to schwa) that is common in English. Therefore, Arabic speakers may give full value to vowels we normally reduce.

> Arabic, and many of the other languages dealt with in this section, uses a different writing system than English. It is worth remembering, therefore, that bilingual clients may be literate only in their first language, and may not be comfortable using the Roman alphabet. Different writing systems are also used in Chinese, Japanese, Korean, and the languages of India, among those included in this section.

Chinese

Chinese consists of a large number of widely differing dialects (which many consider separate languages) with differing phonologies. We will concentrate here on Putonghua (also termed Mandarin), the national language based on northern norms, and Cantonese, a southern variety spoken in Canton in southern China and in Hong Kong.

Syllable structure in Chinese dialects is much simpler than that of English. There are no clusters, and most syllables are open (i.e., have no final consonant). In Putonghua only /n/ and /ŋ/ can end a nonopen syllable, whereas in Cantonese the possible final consonants are /m, n, ŋ, p, t, k/. The final /p, t, k/ in Cantonese are, however, always unreleased and shorter than their English equivalents. Cantonese speakers will also tend to use final unreleased /p, t, k/ for English final /b, d, g/. Chinese has a variety of fricatives and affricates, but these are all voiceless, so the fortis–lenis distinction in English fricatives and affricates may not be realized, and the pronunciation of postalveolar fricatives in English may be retroflex. Also, /θ/ may be realized as [t], [f], or [s], and /ð/ may be pronounced as [d] or [z].

Cantonese speakers may have free variation between [l] and [n] in their language, and this may spread over into their English usage as well. Confusion between /ɹ/ and /w/ or /l/ is common in Chinese-influenced English, as is that between /w/ and /v/. We mentioned earlier that no clusters are found in Chinese, so simplifications and vowel insertion are common in the English of Chinese speakers. Further, all words in Chinese consist of single syllables only, so pronouncing polysyllabic words in English (especially linking the syllables together smoothly) can be a difficulty.

The vowel system of Chinese does not distinguish between tense and lax vowels, so English lax vowels may be pronounced as their tense counterparts. Further, target English /ə/ may be pronounced as a back vowel by Putonghua speakers ([ɯ]). Because of the use of tone in Chinese (see chap. 9) and the restriction on word length, English rhythm and intonation may be especially difficult for first-language Chinese speakers.

Remember that bilingual clients may have varying degrees of proficiency in their languages. It is important to obtain a linguistic background analysis to see how much English is spoken in the home (if any), and with children, how proficient the caregivers are in English, and what the client's dominant language is.

French

The difficulties noted in this section will be common to French speakers, whether from Europe, Canada, Louisiana, or elsewhere. The French consonant system lacks the dental fricatives, and European French speakers tend to use /s, z/ for these, whereas North American French speakers prefer /t, d/ as substitutions. French also lacks the affricates, and some speakers may use /ʃ, ʒ/ for target /tʃ, dʒ/, although, as both parts of each affricate are sounds of French, other speakers may have no difficulties with them. French plosives differ from their English counterparts in that the fortis set (/p, t, k/) are always unaspirated, and the lenis set (/b, d, g/) are always fully voiced. If /p, t, k/ are pronounced without aspiration they may sound more /b, d, g/ like to English listeners. We can also note that /t, d, n/ in French are dental, rather than alveolar, although if the English equivalents are realized as dental this will not sound greatly different from the target norm. English /ɹ/ may be realized as uvular [ʁ] or [ʀ] by standard French speakers; those from other dialects may use the alveolar trill [r]. We can also note that French lacks /h/, and orthographic <h> is not pronounced. This usually results in the omission of /h/ in English also. In French, an orthographic vowel plus single <n> is realized as a nasalized vowel without the pronunciation of the nasal stop. This practice may also be extended to the English of first-language French speakers.

The French vowel system does not distinguish between tense and lax vowels, and so tense vowels may be used for their lax counterparts. There is an especial difficulty in distinguishing between English /ɛ/, /æ/, /ʌ/, and /ɑ/. French stress operates differently than in English, and there is no vowel reduction in unstressed syllables. French intonation patterns also differ from those of English, and these suprasegmental factors may be more obvious than the segmental ones described earlier.

Hindi and Related Languages

The languages of north India and of Pakistan, Sri Lanka, and Bangladesh are all related, and much of what is included here applies to speakers of Hindi, Urdu, Panjabi, Bengali, Sinhalese, and Gujerati among others. The comments on retroflex consonants also apply to southern Indian languages such as Tamil, Telugu, Malayalam, and Kannada. Speakers of these languages tend to use their own retroflex consonants in place of English alveolar /t, d, n/. Although these languages do have nonretroflex stops, these are dental, and it seems that English alveolar stops are perceived as closer to the retroflex stops than to the dental ones. This use of retroflex consonants is very characteristic of Indian English, and the retroflex resonance is very pervasive and can cause intelligibility problems.

English aspirated /p, t, k/ may be unaspirated in Indian English. This is despite the fact that Indian languages do have aspirated stops. English aspiration is, however, much weaker than in Indian languages, so these speakers see their unaspirated stops as closest to the English target. In Indian English, labiodental approximant [ʋ] may be used for English target /v/, and [ʋ] may be used for /w/ as well. Further, the dental fricatives are not found in north Indian languages, and [t̪] and [d̪] are the usual substitutes in Indian-influenced English. Some initial and final clusters present problems and vowel epenthesis in initial position and cluster reduction in final position are common strategies.

Vowel problems are not as extensive as in some of the languages we examine in this section. Nevertheless, difficulties in distinguishing /ɛ/ and /æ/ are common, as are difficulties with the difference between /i/ and /ɛ/. Stress placement in Indian English may differ from American norms, and the use of different intonation patterns may make some Indian English speakers sound abrupt when they intend to sound polite.

> Clients with an Indian language background may very well be multilingual, speaking two or more languages of India as well as English. It is important to know whether English is the first, second, or third (or more) language of clients from India, Pakistan, Bangladesh, or Sri Lanka.

Japanese

Japanese has a very limited syllable structure: there are no clusters, and most syllables are open. Further, there is a small vowel inventory (just five vowels). All these features provide much potential for interference in Japanese speakers' second language English.

Japanese lacks /f, v/, although [v] may occur as an allophone of Japanese /b/ in intervocalic position. Japanese speakers of English, therefore, may use [b] for English /v/ and [p] for English /f/. Likewise, there are no postalveolar fricatives in Japanese, though similar (alveolopalatal) fricatives are allophones of Japanese /s, z/ before high front vowels. This results in English /ʃ, ʒ/ being pronounced as [s, z] in most contexts, but English /s, z/ sounding similar to English /ʃ, ʒ/ before /i/. Japanese has a single liquid phoneme, with variants ranging from a postalveolar lateral, through a postalveolar flap, an affricate, to an approximant-r similar to English. This results in an inability to distinguish English /l/ and /ɹ/, although the attempt may sound somewhat r-like or l-like depending on the word involved. Word-initial glides (/w-/ and /j-/) are often omitted in Japanese English.

Consonant clusters are usually broken up by the insertion of an epenthetic vowel. Moreover, as Japanese only allows a single final nasal consonant, most consonant-final words are altered through the addition of a final vowel. As with other languages we have looked at, Japanese does not have a tense–lax vowel distinction, and Japanese speakers of English have particular problems with the four low vowels. Japanese uses stress and pitch in different ways from English; there will therefore be considerable interference in prosodic aspects of Japanese English.

Korean

Korean has only two fricative phonemes (/s, z/), (with /s/ representing a voiceless fortis, aspirated fricative, and with /z/ representing a voiceless lenis, but less grooved fricative than /s/). This results in Korean speakers of English having problems with most English fricatives (including /z/). Bilabial plosives are usually substituted for /f, v/, and an affricate ([ts, dz]) for English /z/. The use of Korean [s^h] for English /s/ will result in a noticeably non-native realization. Further, [ʃ] is an allophone of Korean /s/, and Korean speakers of English may use [ʃ] for English /s/ before high front vowels. The dental fricatives are normally realized as alveolar stops: aspirated for /θ/ and unaspirated for /ð/.

Korean has plosive phonemes at the bilabial, alveolar, and velar places (as in English). However, whereas in English we have just two phonemes at each place, Korean has three: unaspirated slight voicing, heavily aspirated voiceless, and unaspirated voiceless, possibly ejective. However, these distinctions are usually neutralized in word-final position, when most plosives are simply unreleased. Korean speakers of English may not consistently produce acceptable degrees of voice or aspiration in English plosives—especially in medial and final positions.

Koreans have a single liquid phoneme, and in their English will tend to use [l] for both initial /l/ and /ɹ/ in English, although in medial position a flap-like variant may be used for both. Consonant clusters are usually broken up with epenthetic vowels both initially and finally.

Standard Korean contrasts long and short vowels, so in Korean-influenced English the lax vowels may be pronounced as shorter equivalents to the tense ones. Many varieties of Korean, however, seem to be moving toward a tense–lax distinction in their vowel system, so this may be less noticeable with younger speakers. Stress and intonation problems occur, because both Korean rhythm and intonation differ considerably from those of English.

Portuguese

Although there are differences between European Portuguese and Brazilian Portuguese, the following points hold for both varieties unless otherwise noted. Portuguese does not have phonemic affricates, so problems arise with English /tʃ, dʒ/. In European Portuguese, [ʃ] and [ʒ] are usually used for the affricates. Brazilian Portuguese has affricate allophones of /t/ and /d/ before high front vowels, but the speakers may still not be able to use the affricates in other positions, or to use [t] and [d] before the high front vowels of English. The dental fricatives of English are normally realized as /t̪/ and /d̪/. Final target /s/ in English may be realized as [ʃ], leading to confusion with final target /ʃ/. Dark-l is often pronounced as [w], but this reflects a similar change in many varieties of English. Portuguese speakers of English often delete or shorten final consonants, and may change final vowel plus nasal into a nasalized vowel alone. Some initial and final clusters may also present difficulties, with vowel insertion undertaken to split up the cluster.

Portuguese does not have the tense–lax vowel distinction, and lax vowels tend to be pronounced as their tense counterparts. There is particular difficulty with distinguishing the four low vowels of English. Portuguese word stress is regular, and therefore inaccurate stress placement may characterize Portuguese-influenced English. Further, Portuguese does not exhibit the vowel reduction found in English unstressed syllables, and so full values of vowels may be employed.

With some clients whose English is minimal you may have to work with translators. However, this requires great care, and readers are encouraged to consult the recent book by Isaac (2002) on this topic.

Vietnamese

As in Chinese, most Vietnamese words consist of a single syllable, and clusters are not permitted. However, they do have a large vowel system and therefore experience fewer difficulties with English vowels (although the tense–lax distinction does still pose some problems). Vietnamese does not distinguish voiced from voiceless stops word-finally, allowing voiceless ones only in that position; in addition, the word-final voiceless stops are short and unreleased. Vietnamese speakers of English, therefore, have difficulty making native-like plosives of either voicing type word-finally. Further, /p/ is not found word-initially, and may be realized as [b] or [f].

Vietnamese has some fricatives (/f, v, s, z/), but these do not occur word-finally, and may be omitted in that position in Vietnamese English. Vietnamese, however, does have an affricate similar to English /tʃ/, and so Vietnamese speakers of English are often able to acquire the English affricates and postalveolar fricatives relatively easily. The English dental fricatives present problems, however, and may be replaced by plosives. Consonant clusters also are problematic, with cluster reduction through deletion a common strategy.

Vietnamese is a tone language, and the use of the English intonation system often presents problems. Also, the putting together of polysyllabic words can be difficult and affect the overall rhythm of Vietnamese-influenced English.

> If you work with many clients from a particular language background, learning the language concerned will be very useful. This will be particularly welcomed by parents of children you work with, if they themselves have limited competence of English.

BACKGROUND READING

For varieties of English around the world we strongly recommend Wells' (1982) three-volume survey of accents of English. For more detail on United States dialects readers can consult Wolfram and Schilling-Estes (1998). Southern English is described in Nagle and Sanders (2003); African American English is dealt with in detail in Green (2002). For Spanish-influenced English, specifically linked to issues in communication disorders, Centeno, Obler, and Anderson (forthcoming) is a good source. Avery and Ehrlich (1992) provides information on potential pronunciation problems in English for speakers of a wide range of languages (more than we were able to cover here). Readers may also wish to consult IPA (1999) for descriptions of the phonologies of many languages around the world.

EXERCISES

Transcription

(Answers to the transcription exercises are given at the end of the book.)

1. Which national varieties of English outside the United States might be the source of the following pronunciations?
   (a) night [nɪçt]
   (b) snow [snʌʉ]
   (c) house [hʌʊs]
   (d) chill [tʃʌl]
   (e) threat [t̪ɹɛθ̪]
   (f) better [ˈbɛʔə]
2. Which regional varieties of English inside the United States might be the source of the following pronunciations?
   (a) bone [bʊn]
   (b) sill [sɨəl]
   (c) when [wɛ̃]
   (d) sky [ska]
   (e) oil [ɔʟ]
   (f) bet [bɛ]

Review Questions

1. What are systemic, realizational, and distributional differences between accents or languages?