Chapter 2

Phonology and Phonetics
Transcription

Phonology

- Phonology: From the Arctic Circle to the Cape of Good Hope, people speak to each other. The totality of the sounds they produce constitutes the universal set of human speech sounds. The same relatively small set of phonetic properties or features characterizes all these sounds; the same classes of these sounds are utilized in all spoken languages, and the same kinds of regular patterns of speech sounds occur all over the world. Some of these sounds occur in the languages you speak and some do not. When you learn a language, you learn which sounds occur in your language and how they pattern. Phonology is concerned with this kind of linguistic knowledge.
- Phonology is concerned with the ways in which these speech sounds form systems and patterns in human language. Phonology, like grammar, is used in two ways--as the mental representation of linguistic knowledge and the description of this knowledge. Thus, the word phonology refers either to the representation of the sounds and sound patterns in a speaker's grammar, or to the study of the sound patterns in a language or in human language in general.

Phonology and phonetics

- Phonological knowledge permits a speaker to produce sounds that form meaningful utterances, to recognize a foreign "accent," to make up new words, to add the appropriate phonetic segments to form plurals and past tenses, to produce aspirated and unaspirated voiceless stops in the appropriate context, to know what is or is not a sound in one's language, and to know that different phonetic strings may represent the same morpheme.
- Phonetics is a part of phonology and provides the means for describing speech sounds. For instance, to provide means to show the physical evidence that "cat" consists of three basic phonemes /k/, /æ/, and /t/. But phonology is responsible for the representation of the meaningful sound pattern of "cat" in English.

Phonemes

- Phoneme: One of a set of abstract units that can be used for writing a language down in a systematic and unambiguous way.
- When two sounds can be used to differentiate words, they are said to belong to different **phonemes**.
  - white right; cat bat
- Consider:
  - Is the /p/ that leads “pop” a different phoneme from the /p/ that ends “pop”?
  - Is the /t/ sound in “city” a different phoneme from the /t/ in “tea”?
- These examples show that a phoneme is not a single sound but a name for a group of sounds. There is a group of t sounds and a group of *l* sounds that occur in English. It is as if you had in your mind an ideal *t* or *l*, and the ones that were actually produced were variations of it, which differed in small ways that did not affect the meaning of English words. These groups of sounds--the phonemes--are abstract units that form the basis for writing down a language systematically and unambiguously.

Transcription of consonants

- Consider:
  - pie buy;
    spy
    try
    spry
- Consider:
  - cat Kat
  - key cooler
  - access assess
  - shoes choose

Symbols for transcribing English consonants

TABLE 2.1 Symbols for transcribing English consonants. (Alternative symbols that may be found in other books are given in parentheses.) The last column gives the conventional names for the phonetic symbols in the first column.

	p	pie	pea		lowercase *p*
	t	tie	tea		lowercase *t*
	k	kye	key		lowercase *k*
	b	by	bee		lowercase *b*
	d	dye	D		lowercase *d*
	g	guy			lowercase *g*
	m	my	me	ra*m*	lowercase *m*
	n	nigh	knee	ra*n*	lowercase *n*
	ŋ			ra*ng*	eng (or angma)
	f	fie	fee		lowercase *f*
	v	vie	V		lowercase *v*
	θ	thigh			theta
CD 2.1	ð	thy	thee		eth
	s	sigh	sea	lis*t*en	lowercase *s*
	z		Z	mi*z*zen	lowercase *z*
	ʃ (š)	shy	she	mi*ss*ion	esh (or long *s*)
	ʒ (ž)			vi*s*ion	long *z* (or yogh)
	l	lie	lee		lowercase *l*
	w	why	we		lowercase *w*
	r	rye			lowercase *r*
	j (y)		ye		lowercase *j*
	h	high	he		lowercase *h*

Note also the following:

tʃ (tš)	chi(me)	chea(p)
dʒ (dž)	ji(ve)	G

Diphthongs in English

- **Diphthongs**--movements from one vowel to another within a single syllable.
  - heart (AmE) heart (BrE)
  - farther (AmE) farther (BrE)
  - hot hot
  - hot heart (AmE)

- Some speakers distinguish the auxiliary “can” from the noun “can,” the latter being more diphthongal.

- Consider: Is there any monothongs in the English langauge?

Symbols for transcribing contrasting vowels in English

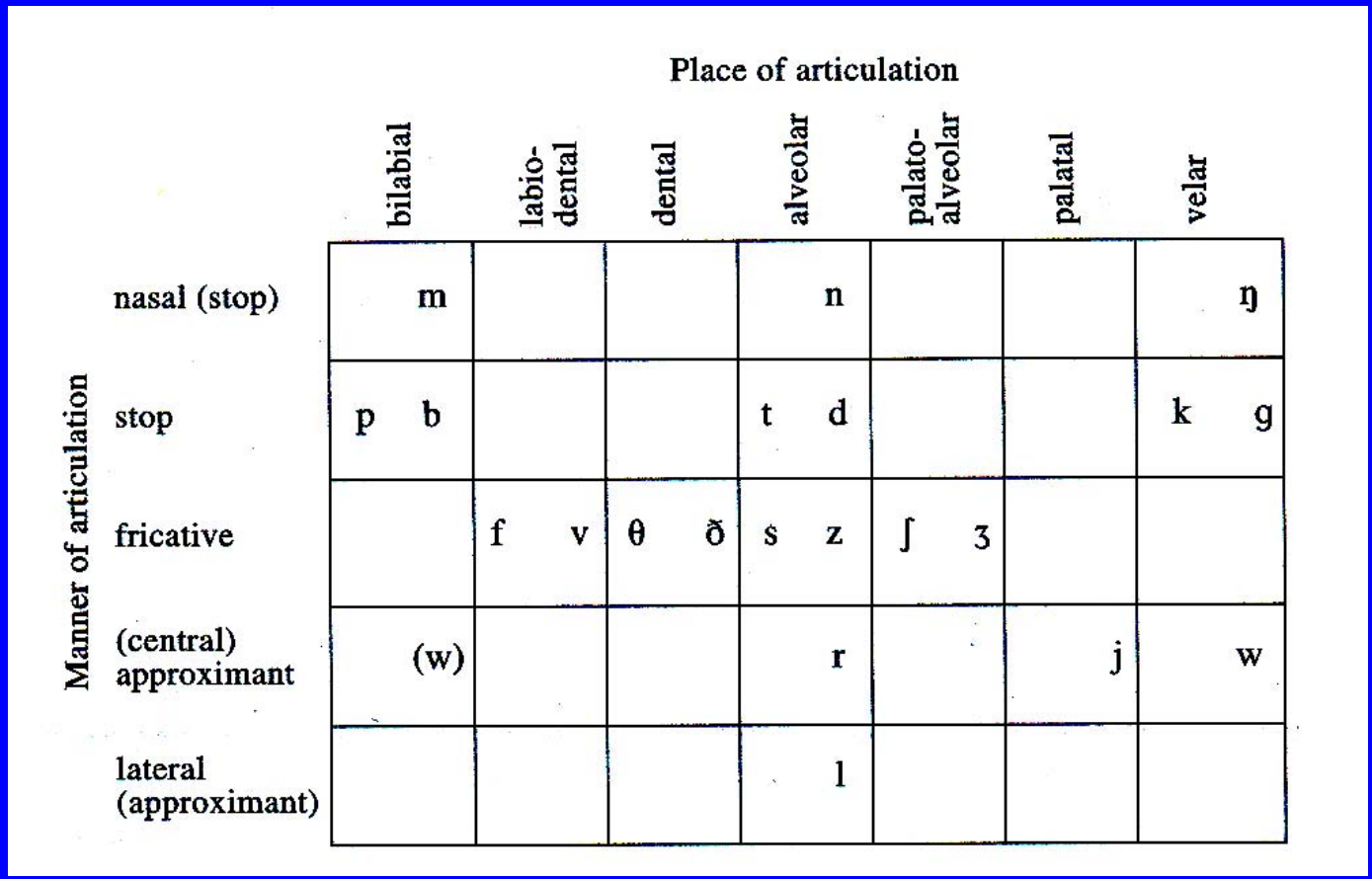
TABLE 2.2 Symbols for transcribing contrasting vowels in English. Column 1 applies to many speakers of American English, Column 2 to most speakers of British English. The last column gives the conventional names for the phonetic symbols in the first column unless otherwise noted.

1	2						
i	i	heed	he	bead	heat	keyed	lowercase *i*
ɪ	ɪ	hid		bid	hit	kid	small capital *I*
eɪ	eɪ	hayed	hay	bayed	hate	Cade	lowercase *e*
ɛ	ɛ	head		bed			epsilon
æ	æ	had		bad	hat	cad	ash
ɑ	ɑ	hard		bard	heart	card	script *a*
ɑ	ɒ	hod		bod	hot	cod	turned script *a*
ɔ	ɔ	hawed	haw	bawd		cawed	open *o*
ʊ	ʊ	hood				could	upsilon
oʊ	əʊ	hoed	hoe	bode		code	lowercase *o*
u	u	who'd	who	booed	hoot	cooed	lowercase *u*
ʌ	ʌ	Hudd		bud	hut	cud	turned *v*
ɜ	ɜ	herd	her	bird	hurt	curd	reversed epsilon
aɪ	aɪ	hide	high	bide	height		lowercase a (+ ɪ)
aʊ	aʊ		how	bowed		cowed	(as noted above)
ɔɪ	ɔɪ		(a)hoy	Boyd			(as noted above)
ɪr	ɪə		here	beard			(as noted above)
ɛr	ɛə		hair	bared		cared	(as noted above)
aɪr	aə	hired	hire				(as noted above)
Note also:							
ju	ju	hued	hue	Bude		cued	(as noted above)

Examples of exercises

1. "strength"	['strɛngθ]	should be	[ ]
2. "crime"	['craɪm]		[ ]
3. "wishing"	['wɪshɪŋ]		[ ]
4. "wives"	['waɪvs]		[ ]
5. "these"	['θiz]		[ ]
6. "hijacking"	['haɪjækɪŋ]		[ ]
7. "chipping"	['tʃɪppɪŋ]		[ ]
8. "yelling"	['yɛlɪŋ]		[ ]
9. "sixteen"	['sɪxtiːn]		[ ]
10. "thesis"	['ðisɪs]		[ ]

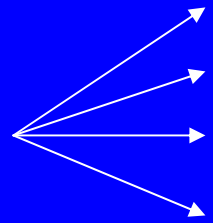
The phonetic chart of the English consonants



Manner of articulation \ Place of articulation	bilabial	labio-dental	dental	alveolar	palato-alveolar	palatal	velar
nasal (stop)	m			n			ŋ
stop	p b			t d			k g
fricative		f v	θ ð	s z	ʃ ʒ		
(central) approximant	(w)			r		j	w
lateral (approximant)				l			

Where is /h/? Where are /tʃ/ and /dʒ/? What does this chart mean to you?

The basic concept of allophones

- /t/ 

catty	/t/	[ɾ]
eighth	/t/	[t̚]
bitten	/t/	[ʔn̩]
stop	/t/	[t]

cf. tea [t^hi]

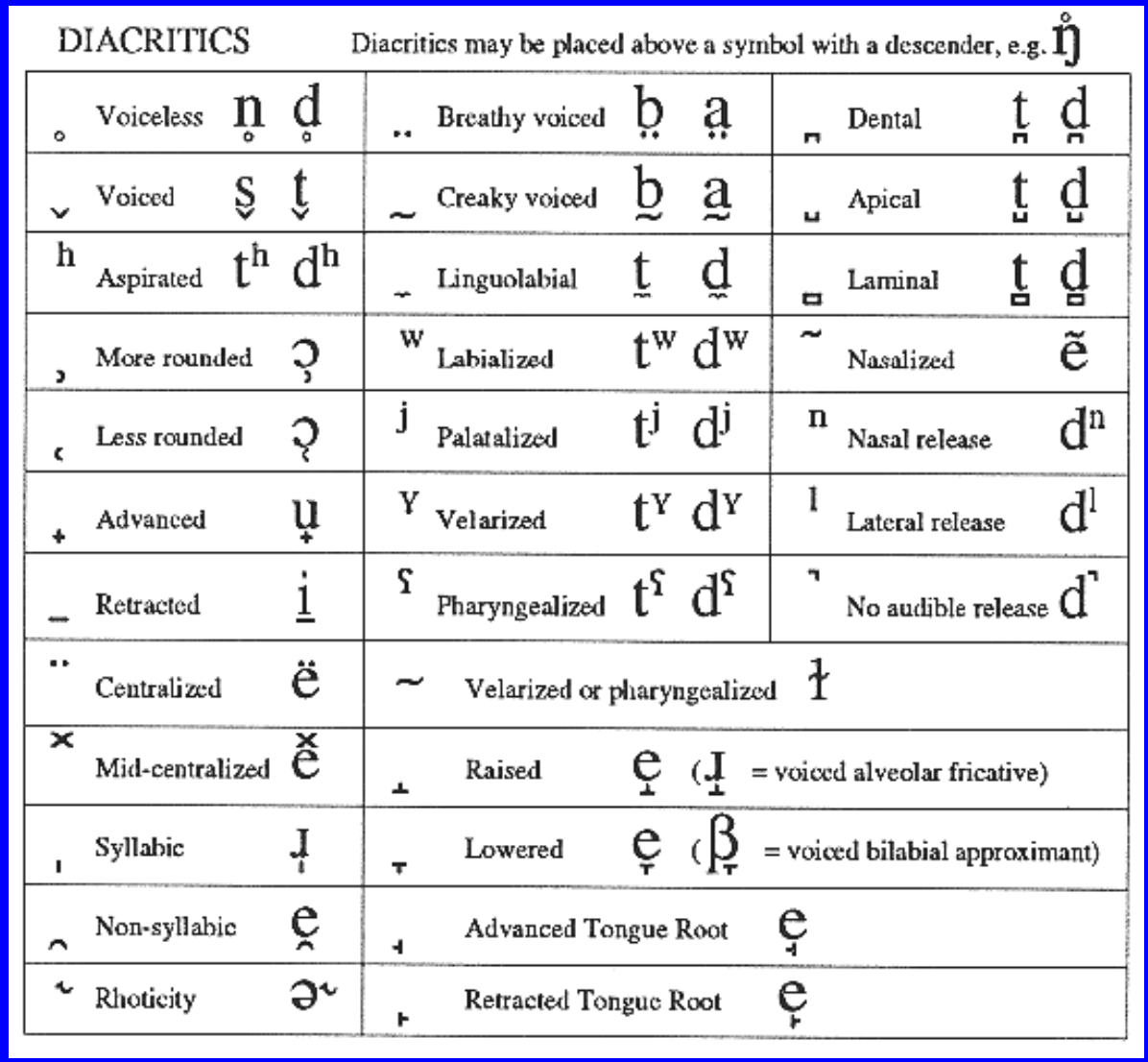
- The phonology of a language is the set of rules that describe the changes in the underlying sounds, the abstract units called phonemes.

- The variants of the phonemes that occur in detailed phonetic transcriptions are known as allophones.

Diacritics

- The term **broad transcription** is often used to designate a transcription that uses a simple set of symbols. Conversely, a **narrow transcription** is one that shows more phonetic detail, either just by using more specific symbols or by also representing some allophonic differences. The use of **diacritics**, small marks that can be added to a symbol to modify its value, is a means of increasing precision. One such diacritic is a small circle, [̥], that can be placed under a symbol to make it represent a voiceless sound, so that "ply" and "try," for instance, can be written [p̥laɪ] and [t̥ɾ̥aɪ]. Another useful diacritic is the mark [̪] beneath a consonant, which we have been using to indicate that the sound is dental and not alveolar.

Symbols of Diacritics (See Kaylab)

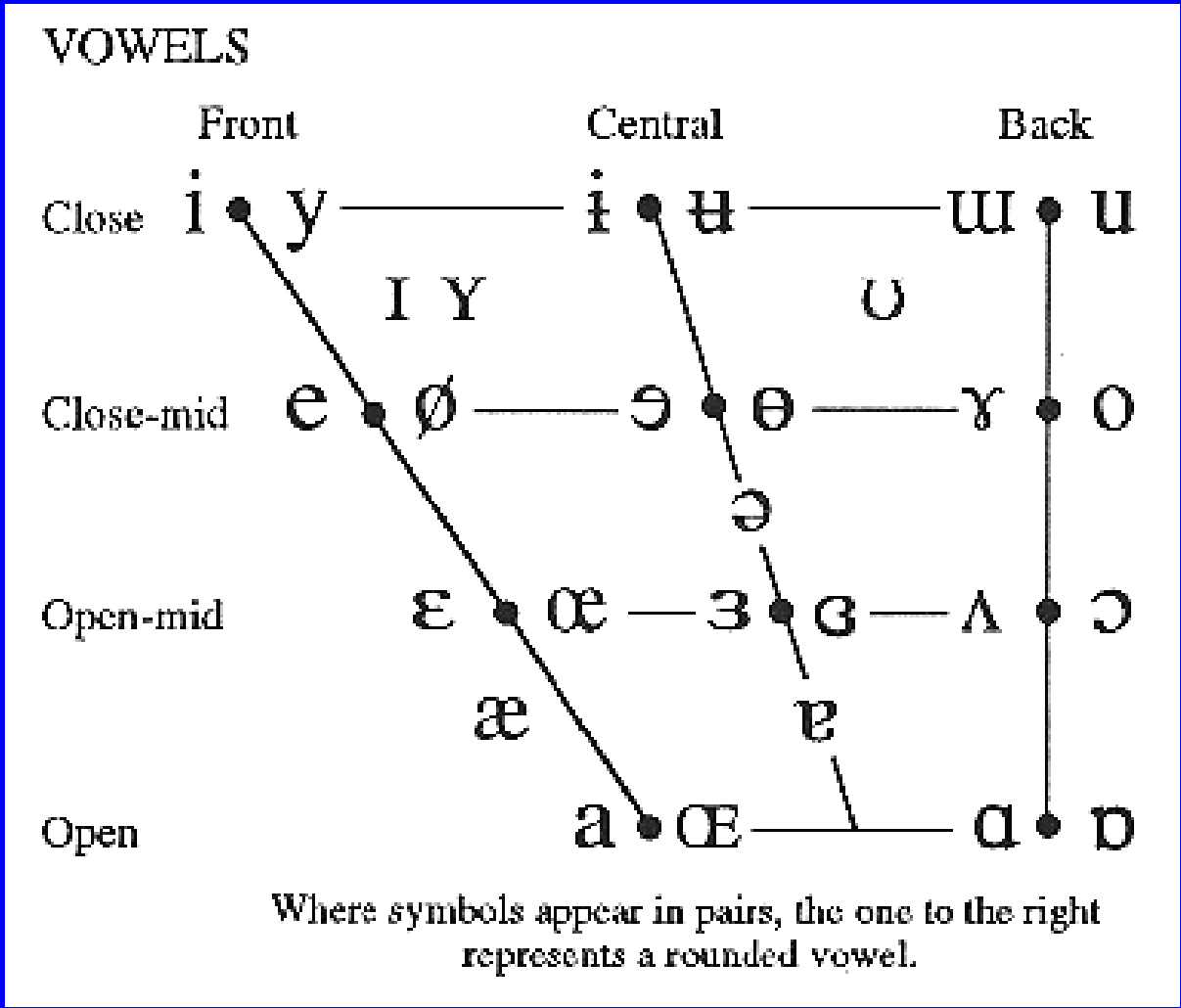


DIACRITICS

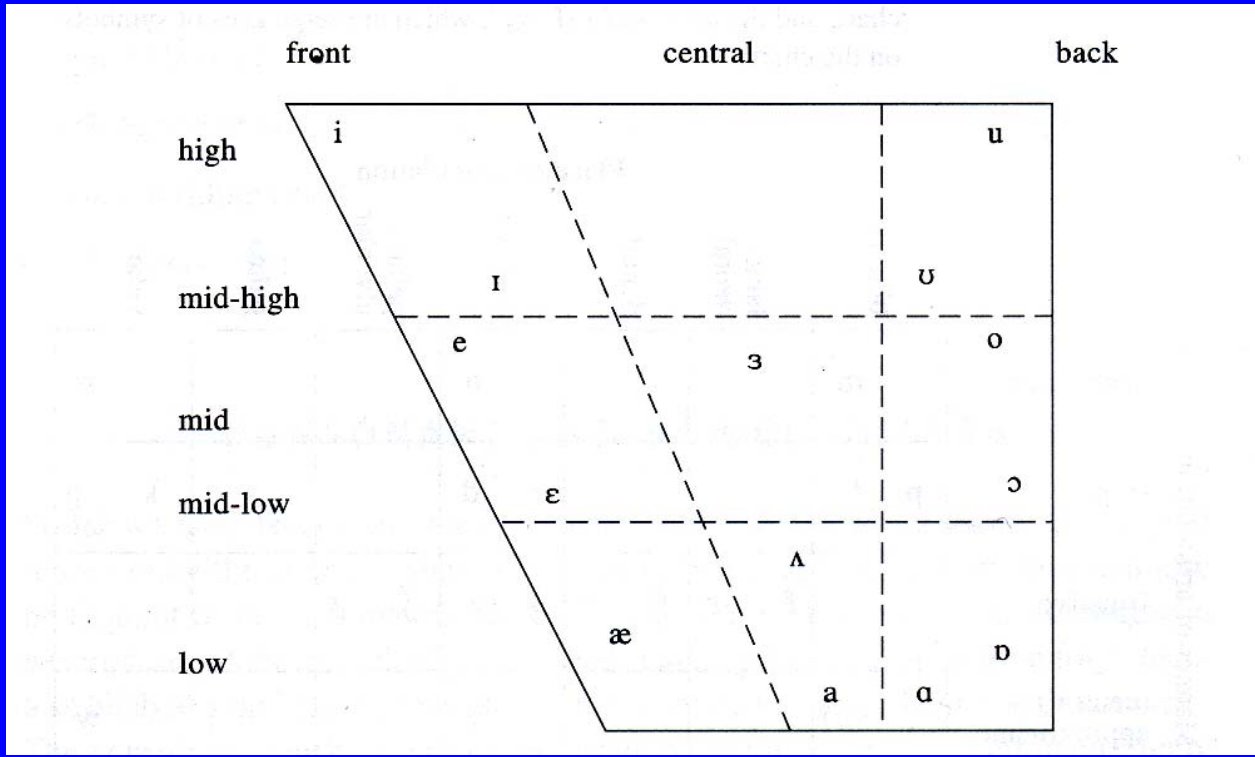
Diacritics may be placed above a symbol with a descender, e.g. ŋ̊ ɲ̊

◌̥	Voiceless	n̥ d̥	◌̤	Breathy voiced	b̤ a̤
◌̬	Voiced	s̬ t̬	◌̰	Creaky voiced	b̰ a̰
◌ʰ	Aspirated	tʰ dʰ	◌̪	Linguolabial	t̪ d̪
◌̹	More rounded	ɔ̹	◌ʷ	Labialized	tʷ dʷ
◌̜	Less rounded	ɔ̜	◌ʲ	Palatalized	tʲ dʲ
◌̟	Advanced	u̟	◌ˠ	Velarized	tˠ dˠ
◌̠	Retracted	i̠	◌ˤ	Pharyngealized	tˤ dˤ
◌̈	Centralized	ë	~	Velarized or pharyngealized	ɬ
◌̽	Mid-centralized	e̽	◌̝	Raised	e̝ (ɹ̝ = voiced alveolar fricative)
◌̩	Syllabic	ɹ̩	◌̞	Lowered	e̞ (β̞ = voiced bilabial approximant)
◌̯	Non-syllabic	e̯	◌̘	Advanced Tongue Root	e̘
◌˞	Rhoticity	ɚ˞	◌̙	Retracted Tongue Root	e̙
			◌̃	Nasalized	ẽ
			◌ⁿ	Nasal release	dⁿ
			◌ˡ	Lateral release	dˡ
			◌̚	No audible release	d̚

The vowel chart of language in general (See Kay)



The quadrilateral chart of English vowels



What does this chart mean to you?

Compare the following pairs of vowel

sheed	heel
good	took

Systematic phonetic transcription

When I transcribe the word "peels" as [pilz], I am assuming that the reader knows a number of the rules of English, including those that make /i/ somewhat lower and more central when it occurs before /l/and a final /z/ voiceless toward the end.

On a few occasions, a transcription cannot be said to imply the existence of rules accounting for allophones. This is at least theoretically possible in the case of a narrow transcription so detailed that it shows all the rule-governed alternations among the sounds. A transcription that shows the allophones in this way is called a completely **systematic phonetic transcription**. In practice, it is difficult to make a transcription so narrow that it shows every detail of the sounds involved. On some occasions, a transcription may not imply the existence of rules accounting for allophones because, in the circumstances when the transcription was made, nothing was known about the rules. When writing down an unknown language or when transcribing a child or a patient not seen previously, one does not know what rules will apply. In these circumstances, the symbols indicate only the phonetic value of the sounds. This kind of transcription is called an **impressionistic transcription**.

Example

British English

[ɪt ɪz ˈpɒsəbl tə træn'skraɪb fə'nɛtɪklɪ 'ɛnɪ 'ʌtrəns, ɪn 'ɛnɪ 'læŋgwɪdʒ, ɪn 'sɛvrəl 'dɪfrənt 'weɪz 'ɔl əv ðəm 'juːzɪŋ ðɪ 'ælfəbɛt ənd kən'vɛnʃnz əv ðɪ 'aɪ piː 'eɪ. ðə 'seɪm 'θɪŋ ɪz 'pɒsəbl wɪð 'məʊst 'ʌðə ɪntə'næʃənl fə'nɛtɪk 'ælfəbɛts. ə træn'skrɪpʃn wɪtʃ ɪz 'meɪd baɪ 'juːzɪŋ 'lɛtəz əv ðə 'sɪmpləst 'pɒsəbl 'ʃeɪps, ənd ɪn ðə 'sɪmpləst 'pɒsɪbl 'nʌmbə, ɪz 'kɔːld ə 'sɪmpl fəʊ'niːmɪk træn'skrɪpʃn.]

[pʰl̥is kʰɔl stɛla ask hɜ tʰu bɹ̃ɪŋ ðiːs s̪ĩ ŋz̥ wɪθ hɜ fɹʌm ðə stɔə sɪks spũ̟nz ə fɹɛʃ snəʊ pʰiːz̥ faɪv̥ θ̟ɪk slæbz ə blu̟ː tʃiːz æn mɐ̟ɪbi ə snæk fə hɜ bɹʌðə bob̥ wi olso nid ə smol pʰl̥æ̟stɪk sneɪk æn ə b̟ɪg tʰɔɪ fɹɒg fə ðə kʰɪdz̥ ʃi kʰɛn sku̟ːp ðiːz s̪ĩŋz̥ ɪntʰŭ θɹi ɹɛd bæːgz æn wi wɪl gəʊ mit hɜ wɛ̃nzdeɪ æt¬ ðə tɹɛ̃m steʃɪn]

Exercises: D on page 40.